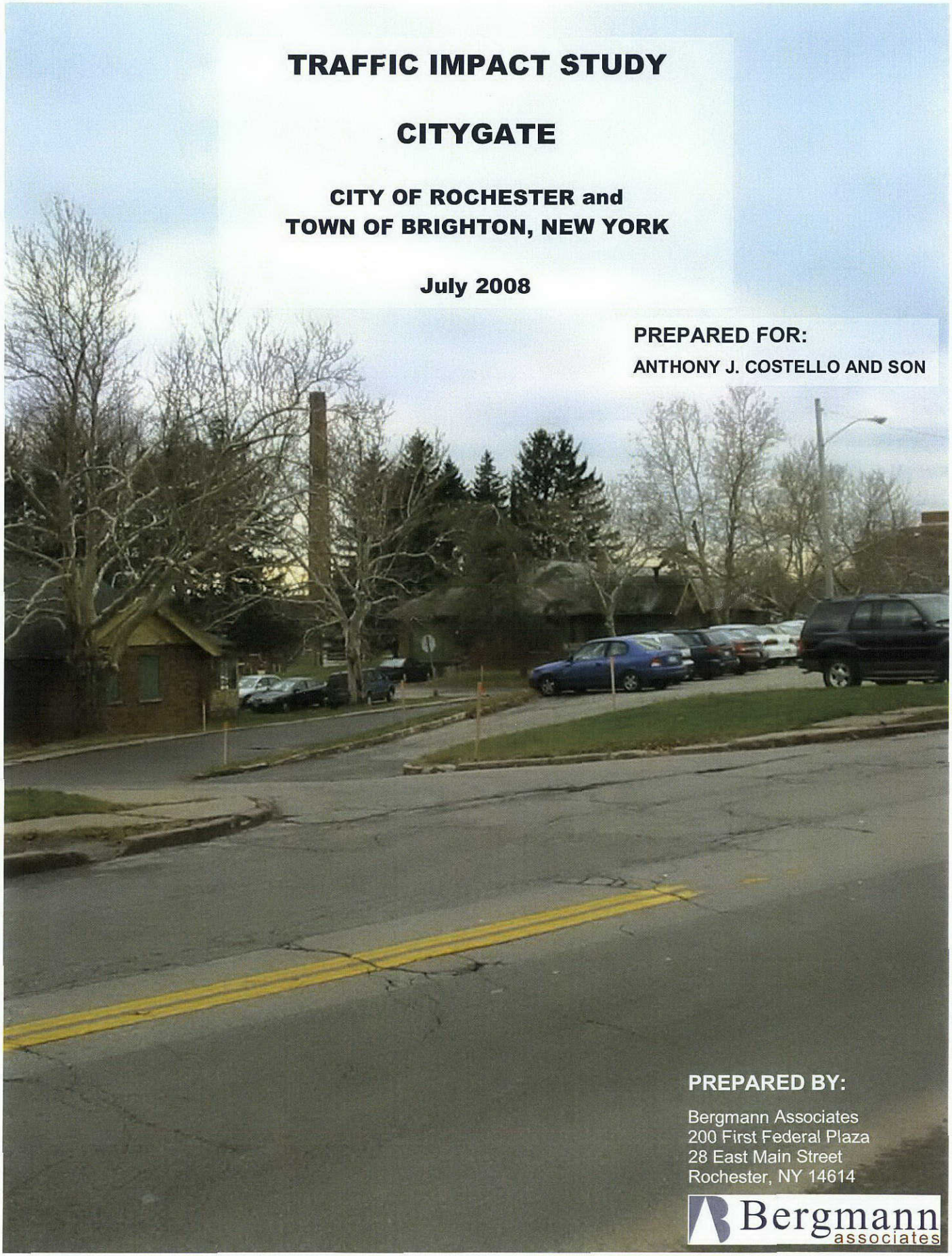
TRAFFIC IMPACT STUDY

CITYGATE

CITY OF ROCHESTER and
TOWN OF BRIGHTON, NEW YORK

July 2008



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I. Purpose and Scope

The subject of this Traffic Impact Study (TIS) is the Citygate development proposed in the City of Rochester and Town of Brighton. The location of Citygate is within the southeast quadrant of the intersection of East Henrietta Road (Route 15A) with Westfall Road. A regional project location map is shown in Figure 1. See Figure 2 for the site location. The purpose of the TIS is to document the traffic conditions of the subject site area and to evaluate future traffic conditions and impacts.

Figure 1 - Regional Location Map

The proposed development action is to complete Citygate in 2013. Citygate will consist of retail, office, residential, and hotel. Vehicular access to the Citygate development will be provided by two streets on East Henrietta Road and one street and two driveways on Westfall Road. Three access driveways exist today, as shown in Figure 3. The existing access driveways are listed on the next page.

- Stan Yale Drive, intersecting East Henrietta Road approximately 600 feet south of Westfall Road, opposite the Monroe County Hospital driveway,
- The South driveway, intersecting East Henrietta Road approximately 520 feet south of Stan Yale Drive,
- The north access driveway, intersecting Westfall Road approximately 920 feet east of East Henrietta Road.

The new access driveways and street are located on Westfall Road. The full access Street "B" will be relocated opposite Green Knolls Drive East and will be controlled by a traffic signal. A new right in (RI) only driveway will be located approximately midway between Green Knolls Drive West and Green Knolls Drive East. The other new driveway is proposed to be a right in right out (RIRO) only driveway. This driveway will be located approximately 100 feet west of Metropolitan Drive.

Figure 2 - Site Location Map

The following systematic procedure was used in this study:

1. Conduct site visit to obtain roadway geometrics and observe traffic operations.

2. Perform stopping and intersection sight distance analyses. See the proposed site access plan accompanying this report.

3. Obtain turning movement count data at the subject intersections listed below for weekday AM and weekday PM peak hours.

    - Mt. Hope Avenue with Westfall Road
    - East Henrietta Road with the South Driveway
    - East Henrietta Road with Stan Yale Drive
    - East Henrietta Road with Westfall Road
    - East Henrietta Road with South Avenue
    - South Avenue with Science Park
    - Westfall Road with the north access drive
    - Westfall Road with Green Knolls Drive East
    - Westfall Road with Clinton Avenue
    - Westfall Road with Lac de Ville Boulevard

4. Define trips generated by the Citygate development for total build-out conditions.

5. Project turning movement volumes at the subject intersections with completion of Citygate.

6. Evaluate traffic operations at the subject intersections for the following:

    - 2008 existing traffic,
    - 2013 background traffic (no-build),
    - 2013 build traffic (with total build-out of Citygate).

The analyses and evaluations in this report have been performed using standard traffic engineering methodologies in accordance with the ITE Trip Generation Handbook, March 2001. Data used in this impact assessment has been collected from field investigations, field visits (including vehicular traffic counts), developer plans, recently completed Traffic Studies in the corridor and discussions with the Monroe County Department of Transportation (MCDOT).

II. Surrounding Land Use and Transportation System

A. Existing Land Use

The prominent land use in the vicinity of the proposed development is residential, commercial, hospital and office/medical. Residential development is located along Westfall Road, East Henrietta Road and Green Knolls Drive. A gas station with convenience market is located on the northwest corner of East Henrietta Road and Westfall Road.

Currently the Citygate site contains Siemens Corporation and will remain. The University of Rochester (U of R) leases parking areas located on the Citygate site. This parking agreement will also remain and a parking garage will provide parking for U of R that currently exists.

B. Existing Roadway System

East Henrietta Road (Route 15A) borders the west side of the Citygate site and Westfall Road borders the north side of the site.

East Henrietta Road (Route 15A)

East Henrietta Road is a north-south City urban minor arterial route in the vicinity of the Citygate site. East Henrietta Road is a four-lane curbed roadway that provides normal two-way traffic flow with two lanes in each direction. Travel lanes are 11 to 12 feet wide. The profile of East Henrietta Road is fairly level with a slight upgrade to the north in front of the project site. Alignment of the road is generally straight near the proposed site. The posted speed limit in the vicinity of the site is 30 mph.

Traffic is controlled by a traffic signal at the intersection of East Henrietta Road with Westfall Road. All four legs of this intersection consist of one exclusive left turn approach lane, one exclusive through approach lane, one shared through/right approach lane and two departure lanes.

Both Stan Yale Drive and the Monroe County Hospital access driveway consist of two lanes exiting to East Henrietta Road and one lane entering from East Henrietta Road. This four way intersection is signalized with exclusive left turn lanes located on all four approaches.

The South driveway is a two lane road with no exclusive turn lanes at East Henrietta Road. Left turns onto East Henrietta Road are prohibited from the stop controlled South driveway.

Westfall Road

Westfall Road is a City and Monroe County collector road that is oriented in an east-west direction in the vicinity of the site. The road has two 12-foot travel lanes with 2 foot curb offsets in the vicinity of the Citygate site and is a two and three lane road to the east. The posted speed limit is 30 mph in the City of Rochester and 35 mph outside the City of Rochester limits. Alignment of the road is generally straight near the proposed site. The road surface is in fair condition with a crest vertical curve in the vicinity of the north access drive. The north access drive is a two lane road with no exclusive turn lanes at the approach to Westfall Road.

III. Existing Traffic Conditions

Existing traffic conditions are summarized below. They include traffic volumes and level of service conditions.

A. Existing Traffic Volumes

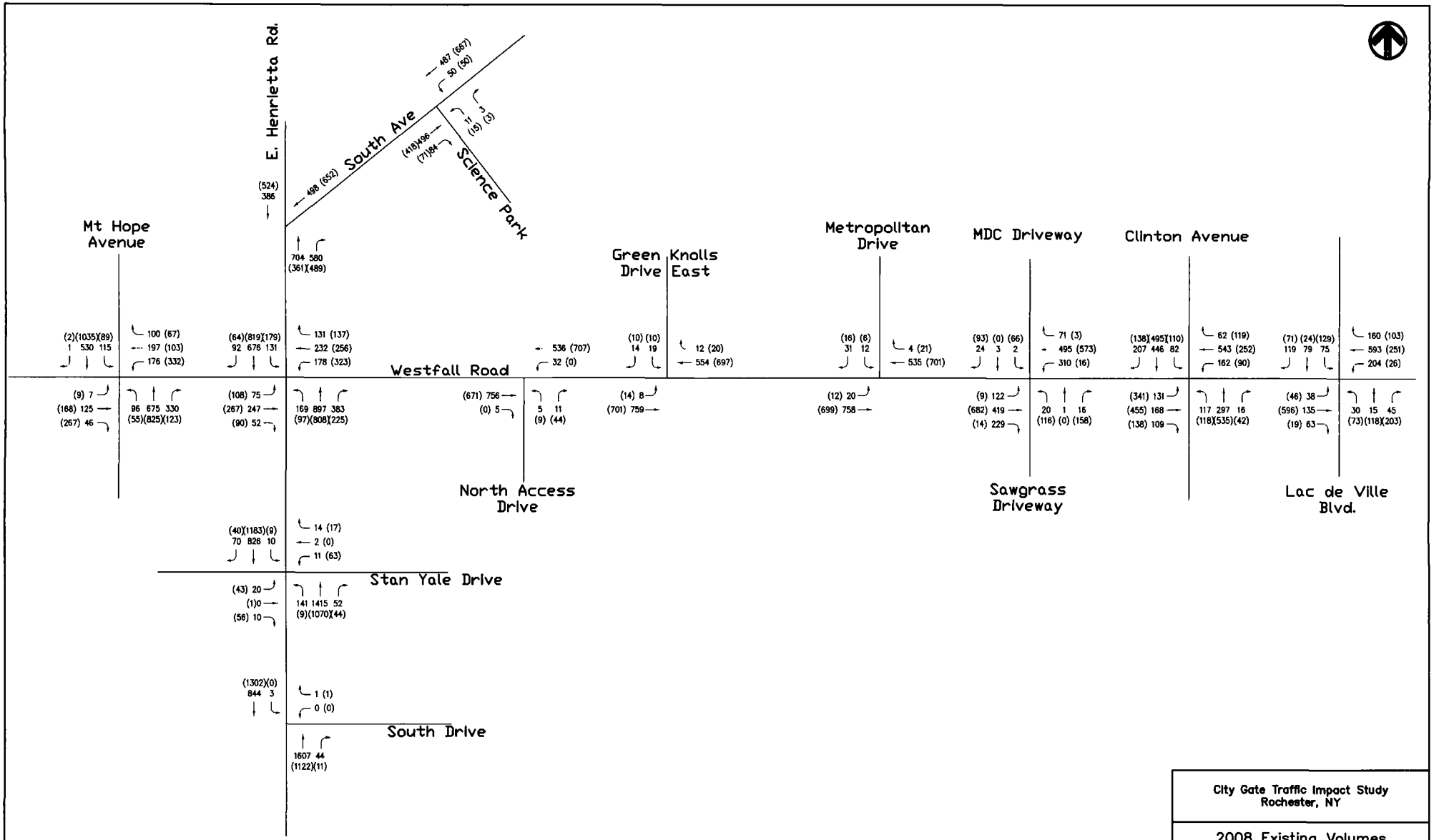
Bergmann Associates conducted manual turning movement counts at six subject intersections listed below in 2004. The counts were updated to 2008. Additional intersections were included in this study as noted below.

- East Henrietta Road with the South Driveway
- East Henrietta Road with Stan Yale Drive
- East Henrietta Road with Westfall Road
- East Henrietta Road with South Avenue (additional)
- South Avenue with Science Park (additional)
- Westfall Road with Mt. Hope Avenue (additional)
- Westfall Road with the north access drive
- Westfall Road with Green Knolls Drive East
- Westfall Road with Metropolitan Drive (additional)
- Westfall Road with Sawgrass Drive (additional)
- Westfall Road with Clinton Avenue
- Westfall Road with Lac de Ville Boulevard (additional)

The traffic counts at the subject intersections described above were collected on Wednesday, December 8, 2004 between 7:00 and 9:00 AM and between 4:00 PM and 6:00 PM. These time periods were chosen because the combined traffic of the adjacent streets and the subject site generally peaks during these time periods.

Recent count data was obtained from the MCDOT Westfall Road Reconstruction project (Westfall 2) and the May 2008 University of Rochester – Planned Development Traffic Impact Study. This data was used to update the 2004 count data. Existing 2008 intersection traffic volumes for the weekday AM and PM peak hours at the subject intersection are shown in Figure 3.

The 2004 traffic counts were recorded by 15-minute increments to enable identification of specific peak hours and traffic peaking characteristics within the peak hour. Weekday AM and PM peak hours were determined to be 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM, respectively. Detailed count data are contained in Appendix A.



LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

2008 Existing Volumes
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
3		7/08

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B. Existing Levels of Service

Level of Service (LOS) analysis is a means of determining the ability of an intersection to accommodate traffic volumes. The analysis is based on intersection street geometrics, traffic controls and traffic maneuvers. The analysis produces an indication of the Level of Service at which an intersection is functioning or is expected to function for future conditions.

The Level of Service procedures are provided in the Highway Capacity Manual (HCM) published by the Transportation Research Board, 2000. Version 7.0 of Synchro was utilized to determine the LOS and vehicle queuing for the subject intersections.

Level of Service is defined by letter characters that range from A to F, with A representing the best traffic operating conditions that have little or no delay and F characterizing the worst conditions that have significant delay. LOS A through D are usually considered acceptable and LOS E is usually considered representative of conditions where improvements are needed. LOS F operating conditions are typically unacceptable and improvements are needed, in the form of traffic control, geometric changes or a combination of both.

Levels of Service for signalized and unsignalized intersections are identified by the average control delay experienced by vehicles in seconds/vehicle. LOS for signalized intersections is determined for each traffic movement and the total intersection. LOS for unsignalized intersection is determined for the minor approach (stop sign controlled) traffic movements and major approach left turns. The range of seconds of delay defining level of service is different for signalized and unsignalized intersections, so the LOS results should not be compared to one another. Full definitions of levels of service for signalized and unsignalized intersections are included in Appendix B.

Existing Traffic Operations

The existing traffic operations during the peak hours at the subject intersection range from LOS A to F for critical traffic movements. Level of Service analysis results for the signalized intersection are provided in Table 1. Detailed existing Synchro LOS results are shown in Appendix B.

At the intersection of Mt Hope Avenue with Westfall Road all lane groups operate at LOS C or better during the peak hours except the eastbound left/through movement and the westbound left movement during the PM peak hour, which operate at LOS D.

At the intersection of East Henrietta Road with Westfall Road all approaches operate at LOS C or better during the peak hours except the westbound approach, and the eastbound approach and southbound left turn lane during the PM peak hour. The westbound left turn movement operates with the most delay, at LOS D during the AM peak hour and LOS E during the PM peak hour.

TABLE 1
2008 EXISTING INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing			
				AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay
Westfall Rd at		Eastbound	LT	D	42	D	51
Mt Hope Ave		Eastbound	Right	B	11	B	18
	Westfall	Eastbound	Approach	C	34	C	31
Signalized		Westbound	Left	C	23	D	47
		Westbound	TR	C	21	A	10
	Westfall	Westbound	Approach	C	22	C	34
		Northbound	Left	B	11	C	21
		Northbound	Through	B	16	C	24
		Northbound	Right	A	3	A	4
	Mt Hope	Northbound	Approach	B	12	C	21
		Southbound	Left	B	13	C	25
		Southbound	TR	B	15	C	29
	Mt Hope	Southbound	Approach	B	14	C	29
		Overall		B	16	C	27
Westfall Rd at		Eastbound	Left	C	27	D	40
East Henrietta Rd		Eastbound	TR	C	31	D	41
	Westfall	Eastbound	Approach	C	30	D	41
		Westbound	Left	D	47	E	66
		Westbound	TR	C	30	D	45
Signalized	Westfall	Westbound	Approach	D	36	D	54
		Northbound	Left	B	11	C	21
		Northbound	TR	B	16	C	27
	East Henrietta	Northbound	Approach	B	15	C	26
		Southbound	Left	C	29	D	40
		Southbound	TR	A	7	B	16
	East Henrietta	Southbound	Approach	A	10	C	20
		Overall		B	19	C	32
Westfall Rd at	Westfall	Eastbound	TR	A	0	A	0
Existing North	Westfall	Westbound	LT	A	1	A	0
Access	North Access	Northbound	LR	C	22	D	28
Un-signalized		Overall					
Westfall Rd at		Eastbound	LT (Left)	A	0	A	1
Green Knolls Dr East	Westfall	Eastbound	(Through)				
	Westfall	Westbound	TR	A	0	A	0
	Green Knolls	Southbound	LR	D	30	D	31
Un-signalized		Overall					
Westfall Rd at	Westfall	Eastbound	LT	A	1	A	1
Metropolitan Dr	Westfall	Westbound	TR	A	0	A	0
	Metropolitan	Southbound	LR	C	21	C	25
Un-signalized		Overall					
Westfall Rd at		Eastbound	Left	A	3	A	1
Sawgrass		Eastbound	Through	A	7	A	6
		Eastbound	Right	A	1	A	1
	Westfall	Eastbound	Approach	A	4	A	6
		Westbound	Left	A	3	A	4
Signalized		Westbound	TR	A	4	A	6
	Westfall	Westbound	Approach	A	3	A	6
		Northbound	Left	D	53	F	88
		Northbound	TR	B	20	A	2
	Sawgrass	Northbound	Approach	D	38	D	38
		Southbound	Left	D	48	F	92
		Southbound	TR	B	20	A	1
	Driveway	Southbound	Approach	C	22	D	39
		Overall		A	5	B	16

TABLE 1 Continued
2008 EXISTING INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing			
				AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay
Westfall Rd at		Eastbound	Left	C	26	F	97
Clinton Ave		Eastbound	TR	C	24	E	68
	Westfall	Eastbound	Approach	C	25	E	79
		Westbound	Left	C	22	C	30
Signalized		Westbound	TR	F	80	D	41
	Westfall	Westbound	Approach	E	68	D	39
		Northbound	Left	D	39	D	38
		Northbound	TR	C	29	D	47
	Clinton	Northbound	Approach	C	32	D	45
		Southbound	Left	C	21	D	35
		Southbound	TR	F	84	E	75
	Clinton	Southbound	Approach	E	77	E	69
		Overall		E	57	E	62
Westfall Rd at		Eastbound	Left	A	5	A	6
Lac De Ville		Eastbound	TR	A	3	B	11
	Westfall	Eastbound	Approach	A	3	B	11
		Westbound	Left	A	5	A	9
Signalized		Westbound	TR	A	8	A	7
	Westfall	Westbound	Approach	A	7	A	7
		Northbound	Left	C	21	B	14
		Northbound	TR	A	9	B	11
	Lac De Ville	Northbound	Approach	B	13	B	12
		Southbound	Left	C	22	D	43
		Southbound	TR	B	12	A	6
	Lac De Ville	Southbound	Approach	B	15	C	27
		Overall		A	8	B	12
East Henrietta Rd at	South Drwy	Westbound	Right	C	17	B	13
South Driveway	East Henrietta	Northbound	Approach	A	0	A	0
	East Henrietta	Southbound	Approach	A	0	A	0
East Henrietta Rd at		Eastbound	Left	D	43	D	50
MCH & Street "U"		Eastbound	TR	A	0	B	14
	MCH	Eastbound	Approach	C	28	C	30
		Westbound	Left	D	41	E	57
Signalized		Westbound	TR	C	21	A	0
	Street "U"	Westbound	Approach	C	30	D	45
		Northbound	Left	A	3	A	3
		Northbound	TR	A	7	A	50
	East Henrietta	Northbound	Approach	A	7	A	50
		Southbound	Left	A	0	A	0
		Southbound	TR	A	1	A	1
	East Henrietta	Southbound	Approach	A	1	A	1
		Overall		A	5	A	5
East Henrietta at	South	Westbound	Left	D	35	D	42
South Avenue		Northbound	Through	A	7	A	6
		Northbound	Right	A	6	A	7
	East Henrietta	Northbound	Approach	A	7	A	7
Signalized	East Henrietta	Southbound	Through	A	6	A	10
		Overall		B	13	B	19
South Avenue at		Westbound	Left	B	16	D	38
Science Park		Westbound	Right	C	30	C	21
	Science Park	Westbound	Approach	B	18	D	35
	South	Northbound	Through	B	15	A	2
Signalized	South	Southbound	Through	A	6	A	6
		Overall		B	11	A	5

The free flow Westfall Road approaches to the north access driveway, Green Knolls Drive East and Metropolitan Drive operate at LOS A during the AM and PM peak hours. The stop controlled north access driveway approach to Westfall Road operates at LOS C and LOS D during the AM and PM peak hours, respectively. The stop controlled Green Knolls Drive East approach to Westfall Road operates at LOS D during both peak hours. The stop controlled Metropolitan Drive approach to Westfall Road operates at LOS C during both peak hours.

The eastbound and westbound approaches at the intersection of Westfall Road and Sawgrass Drive operate at LOS A during both peak hours. The northbound and southbound approaches operate at LOS D or better. Both the northbound and southbound left turn movements operate at LOS F during the PM peak hour. The intersection operates at an overall LOS A.

Three of the four approaches at the intersection of Westfall Road and Clinton Avenue operate at LOS E during one or both of the peak hours. The eastbound left turn movement operates at a LOS F during the PM peak hour and the westbound and southbound through/right turn movements operate at LOS F during the AM peak hour. Overall intersection LOS is LOS E.

All lane groups at the intersection of Westfall Road and Lac De Ville Boulevard operate at LOS C or better with the exception of the southbound left turn lane during the PM peak hour. Overall, the intersection operates at LOS A during the AM peak hour and LOS B during the PM peak hour.

The lane groups at the intersection of East Henrietta Road and the South driveway operate at LOS C or better during the AM and PM peak hours. At the intersection of East Henrietta Road with the Monroe County Hospital and Stan Yale Drive (Street "U") all lane groups operate at LOS C or better during the peak hours except eastbound and westbound left turns, and the westbound approach during the PM peak hour.

All movements on East Henrietta Road operate at LOS A at the intersection of South Avenue. South Avenue left movement operates at LOS D during both peak hours. Overall intersection LOS is LOS B.

All movements at the signalized intersection of South Avenue and Science Park operate at LOS C or better except the westbound left turn movement during the PM peak hour. This movement operates at LOS D.

A study of corridor sections was also performed. Table 2 shows the results of the existing analysis using Highway Capacity Software (HCS). The following corridors were analyzed:

- Westfall Rd. from East Henrietta Rd. to Citygate
- Westfall Rd. from Citygate to Winton Rd.
- Winton Rd. from Monroe Ave. to Westfall Rd.
- Winton Rd. from Westfall Rd. to I-590 (section is 4 lanes wide)
- South Clinton Ave. south of Westfall Rd.

- Lac de Ville Blvd. from Westfall Rd. to Senator Keating Blvd.
- E. Henrietta Rd. from Westfall Rd. to I-390 (section is 4 lanes wide)

The results show that the corridor sections currently operate at LOS D or better during the peak hours. The volume to capacity (v/c) ratios are 0.50 or less, so the reserve capacity is at least half for these corridors. The basis for analyzing the 4 lane roadways, as recommended by the Highway Capacity Manual (HCM), is density of vehicles per lane, measured in passenger cars per mile per lane (pc/mi/ln). The peak hour density of Winton Road from Westfall Road to I-590 is less than 9 pc/mi/ln which is representative of LOS A. The density of E. Henrietta Road from Westfall Road to I-390 during the peak hour is less than 21 pc/mi/ln which is representative of LOS C.

TABLE 2

2008 EXISTING CORRIDOR SECTION LOS RESULTS

Roadway	Section	2008 Existing			
		AM Peak Hour		PM Peak Hour	
		LOS	V/C	LOS	V/C
Westfall Road	East Henrietta Rd to Citygate	D	0.45	D	0.48
Westfall Road	Citygate to Winton Rd	D	0.44	D	0.50
Winton Road	Monroe Ave to Westfall Rd	C	0.30	D	0.35
S Clinton Ave	South of Westfall	D	0.40	D	0.49
Lac de Ville Blvd	Westfall Rd to Senator Keating	B	0.08	C	0.16
4 Lane Roadway	**Section**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**
Winton Road	Westfall Rd to I-590	A	8.1	A	8.8
E Henrietta Road	Westfall Rd to I-390	C	20.7	B	16.3

IV. Trip Generation

The Institute of Transportation Engineers (ITE) Report, Trip Generation, 7th Edition, was utilized for the trip generation analysis of the proposed Citygate development. A summary of land uses is provided in Table 3. Table 4 contains a summary of trips generated by each land use for total build out Citygate.

TABLE 3 - LAND USES

Use	Size	ITE Land Use Code
Hotel	350 Rooms	310
Retail	343,000 Square Feet	820
Office	160,000 Square Feet	750
Apartments	990 Dwelling Units	220
Townhouses	110 Dwelling Units	230

Trips generated by Citygate are projected to consist of internal or shared trips (captured within the site) and external trips (entering and exiting the site). The external trips consist of primary (new) trips and pass-by trips. A 20% shared trip credit was used to estimate the sharing between the numerous retail stores. The ITE Trip Generation Handbook (TGH) March 2001 was utilized to determine the multi-use shared trip credit (12% AM and 15% PM) shown in Table 4. The same credit was utilized for the Hotel traffic because the 30% and 29% credit shown in Table C.4 of the ITE TGH seemed high for Hotel.

Primary trips are a direct result of the development and represent new traffic to the surrounding traffic system. Pass-by trips do not represent new traffic to the surrounding street system. The source of pass-by trips is traffic that is projected to exist on the adjacent street without regard to the Citygate development. Pass-by trips represent an increment to traffic entering and exiting the new development. First the shared trips are subtracted from the total number of trips. Then the pass-by trip percentage is applied to calculate the number of pass-by trips. The remaining trips are primary (new) trips added to the surrounding street system, shown in Table 4.

TABLE 4 - TRIP GENERATION

Land Use	**Trips Generated**					
	Weekday AM			**Weekday PM**		
	Enter	Exit	Total	Enter	Exit	Total
Hotel	120	76	196	110	97	207
Retail	208	133	341	648	701	1349
Office	267	33	300	38	232	270
Apartments	99	398	497	382	206	588
Townhouses	9	43	52	41	20	61
Total Trips	**703**	**683**	**1386**	**1219**	**1256**	**2475**
Internal Credits (listed in the order taken):						
Shared Trips Between Retail Uses (20%)	41	27	68	130	140	270
Shared Trips - Multi-Uses (AM-12%, PM-15%)	81	78	159	164	166	330
Trip Credit for Transit Facility (5%)	30	28	58	45	49	94
Total External Trips	**551**	**550**	**1101**	**880**	**901**	**1781**
Total Pass-by Trips	28	18	46	125	136	261
Total New (Primary) Trips	**523**	**532**	**1055**	**755**	**765**	**1520**

V. Trip Distribution

This phase of the traffic analysis involved distribution of the projected peak hour traffic generated by the proposed development to the surrounding roadway system. The projected traffic volumes calculated during the trip generation phase were distributed onto the roadway system based on 1)

study area travel patterns 2) the nature of trips generated by each type of land use and 3) the location of each land use within the development site.

The distribution of site generated primary (new) traffic considered the distribution of traffic observed along East Henrietta Road (Route 15A), Westfall Road and Clinton Avenue. The percent distribution of Citygate primary traffic is shown in Figures C-1 and C-2 of Appendix C. The percent distribution of Citygate pass-by traffic considered the pattern of traffic on East Henrietta Road (Route 15A) and Westfall Road. The percent distribution of pass-by traffic is shown in Figure C-3 of Appendix C. The assignment of Citygate primary traffic is shown in Figures C-4 and C-5 of Appendix C and the assignment pass-by traffic is shown in Figure C-6 of Appendix C.

VI. Future Traffic Evaluation

A. Sight Distance

The Intersection Sight Distance (ISD) based upon field investigation for vehicles exiting the Citygate streets and access driveways meet AASHTO recommendations. ISD's are greater than 500 feet to the left and right with the location of the driver eye estimated to be 14.5' from edge of pavement of the major roadway and 3.5' above the proposed pavement. Table 5 contains the ISD conditions at the Citygate access driveway approaches to major roadways and the AASHTO recommended ISD. The speed limit along East Henrietta Road and Westfall Road in the vicinity of the access driveways is posted at 30 mph. Based upon field measurements the ISD's are adequate for vehicles exiting the Citygate access driveways according to the AASHTO Policy on Geometric Design of Highways and Streets, 2004. AASHTO recommends 390 feet of sight along the major road for a vehicle turning from the minor road to the major road for a design speed of 35 mph on the major road and recommends 335 feet for a design speed of 30 mph.

TABLE 5

INTERSECTION SIGHT DISTANCES

Major Roadway	Driveway Approach	ISD to the Left	ISD to the Right	AASHTO Recommended
East Henrietta Road Route 15A	Street "T"	>500 ft	>500 ft	412 ft [1]
Westfall Road	Street "B"	>500 ft	>500 ft	390 ft [2]
Westfall Road	RIRO Northeast Driveway	>500 ft	NA	390 ft [2]

[1] AASHTO recommended intersection sight distance for vehicles to turn left from a minor road to a four lane two-way major road for a design speed of 35 mph along the major roadway.

[2] AASHTO recommended intersection sight distance for vehicles to turn left from a minor road to a two lane two-way major road for a design speed of 35 mph along the major roadway.

The stopping sight distance of a driver traveling in either direction on East Henrietta Road or Westfall Road in the vicinity of the Citygate streets and access driveways is greater than 300 feet when viewing the location of the driveway as shown in Table 6. AASHTO recommends a stopping sight distance of 250 feet for a design speed of 35 mph. For a design speed of 30 mph, 200 feet is recommended. Therefore, the sight distance along East Henrietta Road and Westfall Road to the Citygate streets and access driveways is in accordance AASHTO recommended stopping sight distances.

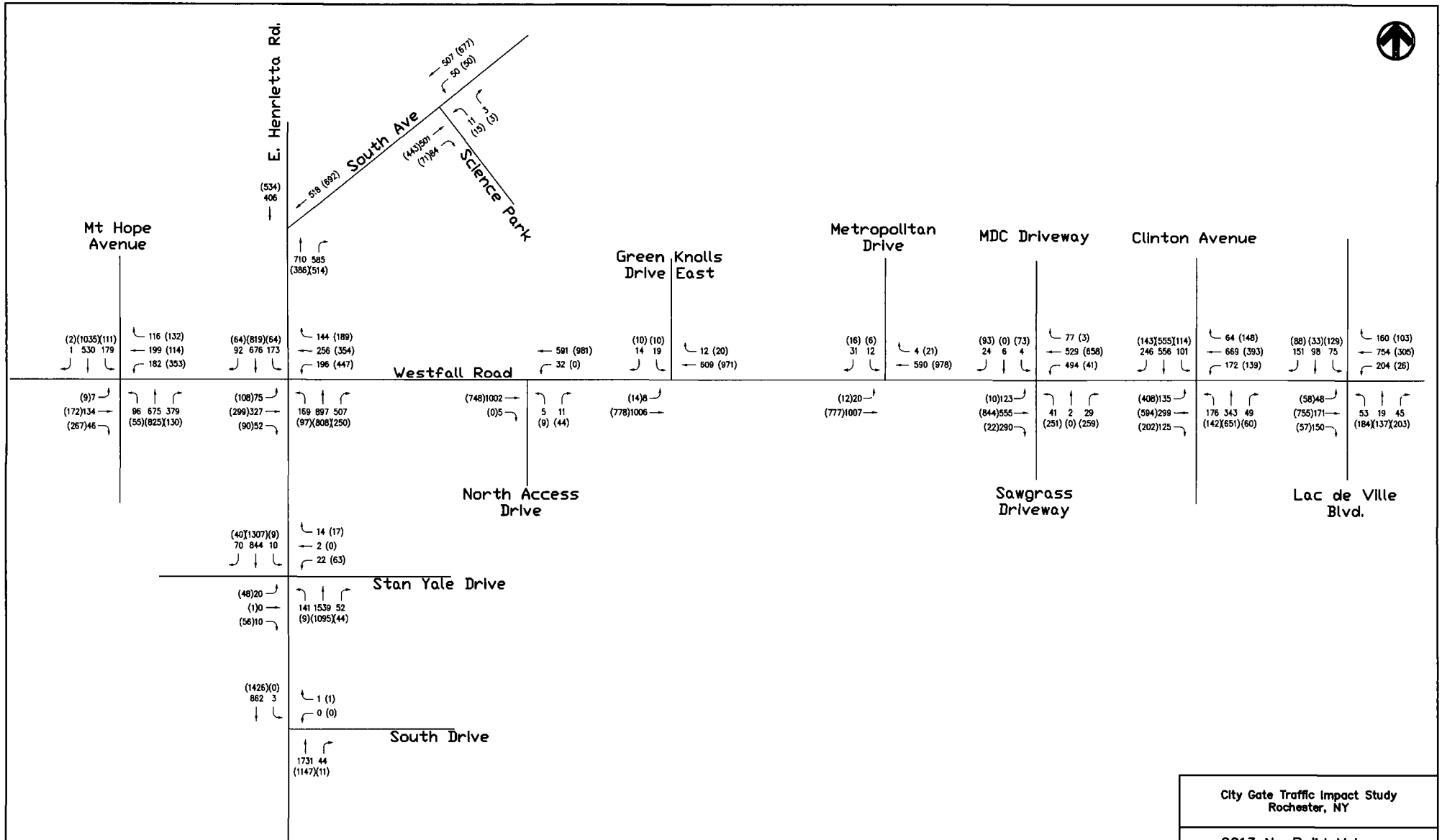
TABLE 6

STOPPING SIGHT DISTANCES

Intersection	Approach	SSD	AASHTO Recommended for Design Speed of 35 mph
East Henrietta Road with the Street "T"	Northbound	>300'	250'
	Southbound	>300'	250'
Westfall Road with the Street "B"	Eastbound	>300'	250'
	Westbound	>300'	250'
Westfall Road with the RIRO northeast driveway	Eastbound	>300'	250'
	Westbound	NA	250'

B. Projected 2013 No-Build Traffic

In close coordination with Monroe County Department of Transportation staff, background and growth traffic was determined. The background developments shown in the intersection turning movement table of Appendix D contains the background traffic from the following planned developments: Sawgrass Medical Development on Westfall Road, Clinton Crossings Development (between Westfall Road, Senator Keating Boulevard, South Clinton Avenue and Lac de Ville Boulevard), Senator Keating Boulevard Development south of Westfall Road and The Reserve on South Clinton Avenue. Because these background developments constitute the growth in this corridor for the year 2013 no additional growth was added to the base year 2008 traffic volumes.



LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

2013 No Build Volumes
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
4		7/08

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C. Projected 2013 No-Build Level of Service

The 2013 no build level of service analysis results for the subject intersections are provided in Table 7. Appendix E contains detailed LOS analysis results. For the 2013 no build condition, the intersections of East Henrietta Rd. with 1) the South Driveway, 2) Street "U" and 3) South Avenue, and the intersection of South Avenue with Science Park, there is no decrease in LOS.

The intersection of Westfall Road and Mt Hope Ave. projected only minimal increases in delay. The Westbound through/right lane and approach change to LOS B and LOS D during the PM peak hour, respectively.

Almost half the lane groups at the intersection of Westfall Road and East Henrietta Road are projected to decrease in LOS due to the high volume of background traffic. The Eastbound approach will remain operating at LOS C and LOS D, in the AM and PM peak hours, respectively; however, the westbound approach will change in LOS to LOS E during the PM peak hour. Both the northbound and southbound lefts and PM through movements are also expected to have increased delays. The overall intersection LOS changes from LOS B to C in the AM peak hour and LOS C to D in the PM peak hour.

Along Westfall Road, the Existing North Access, Green Knolls Dr. East, and Metropolitan Drive are expected to have increases in delay. The LOS for these approaches are projected to change to LOS D through F with up to 79 seconds of delay. Both the intersections of Green Knolls Dr. East and Metropolitan Drive also are expected to have left turn lanes available to vehicles turning from Westfall Road. These improvements are anticipated to be made by Monroe County Department of Transportation as part of the Westfall Road 2 improvement project currently in the preliminary design phase.

At the intersection of Westfall Road and the Sawgrass Driveway, it is expected that there will be minimal increases in delay during the AM peak hour, with the overall LOS changing from LOS A to LOS B. There are also minor increases in delay during the PM peak hour with the exception of the northbound approach and the southbound left turn movement. Both the northbound and southbound left turn movements, currently at LOS F, are projected to see an increase of at least 60 seconds of delay. This increase causes the northbound approach to change to LOS F. The overall intersection LOS is LOS B and LOS C, during the AM and PM peak hours, respectively.

The Westfall Road and Clinton Avenue intersection exhibits preexisting poor LOS. Background traffic other than Citygate is projected to worsen the flow of traffic with some operations at LOS F including the overall intersection LOS. The capacity and signal timing issues at the intersection of Westfall Road with South Clinton Avenue will be address by the MCDOT's Westfall Road 2 project currently in preliminary design.

The intersection of Westfall Road and Lac De Ville Boulevard is projected to have only small increases in delay. The overall intersection LOS is expected to be LOS B during both peak hours.

TABLE 7

2013 NO BUILD INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing				2013 No Build			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Westfall Rd at		Eastbound	LT	D	42	D	5[illegible]	D	41	D	49
Mt Hope Ave		Eastbound	Right	B	[illegible]1	B	[illegible]8	B	10	B	18
	Westfal	Eastbound	Approach	C	34	C	3[illegible]	C	33	C	31
Signalized		Westbound	Left	C	23	D	47	C	22	D	51
		Westbound	TR	C	21	A	10	B	20	B	12
	Westfal	Westbound	Approach	C	22	C	34	C	21	D	35
		Northbound	Left	B	11	C	21	B	11	C	22
		Northbound	Through	B	16	C	24	B	17	C	25
		Northbound	Right	A	3	A	4	A	3	A	4
	Mt Hope	Northbound	Approach	B	12	C	21	B	12	C	22
		Southbound	Left	B	13	C	25	B	17	C	28
		Southbound	TR	B	15	C	29	B	15	C	30
	Mt Hope	Southbound	Approach	B	14	C	29	B	16	C	30
		Overal		B	16	C	27	B	[illegible]7	C	28
Westfal Rd at		Eastbound	Left	C	27	D	40	C	25	D	40
East Henrietta Rd		Eastbound	TR	C	31	D	41	C	33	D	37
	Westfall	Eastbound	Approach	C	30	D	41	C	32	D	38
		Westbound	Left	D	47	E	66	D	52	E	66
		Westbound	TR	C	30	D	45	C	30	D	46
Signalized	Westfal	Westbound	Approach	D	36	D	54	D	37	E	55
		Northbound	Left	B	1[illegible]	C	21	B	12	C	33
		Northbound	TR	B	16	C	27	C	21	D	40
	East Henrietta	Northbound	Approach	B	15	C	26	B	20	D	40
		Southbound	Left	C	29	D	40	D	54	F	77
		Southbound	TR	A	7	B	16	A	7	C	26
	East Henrietta	Southbound	Approach	A	10	C	20	B	16	D	35
		Overal		B	19	C	32	C	23	D	42
Westfal Rd at	Westfall	Eastbound	TR	A	0	A	0	A	0	A	0
Existing North	Westfall	Westbound	LT	A	1	A	0	A	2	A	0
Access	North Access	Northbound	LR	C	22	D	28	E	36	F	57
Un-signalized		Overal									
Westfal Rd at		Eastbound	LT (Left)	A	0	A	1	A	9	B	11
Green Knolls Dr. East	Westfall	Eastbound	(Through)					A	0	A	0
	Westfall	Westbound	TR	A	0	A	0	A	0	A	0
	Green Knolls	Southbound	LR	D	30	D	31	F	57	F	60
Un-signalized		Overal									
Westfal Rd at	Westfall	Eastbound	LT	A	1	A	1				
Metropolitan Dr	Westfall	Westbound	TR	A	0	A	0				
	Metropolitan	Southbound	LR	C	21	C	25				
Un-signalized		Overal									
Westfal Rd at		Eastbound	Left					A	9	B	13
Metropolitan Dr		Eastbound	Through					A	0	A	0
	Westfall	Westbound	TR					A	0	A	0
Un-signalized	Metropolitan	Southbound	LR					D	33	F	79
Westfall Rd at		Eastbound	Left	A	3	A	1	A	5	A	2
Sawgrass		Eastbound	Through	A	7	A	6	B	15	B	10
		Eastbound	Right	A	1	A	1	A	3	A	1
	Westfall	Eastbound	Approach	A	4	A	6	B	10	A	10
		Westbound	Left	A	3	A	4	C	23	A	3
Signalized		Westbound	TR	A	4	A	6	A	4	A	5
	Westfal	Westbound	Approach	A	3	A	6	B	13	A	5
		Northbound	Left	D	53	F	88	D	54	F	155
		Northbound	TR	B	20	A	2	B	17	B	11
	Sawgrass	Northbound	Approach	D	38	D	38	D	38	F	82
		Southbound	Left	D	48	F	92	D	45	F	189
		Southbound	TR	B	20	A	1	C	20	A	1
	Driveway	Southbound	Approach	C	22	D	39	C	23	D	53
		Overal		A	5	B	16	B	13	C	28

TABLE 7 Continued
2013 NO BUILD INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing				2013 No Build			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Westfall Rd a:		Eastbound	Left	C	26	F	97	B	20	F	304
Clinton Ave		Eastbound	TR	C	24	E	68	C	27	F	195
	Westfall	Eastbound	Approach	C	25	E	79	C	26	F	232
		Westbound	Left	C	22	C	30	C	28	D	49
Signalized		Westbound	TR	F	80	D	41	F	155	F	87
	Westfall	Westbound	Approach	E	68	D	39	F	131	E	79
		Northbound	Left	D	39	D	38	E	75	D	49
		Northbound	TR	C	29	D	47	C	32	F	93
	Clinton	Northbound	Approach	C	32	D	45	D	45	F	86
		Southbound	Left	C	21	D	35	C	22	D	37
		Southbound	TR	F	84	E	75	F	174	F	106
	Clinton	Southbound	Approach	E	77	E	69	F	157	F	96
		Overall		E	57	E	62	F	102	F	137
Westfall Rd a:		Eastbound	Left	A	5	A	6	B	12	A	5
Lac De Ville		Eastbound	TR	A	3	B	11	A	3	B	18
	Westfall	Eastbound	Approach	A	3	B	11	A	4	B	17
		Westbound	Left	A	5	A	9	A	7	B	12
Signalized		Westbound	TR	A	8	A	7	B	15	A	8
	Westfall	Westbound	Approach	A	7	A	7	B	14	A	8
		Northbound	Left	C	21	B	14	C	23	C	20
		Northbound	TR	A	9	B	11	A	8	B	15
	Lac De Ville	Northbound	Approach	B	13	B	12	B	15	B	17
		Southbound	Left	C	22	D	43	B	19	D	43
		Southbound	TR	B	12	A	6	B	15	A	6
	Lac De Ville	Southbound	Approach	B	15	C	27	B	16	C	25
		Overall		A	8	B	12	B	12	B	16
East Henrietta Rd at	South Drwy	Westbound	Right	C	17	B	13	C	19	B	13..4
South Driveway	East Henrietta	Northbound	Approach	A	0	A	0	A	0	A	0
	East Henrietta	Southbound	Approach	A	0	A	0	A	0	A	0
East Henrietta Rd at		Eastbound	Left	D	43	D	50	D	43	D	50
MCH & Street "U"		Eastbound	TR	A	0	B	14	A	0	B	14
	MCH	Eastbound	Approach	C	28	C	30	C	28	C	30
		Westbound	Left	D	41	E	57	D	41	E	57
Signalized		Westbound	TR	C	21	A	0	C	21	A	0
	Street "U"	Westbound	Approach	C	30	D	45	C	30	D	45
		Northbound	Left	A	3	A	3	A	3	A	3
		Northbound	TR	A	7	A	50	A	8	A	5
	East Henrietta	Northbound	Approach	A	7	A	50	A	7	A	5
		Southbound	Left	A	0	A	0	A	0	A	0
		Southbound	TR	A	1	A	1	A	1	A	1
	East Henrietta	Southbound	Approach	A	1	A	1	A	1	A	1
		Overall		A	5	A	5	A	6	A	5
East Henrietta a:	South	Westbound	Left	D	35	D	42	D	36	D	42
South Avenue		Northbound	Through	A	7	A	6	A	7	A	8
		Northbound	Right	A	6	A	7	A	5	A	4
	East Henrietta	Northbound	Approach	A	7	A	7	A	6	A	6
Signalized	East Henrietta	Southbound	Through	A	6	A	10	A	6	A	10
		Overall		B	13	B	19	B	13	B	19
South Avenue at		Westbound	Left	B	16	D	38	B	16	D	38
Science Park		Westbound	Right	C	30	C	21	C	30	C	21
	Science Park	Westbound	Approach	B	18	D	35	B	18	C	35
	South	Northbound	Through	B	15	A	2	B	15	A	2
Signalized	South	Southbound	Through	A	6	A	6	A	6	A	6
		Overall		B	11	A	5	B	11	A	5

The study of corridor sections was performed for the 2013 no build condition. Table 8 shows the results of the analysis using HCS. The following corridors were analyzed:

- Westfall Rd. from East Henrietta Rd. to Citygate
- Westfall Rd. from Citygate to Winton Rd.
- Winton Rd. from Monroe Ave. to Westfall Rd.
- Winton Rd. from Westfall Rd. to I-590 (section is 4 lanes wide)
- South Clinton Ave. south of Westfall Rd.
- Lac de Ville Blvd. from Westfall Rd. to Senator Keating Blvd.
- E. Henrietta Rd. from Westfall Rd. to I-390 (section is 4 lanes wide)

The no build results show that the corridor sections are projected to operate at LOS E or better during the peak hours because of traffic growth other than Citygate. The volume to capacity (v/c) ratios are 0.65 or less. The reserve capacity is projected to range from 80% to 35% during the peak hours for the corridors listed in Table 8.

The basis for analyzing the 4 lane roadways, as recommended by the HCM, is density of vehicles per lane, measured in passenger cars per mile per lane (pc/mi/ln). The 2013 no build peak hour density of Winton Road from Westfall Road to I-590 is projected to be less than 10 pc/mi/ln which is representative of LOS A. The density of E. Henrietta Road from Westfall Road to I-390 during the peak hour is projected to be less than 23 pc/mi/ln which is representative of LOS C.

TABLE 8

2013 NO BUILD CORRIDOR SECTION LOS RESULTS

Roadway	Section	2008 Existing				2013 No Build			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Westfall Road	East Henrietta Rd to Citygate	D	0.45	D	0.48	D	0.56	E	0.60
Westfall Road	Citygate to Winton Rd	D	0.44	D	0.50	E	0.57	E	0.65
Winton Road	Monroe Ave to Westfall Rd	C	0.30	D	0.35	D	0.33	D	0.41
S Clinton Ave	South of Westfall	D	0.40	D	0.49	D	0.49	E	0.61
Lac de Ville Blvd	Westfall Rd to Senator Keating	B	0.08	C	0.16	C	0.20	C	0.22
Roadway	**Section**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**
Winton Road	Westfall Rd to I-590	A	8.1	A	8.8	A	9.8	A	9.7
E Henrietta Road	Westfall Rd to I-390	C	20.7	B	16.3	C	22.2	B	17.8

D. Projected 2013 Build Traffic

Build traffic considerations include background traffic and Citygate traffic. To project the build weekday AM and PM peak hour traffic volumes at the subject intersections for the build year of 2013, Citygate traffic was added to the 2013 no build traffic. The projected 2013 build traffic utilizing the subject intersections is shown in Figure 5. Figure 5 represents traffic expected to use the subject intersections in 2013 with Citygate.

Impacts to 15A/390 Intersection

The New York State Department of Transportation (NYSDOT) currently is in the preliminary design phase with alternative design alternatives currently being evaluated. Traffic volumes generated by the Citygate Development have been furnished to the NYSDOT for inclusion in their evaluation of design alternatives.

Monroe County Department of Transportation (MCDOT) Westfall Road Improvement Project

This project will extend from East Henrietta Road to Clinton Avenue. It is currently in the preliminary design phase with construction currently anticipated for 2010.

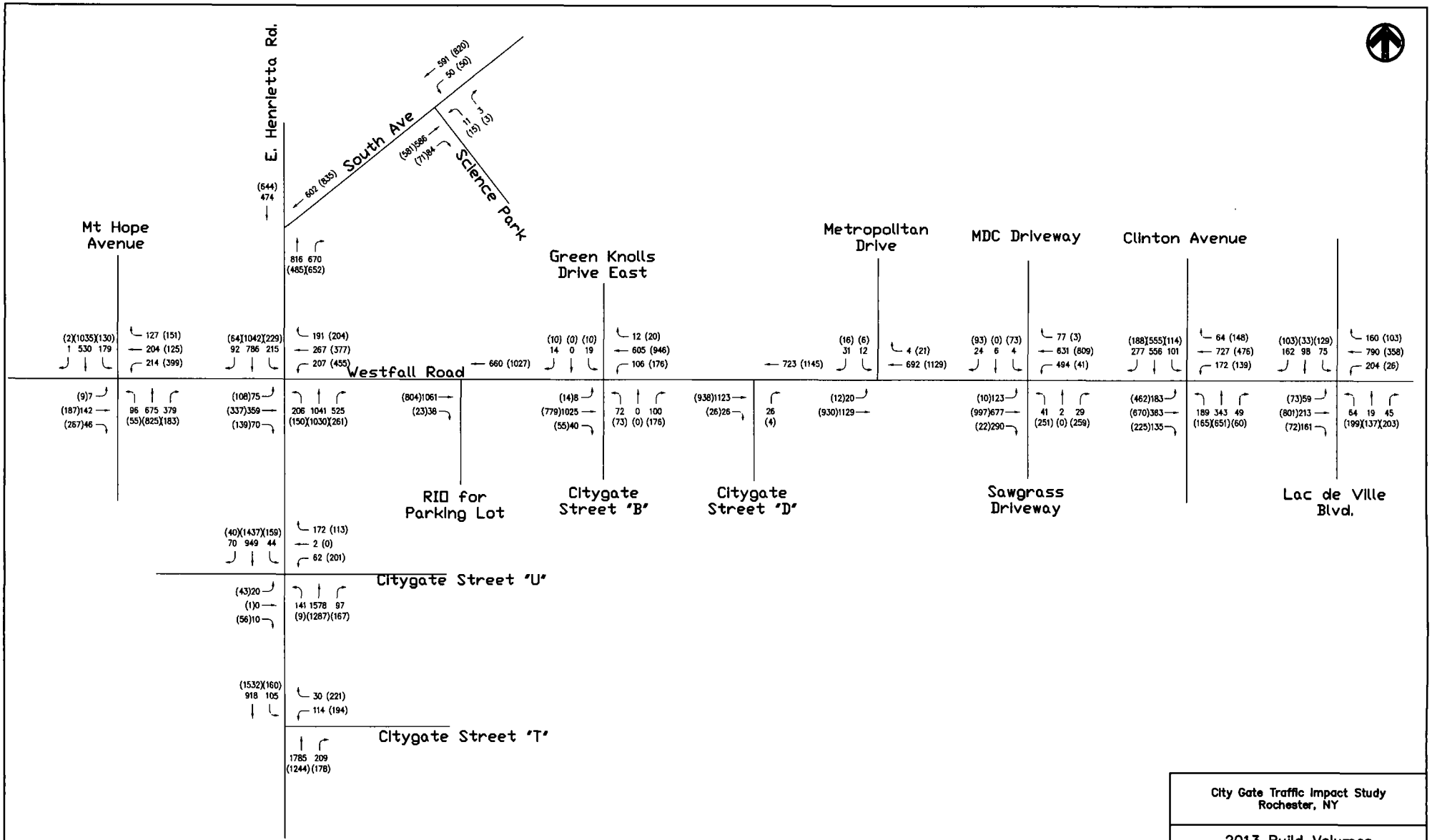
The MCDOT staff has worked closely with the consultants for Citygate and has provided input into the traffic analysis for background growth and driveway locations on East Henrietta and Westfall Roads. Traffic volumes generated by the Citygate project are being incorporated by MCDOT into the design analysis for Westfall Road.

Discuss alternative densities and alternative street layouts that may mitigate or avoid any adverse traffic/transportation impacts.

The internal street system has been designed to afford vehicle and pedestrian connectivity within the development. Access Management strategies have been incorporated by limiting the predominate ingress/egress traffic movements to signalized intersections and minor driveways on Westfall Road to right in and right in/right out. This will help to maintain throughput capacity on Westfall Road and eliminate potential vehicle conflicts with left turning vehicles into and out of the site.

Access to East Henrietta Road will be via two signalized intersections at Street "T" and Street "U" (Currently Stan Yale Drive). Primary access to Westfall Road will be at a signalized intersection Street "B" and Green Knolls Drive east.

The site is located along existing major transit routes and has been designed to encourage and accommodate transit usage.



LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

2013 Build Volumes
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
5		7/08

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E. Projected 2013 Build Level of Service

The 2013 build level of service analysis results for the subject intersections are provided in Table 9. Appendix F contains detailed LOS analysis results.

For the 2013 build condition the lane groups at the intersection of Westfall Road and Mt Hope Avenue are expected to remain at the same LOS at the No Build condition with the exception of the Westbound left movement, which will change to LOS E during the PM peak hour.

The intersection of East Henrietta Road and Westfall Road is expected to have an overall LOS C and LOS E, in the AM and PM peak hours, respectively. The southbound left turn lane during both peak hours and the westbound left turn lane during the PM peak hour are predicted to operate at LOS F.

The existing North Access, on Westfall Road, will be replaced with a Right In Only driveway which will operate with little to no delay. Green Knolls Drive East and Westfall Road will become a four way intersection with Street "B" and will be signalized. This intersection will operate at LOS C or better for all lane groups, with the exception of the northbound left/through lane group which will operate LOS D during both peak hours. An additional driveway, Street "D" will be added, just west of Metropolitan Drive, as a Right In/Right Out. The eastbound and westbound approaches will operate with little to no delay, while the northbound approach will operate at LOS E during the AM peak hour and LOS C during the PM peak hour. Metropolitan Drive will operate at nearly the same LOS as the No Build condition. The eastbound left turn average delay will increase slightly to 18 seconds of delay.

The intersection of Westfall Road and the Sawgrass driveway will operate with minimal changes from the No Build condition. The eastbound approach will operate at LOS B during the PM peak hour and the westbound left turn movement will operate at LOS D during the AM peak hour and LOS B during the PM peak hour. Overall intersection LOS remains the same.

The Westfall Road and Clinton Avenue intersection exhibits preexisting poor LOS. Background traffic other than Citygate is projected to worsen the flow of traffic and degrade some LOS to F including the overall intersection LOS. The projected build LOS at the Westfall Road and Clinton Avenue intersection include more movements operating at LOS F and one at LOS E (the northbound left turn lane). The capacity and signal timing issues at the intersection of Westfall Road with South Clinton Avenue will be address by the MCDOT's Westfall Road 2 project currently in preliminary design.

The intersection of Westfall Road and Lac De Ville Boulevard will operate at the same LOS as the No Build condition on the westbound, northbound and southbound approaches. The eastbound left movement will operate at LOS C during the AM peak hour. The eastbound through/right movement and approach will also operate at LOS C during the PM peak hour.

TABLE 9

2013 BUILD INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing				2013 No Build				2013 Build			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Westfall Rd at		Eastbound	LT	D	42	D	51	D	41	D	49	D	40	D	49
Mt Hope Ave		Eastbound	Right	B	11	B	18	B	10	B	18	A	10	B	18
	Westfall	Eastbound	Approach	C	34	C	31	C	33	C	31	C	33	C	31
Signalized		Westbound	Left	C	23	D	47	C	22	D	51	C	24	E	64
		Westbound	TR	C	21	A	10	B	20	B	12	B	20	B	11
	Westfall	Westbound	Approach	C	22	C	34	C	21	D	35	C	21	D	42
		Northbound	Left	B	11	C	21	B	11	C	22	B	12	C	22
		Northbound	Through	B	16	C	24	B	17	C	25	B	18	C	26
		Northbound	Right	A	3	A	4	A	3	A	4	A	3	A	4
	Mt Hope	Northbound	Approach	B	12	C	21	B	12	C	22	B	12	C	22
		Southbound	Left	B	13	C	25	B	17	C	28	B	19	C	32
		Southbound	TR	B	15	C	28	B	15	C	30	B	16	C	31
	Mt Hope	Southbound	Approach	B	14	C	29	B	16	C	30	B	17	C	31
		Overal		B	16	C	27	B	17	C	28	B	17	C	30
Westfall Rd at		Eastbound	Left	C	27	D	40	C	25	D	40	C	26	D	39
East Henrietta Rd		Eastbound	TR	C	31	D	41	C	33	D	37	C	33	D	38
	Westfall	Eastbound	Approach	C	30	D	41	C	32	D	38	C	32	D	38
		Westbound	Left	D	47	E	66	D	52	E	66	E	55	F	85
		Westbound	TR	C	30	D	45	C	30	D	46	C	27	D	40
Signalized	Westfall	Westbound	Approach	C	36	D	54	D	37	E	55	C	32	E	60
		Northbound	Left	B	13	C	21	B	12	C	33	C	27	D	36
		Northbound	TR	B	16	C	27	C	21	D	40	D	40	F	75
	East Henrietta	Northbound	Approach	B	15	C	26	B	20	D	40	D	38	E	71
		Southbound	Left	C	29	D	40	D	54	E	77	F	89	F	105
		Southbound	TR	A	7	B	16	A	7	C	26	A	9	D	42
	East Henrietta	Southbound	Approach	A	10	C	20	B	16	D	35	C	24	D	53
		Overall		B	19	C	32	C	23	D	42	C	33	E	58
Westfall Rd at	Westfall	Eastbound	TR	A	0	A	0	A	0	A	0				
Existing North	Westfall	Westbound	LT	A	1	A	0	A	2	A	0				
Access	North Access	Northbound	LR	C	22	D	28	E	36	F	57				
Un-signalized		Overall													
Westfall Rd at	Westfall	Eastbound	TR									A	0	A	0
RI Only Access	Westfall	Westbound	T									A	0	A	0
Un-signalized															
Westfall Rd at		Eastbound	LT (Left)	A	0	A	1	A	9	B	11				
Green Knolls Dr. East	Westfall	Eastbound	(Through)					A	0	A	0				
	Westfall	Westbound	TR	A	0	A	0	A	0	A	0				
	Green Knolls	Southbound	LR	D	30	D	31	F	57	F	60				
Un-signalized		Overall													
Westfall Rd at		Eastbound	Left									A	7	A	1
Green Knolls Dr. East		Eastbound	TR									A	4	A	2
and Street "B"	Westfal	Eastbound	Approach									A	4	A	2
Signalized		Westbound	Left									B	11	A	9
		Westbound	TR									A	5	B	10
	Westfall	Westbound	Approach									A	6	A	10
		Northbound	LT									D	44	D	55
		Northbound	Right									B	10	B	12
	Street "B"	Northbound	Approach									C	25	C	24
	Green Knolls	Southbound	Approach									C	27	C	30
		Overal										A	7	A	9
Westfall Rd at	Westfall	Eastbound	TR									A	0	A	0
Street "D"	Westfall	Westbound	Through									A	0	A	0
Un-signalized	Street "D"	Northbound	Right									E	38	C	19
Westfall Rd at	Westfall	Eastbound	LT	A	1	A	1								
Metropolitan Dr	Westfall	Westbound	TR	A	0	A	0								
	Metropolitan	Southbound	LR	C	21	C	25								
Un-signalized		Overal													
Westfall Rd at		Eastbound	Left					A	9	B	13	A	10	C	18
Metropolitan Dr		Eastbound	Through					A	0	A	0	A	0	A	0
	Westfall	Westbound	TR					A	0	A	0	A	0	A	0
Un-signalized	Metropolitan	Southbound	LR					D	33	F	79	D	31	F	126
Westfall Rd at		Eastbound	Left	A	3	A	1	A	5	A	2	A	5	A	3
Sawgrass		Eastbound	Through	A	7	A	6	B	15	B	10	B	18	B	19
		Eastbound	Right	A	1	A	1	A	3	A	1	A	5	A	2
	Westfal	Eastbound	Approach	A	4	A	6	B	10	A	10	B	13	B	18
		Westbound	Left	A	3	A	4	C	23	A	3	D	37	B	10
Signalized		Westbound	TR	A	4	A	6	A	4	A	5	A	5	A	6
	Westfal	Westbound	Approach	A	3	A	6	B	13	A	5	B	18	A	60
		Northbound	Left	D	53	F	88	D	54	F	155	D	54	F	155
		Northbound	TR	B	20	A	2	B	17	B	11	B	17	B	16
	Sawgrass	Northbound	Approach	D	38	D	38	D	36	F	80	D	38	F	84
		Southbound	Left	D	48	F	90	D	45	F	189	D	45	F	119
		Southbound	TR	B	20	A	1	C	20	A	1	C	20	A	1
	Driveway	Southbound	Approach	C	22	D	39	C	23	D	53	C	23	D	53
		Overall		A	5	B	16	B	13	C	28	B	17	C	30

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TABLE 9 Continued

2013 BUILD INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing				2013 No Build				2013 Build			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Westfall Rd at		Eastbound	Left	C	26	F	97	B	20	F	304	C	31	F	493
Clinton Ave		Eastbound	TR	C	24	E	68	C	22	F	195	C	32	F	267
	Westfall	Eastbound	Approach	C	25	E	79	C	26	F	232	C	32	F	309
		Westbound	Left	C	22	C	30	C	26	D	49	D	46	D	49
Signalized		Westbound	TR	F	80	D	41	F	155	F	87	F	219	F	142
	Westfall	Westbound	Approach	F	68	D	39	F	121	E	79	F	188	F	125
		Northbound	Left	D	36	D	38	E	75	D	49	F	91	E	64
		Northbound	TR	C	29	D	47	C	32	F	93	C	32	F	93
	Clinton	Northbound	Approach	C	32	D	45	D	45	F	86	D	51	F	88
		Southbound	Left	C	21	D	35	C	22	D	37	C	22	D	37
		Southbound	TR	F	84	E	75	F	174	F	106	F	195	F	135
	Clinton	Southbound	Approach	E	77	E	69	F	157	F	96	F	176	F	122
		Overall		E	57	E	62	F	102	F	147	F	125	F	181
Westfall Rd at		Eastbound	Left	A	5	A	6	B	12	A	5	C	24	A	6
Lac De Ville		Eastbound	TR	A	3	B	11	A	3	B	18	A	3	C	21
	Westfall	Eastbound	Approach	A	3	B	11	A	4	B	17	A	6	C	20
		Westbound	Left	A	5	A	9	A	7	B	12	A	8	B	12
Signalized		Westbound	TR	A	8	A	7	B	15	A	8	B	19	A	9
	Westfall	Westbound	Approach	A	7	A	7	B	14	A	8	B	17	A	9
		Northbound	Left	C	21	B	14	C	23	C	20	C	24	C	22
		Northbound	TR	A	9	B	11	A	8	B	15	A	8	B	16
	Lac De Ville	Northbound	Approach	B	13	B	12	B	15	B	17	B	16	B	18
		Southbound	Left	C	22	D	43	B	19	D	43	B	18	D	41
		Southbound	TR	B	12	A	6	B	15	A	6	B	16	A	5
	Lac De Ville	Southbound	Approach	B	15	C	27	B	16	C	25	B	16	C	23
		Overall		A	8	B	12	B	12	B	18	B	15	B	17
East Hennetta Rd at	South Drwy	Westbound	Right	C	17	B	13	C	19	B	13.4				
South Driveway	East Henrietta	Northbound	Approach	A	0	A	0	A	0	A	0				
	East Henrietta	Southbound	Approach	A	0	A	0	A	0	A	0				
East Henrietta Rd at		Westbound	Left									D	43	E	56
Street "T"		Westbound	Right									B	16	D	36
	Street "T"	Westbound	Approach									D	38	D	45
	East Henrietta	Northbound	Approach									A	9	A	7
Signalized	East Henrietta	Southbound	Approach									B	18	E	97
		Overall										B	15	D	54
East Henrietta Rd at		Eastbound	Left	D	43	D	50	D	43	D	50	D	47	D	38
MCH & Street "U"		Eastbound	TR	A	0	B	14	A	0	B	14	A	0	A	10
	MCH	Eastbound	Approach	C	28	C	30	C	28	C	30	C	31	C	22
		Westbound	Left	D	41	E	57	D	41	E	57	D	45	E	59
Signalized		Westbound	TR	C	21	A	9	C	21	A	9	B	11	A	9
	Street "U"	Westbound	Approach	C	30	D	45	C	30	D	45	B	20	D	38
		Northbound	Left	A	3	A	3	A	3	A	3	A	5	A	5
		Northbound	TR	A	7	A	50	A	8	A	5	C	27	B	18
	East Henrietta	Northbound	Approach	A	7	A	50	A	7	A	5	C	26	B	16
		Southbound	Left	A	0	A	0	A	0	A	0	A	6	C	29
		Southbound	TR	A	1	A	1	A	1	A	1	A	2	A	6
	East Henrietta	Southbound	Approach	A	1	A	1	A	1	A	1	A	2	A	9
		Overall		A	5	A	5	A	6	A	5	5	17	B	16
East Henrietta at	South	Westbound	Left	D	35	D	42	D	38	D	42	D	49	E	60
South Avenue		Northbound	Through	A	7	A	6	A	7	A	6	A	9	A	8
		Northbound	Right	A	6	A	7	A	5	A	4	A	6	A	7
	East Henrietta	Northbound	Approach	A	7	A	7	A	6	A	6	A	7	A	8
Signalized	East Henrietta	Southbound	Through	A	6	A	10	A	6	A	10	A	7	B	13
		Overall		B	13	B	19	B	13	B	19	B	17	C	26
South Avenue at		Westbound	Left	B	16	D	38	B	16	D	38	B	16	D	38
Science Park		Westbound	Right	C	30	C	21	C	30	C	21	C	30	C	21
	Science Park	Westbound	Approach	B	18	D	35	B	18	C	35	B	18	C	35
	South	Northbound	Through	B	15	A	2	B	15	A	2	B	17	A	3
Signalized	South	Southbound	Through	A	6	A	6	A	6	A	6	A	6	A	6
		Overall		B	17	A	5	B	11	A	5	B	12	A	5

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The South Driveway (proposed Street "T") will be a signalized intersection with separate left and right turn lanes on the westbound approach because of the traffic demand. During the AM peak hour, all lane groups operate at LOS D or better. During the PM peak hour, all lane groups operate at LOS D or better except the westbound left lane, operating at LOS E, and the southbound approach, operating at LOS F without mitigation.

Lane groups on East Henrietta Road and Street "U" are expected to operate at LOS C or better with the exception of the eastbound and westbound left lane groups and the westbound approach; however LOS for these groups is not predicted to change from the No Build condition. The overall intersection LOS is expected to be LOS B during both peak hours.

South Avenue westbound movement will change to LOS E at the intersection with East Henrietta Road during the PM peak hour. The southbound movement will also change to LOS B during the PM peak hour. Overall LOS at this intersection will remain at LOS B during the AM peak hour and change to LOS C during the PM peak hour. The intersection of South Avenue and Science Park will no change in LOS from the No Build condition.

Saturday Mid-Day Peak Hour Evaluation

An analysis of Saturday mid-day peak hour conditions was also performed. The ITE Trip Generation, 7th Edition, was utilized for the trip generation analysis of the proposed Citygate development. A summary of land uses is provided in Table 4. Table 10, below, contains a summary of Saturday peak hour trips generated by each land use for total build out Citygate, with Weekday PM peak hour trips shown for comparison.

TABLE 10 - SATURDAY PEAK HOUR TRIP GENERATION

Land Use	**Trips Generated**					
	Saturday Mid-day			**Weekday PM**		
	Enter	Exit	Total	Enter	Exit	Total
Hotel	141	111	252	110	97	207
Retail	945	872	1817	648	701	1349
Office	16	6	22	38	232	270
Apartments	235	235	470	382	206	588
Townhouses	35	29	64	41	20	61
Total Trips	**1372**	**1253**	**2625**	**1219**	**1256**	**2475**
Internal Credits (listed in the order taken):						
Shared Trips Between Retail Uses (20%)	189	174	363	130	140	270
Shared Trips - Multi-Uses (Sat-16%, PM-15%)	189	173	362	164	166	330
Trip Credit for Transit Facility (5%)	49	47	96	45	49	94
Total External Trips	**945**	**859**	**1804**	**880**	**901**	**1781**
Total Pass-by Trips	181	167	348	125	136	261
Total New (Primary) Trips	**764**	**692**	**1456**	**755**	**765**	**1520**

Trips generated by Citygate are projected to consist of internal or shared trips (captured within the site) and external trips (entering and exiting the site). The external trips consist of primary (new) trips and pass-by trips. A 20% shared trip credit was used to estimate the sharing between the numerous retail stores. The ITE TGH March 2001 was utilized to determine the multi-use shared trip credit (16% Saturday) shown in Table 10. The same credit was utilized for the Hotel traffic because the 30% and 29% credit shown in Table C.4 of the ITE TGH seemed high for Hotel.

A comparison of Saturday peak hour trips to weekday PM peak hour trips reveals a small increase of 1% to the total external trips from 1781 to 1804 as shown in Table 10. The primary trips are projected to be 4% less, i.e. less traffic on the surrounding roadway system. Effectively, the differences on roadways will be even less because trips will be distributed to five separate access points and many separate corridors on the roadway system. The greatest increase would be for entering pass-by traffic with 181 projected for the Saturday peak hour and 125 projected for the weekday peak hour. With recommended mitigation in place enough reserve roadway capacity is expected for the cumulative (background plus Citygate) Saturday peak hour traffic because the volume of street traffic is approximately half the volume of the weekday PM peak hour.

The volume of background street traffic in the surrounding area is low during the Saturday peak hour when compared to the weekday PM peak hour and the projected volume of Citygate traffic is projected to be approximately the same. The overall conclusion of the traffic analysis remains the same with inclusion of the Saturday peak hour evaluation, the proposed Citygate development will affect traffic operations, but after the recommendations are implemented, acceptable traffic operations are expected.

Corridor Sections

The study of corridor sections was performed for the 2013 build condition. Table 11 shows the results of the analysis using HCS. The following corridors were analyzed:

- Westfall Rd. from East Henrietta Rd. to Citygate
- Westfall Rd. from Citygate to Winton Rd.
- Winton Rd. from Monroe Ave. to Westfall Rd.
- Winton Rd. from Westfall Rd. to I-590 (section is 4 lanes wide)
- South Clinton Ave. south of Westfall Rd.
- Lac de Ville Blvd. from Westfall Rd. to Senator Keating Blvd.
- E. Henrietta Rd. from Westfall Rd. to I-390 (section is 4 lanes wide)

The build results show that the corridor sections are projected to operate at LOS E or better during the peak hours with projected background traffic growth and with Citygate. The volume to capacity (v/c) ratios are projected to be 0.76 or less. The reserve capacity is projected to range from 79% to

24% during the peak hours for the four corridors listed in Table 11. A slight reduction of v/c is projected, as shown in Table 11, but reserve capacity ranging from 79% to 24% will be available.

The basis for analyzing the 4 lane roadways, as recommended by the HCM, is density of vehicles per lane, measured in passenger cars per mile per lane (pc/mi/ln). During the 2013 build peak hour Winton Road from Westfall Road to I-590 is projected to operate at LOS A. East Henrietta Road from Westfall Road to I-390 is projected to operate at LOS C during the peak hours.

TABLE 11

2013 BUILD CORRIDOR SECTION LOS RESULTS

Roadway	Section	2008 Existing				2013 No Build				2013 Build			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Westfall Road	East Henrietta Rd to Citygate	D	0.45	D	0.48	D	0.56	E	0.60	E	0.61	E	0.65
Westfall Road	Citygate to Winton Rd	D	0.44	D	0.50	E	0.57	E	0.65	E	0.65	E	0.76
Winton Road	Monroe Ave to Westfall Rd	C	0.30	D	0.35	D	0.33	D	0.41	D	0.34	D	0.41
S Clinton Ave	South of Westfall	D	0.40	D	0.49	D	0.49	E	0.61	D	0.50	E	0.62
Lac de Ville Blvd	Westfall Rd to Senator Keating	B	0.08	C	0.16	C	0.20	C	0.22	C	0.21	C	0.23
Roadway	**Section**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**	**LOS**	**pc/mi/ln**
Winton Road	Westfall Rd to I-590	A	8.1	A	8.8	A	9.8	A	9.7	A	10.0	A	9.9
E Henrietta Road	Westfall Rd to I-390	C	20.7	B	16.3	C	22.2	B	17.8	C	25.0	C	21.6

F. Projected 2013 Build with Mitigation LOS

The mitigation recommended for the 2013 Build condition is installation of a traffic signal at the intersection of East Henrietta Road with the South driveway Street "T", construction of a second exit lane on the Street "T" to allow one exit lane each for left and right turns. Some adjustment of the signal timings are recommended at the following intersections: Westfall Road with Mt. Hope Avenue (PM peak hour only), Westfall Road with East Henrietta Road, Westfall Road with Sawgrass Drive (PM peak hour only) and East Henrietta Road with South Avenue (PM peak hour only) will become necessary to accommodate new traffic flow patterns. The capacity and signal timing issues at the intersection of Westfall Road with South Clinton Avenue will be address by the MCDOT's Westfall Road 2 project currently in preliminary design.

Also recommended are a left turn lane on southbound East Henrietta Road at Citygate Street T, a traffic signal at the intersection of East Henrietta Road with the Citygate Street "T" and a traffic signal on Westfall Road at the Citygate Street "B". Interconnection of the new signals to the existing network of signals will also improve traffic flow. Table 12 shows the improved LOS provided by the recommended mitigation. Appendix G contains detailed LOS analysis results.

With mitigation the following intersections exhibit LOS D or better for all lane groups: Westfall Road with Mt. Hope Avenue, East Henrietta Road with Street "T" and East Henrietta with South Avenue. The intersections of Westfall Road with East Henrietta Road and Westfall Road with Sawgrass Drive / MDC driveway exhibit improved LOS with timing adjustments

TABLE 12
2013 BUILD WITH MITIGATION INTERSECTION LOS RESULTS

Intersection	Approach			2008 Existing				2013 No Build				2013 Build				2013 Build - Mitigation			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Westfall Road		Eastbound	Left	D	43	D	51	C	41	D	43	D	40	D	49			D	49
Mt. Hope Ave		Eastbound	Right	B	11	B	16	B	17	B	18	A	10	B	18			B	17
	Westfall	Eastbound	Approach	C	34	C	31	C	32	C	31	C	33	C	31			C	31
Signalized		Westbound	Left	C	22	D	47	C	23	D	51	C	24	E	64			D	53
		Westbound	TR	C	21	A	10	B	20	B	12	B	20	B	11			B	10
	Westfall	Westbound	Approach	C	22	C	34	C	21	D	35	C	21	D	42			D	35
		Northbound	Left	B	11	C	21	B	11	C	22	B	12	C	22			C	25
		Northbound	Through	B	14	C	24	B	17	C	25	B	16	C	25			C	26
		Northbound	Right	A	3	A	4	A	3	A	4	A	3	A	4			A	4
	Mt. Hope	Northbound	Approach	B	12	C	23	B	15	C	22	B	14	C	22			C	24
		Southbound	Left	B	15	C	25	B	17	C	26	B	19	C	22			C	34
		Southbound	TR	B	15	C	29	B	15	C	30	B	16	C	31			C	34
	Mt. Hope	Southbound	Approach	B	14	C	29	B	16	C	30	B	17	C	31			C	33
		Overall		B	16	C	27	B	17	C	28	B	17	C	30			C	30
Westfall Road		Eastbound	Left	C	27	D	40	C	25	D	40	C	26	D	39	C	26		
East Henrietta Rd		Eastbound	TR	C	31	D	41	C	32	D	37	C	33	D	38	C	33		
	Westfall	Eastbound	Approach	C	30	D	41	C	32	D	38	C	32	D	38	C	32		
		Westbound	Left	D	47	E	66	D	52	E	66	E	55	E	65	E	55		
		Westbound	TR	C	30	D	45	C	31	D	46	C	22	D	40	C	22		
Signalized	Westfall	Westbound	Approach	D	36	D	54	C	27	E	55	C	32	E	60	C	32		
		Northbound	Left	B	11	C	21	B	12	C	33	C	27	D	36	C	26		
		Northbound	TR	B	16	C	27	C	21	D	40	D	46	E	75	D	48		
	East Henrietta	Northbound	Approach	B	15	C	26	B	20	D	40	D	38	E	71	D	46		
		Southbound	Left	C	30	D	40	D	54	E	77	F	85	F	105	E	69		
		Southbound	TR	A	7	B	16	A	7	C	26	A	9	D	42	A	9		
	East Henrietta	Southbound	Approach	A	10	C	20	B	15	D	35	C	24	D	53	C	21		
		Overall		B	19	C	30	C	22	D	42	C	33	E	56	C	35		
Westfall Road		Eastbound	Left	A	3	A	1	A	5	A	2	A	6	A	3			A	6
Sawgrass		Eastbound	Through	A	7	A	6	B	15	B	10	B	18	B	15			D	[illegible]
		Eastbound	Right	A	1	A	1	A	2	A	1	A	5	A	2			A	5
	Westfall	Eastbound	Approach	A	4	A	6	B	10	A	10	B	13	B	12			D	37
		Westbound	Left	A	3	A	4	C	23	A	3	D	37	B	17			B	15
Signalized		Westbound	TR	A	4	A	8	A	4	A	5	A	5	A	8			B	11
	Westfall	Westbound	Approach	A	3	A	6	B	13	A	5	B	18	A	[illegible]			B	11
		Northbound	Left	D	53	F	86	D	54	F	155	D	54	F	155			E	60
		Northbound	TR	B	20	A	2	B	17	B	11	B	17	B	16			C	21
	Sawgrass	Northbound	Approach	D	38	D	36	D	36	F	82	D	36	F	84			D	41
		Southbound	Left	E	48	F	97	D	45	F	189	D	45	F	115			D	43
		Southbound	TR	B	20	A	1	C	20	A	1	C	20	A	1			A	1
	Driveway	Southbound	Approach	C	22	D	45	C	23	D	53	C	23	D	53			B	19
		Overall		A	5	B	16	B	13	C	25	B	17	C	20			C	28
East Henrietta Road		Westbound	Left													D	43	D	55
Street "T"		Westbound	Right													B	13	B	11
	Street "T"	Westbound	Approach													B	17	C	31
	East Henrietta	Northbound	Approach													C	29	B	18
		Southbound	Left													C	28	C	29
		Southbound	Through													A	[illegible]	A	7
Signalized	East Henrietta	Southbound	Approach													A	5	A	9
		Overall														C	22	B	15
East Henrietta Road	South	Westbound	Left	D	36	D	42	D	39	D	42	D	49	E	60			D	52
South Avenue		Northbound	Through	A	7	A	6	A	7	A	6	A	9	A	5			A	9
		Northbound	Right	A	6	A	7	A	5	A	4	A	6	A	7			A	7
	East Henrietta	Northbound	Approach	A	7	A	7	A	8	A	6	A	7	A	8			A	8
Signalized	East Henrietta	Southbound	Through	A	6	A	10	A	8	A	13	A	7	B	13			B	13
		Overall		B	13	B	14	B	14	B	19	B	17	C	25			C	23

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VII. Summary and Conclusions

A. Existing Conditions

In general the results show that traffic operations are acceptable with some reserve capacity available. The analysis does identify pre-existing conditions of congestion at Westfall Road with Clinton Avenue and Westfall Road at Sawgrass Drive (both left turns onto Westfall Road from north and south).

B. Future Conditions

The 2013 no build LOS analysis identified that background traffic exclusive of Citygate is significant to affect traffic operations at the study intersections and corridor sections. Reserve capacity is still available with 1) background traffic and 2) the MCDOT Westfall Road 2 improvements (currently in preliminary design). Some congestion is indicated at the intersections of Westfall Road with E. Henrietta Road, Green Knolls Drive East at Westfall Road, Metropolitan Drive at Westfall Road, Westfall Road with Sawgrass Drive (both left turns onto Westfall Road, from north and south) and Westfall Road with Clinton Avenue (to be addressed by the Westfall 2 project).

Results of the sight distance analysis identified that sufficient intersection and stopping sight distance is available at the Citygate access streets.

Hotel, Retail, Office, Apartments and Townhouses are planned for Citygate. The Citygate concept is projected to generate 1055 and 1520 new trips to the surrounding roadway system.

The 2013 build LOS analysis identified that some traffic operations are degraded, 1) with Citygate and 2) without mitigation in place. Reserve capacity is still available when including background traffic, Citygate traffic and the MCDOT Westfall Road 2 improvements, without recommended mitigation. Some congestion is indicated at the intersections of Westfall Road with E. Henrietta Road, Metropolitan Drive at Westfall Road, Westfall Road with Sawgrass Drive (both left turns onto Westfall Road, from north and south), Westfall Road with Clinton Avenue (to be addressed by the Westfall 2 project)

The overall conclusion of the traffic analysis is the proposed Citygate development will affect traffic operations, but after the following recommendations are implemented, acceptable traffic operations are expected.

VIII. Recommendations

- Since all traffic signals within this project boundaries are connected to the Monroe County Traffic Signal System and monitored by the Region Traffic Operations Center (RTOC) it is recommended that some adjustment of the signal timings at the following intersections: Westfall Road with Mt. Hope Avenue (PM peak hour only), Westfall Road with East Henrietta Road, Westfall Road with Sawgrass Drive (PM peak hour only) and East Henrietta Road with South Avenue (PM peak hour only) will become necessary to accommodate new traffic flow patterns. As the Citygate development is constructed over the 5 year span, with MCDOT will be monitoring the network to determine appropriate signal timings.

- The capacity and signal timing issues at the intersection of Westfall Road with South Clinton Avenue will be address by the MCDOT's Westfall Road 2 project currently in preliminary design.

- Construct a left turn lane on southbound East Henrietta Road at Citygate Street T (south driveway).

- Construct an actuated traffic signal at the intersection of East Henrietta Road with the Citygate Street "T". Interconnect this traffic signal with the existing traffic control system Provide a protected left turn phase for the southbound East Henrietta left turns to Citygate Street "T".

- Construct a second exit lane on Citygate Street "T", to provide one exit lane for left turns and one for right turns.

- Construct the streets and driveways on Westfall Road as shown on the accompanying site plan. The westerly driveway will be a right in only. Citygate Street "B" will be full access with two exit lanes. One exit lane will be a shared lane for left turns and through moves and one exit lane will be a right turn lane. Citygate Street D will be a right in right out only driveway.

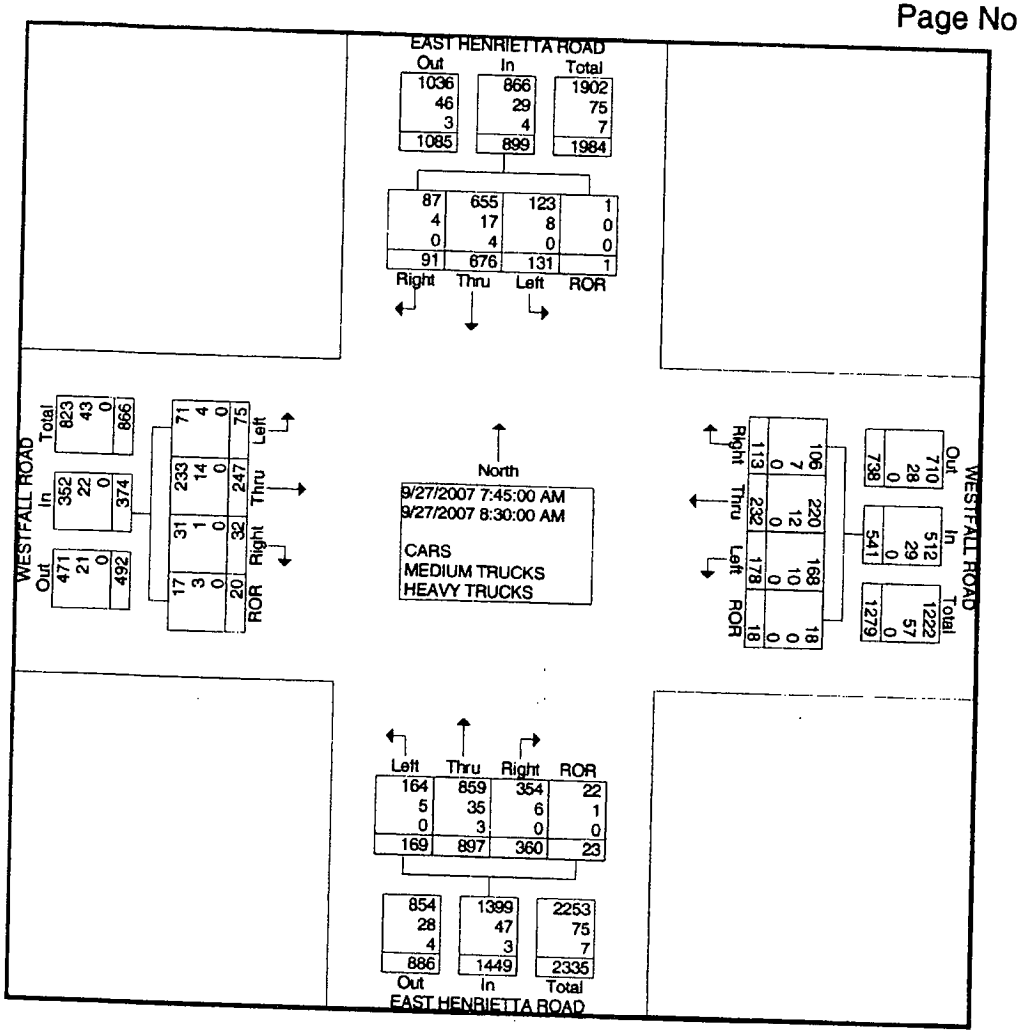
- Construct an actuated traffic signal on Westfall Road at the Citygate Street "B" Interconnect this traffic signal with the existing traffic control system. A two phase operation is recommended.

Appendix A
Count Data

Westfall Rd @ East Henrietta Rd

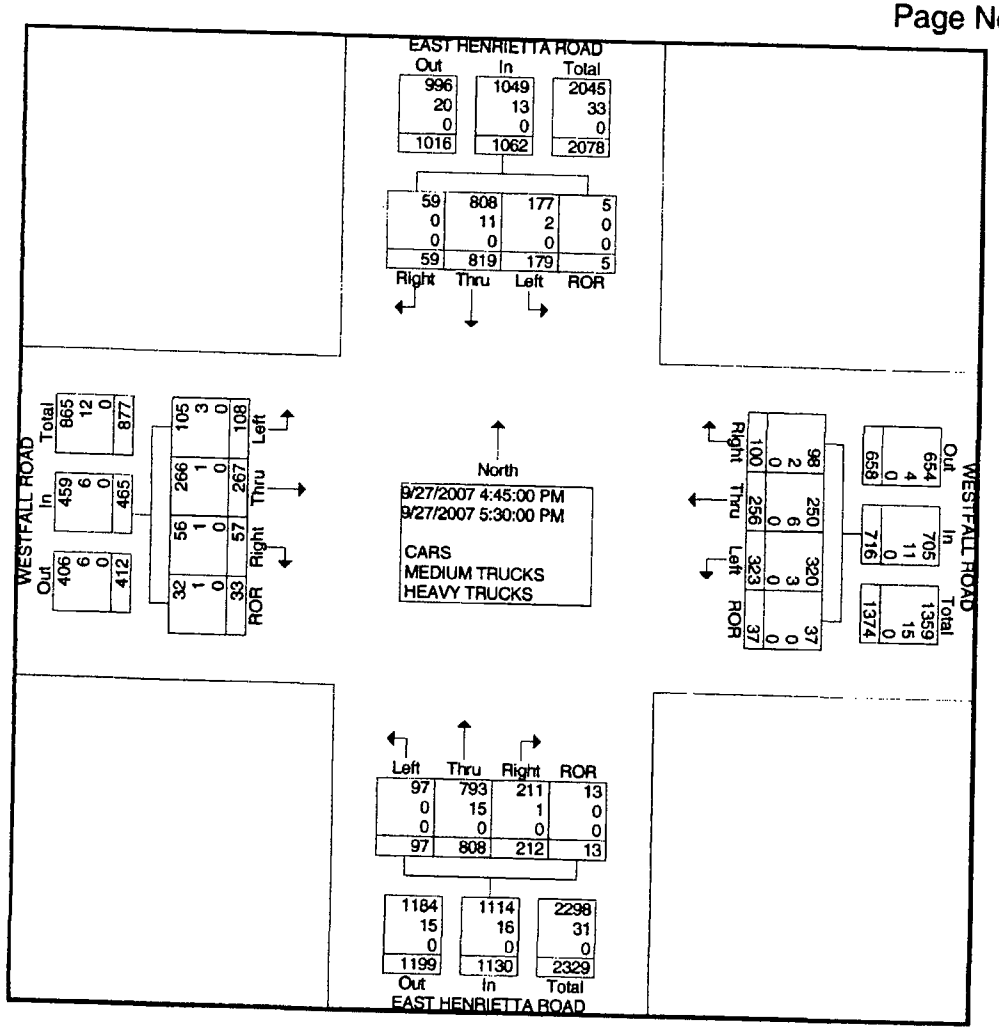
Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : East Henrietta - AM
Site Code : 00000051
Start Date : 9/27/2007
Page No : 2



Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : East Henrietta - PM
Site Code : 00000052
Start Date : 9/27/2007
Page No : 2



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Citygate Project
Westfalls Rd @ E. Henrietta - 15A
Count December 8th 2004

File Name : 15A and Westfall 7-9 4-6
Site Code : 00000003
Start Date : 12/8/2004
Page No : 1

Groups Printed- Autos - Heavy Vehicles - RTOR

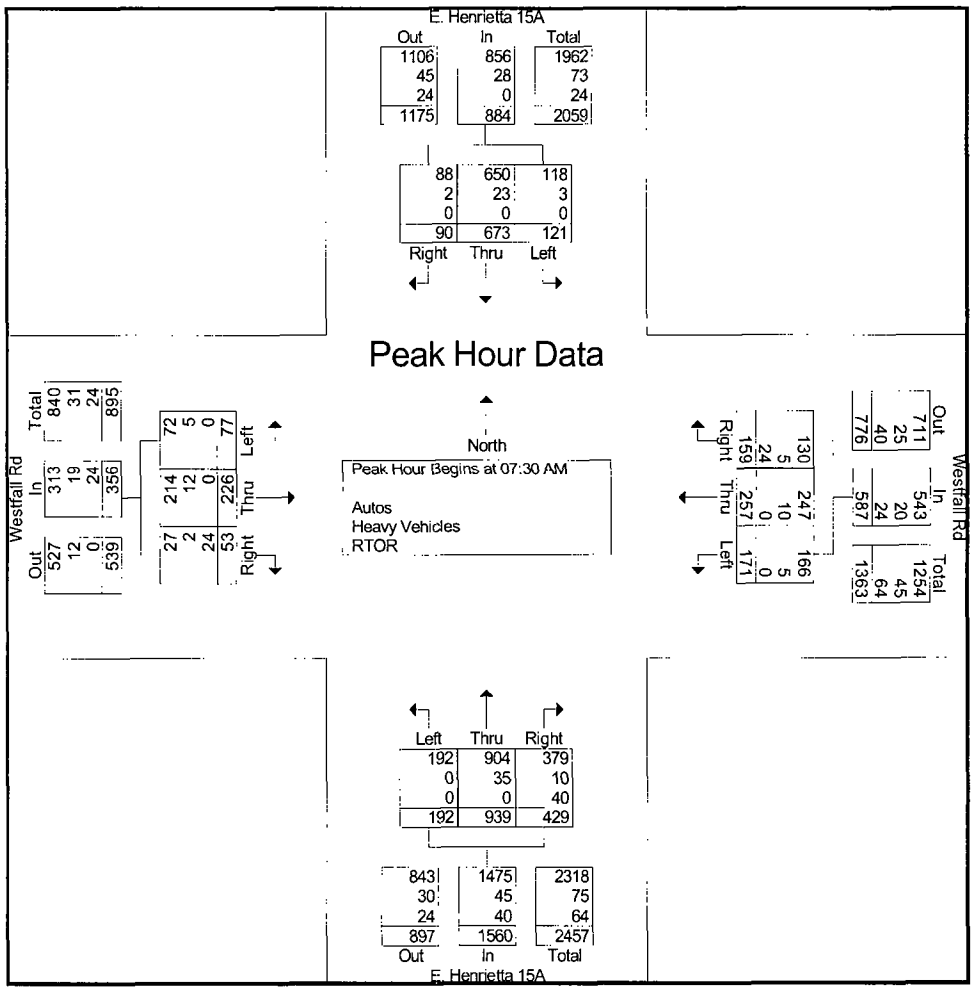
	Westfall Rd Eastbound					Westfall Rd Westbound					E. Henrietta 15A Northbound					E. Henrietta 15A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	12	24	13	0	49	10	49	31	0	90	26	185	48	0	259	13	96	9	0	118	516
07:15 AM	13	46	13	0	72	33	50	34	1	118	45	251	71	1	368	12	117	14	1	144	702
07:30 AM	18	56	17	0	91	32	57	43	1	133	46	209	128	0	383	22	178	16	0	216	823
07:45 AM	19	52	15	0	86	34	67	50	6	157	60	247	103	0	410	35	189	28	2	254	907
Total	62	178	58	0	298	109	223	158	8	498	177	892	350	1	1420	82	580	67	3	732	2948
08:00 AM	18	60	11	0	89	65	63	37	8	173	54	255	94	0	403	36	149	19	2	206	871
08:15 AM	22	58	10	0	90	40	70	29	2	141	32	228	104	0	364	28	157	27	3	215	810
08:30 AM	17	44	11	1	73	50	63	32	0	145	42	218	77	0	337	27	157	21	3	208	763
08:45 AM	20	64	17	0	101	50	70	38	0	158	35	237	93	0	365	40	203	23	0	266	890
Total	77	226	49	1	353	205	266	136	10	617	163	938	368	0	1469	131	666	90	8	895	3334
*** BREAK ***																					
04:00 PM	29	68	14	2	113	89	81	20	0	190	32	158	53	0	243	36	228	18	1	283	829
04:15 PM	28	61	25	3	117	84	60	28	0	172	22	171	56	0	249	39	210	19	2	270	808
04:30 PM	25	72	22	2	121	95	77	28	3	203	28	159	52	1	240	45	257	14	1	317	881
04:45 PM	16	72	34	0	122	70	59	25	2	156	20	157	53	1	231	43	250	23	0	316	825
Total	98	273	95	7	473	338	277	101	5	721	102	645	214	2	963	163	945	74	4	1186	3343
05:00 PM	32	96	28	0	156	89	70	28	3	190	22	162	58	1	243	39	232	19	0	290	879
05:15 PM	34	91	28	3	156	64	52	25	2	143	34	145	56	0	235	49	288	18	0	355	889
05:30 PM	20	44	27	2	93	60	48	15	0	123	17	163	50	0	230	37	236	14	3	290	736
05:45 PM	15	52	16	0	83	48	36	17	1	102	21	142	55	0	218	29	199	11	1	240	643
Total	101	283	99	5	488	261	206	85	6	558	94	612	219	1	926	154	955	62	4	1175	3147
Grand Total	338	960	301	13	1612	913	972	480	29	2394	536	3087	1151	4	4778	530	3146	293	19	3988	12772
Apprch %	21	59.6	18.7	0.8		38.1	40.6	20.1	1.2		11.2	64.6	24.1	0.1		13.3	78.9	7.3	0.5		
Total %	2.6	7.5	2.4	0.1	12.6	7.1	7.6	3.8	0.2	18.7	4.2	24.2	9	0	37.4	4.1	24.6	2.3	0.1	31.2	
Autos	326	937	171	13	1447	904	959	371	28	2262	532	2988	988	4	4512	516	3067	284	19	3886	12107
% Autos	96.4	97.6	56.8	100	89.8	99	98.7	77.3	96.6	94.5	99.3	96.8	85.8	100	94.4	97.4	97.5	96.9	100	97.4	94.8
Heavy Vehicles	12	23	15	0	50	9	13	13	1	36	4	99	15	0	118	14	79	5	0	98	302
% Heavy Vehicles	3.6	2.4	5	0	3.1	1	1.3	2.7	3.4	1.5	0.7	3.2	1.3	0	2.5	2.6	2.5	1.7	0	2.5	2.4
RTOR	0	0	115	0	115	0	0	96	0	96	0	0	148	0	148	0	0	4	0	4	363
% RTOR	0	0	38.2	0	7.1	0	0	20	0	4	0	0	12.9	0	3.1	0	0	1.4	0	0.1	2.8

BERGMANN ASSOCIATES

File Name : 15A and Westfall 7-9 4-6
Site Code : 00000003
Start Date : 12/8/2004
Page No : 2

	Westfall Rd Eastbound				Westfall Rd Westbound				E. Henrietta 15A Northbound				E. Henrietta 15A Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	18	56	**17**	**91**	32	57	43	132	46	209	**128**	383	22	178	16	216	822
07:45 AM	19	52	15	86	34	67	**50**	151	**60**	247	103	**410**	35	**189**	**28**	**252**	**899**
08:00 AM	18	**60**	11	89	**65**	63	37	**165**	54	**255**	94	403	**36**	149	19	204	861
08:15 AM	**22**	58	10	90	40	**70**	29	139	32	228	104	364	28	157	27	212	805
Total Volume	77	226	53	356	171	257	159	587	192	939	429	1560	121	673	90	884	3387
% App. Total	21.6	63.5	14.9		29.1	43.8	27.1		12.3	60.2	27.5		13.7	76.1	10.2		
PHF	.875	.942	.779	.978	.658	.918	.795	.889	.800	.921	.838	.951	.840	.890	.804	.877	.942
Autos	72	214	27	313	166	247	130	543	192	904	379	1475	118	650	88	856	3187
% Autos	93.5	94.7	50.9	87.9	97.1	96.1	81.8	92.5	100	96.3	88.3	94.6	97.5	96.6	97.8	96.8	94.1
Heavy Vehicles	5	12	2	19	5	10	5	20	0	35	10	45	3	23	2	28	112
% Heavy Vehicles	6.5	5.3	3.8	5.3	2.9	3.9	3.1	3.4	0	3.7	2.3	2.9	2.5	3.4	2.2	3.2	3.3
RTOR	0	0	24	24	0	0	24	24	0	0	40	40	0	0	0	0	88
% RTOR	0	0	45.3	6.7	0	0	15.1	4.1	0	0	9.3	2.6	0	0	0	0	2.6

File Name : 15A and Westfall 7-9 4-6
Site Code : 00000003
Start Date : 12/8/2004
Page No : 3



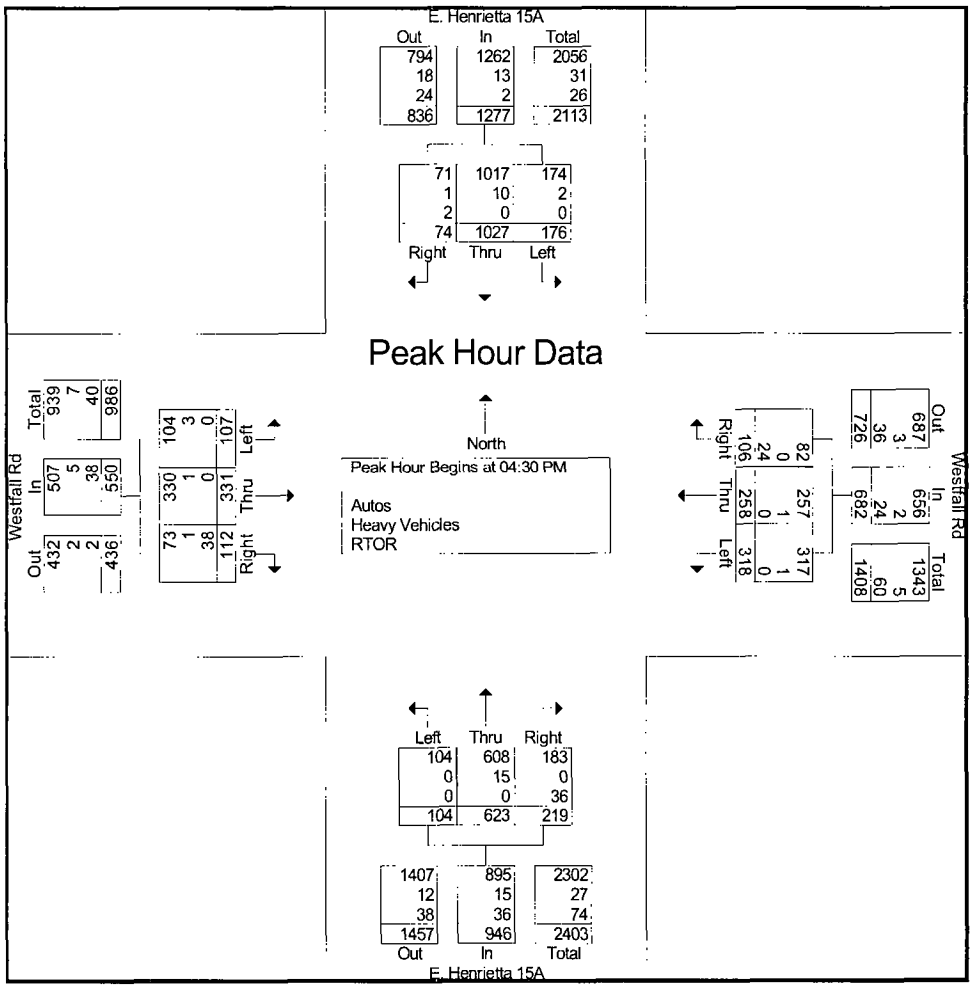
BERGMANN ASSOCIATES

File Name : 15A and Westfall 7-9 4-6
Site Code : 00000003
Start Date : 12/8/2004
Page No : 8

	Westfall Rd Eastbound				Westfall Rd Westbound				E. Henrietta 15A Northbound				E. Henrietta 15A Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	25	72	22	119	**95**	**77**	**28**	**200**	28	159	52	239	45	257	14	316	874
04:45 PM	16	72	**34**	122	70	59	25	154	20	157	53	230	43	250	**23**	316	822
05:00 PM	32	**96**	28	**156**	89	70	28	187	22	**162**	**58**	**242**	39	232	19	290	875
05:15 PM	**34**	91	28	153	64	52	25	141	**34**	145	56	235	**49**	**288**	18	**355**	**884**
Total Volume	107	331	112	550	318	258	106	682	104	623	219	946	176	1027	74	1277	3455
% App. Total	19.5	60.2	20.4		46.6	37.8	15.5		11	65.9	23.2		13.8	80.4	5.8		
PHF	.787	.862	.824	.881	.837	.838	.946	.853	.765	.961	.944	.977	.898	.891	.804	.899	.977
Autos	104	330	73	507	317	257	82	656	104	608	183	895	174	1017	71	1262	3320
% Autos	97.2	99.7	65.2	92.2	99.7	99.6	77.4	96.2	100	97.6	83.6	94.6	98.9	99.0	95.9	98.8	96.1
Heavy Vehicles	3	1	1	5	1	1	0	2	0	15	0	15	2	10	1	13	35
% Heavy Vehicles	2.8	0.3	0.9	0.9	0.3	0.4	0	0.3	0	2.4	0	1.6	1.1	1.0	1.4	1.0	1.0
RTOR	0	0	38	38	0	0	24	24	0	0	36	36	0	0	2	2	100
% RTOR	0	0	33.9	6.9	0	0	22.6	3.5	0	0	16.4	3.8	0	0	2.7	0.2	2.9

BERGMANN ASSOCIATES

File Name : 15A and Westfall 7-9 4-6
Site Code : 00000003
Start Date : 12/8/2004
Page No : 9



Westfall Rd @ Green Knolls Dr East

BERGMANN ASSOCIATES

Citygate Project
Westfalls Rd @ Green Knolls
December 8th 2004

File Name : Westfall and Green Knolls East
Site Code : 00000005
Start Date : 12/8/2004
Page No : 1

Groups Printed- Autos - Heavy Vehicles

	Westfalls Rd Eastbound					Westfalls Rd Westbound					Green Knolls Northbound					Green Knolls Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	2	82	0	0	84	0	98	1	0	99	0	0	0	0	0	5	0	1	0	6	189
07:15 AM	0	119	0	0	119	0	112	2	0	114	0	0	0	0	0	4	0	1	0	5	238
07:30 AM	4	188	0	0	192	0	132	2	0	134	0	0	0	0	0	7	0	1	0	8	334
07:45 AM	0	184	0	0	184	0	139	5	0	144	0	0	0	0	0	3	0	6	0	9	337
Total	6	573	0	0	579	0	481	10	0	491	0	0	0	0	0	19	0	9	0	28	1098
08:00 AM	1	192	0	0	193	0	158	4	0	162	0	0	0	0	0	2	0	2	0	4	359
08:15 AM	3	175	0	0	178	0	124	1	0	125	0	0	0	0	0	7	0	5	0	12	315
08:30 AM	0	153	0	0	153	0	130	2	0	132	0	0	0	0	0	3	0	5	1	9	294
08:45 AM	4	171	0	0	175	0	132	4	0	136	0	0	0	0	0	3	0	8	0	11	322
Total	8	691	0	0	699	0	544	11	0	555	0	0	0	0	0	15	0	20	1	36	1290
*** BREAK ***																					
04:00 PM	5	150	0	0	155	0	181	11	0	192	0	1	0	0	1	4	0	5	0	9	357
04:15 PM	13	129	0	0	142	0	152	5	0	157	0	0	0	0	0	6	0	2	0	8	307
04:30 PM	5	160	0	0	165	0	173	8	0	181	0	0	0	0	0	1	0	4	0	5	351
04:45 PM	2	171	0	0	173	1	156	2	0	159	0	0	0	0	0	3	0	1	0	4	336
Total	25	610	0	0	635	1	662	26	0	689	0	1	0	0	1	14	0	12	0	26	1351
05:00 PM	2	183	0	0	185	0	185	6	0	191	0	0	0	0	0	3	0	2	0	5	381
05:15 PM	5	180	0	0	185	0	123	4	0	127	0	0	0	0	0	3	0	3	0	6	318
05:30 PM	2	113	2	0	117	0	111	2	0	113	0	0	0	0	0	0	0	1	0	1	231
05:45 PM	3	119	0	0	122	0	86	5	0	91	0	0	0	0	0	4	0	3	0	7	220
Total	12	595	2	0	609	0	505	17	0	522	0	0	0	0	0	10	0	9	0	19	1150
Grand Total	51	2469	2	0	2522	1	2192	64	0	2257	0	1	0	0	1	58	0	50	1	109	4889
Apprch %	2	97.9	0.1	0		0	97.1	2.8	0		0	100	0	0		53.2	0	45.9	0.9		
Total %	1	50.5	0	0	51.6	0	44.8	1.3	0	46.2	0	0	0	0	0	1.2	0	1	0	2.2	
Autos	46	2445	2	0	2493	1	2177	61	0	2239	0	1	0	0	1	58	0	46	1	105	4838
% Autos	90.2	99	100	0	98.9	100	99.3	95.3	0	99.2	0	100	0	0	100	100	0	92	100	96.3	99
Heavy Vehicles	5	24	0	0	29	0	15	3	0	18	0	0	0	0	0	0	0	4	0	4	51
% Heavy Vehicles	9.8	1	0	0	1.1	0	0.7	4.7	0	0.8	0	0	0	0	0	0	0	8	0	3.7	1

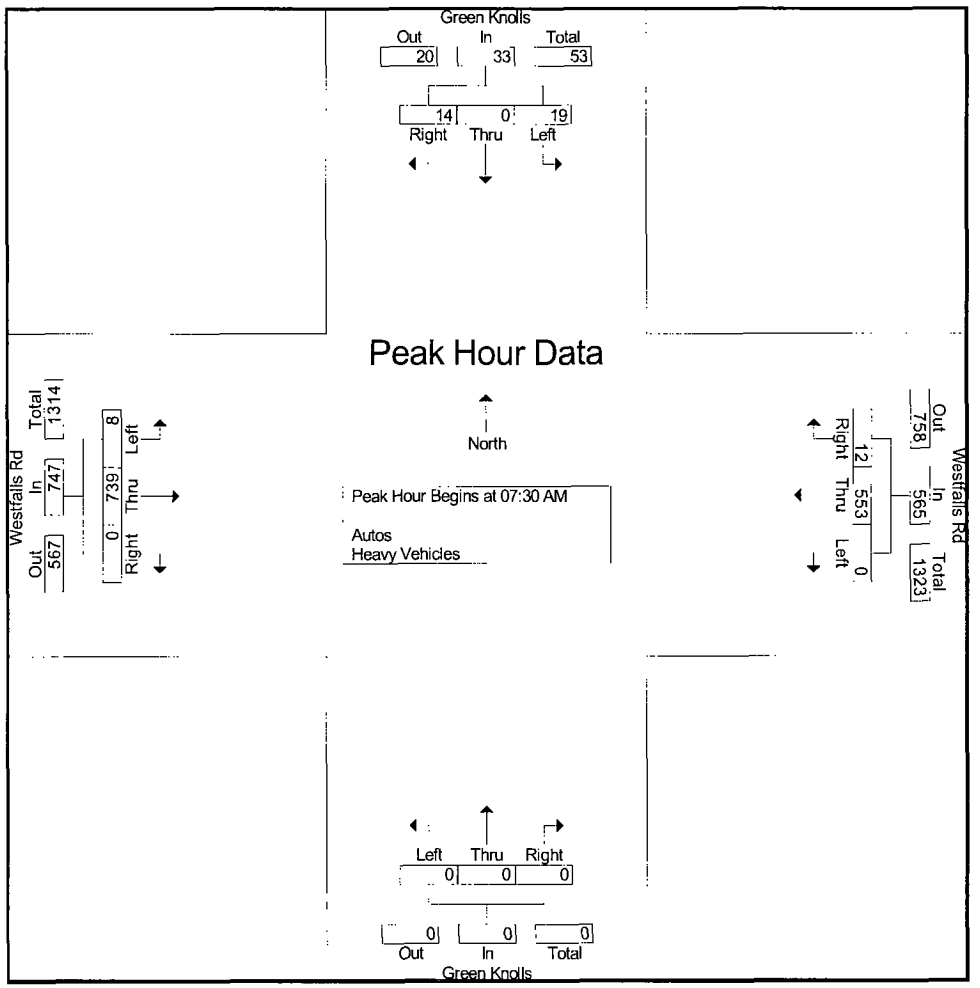
BERGMANN ASSOCIATES

File Name : Westfall and Green Knolls East
Site Code : 00000005
Start Date : 12/8/2004
Page No : 2

	Westfalls Rd Eastbound				Westfalls Rd Westbound				Green Knolls Northbound				Green Knolls Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**4**	188	0	192	0	132	2	134	0	0	0	0	**7**	0	1	8	334
07:45 AM	0	184	0	184	0	139	**5**	144	0	0	0	0	3	0	**6**	9	337
08:00 AM	1	**192**	0	**193**	0	**158**	4	**162**	0	0	0	0	2	0	2	4	**359**
08:15 AM	3	175	0	178	0	124	1	125	0	0	0	0	7	0	5	**12**	315
Total Volume	8	739	0	747	0	553	12	565	0	0	0	0	19	0	14	33	1345
% App. Total	1.1	98.9	0		0	97.9	2.1		0	0	0		57.6	0	42.4		
PHF	.500	.962	.000	.968	.000	.875	.600	.872	.000	.000	.000	.000	.679	.000	.583	.688	.937

BERGMANN ASSOCIATES

File Name : Westfall and Green Knolls East
Site Code : 00000005
Start Date : 12/8/2004
Page No : 3



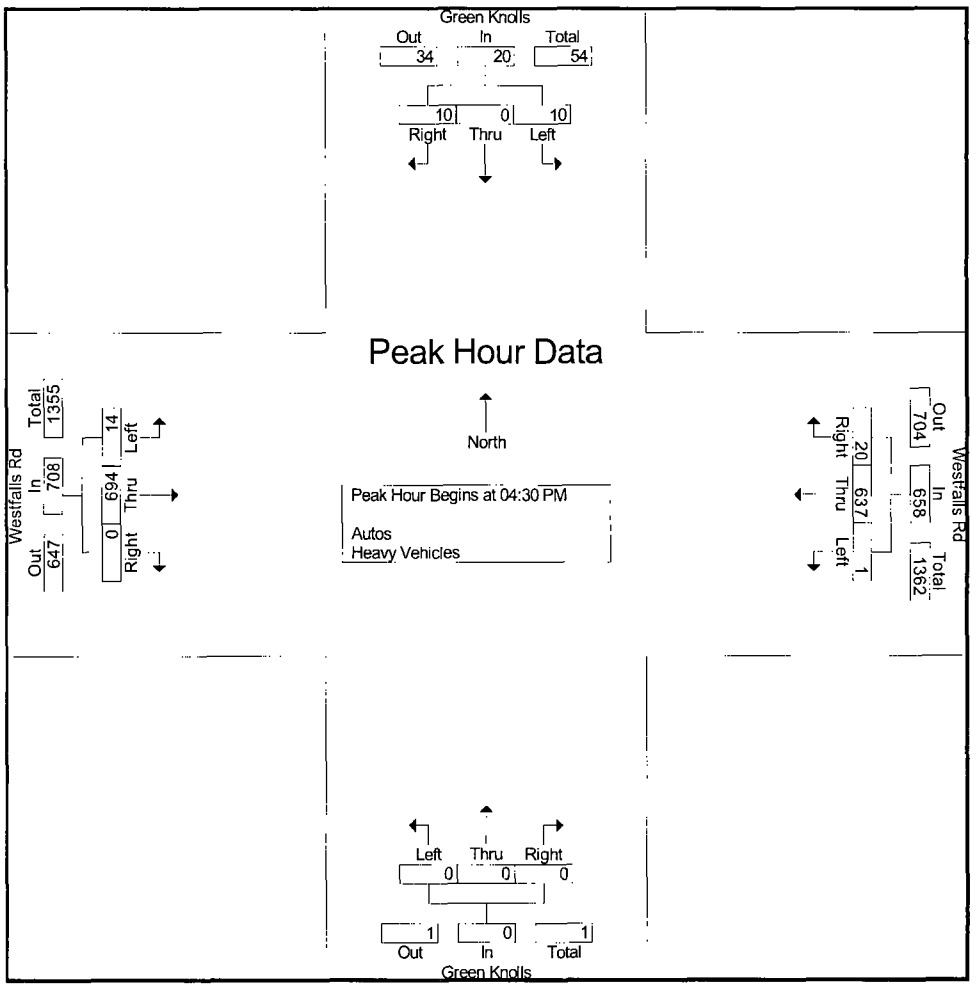
BERGMANN ASSOCIATES

File Name : Westfall and Green Knolls East
Site Code : 00000005
Start Date : 12/8/2004
Page No : 5

	Westfalls Rd Eastbound				Westfalls Rd Westbound				Green Knolls Northbound				Green Knolls Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**5**	160	0	165	0	173	**8**	181	0	0	0	0	**1**	0	**4**	5	351
04:45 PM	2	171	0	173	**1**	156	2	159	0	0	0	0	**3**	0	1	4	336
05:00 PM	2	**183**	0	**185**	0	**185**	6	**191**	0	0	0	0	3	0	2	5	**381**
05:15 PM	5	180	0	185	0	123	4	127	0	0	0	0	3	0	3	**6**	318
Total Volume	14	694	0	708	1	637	20	658	0	0	0	0	10	0	10	20	1386
% App. Total	2	98	0		0.2	96.8	3		0	0	0		50	0	50		
PHF	.700	.948	.000	.957	.250	.861	.625	.861	.000	.000	.000	.000	.833	.000	.625	.833	.909

BERGMANN ASSOCIATES

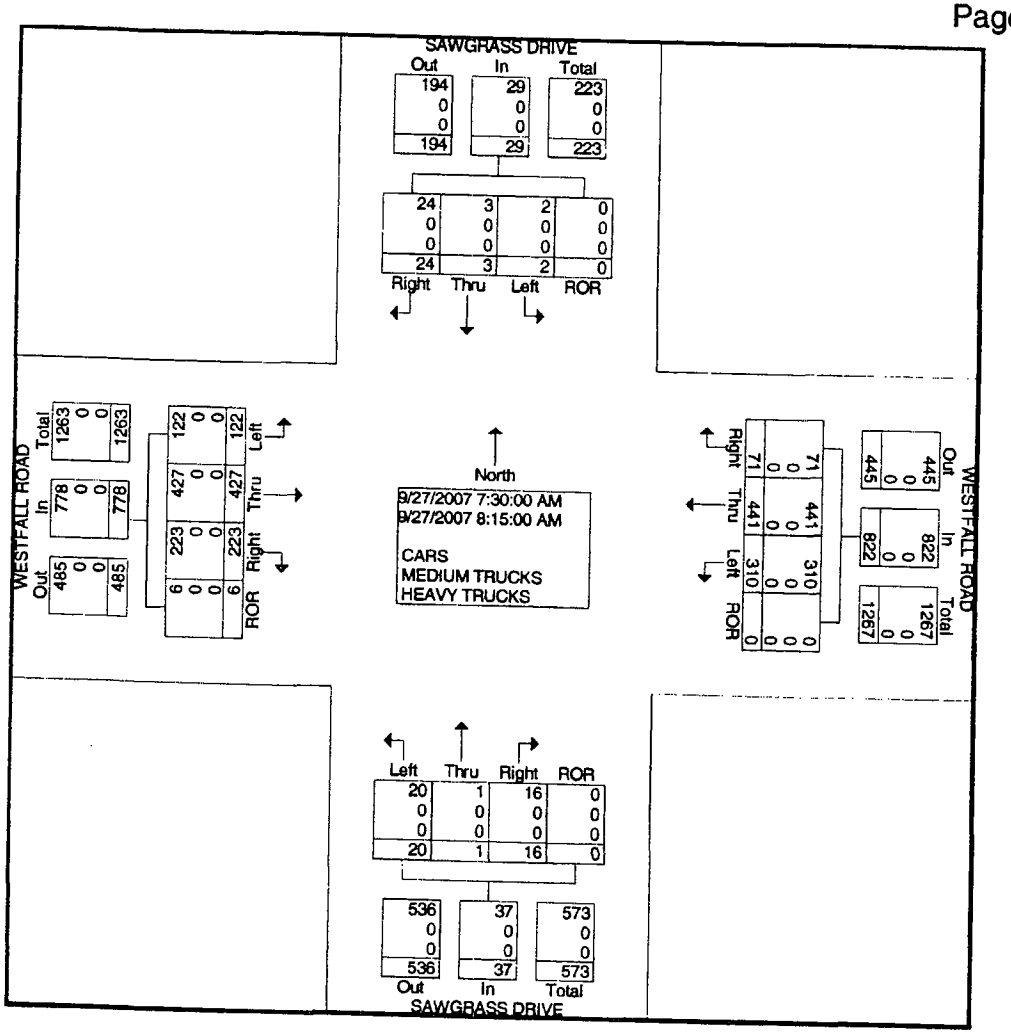
File Name : Westfall and Green Knolls East
Site Code : 00000005
Start Date : 12/8/2004
Page No : 6



Westfall Rd @ Sawgrass driveway

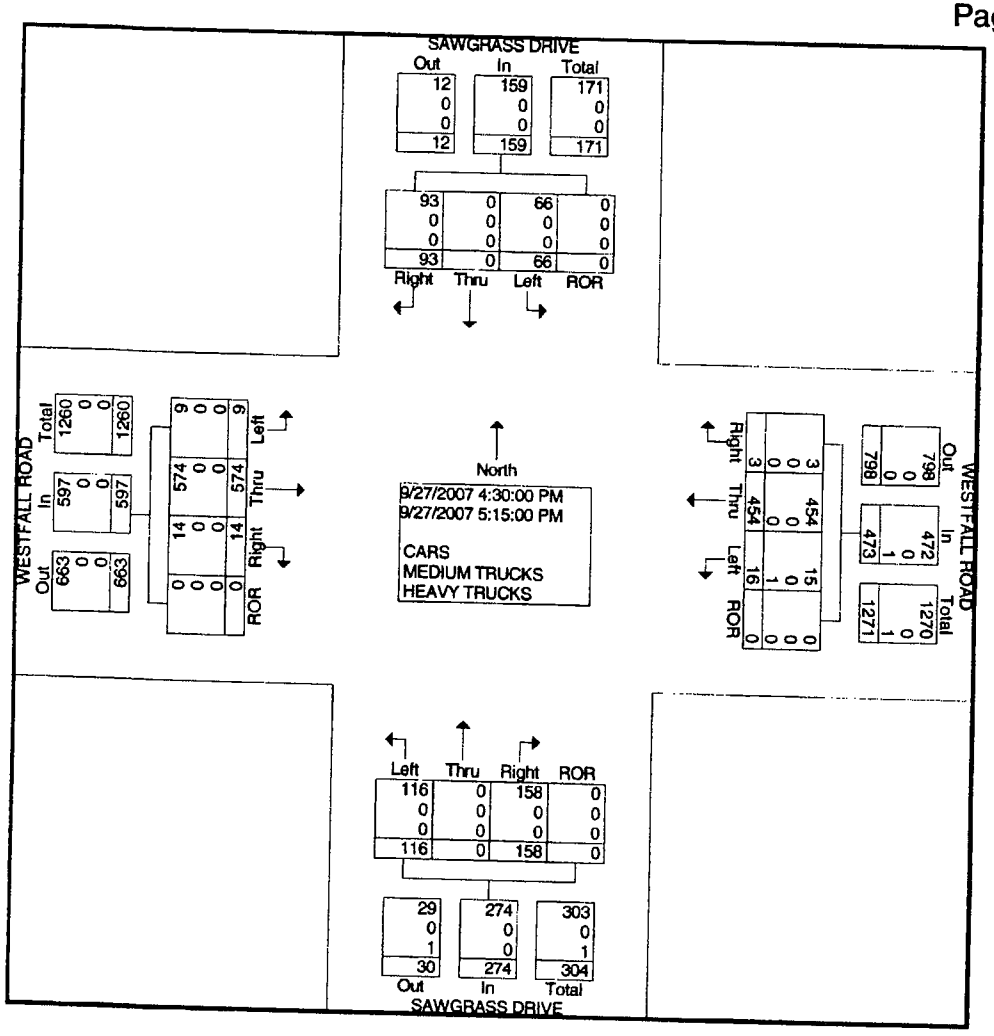
Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : Sawgrass - AM
Site Code : 00000041
Start Date : 9/27/2007
Page No : 2



Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

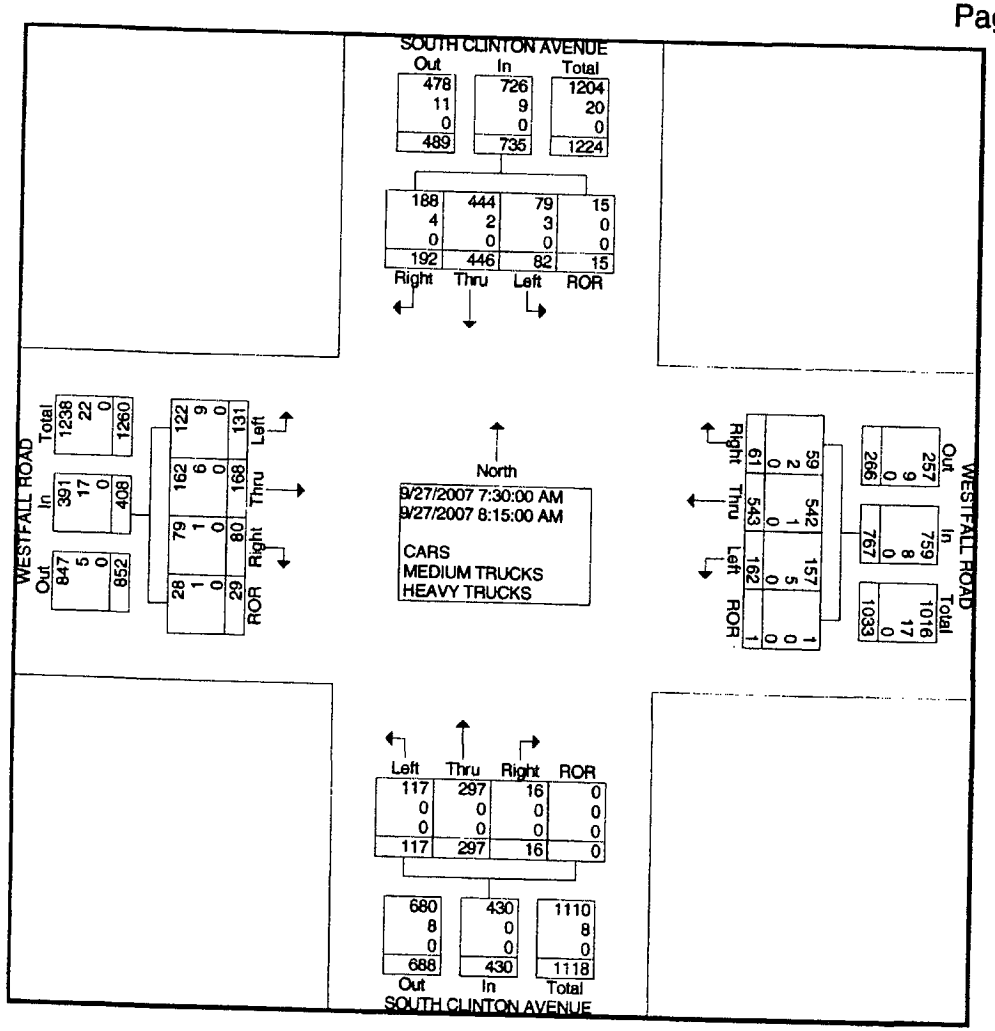
File Name : Sawgrass - PM
Site Code : 00000042
Start Date : 9/27/2007
Page No : 2



Westfall Rd @ Clinton

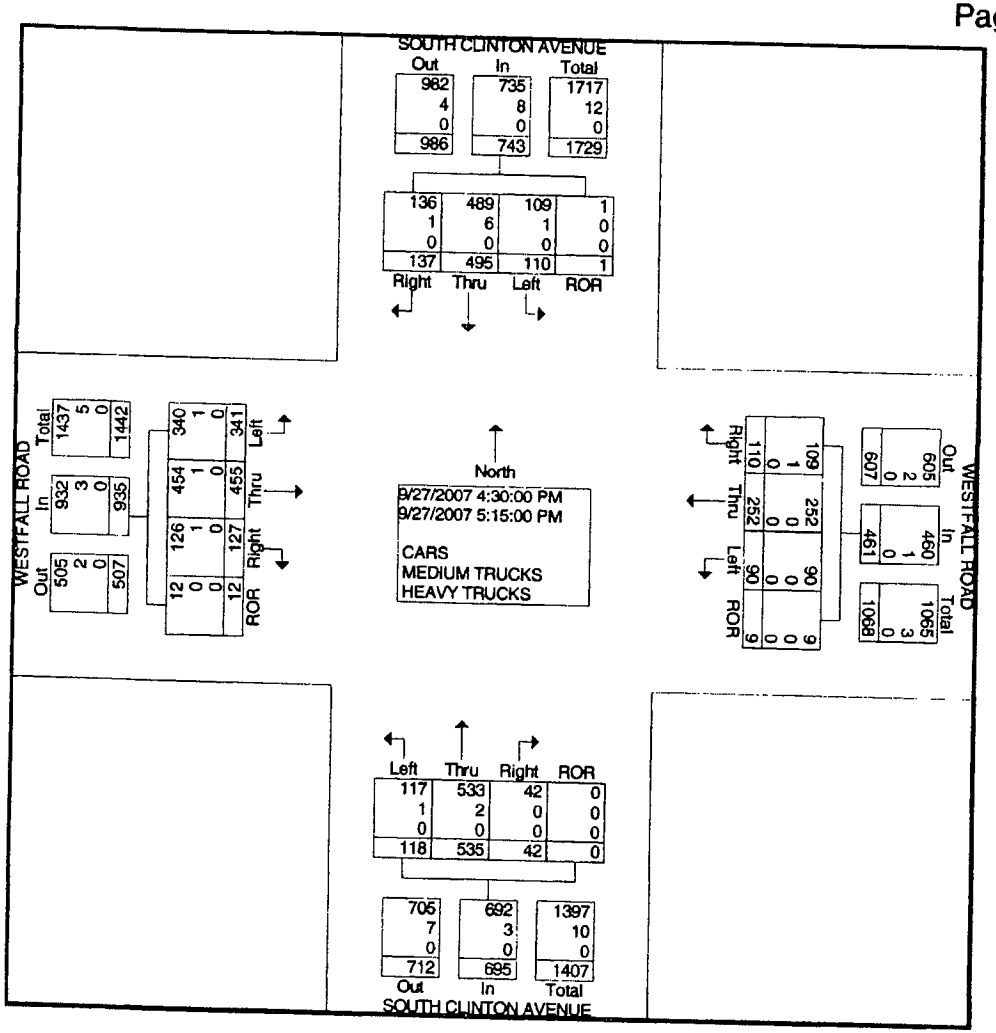
Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : S. Clinton - AM
Site Code : 00000061
Start Date : 9/27/2007
Page No : 2



Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : S. Clinton - PM
Site Code : 00000062
Start Date : 9/27/2007
Page No : 2



BERGMANN ASSOCIATES

Citygate Project
Westfalls Rd @ Clinton Ave
December 8th 2004

File Name : Westfall and Clinton 7-9 4-6
Site Code : 00000006
Start Date : 12/8/2004
Page No : 1

Groups Printed- Autos - Heavy Vehicles - RTOR

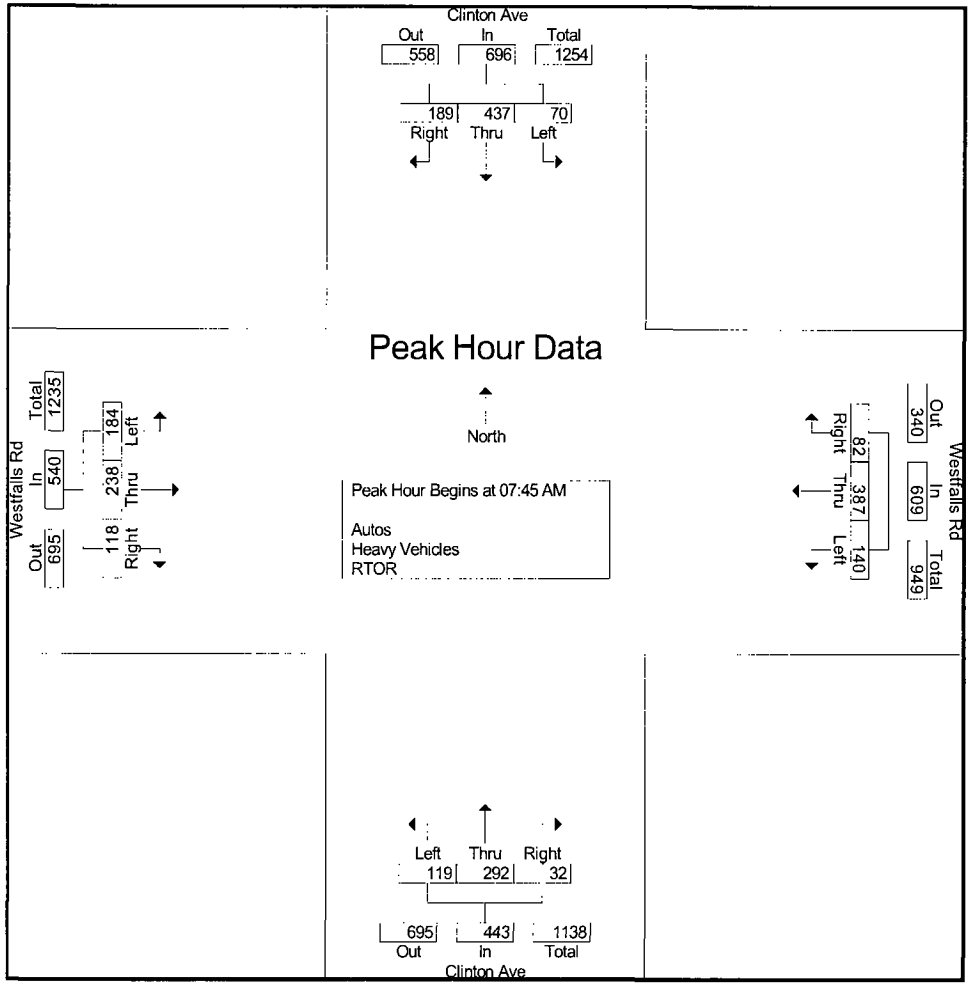
	Westfalls Rd Eastbound					Westfalls Rd Westbound					Clinton Ave Northbound					Clinton Ave Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	19	29	13	0	61	7	77	9	0	93	23	33	8	0	64	13	54	22	0	89	307
07:15 AM	40	33	20	0	93	17	84	21	0	122	15	53	4	0	72	15	89	24	0	128	415
07:30 AM	66	40	29	0	135	41	91	15	0	147	19	67	9	0	95	14	138	40	0	192	569
07:45 AM	50	53	17	0	120	28	115	20	0	163	25	90	6	0	121	18	117	46	0	181	585
Total	175	155	79	0	409	93	367	65	0	525	82	243	27	0	352	60	398	132	0	590	1876
08:00 AM	50	64	33	0	147	39	100	22	0	161	28	67	12	0	107	9	100	60	0	169	584
08:15 AM	41	58	34	0	133	36	94	23	0	153	40	74	3	0	117	19	92	35	0	146	549
08:30 AM	43	63	34	0	140	37	78	17	0	132	26	61	11	0	98	24	128	48	0	200	570
08:45 AM	42	53	40	2	137	43	92	22	1	158	34	66	11	0	111	7	122	31	0	160	566
Total	176	238	141	2	557	155	364	84	1	604	128	268	37	0	433	59	442	174	0	675	2269
*** BREAK ***																					
04:00 PM	48	99	28	0	175	26	58	28	0	112	41	106	25	0	172	24	95	50	0	169	628
04:15 PM	51	89	26	0	166	19	47	27	0	93	25	101	23	0	149	26	110	47	0	183	591
04:30 PM	53	101	33	0	187	18	70	24	0	112	31	115	15	0	161	28	112	37	0	177	637
04:45 PM	60	102	30	0	192	20	69	23	0	112	28	133	16	0	177	34	107	35	0	176	657
Total	212	391	117	0	720	83	244	102	0	429	125	455	79	0	659	112	424	169	0	705	2513
05:00 PM	78	135	34	0	247	13	63	23	0	99	43	110	9	0	162	27	87	52	1	167	675
05:15 PM	56	119	29	0	204	25	41	21	0	87	36	144	9	0	189	38	129	32	0	199	679
05:30 PM	42	76	18	0	136	22	41	19	0	82	23	109	20	0	152	28	113	32	0	173	543
05:45 PM	59	56	13	0	128	11	38	26	2	77	15	85	19	0	119	13	89	33	0	135	459
Total	235	386	94	0	715	71	183	89	2	345	117	448	57	0	622	106	418	149	1	674	2356
Grand Total	798	1170	431	2	2401	402	1158	340	3	1903	452	1414	200	0	2066	337	1682	624	1	2644	9014
Apprch %	33.2	48.7	18	0.1		21.1	60.9	17.9	0.2		21.9	68.4	9.7	0		12.7	63.6	23.6	0		
Total %	8.9	13	4.8	0	26.6	4.5	12.8	3.8	0	21.1	5	15.7	2.2	0	22.9	3.7	18.7	6.9	0	29.3	
Autos	787	1167	407	2	2363	399	1157	338	2	1896	451	1401	193	0	2045	331	1677	615	1	2624	8928
% Autos	98.6	99.7	94.4	100	98.4	99.3	99.9	99.4	66.7	99.6	99.8	99.1	96.5	0	99	98.2	99.7	98.6	100	99.2	99
Heavy Vehicles	11	3	1	0	15	3	1	1	0	5	1	13	3	0	17	6	5	1	0	12	49
% Heavy Vehicles	1.4	0.3	0.2	0	0.6	0.7	0.1	0.3	0	0.3	0.2	0.9	1.5	0	0.8	1.8	0.3	0.2	0	0.5	0.5
RTOR	0	0	23	0	23	0	0	1	1	2	0	0	4	0	4	0	0	8	0	8	37
% RTOR	0	0	5.3	0	1	0	0	0.3	33.3	0.1	0	0	2	0	0.2	0	0	1.3	0	0.3	0.4

File Name : Westfall and Clinton 7-9 4-6
Site Code : 00000006
Start Date : 12/8/2004
Page No : 2

	Westfalls Rd Eastbound				Westfalls Rd Westbound				Clinton Ave Northbound				Clinton Ave Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**50**	53	17	120	28	**115**	20	**163**	25	**90**	6	**121**	18	117	46	181	**585**
08:00 AM	50	**64**	33	**147**	**39**	100	22	161	28	67	**12**	107	9	100	**60**	169	584
08:15 AM	41	58	**34**	133	36	94	**23**	153	**40**	74	3	117	19	92	35	146	549
08:30 AM	43	63	34	140	37	78	17	132	26	61	11	98	**24**	**128**	48	**200**	570
Total Volume	184	238	118	540	140	387	82	609	119	292	32	443	70	437	189	696	2288
% App. Total	34.1	44.1	21.9		23	63.5	13.5		26.9	65.9	7.2		10.1	62.8	27.2		
PHF	.920	.930	.868	.918	.897	.841	.891	.934	.744	.811	.667	.915	.729	.854	.788	.870	.978

BERGMANN ASSOCIATES

File Name : Westfall and Clinton 7-9 4-6
Site Code : 00000006
Start Date : 12/8/2004
Page No : 3

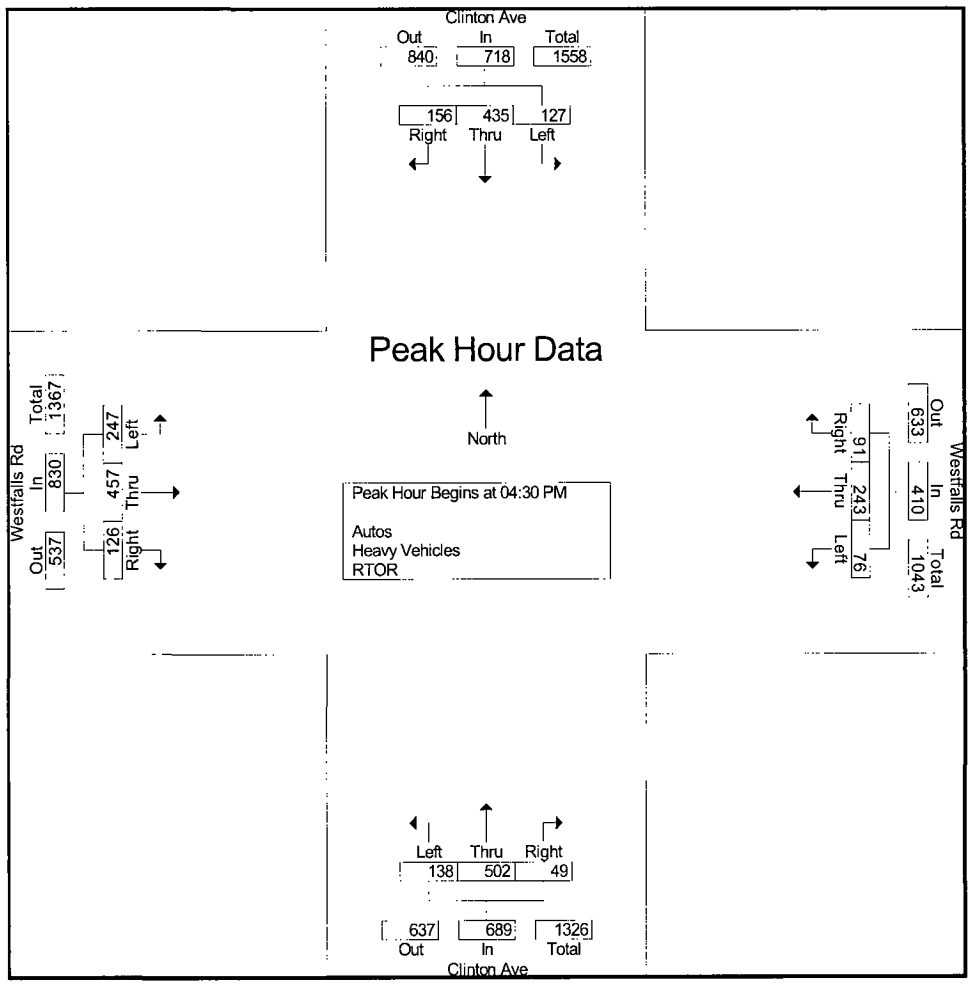


File Name : Westfall and Clinton 7-9 4-6
Site Code : 00000006
Start Date : 12/8/2004
Page No : 5

	Westfalls Rd Eastbound				Westfalls Rd Westbound				Clinton Ave Northbound				Clinton Ave Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	53	101	33	187	18	**70**	**24**	**112**	31	115	15	161	28	112	37	177	637
04:45 PM	60	102	30	192	20	69	23	112	28	133	**16**	177	34	107	35	176	657
05:00 PM	**78**	**135**	**34**	**247**	13	63	23	99	**43**	110	9	162	27	87	**52**	166	674
05:15 PM	56	119	29	204	**25**	41	21	87	36	**144**	9	**189**	**38**	**129**	32	**199**	**679**
Total Volume	247	457	126	830	76	243	91	410	138	502	49	689	127	435	156	718	2647
% App. Total	29.8	55.1	15.2		18.5	59.3	22.2		20	72.9	7.1		17.7	60.6	21.7		
PHF	.792	.846	.926	.840	.760	.868	.948	.915	.802	.872	.766	.911	.836	.843	.750	.902	.975

BERGMANN ASSOCIATES

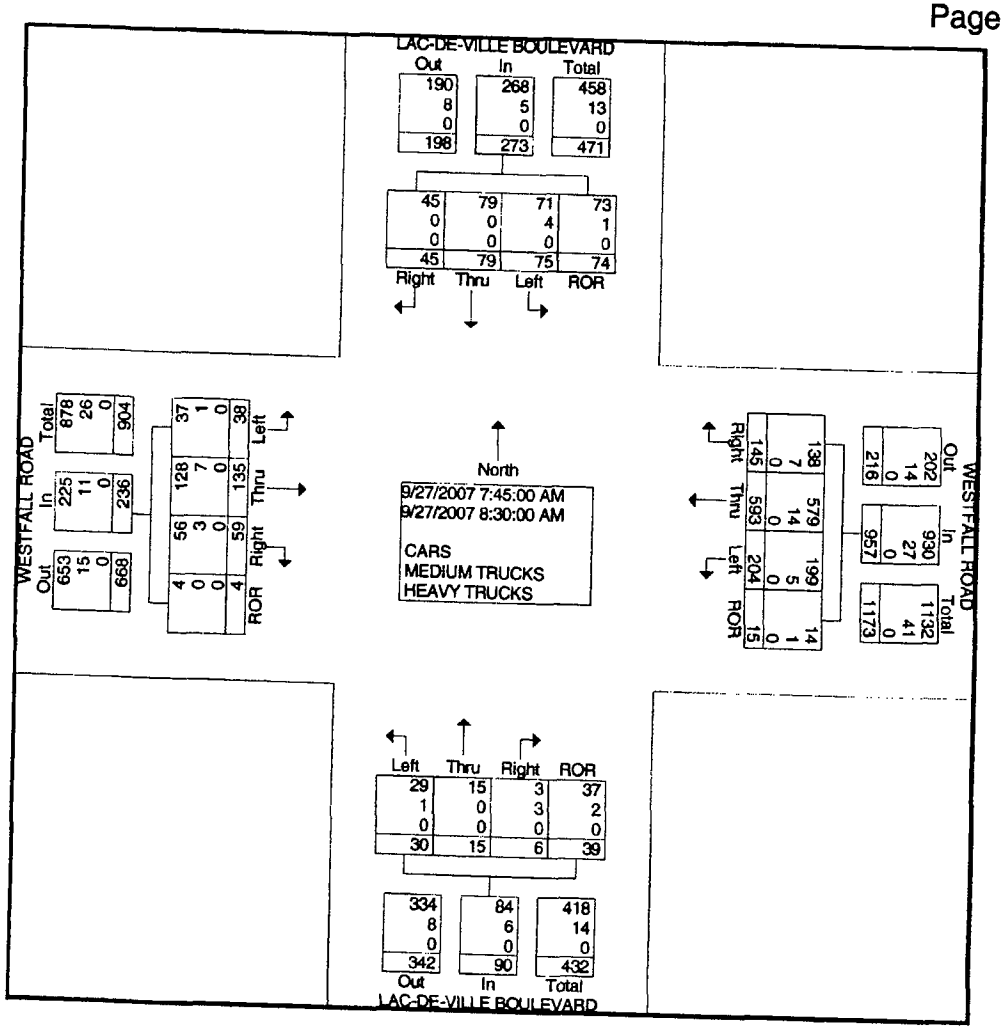
File Name : Westfall and Clinton 7-9 4-6
Site Code : 00000006
Start Date : 12/8/2004
Page No : 6



Westfall Rd @ Lac de Ville Blvd

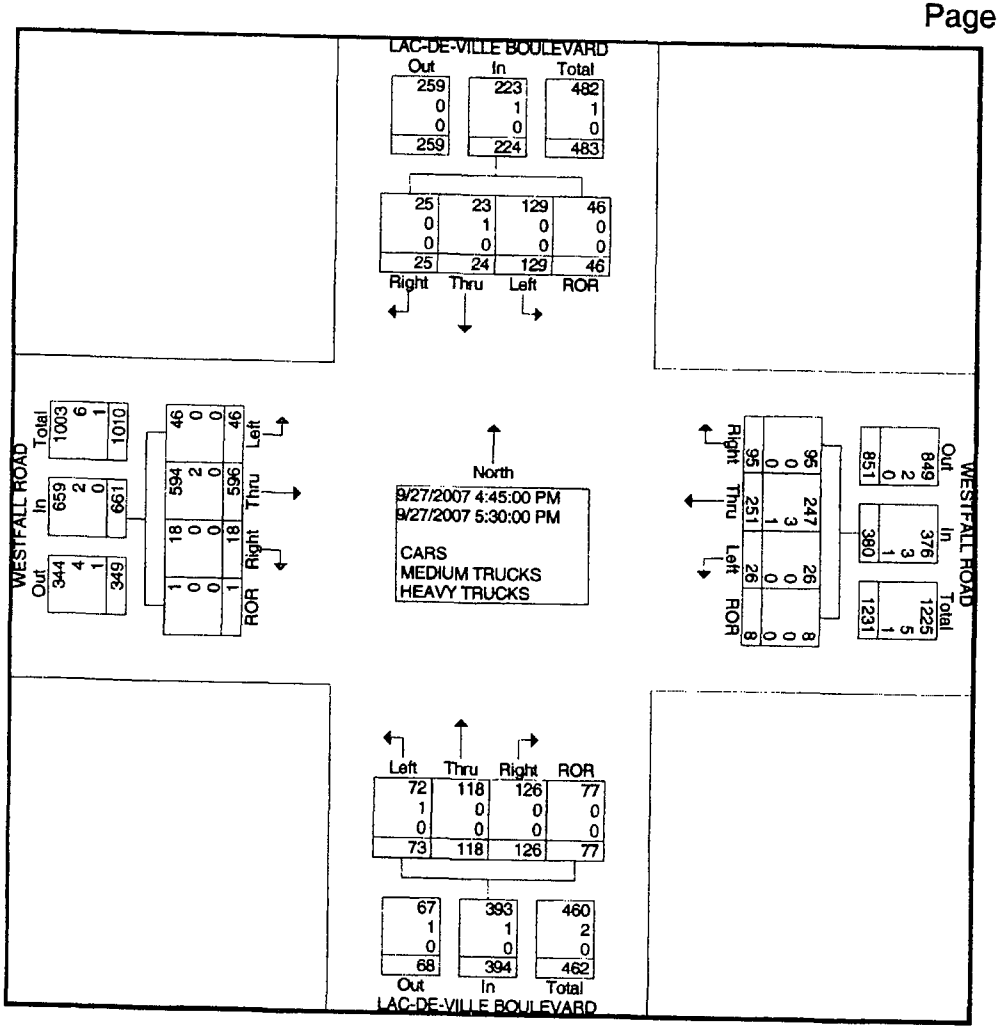
Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : Lac de Ville - AM
Site Code : 00000031
Start Date : 9/27/2007
Page No : 2



Barton & Loguidice, P.C.
1 South Washington Street, Suite 520
Rochester, NY 14614

File Name : Lac de Ville - PM
Site Code : 00000032
Start Date : 9/27/2007
Page No : 2



East Henrietta Rd @ South Driveway

BERGMANN ASSOCIATES

Citygate Project
E. Henrietta - 15A @ South Driveway
December 8th 2004

File Name : 15A and south driveway 7-9 4-6
Site Code : 00000001
Start Date : 12/8/2004
Page No : 1

Groups Printed- All vehicles

	Pure Waters Eastbound					Pure Waters Westbound					E. Henrietta - 15A Northbound					E. Henrietta - 15A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	272	9	1	282	1	102	0	1	104	387
07:15 AM	0	0	0	0	0	1	0	1	0	2	0	403	13	0	416	1	159	0	0	160	578
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	434	13	0	447	0	219	0	0	219	666
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	472	12	0	484	1	240	0	2	243	727
Total	0	0	0	0	0	2	0	1	0	3	0	1581	47	1	1629	3	720	0	3	726	2358
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	447	14	0	461	0	216	0	0	216	677
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	397	5	1	403	2	186	0	1	189	593
08:30 AM	0	0	0	0	0	2	0	2	0	4	0	361	13	1	375	0	209	0	0	209	588
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	396	9	0	405	0	255	0	1	256	661
Total	0	0	0	0	0	2	0	3	0	5	0	1601	41	2	1644	2	866	0	2	870	2519
*** BREAK ***																					
04:00 PM	0	0	0	0	0	1	0	2	0	3	0	222	0	1	223	1	377	0	1	379	605
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	227	1	3	231	0	312	0	2	314	546
04:30 PM	0	0	0	0	0	2	0	1	0	3	0	248	7	0	255	0	430	0	2	432	690
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	224	1	0	225	0	409	0	0	409	634
Total	0	0	0	0	0	3	0	4	0	7	0	921	9	4	934	1	1528	0	5	1534	2475
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	247	2	1	250	0	410	0	0	410	661
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	212	1	1	214	0	418	0	0	418	632
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	228	2	0	230	0	335	0	0	335	565
05:45 PM	0	0	0	0	0	2	0	1	0	3	0	199	3	1	203	0	283	0	1	284	490
Total	0	0	0	0	0	3	0	1	0	4	0	886	8	3	897	0	1446	0	1	1447	2348
Grand Total	0	0	0	0	0	10	0	9	0	19	0	4989	105	10	5104	6	4560	0	11	4577	9700
Apprch %	0	0	0	0		52.6	0	47.4	0		0	97.7	2.1	0.2		0.1	99.6	0	0.2		
Total %	0	0	0	0	0	0.1	0	0.1	0	0.2	0	51.4	1.1	0.1	52.6	0.1	47	0	0.1	47.2	

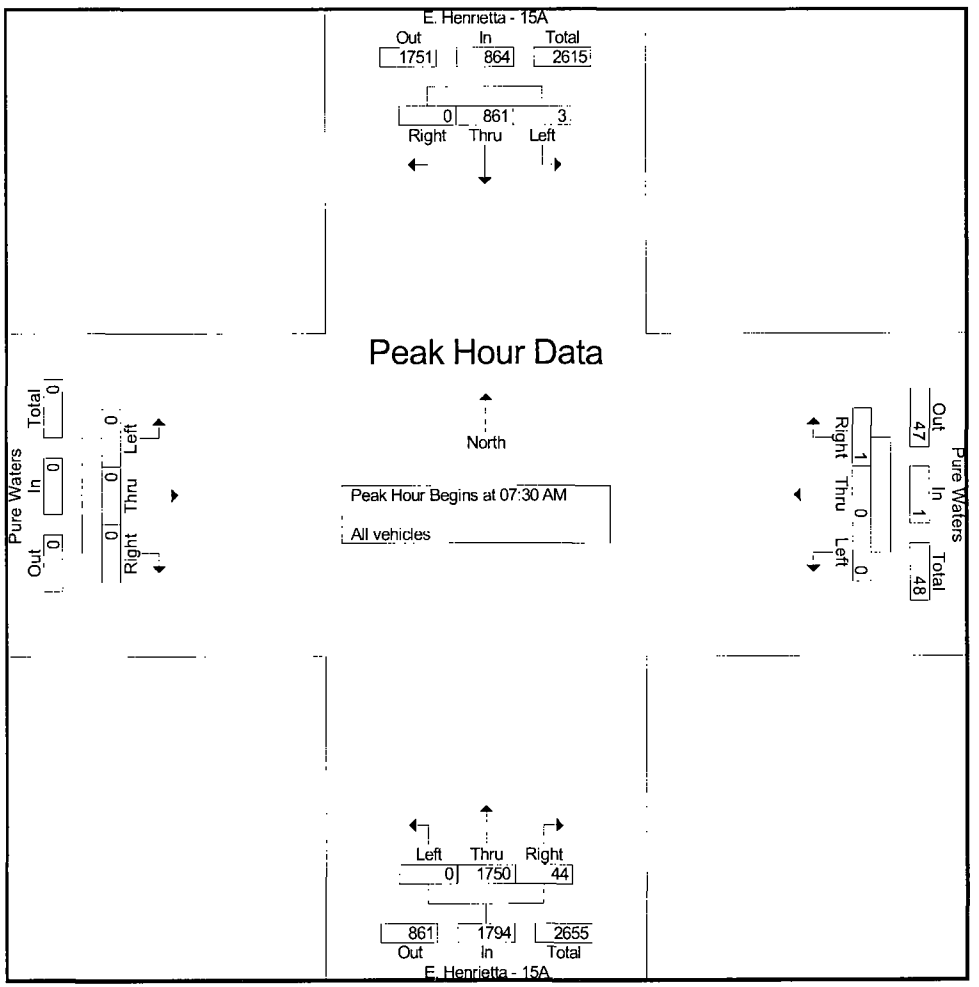
BERGMANN ASSOCIATES

File Name : 15A and south driveway 7-9 4-6
Site Code : 00000001
Start Date : 12/8/2004
Page No : 2

	Pure Waters Eastbound				Pure Waters Westbound				E. Henrietta - 15A Northbound				E. Henrietta - 15A Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	434	13	447	0	219	0	219	666
07:45 AM	0	0	0	0	0	0	0	0	0	**472**	12	**484**	1	**240**	0	**241**	**725**
08:00 AM	0	0	0	0	0	0	0	0	0	447	**14**	461	0	216	0	216	677
08:15 AM	0	0	0	0	0	0	**1**	**1**	0	397	5	402	**2**	186	0	188	591
Total Volume	0	0	0	0	0	0	1	1	0	1750	44	1794	3	861	0	864	2659
% App. Total	0	0	0		0	0	100		0	97.5	2.5		0.3	99.7	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.927	.786	.927	.375	.897	.000	.896	.917

BERGMANN ASSOCIATES

File Name : 15A and south driveway 7-9 4-6
Site Code : 00000001
Start Date : 12/8/2004
Page No : 3



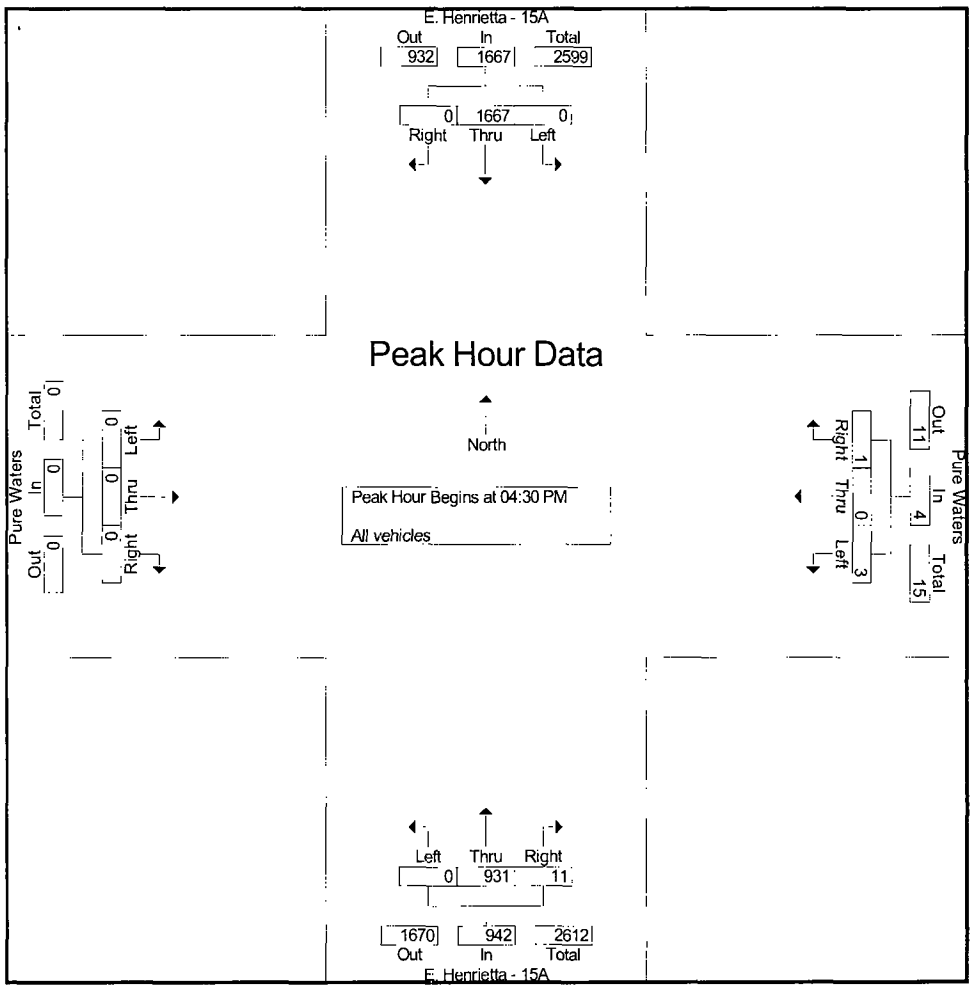
BERGMANN ASSOCIATES

File Name : 15A and south driveway 7-9 4-6
Site Code : 00000001
Start Date : 12/8/2004
Page No : 5

	Pure Waters Eastbound				Pure Waters Westbound				E. Henrietta - 15A Northbound				E. Henrietta - 15A Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	**2**	0	**1**	**3**	0	**248**	**7**	**255**	0	**430**	0	**430**	**688**
04:45 PM	0	0	0	0	0	0	0	0	0	224	1	225	0	409	0	409	634
05:00 PM	0	0	0	0	1	0	0	1	0	247	2	249	0	410	0	410	660
05:15 PM	0	0	0	0	0	0	0	0	0	212	1	213	0	418	0	418	631
Total Volume	0	0	0	0	3	0	1	4	0	931	11	942	0	1667	0	1667	2613
% App. Total	0	0	0		75	0	25		0	98.8	1.2		0	100	0		
PHF	.000	.000	.000	.000	.375	.000	.250	.333	.000	.939	.393	.924	.000	.969	.000	.969	.949

BERGMANN ASSOCIATES

File Name : 15A and south driveway 7-9 4-6
Site Code : 00000001
Start Date : 12/8/2004
Page No : 6



East Henrietta Rd @ Stan Yale Drive

BERGMANN ASSOCIATES

Citygate Project
E. Henrietta - 15A @ Stan Yale Dr
December 8th 2004

File Name : 15A and Stan Yale 7-9 4-6
Site Code : 00000002
Start Date : 12/8/2004
Page No : 1

Groups Printed- Autos - Heavy Vehicles

	Monroe Co. Hospital Eastbound					Stan Yale Dr Westbound					E. Henrietta - 15A Northbound					E. Henrietta - 15A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	6	0	2	0	8	8	0	2	0	10	14	246	12	0	272	11	91	16	0	118	408
07:15 AM	7	0	2	0	9	4	1	1	0	6	18	362	19	0	399	10	139	10	0	159	573
07:30 AM	1	0	2	0	3	4	1	5	0	10	29	367	23	0	419	0	209	16	0	225	657
07:45 AM	8	0	3	0	11	3	0	1	0	4	41	394	9	0	444	3	205	12	0	220	679
Total	22	0	9	0	31	19	2	9	0	30	102	1369	63	0	1534	24	644	54	0	722	2317
08:00 AM	2	0	2	0	4	4	0	4	0	8	42	398	9	0	449	3	193	18	0	214	675
08:15 AM	9	0	3	0	12	0	1	4	0	5	29	330	11	0	370	4	167	24	0	195	582
08:30 AM	2	0	2	0	4	3	0	5	0	8	29	338	2	0	369	2	195	20	0	217	598
08:45 AM	2	0	6	0	8	1	1	3	0	5	38	338	4	0	380	2	234	24	0	260	653
Total	15	0	13	0	28	8	2	16	0	26	138	1404	26	0	1568	11	789	86	0	886	2508
*** BREAK ***																					
04:00 PM	5	0	7	0	12	23	0	0	0	23	5	132	1	0	138	2	200	2	0	204	377
04:15 PM	13	0	15	0	28	12	0	2	0	14	10	239	0	0	249	2	303	11	0	316	607
04:30 PM	19	0	4	0	23	22	0	7	0	29	9	222	0	0	231	1	334	12	0	347	630
04:45 PM	21	1	12	0	34	20	0	2	0	22	13	200	2	0	215	2	350	9	0	361	632
Total	58	1	38	0	97	77	0	11	0	88	37	793	3	0	833	7	1187	34	0	1228	2246
05:00 PM	8	0	16	0	24	39	0	2	0	41	16	225	3	0	244	2	321	11	0	334	643
05:15 PM	10	0	12	0	22	18	0	4	0	22	7	218	0	0	225	0	352	8	0	360	629
05:30 PM	17	0	9	0	26	8	0	4	0	12	9	222	0	0	231	0	341	3	0	344	613
05:45 PM	10	0	8	0	18	11	0	1	0	12	9	194	0	0	203	2	289	12	0	303	536
Total	45	0	45	0	90	76	0	11	0	87	41	859	3	0	903	4	1303	34	0	1341	2421
06:00 PM	6	0	7	0	13	1	0	0	0	1	2	82	0	0	84	0	81	0	0	81	179
Grand Total	146	1	112	0	259	181	4	47	0	232	320	4507	95	0	4922	46	4004	208	0	4258	9671
Apprch %	56.4	0.4	43.2	0		78	1.7	20.3	0		6.5	91.6	1.9	0		1.1	94	4.9	0		
Total %	1.5	0	1.2	0	2.7	1.9	0	0.5	0	2.4	3.3	46.6	1	0	50.9	0.5	41.4	2.2	0	44	
Autos	144	1	112	0	257	170	2	30	0	202	315	4423	94	0	4832	36	3946	197	0	4179	9470
% Autos	98.6	100	100	0	99.2	93.9	50	63.8	0	87.1	98.4	98.1	98.9	0	98.2	78.3	98.6	94.7	0	98.1	97.9
Heavy Vehicles	2	0	0	0	2	11	2	17	0	30	5	84	1	0	90	10	58	11	0	79	201
% Heavy Vehicles	1.4	0	0	0	0.8	6.1	50	36.2	0	12.9	1.6	1.9	1.1	0	1.8	21.7	1.4	5.3	0	1.9	2.1

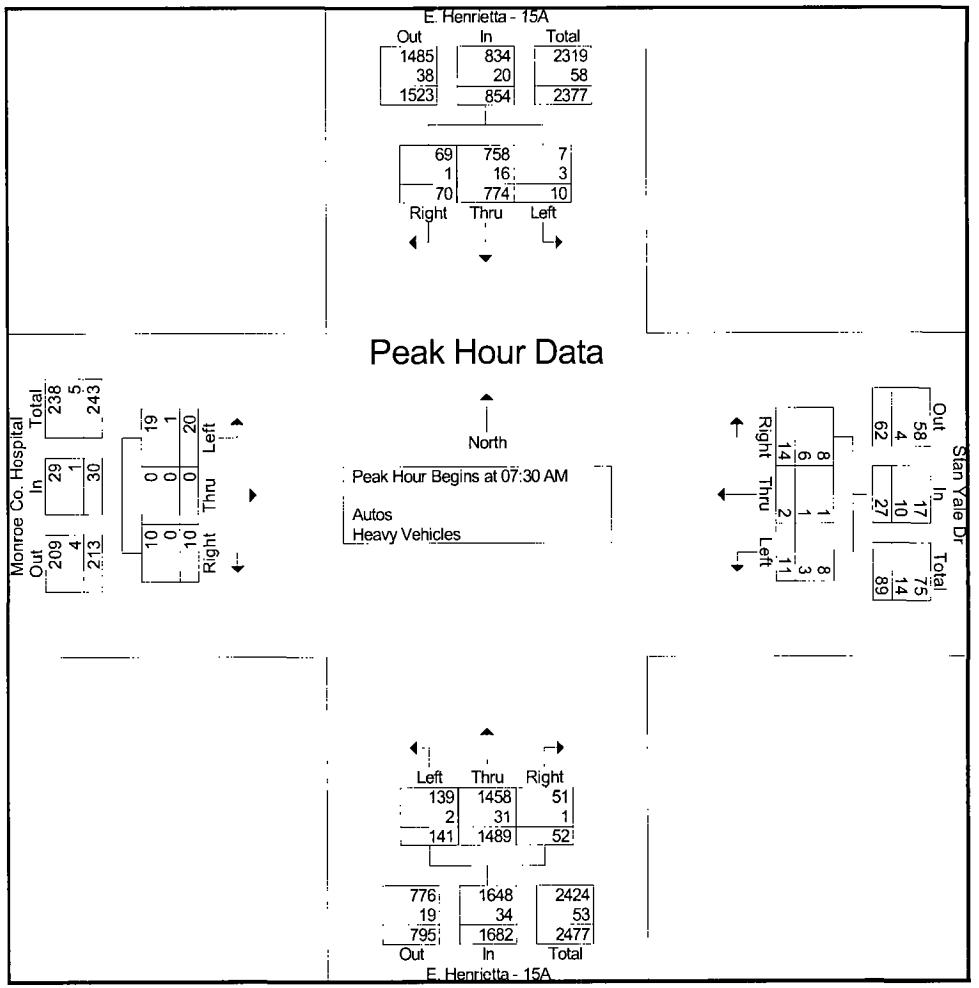
BERGMANN ASSOCIATES

File Name : 15A and Stan Yale 7-9 4-6
Site Code : 00000002
Start Date : 12/8/2004
Page No : 2

	Monroe Co. Hospital Eastbound				Stan Yale Dr Westbound				E. Henrietta - 15A Northbound				E. Henrietta - 15A Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	0	2	3	**4**	**1**	**5**	**10**	29	367	**23**	419	0	**209**	16	**225**	657
07:45 AM	8	0	**3**	11	3	0	1	4	41	394	9	444	3	205	12	220	**679**
08:00 AM	2	0	2	4	4	0	4	8	**42**	**398**	9	**449**	3	193	18	214	675
08:15 AM	**9**	0	3	**12**	0	1	4	5	29	330	11	370	**4**	167	**24**	195	582
Total Volume	20	0	10	30	11	2	14	27	141	1489	52	1682	10	774	70	854	2593
% App. Total	66.7	0	33.3		40.7	7.4	51.9		8.4	88.5	3.1		1.2	90.6	8.2		
PHF	.556	.000	.833	.625	.688	.500	.700	.675	.839	.935	.565	.937	.625	.926	.729	.949	.955
Autos	19	0	10	29	8	1	8	17	139	1458	51	1648	7	758	69	834	2528
% Autos	95.0	0	100	96.7	72.7	50.0	57.1	63.0	98.6	97.9	98.1	98.0	70.0	97.9	98.6	97.7	97.5
Heavy Vehicles	1	0	0	1	3	1	6	10	2	31	1	34	3	16	1	20	65
% Heavy Vehicles	5.0	0	0	3.3	27.3	50.0	42.9	37.0	1.4	2.1	1.9	2.0	30.0	2.1	1.4	2.3	2.5

BERGMANN ASSOCIATES

File Name : 15A and Stan Yale 7-9 4-6
Site Code : 00000002
Start Date : 12/8/2004
Page No : 3

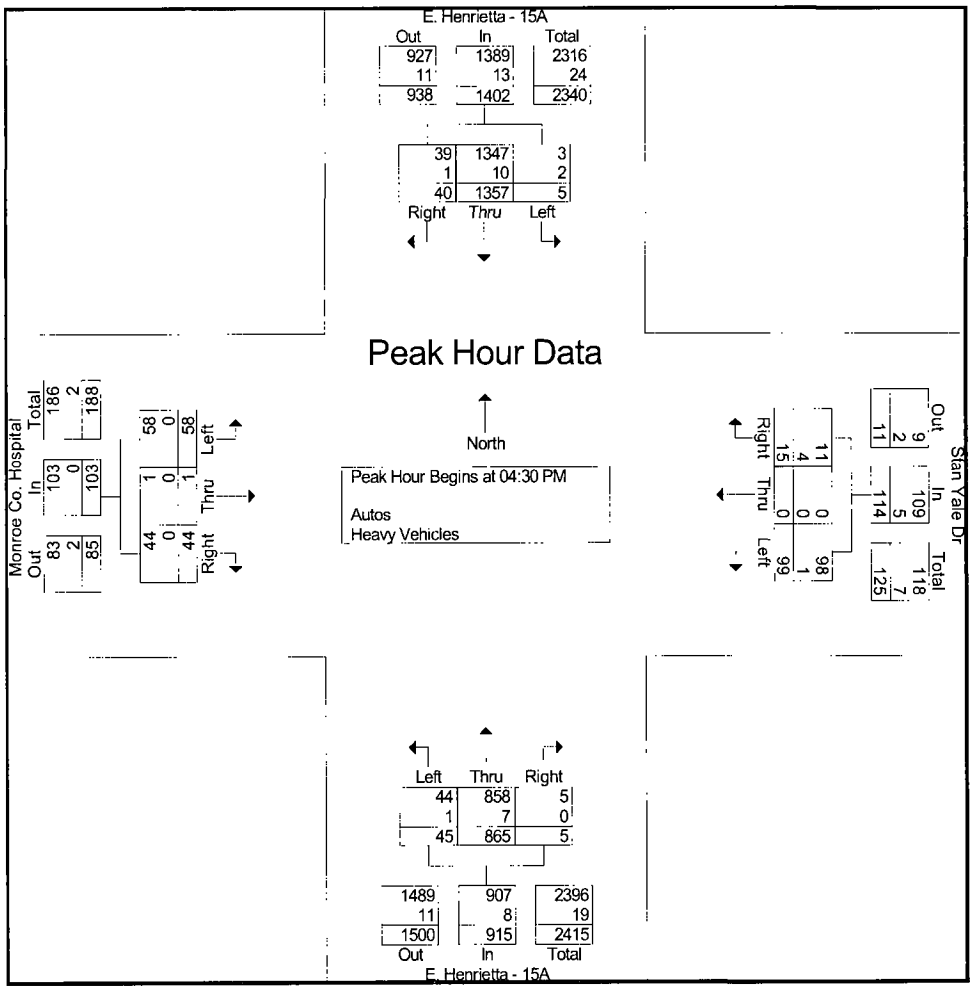


BERGMANN ASSOCIATES

File Name : 15A and Stan Yale 7-9 4-6
Site Code : 00000002
Start Date : 12/8/2004
Page No : 8

	Monroe Co. Hospital Eastbound				Stan Yale Dr Westbound				E. Henrietta - 15A Northbound				E. Henrietta - 15A Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	19	0	4	23	22	0	**7**	29	9	222	0	231	1	334	**12**	347	630
04:45 PM	**21**	**1**	12	**34**	20	0	2	22	13	200	2	215	**2**	350	9	**361**	632
05:00 PM	8	0	**16**	24	**39**	0	2	**41**	**16**	**225**	**3**	**244**	2	321	11	334	**643**
05:15 PM	10	0	12	22	18	0	4	22	7	218	0	225	0	**352**	8	360	629
Total Volume	58	1	44	103	99	0	15	114	45	865	5	915	5	1357	40	1402	2534
% App. Total	56.3	1	42.7		86.8	0	13.2		4.9	94.5	0.5		0.4	96.8	2.9		
PHF	.690	.250	.688	.757	.635	.000	.536	.695	.703	.961	.417	.938	.625	.964	.833	.971	.985
Autos	58	1	44	103	98	0	11	109	44	858	5	907	3	1347	39	1389	2508
% Autos	100	100	100	100	99.0	0	73.3	95.6	97.8	99.2	100	99.1	60.0	99.3	97.5	99.1	99.0
Heavy Vehicles	0	0	0	0	1	0	4	5	1	7	0	8	2	10	1	13	26
% Heavy Vehicles	0	0	0	0	1.0	0	26.7	4.4	2.2	0.8	0	0.9	40.0	0.7	2.5	0.9	1.0

File Name : 15A and Stan Yale 7-9 4-6
Site Code : 00000002
Start Date : 12/8/2004
Page No : 9



Appendix B
Existing LOS

1. HCS

AM

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Westfall Road
From/To	East Henrietta Rd to Citygate
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.1	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V 1302 veh/h
Directional split 58 / 42 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1450	pc/h
Highest directional split proportion (note-2)	841	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATS	27.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
E for RVs, ER	1.0	
eavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1447	pc/h
Highest directional split proportion (note-2)	839	
Base percent time-spent-following, BPTSF	72.0	%
Adj.for directional distribution and no-passing zones, fd/np	7.8	
Percent time-spent-following, PTSF	79.7	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.45	
Peak 15-min vehicle-miles of travel, VMT15	36	veh-mi
Peak-hour vehicle-miles of travel, VMT60	130	veh-mi
Peak 15-min total travel time, TT15	1.3	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Westfall Road
From/To	Citygate to Winton Rd
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V	1275		veh/h	
Directional split	68	/ 32	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1419	pc/h
Highest directional split proportion (note-2)	965	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATS	27.2	mi/h

Percent Time-Spent-Following		
Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
E for RVs, ER	1.0	
avy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1417	pc/h
Highest directional split proportion (note-2)	964	
Base percent time-spent-following, BPTSF	71.2	%
Adj.for directional distribution and no-passing zones, fd/np	8.1	
Percent time-spent-following, PTSF	79.4	%

Level of Service and Other Performance Measures		
Level of service, LOS	D	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	177	veh-mi
Peak-hour vehicle-miles of travel, VMT60	638	veh-mi
Peak 15-min total travel time, TT15	6.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Winton Road
From/To	north of Westfall
Jurisdiction	Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V 854 veh/h
Directional split 59 / 41 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	953	pc/h
Highest directional split proportion (note-2)	562	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATS	27.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	951	pc/h
Highest directional split proportion (note-2)	561	
Base percent time-spent-following, BPTSF	56.7	%
Adj.for directional distribution and no-passing zones, fd/np	12.9	
Percent time-spent-following, PTSF	69.5	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	119	veh-mi
Peak-hour vehicle-miles of travel, VMT60	427	veh-mi
Peak 15-min total travel time, TT15	4.4	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	S Clinton Ave
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V 1147 veh/h
Directional split 63 / 37 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1277	pc/h
Highest directional split proportion (note-2)	805	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATS	25.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1274	pc/h
Highest directional split proportion (note-2)	803	
Base percent time-spent-following, BPTSF	67.4	%
Adj.for directional distribution and no-passing zones, fd/np	9.5	
Percent time-spent-following, PTSF	76.8	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	96	veh-mi
Peak-hour vehicle-miles of travel, VMT60	344	veh-mi
Peak 15-min total travel time, TT15	3.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Lac de Ville
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	236		veh/h	
Directional split	62	/ 38	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	266	pc/h
Highest directional split proportion (note-2)	165	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	3.8	mi/h
Average travel speed, ATS	31.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	263	pc/h
Highest directional split proportion (note-2)	163	
Base percent time-spent-following, BPTSF	20.6	%
Adj.for directional distribution and no-passing zones, fd/np	23.5	
Percent time-spent-following, PTSF	44.2	%

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.08	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	71	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	AM peak hour
Highway:	Winton Road
From/To:	south of Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Existing 2008
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	648	vph	641	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	180		178	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	365	pcphpl	361	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	365	pcphpl	361	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
vel of service, LOS	A		A	
nsity, D	8.1	pc/mi/ln	8.0	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	AM peak hour
Highway:	E Henrietta Road
From/To:	I-390 to Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Existing 2008
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	1651	vph	844	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	459		234	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	930	pcphpl	475	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	930	pcphpl	475	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
vel of service, LOS	C		A	
nsity, D	20.7	pc/mi/ln	10.6	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

PM

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Westfall Road
From/To	East Henrietta Rd to Citygate
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.1	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V 1387 veh/h
Directional split 52 / 48 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1544	pc/h
Highest directional split proportion (note-2)	803	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATS	26.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1541	pc/h
Highest directional split proportion (note-2)	801	
Base percent time-spent-following, BPTSF	74.2	%
Adj.for directional distribution and no-passing zones, fd/np	7.1	
Percent time-spent-following, PTSF	81.3	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	139	veh-mi
Peak 15-min total travel time, TT15	1.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Westfall Road
From/To	Citygate to Winton Rd
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V 1442 veh/h
Directional split 64 / 36 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1605	pc/h
Highest directional split proportion (note-2)	1027	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	26.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1602	pc/h
Highest directional split proportion (note-2)	1025	
Base percent time-spent-following, BPTSF	75.5	%
Adj.for directional distribution and no-passing zones, fd/np	6.9	
Percent time-spent-following, PTSF	82.4	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	200	veh-mi
Peak-hour vehicle-miles of travel, VMT60	721	veh-mi
Peak 15-min total travel time, TT15	7.7	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Winton Road
From/To	north of Westfall
Jurisdiction	Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V 992 veh/h
Directional split 53 / 47 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	1107	pc/h
Highest directional split proportion (note-2)	587	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	2.3	mi/h
Average travel speed, ATS	26.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	1104	pc/h
Highest directional split proportion (note-2)	585	
Base percent time-spent-following, BPTSF	62.1	%
Adj.for directional distribution and no-passing zones, fd/np	11.5	
Percent time-spent-following, PTSF	73.6	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	138	veh-mi
Peak-hour vehicle-miles of travel, VMT60	496	veh-mi
Peak 15-min total travel time, TT15	5.2	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	S Clinton Ave
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	1418	veh/h	
Directional split	51 / 49	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1579	pc/h
Highest directional split proportion (note-2)	805	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	23.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1576	pc/h
Highest directional split proportion (note-2)	804	
Base percent time-spent-following, BPTSF	75.0	%
Adj.for directional distribution and no-passing zones, fd/np	6.9	
Percent time-spent-following, PTSF	81.9	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	118	veh-mi
Peak-hour vehicle-miles of travel, VMT60	425	veh-mi
Peak 15-min total travel time, TT15	5.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Lac de Ville
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Existing 2008
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	463		veh/h
Directional split	84	/ 16	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	522	pc/h
Highest directional split proportion (note-2)	438	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATS	29.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	515	pc/h
Highest directional split proportion (note-2)	433	
Base percent time-spent-following, BPTSF	36.4	%
Adj.for directional distribution and no-passing zones, fd/np	27.6	
Percent time-spent-following, PTSF	64.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	139	veh-mi
Peak 15-min total travel time, TT15	1.3	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	PM peak hour
Highway:	Winton Road
From/To:	south of Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Existing 2008
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	576	vph	702	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	160		195	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	324	pcphpl	395	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	324	pcphpl	395	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	7.2	pc/mi/ln	8.8	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	PM peak hour
Highway:	E Henrietta Road
From/To:	I-390 to Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Existing 2008
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	1133	vph	1302	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	315		362	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	638	pcphpl	733	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	638	pcphpl	733	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	B		B	
Density, D	14.2	pc/mi/ln	16.3	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

2. Synchro

AM

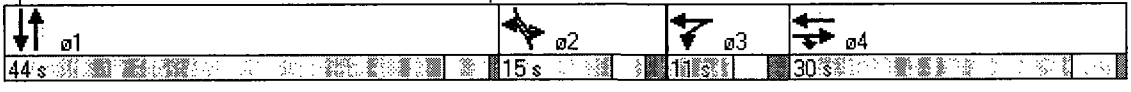
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	125	46	176	197	100	96	675	330	115	530	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.950				0.850			
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1857	1583	1770	1770	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.977		0.507			0.387			0.309		
Satd. Flow (perm)	0	1820	1583	944	1770	0	721	3539	1583	576	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			48		29				347			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	132	48	185	207	105	101	711	347	121	558	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	139	48	185	312	0	101	711	347	121	559	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	30.0	30.0	30.0	11.0	41.0	0.0	15.0	44.0	44.0	15.0	44.0	0.0
Total Split (%)	30.0%	30.0%	30.0%	11.0%	41.0%	0.0%	15.0%	44.0%	44.0%	15.0%	44.0%	0.0%
Maximum Green (s)	25.0	25.0	25.0	6.0			10.0	39.0	39.0	10.0	39.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		16.5	16.5	29.5	32.5		58.5	51.5	51.5	58.5	51.5	
Actuated g/C Ratio		0.16	0.16	0.30	0.32		0.58	0.52	0.52	0.58	0.52	
v/c Ratio		0.46	0.16	0.48	0.53		0.20	0.39	0.35	0.29	0.31	
Control Delay		41.9	11.0	22.7	20.8		11.1	16.1	2.8	13.4	14.6	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		41.9	11.0	22.7	20.8		11.1	16.1	2.8	13.4	14.6	
LOS		D	B	C	C		B	B	A	B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		34.0			21.5			11.7			14.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		81	0	74	112		24	138	0	32	104	
Queue Length 95th (ft)		132	29	102	163		53	204	48	67	159	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		491	462	386	778		584	1824	984	509	1824	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.28	0.10	0.48	0.40		0.17	0.39	0.35	0.24	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 61.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 307: Westfall Road & Mt. Hope



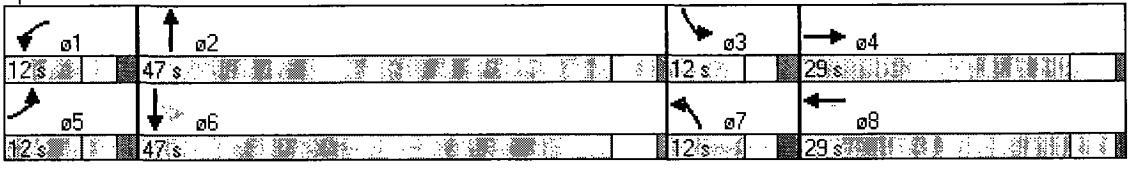
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	247	52	178	232	131	169	897	383	131	676	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	130		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.974			0.946			0.955			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3332	0	1652	3236	0	1711	3380	0	1711	3476	0
Flt Permitted	0.301			0.386			0.270			0.096		
Satd. Flow (perm)	523	3332	0	671	3236	0	486	3380	0	173	3476	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			107			85			19	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	260	55	187	244	138	178	944	403	138	712	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	315	0	187	382	0	178	1347	0	138	809	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	12.0	29.0	0.0	12.0	29.0	0.0	12.0	47.0	0.0	12.0	47.0	0.0
Total Split (%)	12.0%	29.0%	0.0%	12.0%	29.0%	0.0%	12.0%	47.0%	0.0%	12.0%	47.0%	0.0%
Maximum Green (s)	7.0	24.0		7.0	24.0		7.0	42.0		7.0	42.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	26.8	17.3		26.8	17.3		61.2	52.7		61.2	52.7	
Actuated g/C Ratio	0.27	0.17		0.27	0.17		0.61	0.53		0.61	0.53	
v/c Ratio	0.32	0.53		0.68	0.59		0.44	0.74		0.59	0.44	
Control Delay	26.8	31.0		46.7	30.4		10.8	15.6		29.3	6.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	
Total Delay	26.8	31.0		46.7	30.4		10.8	15.7		29.3	6.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		D	C		B	B		C	A	
Approach Delay		30.2			35.8			15.1			9.9	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)	37	85		95	85		19	121		25	57	
Queue Length 95th (ft)	55	105		137	125		30	#140		101	87	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			130			200			75		
Base Capacity (vph)	259	884		285	921		410	1823		245	1842	
Starvation Cap Reductn	0	0		0	0		0	42		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.36		0.66	0.41		0.43	0.76		0.56	0.44	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 63 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 76.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

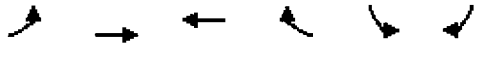
Splits and Phases: 160: Westfall Road & E Henrietta



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	756	5	32	536	5	11
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	822	5	34	570	6	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	921					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			827		1463	824
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			744		1458	741
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		95	97
cM capacity (veh/h)			769		121	370

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	827	604	18
Volume Left	0	34	6
Volume Right	5	0	12
cSH	1700	769	226
Volume to Capacity	0.49	0.04	0.08
Queue Length 95th (ft)	0	3	6
Control Delay (s)	0.0	1.2	22.3
Lane LOS		A	C
Approach Delay (s)	0.0	1.2	22.3
Approach LOS			C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	8	759	554	12	19	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.87	0.87	0.69	0.69
Hourly flow rate (vph)	8	782	637	14	28	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1063				
pX, platoon unblocked					0.90	
vC, conflicting volume	651				1443	644
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	651				1436	644
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				79	96
cM capacity (veh/h)	936				131	473

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	791	651	48
Volume Left	8	0	28
Volume Right	0	14	20
cSH	936	1700	190
Volume to Capacity	0.01	0.38	0.25
Queue Length 95th (ft)	1	0	24
Control Delay (s)	0.2	0.0	30.3
Lane LOS	A		D
Approach Delay (s)	0.2	0.0	30.3
Approach LOS			D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Volume (veh/h)	20	758	535	4	12	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.87	0.87	0.70	0.70
Hourly flow rate (vph)	21	781	615	5	17	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1176			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	620				1440	617
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	531				1434	529
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				87	91
cM capacity (veh/h)	942				131	500

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	802	620	61
Volume Left	21	0	17
Volume Right	0	5	44
cSH	942	1700	280
Volume to Capacity	0.02	0.36	0.22
Queue Length 95th (ft)	2	0	20
Control Delay (s)	0.6	0.0	21.4
Lane LOS	A		C
Approach Delay (s)	0.6	0.0	21.4
Approach LOS			C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

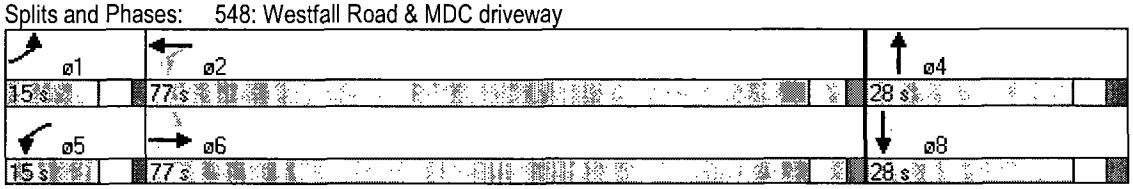
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	419	229	310	495	71	20	1	16	2	3	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.981			0.856			0.867	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1827	0	1770	1595	0	1770	1615	0
Flt Permitted	0.367			0.441			0.728			0.742		
Satd. Flow (perm)	684	1863	1583	821	1827	0	1356	1595	0	1382	1615	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		11			23			39	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		408			2087			424			399	
Travel Time (s)		7.9			40.7			9.6			9.1	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.69	0.69	0.69	0.61	0.61	0.61
Adj. Flow (vph)	134	460	252	360	576	83	29	1	23	3	5	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	460	252	360	659	0	29	24	0	3	44	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	15.0	77.0	77.0	15.0	77.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	12.5%	64.2%	64.2%	12.5%	64.2%	0.0%	23.3%	23.3%	0.0%	23.3%	23.3%	0.0%
Maximum Green (s)	10.0	71.0	71.0	10.0	71.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	98.4	90.5	90.5	103.8	93.5		12.1	12.1		12.1	12.1	
Actuated g/C Ratio	0.82	0.75	0.75	0.86	0.78		0.10	0.10		0.10	0.10	
v/c Ratio	0.21	0.33	0.20	0.45	0.46		0.21	0.13		0.02	0.22	
Control Delay	2.6	6.7	1.1	2.6	3.5		52.5	20.0		47.5	19.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	2.6	6.7	1.1	2.6	3.5		52.5	20.0		47.5	19.9	
LOS	A	A	A	A	A		D	B		D	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		4.4			3.1			37.8			21.7	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)	12	110	0	30	87		21	1		2	4	
Queue Length 95th (ft)	26	196	25	m36	m84		39	17		8	17	
Internal Link Dist (ft)		328			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	690	1405	1256	814	1425		283	351		288	367	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.33	0.20	0.44	0.46		0.10	0.07		0.01	0.12	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 5.1 Intersection LOS: A
Intersection Capacity Utilization 57.0% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 548: Westfall Road & MDC driveway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	168	109	162	543	62	117	297	16	82	446	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	330		0	120		0	120		0	70		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.941			0.985			0.992			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	1770	1835	0	1770	1848	0	1770	1773	0
Flt Permitted	0.095			0.433			0.086			0.394		
Satd. Flow (perm)	177	1753	0	807	1835	0	160	1848	0	734	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			5			3			23	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2087			1362			1347			2030	
Travel Time (s)		40.7			26.5			26.2			39.5	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90
Adj. Flow (vph)	144	185	120	169	566	65	129	326	18	91	496	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	305	0	169	631	0	129	344	0	91	726	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	9.0	32.0		9.0	32.0		9.0	28.0		9.5	28.0	
Total Split (s)	18.0	46.0	0.0	12.0	40.0	0.0	13.0	50.0	0.0	12.0	49.0	0.0
Total Split (%)	15.0%	38.3%	0.0%	10.0%	33.3%	0.0%	10.8%	41.7%	0.0%	10.0%	40.8%	0.0%
Maximum Green (s)	13.0	40.0		7.0	34.0		8.0	44.0		7.0	43.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.5	2.0		1.5	2.0		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		19.0			19.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	54.1	43.0		48.9	39.9		57.0	47.4		55.0	46.4	
Actuated g/C Ratio	0.45	0.36		0.41	0.33		0.48	0.40		0.46	0.39	
v/c Ratio	0.60	0.47		0.42	1.03		0.63	0.47		0.22	1.04	
Control Delay	26.0	24.4		22.4	80.4		39.1	28.7		20.5	84.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.0	24.4		22.4	80.4		39.1	28.7		20.5	84.3	
LOS	C	C		C	F		D	C		C	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		24.9			68.1			31.5			77.2	
Approach LOS		C			E			C			E	
Queue Length 50th (ft)	64	165		72	~535		54	208		44	~603	
Queue Length 95th (ft)	123	252		m109	#790		119	278		80	#691	
Internal Link Dist (ft)		2007			1282			1267			1950	
Turn Bay Length (ft)	330			120			120			70		
Base Capacity (vph)	280	647		401	614		211	732		416	699	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.47		0.42	1.03		0.61	0.47		0.22	1.04	

Intersection Summary

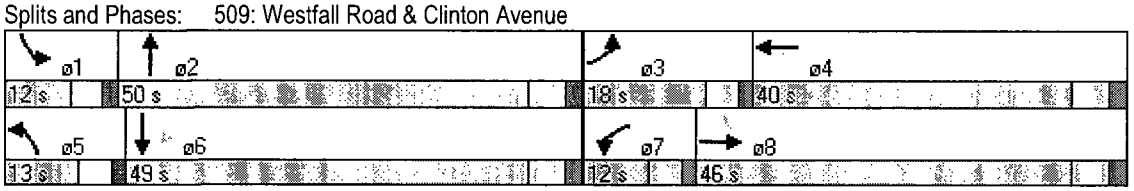
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 34 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 56.6 Intersection LOS: E
Intersection Capacity Utilization 95.5% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 509: Westfall Road & Clinton Avenue



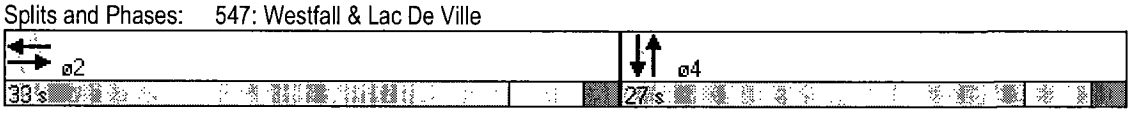
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	135	63	204	593	160	30	15	45	75	79	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	75		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.968			0.888			0.910	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1803	0	1770	1654	0	1770	1695	0
Flt Permitted	0.243			0.621			0.435			0.713		
Satd. Flow (perm)	453	1773	0	1157	1803	0	810	1654	0	1328	1695	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			32			50			132	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1362			1779			533			471	
Travel Time (s)		26.5			34.7			12.1			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	42	150	70	227	659	178	33	17	50	83	88	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	220	0	227	837	0	33	67	0	83	220	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		26.5	26.5		26.5	26.5	
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0		21.5	21.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-2.5	-2.5	-2.5	-2.5	-2.5	0.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	1.5	3.0	3.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	41.8	41.8		41.8	41.8		12.2	12.2		12.2	12.2	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.20	0.20		0.20	0.20	
v/c Ratio	0.13	0.18		0.28	0.66		0.20	0.18		0.31	0.49	
Control Delay	4.5	2.9		5.2	7.5		21.1	9.1		22.1	12.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.5	2.9		5.2	7.5		21.1	9.1		22.1	12.4	
LOS	A	A		A	A		C	A		C	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		3.1			7.0			13.1			15.0	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	8	36		15	69		10	5		26	27	
Queue Length 95th (ft)	m19	58		m51	m217		27	28		52	69	
Internal Link Dist (ft)		1282			1699			453			391	
Turn Bay Length (ft)	75			75			75			75		
Base Capacity (vph)	316	1252		806	1265		324	692		531	757	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.18		0.28	0.66		0.10	0.10		0.16	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 87.4% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 547: Westfall & Lac De Ville



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	1	1607	44	3	844
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1	1692	46	3	888
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						520
pX, platoon unblocked	0.93					
vC, conflicting volume	2165	869			1738	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2100	869			1738	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	41	295			358	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	1	1128	610	299	592
Volume Left	0	0	0	3	0
Volume Right	1	0	46	0	0
cSH	295	1700	1700	358	1700
Volume to Capacity	0.00	0.66	0.36	0.01	0.35
Queue Length 95th (ft)	0	0	0	1	0
Control Delay (s)	17.2	0.0	0.0	0.3	0.0
Lane LOS	C			A	
Approach Delay (s)	17.2	0.0		0.1	
Approach LOS	C				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	55.8%	ICU Level of Service	B	
Analysis Period (min)	15			

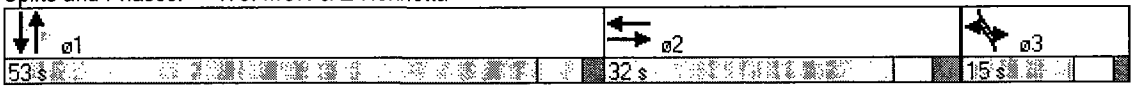
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	0	10	11	2	14	141	1415	52	10	826	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	130		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.868			0.995			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1711	1563	0	1711	3404	0	1711	3380	0
Flt Permitted	0.746			0.750			0.277			0.127		
Satd. Flow (perm)	1390	1583	0	1350	1563	0	499	3404	0	229	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		282			15			5			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		400			578			520			602	
Travel Time (s)		9.1			13.1			11.8			13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	0	11	12	2	15	148	1489	55	11	869	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	11	0	12	17	0	148	1544	0	11	943	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			2		3	1		3	1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		3	1		3	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		14.0	39.0		14.0	39.0	
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	15.0	53.0	0.0	15.0	53.0	0.0
Total Split (%)	32.0%	32.0%	0.0%	32.0%	32.0%	0.0%	15.0%	53.0%	0.0%	15.0%	53.0%	0.0%
Maximum Green (s)	26.0	26.0		26.0	26.0		10.0	47.0		10.0	47.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	-2.0	-3.0	-1.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead			Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0			20.0			20.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	10.2	10.2		10.2	10.2		85.6	77.7		85.6	77.7	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.86	0.78		0.86	0.78	
v/c Ratio	0.15	0.03		0.09	0.10		0.28	0.58		0.04	0.36	
Control Delay	42.6	0.1		41.3	21.2		2.8	6.9		0.3	1.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.6	0.1		41.3	21.2		2.8	6.9		0.3	1.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A		D	C		A	A		A	A	
Approach Delay		28.0			29.5			6.6			1.2	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	12	0		7	1		11	215		0	34	
Queue Length 95th (ft)	35	0		24	22		24	323		m0	44	
Internal Link Dist (ft)		320			498			440			522	
Turn Bay Length (ft)							130			250		
Base Capacity (vph)	403	659		392	464		587	2646		380	2629	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.02		0.03	0.04		0.25	0.58		0.03	0.36	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 69 (69%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 61.9% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 470: MCH & E Henrietta



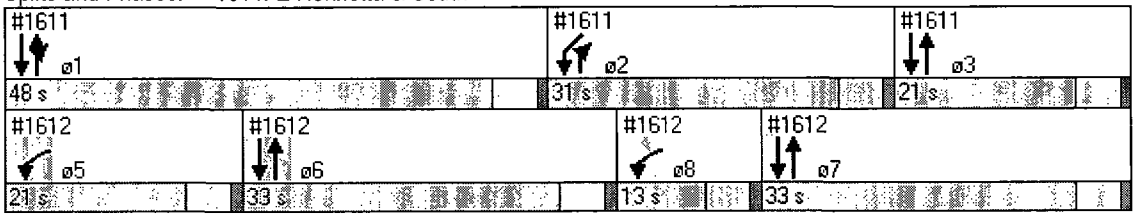
Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø5	ø6	ø7	ø8
Lane Configurations												
Volume (vph)	704	580	0	386	498	0						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00						
Frt		0.850										
Flt Protected					0.950							
Satd. Flow (prot)	1863	1583	0	3539	3433	0						
Flt Permitted					0.950							
Satd. Flow (perm)	1863	1583	0	3539	3433	0						
Right Turn on Red		Yes				Yes						
Satd. Flow (RTOR)		611										
Link Speed (mph)	30			30	30							
Link Distance (ft)	832			1862	244							
Travel Time (s)	18.9			42.3	5.5							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95						
Adj. Flow (vph)	741	611	0	406	524	0						
Shared Lane Traffic (%)												
Lane Group Flow (vph)	741	611	0	406	524	0						
Turn Type		custom										
Protected Phases	1 3	1 2		1 3	2		1	3	5	6	7	8
Permitted Phases		1		1 3								
Detector Phase	1 3	1 2		1 3	2							
Switch Phase												
Minimum Initial (s)					10.0		24.0	6.0	6.0	10.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	21.0	33.0	33.0	13.0
Total Split (s)	69.0	79.0	0.0	69.0	31.0	0.0	48.0	21.0	21.0	33.0	33.0	13.0
Total Split (%)	69.0%	79.0%	0.0%	69.0%	31.0%	0.0%	48%	21%	21%	33%	33%	13%
Maximum Green (s)					26.0		43.0	16.0	16.0	28.0	28.0	8.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0						
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0						
Lead/Lag					Lag		Lead		Lead	Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	Max	None	None
Walk Time (s)					7.0		24.0		7.0	7.0	7.0	
Flash Dont Walk (s)					9.0		10.0		9.0	21.0	21.0	
Pedestrian Calls (#/hr)					0		0		0	0	0	
Act Effct Green (s)	69.8	74.1		69.8	24.2							
Actuated g/C Ratio	0.70	0.74		0.70	0.24							
v/c Ratio	0.57	0.46		0.16	0.63							
Control Delay	7.4	5.8		5.8	32.3							
Queue Delay	0.0	0.3		0.0	2.7							
Total Delay	7.4	6.1		5.8	35.0							
LOS	A	A		A	D							
Approach Delay	6.8			5.8	35.0							
Approach LOS	A			A	D							
Queue Length 50th (ft)	169	144		41	151							

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø5	ø6	ø7	ø8
Queue Length 95th (ft)	114	200		65	189							
Internal Link Dist (ft)	752			1782	164							
Turn Bay Length (ft)												
Base Capacity (vph)	1301	1368		2471	961							
Starvation Cap Reductn	0	0		0	312							
Spillback Cap Reductn	0	278		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.57	0.56		0.16	0.81							

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 57.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1611: E Henrietta & South



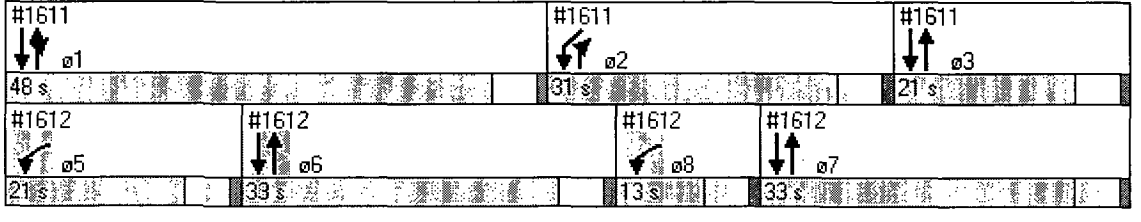
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3	ø5	ø7
Lane Configurations											
Volume (vph)	11	3	496	84	50	487					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95					
Frt		0.850	0.981								
Flt Protected	0.950					0.995					
Satd. Flow (prot)	1770	1583	1827	0	0	3522					
Flt Permitted	0.950					0.847					
Satd. Flow (perm)	1770	1583	1827	0	0	2998					
Right Turn on Red		Yes		Yes							
Satd. Flow (RTOR)		3	14								
Link Speed (mph)	30		30			30					
Link Distance (ft)	396		244			2781					
Travel Time (s)	9.0		5.5			63.2					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95					
Adj. Flow (vph)	12	3	522	88	53	513					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	12	3	610	0	0	566					
Turn Type		custom			custom						
Protected Phases	5 8		6 7			6 7	1	2	3	5	7
Permitted Phases		8			6						
Detector Phase	5 8	8	6 7		6	6 7					
Switch Phase											
Minimum Initial (s)		6.0			10.0		24.0	10.0	6.0	6.0	10.0
Minimum Split (s)		13.0			33.0		40.0	28.0	21.0	21.0	33.0
Total Split (s)	34.0	13.0	66.0	0.0	33.0	66.0	48.0	31.0	21.0	21.0	33.0
Total Split (%)	34.0%	13.0%	66.0%	0.0%	33.0%	66.0%	48%	31%	21%	21%	33%
Maximum Green (s)		8.0			28.0		43.0	26.0	16.0	16.0	28.0
Yellow Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)		1.0			1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	5.0					
Lead/Lag		Lead			Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode		None			Max		C-Max	None	None	C-Max	None
Walk Time (s)					7.0		24.0	7.0		7.0	7.0
Flash Dont Walk (s)					21.0		10.0	9.0		9.0	21.0
Pedestrian Calls (#/hr)					0		0	0		0	0
Act Effct Green (s)	24.0	6.1	65.6			65.6					
Actuated g/C Ratio	0.24	0.06	0.66			0.66					
v/c Ratio	0.03	0.03	0.51			0.29					
Control Delay	15.5	30.0	14.1			5.9					
Queue Delay	0.0	0.0	1.0			0.0					
Total Delay	15.5	30.0	15.1			5.9					
LOS	B	C	B			A					
Approach Delay	18.4		15.1			5.9					
Approach LOS	B		B			A					
Queue Length 50th (ft)	3	0	257			51					

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3	ø5	ø7
Queue Length 95th (ft)	10	9	381			69					
Internal Link Dist (ft)	316		164			2701					
Turn Bay Length (ft)											
Base Capacity (vph)	459	129	1204			1968					
Starvation Cap Reductn	0	0	334			0					
Spillback Cap Reductn	19	0	0			262					
Storage Cap Reductn	0	0	0			0					
Reduced v/c Ratio	0.03	0.02	0.70			0.33					

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 63.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1612: Science Park & South



PM

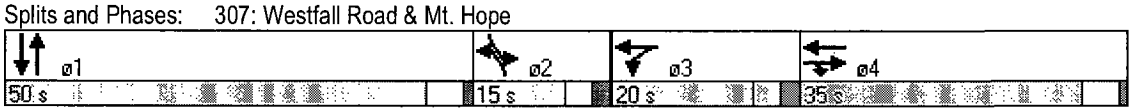
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	168	267	332	103	67	55	825	123	89	1035	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.941				0.850			
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	1859	1583	1770	1753	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.984		0.395			0.144			0.224		
Satd. Flow (perm)	0	1833	1583	736	1753	0	268	3539	1583	417	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			210		35				129			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	177	281	349	108	71	58	868	129	94	1089	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	281	349	179	0	58	868	129	94	1091	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	35.0	35.0	35.0	20.0	55.0	0.0	15.0	50.0	50.0	15.0	50.0	0.0
Total Split (%)	29.2%	29.2%	29.2%	16.7%	45.8%	0.0%	12.5%	41.7%	41.7%	12.5%	41.7%	0.0%
Maximum Green (s)	30.0	30.0	30.0	15.0			10.0	45.0	45.0	10.0	45.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		21.7	21.7	42.5	45.5		65.5	57.9	57.9	65.5	57.9	
Actuated g/C Ratio		0.18	0.18	0.35	0.38		0.55	0.48	0.48	0.55	0.48	
v/c Ratio		0.56	0.61	0.79	0.26		0.24	0.51	0.16	0.30	0.64	
Control Delay		50.5	17.7	46.7	9.8		21.1	23.7	4.1	24.5	28.9	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		50.5	17.7	46.7	9.8		21.1	23.7	4.1	24.5	28.9	
LOS		D	B	D	A		C	C	A	C	C	

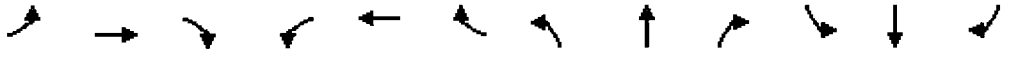
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		30.8			34.2			21.2			28.6	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)		133	48	198	46		19	236	0	38	354	
Queue Length 95th (ft)		192	128	239	60		44	338	37	80	488	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		489	576	440	834		306	1708	831	378	1708	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.38	0.49	0.79	0.21		0.19	0.51	0.16	0.25	0.64	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 27.4 Intersection LOS: C
Intersection Capacity Utilization 73.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 307: Westfall Road & Mt. Hope





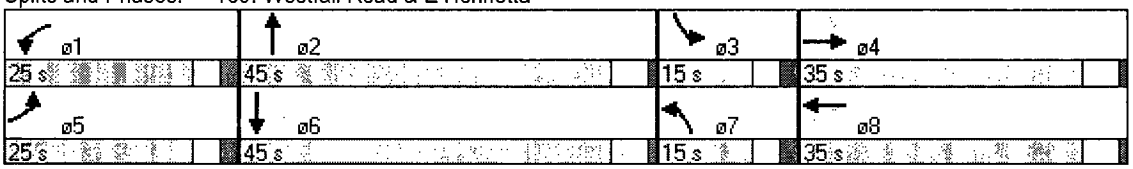
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	267	90	323	256	137	97	808	225	179	819	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	130		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.962			0.948			0.967			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3291	0	1652	3243	0	1711	3422	0	1711	3500	0
Flt Permitted	0.253			0.296			0.183			0.137		
Satd. Flow (perm)	440	3291	0	515	3243	0	330	3422	0	247	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			81			33			7	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.95	0.95	0.95
Adj. Flow (vph)	114	281	95	340	269	144	99	824	230	188	862	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	376	0	340	413	0	99	1054	0	188	929	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	25.0	35.0	0.0	25.0	35.0	0.0	15.0	45.0	0.0	15.0	45.0	0.0
Total Split (%)	20.8%	29.2%	0.0%	20.8%	29.2%	0.0%	12.5%	37.5%	0.0%	12.5%	37.5%	0.0%
Maximum Green (s)	20.0	30.0		20.0	30.0		10.0	40.0		10.0	40.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	42.7	21.0		42.7	21.0		65.3	53.7		65.3	53.7	
Actuated g/C Ratio	0.36	0.18		0.36	0.18		0.54	0.45		0.54	0.45	
v/c Ratio	0.30	0.62		0.87	0.65		0.32	0.68		0.68	0.59	
Control Delay	39.9	41.2		66.1	44.6		20.5	26.4		40.4	16.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	
Total Delay	39.9	41.2		66.1	44.6		20.5	26.5		40.4	16.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		E	D		C	C		D	B	
Approach Delay		40.9			54.3			26.0			20.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	73	137		206	133		35	334		72	88	
Queue Length 95th (ft)	112	172		m278	m177		66	481		#178	148	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			130			200			75		
Base Capacity (vph)	402	905		416	924		319	1550		282	1571	
Starvation Cap Reductn	0	0		0	0		0	61		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.28	0.42		0.82	0.45		0.31	0.71		0.67	0.59	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 75 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 32.4 Intersection LOS: C
Intersection Capacity Utilization 80.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 160: Westfall Road & E Henrietta



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	671	0	0	707	9	44
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.91	0.91	0.63	0.63
Hourly flow rate (vph)	849	0	0	777	14	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	921					
pX, platoon unblocked			0.84		0.84	0.84
vC, conflicting volume			849		1626	849
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			726		1650	726
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	80
cM capacity (veh/h)			737		91	357

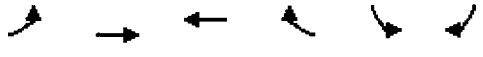
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	849	777	84
Volume Left	0	0	14
Volume Right	0	0	70
cSH	1700	737	239
Volume to Capacity	0.50	0.00	0.35
Queue Length 95th (ft)	0	0	38
Control Delay (s)	0.0	0.0	28.0
Lane LOS			D
Approach Delay (s)	0.0	0.0	28.0
Approach LOS			D

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Volume (veh/h)	14	701	697	20	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.86	0.86	0.83	0.83
Hourly flow rate (vph)	15	730	810	23	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1063				
pX, platoon unblocked					0.90	
vC, conflicting volume	834				1581	822
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834				1590	822
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				88	97
cM capacity (veh/h)	799				105	374

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	745	834	24
Volume Left	15	0	12
Volume Right	0	23	12
cSH	799	1700	164
Volume to Capacity	0.02	0.49	0.15
Queue Length 95th (ft)	1	0	13
Control Delay (s)	0.5	0.0	30.8
Lane LOS	A		D
Approach Delay (s)	0.5	0.0	30.8
Approach LOS			D

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Volume (veh/h)	12	699	701	21	6	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.86	0.86	0.83	0.83
Hourly flow rate (vph)	12	728	815	24	7	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1176			
pX, platoon unblocked	0.85				0.85	0.85
vC, conflicting volume	840				1580	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719				1595	704
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				93	95
cM capacity (veh/h)	746				98	369

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	741	840	27
Volume Left	12	0	7
Volume Right	0	24	19
cSH	746	1700	210
Volume to Capacity	0.02	0.49	0.13
Queue Length 95th (ft)	1	0	11
Control Delay (s)	0.5	0.0	24.6
Lane LOS	A		C
Approach Delay (s)	0.5	0.0	24.6
Approach LOS			C

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

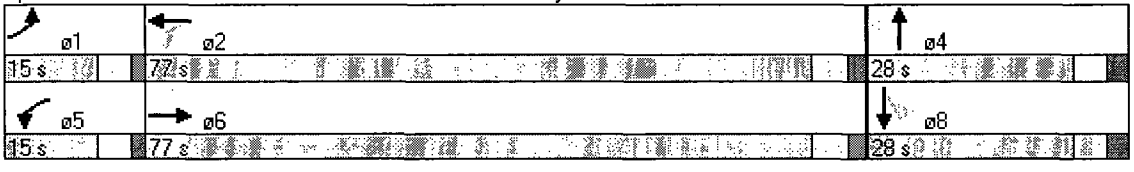
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	682	14	16	513	3	116	0	158	66	0	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1861	0	1770	1583	0	1770	1583	0
Flt Permitted	0.362			0.267			0.503			0.340		
Satd. Flow (perm)	674	1863	1583	497	1861	0	937	1583	0	633	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			9					331			407	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		408			2087			424			399	
Travel Time (s)		7.9			40.7			9.6			9.1	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.69	0.69	0.69	0.61	0.61	0.61
Adj. Flow (vph)	10	749	15	19	597	3	168	0	229	108	0	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	749	15	19	600	0	168	229	0	108	152	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	15.0	77.0	77.0	15.0	77.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	12.5%	64.2%	64.2%	12.5%	64.2%	0.0%	23.3%	23.3%	0.0%	23.3%	23.3%	0.0%
Maximum Green (s)	10.0	71.0	71.0	10.0	71.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	88.3	85.5	85.5	89.1	87.6		24.4	24.4		24.4	24.4	
Actuated g/C Ratio	0.74	0.71	0.71	0.74	0.73		0.20	0.20		0.20	0.20	
v/c Ratio	0.02	0.56	0.01	0.04	0.44		0.88	0.39		0.84	0.24	
Control Delay	1.4	6.4	0.7	3.8	5.6		87.8	2.1		92.2	0.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	1.4	6.4	0.7	3.8	5.6		87.8	2.1		92.2	0.9	
LOS	A	A	A	A	A		F	A		F	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		6.2			5.5			38.3			38.8	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	1	120	1	3	101		127	0		81	0	
Queue Length 95th (ft)	m1	185	m1	m4	m110		#156	0		94	0	
Internal Link Dist (ft)		328			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	613	1328	1131	499	1359		195	592		132	652	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.56	0.01	0.04	0.44		0.86	0.39		0.82	0.23	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 60.7% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 548: Westfall Road & MDC driveway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	341	455	138	90	252	119	118	535	42	110	495	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	330		0	120		0	120		0	70		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965			0.952			0.989			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1798	0	1770	1773	0	1770	1842	0	1770	1801	0
Flt Permitted	0.203			0.111			0.087			0.088		
Satd. Flow (perm)	378	1798	0	207	1773	0	162	1842	0	164	1801	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			20			4			14	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2087			1362			1347			2030	
Travel Time (s)		40.7			26.5			26.2			39.5	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	379	506	153	98	274	129	131	594	47	122	550	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	379	659	0	98	403	0	131	641	0	122	703	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	9.0	32.0		9.0	32.0		9.0	28.0		9.5	28.0	
Total Split (s)	18.0	46.0	0.0	12.0	40.0	0.0	13.0	50.0	0.0	12.0	49.0	0.0
Total Split (%)	15.0%	38.3%	0.0%	10.0%	33.3%	0.0%	10.8%	41.7%	0.0%	10.0%	40.8%	0.0%
Maximum Green (s)	13.0	40.0		7.0	34.0		8.0	44.0		7.0	43.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.5	2.0		1.5	2.0		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		19.0			19.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	55.0	43.3		45.7	37.0		56.8	47.2		55.2	46.3	
Actuated g/C Ratio	0.46	0.36		0.38	0.31		0.47	0.39		0.46	0.39	
v/c Ratio	1.09	1.00		0.51	0.72		0.64	0.88		0.63	1.00	
Control Delay	97.0	67.9		29.7	41.1		37.8	46.6		35.1	74.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	97.0	67.9		29.7	41.1		37.8	46.6		35.1	74.9	
LOS	F	E		C	D		D	D		D	E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		78.6			38.9			45.1			69.0	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	~231	~539		42	253		54	491		60	~549	
Queue Length 95th (ft)	m#422	#770		82	367		m123	#679		#113	#624	
Internal Link Dist (ft)		2007			1282			1267			1950	
Turn Bay Length (ft)	330			120			120			70		
Base Capacity (vph)	347	657		197	561		211	727		196	704	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.09	1.00		0.50	0.72		0.62	0.88		0.62	1.00	

Intersection Summary

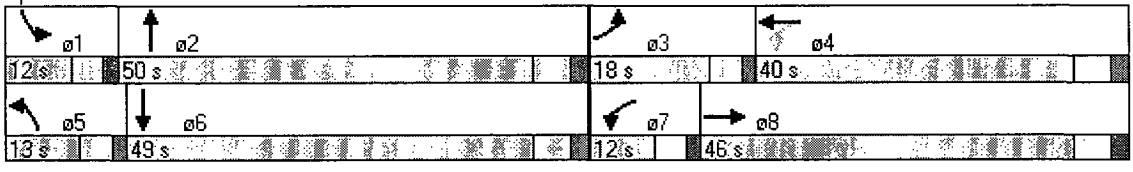
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 34 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 61.5 Intersection LOS: E
Intersection Capacity Utilization 93.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 509: Westfall Road & Clinton Avenue



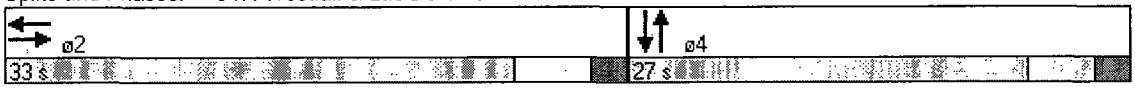
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	596	19	26	251	103	73	118	203	129	24	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	75		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.956			0.905			0.888	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1853	0	1770	1781	0	1770	1686	0	1770	1654	0
Flt Permitted	0.473			0.270			0.689			0.331		
Satd. Flow (perm)	881	1853	0	503	1781	0	1283	1686	0	617	1654	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			49			173			79	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1362			1779			533			471	
Travel Time (s)		26.5			34.7			12.1			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	51	662	21	29	279	114	81	131	226	143	27	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	683	0	29	393	0	81	357	0	143	106	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		26.5	26.5		26.5	26.5	
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0		21.5	21.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-2.5	-2.5	2.5	-2.5	-2.5	0.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	1.5	3.0	3.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	35.6	35.6		35.6	35.6		18.4	18.4		18.4	18.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.31	0.31		0.31	0.31	
v/c Ratio	0.10	0.62		0.10	0.37		0.21	0.56		0.75	0.19	
Control Delay	5.5	11.1		8.5	7.1		14.4	11.1		42.6	5.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.5	11.1		8.5	7.1		14.4	11.1		42.6	5.8	
LOS	A	B		A	A		B	B		D	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		10.7			7.2			11.7			26.9	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	8	124		3	44		21	49		44	7	
Queue Length 95th (ft)	m10	m231		m7	m95		43	101		#111	30	
Internal Link Dist (ft)		1282			1699			453			391	
Turn Bay Length (ft)	75			75			75			75		
Base Capacity (vph)	522	1101		298	1076		513	778		247	709	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.62		0.10	0.37		0.16	0.46		0.58	0.15	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 12.4 Intersection LOS: B
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 547: Westfall & Lac De Ville



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	1	1122	11	0	1302
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.33	0.33	0.93	0.93	0.97	0.97
Hourly flow rate (vph)	0	3	1206	12	0	1342
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						520
pX, platoon unblocked	0.87					
vC, conflicting volume	1883	609			1218	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1721	609			1218	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	70	438			568	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	804	414	447	895
Volume Left	0	0	0	0	0
Volume Right	3	0	12	0	0
cSH	438	1700	1700	568	1700
Volume to Capacity	0.01	0.47	0.24	0.00	0.53
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	13.3	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	13.3	0.0		0.0	
Approach LOS	B				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	41.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	1	56	63	0	17	9	1070	44	9	1183	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	130		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.850			0.994			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1589	0	1711	1531	0	1711	3401	0	1711	3404	0
Flt Permitted	0.746			0.681			0.192			0.214		
Satd. Flow (perm)	1390	1589	0	1226	1531	0	346	3401	0	385	3404	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			212			5			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		400			578			520			602	
Travel Time (s)		9.1			13.1			11.8			13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97
Adj. Flow (vph)	45	1	59	66	0	18	9	1126	46	9	1220	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	60	0	66	18	0	9	1172	0	9	1261	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			2		3	1		3	1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		3	1		3	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		14.0	39.0		14.0	39.0	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	15.0	70.0	0.0	15.0	70.0	0.0
Total Split (%)	29.2%	29.2%	0.0%	29.2%	29.2%	0.0%	12.5%	58.3%	0.0%	12.5%	58.3%	0.0%
Maximum Green (s)	29.0	29.0		29.0	29.0		10.0	64.0		10.0	64.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	-2.0	-3.0	-1.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead			Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0			20.0			20.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.5	14.5		14.5	14.5		100.8	98.6		100.8	98.6	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.84	0.82		0.84	0.82	
v/c Ratio	0.27	0.25		0.45	0.05		0.02	0.42		0.02	0.45	
Control Delay	50.3	14.0		57.4	0.2		2.6	5.0		0.3	1.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.3	14.0		57.4	0.2		2.6	5.0		0.3	1.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B		E	A		A	A		A	A	
Approach Delay		29.6			45.2			5.0			1.1	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	32	1		48	0		1	94		0	1	
Queue Length 95th (ft)	67	39		91	0		4	236		m1	70	
Internal Link Dist (ft)		320			498			440			522	
Turn Bay Length (ft)							130			250		
Base Capacity (vph)	371	467		327	564		430	2797		460	2799	
Starvation Cap Reductn	0	0		0	0		0	0		0	188	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.13		0.20	0.03		0.02	0.42		0.02	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 63 (53%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 5.4 Intersection LOS: A
Intersection Capacity Utilization 50.8% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 470: MCH & E Henrietta

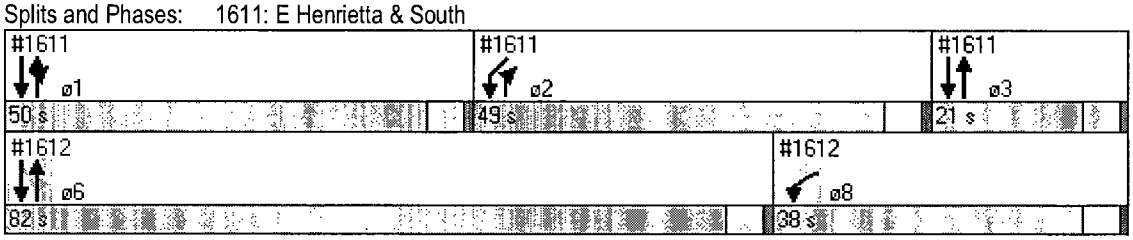
Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Lane Configurations	↑	↱		↑↑	↰↰					
Volume (vph)	361	489	0	524	682	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00				
Frt		0.850								
Flt Protected					0.950					
Satd. Flow (prot)	1863	1583	0	3539	3433	0				
Flt Permitted					0.950					
Satd. Flow (perm)	1863	1583	0	3539	3433	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)		515								
Link Speed (mph)	30			30	30					
Link Distance (ft)	832			1862	244					
Travel Time (s)	18.9			42.3	5.5					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Adj. Flow (vph)	380	515	0	552	718	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	380	515	0	552	718	0				
Turn Type		custom								
Protected Phases	1 3	1 2		1 3	2		1	3	6	8
Permitted Phases		1		1 3						
Detector Phase	1 3	1 2		1 3	2					
Switch Phase										
Minimum Initial (s)					10.0		24.0	6.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	33.0	13.0
Total Split (s)	71.0	99.0	0.0	71.0	49.0	0.0	50.0	21.0	82.0	38.0
Total Split (%)	59.2%	82.5%	0.0%	59.2%	40.8%	0.0%	42%	18%	68%	32%
Maximum Green (s)					44.0		45.0	16.0	77.0	33.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0				
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0				
Lead/Lag					Lag		Lead			
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	None
Walk Time (s)					7.0		24.0		7.0	
Flash Dont Walk (s)					9.0		10.0		21.0	
Pedestrian Calls (#/hr)					0		0		0	
Act Effct Green (s)	78.2	95.1		78.2	35.8					
Actuated g/C Ratio	0.65	0.79		0.65	0.30					
v/c Ratio	0.31	0.38		0.24	0.70					
Control Delay	6.2	6.8		9.6	39.8					
Queue Delay	0.0	0.0		0.0	2.2					
Total Delay	6.2	6.8		9.6	42.0					
LOS	A	A		A	D					
Approach Delay	6.6			9.6	42.0					
Approach LOS	A			A	D					
Queue Length 50th (ft)	53	196		85	255					

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Queue Length 95th (ft)	80	343		136	329					
Internal Link Dist (ft)	752			1782	164					
Turn Bay Length (ft)										
Base Capacity (vph)	1209	1452		2296	1316					
Starvation Cap Reductn	0	0		0	438					
Spillback Cap Reductn	0	5		0	0					
Storage Cap Reductn	0	0		0	0					
Reduced v/c Ratio	0.31	0.36		0.24	0.82					

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 46.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1611: E Henrietta & South



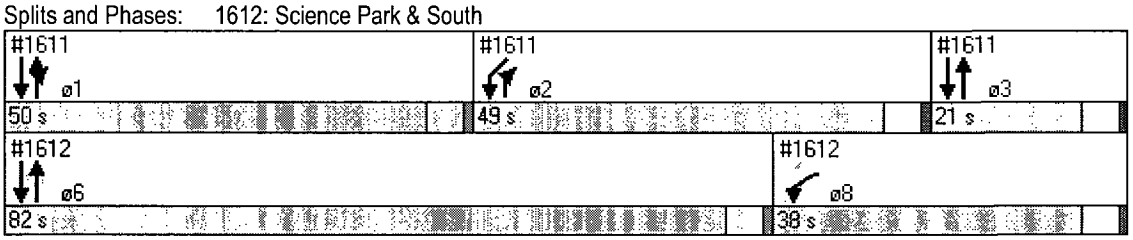
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3
Lane Configurations									
Volume (vph)	15	3	418	71	50	667			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95			
Frt		0.850	0.980						
Flt Protected	0.950					0.997			
Satd. Flow (prot)	1770	1583	1825	0	0	3529			
Flt Permitted	0.950					0.876			
Satd. Flow (perm)	1770	1583	1825	0	0	3100			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		3	14						
Link Speed (mph)	30		30			30			
Link Distance (ft)	396		244			2781			
Travel Time (s)	9.0		5.5			63.2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Adj. Flow (vph)	16	3	440	75	53	702			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	16	3	515	0	0	755			
Turn Type		Perm			Perm				
Protected Phases	8		6			6	1	2	3
Permitted Phases		8			6				
Detector Phase	8	8	6		6	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	10.0		10.0	10.0	24.0	10.0	6.0
Minimum Split (s)	13.0	13.0	33.0		33.0	33.0	40.0	28.0	21.0
Total Split (s)	38.0	38.0	82.0	0.0	82.0	82.0	50.0	49.0	21.0
Total Split (%)	31.7%	31.7%	68.3%	0.0%	68.3%	68.3%	42%	41%	18%
Maximum Green (s)	33.0	33.0	77.0		77.0	77.0	45.0	44.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	5.0			
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max	C-Max	None	None
Walk Time (s)			7.0		7.0	7.0	24.0	7.0	
Flash Dont Walk (s)			21.0		21.0	21.0	10.0	9.0	
Pedestrian Calls (#/hr)			0		0	0	0	0	
Act Effct Green (s)	16.8	16.8	102.9			102.9			
Actuated g/C Ratio	0.14	0.14	0.86			0.86			
v/c Ratio	0.06	0.01	0.33			0.28			
Control Delay	37.7	21.0	1.9			5.3			
Queue Delay	0.0	0.0	0.0			0.2			
Total Delay	37.7	21.0	2.0			5.5			
LOS	D	C	A			A			
Approach Delay	35.0		2.0			5.5			
Approach LOS	D		A			A			
Queue Length 50th (ft)	12	0	0			0			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3
Queue Length 95th (ft)	27	8	70			172			
Internal Link Dist (ft)	316		164			2701			
Turn Bay Length (ft)									
Base Capacity (vph)	487	438	1568			2659			
Starvation Cap Reductn	0	0	112			0			
Spillback Cap Reductn	0	0	0			1019			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.03	0.01	0.35			0.46			

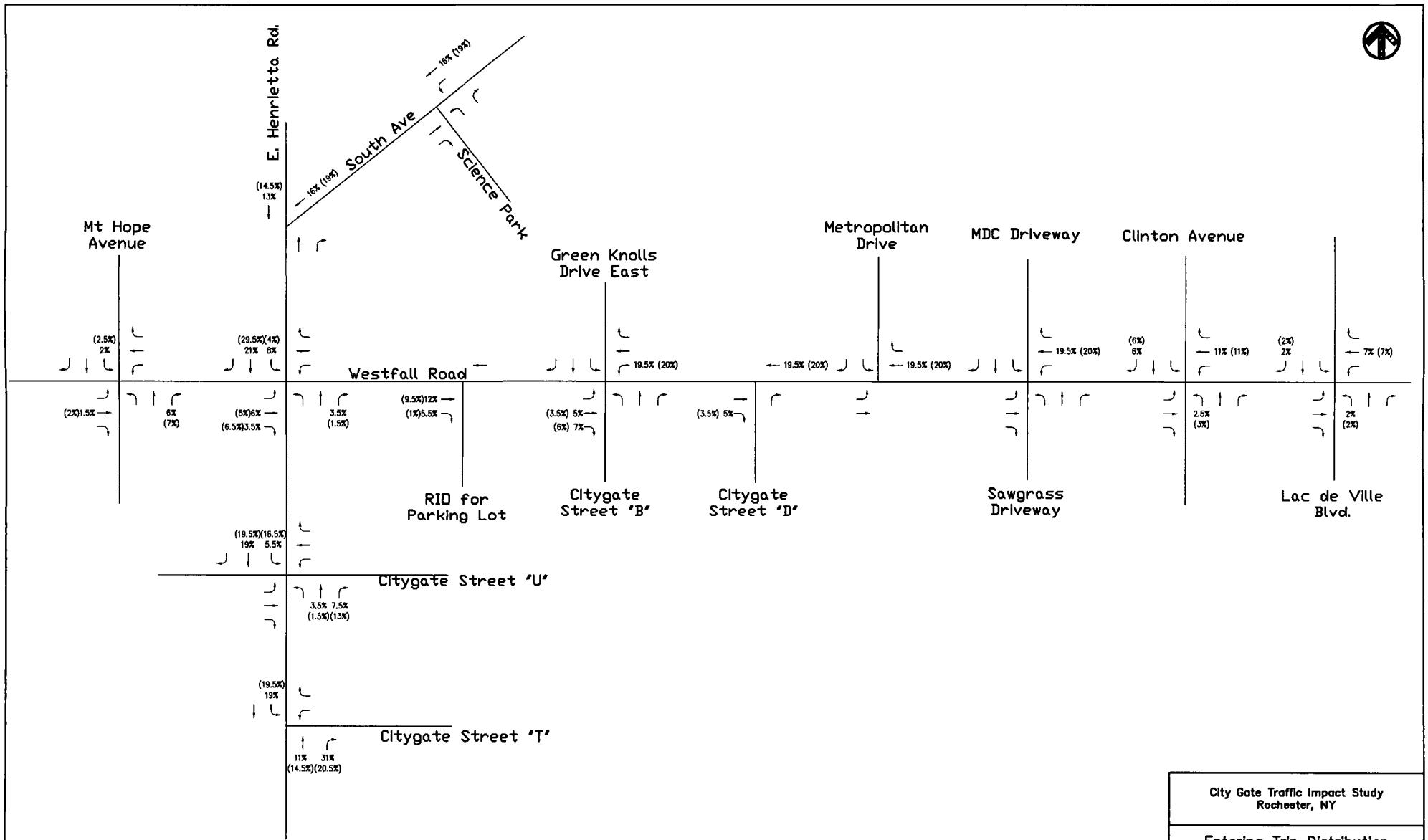
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 63.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1612: Science Park & South



Appendix C
Trip Distribution/Assignment Figures



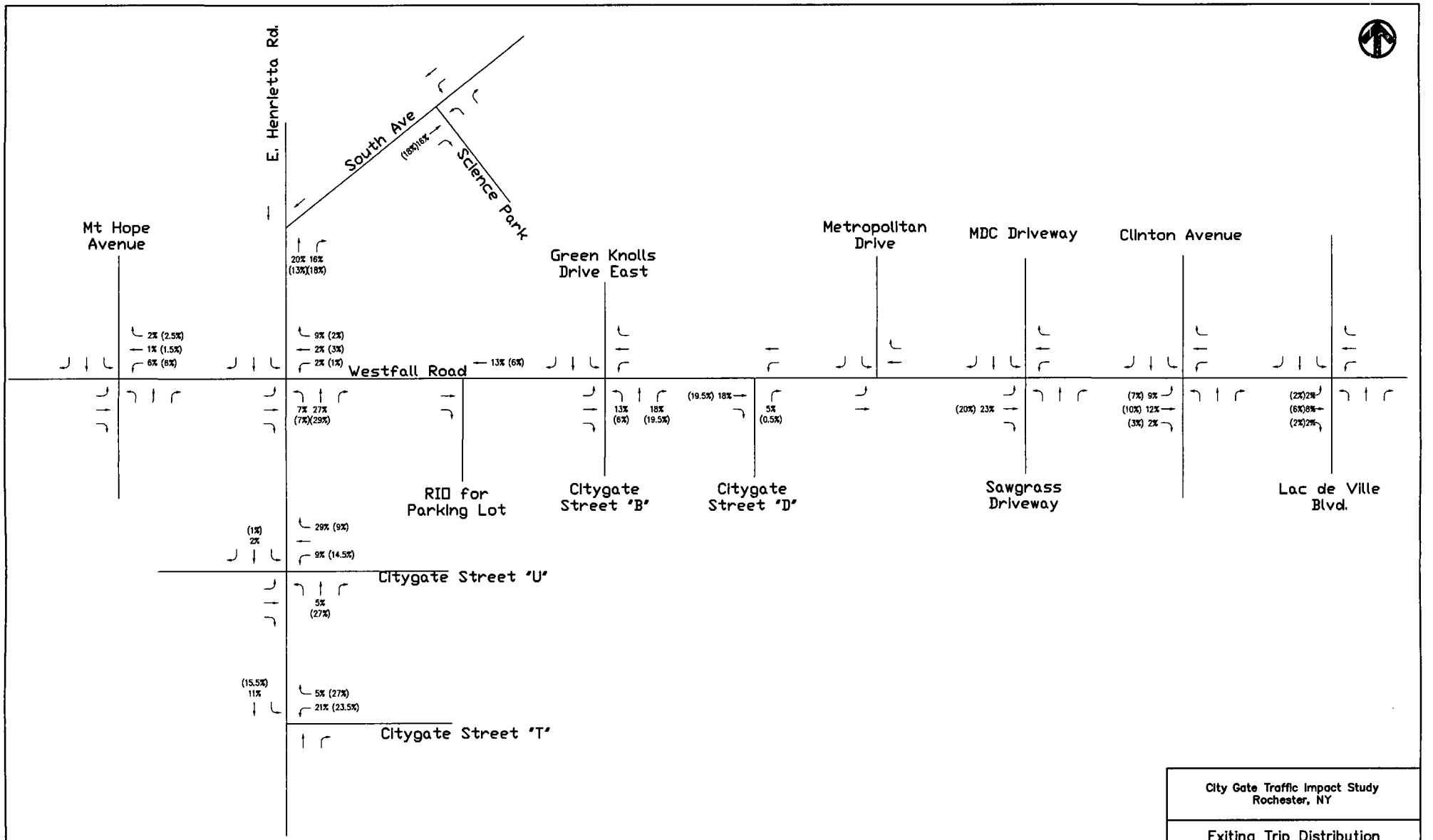
LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

Entering Trip Distribution
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
C-1		7/08

Bergmann associates



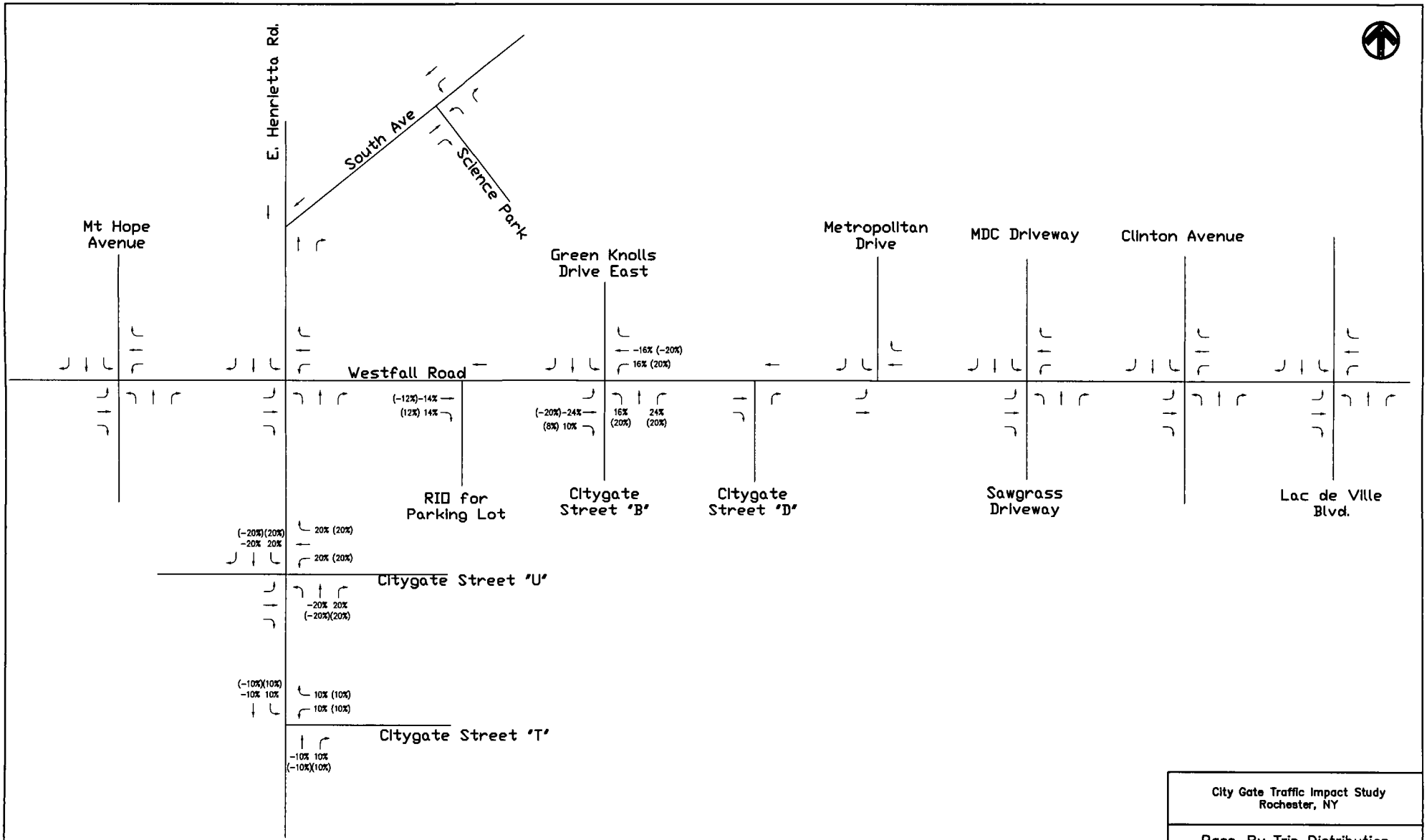
LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

Exiting Trip Distribution
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
C-2		7/08

Bergmann Associates



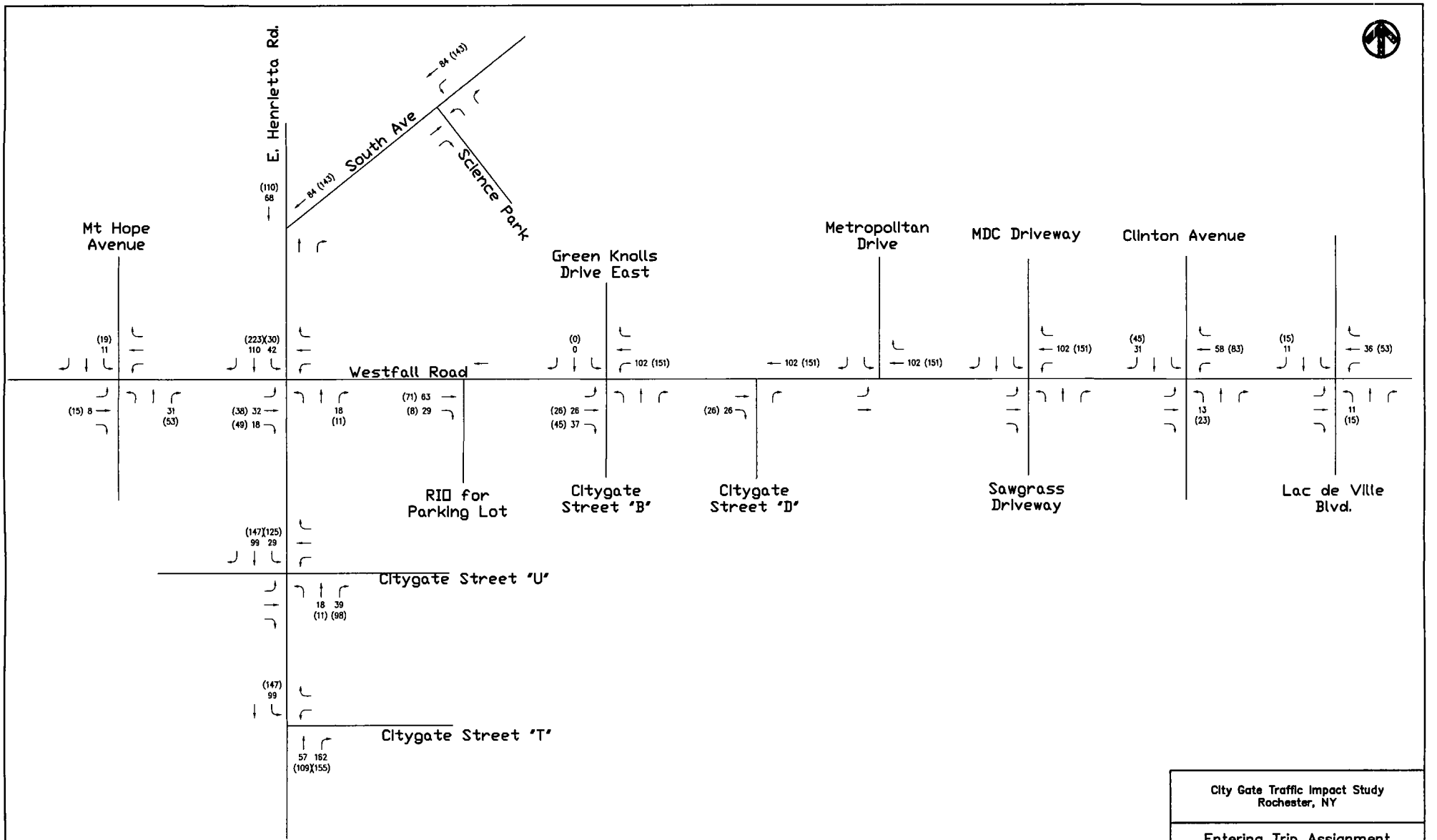
LEGEND:
XXX - AM Peak Hour Traffic (7:30 AM - 8:30 AM)
(XXX) - PM Peak Hour Traffic (4:30 PM - 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

Pass-By Trip Distribution
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
C-3		7/08

Bergmann associates

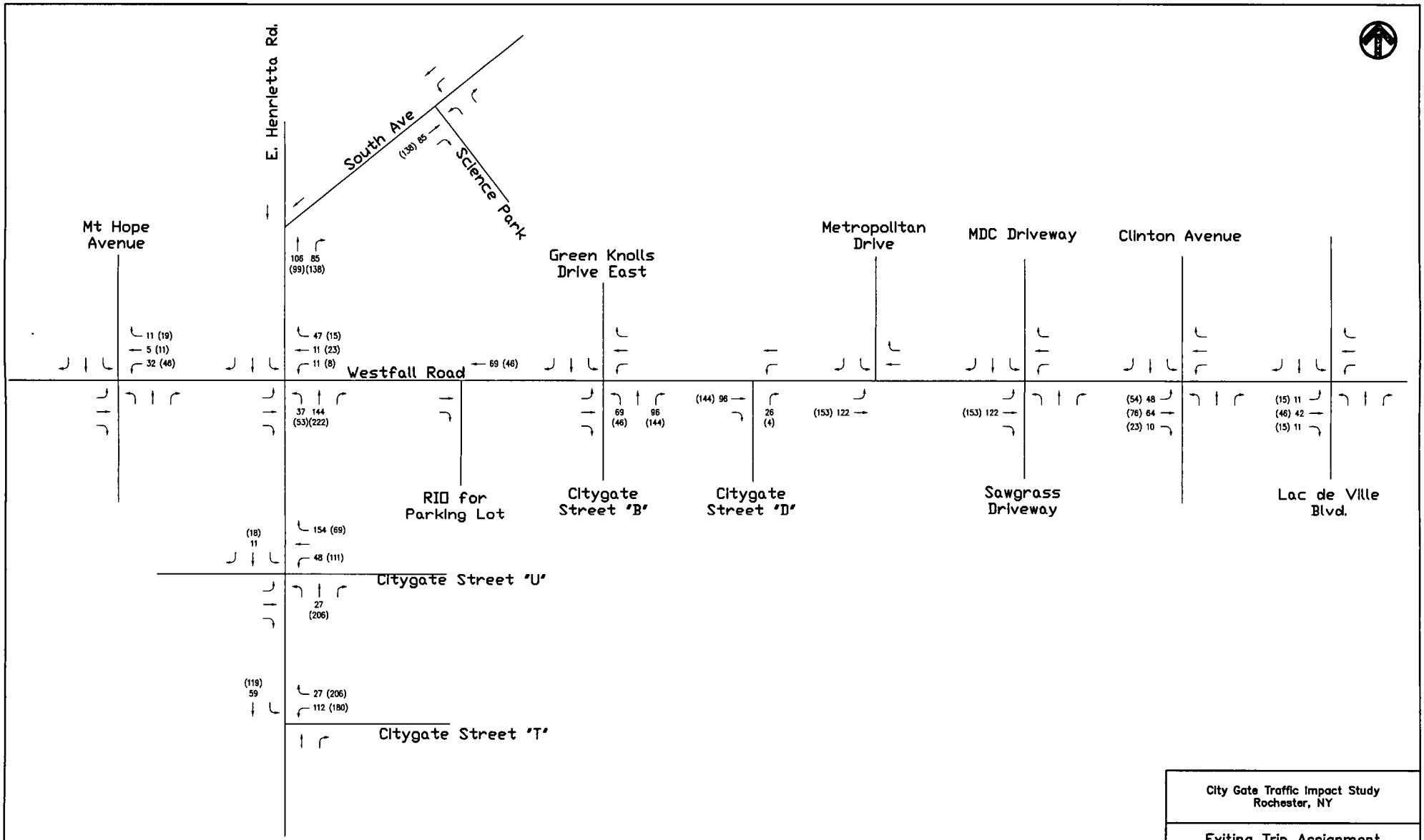


LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

Entering Trip Assignment
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE	
C–4		7/08	Bergmann Associates



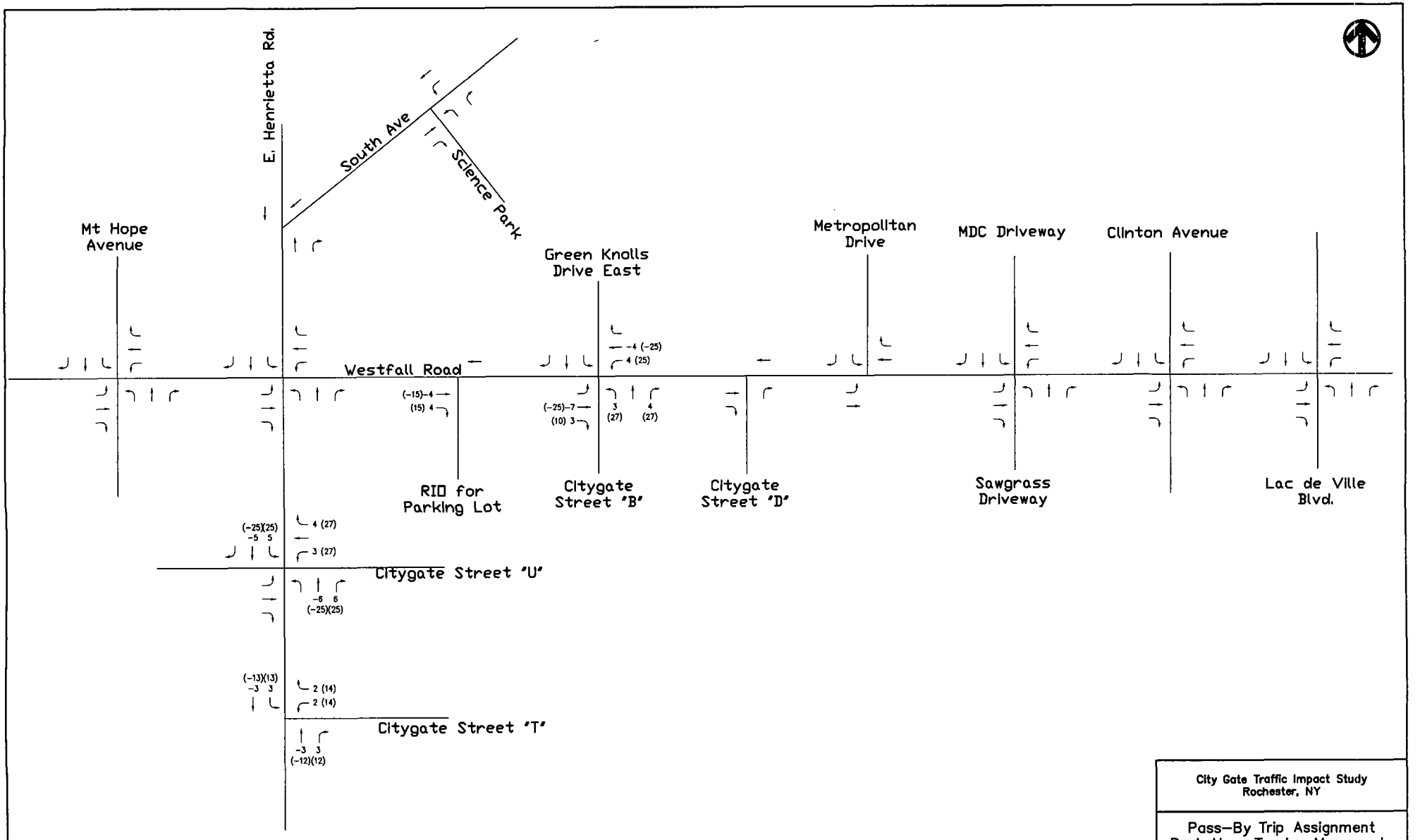
LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

Exiting Trip Assignment
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
C-5		7/08

Bergmann Associates



LEGEND:
XXX – AM Peak Hour Traffic (7:30 AM – 8:30 AM)
(XXX) – PM Peak Hour Traffic (4:30 PM – 5:30 PM)

City Gate Traffic Impact Study
Rochester, NY

Pass–By Trip Assignment
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE
C–6		7/08

Bergmann Associates

Appendix D
Intersection Turn Volumes Table

AM

		2008 existing	Background Developments: Sawgrass Medical	Clinton Crossings	Senator Keating	Reserve Residential	2013 no build	Citygate Primary	Citygate Pass by	2013 build
E Henrietta (15A) & South Driveway	ebl	X					X			X
	ebt	X					X			X
	ebr	X					X			X
	wbl	X					X	112	2	114
	wbt	X					X			X
	wbr	1					1	27	2	30
	nbl	X					X			X
	nbt	1607	60	24	36	4	1731	57	-3	1785
	nbr	44					44	162	3	209
	sbl	3					3	99	3	105
	sbt	844	7	2	3	6	862	59	-3	918
	sbr	X					X			X
15A & Stan Yale & MCH	ebl	20					20			20
	ebt	0					0			0
	ebr	10					10			10
	wbl	11					11	48	3	62
	wbt	2					2	0		2
	wbr	14					14	154	4	172
	nbl	141					141			141
	nbt	1415	60	24	36	4	1539	45	-6	1578
	nbr	52					52	39	6	97
	sbl	10					10	29	5	44
	sbt	826	7	2	3	6	844	110	-5	949
	sbr	70					70			70
E. Henrietta (15A) & Westfall	ebl	75	0	0	0	0	75			75
	ebt	247	39	15	23	3	327	32		359
	ebr	52	0	0	0	0	52	18		70
	wbl	178	7	2	3	6	196	11		207
	wbt	232	9	3	4	8	256	11		267
	wbr	131	5	1	3	4	144	47		191
	nbl	169	0	0	0	0	169	37		206
	nbt	897	0	0	0	0	897	144		1041
	nbr	383	60	24	36	4	507	18		525
	sbl	131	21	8	12	1	173	42		215
	sbt	676	0	0	0	0	676	110		786
	sbr	92	0	0	0	0	92			92
E. Henrietta & South	ebl	X					0			0
	ebt	X					0			0
	ebr	X					0			0
	wbl	498	10	4	6	0	518	84		602
	wbt	X					0			0
	wbr	X					0			0
	nbl	X					0			0
	nbt	704	2	1	1	2	710	106		816
	nbr	580	2	0	1	2	585	85		670
	sbl	X					0			0
	sbt	386	10	4	6	0	406	68		474
	sbr	X					0			0
South & Science Parkway	ebl	X					0			0
	ebt	496	2	0	1	2	501	85		586
	ebr	84					84			84
	wbl	50					50			50
	wbt	487	10	4	6	0	507	84		591
	wbr	X					0			0
	nbl	11					11			11
	nbt	X					0			0
	nbr	3					3			3
	sbl	X					0			0
	sbt	X					0			0
	sbr	X					0			0
	ebl	7					7			7
	ebt	125	4	2	3	0	134	8		142
	ebr	46					46			46

PM

		2008 existing	Background Developments: Sawgrass Medical	Clinton Crossings	Senator Keating	Reserve Residential	2013 no build	Citygate Primary	Citygate Pass by	2013 build
E Henrietta (15A) & South Driveway	ebl	X					X			X
	ebt	X					X			X
	ebr	X					X			X
	wbl	X					X	180	14	194
	wbt	X					X			X
	wbr	1					1	206	14	221
	nbl	X					X			X
	nbt	1122	5	4	8	8	1147	109	-12	1244
	nbr	11					11	155	12	178
	sbl	0					0	147	13	160
	sbt	1302	60	23	33	8	1426	119	-13	1532
	sbr	X					X			X
15A & Stan Yale & MCH	ebl	43					43			43
	ebt	1					1			1
	ebr	56					56			56
	wbl	63					63	111	27	201
	wbt	0					0	0		0
	wbr	17					17	69	27	113
	nbl	9					9			9
	nbt	1070	5	4	8	8	1095	217	-25	1287
	nbr	44					44	98	25	167
	sbl	9					9	125	25	159
	sbt	1183	60	23	33	8	1307	155	-25	1437
	sbr	40					40			40
E. Henrietta (15A) & Westfall	ebl	108	0	0	0	0	108			108
	ebt	267	7	5	10	10	299	38		337
	ebr	90	0	0	0	0	90	49		139
	wbl	323	60	23	33	8	447	8		455
	wbt	256	47	19	26	6	354	23		377
	wbr	137	25	10	14	3	189	15		204
	nbl	97	0	0	0	0	97	53		150
	nbt	808	0	0	0	0	808	222		1030
	nbr	225	5	4	8	8	250	11		261
	sbl	179	4	4	6	6	199	30		229
	sbt	819	0	0	0	0	819	223		1042
	sbr	64	0	0	0	0	64			64
E. Henrietta & South	ebl	X					0			0
	ebt	X					0			0
	ebr	X					0			0
	wbl	682	2	2	3	3	692	143		835
	wbt	X					0			0
	wbr	X					0			0
	nbl	X					0			0
	nbt	361	12	5	7	1	386	99		485
	nbr	489	12	5	7	1	514	138		652
	sbl	X					0			0
	sbt	524	2	2	3	3	534	110		644
	sbr	X					0			0
South & Science Parkway	ebl	X					0			0
	ebt	418	12	5	7	1	443	138		581
	ebr	71					71			71
	wbl	50					50			50
	wbt	667	2	2	3	3	677	143		820
	wbr	X					0			0
	nbl	15					15			15
	nbt	X					0			0
	nbr	3					3			3
	sbl	X					0			0
	sbt	X					0			0
	sbr	X					0			0
	ebl	9					9			9
	ebt	168	1	1	1	1	172	15		187
	ebr	267					267			267

AM

		2008 existing	Background Developments: Sawgrass Medical	Clinton Crossings	Senator Keating	Reserve Residential	2013 no build	Citygate Primary	Citygate Pass by	2013 build
Westfall & Mt. Hope Ave.	wbl	176	2	1	1	2	182	32		214
	wbt	197	1	0	0	1	199	5		204
	wbr	100	6	2	3	5	116	11		127
	nbl	96					96			96
	nbt	675					675			675
	nbr	330	9	3	5	1	348	31		379
	sbl	115	26	10	15	2	168	11		179
	sbt	530					530			530
	sbr	1					1			1
Westfall & RI Only Access Drive	ebl	X					0			X
	ebt	756	120	47	71	8	1002	63	-4	1061
	ebr	5					5	29	4	38
	wbl	32					32			X
	wbt	536	21	6	10	18	591	69		660
	wbr	X					0			X
	nbl	5					5			X
	nbt	X					0			X
	nbr	11					11			X
	sbl	X					0			X
	sbt	X					0			X
	sbr	X					0			X
Westfall & Green Knolls Drive Eas	ebl	8					8			8
	ebt	759	121	47	71	8	1006	26	-7	1025
	ebr	0					0	37	3	40
	wbl	0					0	102	4	106
	wbt	554	21	6	10	18	609		-4	605
	wbr	12					12			12
	nbl	0					0	69	3	72
	nbt	0					0	0		0
	nbr	0					0	96	4	100
	sbl	19					19			19
	sbt	0					0	0		0
	sbr	14					14			14
Westfall & Northeast RIRO Acces:	ebl	0	0	0	0	0	0			X
	ebt	778	122	48	71	8	1027	96		1123
	ebr	0	0	0	0	0	0	26		26
	wbl	0	0	0	0	0	0			X
	wbt	566	21	6	10	18	621	102		723
	wbr	0	0	0	0	0	0			X
	nbl	0	0	0	0	0	0			X
	nbt	0	0	0	0	0	0			X
	nbr	0	0	0	0	0	0	26		26
	sbl	0	0	0	0	0	0			X
	sbt	0	0	0	0	0	0			X
	sbr	0	0	0	0	0	0			X
Westfall & Metropolitan	ebl	20					20			20
	ebt	758	122	48	71	8	1007	122		1129
	ebr	X					0			0
	wbl	X					0			0
	wbt	535	21	6	10	18	590	102		692
	wbr	4					4			4
	nbl	X					0			0
	nbt	X					0			0
	nbr	X					0			0
	sbl	12					12			12
	sbt	X					0			0
	sbr	31					31			31
[illegible]ass	ebl	122	1	0	0	0	123			123
	ebt	419	5	49	74	8	555	122		677
	ebr	229	61	0	0	0	290			290
	wbl	310	162	4	6	12	494			494
	wbt	495	0	6	10	18	529	102		631
	wbr	71	0	1	2	3	77			77

PM

		2008 existing	Background Developments: Sawgrass Medical	Clinton Crossings	Senator Keating	Reserve Residential	2013 no build	Citygate Primary	Citygate Pass by	2013 build
Westfall & Mt. Hope Ave.	wbl	332	10	4	6	1	353	46		399
	wbt	103	5	2	3	1	114	11		125
	wbr	67	31	13	17	4	132	19		151
	nbl	55					55			55
	nbt	825					825			825
	nbr	123	2	1	2	2	130	53		183
	sbl	89	5	3	7	7	111	19		130
	sbt	1035					1035			1035
	sbr	2					2			2
Westfall & RI Only Access Drive	ebl	X					0			X
	ebt	671	16	13	24	24	748	71	-15	804
	ebr	0					0	8	15	23
	wbl	0					0			X
	wbt	707	132	52	73	17	981	46		1027
	wbr	X					0			X
	nbl	9					9			X
	nbt	X					0			X
	nbr	44					44			X
	sbl	X					0			X
	sbt	X					0			X
	sbr	X					0			X
Westfall & Green Knolls Drive Eas	ebl	14					14			14
	ebt	701	16	13	24	24	778	26	-25	779
	ebr	0					0	45	10	55
	wbl	0					0	151	25	176
	wbt	697	132	52	73	17	971		-25	946
	wbr	20					20			20
	nbl	0					0	46	27	73
	nbt	0					0	0		0
	nbr	0					0	149	27	176
	sbl	10					10			10
	sbt	0					0	0		0
	sbr	10					10			10
Westfall & Northeast RIRO Acces:	ebl	0	0	0	0	0	0			X
	ebt	711	16	13	25	24	789	149		938
	ebr	0	0	0	0	0	0	26		26
	wbl	0	0	0	0	0	0			X
	wbt	717	133	53	74	17	994	151		1145
	wbr	0	0	0	0	0	0			X
	nbl	0	0	0	0	0	0			X
	nbt	0	0	0	0	0	0			X
	nbr	0	0	0	0	0	0	4		4
	sbl	0	0	0	0	0	0			X
	sbt	0	0	0	0	0	0			X
	sbr	0	0	0	0	0	0			X
Westfall & Metropolitan	ebl	12					12			12
	ebt	699	16	13	25	24	777	153		930
	ebr	X					0			0
	wbl	X					0			0
	wbt	701	133	53	74	17	978	151		1129
	wbr	21					21			21
	nbl	X					0			0
	nbt	X					0			0
	nbr	X					0			0
	sbl	6					6			6
	sbt	X					0			0
	sbr	16					16			16
[illegible]ass	ebl	9	1	0	0	0	10			10
	ebt	682	91	15	28	28	844	153		997
	ebr	14	8	0	0	0	22			22
	wbl	16	19	2	3	1	41			41
	wbt	513	0	53	75	17	658	151		809
	wbr	3	0	0	0	0	3			3

AM

		2008 existing	Background Developments: Sawgrass Medical	Clinton Crossings	Senator Keating	Reserve Residential	2013 no build	Citygate Primary	Citygate Pass by	2013 build
Westfall & Sawgr	nbl	20	21	0	0	0	41			41
	nbt	1	1	0	0	0	2			2
	nbr	16	7	3	2	1	29			29
	sbl	2	0	1	1	0	4			4
	sbt	3	3	0	0	0	6			6
	sbr	24	0	0	0	0	24			24
Westfall & Clinton	ebl	131	4	0	0	0	135	48		183
	ebt	168	5	49	77	0	299	64		363
	ebr	109	3	4	0	9	125	10		135
	wbl	162	0	1	0	9	172			172
	wbt	543	101	7	18	0	669	58		727
	wbr	62	0	2	0	0	64			64
	nbl	117	22	4	0	33	176	13		189
	nbt	297	0	12	22	12	343			343
	nbr	16	0	0	0	33	49			49
	sbl	82	0	19	0	0	101			101
	sbt	446	0	12	96	2	556			556
	sbr	207	39	0	0	0	246	31		277
Westfall & Lac de Ville Blvd	ebl	38	1	4	0	5	48	11		59
	ebt	135	3	15	0	18	171	42		213
	ebr	63	1	0	77	9	150	11		161
	wbl	204	0	0	0	0	204			204
	wbt	593	79	75	0	7	754	36		790
	wbr	160	0	0	0	0	160			160
	nbl	30	4	0	18	1	53	11		64
	nbt	15	0	0	4	0	19			19
	nbr	45	0	0	0	0	45			45
	sbl	75	0	0	0	0	75			75
	sbt	79	0	0	19	0	98			98
	sbr	119	16	15	0	1	151	11		162

PM

		2008 existing	Background Developments: Sawgrass Medical	Clinton Crossings	Senator Keating	Reserve Residential	2013 no build	Citygate Primary	Citygate Pass by	2013 build
Westfall & Sawgr	nbl	116	135	0	0	0	251			251
	nbt	0	0	0	0	0	0			0
	nbr	158	93	2	3	3	259			259
	sbl	66	0	1	3	3	73			73
	sbt	0	0	0	0	0	0			0
	sbr	93	0	0	0	0	93			93
Westfall & Clinton	ebl	341	67	0	0	0	408	54		462
	ebt	455	89	16	34	0	594	76		670
	ebr	138	28	2	0	34	202	23		225
	wbl	90	0	15	0	34	139			139
	wbt	252	10	53	78	0	393	83		476
	wbr	119	0	29	0	0	148			148
	nbl	118	4	2	0	18	142	23		165
	nbt	535	0	12	98	6	651			651
	nbr	42	0	0	0	18	60			60
	sbl	110	0	4	0	0	114			114
	sbt	495	0	7	42	11	555			555
	sbr	138	5	0	0	0	143	45		188
Westfall & Lac de Ville Blvd	ebl	46	6	5	0	1	58	15		73
	ebt	596	78	65	0	16	755	46		801
	ebr	19	3	0	34	1	57	15		72
	wbl	26	0	0	0	0	26			26
	wbt	251	6	27	0	21	305	53		358
	wbr	103	0	0	0	0	103			103
	nbl	73	2	25	78	6	184	15		199
	nbt	118	0	0	19	0	137			137
	nbr	203	0	0	0	0	203			203
	sbl	129	0	0	0	0	129			129
	sbt	24	0	0	9	0	33			33
	sbr	71	2	9	0	6	88	15		103

Appendix E
2013 No Build LOS

1. HCS

AM

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Westfall Road
From/To	East Henrietta Rd to Citygate
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.1	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V	1603	veh/h	
Directional split	63 / 37	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1785	pc/h
Highest directional split proportion (note-2)	1125	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATS	24.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1781	pc/h
Highest directional split proportion (note-2)	1122	
Base percent time-spent-following, BPTSF	79.1	%
Adj.for directional distribution and no-passing zones, fd/np	5.7	
Percent time-spent-following, PTSF	84.8	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	45	veh-mi
Peak-hour vehicle-miles of travel, VMT60	160	veh-mi
Peak 15-min total travel time, TT15	1.8	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Westfall Road
From/To	Citygate to Winton Rd
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V	1650	veh/h	
Directional split	66 / 34	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1837	pc/h
Highest directional split proportion (note-2)	1212	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATS	24.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1833	pc/h
Highest directional split proportion (note-2)	1210	
Base percent time-spent-following, BPTSF	80.0	%
Adj.for directional distribution and no-passing zones, fd/np	5.3	
Percent time-spent-following, PTSF	85.4	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	229	veh-mi
Peak-hour vehicle-miles of travel, VMT60	825	veh-mi
Peak 15-min total travel time, TT15	9.4	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Winton Road
From/To	north of Westfall
Jurisdiction	Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	959	veh/h		
Directional split	62 / 38	%		

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	1070	pc/h
Highest directional split proportion (note-2)	663	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	2.4	mi/h
Average travel speed, ATS	26.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	1068	pc/h
Highest directional split proportion (note-2)	662	
Base percent time-spent-following, BPTSF	60.9	%
Adj.for directional distribution and no-passing zones, fd/np	11.6	
Percent time-spent-following, PTSF	72.5	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	133	veh-mi
Peak-hour vehicle-miles of travel, VMT60	480	veh-mi
Peak 15-min total travel time, TT15	5.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	S Clinton Ave
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	1421		veh/h
Directional split	60	/ 40	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1582	pc/h
Highest directional split proportion (note-2)	949	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	23.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1579	pc/h
Highest directional split proportion (note-2)	947	
Base percent time-spent-following, BPTSF	75.0	%
Adj.for directional distribution and no-passing zones, fd/np	7.0	
Percent time-spent-following, PTSF	82.0	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	118	veh-mi
Peak-hour vehicle-miles of travel, VMT60	426	veh-mi
Peak 15-min total travel time, TT15	5.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Lac de Ville
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	569		veh/h	
Directional split	79	/ 21	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	635	pc/h
Highest directional split proportion (note-2)	502	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	3.7	mi/h
Average travel speed, ATS	28.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	633	pc/h
Highest directional split proportion (note-2)	500	
Base percent time-spent-following, BPTSF	42.7	%
Adj.for directional distribution and no-passing zones, fd/np	22.9	
Percent time-spent-following, PTSF	65.6	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.20	
Peak 15-min vehicle-miles of travel, VMT15	47	veh-mi
Peak-hour vehicle-miles of travel, VMT60	171	veh-mi
Peak 15-min total travel time, TT15	1.6	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	AM peak hour
Highway:	Winton Road
From/To:	south of Westfall Road
Jurisdiction:	Brighton
Analysis Year:	No Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	734	vph	786	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	204		218	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	413	pcphpl	442	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	413	pcphpl	442	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	9.2	pc/mi/ln	9.8	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	AM peak hour
Highway:	E Henrietta Road
From/To:	I-390 to Westfall Road
Jurisdiction:	Brighton
Analysis Year:	No Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	1775	vph	862	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	493		239	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	999	pcphpl	485	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	999	pcphpl	485	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
vel of service, LOS	C		A	
nsity, D	22.2	pc/mi/ln	10.8	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

PM

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Westfall Road
From/To	East Henrietta Rd to Citygate
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.1	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V 1738 veh/h
Directional split 57 / 43 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1935	pc/h
Highest directional split proportion (note-2)	1103	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATS	23.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1931	pc/h
Highest directional split proportion (note-2)	1101	
Base percent time-spent-following, BPTSF	81.7	%
Adj.for directional distribution and no-passing zones, fd/np	4.8	
Percent time-spent-following, PTSF	86.4	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.60	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	174	veh-mi
Peak 15-min total travel time, TT15	2.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Westfall Road
From/To	Citygate to Winton Rd
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V 1882 veh/h
Directional split 64 / 36 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	2095	pc/h
Highest directional split proportion (note-2)	1341	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	22.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	2091	pc/h
Highest directional split proportion (note-2)	1338	
Base percent time-spent-following, BPTSF	84.1	%
Adj.for directional distribution and no-passing zones, fd/np	4.1	
Percent time-spent-following, PTSF	88.2	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.65	
Peak 15-min vehicle-miles of travel, VMT15	261	veh-mi
Peak-hour vehicle-miles of travel, VMT60	941	veh-mi
Peak 15-min total travel time, TT15	11.6	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Winton Road
From/To	north of Westfall
Jurisdiction	Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V 1179 veh/h
Directional split 56 / 44 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1313	pc/h
Highest directional split proportion (note-2)	735	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATS	25.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1310	pc/h
Highest directional split proportion (note-2)	734	
Base percent time-spent-following, BPTSF	68.4	%
Adj.for directional distribution and no-passing zones, fd/np	9.0	
Percent time-spent-following, PTSF	77.4	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.41	
Peak 15-min vehicle-miles of travel, VMT15	164	veh-mi
Peak-hour vehicle-miles of travel, VMT60	590	veh-mi
Peak 15-min total travel time, TT15	6.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	S Clinton Ave
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	1749	veh/h	
Directional split	51 / 49	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1947	pc/h
Highest directional split proportion (note-2)	993	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATS	21.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1943	pc/h
Highest directional split proportion (note-2)	991	
Base percent time-spent-following, BPTSF	81.9	%
Adj.for directional distribution and no-passing zones, fd/np	4.7	
Percent time-spent-following, PTSF	86.6	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	146	veh-mi
Peak-hour vehicle-miles of travel, VMT60	525	veh-mi
Peak 15-min total travel time, TT15	6.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Lac de Ville
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	No Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	640		veh/h
Directional split	82	/ 18	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	714	pc/h
Highest directional split proportion (note-2)	585	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	3.4	mi/h
Average travel speed, ATS	28.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	713	pc/h
Highest directional split proportion (note-2)	585	
Base percent time-spent-following, BPTSF	46.6	%
Adj.for directional distribution and no-passing zones, fd/np	20.8	
Percent time-spent-following, PTSF	67.4	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.22	
Peak 15-min vehicle-miles of travel, VMT15	53	veh-mi
Peak-hour vehicle-miles of travel, VMT60	192	veh-mi
Peak 15-min total travel time, TT15	1.9	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	PM peak hour
Highway:	Winton Road
From/To:	south of Westfall Road
Jurisdiction:	Brighton
Analysis Year:	No Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	724	vph	776	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	201		216	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	407	pcphpl	437	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	407	pcphpl	437	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	9.0	pc/mi/ln	9.7	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	PM peak hour
Highway:	E Henrietta Road
From/To:	I-390 to Westfall Road
Jurisdiction:	Brighton
Analysis Year:	No Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	1158	vph	1426	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	322		396	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	652	pcphpl	803	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	652	pcphpl	803	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	B		B	
Density, D	14.5	pc/mi/ln	17.8	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

2. Synchro

AM

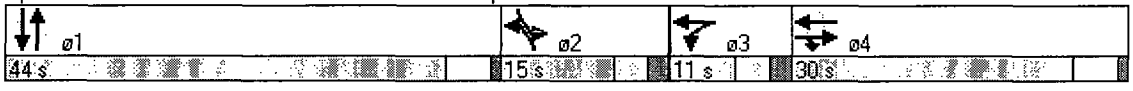
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	134	46	182	199	116	96	675	348	168	530	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.945				0.850			
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	1859	1583	1770	1760	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.978		0.495			0.384			0.306		
Satd. Flow (perm)	0	1822	1583	922	1760	0	715	3539	1583	570	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			48		34				366			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	141	48	192	209	122	101	711	366	177	558	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	48	192	331	0	101	711	366	177	559	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	30.0	30.0	30.0	11.0	41.0	0.0	15.0	44.0	44.0	15.0	44.0	0.0
Total Split (%)	30.0%	30.0%	30.0%	11.0%	41.0%	0.0%	15.0%	44.0%	44.0%	15.0%	44.0%	0.0%
Maximum Green (s)	25.0	25.0	25.0	6.0			10.0	39.0	39.0	10.0	39.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		17.4	17.4	29.6	32.6		58.4	50.6	50.6	58.4	50.6	
Actuated g/C Ratio		0.17	0.17	0.30	0.33		0.58	0.51	0.51	0.58	0.51	
v/c Ratio		0.47	0.15	0.51	0.55		0.20	0.40	0.37	0.42	0.31	
Control Delay		40.9	10.3	22.3	20.0		11.2	16.9	3.0	17.2	15.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		40.9	10.3	22.3	20.0		11.2	16.9	3.0	17.2	15.4	
LOS		D	B	C	B		B	B	A	B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		33.4			20.8			12.1			15.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		86	0	74	114		25	140	0	48	105	
Queue Length 95th (ft)		133	28	108	165		52	217	52	94	168	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		492	462	377	763		574	1792	982	501	1792	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.30	0.10	0.51	0.43		0.18	0.40	0.37	0.35	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 66.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 307: Westfall Road & Mt. Hope



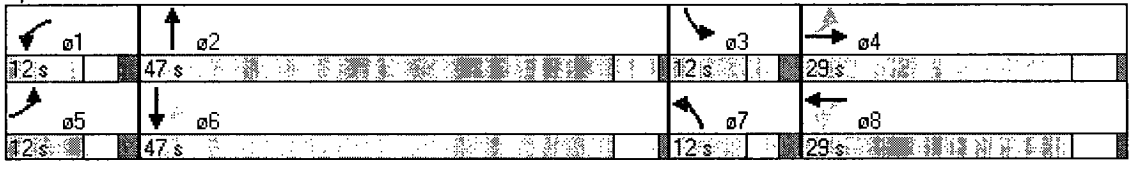
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	327	52	196	256	144	169	897	507	173	676	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	130		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.979			0.946			0.946			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3349	0	1652	3236	0	1711	3348	0	1711	3476	0
Flt Permitted	0.294			0.317			0.258			0.081		
Satd. Flow (perm)	511	3349	0	551	3236	0	465	3348	0	146	3476	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			106			141			19	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	344	55	206	269	152	178	944	534	182	712	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	399	0	206	421	0	178	1478	0	182	809	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	12.0	29.0	0.0	12.0	29.0	0.0	12.0	47.0	0.0	12.0	47.0	0.0
Total Split (%)	12.0%	29.0%	0.0%	12.0%	29.0%	0.0%	12.0%	47.0%	0.0%	12.0%	47.0%	0.0%
Maximum Green (s)	7.0	24.0		7.0	24.0		7.0	42.0		7.0	42.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	29.7	19.7		29.7	19.7		58.3	49.5		58.3	49.5	
Actuated g/C Ratio	0.30	0.20		0.30	0.20		0.58	0.50		0.58	0.50	
v/c Ratio	0.30	0.59		0.75	0.58		0.47	0.85		0.82	0.47	
Control Delay	24.9	33.2		52.0	29.8		12.4	20.4		54.1	7.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.3		0.0	0.0	
Total Delay	24.9	33.2		52.0	29.8		12.4	20.7		54.1	7.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		D	C		B	C		D	A	
Approach Delay		31.8			37.1			19.8			16.0	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	33	108		99	95		19	130		74	63	
Queue Length 95th (ft)	57	136		#156	136		30	#197		#195	87	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			130			200			75		
Base Capacity (vph)	272	883		280	920		384	1730		226	1732	
Starvation Cap Reductn	0	0		0	0		0	36		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.29	0.45		0.74	0.46		0.46	0.87		0.81	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 63 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 23.2 Intersection LOS: C
Intersection Capacity Utilization 85.5% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

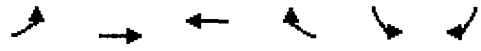
Splits and Phases: 160: Westfall Road & E Henrietta



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1002	5	32	591	5	11
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1089	5	34	629	6	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	921					
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			1095		1789	1092
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1022		1840	1019
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		92	95
cM capacity (veh/h)			576		66	244

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1095	663	18
Volume Left	0	34	6
Volume Right	5	0	12
cSH	1700	576	133
Volume to Capacity	0.64	0.06	0.13
Queue Length 95th (ft)	0	5	11
Control Delay (s)	0.0	1.6	36.3
Lane LOS		A	E
Approach Delay (s)	0.0	1.6	36.3
Approach LOS			E

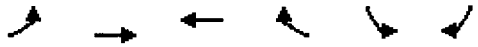
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	8	1006	609	12	19	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.87	0.87	0.69	0.69
Hourly flow rate (vph)	8	1037	700	14	28	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1063				
pX, platoon unblocked					0.86	
vC, conflicting volume	714				1761	707
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	714				1803	707
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				63	95
cM capacity (veh/h)	886				74	435

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	8	1037	714	48
Volume Left	8	0	0	28
Volume Right	0	0	14	20
cSH	886	1700	1700	115
Volume to Capacity	0.01	0.61	0.42	0.42
Queue Length 95th (ft)	1	0	0	44
Control Delay (s)	9.1	0.0	0.0	57.2
Lane LOS	A			F
Approach Delay (s)	0.1		0.0	57.2
Approach LOS				F

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	1007	590	4	12	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.87	0.87	0.70	0.70
Hourly flow rate (vph)	21	1038	678	5	17	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1176			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	683				1760	680
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	563				1798	561
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				77	90
cM capacity (veh/h)	880				75	460

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	21	1038	683	61
Volume Left	21	0	0	17
Volume Right	0	0	5	44
cSH	880	1700	1700	189
Volume to Capacity	0.02	0.61	0.40	0.32
Queue Length 95th (ft)	2	0	0	33
Control Delay (s)	9.2	0.0	0.0	32.9
Lane LOS	A			D
Approach Delay (s)	0.2		0.0	32.9
Approach LOS				D

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

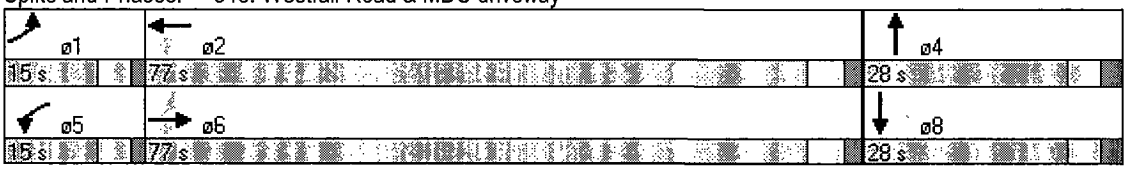
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	555	290	494	529	77	41	2	29	4	6	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.981			0.860			0.881	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1827	0	1770	1602	0	1770	1641	0
Flt Permitted	0.395			0.297			0.725			0.728		
Satd. Flow (perm)	736	1863	1583	553	1827	0	1350	1602	0	1356	1641	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			246		11			42			39	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1176			2087			424			399	
Travel Time (s)		22.9			40.7			9.6			9.1	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.69	0.69	0.69	0.61	0.61	0.61
Adj. Flow (vph)	135	610	319	574	615	90	59	3	42	7	10	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	610	319	574	705	0	59	45	0	7	49	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	15.0	77.0	77.0	15.0	77.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	12.5%	64.2%	64.2%	12.5%	64.2%	0.0%	23.3%	23.3%	0.0%	23.3%	23.3%	0.0%
Maximum Green (s)	10.0	71.0	71.0	10.0	71.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	83.0	74.8	74.8	102.1	90.9		14.5	14.5		14.4	14.4	
Actuated g/C Ratio	0.69	0.62	0.62	0.85	0.76		0.12	0.12		0.12	0.12	
v/c Ratio	0.23	0.53	0.30	0.80	0.51		0.36	0.19		0.04	0.21	
Control Delay	4.6	14.9	3.3	23.4	3.8		53.6	16.5		44.8	20.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.6	14.9	3.3	23.4	3.8		53.6	16.5		44.8	20.1	
LOS	A	B	A	C	A		D	B		D	C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		10.1			12.6			37.6			23.2	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	15	252	21	164	88		43	2		5	7	
Queue Length 95th (ft)	33	349	59	m121	m77		62	20		13	19	
Internal Link Dist (ft)		1096			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	636	1161	1079	717	1386		281	367		283	373	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.53	0.30	0.80	0.51		0.21	0.12		0.02	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 12.8 Intersection LOS: B
Intersection Capacity Utilization 75.5% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 548: Westfall Road & MDC driveway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	299	125	172	669	64	176	343	49	101	556	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	330		0	120		0	120		0	70		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.956			0.987			0.981			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1781	0	1770	1839	0	1770	1827	0	1770	1777	0
Flt Permitted	0.096			0.231			0.087			0.299		
Satd. Flow (perm)	179	1781	0	430	1839	0	162	1827	0	557	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			4			7			21	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2087			1362			1347			2030	
Travel Time (s)		40.7			26.5			26.2			39.5	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90
Adj. Flow (vph)	148	329	137	179	697	67	193	377	54	112	618	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	466	0	179	764	0	193	431	0	112	891	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	9.0	32.0		9.0	32.0		9.0	28.0		9.5	28.0	
Total Split (s)	18.0	46.0	0.0	12.0	40.0	0.0	13.0	50.0	0.0	12.0	49.0	0.0
Total Split (%)	15.0%	38.3%	0.0%	10.0%	33.3%	0.0%	10.8%	41.7%	0.0%	10.0%	40.8%	0.0%
Maximum Green (s)	13.0	40.0		7.0	34.0		8.0	44.0		7.0	43.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.5	2.0		1.5	2.0		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		19.0			19.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	54.1	43.0		48.8	39.8		57.2	47.2		54.8	46.0	
Actuated g/C Ratio	0.45	0.36		0.41	0.33		0.48	0.39		0.46	0.38	
v/c Ratio	0.61	0.72		0.65	1.25		0.91	0.60		0.33	1.28	
Control Delay	19.7	27.3		28.0	155.3		74.8	31.8		21.9	173.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.7	27.3		28.0	155.3		74.8	31.8		21.9	173.5	
LOS	B	C		C	F		E	C		C	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		25.5			131.1			45.1			156.6	
Approach LOS		C			F			D			F	
Queue Length 50th (ft)	56	299		76	~750		106	275		54	~875	
Queue Length 95th (ft)	97	427		m99	m#1014		#245	384		93	#1129	
Internal Link Dist (ft)		2007			1282			1267			1950	
Turn Bay Length (ft)	330			120			120			70		
Base Capacity (vph)	281	650		275	612		211	724		346	694	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.72		0.65	1.25		0.91	0.60		0.32	1.28	

Intersection Summary

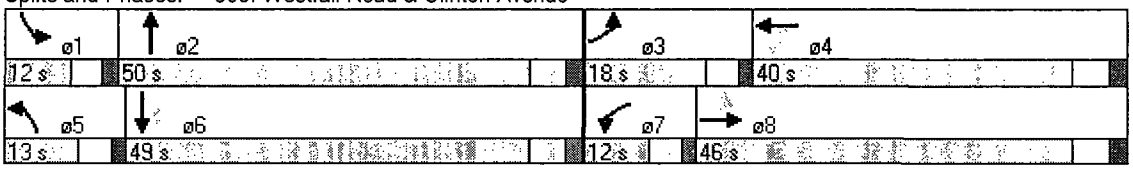
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 34 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 101.9 Intersection LOS: F
Intersection Capacity Utilization 113.9% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 509: Westfall Road & Clinton Avenue



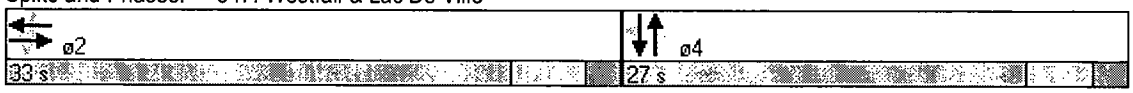
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	171	150	204	754	160	53	19	45	75	98	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	75		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.930			0.974			0.894			0.909	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1732	0	1770	1814	0	1770	1665	0	1770	1693	0
Flt Permitted	0.121			0.519			0.373			0.711		
Satd. Flow (perm)	225	1732	0	967	1814	0	695	1665	0	1324	1693	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		105			25			50			119	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1362			1779			533			471	
Travel Time (s)		26.5			34.7			12.1			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	53	190	167	227	838	178	59	21	50	83	109	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	357	0	227	1016	0	59	71	0	83	277	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		26.5	26.5		26.5	26.5	
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0		21.5	21.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-2.5	-2.5	-2.5	-2.5	-2.5	0.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	1.5	3.0	3.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	39.6	39.6		39.6	39.6		14.4	14.4		14.4	14.4	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.24	0.24		0.24	0.24	
v/c Ratio	0.36	0.30		0.36	0.84		0.35	0.16		0.26	0.56	
Control Delay	11.7	2.8		7.2	15.4		23.0	8.0		18.6	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.7	2.8		7.2	15.4		23.0	8.0		18.6	14.6	
LOS	B	A		A	B		C	A		B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		4.0			13.9			14.8			15.5	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	7	0		19	142		18	6		25	49	
Queue Length 95th (ft)	m17	65		m62	m#584		40	27		47	91	
Internal Link Dist (ft)		1282			1699			453			391	
Turn Bay Length (ft)	75			75			75			75		
Base Capacity (vph)	148	1178		637	1205		278	696		530	749	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.36	0.30		0.36	0.84		0.21	0.10		0.16	0.37	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 12.3 Intersection LOS: B
Intersection Capacity Utilization 98.8% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 547: Westfall & Lac De Ville



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	1	1731	44	3	862
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1	1822	46	3	907
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						520
pX, platoon unblocked	0.92					
vC, conflicting volume	2305	934			1868	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2248	934			1868	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	32	267			319	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	1	1215	654	306	605
Volume Left	0	0	0	3	0
Volume Right	1	0	46	0	0
cSH	267	1700	1700	319	1700
Volume to Capacity	0.00	0.71	0.38	0.01	0.36
Queue Length 95th (ft)	0	0	0	1	0
Control Delay (s)	18.5	0.0	0.0	0.4	0.0
Lane LOS	C			A	
Approach Delay (s)	18.5	0.0		0.1	
Approach LOS	C				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	59.2%	ICU Level of Service	B	
Analysis Period (min)	15			

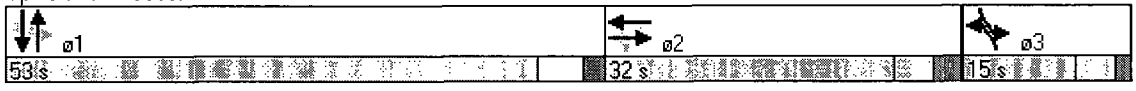
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	0	10	11	2	14	141	1539	52	10	844	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	130		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.868			0.995			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1711	1563	0	1711	3404	0	1711	3380	0
Flt Permitted	0.746			0.750			0.271			0.105		
Satd. Flow (perm)	1390	1583	0	1350	1563	0	488	3404	0	189	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		277			15			5			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		400			578			520			602	
Travel Time (s)		9.1			13.1			11.8			13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	0	11	12	2	15	148	1620	55	11	888	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	11	0	12	17	0	148	1675	0	11	962	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			2		3	1		3	1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		3	1		3	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		14.0	39.0		14.0	39.0	
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	15.0	53.0	0.0	15.0	53.0	0.0
Total Split (%)	32.0%	32.0%	0.0%	32.0%	32.0%	0.0%	15.0%	53.0%	0.0%	15.0%	53.0%	0.0%
Maximum Green (s)	26.0	26.0		26.0	26.0		10.0	47.0		10.0	47.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	-2.0	-3.0	-1.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead			Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0			20.0			20.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	10.2	10.2		10.2	10.2		85.6	77.6		85.6	77.6	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.86	0.78		0.86	0.78	
v/c Ratio	0.15	0.03		0.09	0.10		0.29	0.63		0.04	0.37	
Control Delay	42.6	0.1		41.3	21.2		2.8	7.7		0.4	1.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.6	0.1		41.3	21.2		2.8	7.7		0.4	1.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A		D	C		A	A		A	A	
Approach Delay		28.0			29.5			7.3			1.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	12	0		7	1		11	251		0	25	
Queue Length 95th (ft)	35	0		24	22		24	385		m0	38	
Internal Link Dist (ft)		320			498			440			522	
Turn Bay Length (ft)							130			250		
Base Capacity (vph)	403	656		392	464		578	2643		350	2626	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.02		0.03	0.04		0.26	0.63		0.03	0.37	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 69 (69%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 65.3% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 470: MCH & E Henrietta



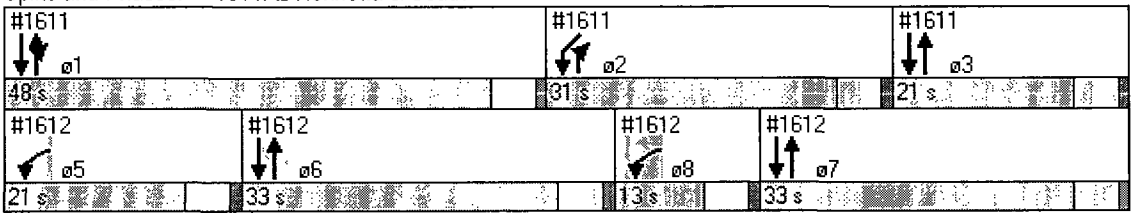
Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø5	ø6	ø7	ø8
Lane Configurations	↑	↱		↑↑	↰↰							
Volume (vph)	710	585	0	406	518	0						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00						
Frt		0.850										
Flt Protected					0.950							
Satd. Flow (prot)	1863	1583	0	3539	3433	0						
Flt Permitted					0.950							
Satd. Flow (perm)	1863	1583	0	3539	3433	0						
Right Turn on Red		Yes				Yes						
Satd. Flow (RTOR)		616										
Link Speed (mph)	30			30	30							
Link Distance (ft)	832			1862	244							
Travel Time (s)	18.9			42.3	5.5							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95						
Adj. Flow (vph)	747	616	0	427	545	0						
Shared Lane Traffic (%)												
Lane Group Flow (vph)	747	616	0	427	545	0						
Turn Type		custom										
Protected Phases	1 3	1 2		1 3	2		1	3	5	6	7	8
Permitted Phases		1		1 3								
Detector Phase	1 3	1 2		1 3	2							
Switch Phase												
Minimum Initial (s)					10.0		24.0	6.0	6.0	10.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	21.0	33.0	33.0	13.0
Total Split (s)	69.0	79.0	0.0	69.0	31.0	0.0	48.0	21.0	21.0	33.0	33.0	13.0
Total Split (%)	69.0%	79.0%	0.0%	69.0%	31.0%	0.0%	48%	21%	21%	33%	33%	13%
Maximum Green (s)					26.0		43.0	16.0	16.0	28.0	28.0	8.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0						
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0						
Lead/Lag					Lag		Lead		Lead	Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	Max	None	None
Walk Time (s)					7.0		24.0		7.0	7.0	7.0	
Flash Dont Walk (s)					9.0		10.0		9.0	21.0	21.0	
Pedestrian Calls (#/hr)					0		0		0	0	0	
Act Effct Green (s)	69.4	74.3		69.4	24.6							
Actuated g/C Ratio	0.69	0.74		0.69	0.25							
v/c Ratio	0.58	0.46		0.17	0.65							
Control Delay	6.7	4.4		5.9	32.5							
Queue Delay	0.0	0.3		0.0	3.5							
Total Delay	6.7	4.7		5.9	36.0							
LOS	A	A		A	D							
Approach Delay	5.8			5.9	36.0							
Approach LOS	A			A	D							
Queue Length 50th (ft)	86	84		45	157							

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø5	ø6	ø7	ø8
Queue Length 95th (ft)	m147	m110		69	197							
Internal Link Dist (ft)	752			1782	164							
Turn Bay Length (ft)												
Base Capacity (vph)	1293	1368		2457	961							
Starvation Cap Reductn	0	0		0	314							
Spillback Cap Reductn	0	285		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.58	0.57		0.17	0.84							

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 58.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1611: E Henrietta & South



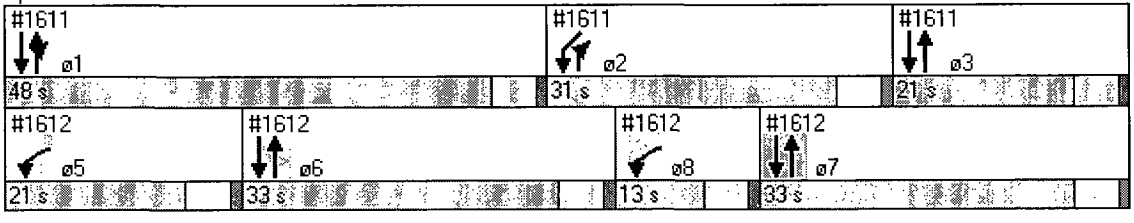
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3	ø5	ø7
Lane Configurations											
Volume (vph)	11	3	501	84	50	507					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95					
Frt		0.850	0.981								
Flt Protected	0.950					0.996					
Satd. Flow (prot)	1770	1583	1827	0	0	3525					
Flt Permitted	0.950					0.849					
Satd. Flow (perm)	1770	1583	1827	0	0	3005					
Right Turn on Red		Yes		Yes							
Satd. Flow (RTOR)		3	14								
Link Speed (mph)	30		30			30					
Link Distance (ft)	396		244			2781					
Travel Time (s)	9.0		5.5			63.2					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95					
Adj. Flow (vph)	12	3	527	88	53	534					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	12	3	615	0	0	587					
Turn Type		custom			custom						
Protected Phases	5 8		6 7			6 7	1	2	3	5	7
Permitted Phases		8			6						
Detector Phase	5 8	8	6 7		6	6 7					
Switch Phase											
Minimum Initial (s)		6.0			10.0		24.0	10.0	6.0	6.0	10.0
Minimum Split (s)		13.0			33.0		40.0	28.0	21.0	21.0	33.0
Total Split (s)	34.0	13.0	66.0	0.0	33.0	66.0	48.0	31.0	21.0	21.0	33.0
Total Split (%)	34.0%	13.0%	66.0%	0.0%	33.0%	66.0%	48%	31%	21%	21%	33%
Maximum Green (s)		8.0			28.0		43.0	26.0	16.0	16.0	28.0
Yellow Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)		1.0			1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	5.0					
Lead/Lag		Lead			Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode		None			Max		C-Max	None	None	C-Max	None
Walk Time (s)					7.0		24.0	7.0		7.0	7.0
Flash Dont Walk (s)					21.0		10.0	9.0		9.0	21.0
Pedestrian Calls (#/hr)					0		0	0		0	0
Act Effct Green (s)	23.8	6.1	65.8			65.8					
Actuated g/C Ratio	0.24	0.06	0.66			0.66					
v/c Ratio	0.03	0.03	0.51			0.30					
Control Delay	15.5	30.0	14.4			5.9					
Queue Delay	0.0	0.0	1.0			0.1					
Total Delay	15.5	30.0	15.4			6.0					
LOS	B	C	B			A					
Approach Delay	18.4		15.4			6.0					
Approach LOS	B		B			A					
Queue Length 50th (ft)	3	0	266			53					

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3	ø5	ø7
Queue Length 95th (ft)	10	9	373			72					
Internal Link Dist (ft)	316		164			2701					
Turn Bay Length (ft)											
Base Capacity (vph)	456	129	1207			1977					
Starvation Cap Reductn	0	0	328			0					
Spillback Cap Reductn	18	0	0			335					
Storage Cap Reductn	0	0	0			0					
Reduced v/c Ratio	0.03	0.02	0.70			0.36					

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1612: Science Park & South



PM

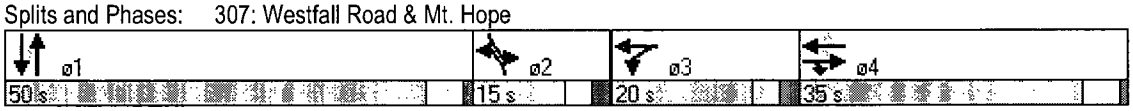
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	172	267	353	114	132	55	825	130	111	1035	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.919				0.850			
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	1859	1583	1770	1712	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.981		0.397			0.139			0.220		
Satd. Flow (perm)	0	1827	1583	740	1712	0	259	3539	1583	410	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206		61				137			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	181	281	372	120	139	58	868	137	117	1089	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	281	372	259	0	58	868	137	117	1091	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	35.0	35.0	35.0	20.0	55.0	0.0	15.0	50.0	50.0	15.0	50.0	0.0
Total Split (%)	29.2%	29.2%	29.2%	16.7%	45.8%	0.0%	12.5%	41.7%	41.7%	12.5%	41.7%	0.0%
Maximum Green (s)	30.0	30.0	30.0	15.0			10.0	45.0	45.0	10.0	45.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		22.5	22.5	43.3	46.3		64.7	56.9	56.9	64.7	56.9	
Actuated g/C Ratio		0.19	0.19	0.36	0.39		0.54	0.47	0.47	0.54	0.47	
v/c Ratio		0.56	0.61	0.84	0.37		0.24	0.52	0.17	0.38	0.65	
Control Delay		49.4	17.7	51.1	12.2		21.8	24.5	4.1	28.2	29.9	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		49.4	17.7	51.1	12.2		21.8	24.5	4.1	28.2	29.9	
LOS		D	B	D	B		C	C	A	C	C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		30.5			35.2			21.8			29.7	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		135	50	207	57		20	241	0	48	360	
Queue Length 95th (ft)		193	129	#251	m63		44	345	39	96	494	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		487	573	445	828		300	1677	822	371	1677	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.39	0.49	0.84	0.31		0.19	0.52	0.17	0.32	0.65	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 28.3 Intersection LOS: C
Intersection Capacity Utilization 75.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 307: Westfall Road & Mt. Hope



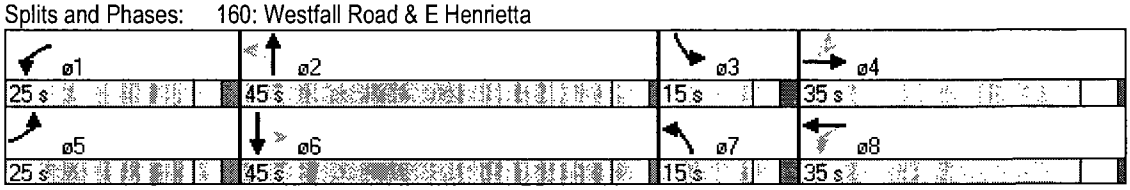
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	299	90	447	354	189	97	808	250	199	819	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	130		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.965			0.948			0.965			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3301	0	1652	3243	0	1711	3415	0	1711	3500	0
Flt Permitted	0.183			0.328			0.120			0.094		
Satd. Flow (perm)	318	3301	0	570	3243	0	216	3415	0	169	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			80			38			7	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.95	0.95	0.95
Adj. Flow (vph)	114	315	95	471	373	199	99	824	255	209	862	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	410	0	471	572	0	99	1079	0	209	929	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	25.0	35.0	0.0	25.0	35.0	0.0	15.0	45.0	0.0	15.0	45.0	0.0
Total Split (%)	20.8%	29.2%	0.0%	20.8%	29.2%	0.0%	12.5%	37.5%	0.0%	12.5%	37.5%	0.0%
Maximum Green (s)	20.0	30.0		20.0	30.0		10.0	40.0		10.0	40.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	53.5	27.0		53.5	27.0		54.5	42.5		54.5	42.5	
Actuated g/C Ratio	0.45	0.22		0.45	0.22		0.45	0.35		0.45	0.35	
v/c Ratio	0.26	0.53		0.96	0.72		0.40	0.88		0.90	0.75	
Control Delay	39.5	37.3		66.1	46.4		33.3	40.3		77.4	25.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.5	37.3		66.1	46.4		33.3	40.4		77.4	25.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		E	D		C	D		E	C	
Approach Delay		37.8			55.3			39.8			35.2	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	68	148		240	197		43	402		123	311	
Queue Length 95th (ft)	105	183		m#480	m222		74	#507		#263	160	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			130			200			75		
Base Capacity (vph)	437	904		493	923		248	1233		231	1244	
Starvation Cap Reductn	0	0		0	0		0	2		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.45		0.96	0.62		0.40	0.88		0.90	0.75	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 75 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 42.3 Intersection LOS: D
Intersection Capacity Utilization 90.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

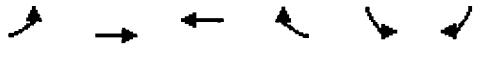
Splits and Phases: 160: Westfall Road & E Henrietta



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	748	0	0	981	9	44
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.91	0.91	0.63	0.63
Hourly flow rate (vph)	947	0	0	1078	14	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	921					
pX, platoon unblocked			0.80		0.80	0.80
vC, conflicting volume			947		2025	947
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			810		2155	810
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		66	77
cM capacity (veh/h)			654		42	305

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	947	1078	84
Volume Left	0	0	14
Volume Right	0	0	70
cSH	1700	654	148
Volume to Capacity	0.56	0.00	0.57
Queue Length 95th (ft)	0	0	72
Control Delay (s)	0.0	0.0	57.3
Lane LOS			F
Approach Delay (s)	0.0	0.0	57.3
Approach LOS			F

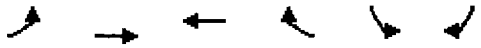
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	14	778	971	20	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.86	0.86	0.83	0.83
Hourly flow rate (vph)	15	810	1129	23	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1063				
pX, platoon unblocked					0.89	
vC, conflicting volume	1152				1980	1141
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1152				2040	1141
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				78	95
cM capacity (veh/h)	606				54	244

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	15	810	1152	24
Volume Left	15	0	0	12
Volume Right	0	0	23	12
cSH	606	1700	1700	88
Volume to Capacity	0.02	0.48	0.68	0.27
Queue Length 95th (ft)	2	0	0	25
Control Delay (s)	11.1	0.0	0.0	60.3
Lane LOS	B			F
Approach Delay (s)	0.2		0.0	60.3
Approach LOS				F

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	12	777	978	21	6	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.86	0.86	0.83	0.83
Hourly flow rate (vph)	12	809	1137	24	7	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1176			
pX, platoon unblocked	0.63				0.63	0.63
vC, conflicting volume	1162				1984	1149
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	964				2267	944
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				74	90
cM capacity (veh/h)	451				27	201

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	12	809	1162	27
Volume Left	12	0	0	7
Volume Right	0	0	24	19
cSH	451	1700	1700	74
Volume to Capacity	0.03	0.48	0.68	0.36
Queue Length 95th (ft)	2	0	0	34
Control Delay (s)	13.2	0.0	0.0	79.1
Lane LOS	B			F
Approach Delay (s)	0.2		0.0	79.1
Approach LOS				F

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	844	22	41	658	3	251	0	259	73	0	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1861	0	1770	1583	0	1770	1583	0
Flt Permitted	0.293			0.147			0.614			0.231		
Satd. Flow (perm)	546	1863	1583	274	1861	0	1144	1583	0	430	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			12					264			338	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1176			2087			424			399	
Travel Time (s)		22.9			40.7			9.6			9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	938	24	46	731	3	279	0	288	81	0	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	938	24	46	734	0	279	288	0	81	103	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	15.0	77.0	77.0	15.0	77.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	12.5%	64.2%	64.2%	12.5%	64.2%	0.0%	23.3%	23.3%	0.0%	23.3%	23.3%	0.0%
Maximum Green (s)	10.0	71.0	71.0	10.0	71.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	86.0	80.6	80.6	88.6	87.0		25.0	25.0		25.0	25.0	
Actuated g/C Ratio	0.72	0.67	0.67	0.74	0.72		0.21	0.21		0.21	0.21	
v/c Ratio	0.02	0.75	0.02	0.16	0.54		1.17	0.53		0.90	0.17	
Control Delay	1.9	10.0	1.2	3.3	4.9		155.1	10.6		118.8	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	1.9	10.0	1.2	3.3	4.9		155.1	10.6		118.8	0.6	
LOS	A	B	A	A	A		F	B		F	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		9.7			4.8			81.7			52.6	
Approach LOS		A			A			F			D	
Queue Length 50th (ft)	1	250	1	6	95		~258	15		62	0	
Queue Length 95th (ft)	m2	m348	m3	m6	m93		#430	95		#163	0	
Internal Link Dist (ft)		1096			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	527	1251	1067	353	1349		238	539		90	597	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.75	0.02	0.13	0.54		1.17	0.53		0.90	0.17	

Intersection Summary

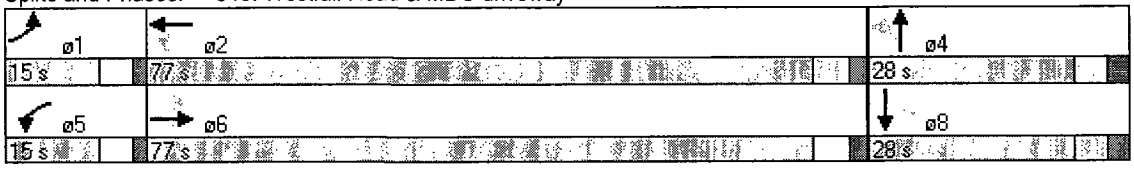
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 27.7 Intersection LOS: C
Intersection Capacity Utilization 75.5% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 548: Westfall Road & MDC driveway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	408	594	202	139	393	148	142	651	60	114	555	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	330		0	120		0	120		0	70		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.959			0.987			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1786	0	1770	1839	0	1770	1805	0
Flt Permitted	0.103			0.111			0.087			0.089		
Satd. Flow (perm)	192	1792	0	207	1786	0	162	1839	0	166	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			16			5			13	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2087			1362			1347			2030	
Travel Time (s)		40.7			26.5			26.2			39.5	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	453	660	224	151	427	161	158	723	67	127	617	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	884	0	151	588	0	158	790	0	127	776	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	9.0	32.0		9.0	32.0		9.0	28.0		9.5	28.0	
Total Split (s)	18.0	46.0	0.0	12.0	40.0	0.0	13.0	50.0	0.0	12.0	49.0	0.0
Total Split (%)	15.0%	38.3%	0.0%	10.0%	33.3%	0.0%	10.8%	41.7%	0.0%	10.0%	40.8%	0.0%
Maximum Green (s)	13.0	40.0		7.0	34.0		8.0	44.0		7.0	43.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.5	2.0		1.5	2.0		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		19.0			19.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	55.0	43.0		46.0	37.0		57.1	47.1		54.9	46.1	
Actuated g/C Ratio	0.46	0.36		0.38	0.31		0.48	0.39		0.46	0.38	
v/c Ratio	1.59	1.36		0.77	1.05		0.75	1.09		0.65	1.11	
Control Delay	303.6	195.4		49.0	87.0		48.8	93.2		36.8	106.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	303.6	195.4		49.0	87.0		48.8	93.2		36.8	106.0	
LOS	F	F		D	F		D	F		D	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		232.1			79.3			85.8			96.3	
Approach LOS		F			E			F			F	
Queue Length 50th (ft)	~456	~907		73	~471		76	~705		63	~684	
Queue Length 95th (ft)	m#650	m#1154		#171	#705		#174	#938		#120	#930	
Internal Link Dist (ft)		2007			1282			1267			1950	
Turn Bay Length (ft)	330			120			120			70		
Base Capacity (vph)	285	652		197	562		211	725		196	701	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.59	1.36		0.77	1.05		0.75	1.09		0.65	1.11	

Intersection Summary

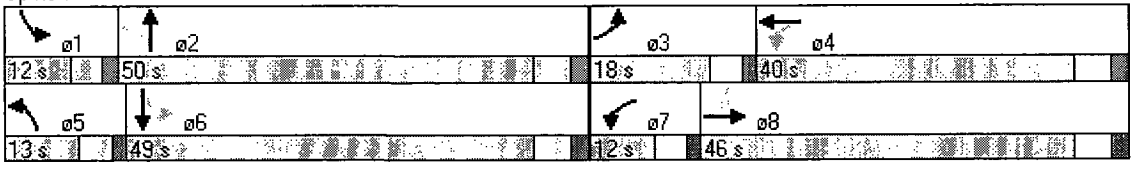
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 34 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.59
Intersection Signal Delay: 136.8 Intersection LOS: F
Intersection Capacity Utilization 111.4% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 509: Westfall Road & Clinton Avenue



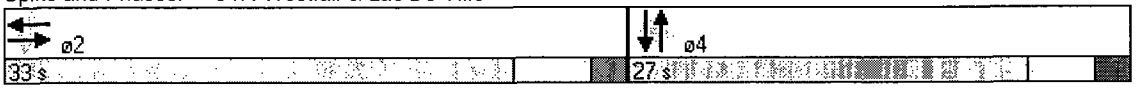
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	755	57	26	305	103	184	137	203	129	33	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	75		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.962			0.910			0.891	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1844	0	1770	1792	0	1770	1695	0	1770	1660	0
Flt Permitted	0.423			0.119			0.660			0.318		
Satd. Flow (perm)	788	1844	0	222	1792	0	1229	1695	0	592	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			40			119			98	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1362			1779			533			471	
Travel Time (s)		26.5			34.7			12.1			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	64	839	63	29	339	114	204	152	226	143	37	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	902	0	29	453	0	204	378	0	143	135	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		26.5	26.5		26.5	26.5	
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0		21.5	21.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-2.5	-2.5	-2.5	-2.5	-2.5	0.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	1.5	3.0	3.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	34.8	34.8		34.8	34.8		19.2	19.2		19.2	19.2	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.32	0.32		0.32	0.32	
v/c Ratio	0.14	0.84		0.22	0.43		0.52	0.61		0.75	0.23	
Control Delay	5.5	18.0		12.0	7.9		20.3	14.9		42.6	5.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.5	18.0		12.0	7.9		20.3	14.9		42.6	5.7	
LOS	A	B		B	A		C	B		D	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		17.2			8.2			16.8			24.7	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	9	564		4	58		56	70		43	9	
Queue Length 95th (ft)	m10	m366		m8	m114		101	132		#115	36	
Internal Link Dist (ft)		1282			1699			453			391	
Turn Bay Length (ft)	75			75			75			75		
Base Capacity (vph)	456	1072		129	1055		492	749		237	723	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.84		0.22	0.43		0.41	0.50		0.60	0.19	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 85.0% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 547: Westfall & Lac De Ville



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	1	1147	11	0	1426
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.33	0.33	0.93	0.93	0.97	0.97
Hourly flow rate (vph)	0	3	1233	12	0	1470
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						520
pX, platoon unblocked	0.85					
vC, conflicting volume	1974	623			1245	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1787	623			1245	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	61	429			555	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	822	423	490	980
Volume Left	0	0	0	0	0
Volume Right	3	0	12	0	0
cSH	429	1700	1700	555	1700
Volume to Capacity	0.01	0.48	0.25	0.00	0.58
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	13.4	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	13.4	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

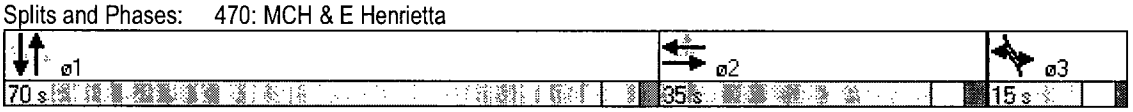
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	1	56	63	0	17	9	1095	44	9	1307	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	130		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.850			0.994			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1589	0	1711	1531	0	1711	3401	0	1711	3408	0
Flt Permitted	0.746			0.681			0.163			0.207		
Satd. Flow (perm)	1390	1589	0	1226	1531	0	294	3401	0	373	3408	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			207			5			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		400			578			520			602	
Travel Time (s)		9.1			13.1			11.8			13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97
Adj. Flow (vph)	45	1	59	66	0	18	9	1153	46	9	1347	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	60	0	66	18	0	9	1199	0	9	1388	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			2		3	1		3	1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		3	1		3	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		14.0	39.0		14.0	39.0	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	15.0	70.0	0.0	15.0	70.0	0.0
Total Split (%)	29.2%	29.2%	0.0%	29.2%	29.2%	0.0%	12.5%	58.3%	0.0%	12.5%	58.3%	0.0%
Maximum Green (s)	29.0	29.0		29.0	29.0		10.0	64.0		10.0	64.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	-2.0	-3.0	-1.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead			Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0			20.0			20.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.5	14.5		14.5	14.5		100.8	98.6		100.8	98.6	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.84	0.82		0.84	0.82	
v/c Ratio	0.27	0.25		0.45	0.05		0.03	0.43		0.02	0.50	
Control Delay	50.3	14.0		57.4	0.2		2.7	5.1		0.3	1.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	
Total Delay	50.3	14.0		57.4	0.2		2.7	5.1		0.3	1.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B		E	A		A	A		A	A	
Approach Delay		29.6			45.2			5.1			1.1	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	32	1		48	0		1	97		0	1	
Queue Length 95th (ft)	67	39		91	0		4	244		m0	m83	
Internal Link Dist (ft)		320			498			440			522	
Turn Bay Length (ft)							130			250		
Base Capacity (vph)	371	467		327	560		391	2797		451	2802	
Starvation Cap Reductn	0	0		0	0		0	0		0	288	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.13		0.20	0.03		0.02	0.43		0.02	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 63 (53%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 54.2% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 470: MCH & E Henrietta



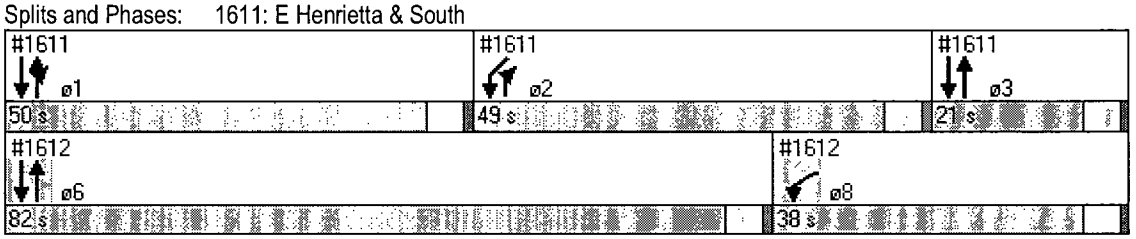
Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Lane Configurations	↑	↱		↑↑	↰↑					
Volume (vph)	386	514	0	534	692	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00				
Frt		0.850								
Flt Protected					0.950					
Satd. Flow (prot)	1863	1583	0	3539	3433	0				
Flt Permitted					0.950					
Satd. Flow (perm)	1863	1583	0	3539	3433	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)		541								
Link Speed (mph)	30			30	30					
Link Distance (ft)	832			1862	244					
Travel Time (s)	18.9			42.3	5.5					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Adj. Flow (vph)	406	541	0	562	728	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	406	541	0	562	728	0				
Turn Type		custom								
Protected Phases	1 3	1 2		1 3	2		1	3	6	8
Permitted Phases		1		1 3						
Detector Phase	1 3	1 2		1 3	2					
Switch Phase										
Minimum Initial (s)					10.0		24.0	6.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	33.0	13.0
Total Split (s)	71.0	99.0	0.0	71.0	49.0	0.0	50.0	21.0	82.0	38.0
Total Split (%)	59.2%	82.5%	0.0%	59.2%	40.8%	0.0%	42%	18%	68%	32%
Maximum Green (s)					44.0		45.0	16.0	77.0	33.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0				
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0				
Lead/Lag					Lag		Lead			
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	None
Walk Time (s)					7.0		24.0		7.0	
Flash Dont Walk (s)					9.0		10.0		21.0	
Pedestrian Calls (#/hr)					0		0		0	
Act Effct Green (s)	77.9	94.4		77.9	36.1					
Actuated g/C Ratio	0.65	0.79		0.65	0.30					
v/c Ratio	0.34	0.40		0.24	0.70					
Control Delay	7.6	3.9		9.8	39.8					
Queue Delay	0.0	0.0		0.0	2.4					
Total Delay	7.6	3.9		9.8	42.2					
LOS	A	A		A	D					
Approach Delay	5.5			9.8	42.2					
Approach LOS	A			A	D					
Queue Length 50th (ft)	71	50		88	258					

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Queue Length 95th (ft)	m94	m232		140	334					
Internal Link Dist (ft)	752			1782	164					
Turn Bay Length (ft)										
Base Capacity (vph)	1209	1446		2297	1316					
Starvation Cap Reductn	0	0		0	439					
Spillback Cap Reductn	0	10		0	0					
Storage Cap Reductn	0	0		0	0					
Reduced v/c Ratio	0.34	0.38		0.24	0.83					

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 18.5 Intersection LOS: B
Intersection Capacity Utilization 46.7% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1611: E Henrietta & South



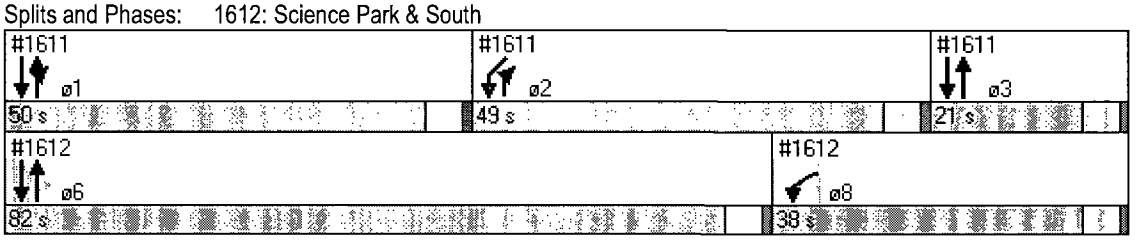
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3
Lane Configurations									
Volume (vph)	15	3	443	71	50	677			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95			
Frt		0.850	0.981						
Flt Protected	0.950					0.997			
Satd. Flow (prot)	1770	1583	1827	0	0	3529			
Flt Permitted	0.950					0.874			
Satd. Flow (perm)	1770	1583	1827	0	0	3093			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		3	13						
Link Speed (mph)	30		30			30			
Link Distance (ft)	396		244			2781			
Travel Time (s)	9.0		5.5			63.2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Adj. Flow (vph)	16	3	466	75	53	713			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	16	3	541	0	0	766			
Turn Type		Perm			Perm				
Protected Phases	8		6			6	1	2	3
Permitted Phases		8			6				
Detector Phase	8	8	6		6	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	10.0		10.0	10.0	24.0	10.0	6.0
Minimum Split (s)	13.0	13.0	33.0		33.0	33.0	40.0	28.0	21.0
Total Split (s)	38.0	38.0	82.0	0.0	82.0	82.0	50.0	49.0	21.0
Total Split (%)	31.7%	31.7%	68.3%	0.0%	68.3%	68.3%	42%	41%	18%
Maximum Green (s)	33.0	33.0	77.0		77.0	77.0	45.0	44.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	5.0			
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max	C-Max	None	None
Walk Time (s)			7.0		7.0	7.0	24.0	7.0	
Flash Dont Walk (s)			21.0		21.0	21.0	10.0	9.0	
Pedestrian Calls (#/hr)			0		0	0	0	0	
Act Effct Green (s)	16.9	16.9	102.8			102.8			
Actuated g/C Ratio	0.14	0.14	0.86			0.86			
v/c Ratio	0.06	0.01	0.35			0.29			
Control Delay	37.5	21.0	2.4			5.4			
Queue Delay	0.0	0.0	0.0			0.2			
Total Delay	37.5	21.0	2.4			5.6			
LOS	D	C	A			A			
Approach Delay	34.9		2.4			5.6			
Approach LOS	C		A			A			
Queue Length 50th (ft)	12	0	0			0			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3
Queue Length 95th (ft)	27	8	86			175			
Internal Link Dist (ft)	316		164			2701			
Turn Bay Length (ft)									
Base Capacity (vph)	487	438	1567			2650			
Starvation Cap Reductn	0	0	102			0			
Spillback Cap Reductn	0	0	0			1024			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.03	0.01	0.37			0.47			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 4.7 Intersection LOS: A
Intersection Capacity Utilization 65.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1612: Science Park & South



Appendix F
2013 Build LOS

1. HCS

AM

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Westfall Road
From/To	East Henrietta Rd to Citygate
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.1	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V	1764	veh/h	
Directional split	62 / 38	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1964	pc/h
Highest directional split proportion (note-2)	1218	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	23.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1960	pc/h
Highest directional split proportion (note-2)	1215	
Base percent time-spent-following, BPTSF	82.1	%
Adj.for directional distribution and no-passing zones, fd/np	4.5	
Percent time-spent-following, PTSF	86.7	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	49	veh-mi
Peak-hour vehicle-miles of travel, VMT60	176	veh-mi
Peak 15-min total travel time, TT15	2.1	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Westfall Road
From/To	Citygate to Winton Rd
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V	1874		veh/h
Directional split	61	/ 39	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	2086	pc/h
Highest directional split proportion (note-2)	1272	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	22.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	2082	pc/h
Highest directional split proportion (note-2)	1270	
Base percent time-spent-following, BPTSF	84.0	%
Adj.for directional distribution and no-passing zones, fd/np	4.0	
Percent time-spent-following, PTSF	88.0	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.65	
Peak 15-min vehicle-miles of travel, VMT15	260	veh-mi
Peak-hour vehicle-miles of travel, VMT60	937	veh-mi
Peak 15-min total travel time, TT15	11.5	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Winton Road
From/To	north of Westfall
Jurisdiction	Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			
Two-way hourly volume, V	964	veh/h			
Directional split	62 / 38	%			

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	1075	pc/h
Highest directional split proportion (note-2)	667	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	2.4	mi/h
Average travel speed, ATS	26.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	1073	pc/h
Highest directional split proportion (note-2)	665	
Base percent time-spent-following, BPTSF	61.1	%
Adj.for directional distribution and no-passing zones, fd/np	11.6	
Percent time-spent-following, PTSF	72.6	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	134	veh-mi
Peak-hour vehicle-miles of travel, VMT60	482	veh-mi
Peak 15-min total travel time, TT15	5.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	S Clinton Ave
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	1444	veh/h	
Directional split	60 / 40	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1608	pc/h
Highest directional split proportion (note-2)	965	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATS	23.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1604	pc/h
Highest directional split proportion (note-2)	962	
Base percent time-spent-following, BPTSF	75.6	%
Adj.for directional distribution and no-passing zones, fd/np	6.8	
Percent time-spent-following, PTSF	82.4	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	120	veh-mi
Peak-hour vehicle-miles of travel, VMT60	433	veh-mi
Peak 15-min total travel time, TT15	5.1	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	AM peak hour
Highway	Lac de Ville
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			
Two-way hourly volume, V	591	veh/h			
Directional split	78 / 22	%			

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	659	pc/h
Highest directional split proportion (note-2)	514	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	3.6	mi/h
Average travel speed, ATS	28.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	658	pc/h
Highest directional split proportion (note-2)	513	
Base percent time-spent-following, BPTSF	43.9	%
Adj.for directional distribution and no-passing zones, fd/np	21.7	
Percent time-spent-following, PTSF	65.6	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.21	
Peak 15-min vehicle-miles of travel, VMT15	49	veh-mi
Peak-hour vehicle-miles of travel, VMT60	177	veh-mi
Peak 15-min total travel time, TT15	1.7	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	AM peak hour
Highway:	Winton Road
From/To:	south of Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	746	vph	804	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	207		223	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	420	pcphpl	452	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	420	pcphpl	452	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	9.3	pc/mi/ln	10.0	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	AM peak hour
Highway:	E Henrietta Road
From/To:	I-390 to Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	1994	vph	1032	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	554		287	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	1123	pcphpl	581	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	1123	pcphpl	581	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	C		B	
Density, D	25.0	pc/mi/ln	12.9	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

PM

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Westfall Road
From/To	East Henrietta Rd to Citygate
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.1	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V	1863		veh/h
Directional split	56	/ 44	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	2074	pc/h
Highest directional split proportion (note-2)	1161	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	22.7	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	2070	pc/h
Highest directional split proportion (note-2)	1159	
Base percent time-spent-following, BPTSF	83.8	%
Adj.for directional distribution and no-passing zones, fd/np	4.1	
Percent time-spent-following, PTSF	87.9	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.65	
Peak 15-min vehicle-miles of travel, VMT15	52	veh-mi
Peak-hour vehicle-miles of travel, VMT60	186	veh-mi
Peak 15-min total travel time, TT15	2.3	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Westfall Road
From/To	Citygate to Winton Rd
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	10	/mi
Up/down		%			

Two-way hourly volume, V 2186 veh/h
Directional split 62 / 38 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	2434	pc/h
Highest directional split proportion (note-2)	1509	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	2.5	mi/h
Free-flow speed, FFS	39.9	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	19.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	2429	pc/h
Highest directional split proportion (note-2)	1506	
Base percent time-spent-following, BPTSF	88.2	%
Adj.for directional distribution and no-passing zones, fd/np	3.1	
Percent time-spent-following, PTSF	91.3	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.76	
Peak 15-min vehicle-miles of travel, VMT15	304	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1093	veh-mi
Peak 15-min total travel time, TT15	15.3	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Winton Road
From/To	north of Westfall
Jurisdiction	Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.5	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V 1169 veh/h
Directional split 57 / 43 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1301	pc/h
Highest directional split proportion (note-2)	742	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATS	25.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1299	pc/h
Highest directional split proportion (note-2)	740	
Base percent time-spent-following, BPTSF	68.1	%
Adj.for directional distribution and no-passing zones, fd/np	9.2	
Percent time-spent-following, PTSF	77.2	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.41	
Peak 15-min vehicle-miles of travel, VMT15	162	veh-mi
Peak-hour vehicle-miles of travel, VMT60	585	veh-mi
Peak 15-min total travel time, TT15	6.4	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	S Clinton Ave
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V 1795 veh/h
Directional split 51 / 49 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.998	
Two-way flow rate,(note-1) vp	1998	pc/h
Highest directional split proportion (note-2)	1019	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATS	20.8	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	1994	pc/h
Highest directional split proportion (note-2)	1017	
Base percent time-spent-following, BPTSF	82.7	%
Adj.for directional distribution and no-passing zones, fd/np	4.4	
Percent time-spent-following, PTSF	87.1	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.62	
Peak 15-min vehicle-miles of travel, VMT15	150	veh-mi
Peak-hour vehicle-miles of travel, VMT60	539	veh-mi
Peak 15-min total travel time, TT15	7.2	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst	BA
Agency/Co.	BA
Date Performed	7/17/2008
Analysis Time Period	PM peak hour
Highway	Lac de Ville
From/To	south of Westfall
Jurisdiction	Rochester / Brighton
Analysis Year	Build 2013
Description	Citygate Traffic Impact Study

Input Data

Highway class	Class 2				
Shoulder width	2.0	ft	Peak-hour factor, PHF	0.90	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.3	mi	% Recreational vehicles	2	%
Terrain type	Level		% No-passing zones	100	%
Grade: Length		mi	Access points/mi	20	/mi
Up/down		%			

Two-way hourly volume, V	670		veh/h
Directional split	80	/ 20	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.2	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.996	
Two-way flow rate,(note-1) vp	747	pc/h
Highest directional split proportion (note-2)	598	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h
Adj. for lane and shoulder width, fLS	2.6	mi/h
Adj. for access points, fA	5.0	mi/h
Free-flow speed, FFS	37.4	mi/h
Adjustment for no-passing zones, fnp	3.2	mi/h
Average travel speed, ATS	28.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	746	pc/h
Highest directional split proportion (note-2)	597	
Base percent time-spent-following, BPTSF	48.1	%
Adj.for directional distribution and no-passing zones, fd/np	19.0	
Percent time-spent-following, PTSF	67.1	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	56	veh-mi
Peak-hour vehicle-miles of travel, VMT60	201	veh-mi
Peak 15-min total travel time, TT15	2.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	PM peak hour
Highway:	Winton Road
From/To:	south of Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	740	vph	792	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	206		220	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	416	pcphpl	446	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	416	pcphpl	446	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	9.2	pc/mi/ln	9.9	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	BA
Agency/Co:	BA
Date:	7/25/2008
Analysis Period:	PM peak hour
Highway:	E Henrietta Road
From/To:	I-390 to Westfall Road
Jurisdiction:	Brighton
Analysis Year:	Build 2013
Project ID:	Citygate Traffic Impact Study

FREE-FLOW SPEED

Direction	1		2	
Lane width	11.5	ft	11.5	ft
Lateral clearance:				
Right edge	0.5	ft	0.5	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	6.5	ft	6.5	ft
Access points per mile	6		6	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.6	mph	0.6	mph
Lateral clearance adjustment, FLC	1.2	mph	1.2	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	1.5	mph	1.5	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	1422	vph	1726	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	395		479	
Trucks and buses	2	%	2	%
Recreational vehicles	2	%	2	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.986		0.986	
Flow rate, vp	801	pcphpl	972	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	801	pcphpl	972	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	B		C	
Density, D	17.8	pc/mi/ln	21.6	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

2. Synchro

AM

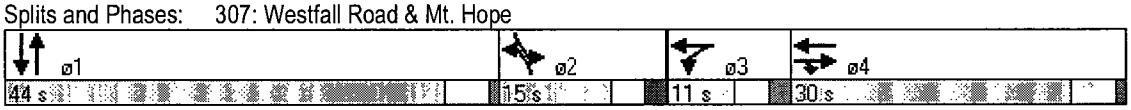
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	142	46	214	204	127	96	675	379	179	530	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.942				0.850			
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	1859	1583	1770	1755	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.979		0.486			0.382			0.303		
Satd. Flow (perm)	0	1824	1583	905	1755	0	712	3539	1583	564	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			48		36				399			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	149	48	225	215	134	101	711	399	188	558	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	48	225	349	0	101	711	399	188	559	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	30.0	30.0	30.0	11.0	41.0	0.0	15.0	44.0	44.0	15.0	44.0	0.0
Total Split (%)	30.0%	30.0%	30.0%	11.0%	41.0%	0.0%	15.0%	44.0%	44.0%	15.0%	44.0%	0.0%
Maximum Green (s)	25.0	25.0	25.0	6.0			10.0	39.0	39.0	10.0	39.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		18.2	18.2	30.2	33.2		57.8	49.8	49.8	57.8	49.8	
Actuated g/C Ratio		0.18	0.18	0.30	0.33		0.58	0.50	0.50	0.58	0.50	
v/c Ratio		0.47	0.15	0.60	0.57		0.20	0.40	0.40	0.44	0.32	
Control Delay		39.9	9.8	24.1	19.7		11.6	17.7	3.2	18.9	16.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		39.9	9.8	24.1	19.7		11.6	17.7	3.2	18.9	16.1	
LOS		D	A	C	B		B	B	A	B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		32.8			21.4			12.4			16.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		91	0	89	127		25	141	0	52	106	
Queue Length 95th (ft)		136	27	122	190		54	226	55	104	175	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		492	462	377	757		567	1761	988	493	1761	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.32	0.10	0.60	0.46		0.18	0.40	0.40	0.38	0.32	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 17.0 Intersection LOS: B
Intersection Capacity Utilization 68.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 307: Westfall Road & Mt. Hope



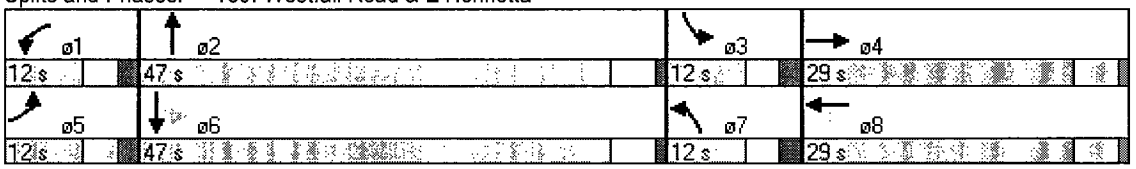
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	359	70	207	267	191	206	1041	525	215	786	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	275		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.937			0.950			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3336	0	1652	3206	0	1711	3362	0	1711	3483	0
Flt Permitted	0.254			0.283			0.203			0.084		
Satd. Flow (perm)	442	3336	0	492	3206	0	366	3362	0	151	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			175			113			16	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	378	74	218	281	201	217	1096	553	226	827	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	452	0	218	482	0	217	1649	0	226	924	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	12.0	29.0	0.0	12.0	29.0	0.0	12.0	47.0	0.0	12.0	47.0	0.0
Total Split (%)	12.0%	29.0%	0.0%	12.0%	29.0%	0.0%	12.0%	47.0%	0.0%	12.0%	47.0%	0.0%
Maximum Green (s)	7.0	24.0		7.0	24.0		7.0	42.0		7.0	42.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	31.2	21.2		31.3	21.2		56.7	47.7		56.7	47.7	
Actuated g/C Ratio	0.31	0.21		0.31	0.21		0.57	0.48		0.57	0.48	
v/c Ratio	0.31	0.62		0.80	0.59		0.66	0.99		1.00	0.55	
Control Delay	25.8	32.8		55.1	21.9		26.9	38.7		88.4	8.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.0		0.0	0.0	
Total Delay	25.8	32.8		55.1	21.9		26.9	39.7		88.4	8.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		E	C		C	D		F	A	
Approach Delay		31.7			32.2			38.2			24.2	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	32	121		107	96		38	~597		~105	80	
Queue Length 95th (ft)	58	153		#196	135		m61	#721		#260	100	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			275			200			75		
Base Capacity (vph)	266	884		277	963		329	1662		226	1669	
Starvation Cap Reductn	0	0		0	0		0	8		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.30	0.51		0.79	0.50		0.66	1.00		1.00	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 63 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 32.6 Intersection LOS: C
Intersection Capacity Utilization 94.4% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 160: Westfall Road & E Henrietta



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1061	38	0	660	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1153	41	0	702	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	663			400		
pX, platoon unblocked			0.79		0.85	0.79
vC, conflicting volume			1195		1876	1174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1112		1621	1086
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			494		96	207

Direction, Lane #	EB 1	WB 1
Volume Total	1195	702
Volume Left	0	0
Volume Right	41	0
cSH	1700	1700
Volume to Capacity	0.70	0.41
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

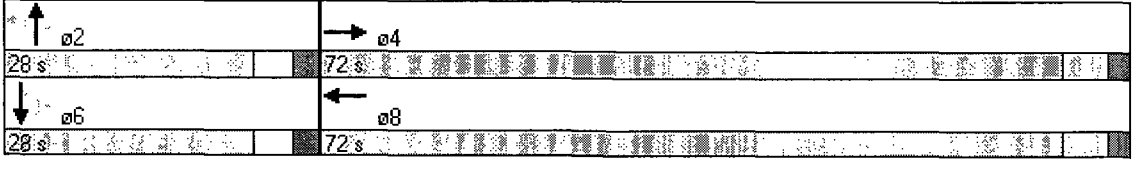
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1025	40	106	605	12	72	0	100	19	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997				0.850		0.944	
Flt Protected	0.950			0.950				0.950			0.972	
Satd. Flow (prot)	1770	1852	0	1770	1857	0	0	1770	1583	0	1709	0
Flt Permitted	0.346			0.177				0.759			0.812	
Satd. Flow (perm)	645	1852	0	330	1857	0	0	1414	1583	0	1428	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2				111		20	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		400			560			514			400	
Travel Time (s)		7.8			10.9			11.7			9.1	
Peak Hour Factor	0.97	0.97	0.97	0.87	0.87	0.87	0.90	0.90	0.90	0.69	0.69	0.69
Adj. Flow (vph)	8	1057	41	122	695	14	80	0	111	28	0	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	1098	0	122	709	0	0	80	111	0	48	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0	28.0	28.0	28.0	
Total Split (s)	72.0	72.0	0.0	72.0	72.0	0.0	28.0	28.0	28.0	28.0	28.0	0.0
Total Split (%)	72.0%	72.0%	0.0%	72.0%	72.0%	0.0%	28.0%	28.0%	28.0%	28.0%	28.0%	0.0%
Maximum Green (s)	66.0	66.0		66.0	66.0		22.0	22.0	22.0	22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	-3.0	0.0	-3.0	-3.0	-1.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	1.0	6.0	3.0	3.0	5.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0	15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	80.0	80.0		80.0	80.0			14.0	14.0		14.0	
Actuated g/C Ratio	0.80	0.80		0.80	0.80			0.14	0.14		0.14	
v/c Ratio	0.02	0.74		0.46	0.48			0.40	0.35		0.22	
Control Delay	0.8	4.4		10.7	4.9			44.2	10.2		26.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	0.8	4.4		10.7	4.9			44.2	10.2		26.6	
LOS	A	A		B	A			D	B		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		4.4			5.8			24.5			26.6	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	0	48		19	111			47	0		16	
Queue Length 95th (ft)	m0	m39		67	203			88	46		33	
Internal Link Dist (ft)		320			480			434			320	
Turn Bay Length (ft)	300			300								
Base Capacity (vph)	516	1482		264	1486			354	479		372	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.74		0.46	0.48			0.23	0.23		0.13	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 7.2 Intersection LOS: A
Intersection Capacity Utilization 95.8% ICU Level of Service F
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

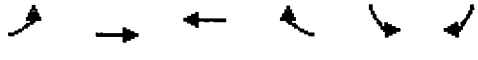
Splits and Phases: 4: Westfall Road & Green Knolls Drive East



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1123	26	0	723	0	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1248	29	0	803	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	560			1276		
pX, platoon unblocked			0.23		0.32	0.23
vC, conflicting volume			1277		2066	1262
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			543		1989	481
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			239		22	137

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1277	803	29
Volume Left	0	0	0
Volume Right	29	0	29
cSH	1700	1700	137
Volume to Capacity	0.75	0.47	0.21
Queue Length 95th (ft)	0	0	19
Control Delay (s)	0.0	0.0	38.3
Lane LOS			E
Approach Delay (s)	0.0	0.0	38.3
Approach LOS			E

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	1129	692	4	12	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.87	0.87	0.70	0.70
Hourly flow rate (vph)	21	1164	795	5	17	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		660	1176			
pX, platoon unblocked	0.80				0.74	0.80
vC, conflicting volume	800				2003	798
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622				1562	619
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				81	89
cM capacity (veh/h)	764				89	390

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	21	1164	800	61
Volume Left	21	0	0	17
Volume Right	0	0	5	44
cSH	764	1700	1700	200
Volume to Capacity	0.03	0.68	0.47	0.31
Queue Length 95th (ft)	2	0	0	31
Control Delay (s)	9.8	0.0	0.0	30.8
Lane LOS	A			D
Approach Delay (s)	0.2		0.0	30.8
Approach LOS				D

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

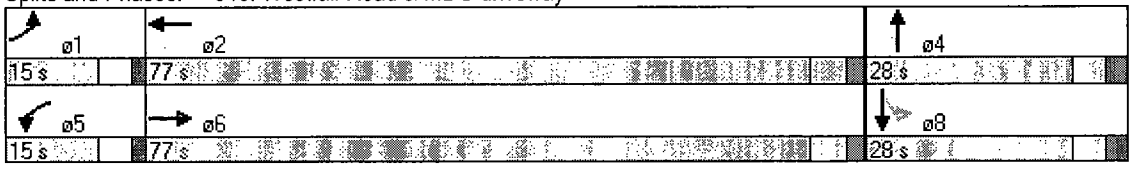
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	677	290	494	631	77	41	2	29	4	6	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.984			0.860			0.881	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1833	0	1770	1602	0	1770	1641	0
Flt Permitted	0.327			0.213			0.725			0.728		
Satd. Flow (perm)	609	1863	1583	397	1833	0	1350	1602	0	1356	1641	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			201		10			42			39	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1176			2087			424			399	
Travel Time (s)		22.9			40.7			9.6			9.1	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.69	0.69	0.69	0.61	0.61	0.61
Adj. Flow (vph)	135	744	319	574	734	90	59	3	42	7	10	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	744	319	574	824	0	59	45	0	7	49	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	15.0	77.0	77.0	15.0	77.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	12.5%	64.2%	64.2%	12.5%	64.2%	0.0%	23.3%	23.3%	0.0%	23.3%	23.3%	0.0%
Maximum Green (s)	10.0	71.0	71.0	10.0	71.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	82.2	74.0	74.0	102.1	90.9		14.5	14.5		14.4	14.4	
Actuated g/C Ratio	0.68	0.62	0.62	0.85	0.76		0.12	0.12		0.12	0.12	
v/c Ratio	0.27	0.65	0.30	0.92	0.59		0.36	0.19		0.04	0.21	
Control Delay	5.2	18.0	4.5	36.9	4.6		53.6	16.5		44.8	20.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.2	18.0	4.5	36.9	4.6		53.6	16.5		44.8	20.1	
LOS	A	B	A	D	A		D	B		D	C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.0			17.8			37.6			23.2	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	15	344	35	264	104		43	12		5	7	
Queue Length 95th (ft)	33	474	77	m174	m85		62	20		13	19	
Internal Link Dist (ft)		1096			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	553	1149	1053	625	1390		281	367		283	373	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.65	0.30	0.92	0.59		0.21	0.12		0.02	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 16.6 Intersection LOS: B
Intersection Capacity Utilization 81.9% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 548: Westfall Road & MDC driveway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	183	363	135	172	727	64	189	343	49	101	556	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	330		0	120		0	120		0	70		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.988			0.981			0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1786	0	1770	1840	0	1770	1827	0	1770	1770	0
Flt Permitted	0.100			0.141			0.087			0.299		
Satd. Flow (perm)	186	1786	0	263	1840	0	162	1827	0	557	1770	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			4			7			24	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2087			1362			1347			2030	
Travel Time (s)		40.7			26.5			26.2			39.5	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90
Adj. Flow (vph)	201	399	148	179	757	67	208	377	54	112	618	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	201	547	0	179	824	0	208	431	0	112	926	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	9.0	32.0		9.0	32.0		9.0	28.0		9.5	28.0	
Total Split (s)	18.0	46.0	0.0	12.0	40.0	0.0	13.0	50.0	0.0	12.0	49.0	0.0
Total Split (%)	15.0%	38.3%	0.0%	10.0%	33.3%	0.0%	10.8%	41.7%	0.0%	10.0%	40.8%	0.0%
Maximum Green (s)	13.0	40.0		7.0	34.0		8.0	44.0		7.0	43.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.5	2.0		1.5	2.0		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		19.0			19.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	54.7	43.0		47.2	38.2		57.2	47.2		54.8	46.0	
Actuated g/C Ratio	0.46	0.36		0.39	0.32		0.48	0.39		0.46	0.38	
v/c Ratio	0.76	0.84		0.82	1.40		0.99	0.60		0.33	1.34	
Control Delay	31.0	31.8		46.1	218.6		91.2	31.9		21.8	194.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.0	31.8		46.1	218.6		91.2	31.9		21.8	194.9	
LOS	C	C		D	F		F	C		C	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.6			187.8			51.2			176.2	
Approach LOS		C			F			D			F	
Queue Length 50th (ft)	70	376		76	~875		119	275		54	~931	
Queue Length 95th (ft)	#192	#567		m#113	m#1058		#277	383		92	#1185	
Internal Link Dist (ft)		2007			1282			1267			1950	
Turn Bay Length (ft)	330			120			120			70		
Base Capacity (vph)	283	651		217	589		211	724		346	693	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.71	0.84		0.82	1.40		0.99	0.60		0.32	1.34	

Intersection Summary

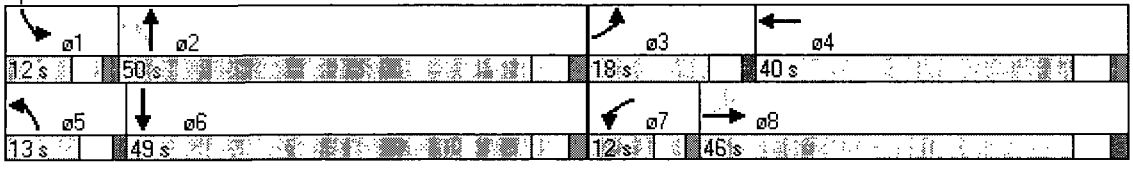
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 34 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.40
Intersection Signal Delay: 124.7 Intersection LOS: F
Intersection Capacity Utilization 122.2% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 509: Westfall Road & Clinton Avenue



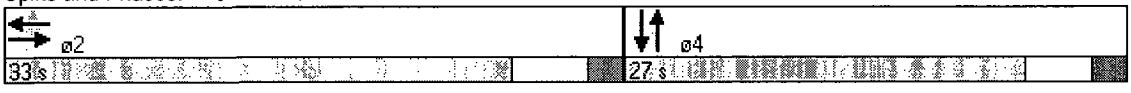
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	213	161	204	790	160	64	19	45	75	98	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	75		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.935			0.975			0.894			0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1742	0	1770	1816	0	1770	1665	0	1770	1690	0
Flt Permitted	0.103			0.474			0.367			0.711		
Satd. Flow (perm)	192	1742	0	883	1816	0	684	1665	0	1324	1690	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		91			24			50			107	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1362			1779			533			471	
Travel Time (s)		26.5			34.7			12.1			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	66	237	179	227	878	178	71	21	50	83	109	180
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	416	0	227	1056	0	71	71	0	83	289	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		26.5	26.5		26.5	26.5	
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0		21.5	21.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-2.5	-2.5	-2.5	-2.5	-2.5	0.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	1.5	3.0	3.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	38.9	38.9		38.9	38.9		15.1	15.1		15.1	15.1	
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.25	0.25		0.25	0.25	
v/c Ratio	0.53	0.36		0.40	0.89		0.41	0.16		0.25	0.57	
Control Delay	23.7	3.4		8.1	19.3		24.2	7.6		17.7	15.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.7	3.4		8.1	19.3		24.2	7.6		17.7	15.6	
LOS	C	A		A	B		C	A		B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		6.2			17.3			15.9			16.0	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	9	0		22	152		22	6		24	56	
Queue Length 95th (ft)	m43	m81		m64	m#634		46	26		46	99	
Internal Link Dist (ft)		1282			1699			453			391	
Turn Bay Length (ft)	75			75			75			75		
Base Capacity (vph)	124	1160		572	1185		274	696		530	740	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.36		0.40	0.89		0.26	0.10		0.16	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 14.7 Intersection LOS: B
Intersection Capacity Utilization 101.4% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 547: Westfall & Lac De Ville



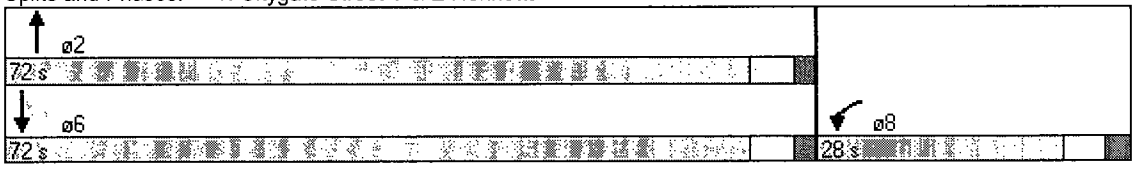
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	114	30	1785	209	105	918
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.984			
Flt Protected	0.950					0.995
Satd. Flow (prot)	1770	1583	3483	0	0	3522
Flt Permitted	0.950					0.542
Satd. Flow (perm)	1770	1583	3483	0	0	1918
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		27	29			
Link Speed (mph)	30		30			30
Link Distance (ft)	600		400			520
Travel Time (s)	13.6		9.1			11.8
Peak Hour Factor	0.90	0.90	0.95	0.95	0.95	0.95
Adj. Flow (vph)	127	33	1879	220	111	966
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	33	2099	0	0	1077
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	20.0		20.0	20.0
Minimum Split (s)	28.0	28.0	26.0		26.0	26.0
Total Split (s)	28.0	28.0	72.0	0.0	72.0	72.0
Total Split (%)	28.0%	28.0%	72.0%	0.0%	72.0%	72.0%
Maximum Green (s)	22.0	22.0	66.0		66.0	66.0
Yellow Time (s)	3.5	3.5	4.0		4.0	4.0
All-Red Time (s)	2.5	2.5	2.0		2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-3.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	5.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	15.0	15.0	12.0		12.0	12.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	15.5	15.5	78.5			78.5
Actuated g/C Ratio	0.16	0.16	0.78			0.78
v/c Ratio	0.46	0.12	0.77			1.35dl
Control Delay	43.3	16.2	8.8			17.4
Queue Delay	0.0	0.1	0.6			0.6
Total Delay	43.3	16.3	9.4			18.1
LOS	D	B	A			B
Approach Delay	37.7		9.4			18.1
Approach LOS	D		A			B
Queue Length 50th (ft)	75	3	294			264

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 95th (ft)	125	29	492			459
Internal Link Dist (ft)	520		320			440
Turn Bay Length (ft)						
Base Capacity (vph)	443	416	2741			1506
Starvation Cap Reductn	0	0	0			151
Spillback Cap Reductn	0	73	278			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.29	0.10	0.85			0.79

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 13.5 Intersection LOS: B
Intersection Capacity Utilization 100.7% ICU Level of Service G
Analysis Period (min) 15
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 1: Citygate Street T & E Henrietta



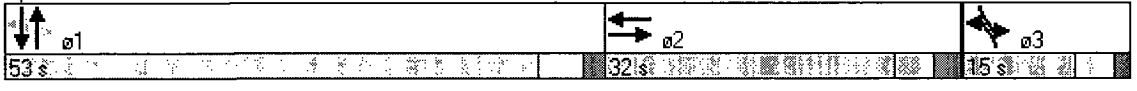
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	0	10	62	2	172	141	1578	97	44	949	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	130		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.852			0.991			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1711	1534	0	1711	3390	0	1711	3387	0
Flt Permitted	0.310			0.750			0.223			0.074		
Satd. Flow (perm)	577	1583	0	1350	1534	0	402	3390	0	133	3387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		254			181			9			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		400			578			520			602	
Travel Time (s)		9.1			13.1			11.8			13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	0	11	65	2	181	148	1661	102	46	999	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	11	0	65	183	0	148	1763	0	46	1073	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			2		3	1		3	1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		3	1		3	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		14.0	39.0		14.0	39.0	
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	15.0	53.0	0.0	15.0	53.0	0.0
Total Split (%)	32.0%	32.0%	0.0%	32.0%	32.0%	0.0%	15.0%	53.0%	0.0%	15.0%	53.0%	0.0%
Maximum Green (s)	26.0	26.0		26.0	26.0		10.0	47.0		10.0	47.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	-2.0	-3.0	-1.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead			Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0			20.0			20.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.2	13.2		13.2	13.2		77.8	69.0		77.8	69.0	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.69		0.78	0.69	
v/c Ratio	0.28	0.03		0.36	0.51		0.35	0.75		0.19	0.46	
Control Delay	46.9	0.1		44.2	11.2		5.3	18.3		5.8	2.2	
Queue Delay	0.0	0.0		0.3	0.0		0.0	9.0		0.0	0.0	
Total Delay	46.9	0.1		44.5	11.3		5.3	27.3		5.8	2.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A		D	B		A	C		A	A	
Approach Delay		30.8			20.0			25.6			2.3	
Approach LOS		C			B			C			A	
Queue Length 50th (ft)	12	0		38	1		26	458		1	43	
Queue Length 95th (ft)	35	0		77	59		m40	594		m5	68	
Internal Link Dist (ft)		320			498			440			522	
Turn Bay Length (ft)							130			250		
Base Capacity (vph)	167	639		392	573		480	2342		296	2340	
Starvation Cap Reductn	0	0		0	0		0	562		0	0	
Spillback Cap Reductn	0	136		114	18		0	347		0	9	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.02		0.23	0.33		0.31	0.99		0.16	0.46	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 69 (69%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 17.3 Intersection LOS: B
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 470: MCH & E Henrietta



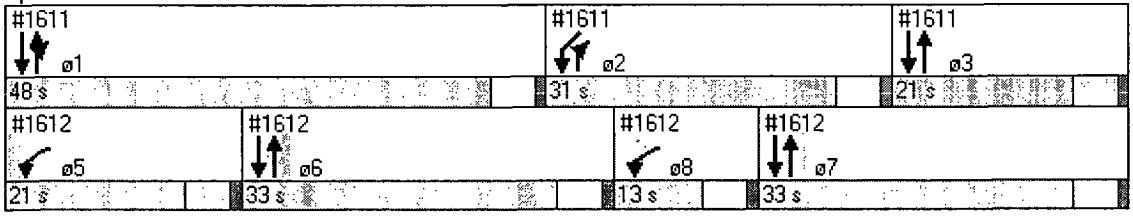
Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø5	ø6	ø7	ø8
Lane Configurations	↑	↱		↑↑	↰↰							
Volume (vph)	816	670	0	474	602	0						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00						
Frt		0.850										
Flt Protected					0.950							
Satd. Flow (prot)	1863	1583	0	3539	3433	0						
Flt Permitted					0.950							
Satd. Flow (perm)	1863	1583	0	3539	3433	0						
Right Turn on Red		Yes				Yes						
Satd. Flow (RTOR)		705										
Link Speed (mph)	30			30	30							
Link Distance (ft)	832			1862	244							
Travel Time (s)	18.9			42.3	5.5							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95						
Adj. Flow (vph)	859	705	0	499	634	0						
Shared Lane Traffic (%)												
Lane Group Flow (vph)	859	705	0	499	634	0						
Turn Type		custom										
Protected Phases	1 3	1 2		1 3	2		1	3	5	6	7	8
Permitted Phases		1		1 3								
Detector Phase	1 3	1 2		1 3	2							
Switch Phase												
Minimum Initial (s)					10.0		24.0	6.0	6.0	10.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	21.0	33.0	33.0	13.0
Total Split (s)	69.0	79.0	0.0	69.0	31.0	0.0	48.0	21.0	21.0	33.0	33.0	13.0
Total Split (%)	69.0%	79.0%	0.0%	69.0%	31.0%	0.0%	48%	21%	21%	33%	33%	13%
Maximum Green (s)					26.0		43.0	16.0	16.0	28.0	28.0	8.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0						
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0						
Lead/Lag					Lag		Lead		Lead	Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	Max	None	None
Walk Time (s)					7.0		24.0		7.0	7.0	7.0	
Flash Dont Walk (s)					9.0		10.0		9.0	21.0	21.0	
Pedestrian Calls (#/hr)					0		0		0	0	0	
Act Effct Green (s)	67.7	74.4		67.7	26.3							
Actuated g/C Ratio	0.68	0.74		0.68	0.26							
v/c Ratio	0.68	0.52		0.21	0.70							
Control Delay	8.3	4.9		6.6	33.7							
Queue Delay	0.4	0.8		0.0	15.3							
Total Delay	8.7	5.6		6.6	49.0							
LOS	A	A		A	D							
Approach Delay	7.3			6.6	49.0							
Approach LOS	A			A	D							
Queue Length 50th (ft)	106	61		59	182							

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø5	ø6	ø7	ø8
Queue Length 95th (ft)	m151	m99		81	235							
Internal Link Dist (ft)	752			1782	164							
Turn Bay Length (ft)												
Base Capacity (vph)	1261	1373		2396	961							
Starvation Cap Reductn	101	0		0	318							
Spillback Cap Reductn	0	354		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.74	0.69		0.21	0.99							

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 17.0 Intersection LOS: B
Intersection Capacity Utilization 66.8% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1611: E Henrietta & South



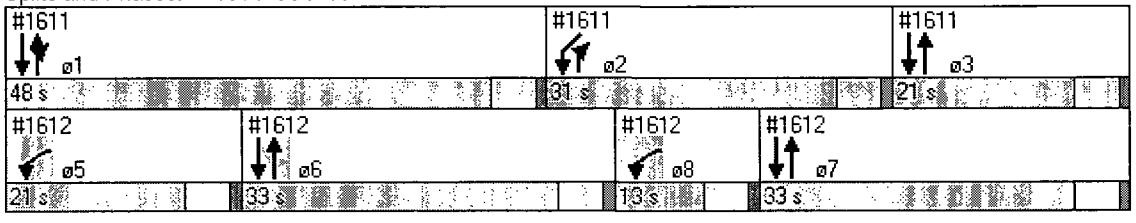
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3	ø5	ø7
Lane Configurations											
Volume (vph)	11	3	586	84	50	591					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95					
Frt		0.850	0.983								
Flt Protected	0.950					0.996					
Satd. Flow (prot)	1770	1583	1831	0	0	3525					
Flt Permitted	0.950					0.831					
Satd. Flow (perm)	1770	1583	1831	0	0	2941					
Right Turn on Red		Yes		Yes							
Satd. Flow (RTOR)		3	12								
Link Speed (mph)	30		30			30					
Link Distance (ft)	396		244			2781					
Travel Time (s)	9.0		5.5			63.2					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95					
Adj. Flow (vph)	12	3	617	88	53	622					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	12	3	705	0	0	675					
Turn Type		custom			custom						
Protected Phases	5 8		6 7			6 7	1	2	3	5	7
Permitted Phases		8			6						
Detector Phase	5 8	8	6 7		6	6 7					
Switch Phase											
Minimum Initial (s)		6.0			10.0		24.0	10.0	6.0	6.0	10.0
Minimum Split (s)		13.0			33.0		40.0	28.0	21.0	21.0	33.0
Total Split (s)	34.0	13.0	66.0	0.0	33.0	66.0	48.0	31.0	21.0	21.0	33.0
Total Split (%)	34.0%	13.0%	66.0%	0.0%	33.0%	66.0%	48%	31%	21%	21%	33%
Maximum Green (s)		8.0			28.0		43.0	26.0	16.0	16.0	28.0
Yellow Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)		1.0			1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	5.0					
Lead/Lag		Lead			Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode		None			Max		C-Max	None	None	C-Max	None
Walk Time (s)					7.0		24.0	7.0		7.0	7.0
Flash Dont Walk (s)					21.0		10.0	9.0		9.0	21.0
Pedestrian Calls (#/hr)					0		0	0		0	0
Act Effct Green (s)	22.1	6.1	67.5			67.5					
Actuated g/C Ratio	0.22	0.06	0.68			0.68					
v/c Ratio	0.03	0.03	0.57			0.34					
Control Delay	15.5	30.0	16.0			5.8					
Queue Delay	0.0	0.0	0.8			0.2					
Total Delay	15.5	30.0	16.8			6.0					
LOS	B	C	B			A					
Approach Delay	18.4		16.8			6.0					
Approach LOS	B		B			A					
Queue Length 50th (ft)	3	0	330			64					

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3	ø5	ø7
Queue Length 95th (ft)	10	9	452			85					
Internal Link Dist (ft)	316		164			2701					
Turn Bay Length (ft)											
Base Capacity (vph)	426	129	1239			1984					
Starvation Cap Reductn	0	0	249			0					
Spillback Cap Reductn	18	0	0			522					
Storage Cap Reductn	0	0	0			0					
Reduced v/c Ratio	0.03	0.02	0.71			0.46					

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:NBSB and 5:, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 68.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1612: Science Park & South



PM

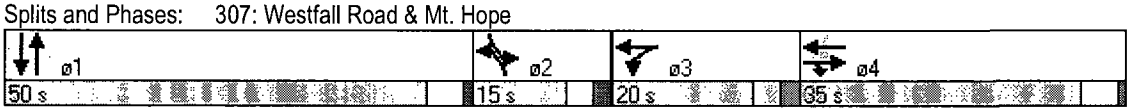
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	187	267	399	125	151	55	825	183	130	1035	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.918				0.850			
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	1859	1583	1770	1710	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.981		0.375			0.133			0.215		
Satd. Flow (perm)	0	1827	1583	699	1710	0	248	3539	1583	400	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			197		64				193			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	197	281	420	132	159	58	868	193	137	1089	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	206	281	420	291	0	58	868	193	137	1091	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	35.0	35.0	35.0	20.0	55.0	0.0	15.0	50.0	50.0	15.0	50.0	0.0
Total Split (%)	29.2%	29.2%	29.2%	16.7%	45.8%	0.0%	12.5%	41.7%	41.7%	12.5%	41.7%	0.0%
Maximum Green (s)	30.0	30.0	30.0	15.0			10.0	45.0	45.0	10.0	45.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		23.5	23.5	44.0	47.0		64.0	55.5	55.5	64.0	55.5	
Actuated g/C Ratio		0.20	0.20	0.37	0.39		0.53	0.46	0.46	0.53	0.46	
v/c Ratio		0.58	0.60	0.95	0.41		0.24	0.53	0.23	0.44	0.67	
Control Delay		49.3	18.4	63.6	10.6		22.3	25.5	3.9	31.7	31.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		49.3	18.4	63.6	10.6		22.3	25.5	3.9	31.7	31.0	
LOS		D	B	E	B		C	C	A	C	C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.4			41.9			21.6			31.1	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		146	56	211	50		20	245	0	58	364	
Queue Length 95th (ft)		206	134	m#346	m57		44	351	46	111	501	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		487	567	440	826		292	1638	836	362	1638	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.42	0.50	0.95	0.35		0.20	0.53	0.23	0.38	0.67	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 30.3 Intersection LOS: C
Intersection Capacity Utilization 78.6% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 307: Westfall Road & Mt. Hope



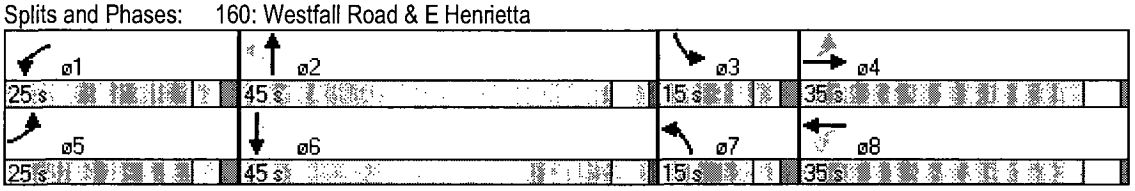
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	337	139	455	377	204	150	1030	261	229	1042	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	275		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.956			0.947			0.970			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3271	0	1652	3240	0	1711	3433	0	1711	3507	0
Flt Permitted	0.167			0.256			0.095			0.095		
Satd. Flow (perm)	290	3271	0	445	3240	0	171	3433	0	171	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			82			29			6	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.95	0.95	0.95
Adj. Flow (vph)	114	355	146	479	397	215	153	1051	266	241	1097	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	501	0	479	612	0	153	1317	0	241	1164	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	25.0	35.0	0.0	25.0	35.0	0.0	15.0	45.0	0.0	15.0	45.0	0.0
Total Split (%)	20.8%	29.2%	0.0%	20.8%	29.2%	0.0%	12.5%	37.5%	0.0%	12.5%	37.5%	0.0%
Maximum Green (s)	20.0	30.0		20.0	30.0		10.0	40.0		10.0	40.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	54.0	28.2		54.0	28.2		54.0	42.0		54.0	42.0	
Actuated g/C Ratio	0.45	0.24		0.45	0.24		0.45	0.35		0.45	0.35	
v/c Ratio	0.27	0.62		1.04	0.74		0.66	1.08		1.04	0.95	
Control Delay	38.9	37.8		85.1	40.1		36.3	74.5		105.4	41.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4		0.0	0.0	
Total Delay	38.9	37.8		85.1	40.1		36.3	74.9		105.4	41.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		F	D		D	E		E	D	
Approach Delay		38.0			59.9			70.9			52.7	
Approach LOS		D			E			E			D	
Queue Length 50th (ft)	64	178		~314	214		66	~572		~157	147	
Queue Length 95th (ft)	102	222		#550	242		m100	#717		#325	#469	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			275			200			75		
Base Capacity (vph)	423	910		460	924		231	1220		231	1231	
Starvation Cap Reductn	0	0		0	0		0	1		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.55		1.04	0.66		0.66	1.08		1.04	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 75 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 58.3 Intersection LOS: E
Intersection Capacity Utilization 101.8% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 160: Westfall Road & E Henrietta



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	804	23	0	1027	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1018	29	0	1129	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	663			400		
pX, platoon unblocked			0.75		0.32	0.75
vC, conflicting volume			1047		2161	1032
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			894		1785	874
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			567		29	261

Direction, Lane #	EB 1	WB 1
Volume Total	1047	1129
Volume Left	0	0
Volume Right	29	0
cSH	1700	1700
Volume to Capacity	0.62	0.66
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

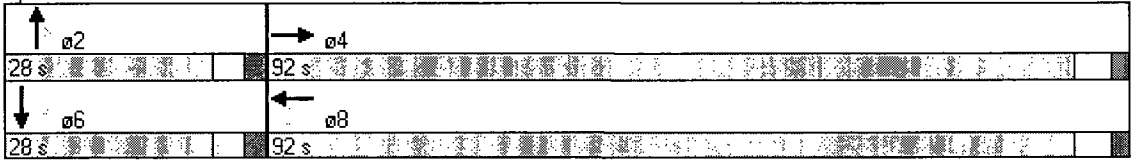
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	779	55	176	946	20	73	0	176	10	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.997				0.850		0.932	
Flt Protected	0.950			0.950				0.950			0.976	
Satd. Flow (prot)	1770	1844	0	1770	1857	0	0	1770	1583	0	1694	0
Flt Permitted	0.182			0.284				0.818			0.858	
Satd. Flow (perm)	339	1844	0	529	1857	0	0	1524	1583	0	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2				196		12	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		400			560			514			400	
Travel Time (s)		7.8			10.9			11.7			9.1	
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.90	0.90	0.90	0.83	0.83	0.83
Adj. Flow (vph)	15	811	57	205	1100	23	81	0	196	12	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	868	0	205	1123	0	0	81	196	0	24	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0	28.0	28.0	28.0	
Total Split (s)	92.0	92.0	0.0	92.0	92.0	0.0	28.0	28.0	28.0	28.0	28.0	0.0
Total Split (%)	76.7%	76.7%	0.0%	76.7%	76.7%	0.0%	23.3%	23.3%	23.3%	23.3%	23.3%	0.0%
Maximum Green (s)	86.0	86.0		86.0	86.0		22.0	22.0	22.0	22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	-1.0	0.0	-3.0	-3.0	-1.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	3.0	6.0	3.0	3.0	5.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0	15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	99.1	99.1		99.1	99.1			14.9	14.9		14.9	
Actuated g/C Ratio	0.83	0.83		0.83	0.83			0.12	0.12		0.12	
v/c Ratio	0.05	0.57		0.47	0.73			0.43	0.53		0.12	
Control Delay	0.8	2.0		8.5	10.1			54.6	11.8		29.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	0.8	2.0		8.5	10.1			54.6	11.8		29.8	
LOS	A	A		A	B			D	B		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		2.0			9.9			24.3			29.8	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	0	21		48	339			59	0		8	
Queue Length 95th (ft)	m1	m28		m110	m547			106	65		30	
Internal Link Dist (ft)		320			480			434			320	
Turn Bay Length (ft)	300			300								
Base Capacity (vph)	280	1524		437	1534			318	485		320	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.05	0.57		0.47	0.73			0.25	0.40		0.07	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 8.9 Intersection LOS: A
Intersection Capacity Utilization 89.7% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

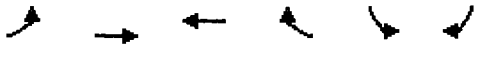
Splits and Phases: 4: Westfall Road & Green Knolls Drive East



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	938	26	0	1145	0	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1042	29	0	1272	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	560			1276		
pX, platoon unblocked			0.82		0.62	0.82
vC, conflicting volume			1071		2329	1057
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			977		2181	960
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			579		32	256

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1071	1272	4
Volume Left	0	0	0
Volume Right	29	0	4
cSH	1700	1700	256
Volume to Capacity	0.63	0.75	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	19.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	19.3
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	12	930	1129	21	6	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.86	0.86	0.83	0.83
Hourly flow rate (vph)	12	969	1313	24	7	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		660	1176			
pX, platoon unblocked	0.48				0.56	0.48
vC, conflicting volume	1337				2319	1325
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1160				2339	1134
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				66	84
cM capacity (veh/h)	288				21	118

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	12	969	1337	27
Volume Left	12	0	0	7
Volume Right	0	0	24	19
cSH	288	1700	1700	53
Volume to Capacity	0.04	0.57	0.79	0.50
Queue Length 95th (ft)	3	0	0	48
Control Delay (s)	18.1	0.0	0.0	128.1
Lane LOS	C			F
Approach Delay (s)	0.2		0.0	128.1
Approach LOS				F

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	997	22	41	809	3	251	0	259	73	0	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	0	1770	1583	0	1770	1583	0
Flt Permitted	0.201			0.056			0.614			0.231		
Satd. Flow (perm)	374	1863	1583	104	1863	0	1144	1583	0	430	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			10					223			275	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1176			2087			424			399	
Travel Time (s)		22.9			40.7			9.6			9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	1108	24	46	899	3	279	0	288	81	0	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1108	24	46	902	0	279	288	0	81	103	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	15.0	77.0	77.0	15.0	77.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	12.5%	64.2%	64.2%	12.5%	64.2%	0.0%	23.3%	23.3%	0.0%	23.3%	23.3%	0.0%
Maximum Green (s)	10.0	71.0	71.0	10.0	71.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	86.0	80.6	80.6	88.6	87.0		25.0	25.0		25.0	25.0	
Actuated g/C Ratio	0.72	0.67	0.67	0.74	0.72		0.21	0.21		0.21	0.21	
v/c Ratio	0.03	0.89	0.02	0.26	0.67		1.17	0.57		0.90	0.19	
Control Delay	2.5	18.7	2.2	10.1	6.0		155.1	15.6		118.8	0.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	2.5	18.7	2.2	10.1	6.0		155.1	15.6		118.8	0.8	
LOS	A	B	A	B	A		F	B		F	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		18.2			6.2			84.3			52.7	
Approach LOS		B			A			F			D	
Queue Length 50th (ft)	1	396	1	6	117		~258	42		62	0	
Queue Length 95th (ft)	m3	#1080	m4	m6	m107		#430	131		#163	0	
Internal Link Dist (ft)		1096			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	417	1251	1066	244	1351		238	506		90	548	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.89	0.02	0.19	0.67		1.17	0.57		0.90	0.19	

Intersection Summary

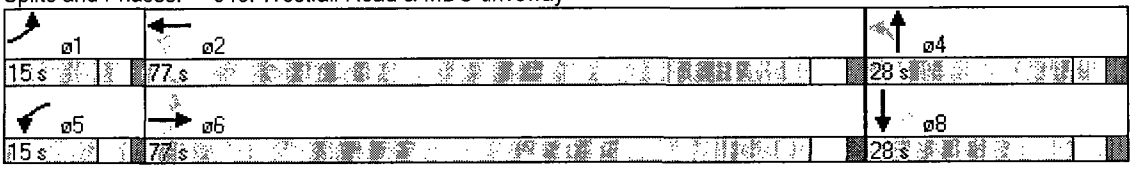
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 548: Westfall Road & MDC driveway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	462	670	225	139	476	148	165	651	60	114	555	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	330		0	120		0	120		0	70		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.964			0.987			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1796	0	1770	1839	0	1770	1792	0
Flt Permitted	0.103			0.111			0.087			0.089		
Satd. Flow (perm)	192	1792	0	207	1796	0	162	1839	0	166	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			14			5			16	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2087			1362			1347			2030	
Travel Time (s)		40.7			26.5			26.2			39.5	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	513	744	250	151	517	161	183	723	67	127	617	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	513	994	0	151	678	0	183	790	0	127	826	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	9.0	32.0		9.0	32.0		9.0	28.0		9.5	28.0	
Total Split (s)	18.0	46.0	0.0	12.0	40.0	0.0	13.0	50.0	0.0	12.0	49.0	0.0
Total Split (%)	15.0%	38.3%	0.0%	10.0%	33.3%	0.0%	10.8%	41.7%	0.0%	10.0%	40.8%	0.0%
Maximum Green (s)	13.0	40.0		7.0	34.0		8.0	44.0		7.0	43.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	1.5	2.0		1.5	2.0		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0	-2.0	-3.0	-3.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		19.0			19.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	55.0	43.0		46.0	37.0		57.1	47.1		54.9	46.0	
Actuated g/C Ratio	0.46	0.36		0.38	0.31		0.48	0.39		0.46	0.38	
v/c Ratio	1.80	1.52		0.77	1.20		0.87	1.09		0.65	1.19	
Control Delay	392.5	266.6		48.6	141.9		64.1	93.4		36.9	134.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	392.5	266.6		48.6	141.9		64.1	93.4		36.9	134.5	
LOS	F	F		D	F		E	F		D	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		309.4			124.9			87.9			121.5	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~544	~1088		71	~621		97	~706		62	~769	
Queue Length 95th (ft)	m#676	m#1286		#171	#864		#226	#937		#123	#1018	
Internal Link Dist (ft)		2007			1282			1267			1950	
Turn Bay Length (ft)	330			120			120			70		
Base Capacity (vph)	285	652		197	563		211	725		196	697	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.80	1.52		0.77	1.20		0.87	1.09		0.65	1.19	

Intersection Summary

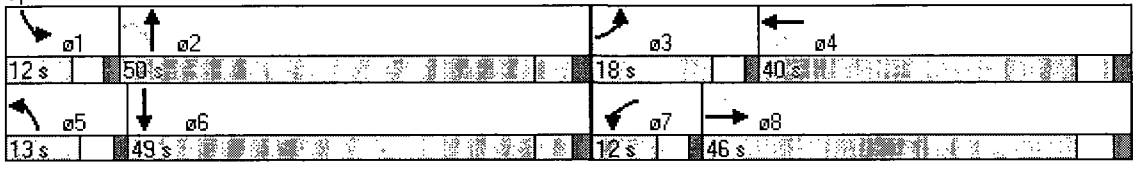
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 34 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.80
Intersection Signal Delay: 180.9 Intersection LOS: F
Intersection Capacity Utilization 122.8% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 509: Westfall Road & Clinton Avenue



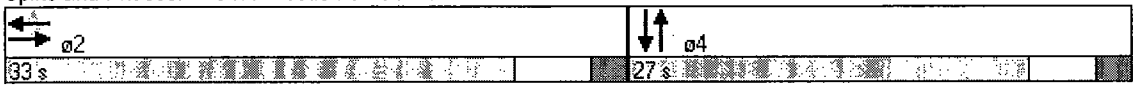
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	801	72	26	358	103	199	137	203	129	33	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	75		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.967			0.910			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1840	0	1770	1801	0	1770	1695	0	1770	1652	0
Flt Permitted	0.377			0.116			0.637			0.321		
Satd. Flow (perm)	702	1840	0	216	1801	0	1187	1695	0	598	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			34			103			114	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1362			1779			533			471	
Travel Time (s)		26.5			34.7			12.1			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	81	890	80	29	398	114	221	152	226	143	37	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	970	0	29	512	0	221	378	0	143	151	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		26.5	26.5		26.5	26.5	
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0		21.5	21.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-2.5	-2.5	-2.5	-2.5	-2.5	0.0
Total Lost Time (s)	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	1.5	3.0	3.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	34.6	34.6		34.6	34.6		19.4	19.4		19.4	19.4	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.32	0.32		0.32	0.32	
v/c Ratio	0.20	0.91		0.23	0.49		0.58	0.61		0.74	0.25	
Control Delay	5.5	21.2		12.3	8.5		22.2	15.9		41.1	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.5	21.2		12.3	8.5		22.2	15.9		41.1	5.4	
LOS	A	C		B	A		C	B		D	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		20.0			8.7			18.2			22.8	
Approach LOS		C			A			B			C	
Queue Length 50th (ft)	12	693		4	69		62	76		43	9	
Queue Length 95th (ft)	m11	m392		m8	m132		112	137		#114	38	
Internal Link Dist (ft)		1282			1699			453			391	
Turn Bay Length (ft)	75			75			75			75		
Base Capacity (vph)	405	1067		125	1054		475	740		239	729	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.91		0.23	0.49		0.47	0.51		0.60	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 97.5% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 547: Westfall & Lac De Ville



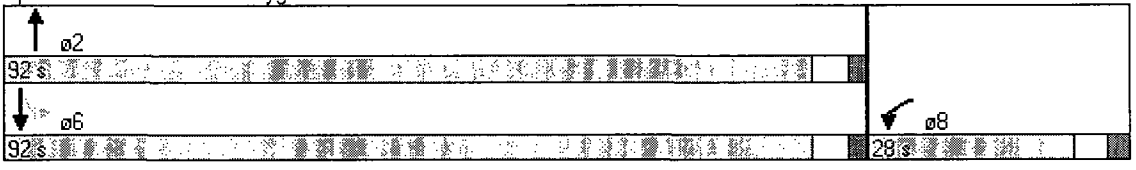
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	194	221	1244	178	160	1532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.981			
Flt Protected	0.950					0.995
Satd. Flow (prot)	1770	1583	3472	0	0	3522
Flt Permitted	0.950					0.551
Satd. Flow (perm)	1770	1583	3472	0	0	1950
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		100	36			
Link Speed (mph)	30		30			30
Link Distance (ft)	600		400			520
Travel Time (s)	13.6		9.1			11.8
Peak Hour Factor	0.90	0.90	0.93	0.93	0.97	0.97
Adj. Flow (vph)	216	246	1338	191	165	1579
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	246	1529	0	0	1744
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	20.0		3.0	3.0
Minimum Split (s)	28.0	28.0	26.0		25.0	25.0
Total Split (s)	28.0	28.0	92.0	0.0	92.0	92.0
Total Split (%)	23.3%	23.3%	76.7%	0.0%	76.7%	76.7%
Maximum Green (s)	22.0	22.0	86.0		86.0	86.0
Yellow Time (s)	3.5	3.5	4.0		4.0	4.0
All-Red Time (s)	2.5	2.5	2.0		2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-3.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	5.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	15.0	15.0	12.0		12.0	12.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	21.8	21.8	92.2			92.2
Actuated g/C Ratio	0.18	0.18	0.77			0.77
v/c Ratio	0.67	0.67	0.57			1.16
Control Delay	56.2	35.6	6.9			96.0
Queue Delay	0.0	0.2	0.2			1.0
Total Delay	56.2	35.7	7.1			97.0
LOS	E	D	A			F
Approach Delay	45.3		7.1			97.0
Approach LOS	D		A			F
Queue Length 50th (ft)	156	105	221			~850

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 95th (ft)	235	191	294			#998
Internal Link Dist (ft)	520		320			440
Turn Bay Length (ft)						
Base Capacity (vph)	369	409	2677			1499
Starvation Cap Reductn	0	0	0			3
Spillback Cap Reductn	0	9	342			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.59	0.61	0.65			1.17

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 53.8 Intersection LOS: D
Intersection Capacity Utilization 107.8% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Citygate Street T & E Henrietta



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	1	56	201	0	113	9	1287	167	159	1437	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	130		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.850			0.983			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1589	0	1711	1531	0	1711	3363	0	1711	3408	0
Flt Permitted	0.589			0.712			0.088			0.086		
Satd. Flow (perm)	1097	1589	0	1282	1531	0	158	3363	0	155	3408	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			183			19			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		400			578			520			602	
Travel Time (s)		9.1			13.1			11.8			13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97
Adj. Flow (vph)	45	1	59	212	0	119	9	1355	176	164	1481	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	60	0	212	119	0	9	1531	0	164	1522	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			2		3	1		3	1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		3	1		3	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		14.0	39.0		14.0	39.0	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	15.0	70.0	0.0	15.0	70.0	0.0
Total Split (%)	29.2%	29.2%	0.0%	29.2%	29.2%	0.0%	12.5%	58.3%	0.0%	12.5%	58.3%	0.0%
Maximum Green (s)	29.0	29.0		29.0	29.0		10.0	64.0		10.0	64.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		1.5	2.0		1.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	-2.0	-3.0	-1.0	-2.0	-3.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead			Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0			20.0			20.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	26.8	26.8		26.8	26.8		84.2	72.9		84.2	72.9	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.70	0.61		0.70	0.61	
v/c Ratio	0.18	0.15		0.74	0.25		0.04	0.75		0.64	0.73	
Control Delay	37.5	9.6		58.7	1.9		5.1	17.3		28.9	5.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.7		0.0	1.3	
Total Delay	37.5	9.6		58.7	1.9		5.1	18.0		28.9	6.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A		E	A		A	B		C	A	
Approach Delay		21.5			38.3			18.0			8.6	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)	28	1		152	0		2	482		56	123	
Queue Length 95th (ft)	59	34		232	7		m3	613		m69	m153	
Internal Link Dist (ft)		320			498			440			522	
Turn Bay Length (ft)							130			250		
Base Capacity (vph)	293	467		342	542		272	2051		270	2072	
Starvation Cap Reductn	0	0		0	0		0	91		0	109	
Spillback Cap Reductn	0	5		0	12		0	225		0	322	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.13		0.62	0.22		0.03	0.84		0.61	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 63 (53%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 15.6 Intersection LOS: B
Intersection Capacity Utilization 77.5% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 470: MCH & E Henrietta

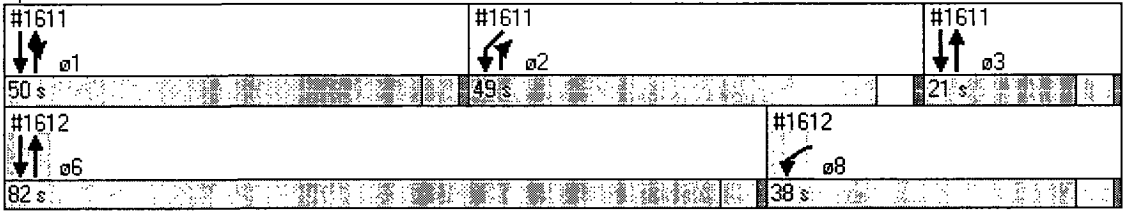
Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Lane Configurations	↑	↱		↑↑	↰↰					
Volume (vph)	485	652	0	644	835	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00				
Frt		0.850								
Flt Protected					0.950					
Satd. Flow (prot)	1863	1583	0	3539	3433	0				
Flt Permitted					0.950					
Satd. Flow (perm)	1863	1583	0	3539	3433	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)		686								
Link Speed (mph)	30			30	30					
Link Distance (ft)	832			1862	244					
Travel Time (s)	18.9			42.3	5.5					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Adj. Flow (vph)	511	686	0	678	879	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	511	686	0	678	879	0				
Turn Type		custom								
Protected Phases	1 3	1 2		1 3	2		1	3	6	8
Permitted Phases		1		1 3						
Detector Phase	1 3	1 2		1 3	2					
Switch Phase										
Minimum Initial (s)					10.0		24.0	6.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	33.0	13.0
Total Split (s)	71.0	99.0	0.0	71.0	49.0	0.0	50.0	21.0	82.0	38.0
Total Split (%)	59.2%	82.5%	0.0%	59.2%	40.8%	0.0%	42%	18%	68%	32%
Maximum Green (s)					44.0		45.0	16.0	77.0	33.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0				
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0				
Lead/Lag					Lag		Lead			
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	None
Walk Time (s)					7.0		24.0		7.0	
Flash Dont Walk (s)					9.0		10.0		21.0	
Pedestrian Calls (#/hr)					0		0		0	
Act Effct Green (s)	72.5	93.9		72.5	41.5					
Actuated g/C Ratio	0.60	0.78		0.60	0.35					
v/c Ratio	0.45	0.49		0.32	0.74					
Control Delay	8.0	6.7		12.7	38.1					
Queue Delay	0.0	0.3		0.0	22.2					
Total Delay	8.0	7.1		12.7	60.3					
LOS	A	A		B	E					
Approach Delay	7.5			12.7	60.3					
Approach LOS	A			B	E					
Queue Length 50th (ft)	81	347		132	293					

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Queue Length 95th (ft)	m88	m344		180	421					
Internal Link Dist (ft)	752			1782	164					
Turn Bay Length (ft)										
Base Capacity (vph)	1126	1422		2138	1316					
Starvation Cap Reductn	0	273		0	457					
Spillback Cap Reductn	0	19		0	0					
Storage Cap Reductn	0	0		0	0					
Reduced v/c Ratio	0.45	0.60		0.32	1.02					

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 56.0% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1611: E Henrietta & South



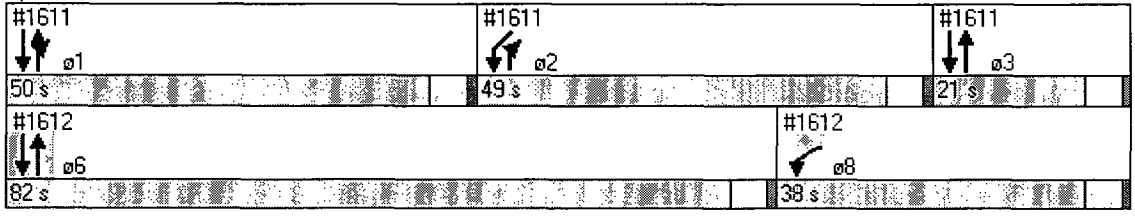
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3
Lane Configurations									
Volume (vph)	15	3	581	71	50	820			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95			
Frt		0.850	0.985						
Flt Protected	0.950					0.997			
Satd. Flow (prot)	1770	1583	1835	0	0	3529			
Flt Permitted	0.950					0.867			
Satd. Flow (perm)	1770	1583	1835	0	0	3068			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		3	10						
Link Speed (mph)	30		30			30			
Link Distance (ft)	396		244			2781			
Travel Time (s)	9.0		5.5			63.2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Adj. Flow (vph)	16	3	612	75	53	863			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	16	3	687	0	0	916			
Turn Type		Perm			Perm				
Protected Phases	8		6			6	1	2	3
Permitted Phases		8			6				
Detector Phase	8	8	6		6	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	10.0		10.0	10.0	24.0	10.0	6.0
Minimum Split (s)	13.0	13.0	33.0		33.0	33.0	40.0	28.0	21.0
Total Split (s)	38.0	38.0	82.0	0.0	82.0	82.0	50.0	49.0	21.0
Total Split (%)	31.7%	31.7%	68.3%	0.0%	68.3%	68.3%	42%	41%	18%
Maximum Green (s)	33.0	33.0	77.0		77.0	77.0	45.0	44.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	5.0			
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max	C-Max	None	None
Walk Time (s)			7.0		7.0	7.0	24.0	7.0	
Flash Dont Walk (s)			21.0		21.0	21.0	10.0	9.0	
Pedestrian Calls (#/hr)			0		0	0	0	0	
Act Effct Green (s)	16.9	16.9	102.8			102.8			
Actuated g/C Ratio	0.14	0.14	0.86			0.86			
v/c Ratio	0.06	0.01	0.44			0.35			
Control Delay	37.5	21.0	2.8			5.9			
Queue Delay	0.0	0.0	0.0			0.3			
Total Delay	37.5	21.0	2.8			6.2			
LOS	D	C	A			A			
Approach Delay	34.9		2.8			6.2			
Approach LOS	C		A			A			
Queue Length 50th (ft)	12	0	0			0			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø3
Queue Length 95th (ft)	27	8	111			222			
Internal Link Dist (ft)	316		164			2701			
Turn Bay Length (ft)									
Base Capacity (vph)	487	438	1573			2628			
Starvation Cap Reductn	0	0	52			0			
Spillback Cap Reductn	0	0	0			1036			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.03	0.01	0.45			0.58			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 5.1 Intersection LOS: A
Intersection Capacity Utilization 73.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1612: Science Park & South



Appendix G
2013 Build LOS- Mitigation

2. Synchro

AM

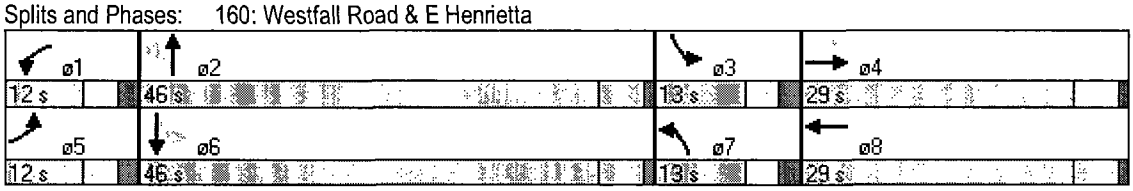
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	359	70	207	267	191	206	1041	525	215	786	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	10	11	11	11	12	12	11	12	12
Storage Length (ft)	145		0	275		0	200		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.937			0.950			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3336	0	1652	3206	0	1711	3362	0	1711	3483	0
Flt Permitted	0.254			0.283			0.198			0.086		
Satd. Flow (perm)	442	3336	0	492	3206	0	357	3362	0	155	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			175			111			16	
Link Speed (mph)		30			35			30			30	
Link Distance (ft)		1751			342			602			832	
Travel Time (s)		39.8			6.7			13.7			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	378	74	218	281	201	217	1096	553	226	827	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	452	0	218	482	0	217	1649	0	226	924	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	4		1	8		7	2		3	6	
Permitted Phases	4			8			2			6		
Detector Phase	5	4		1	8		7	2		3	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	30.0		10.0	30.0	
Total Split (s)	12.0	29.0	0.0	12.0	29.0	0.0	13.0	46.0	0.0	13.0	46.0	0.0
Total Split (%)	12.0%	29.0%	0.0%	12.0%	29.0%	0.0%	13.0%	46.0%	0.0%	13.0%	46.0%	0.0%
Maximum Green (s)	7.0	24.0		7.0	24.0		8.0	41.0		8.0	41.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	4.0		2.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		16.0			16.0			17.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	31.2	21.2		31.3	21.2		56.7	46.7		56.7	46.7	
Actuated g/C Ratio	0.31	0.21		0.31	0.21		0.57	0.47		0.57	0.47	
v/c Ratio	0.31	0.62		0.80	0.59		0.64	1.01		0.93	0.57	
Control Delay	25.8	32.8		55.1	21.9		26.2	47.4		69.3	8.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.9		0.0	0.0	
Total Delay	25.8	32.8		55.1	21.9		26.2	48.3		69.3	8.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		E	C		C	D		E	A	
Approach Delay		31.7			32.2			45.7			20.8	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	32	121		107	96		40	~610		102	82	
Queue Length 95th (ft)	58	153		#196	135		m65	#733		#237	101	
Internal Link Dist (ft)		1671			262			522			752	
Turn Bay Length (ft)	145			275			200			75		
Base Capacity (vph)	266	884		277	963		338	1629		243	1634	
Starvation Cap Reductn	0	0		0	0		0	5		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.30	0.51		0.79	0.50		0.64	1.02		0.93	0.57	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 63 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 35.0 Intersection LOS: C
Intersection Capacity Utilization 94.4% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 160: Westfall Road & E Henrietta



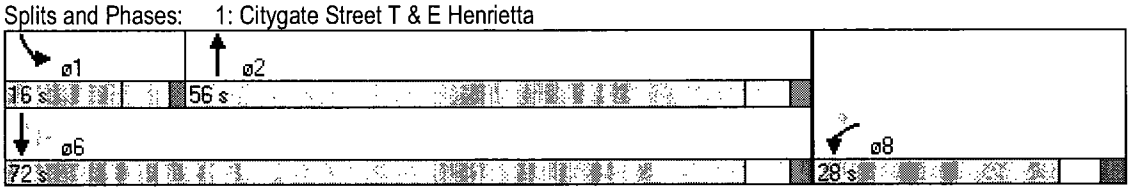
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	114	30	1785	209	105	918
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.984			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3483	0	1770	3539
Flt Permitted	0.950				0.059	
Satd. Flow (perm)	1770	1583	3483	0	110	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		33	19			
Link Speed (mph)	30		30			30
Link Distance (ft)	600		400			520
Travel Time (s)	13.6		9.1			11.8
Peak Hour Factor	0.90	0.90	0.95	0.95	0.95	0.95
Adj. Flow (vph)	127	33	1879	220	111	966
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	33	2099	0	111	966
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	20.0		3.0	20.0
Minimum Split (s)	28.0	28.0	26.0		9.0	26.0
Total Split (s)	28.0	28.0	56.0	0.0	16.0	72.0
Total Split (%)	28.0%	28.0%	56.0%	0.0%	16.0%	72.0%
Maximum Green (s)	22.0	22.0	50.0		10.5	66.0
Yellow Time (s)	3.5	3.5	4.0		4.0	4.0
All-Red Time (s)	2.5	2.5	2.0		1.5	2.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-3.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	4.5	3.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	15.0	15.0	12.0			12.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	15.5	15.5	65.3		77.0	78.5
Actuated g/C Ratio	0.16	0.16	0.65		0.77	0.78
v/c Ratio	0.46	0.12	0.92		0.48	0.35
Control Delay	43.3	12.6	24.6		27.8	2.7
Queue Delay	0.0	0.1	4.9		0.0	0.2
Total Delay	43.3	12.7	29.4		27.8	2.9
LOS	D	B	C		C	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	37.0		29.4			5.4
Approach LOS	D		C			A
Queue Length 50th (ft)	75	0	535		20	62
Queue Length 95th (ft)	125	25	#913		70	78
Internal Link Dist (ft)	520		320			440
Turn Bay Length (ft)					200	
Base Capacity (vph)	443	421	2280		278	2779
Starvation Cap Reductn	0	0	0		0	847
Spillback Cap Reductn	0	133	145		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.29	0.11	0.98		0.40	0.50

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 22.0 Intersection LOS: C
Intersection Capacity Utilization 78.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Citygate Street T & E Henrietta



PM

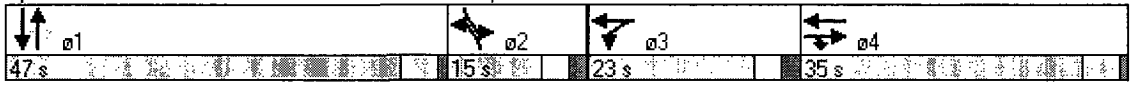
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	187	267	399	125	151	55	825	183	130	1035	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		225	125		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.918				0.850			
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	1859	1583	1770	1710	0	1770	3539	1583	1770	3539	0
Flt Permitted		0.981		0.375			0.121			0.204		
Satd. Flow (perm)	0	1827	1583	699	1710	0	225	3539	1583	380	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			204		67				193			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		619			1751			625			1632	
Travel Time (s)		14.1			39.8			14.2			37.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	197	281	420	132	159	58	868	193	137	1089	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	206	281	420	291	0	58	868	193	137	1091	0
Turn Type	Perm		custom	pm+pt			pm+pt		Perm	pm+pt		
Protected Phases		4	4	3	3 4		2	1		2	1	
Permitted Phases	4		4	3 4			1		1	1		
Detector Phase	4	4	4	3	3 4		2	1	1	2	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	5.0			5.0	21.0	21.0	5.0	21.0	
Minimum Split (s)	29.0	29.0	29.0	11.0			13.0	40.0	40.0	13.0	40.0	
Total Split (s)	35.0	35.0	35.0	23.0	58.0	0.0	15.0	47.0	47.0	15.0	47.0	0.0
Total Split (%)	29.2%	29.2%	29.2%	19.2%	48.3%	0.0%	12.5%	39.2%	39.2%	12.5%	39.2%	0.0%
Maximum Green (s)	30.0	30.0	30.0	18.0			10.0	42.0	42.0	10.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	3.0			3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	2.0			2.0	1.0	1.0	2.0	1.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	2.0			2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None	None	None			None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0					20.0	20.0		20.0	
Flash Dont Walk (s)	17.0	17.0	17.0					14.0	14.0		14.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)		23.5	23.5	46.0	49.0		62.0	53.0	53.0	62.0	53.0	
Actuated g/C Ratio		0.20	0.20	0.38	0.41		0.52	0.44	0.44	0.52	0.44	
v/c Ratio		0.58	0.59	0.89	0.39		0.25	0.56	0.24	0.46	0.70	
Control Delay		49.3	17.3	52.9	10.3		25.4	27.8	4.2	33.8	32.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		49.3	17.3	52.9	10.3		25.4	27.8	4.2	33.8	32.8	
LOS		D	B	D	B		C	C	A	C	C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		30.8			35.4			23.6			32.9	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		146	51	207	46		21	258	0	59	374	
Queue Length 95th (ft)		206	129	m#309	m51		47	366	48	114	510	
Internal Link Dist (ft)		539			1671			545			1552	
Turn Bay Length (ft)			75				125		225	125		
Base Capacity (vph)		487	572	470	855		276	1562	807	345	1562	
Starvation Cap Reductn		0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.42	0.49	0.89	0.34		0.21	0.56	0.24	0.40	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 30.2 Intersection LOS: C
Intersection Capacity Utilization 78.6% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 307: Westfall Road & Mt. Hope



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	997	22	41	809	3	251	0	259	73	0	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	125		0	75		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	0	1770	1583	0	1770	1583	0
Flt Permitted	0.143			0.054			0.645			0.352		
Satd. Flow (perm)	266	1863	1583	101	1863	0	1201	1583	0	656	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			9					139			190	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1176			2087			424			399	
Travel Time (s)		22.9			40.7			9.6			9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	1108	24	46	899	3	279	0	288	81	0	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1108	24	46	902	0	279	288	0	81	103	0
Turn Type	pm+pt		Perm	pm+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	25.0	25.0	4.0	25.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	9.0	31.0	31.0	9.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	9.0	71.0	71.0	9.0	71.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	7.5%	59.2%	59.2%	7.5%	59.2%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	4.0	65.0	65.0	4.0	65.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-2.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0	0		0		0	0		0	0	
Act Effct Green (s)	77.7	72.8	72.8	79.6	78.4		33.8	33.8		33.8	33.8	
Actuated g/C Ratio	0.65	0.61	0.61	0.66	0.65		0.28	0.28		0.28	0.28	
v/c Ratio	0.04	0.98	0.02	0.30	0.74		0.83	0.53		0.44	0.18	
Control Delay	5.2	37.7	4.5	15.1	11.0		60.4	21.2		42.5	0.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.2	37.7	4.5	15.1	11.0		60.4	21.2		42.5	0.7	
LOS	A	D	A	B	B		E	C		D	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		36.7			11.2			40.5			19.1	
Approach LOS		D			B			D			B	
Queue Length 50th (ft)	1	~935	2	8	150		194	90		49	0	
Queue Length 95th (ft)	m4	#1184	m8	m7	m448		#324	176		100	0	
Internal Link Dist (ft)		1096			2007			344			319	
Turn Bay Length (ft)	125		125	125			75			75		
Base Capacity (vph)	250	1130	964	155	1217		370	584		202	620	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.98	0.02	0.30	0.74		0.75	0.49		0.40	0.17	

Intersection Summary

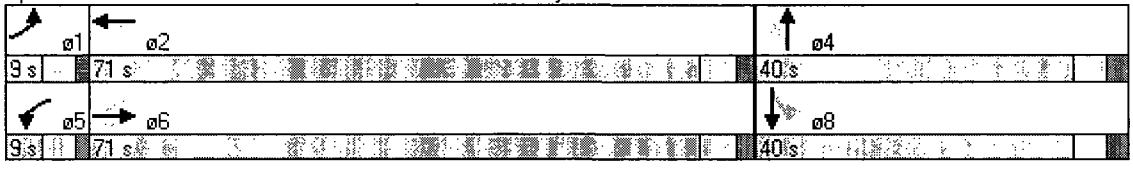
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 27.8 Intersection LOS: C
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 548: Westfall Road & MDC driveway



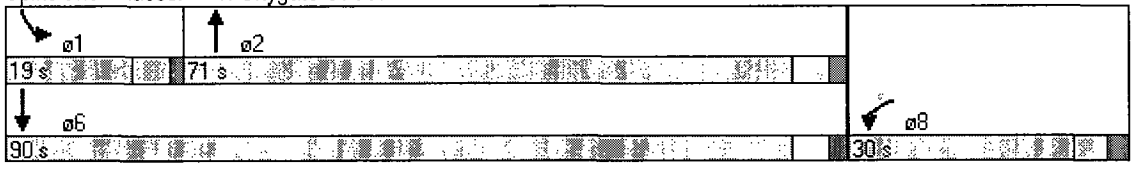
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	194	221	1244	178	160	1532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.981			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3472	0	1770	3539
Flt Permitted	0.950				0.088	
Satd. Flow (perm)	1770	1583	3472	0	164	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		225	22			
Link Speed (mph)	30		30			30
Link Distance (ft)	600		400			520
Travel Time (s)	13.6		9.1			11.8
Peak Hour Factor	0.90	0.90	0.93	0.93	0.97	0.97
Adj. Flow (vph)	216	246	1338	191	165	1579
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	246	1529	0	165	1579
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	20.0		1.5	3.0
Minimum Split (s)	28.0	28.0	26.0		9.0	25.0
Total Split (s)	30.0	30.0	71.0	0.0	19.0	90.0
Total Split (%)	25.0%	25.0%	59.2%	0.0%	15.8%	75.0%
Maximum Green (s)	24.0	24.0	65.0		13.5	84.0
Yellow Time (s)	3.5	3.5	4.0		4.0	4.0
All-Red Time (s)	2.5	2.5	2.0		1.5	2.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-3.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	4.5	3.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	15.0	15.0	12.0			12.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	22.3	22.3	75.7		90.2	91.7
Actuated g/C Ratio	0.19	0.19	0.63		0.75	0.76
v/c Ratio	0.66	0.52	0.70		0.59	0.58
Control Delay	54.7	11.0	17.7		28.9	6.7
Queue Delay	0.0	0.0	0.0		0.0	0.1
Total Delay	54.7	11.0	17.8		28.9	6.8
LOS	D	B	B		C	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	31.4		17.8			8.9
Approach LOS	C		B			A
Queue Length 50th (ft)	156	14	385		67	196
Queue Length 95th (ft)	230	83	547		m124	243
Internal Link Dist (ft)	520		320			440
Turn Bay Length (ft)					200	
Base Capacity (vph)	398	531	2198		318	2706
Starvation Cap Reductn	0	0	0		0	258
Spillback Cap Reductn	0	2	33		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.54	0.47	0.71		0.52	0.65

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 15.3 Intersection LOS: B
Intersection Capacity Utilization 70.1% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Citygate Street T & E Henrietta



Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Lane Configurations	↑	↱		↑↑	↰↰					
Volume (vph)	485	652	0	644	835	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00				
Frt		0.850								
Flt Protected					0.950					
Satd. Flow (prot)	1863	1583	0	3539	3433	0				
Flt Permitted					0.950					
Satd. Flow (perm)	1863	1583	0	3539	3433	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)		686								
Link Speed (mph)	30			30	30					
Link Distance (ft)	832			1862	244					
Travel Time (s)	18.9			42.3	5.5					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Adj. Flow (vph)	511	686	0	678	879	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	511	686	0	678	879	0				
Turn Type		custom								
Protected Phases	1 3	1 2		1 3	2		1	3	6	8
Permitted Phases		1		1 3						
Detector Phase	1 3	1 2		1 3	2					
Switch Phase										
Minimum Initial (s)					10.0		24.0	6.0	10.0	6.0
Minimum Split (s)					28.0		40.0	21.0	33.0	13.0
Total Split (s)	70.0	99.0	0.0	70.0	50.0	0.0	49.0	21.0	82.0	38.0
Total Split (%)	58.3%	82.5%	0.0%	58.3%	41.7%	0.0%	41%	18%	68%	32%
Maximum Green (s)					45.0		44.0	16.0	77.0	33.0
Yellow Time (s)					4.0		4.0	4.0	4.0	4.0
All-Red Time (s)					1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0				
Total Lost Time (s)	3.0	3.0	2.0	3.0	3.0	2.0				
Lead/Lag					Lag		Lead			
Lead-Lag Optimize?										
Vehicle Extension (s)					3.0		3.0	3.0	3.0	3.0
Recall Mode					None		C-Max	None	C-Max	None
Walk Time (s)					7.0		24.0		7.0	
Flash Dont Walk (s)					9.0		10.0		21.0	
Pedestrian Calls (#/hr)					0		0		0	
Act Effct Green (s)	72.2	93.6		72.2	41.8					
Actuated g/C Ratio	0.60	0.78		0.60	0.35					
v/c Ratio	0.46	0.49		0.32	0.73					
Control Delay	8.4	6.7		12.9	37.5					
Queue Delay	0.0	0.3		0.0	14.3					
Total Delay	8.4	7.0		12.9	51.8					
LOS	A	A		B	D					
Approach Delay	7.6			12.9	51.8					
Approach LOS	A			B	D					
Queue Length 50th (ft)	84	347		132	292					

Lane Group	NBT	NBR	SBL	SBT	SWL	SWR	ø1	ø3	ø6	ø8
Queue Length 95th (ft)	m90	m344		184	416					
Internal Link Dist (ft)	752			1782	164					
Turn Bay Length (ft)										
Base Capacity (vph)	1121	1425		2129	1345					
Starvation Cap Reductn	0	269		0	460					
Spillback Cap Reductn	0	19		0	0					
Storage Cap Reductn	0	0		0	0					
Reduced v/c Ratio	0.46	0.59		0.32	0.99					

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 1:NBSB and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 23.0 Intersection LOS: C
Intersection Capacity Utilization 56.0% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1611: E Henrietta & South