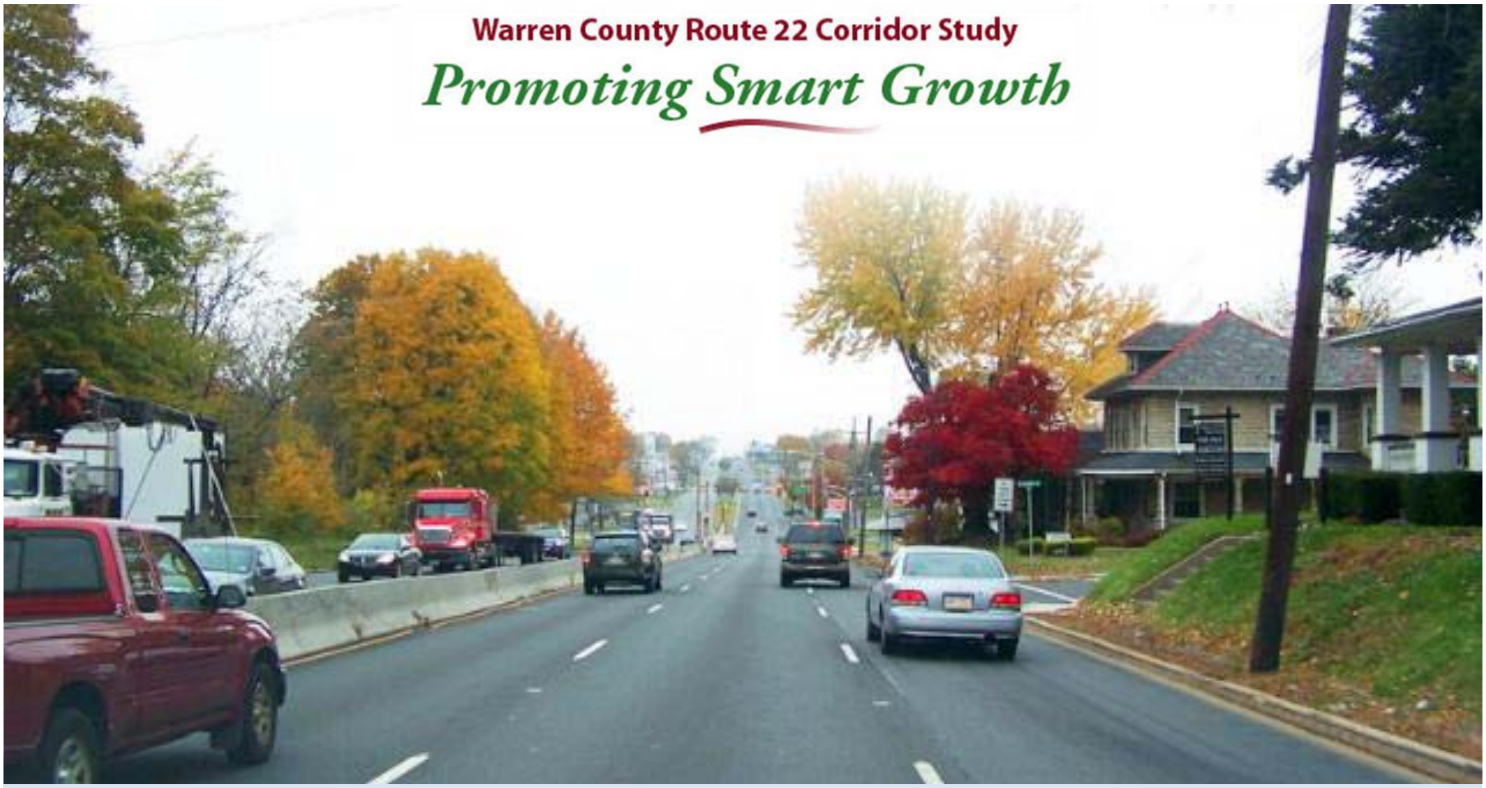
APPENDIX

US ROUTE 22 CORRIDOR IMPROVEMENT PLAN

WARREN COUNTY, NEW JERSEY

JULY 2009



MASER CONSULTING P.A.

Regional Plan Association NJ CT NY

RFI Reichman Frankle Inc.

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APPENDIX
US ROUTE 22 CORRIDOR IMPROVEMENT PLAN

WARREN COUNTY, NEW JERSEY

prepared by:

MASER CONSULTING, P.A.
Perryville III Corporate Park
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July 2009

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3. Technical Advisory Committee Meeting #2 – February 22, 2009
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5. Presentation To Phillipsburg Council - April 21, 2009
6. Public Open House #1 - April 27, 2009
7. Technical Advisory Committee Meeting #4 – May 6, 2009
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APPENDIX A. BIBLIOGRAPHY

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APPENDIX B. MEETING MATERIALS

1. Technical Advisory Committee Meeting #1 - December 2, 2008
2. Visioning Workshop - February 7, 2009
3. Technical Advisory Committee Meeting #2 – February 22, 2009
4. Technical Advisory Committee Meeting #3 – April 1, 2009
5. Presentation to Phillipsburg Council - April 21, 2009
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9. Public Open House #2 – June 22, 2009

Warren County Route 22 Corridor Study

Promoting Smart Growth

AGENDA

Technical Advisory Meeting #1

Tuesday December 2, 2008

Greenwich Township Municipal Building

1. Welcome and TAC Introductions
2. Overview of Study
    a. Study Area
    b. Study Goals
    c. Schedule
3. Existing Conditions Analysis
    a. Environmental Scan – Study Corridor
    b. Socioeconomic Profile
    c. Existing Transportation Conditions
4. Build Out Analysis
5. Public Involvement
    a. Webpage
    b. Commuters Survey
    c. Visioning Meeting
    d. Report Newsletter (End of Study)
6. Next Steps
    a. Set TAC meeting #2 Date
7. Open Discussion
8. Adjournment

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Planners ▪ Surveyors ▪ Landscape Architects

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MEETING MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
KICKOFF MEETING WITH COUNTY
ON OCTOBER 7, 2008
MC Project No. 08000727G

Attendees

David Dech	WCPD	908-475-6532
Brian Appezzato	WCPD	Email: bappezzato@co.warren.nj.us 908-475-6532
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Vincent Truncellito	NJ Transit	Email: vtruncellito@njtransit.com 973-491-7810

The following summarizes the key points of the meeting.

1. June 30, 2009 deadline to complete plan. Last invoice must be submitted on June 29, 2009. Final draft product no later than June 30, 2009. Allows one month for final revisions.

2. NJTPA holding visioning exercise for regional transportation plan. October 29, 2008 being held at Warren County VoTech. RPA will attend.

3. County will provide copies of the Capital Improvement Program (CIP), Master Plans, Rt. 57 Study, and NJDOT Study prepared by Parson Brinkerhoff, Rt. 57 2002-2003 Study. Many documents on County website. NJ Transit and Raritan Valley Phillipsburg Transit Study in process and should be completed by February 2009.

4. County will provide GIS files to consultants. Maser will set up FTP site for information transfer.

5. Build-out study needs to be updated. Strategic Plan does not reflect zoning changes.

6. Time frame – Horizon year 2035 for study.

7. Web page – Maser should coordinate with R. Charlton, Public Information Officer. County flexible on web page format. Newsletter- electronic fine; also hard copy to send out.

8. Stakeholder coordination – County will do all mailings. Provide documents. Allow in schedule 7 – 10 days for County review of documents and revision time before sending out.

9. Monthly invoices are fine. No set format – should show by person by task work done. Scheduling information on what is accomplished.

10. TAC include County, NJDOT, NJTPA, NJ Transit, add County contact on Rt. 57, Warren County Transit contact, TransOption, representatives from municipality, i.e. engineer or planner.

11. Maser will provide updated project schedule.

Meeting adjourned approximately 4:00 pm.

Next meeting has not yet been scheduled.

Meeting minutes prepared by M. Shiffman.

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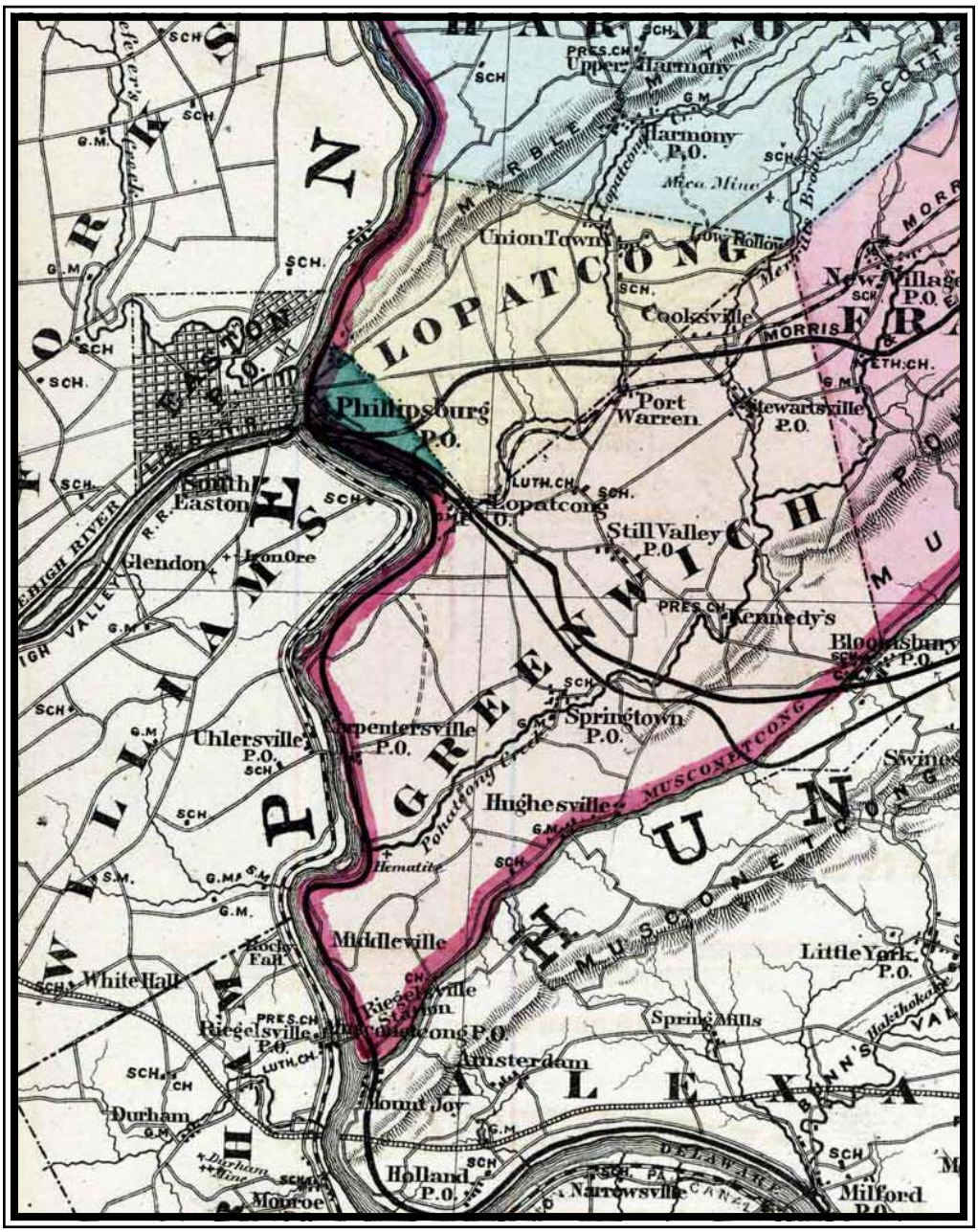
Route 22 Corridor Study

Warren County, New Jersey



Visioning Workshop - February 7, 2009

City of Phillipsburg • Alpha Borough • Lopatcong Township • Pohatcong Township • Greenwich Township

Regional Plan Association NJ CT NY

Warren County Route 22 Corridor Study
Promoting Smart Growth

County of Warren New Jersey 1825

MASER CONSULTING P.A.

Visioning Workshop

February 7, 2009
10:00 to 4:00 - County Vo-Tech School

Agenda:

1. Introductions
2. Objectives of the visioning workshop
3. Breakout tables AM – "Big Picture" exercise
    - Large-scale opportunities and constraints
    - Regional circulation framework
    - Regional landscape features
    - Railroad network
    - Regional connectivity
4. Report back to group
5. Lunch
6. Breakout tables PM – "Small Area" exercises (3)
    - 3 prototypical areas
    - Explore land use/transportation options
    - Opportunities to change land use
    - Opportunities for new linkages
    - Opportunities to enhance bike/ped options
    - Increase local connectivity
7. Report back to group
8. Next steps
9. Adjourn

Background Analysis

Route 22 is unquestionably a vital artery for circulation in the region. It provides direct East/West movement, as well as access to a variety of critical activities along the corridor. Yet this busy thoroughfare also severs the region and complicates interaction between activities and communities located on either side.

Circulation within the Route 22 study area is constrained by a variety of natural and man-made features: the Delaware River, with limited crossings to the West and where significant portions of the waterfront are still tied up with manufacturing and railroad uses; the Category 1 Lopatcong Creek and its unnamed tributary; multiple railroad rights-of-way (the Del-Bel, Central Railroad of NJ, the Lehigh Valley Railroad and the Morris and Essex – Easton branch) and even the remnants of the historic Morris Canal. While these features are all assets to build upon, they also present challenges in that they interrupt and constrain circulation within the region, limiting the number of crossings and channeling traffic to those few places where crossings do occur.

Indeed, in the 5-mile stretch of the study area, there are only 5 opportunities to cross the corridor. Going west to east, the initial 1-mile stretch of Memorial Parkway between the Delaware River and Ingersoll Avenue has been engineered to facilitate the approach to the toll bridge, making access to local land uses very awkward – including access to civic uses, such as the High School -- and severing north/south connections. The debilitating effects of this traffic solution on this neighborhood in Phillipsburg -- the most densely developed section of the corridor -- are apparent. East of Ingersoll Avenue, it is approximately 2,000 feet before the next crossing, at Roseberry Street; another 2,500 feet to the 3rd Street/Commerce Park intersection; almost 2 miles from there to the Route 519 intersection; and another ¾ mile to the A22/173 interchange.

As a result, local traffic is funneled to this limited number of intersections that offer an opportunity to cross the corridor. In addition, a portion of local traffic desiring to follow a north/south itinerary but reaching the corridor elsewhere -- where crossing both eastbound and westbound lanes on Route 22 is not permitted -- is forced to travel on Route 22 until it reaches the next full intersection.

Additional intersections along Route 22 might be counterproductive to increasing progression along Route 22; however, more opportunity should be provided for local residents to access signalized intersections by using parallel roadways. Potential cut through traffic by motorists wishing to avoid congestion on Route 22 can be mitigated with traffic calming measures that preserve local quality of life.

The Route 22 corridor can be divided into 3 separate sections, with distinct land use conditions: the western section of Memorial Avenue, the eastern section to Ingersoll and the section east of Ingersoll.

The design of the in-town portion of Memorial Avenue, with its turn-arounds and strategically located civic buildings, suggests an earlier attempt at creating a grand boulevard access to the Toll Bridge in the City Beautiful tradition. Unfortunately, this idea was poorly executed and compromised over time by a series of engineering interventions that privileged high speed access to the bridge over local traffic and local activities, creating a virtual DMZ zone. The original design concept may not be unfeasible or completely lost, however it is likely that with careful re-design conditions in this part of the corridor can be improved.

The eastern section of Memorial Avenue is also hampered by multiple curb-cuts and short blocks with multiple "right-in, right out" only streets. The conversion over time of residential structures to commercial uses with higher parking requirements has resulted in a confusing and awkward landscape of multiple driveways and on-site parking on small lots. This section could benefit from targeted access management efforts, including curb cut and street closures and parking lot consolidation and aggressive streetscape enhancements. Site design solutions leading to possible shared accesses and cross easement circulation should also be explored. These measures would reduce entering and exiting trips onto Route 22 and increase internal trip circulation.

The area to the East of Ingersoll is more recent and clearly auto-dependent and is generally characterized by commercial buildings with larger and larger footprints on larger lots. Some of these sites are defunct and may be available for redevelopment with different uses in a different pattern of development if this transformation is considered desirable by the host communities.

Pedestrian and bicycle movement in the corridor is hampered by a lack of suitable infrastructure. There are numerous sections of missing sidewalks, even though foot paths clearly indicate regular pedestrian use. The limited number of pedestrian casualties along the corridor may simply suggest that additional pedestrian activity is discouraged by the lack of suitable sidewalks, pedestrian signals and marked crosswalks. Indeed, even along Memorial Parkway where sidewalks are generally present, the lack of pedestrian amenities, the narrow sidewalks, the high speed of traffic, the frequent curb cuts and the absence of curb-side parking (which buffer pedestrians from passing traffic) constitute serious deterrents to pedestrian activity. This is confirmed by the limited pedestrian activity in an area where the average density would suggest otherwise.

Not surprisingly, local transit services in the corridor are very limited. Ridership is not likely to increase substantially and justify enhanced transit service without significant land use changes. Bus stops may also be poorly located – such as the one in the back of the Phillipsburg Mall – making transit difficult to find for new users.

An auto-oriented land use pattern combined with a sparse circulation network leads to aggressive driving behavior, dangerous to pedestrians and bicyclists, as well as increased congestion and motorist frustration. Municipal planning documents suggest "traffic calming" interventions are desired by some of the target communities as a means to slow down traffic and reclaim neighborhood streets. Targeted land use changes could also have the same effect.

Questions for Discussion

1. If widening Route 22 is not a feasible alternative, are there other ways to mitigate traffic without increasing capacity?

2. Should parallel roadways that would take some local traffic off the highway be considered as a supplement to mitigating traffic volumes along Route 22?

3. Are there opportunities for additional street connections at strategic locations across Route 22 that would facilitate North/South movement and improve the performance of the overall circulation network?

4. What types of land use changes would be desirable along the corridor?

5. What types of land use and other changes would significantly increase transit ridership?

6. What types of access management strategies – such as street closures, curb cut removals or parking lot interconnections -- are feasible and applicable in the Eastern portion of Memorial Avenue?

7. Where should traffic calming efforts be focused?

8. Are there opportunities to create an off-road pedestrian/bicycle circulation system linking important destinations that takes advantage of preserved open space, natural features, historic sites and railroad rights-of-way?

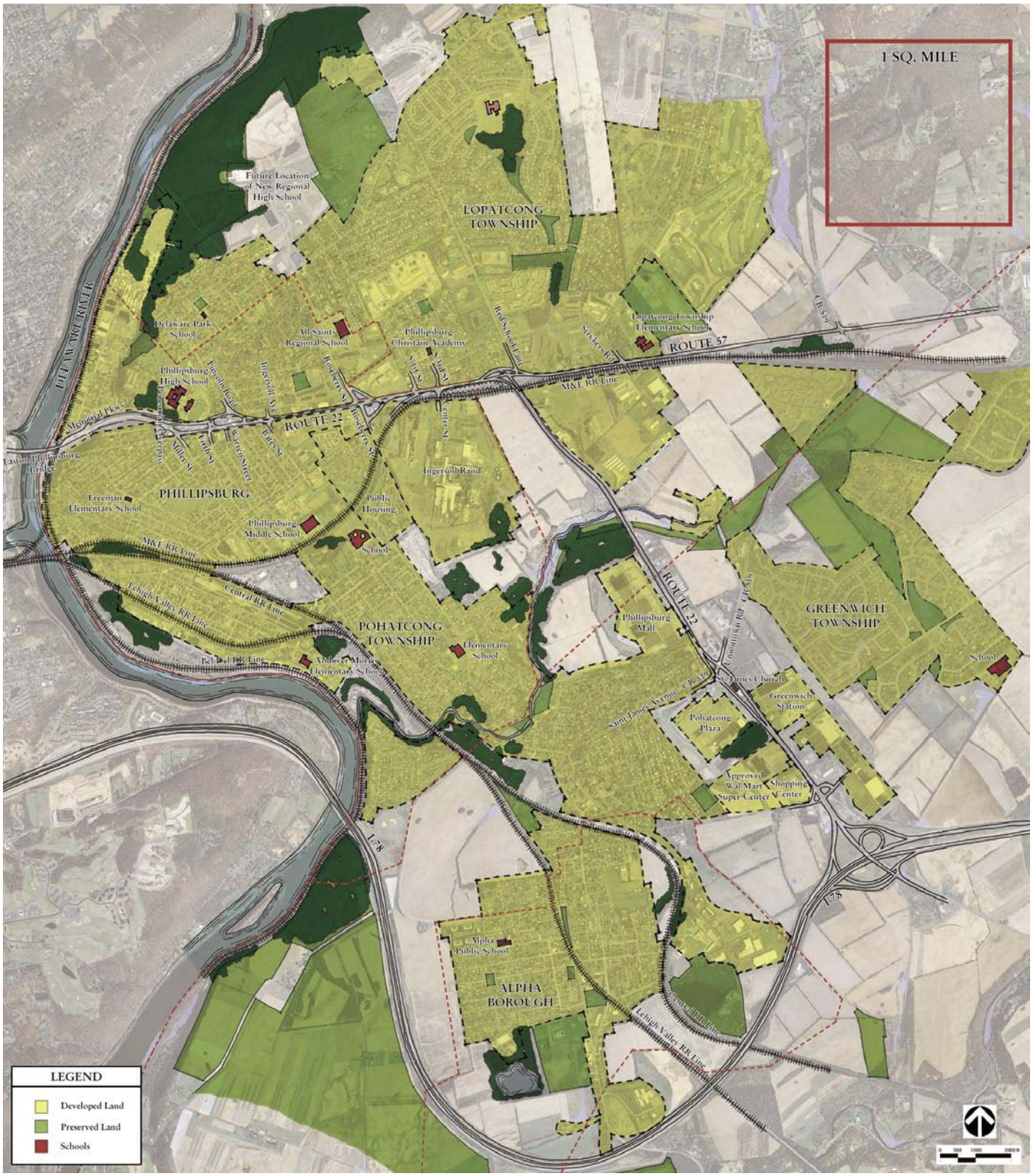
9. What are the major generators of pedestrian traffic near Route 22 and where are the major pedestrian crossings?

10. Where should existing pedestrian and bicycle facilities be upgraded and where should new facilities be installed such that they encourage increased pedestrian and bicycle activity?

11. Can Memorial Parkway be reconfigured to reclaim pedestrian access to adjacent land uses without compromising access to the Toll Bridge?

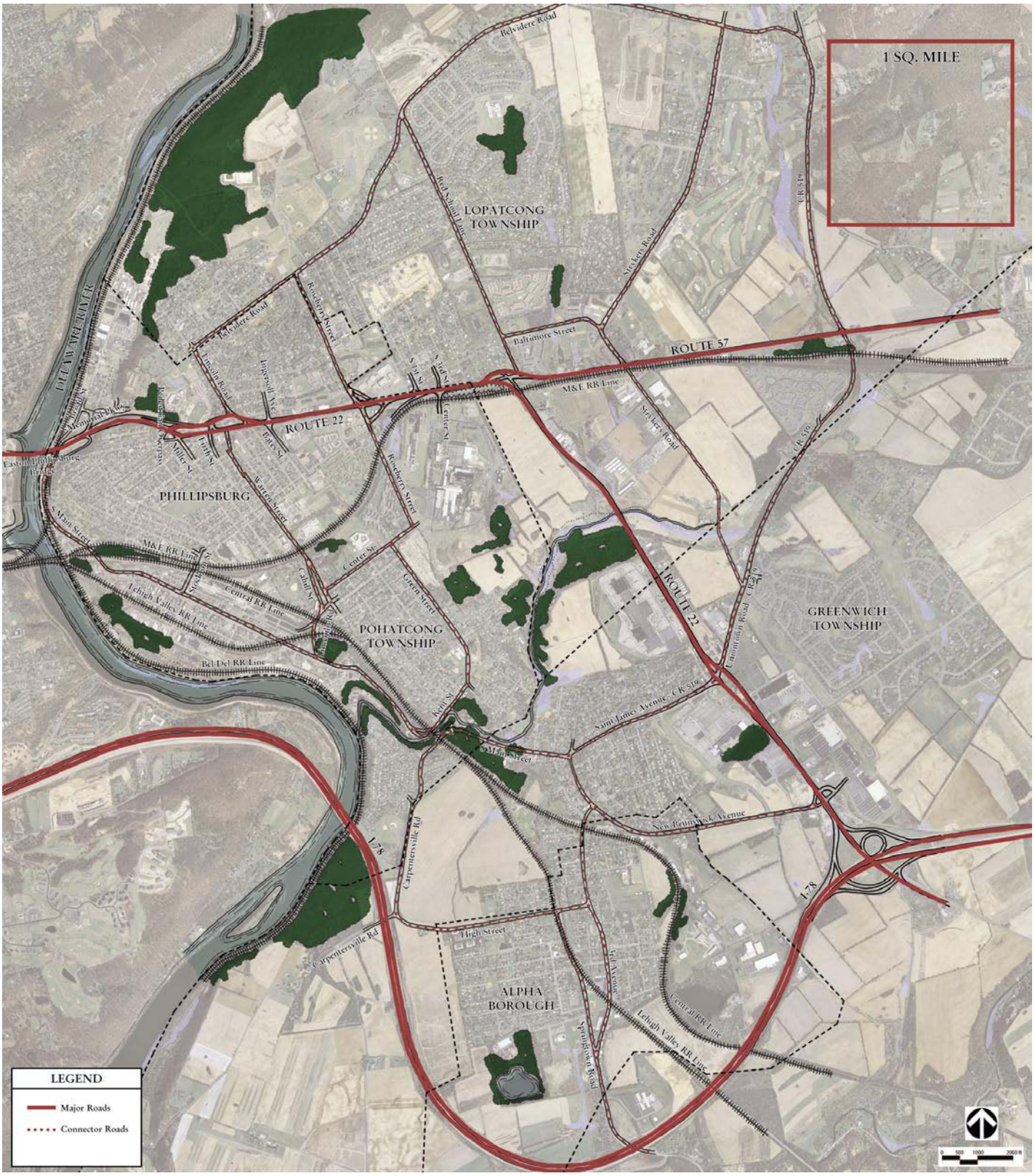
Diagrams

Existing Urbanized Land



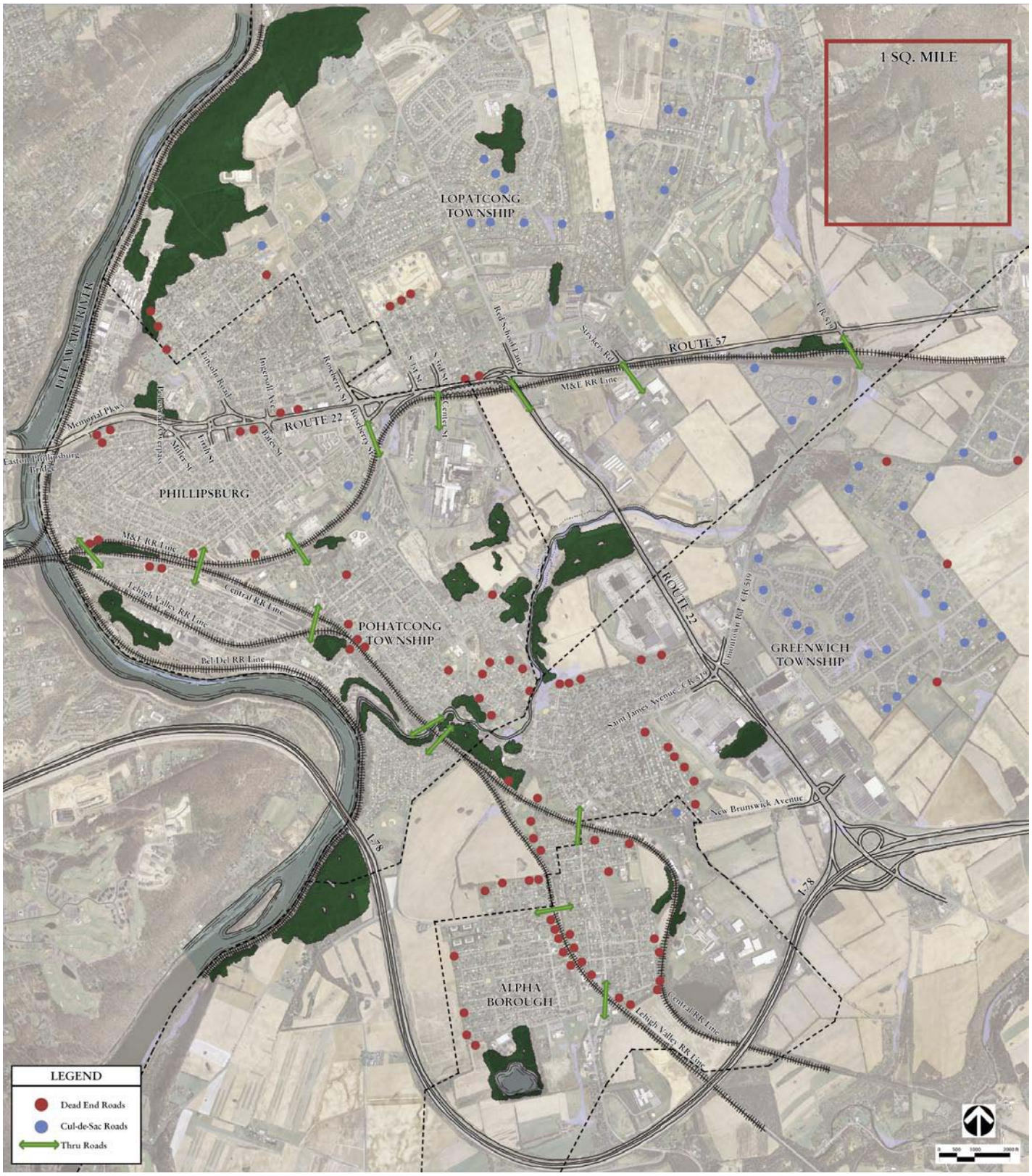
Consolidated urbanized areas and preserved lands form a patchwork with many discontinuities. Those areas which are neither developed nor protected will eventually go one way or the other. The choices made around development or preservation of these parcels can improve the region's performance or compound its problems.

Regional Circulation Network



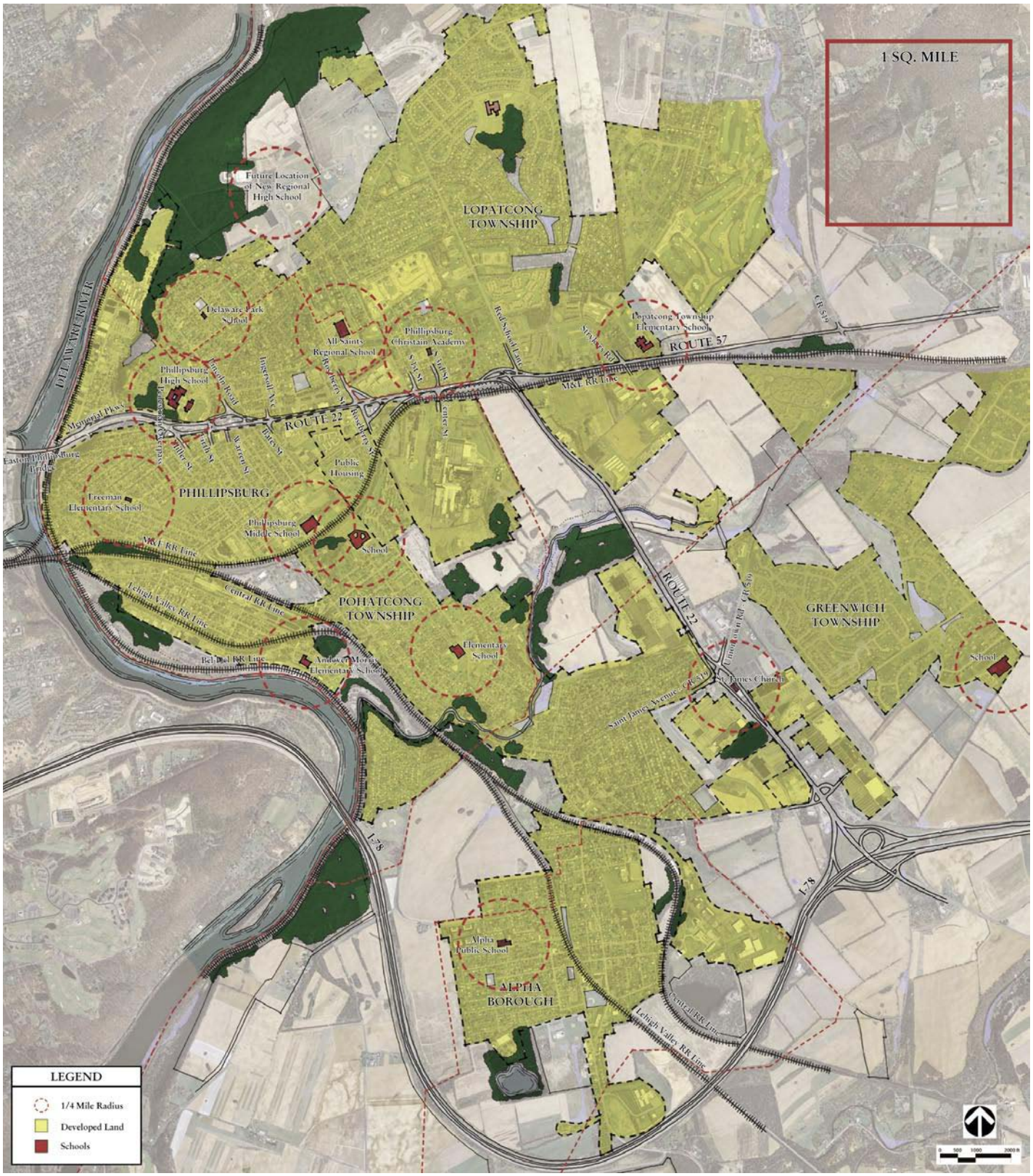
The network of major roads forms an armature that defines how vehicles move around the region. When the large-scale road network is too sparse, it places undue stress on high volume intersections and traffic spills over into local neighborhood streets.

Network Discontinuities



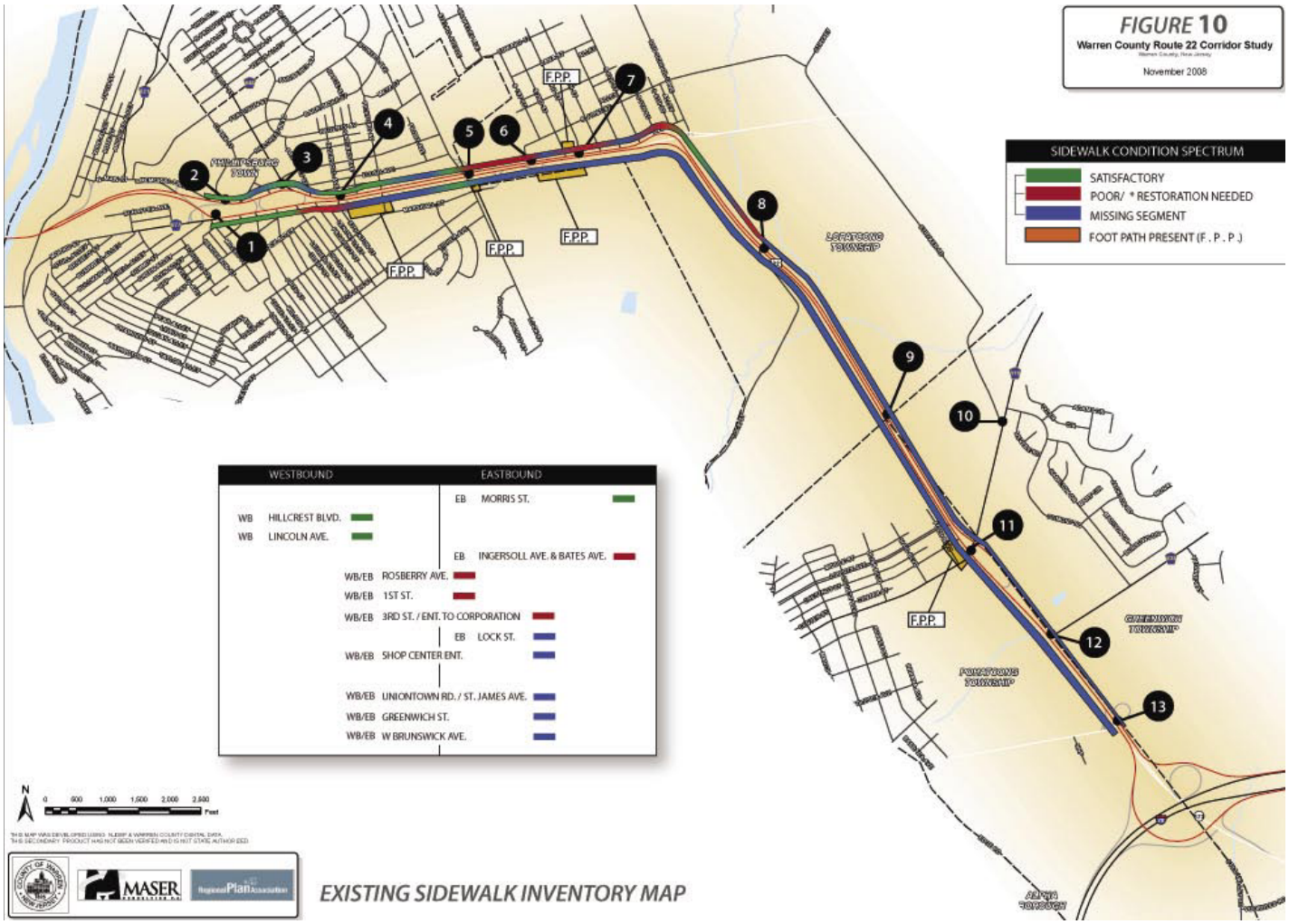
The railroads, river and streams and major highways all constitute physical barriers that create discontinuities in the circulation system. Recent development patterns emphasizing cul-de-sacs create additional discontinuities, by choice. Taken together they severely restrict circulation within the region, which is directed to a limited number of crossing points where the network is intact.

Pedestrian Sheds

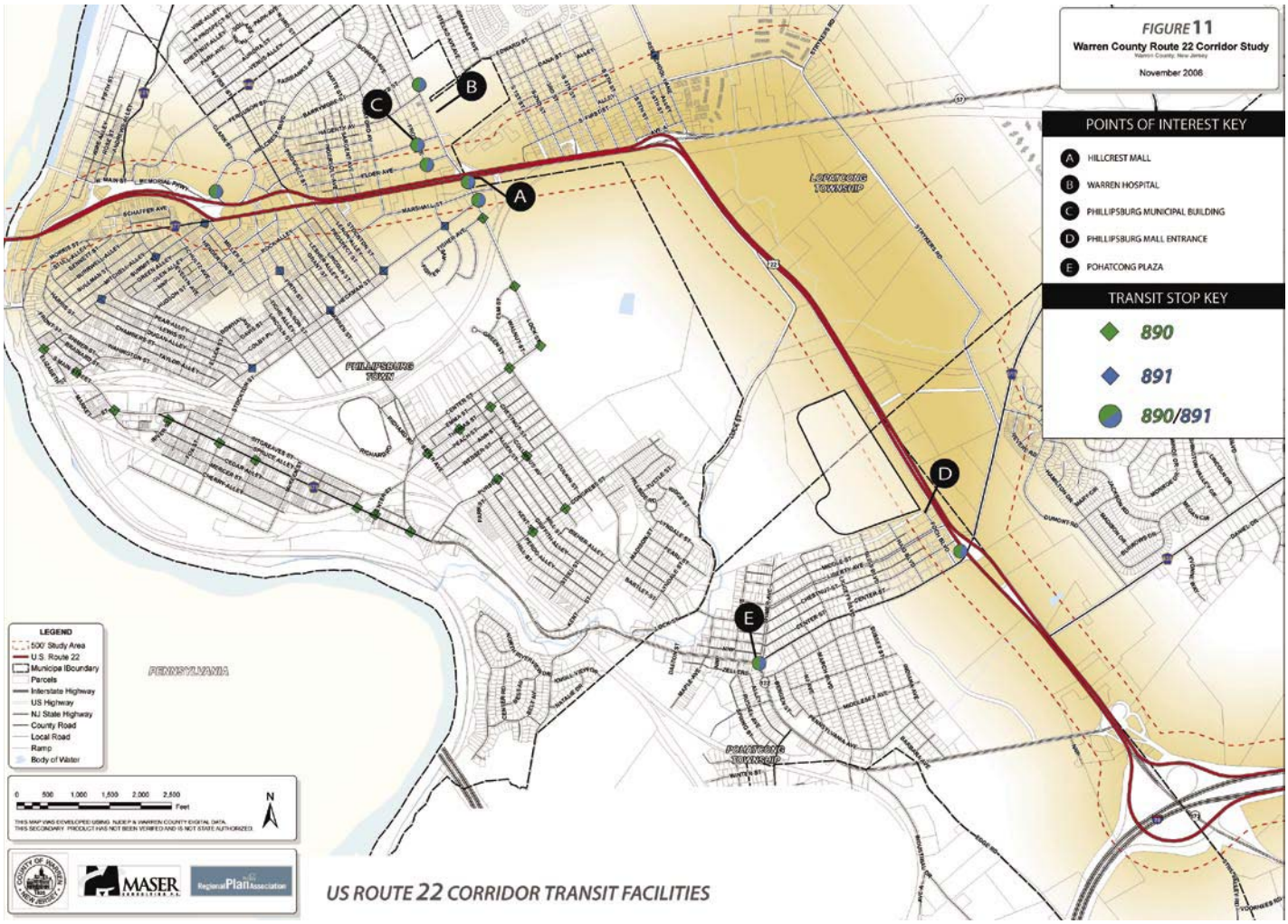


The 5-minute walking distance radius -- applied here for illustrative purposes around the local schools – expresses one measure of scale and walkability. Vast portions of the region are not covered.

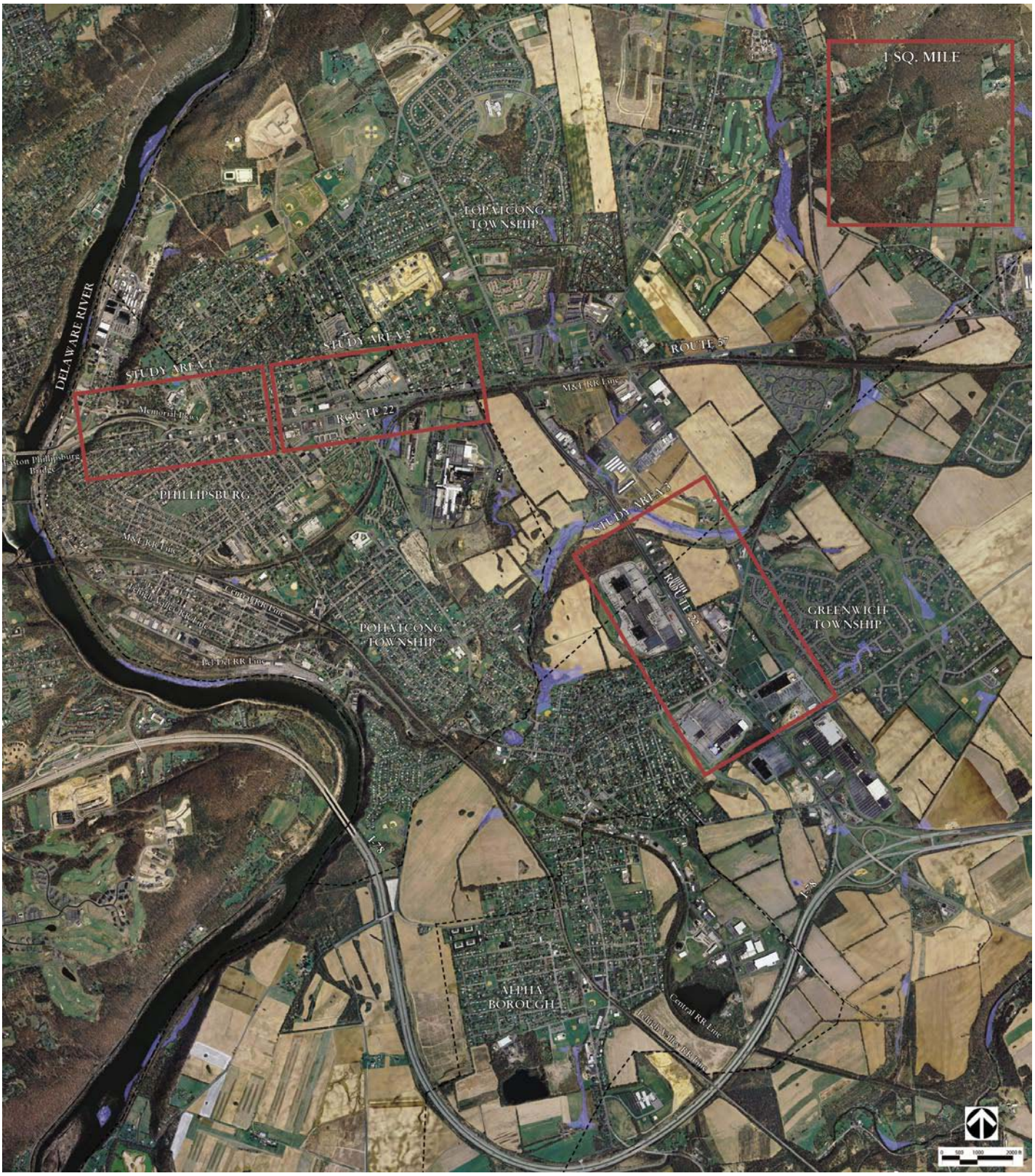
Sidewalk Inventory



Existing Transit Facilities



Study Areas



The 3 study areas exemplify different sets of relationships between land use and transportation and different design options. Each study area constitutes a prototype. Planning and design solutions can be replicated elsewhere as appropriate.

Study Area 1

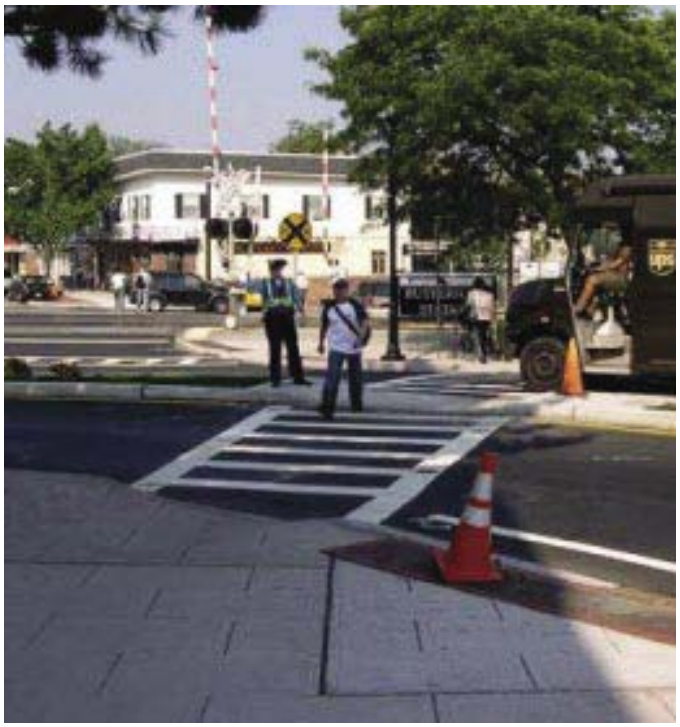
Study Area 2

Study Area 3

Character Images

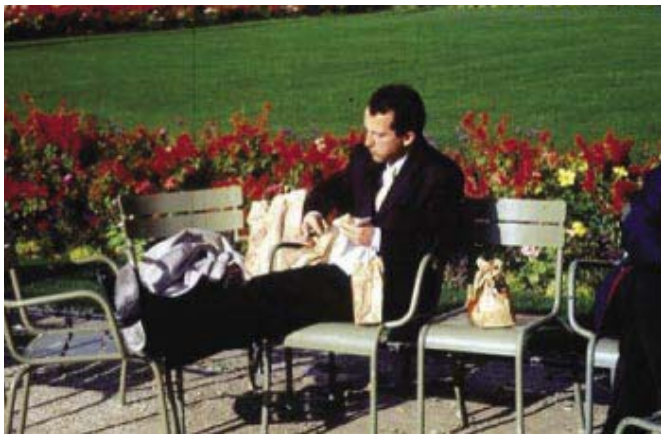
These images illustrate a variety of land use and transportation conditions and features that may be applicable and appropriate in certain locations within the study area. Workshop participants are encouraged to mix and match images with specific locations within the study area.

TO OXFORD RDE



PARKING

BUMP



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BOOKS

SALE

	NAME	ORGANIZATION	ADDRESS	PHONE	
1	Glenn F. Reibman	Delaware River Joint Toll Bridge Commission	1400-1 Cedarville Road Easton, Pennsylvania 18042	610-559-0440 Ext 4075	grei
2	Shelly McGregor	CMX Town Eng. Alpha & Phillipsburg	41 South Main St Phillipsburg, NJ	908-454-6780	mmcg
3	Garrett VanVliet	Lopatcong Twsp Planning Bd.	14 Dryden Terr Phillipsburg NJ 08865	908-454-1454	GLV
4	Barry A. Slack	Slack Electric & Appliance	603 St. James Ave Phillipsburg, NJ 08865	908 454-0490	Slack @ver
5	Annette Schultz	The RBA Group	Parsippany NJ	973-946-5600 ~~984-586-5395~~	asc
6	Denise Chraplick	Morris County		610-704-2520	dch
7	Joe Colalillo	Shop Rite	1242 Rt. 22 Greenwich	908-782-6900 ext 12	Joseph
8	Ron Reece	WRNJ	Hackettstown NJ	852-7777	
9	Jeff Charlesworth	Landscape architect		908-255-5051	jeffre
10	Jan Hopkins	Genesis Health Care	290/280 Red School Lane 843 Wilbur Ave Phillipsburg, NJ 08865	908-454-2627	Jan.

	NAME	ORGANIZATION	ADDRESS	PHONE	
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13	DAVID DECH	Warren County Planning	165 CR 519 Belvidere NJ. 07823	908-475-6532	dde
14	Nate Schaefer	Maser Consulting	100 American Metro Blvd. Hamilton NJ 08619	609-587-8200	nsc
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16	Edward Hanics	Boro of Alpha	1135 Schley Ave Alpha NJ	908 454 0865	
17	ANTHONY VANGELI	TOWNSHIP OF POHATT	623 RT 627	908 995 7407	
18	BILL HANN	WARREN CO. PLAN. BD	183 HAGERTY AVE PHILLIPSBURG	908 859 0022	B V
19	JORDAN GUENTHER	DOWEL ASSOC	25 LINDSLEY DR MORRISTOWN, NJ 07960	973 401 0050	JORDA
20	John DiMaio	WARREN County	15 Reeseane Hackettstown	973-219-9770	John

	NAME	ORGANIZATION	ADDRESS	PHONE	
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22	AIDA ROMERO		PO. BOX 22	732 935-2566	umk
23	Christine Danis	NJ Highlands Council	100 North Rd Chester NJ 07930	908 879-6737 x. 117	chris stat
24	Ann Miller	St Andrewsville Trust and Corine	PO Box 396, Washington	908-246-6554	am
25	Jan Marie McDyer	WCTY DHS	200 Mansfield St Belvidere NJ 07223	908-475-6080	jmcdy
26	Brian Appelzuto	Warren County Planning		475-6532	bappe
27	Linda Weber	Mosaic Planning & Design			
28	Corey Piasecki	RPA	179 Nassau St Princeton, NJ 08542	609 258 7080	Core
29	Carlos Rodrigues	RPA	" " " " " "	" " "	Car
30	Rose E. Reichman	Reichman Frankle Inc	560 Sylvan Ave Englewood Cliffs NJ 07632	201-816-1211	rRei

Warren County Route 22 Corridor Study

Promoting Smart Growth

AGENDA

Technical Advisory Meeting #2

Tuesday February 3, 2009

Alpha Borough Municipal Building

10AM – 12 PM

1. Welcome and TAC Introductions
2. Community Outreach Efforts – Update
    a. Webpage
    b. Fact Sheet for Workshop
    c. Press Releases
3. Survey Results
    a. Commuter Survey
    b. Employer Survey
4. Transportation Analysis
    a. Existing Conditions Update
    b. Future Transportation Conditions Assessment – Status
5. Review of Stakeholders Workshop Materials
6. Next Steps
    a. Saturday February 7, 2009 Workshop at Vo-Tech
    b. Set TAC meeting #3 location and date
7. Open Discussion
8. Adjournment

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MEETING MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
TECHNICAL ADVISORY COMMITTEE MEETING #2
ALPHA BOROUGH MUNICIPAL BUILDING
ON FEBRUARY 3, 2009
MC Project No. 08000727G

Attendees

See attached list.

Handouts

- Copy of Power Point Presentation
- Meeting Agenda

The following summarizes the results of the meeting:

1. Dave Dech welcomed all attendees to meeting, TAC members introduce themselves.

2. M. Shiffman introduced the study team and then summarized the study work completed to date which this work included the status of the community outreach program, commuter and employer survey results, the existing conditions transportation analysis update and a review of the stakeholder workshop material for the upcoming February 7th workshop.

3. Nick Schaeffer presented a summary of the current transportation work which included data collection efforts, volume analysis, intersection investigation and traffic analysis. The work that was presented at the last meeting had been updated and now includes the result of the computer survey, a completion of the accident analysis, an investigation of sidewalk and pedestrian facilities, review of adjacent land uses, and research on transit facilities.

4. C. Rodriguez then presented an overview of what is being proposed for the upcoming Visioning Workshop. The morning agenda will include all "big picture" exercises, looking at transportation issues within the larger regional study area. Maps have been prepared including existing urbanized land, regional circulation network discontinuities and pedestrian walking sheds. Also the sidewalk inventory map and the existing transit facilities map will be provided at the meeting. A series of questions will be discussed at the workshop to assess the major transportation problems that should be addressed.

The afternoon workshop will consist of "small area exercises" with three prototypical areas to explore land use and transportation options, land use changes, linkages, bike and pedestrian conditions.

5. The three study areas include the Memorial Parkway, the Phillipsburg Mall/Ingersoll Rand area and the Greenwich Township/Pohatcong Township area of Route 22 near Phillipsburg Mall and the new Walmart area. A series of character images will also be presented for the workshop attendees to look at and cut out for ideas on how they would like the corridor to look.

6. M. Shiffman than discussed the status of the future conditions analysis. The future estimates of traffic will require a completion of a build-out analysis of the corridor. The prior work done under other planning studies can not be used for this analysis. The timing of the build-out will be affected by changes of the Highlands Planning process; but we cannot wait for the build-out due to the timing of this study.

7. The expansion of the wastewater treatment plant in Phillipsburg will affect the future development in the study area. The growth in Pennsylvania will also affect development. Maser is working with the County to develop a reasonable build-out model to be used for the study corridor which will then allow for the completion of the future Route 22 traffic analysis.

8. Discussion of Pennsylvania growth and traffic between Pennsylvania and the area. Toll counts are available on the Delaware River Bridge Commission website. The TAC indicated that people are using the Northampton Free Bridge to avoid the increased tolls on the other river crossings.

9. S. McGregor indicated that there is significant amount of subsidized housing off Roseberry Street and residents cross Route 22 to access school and services.

10. G. Van Vliet from Lopatcong discussed the status of the Center Street extension through the Ingersoll Rand property. They are preparing a buildout with the Planning Board as part of the Highlands review.

11. Next TAC meeting scheduled for April 1, 2009 at Pohatcong Municipal Building.

Meeting adjourned approximately 12:00 pm.
Meeting minutes prepared by M. Shiffman.

Route 22 Corridor Study TAC Meeting #2
February 3rd, 2009

Name	Phone	Email address:
1. Glenn F. Reibman, Delaware River Joint Toll Bridge Commission	610-559-0440 ext 4075, 215-208-4304 (c)	greibman@drjtbc.org
2. GARRETT VAN VLIET, Lopatcong Twp. Planning Bd	908-454-1454	GLVANVLIET@Rover.Net
3. SHELLY McGREGOR, CMX ENG. (PHILLIPSBORO/ALPHA CONS. ENG.)	908-454-6780	mmcgregor@cmxengineering.com
4. KLARA E. TARSI	908-454-7770	KJTARSI@VERIZON.NET
5. Dan Maine MCDyer	~~908-454~~ 908-475-6080	mcdyer@co.warren.nj.us
6. DON WATT	(973) 267-7600	DWATT@TRANSOPTIONS.ORG
7. BILL HANN	(908) 859-0022	billkittyhann@verizon.net
8. Bruce Williams	908 479 1130	brucewilliams@greenwichtownship.org
9. Debbie PASQUARELLI	908479-6717	d.pasquarelli@YAHOO.ORG
10. Nevitt Duveneck	908-835-9500	nevittd@finellicon.com
11. Tineen Howard	609-530-3528	tineen.howard@dot.state.nj.us
12. John Micikas	609-530-5001	John.Micikas@dot.state.nj.us
13. Rich Guzzo	908 454 1054	Rguzzo@greenwichtwpd.com

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Route 22 Corridor Study- TAC Meeting – February 3rd, 2009

Name	Phone	Email address:
14. Chief Paul Hager	610 972 7721	hager@pohatcong.com
15. ANTHONY S. VITO ESQ	995 7407	
16. Art Charlton	475-6581	achar1ton@co.warren.nj.us
17. Elaine Emilian	479-4308	elaineemilian@yahoo.com
18. Hamilton Mogulescu	973-639-8436	hmogulescu@NJTPA.org
19. David Dech	908-475-6532	ddech@co.warren.ns.us
20. Christine Danis NJ Highlands Council	(908) 879-6737 x117	chris.danis@highlands.state.nj.us
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Warren County Route 22 Corridor Study

Promoting Smart Growth

AGENDA

Technical Advisory Meeting #3

Wednesday April 1, 2009

Township of Pohatcong Municipal Building
50 Municipal Drive
Phillipsburg, NJ 08865

10AM – 12 PM

1. Welcome and TAC Introductions – Dave Dech
2. Update on Study - Marcia Shiffman
3. February 7, 2009 Visioning Workshop Results – Carlos Rodrigues
4. Assessment of Future Transportation Traffic Conditions – Nicholas Schaefer
5. Potential Strategies/Recommendations to Address Transportation Conditions -Team
6. Potential Transit Shuttle Expansion Plans – Don Watt
7. Next Steps
    a. Public Open House to Review Study Work To Date -
    b. TAC meeting #4 - Set location and date
8. Open Discussion
9. Adjournment

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

Perryville III Corporate Park
53 Frontage Road, Suite 120
P.O. Box 4017 Clinton, N.J. 08809
Tel: 908.238.0900 ▪ Fax: 908.238.0901

MEETING MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
TECHNICAL ADVISORY COMMITTEE MEETING #3
POHATCONG MUNICIPAL BUILDING
APRIL 1, 2009
10:00 AM– 12:00 PM

Attendees

See attached list

The following summarizes the key points of the meeting.

1. David Dech, Warren County Planning Board Director welcomed the participants to the meeting and presented an overview of the project.

2. Marcia Shiffman Maser Project Manager, then provided an overview of the study to date. She indicted that this is the 3rd TAC meeting. We have completed the existing conditions assessment and have developed build-out projections for 2035 and completed the future conditions transportation assessment. Also, on February 7, 2009 a Visioning Workshop was held and Carlos Rodrigues of RPA will provide an overview of that workshop results. C. Rodrigues then presented an overview of the workshop. He indicated that a briefing book was developed and is provided on the project website. C. Rodrigues presented a PowerPoint Presentation which provided images from the workshop meeting and break-out sessions. The workshop first looked at the broad picture, transportation conditions within the wider 5 municipality study area to identify areas for change, to provide missing links and other improvements that the community felt was important. The second part of the workshop looked at three (3) selected Route 22 areas: Memorial Parkway area, Route 22/Route 519, and Route 22/New Brunswick Avenue. Boards showing drawings of the ideas presented at the meeting were shown. RPA had prepared a composite map which provides illustration of all of the ideas of the workshop.

   N. Schaefer Maser Consulting Traffic Engineer provided an overview, an update of the transportation conditions in the future. His presentation discussed the 2035 build-out improvements, build-out conditions, and the increased trips resulting from these. To follow up on the results of the Visioning Workshop and the research done by the study team, a wide number of improvements concepts were presented. These include technical fixes which would be at signalized intersections and require no right-of-way purchase. Also, this would include signal calming coordination. The results of the technical fixes indicated that it still could not meet the needs of 2035 traffic conditions. Then, what are called "long term" improvements were presented. These included Memorial Parkway improvements, i.e. roundabouts or road realignments. Two alternatives were presented. Route 519/Route 22 improvements including realignment of the road to eliminate the church in the median. Route 57 improvements of the bridge and ramp system. I-78 improvements included a possible new interchange on I-78. Also, a new ramp to serve

Route 173 eastbound traffic. Other road extensions were suggested. N. Schaefer discussed recommendations for the bridge which included elimination of the e-z pass toll gate. DVRPC representatives responded that this is already in the plans for 2010 work. Other improvements to the free bridge included possibly charging a toll to reduce its desirability and eliminate and thereby reduce regional traffic using the free bridge to avoid the Easton Avenue bridge tolls. TAC members felt this may not be feasible.

Route 173/I-78 ramp plans may have already been developed but never constructed for this area.

3. Discussion of need for additional signs and the sign solution along the corridor will need to be addressed in the future.

4. Don Watt Trans Options Director made a presentation on the possibility of funding a shuttle along Route 22. Funding is available for NJTPA through Cemaq funds which would guarantee the shuttle operations for 3 years. D. Watt indicated this is at the beginning stage and they would be talking with the community business people to determine its desirability.

5. Meeting was adjourned approximately 12:00 p.m. M. Shiffman indicated the public open house will be held at Alpha Borough on April 27 between 6 and 8 pm and invited the TAC members to attend.

Meeting minutes prepared by Marcia Shiffman.

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Route 22 Corridor Study TAC Meeting #3
April 1st, 2009

Name	Phone	Email address:
1. GARRETT VANVLIET	908-454-1454	GLVANVLIET@ENTER.NET
2. Glenn F. Reibman	610-559-0440 Ext. 4075	greibman@drjtbc.org
3. SHELLY McGREGOR	908-454-6780	mmcgregor@cmxengineering.com
4. Bruce Williams	908-479-1130	
5. Tineen Howard	609-530-3828	tineen.howard@dot.state.nj.us
6. Sam Souders Jr	908.995-7400	Souders@P.T.de Net
7. SanMarie McDyer	908-479 6080	smcdyer@conservon.nj.us
8. DON WATT	(973)267-7600	DWATT@TRANSOPTIONS.ORG
9. ANTHONY VANGELI	9089957407	
10. Bill Merrick	908-454-8580	DMerrick@ENTER.NET
11. Mark Portnoy	908 454-5500	mportnoy@enter.net
12. Mike Finelli	908-835-9500	mikeF@Finellicon.com
13. Bernie Rooney	9084548588	everirish65@verizon.net
12 Marcia Shuffman		

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Route 22 Corridor Study TAC Meeting
April 1st, 2009

Name	Phone	Email address:
1. GARRETT VANVLIET	908-454-1454	GLVANVLIET@ENTER.NET
2. Glenn F. Reibman	610-559-0440 Ext. 4075	greibman@drjtbc.org
3. SHELLY McGREGOR	908-454-6780	mmcgregor@cmxengineering.com
4. Bruce Williams	908-479-1130	
5. Tineen Howard	609-530-3825	tineen.howard@dot.state.nj.us
6. Sam Souders Jr.	908-995-7400	Souders@P.T.de.Net
7. SanMarie McDyer	908-475-6080	smcdyer@conwaynj.org
8. DON WATT	(973)267-7600	DWATT@TRANSOPTIONS.OR
9. ANTHONY VANELLI	9089957487	
10. Bill Merrick	908-454-8580	DMerrick@ENTER.NET
11. Mark Portnoy	908 454-5500	mportnoy@enter.net
12. Mike Finelli	908-835-9500	mikeF@Finellicon.com
13. Bernie Rooney	908 454 8588	everirish65@verizon.net
12 Marvin Shuffman		

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Route 22 Corridor Study- TAC Meeting – April 1st, 2009

Name	Phone	Email address:
14. BILL HAHN	908-859-0022	billkittyhann@verizon.net
15. Carlos Rodrigues	609 228 7080	carlos@rpa.org
16. Corey Piasecki	" "	corey@rpa.org
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MASER CONSULTING P.A.
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MEETING MINUTES
PRESENTATION TO
PHILLIPSBURG TOWN COUNCIL
APRIL 21, 2009
MC Project No. 08000727G

ATTENDEES

Marcia Shiffman	Maser Consulting	Email: mshiffman@maserconsulting.com 908-238-0900
Nick Schaefer	Maser Consulting	Email: nschaefer@maserconsulting.com 609-587-8200
Brian Appezzato	WCPD	Email: bappezzato@co.warren.nj.us
David Dech	WCPD	908-475-6532 908-475-6532

David Dech, Warren County Planning Director provided an overview of the study. He noted that the study was funded through NJTPA and is on going since October 2008. The study is another look at multi-modal improvements on the corridor to get public input so that appropriate projects can move forward through the NJTPA project scoping process.

A PowerPoint Presentation was then presented. M. Shiffman began presentation with an overview of the Route 22 study and the current work to date. She invited the Town Council and public to the upcoming public open house to be held on Monday April 27, 2009 at 7:00 pm in Alpha Borough.

N. Schaefer then presented the details of the study. He reviewed existing data collection, intersection investigation, the accident analysis, sidewalk and pedestrian facilities evaluation. An existing conditions capacity analysis was performed and a 2035 traffic build-out was generated to identify changes in level of service and capacity along the corridor.

The final part of the presentation discussed planned proposed improvements looked at as part of the study. The focus for the presentation as was on improvements directly affecting Phillipsburg including: Memorial Parkway concepts, the Center Street extension, Bridge improvements among others.

Questions raised by the Borough Council were as follows:

1. They felt Carpenter Road interchange was necessary and they supported that effort.

2. The Center Street extension considered was essential to address traffic congestion within the Town.

3. Regarding the Memorial Parkway alternatives, they were generally not happy with removal of the Post Office and would like to have the consultant look at other improvement scenarios.

4. A pedestrian bridge or pedestrian access along Roxbury Street was felt very important to provide access to the school.

5. The proposed Center Street connector to Lock Street and Route 22 was felt to be very important. The Borough officials were concerned with the Highlands Plan, which showed the Lopatcong area in a Conservation area, which may constrain construction of the connector road.

6. Town officials felt the Delaware Bridge gate removal by 2010 may not be feasible. They felt that the Delaware River Bridge and Toll Commission should study free-flowing traffic flow on the bridge, given the E-Z pass high speed traffic. Gate removal may not be feasible to slow traffic down before entering the Borough. This needs to be studied.

7. Regarding establishing a toll on the Northhampton Avenue bridge, the Town officials did not support this recommendation and felt it should be removed from the study.

8. Lack of sidewalks is a problem in the Borough and they supported pedestrian sidewalks, including pedestrian improvements for Roseberry Street.

9. Mention was made of improved transit service, including a possible shuttle from Alpha Borough to Route 22 activity centers.

The Town Council thanked the Consultants and the County for attending the meeting.

Presentation ended approximately 8:00 pm.

Meeting minutes prepared by Marcia Shiffman.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

Perryville III Corporate Park
53 Frontage Road, Suite 120
P.O. Box 4017 Clinton, N.J. 08809
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MEETING MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
PUBLIC OPEN HOUSE
APRIL 27, 2009
ALPHA BOROUGH MUNICIPAL BUILDING
6:00 pm TO 8:30 PM

Attendees

See attached list

Highlights of the Meeting

1. Public Meeting had a number display boards showing possible alternatives. Also, concepts from the Visioning Workshop were displayed.

2. A PowerPoint presentation was given which summarized the results of the study work to date. Marcia Shiffman Project Manager gave an introduction and the study overview.

3. The presentation was then turned over to Corey Piasecki from RPA who presented a summary of the Community Visioning Workshop held on February 7, 2009. He described the workshop approach, which looked first at the bigger regional picture to identify traffic links and problem areas and the second exercise which looked at three areas along the Route 22 corridor: Memorial Parkway, Route 22/Route 519 and Route 22/Route 122. Copies of the drawings presented at the workshop were shown as well. The workshop provided for a wide range of ideas for corridor improvements, including pedestrian crossings, road extensions and interchange improvements, among other options.

4. N. Schaefer then gave an expansive presentation on the transportation analysis conducted to-date. He began by reviewing the existing conditions along the corridor including accident analysis, in-field investigations, sidewalk conditions and deficiencies, transit facilities, bicycle paths, and other conditions. The study looked at 2035 build-out traffic volumes. A traffic analysis compared current conditions to 2035 conditions which indicated that traffic will grow significantly in the corridor with the highest growth in the eastern section along Greenwich Street and Route 122.

   A number of alternative concepts were then developed to address both current and future traffic conditions. N. Schaefer indicated that the technical fixes which are short and mid-term improvements will not mitigate the deficiencies in the build-out. Other broader regional planning techniques or long term improvements were then recommended. The long term improvements included roadway redesign at Memorial Parkway, Route 57, Route 519. Other strategies which provided parallel roads, road extensions and linkages were recommended to provide options to travelling on Route 22.

These options included:

- Extension of Center Street
- Improvements to the Route 22 bridge over Route 57
- Addition of ramps at the westbound ramp at the Route 57/Route 22 interchange
- Improvements to the Route 519/St. James Avenue interchange, including combining eastbound and westbound Route 22 to create a more traditional intersection and providing an access road to the church and cemetery.
- Greenwich Street extension
- Bliss Boulevard extension
- Interstate 78 improvements including a possible new interchange in Alpha.
- Improvements to I-78/Route 173 west ramp
- Realignment of Strykers Road/Durban Road
- Bridge improvements
- Access management techniques

Public Comments

1. Question was raised on how the study will proceed to get the project funded. M. Shiffman indicated this is the first step. Future long term improvement will be placed on the NJTPA project list for scoping and then design and implementation.

2. Route 122 in Alpha was an area of high concern given the many accidents at that intersection. Participant felt that it was unsafe with shoppers trying to enter the Target shopping center. The weaving distance from I-78 going west toward the Route 122 intersection was a high accident area.

3. Residents want a new interchange off I-78 to service Pohatcong and Alpha.

4. Question was raised about the Broad Street ramp entering Route 22 eastbound. N. Schaefer indicated that the new idea was to have eastbound Broad Street ramp yield now and Morris Street to have its own acceleration lane.

5. Concern over the proposed interchange at Carpentersville Road and I-78 and impact on local roads. Option of using Route 519 as an interchange location may be a better option.

6. Participant noted that Edge Road in Pohatcong had just received a grant for reconstruction improvements. This would link Route 173 to Route 122 through Stillvalley Road and Springtown Road. Stan Schneck will provide Maser with information on this project. This could potentially be considered as an additional bypass to Route 22.

7. Comment was made that many prior studies had been done on the corridor with many good ideas; many of which have been continued in this study. This included, but not limited to the Center Street extension, improvements to the Route 22/Route 519 intersection.

8. It was noted by D. Pasquarelli that this area was studied 12 years ago and nothing was done because of lack of funding. She felt it was very important that this proceed.

   M. Shiffman indicated that the idea was this study would revisit the original corridor and get community buy-in on the study so it can be put on the NJTPA project list and move forward.

9. Comment was made that a I-78 westbound fly-over had been looked at to address the Route 122 intersection problem with the weaving distance. They noted this was not approved by FHWA.

10. The Bliss Boulevard extension would not handle traffic. Maser's plan shows a link between Bliss Boulevard and _____. There was concern that this is a local road and whether it would require land acquisition. N. Schaefer indicated that the extension of Bliss Boulevard would not require acquisition.

11. The railroad underpass on Route 519 was brought out as a problem area. Better signage was suggested to direct truckers to avoid this restricted underpass. Errant trucks have caused extensive backup problems in this area.

12. Point raised that park and ride needs better signage and advertising.

M. Shiffman indicated that the plan must be completed by June 30, 2009. A public meeting will be held to review the final study recommendations. The date was not determined yet.

Meeting adjourned approximately 8:30 p.m.

Meeting minutes prepared by Marcia Shiffman, PP, AICP, CLA

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Sign in Sheet
April 27th Open House- Route 22 Corridor Study
Alpha Boro

Name	Organization	Phone	Email
Tineen Howard	NJDOT	609-530-3528	tineen.howard@dot.state.nj.us
MARCIA SHEFFMAN	MASE	908-238-0900	msheffman@masenconsulting.com
Bill Wichert	Express-Times	610-258-7171	bwichert@express-times.com
Chuck Joseph	Shop Rite	908-782-6900 x71	Chuck.joseph@wakefern.com
SHELLY McGREGOR	CMX	908-454-6780	mmcgregor@cmxengineering.com
Mike Savage	ALPHA	859-5390	
Penny Willis		454-8290	
Edward HANICS	Alpha	454-0865	
Bernie Mooney	Phillipsburg	454-8588	everinsh65@verizon.net
JOHN LACARUBA	ALPHA	454-4706	
THOMAS SEISS	ALPHA PLANNING	454-9282	EXCHIEF82@VERIZON.NET
STAN SCOTANE	Alpha Engr	454-6780	
Klara TARSI	Alpha Council	454-7770	
Bruce Williams	Greenwich Twp Comm	479-1130	
Christine Danis	NJ Highlands Council	9088796737 x.117	chris.danis@highlands.state.nj.us
Jason Sarnoski	Lopatcong	201-214-4358	Sarnoski@Hotmail.com
DEBBIE PASQUARELLI	GREENWICH + WARREN COUNTY PLANNING BOARD	908 479 6717	
Ann Miller	" NJTHC	908-246-6554	amiller156@verizon.net
BARRY A. SLACK		908 454-0490	SLACKELECTRIC@VERIZON.NET
Ronald W Knoble	St James Church	908 454 0423	
Brian Apperrato	Warren County		
Dave Deck	Warren County		
Corey Piasecki	Regional Plan Association	609-228-7080	Corey@RPA.org

Warren County Route 22 Corridor Study

Promoting Smart Growth

AGENDA

Technical Advisory Meeting #4

Wednesday May 6, 2009

Township of Lopatcong Municipal Building
232 South Third Street
Phillipsburg, NJ 08865

10AM – 12 PM

1. Welcome and TAC Introductions – Dave Dech
2. Update on Study - Marcia Shiffman
    - Phillipsburg Presentation
    - Public Open House – April 27, 2009
3. Review and Comments on Draft Technical Memos by TAC
    - Draft Technical Memo #1 Existing and Future Transportation Conditions
    - Draft Technical Memo #2 Transportation Improvement Strategies
4. Open Discussion
5. Next Steps
    - TAC meeting #5 –Set location and date
    - County Planning Board/Public Presentation
6. Adjournment

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

Perryville III Corporate Park
53 Frontage Road, Suite 120
P.O. Box 4017 Clinton, N.J. 08809
Tel: 908.238.0900 ▪ Fax: 908.238.0901

MEETING MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
PUBLIC OPEN HOUSE
APRIL 27, 2009
ALPHA BOROUGH MUNICIPAL BUILDING
6:00 pm TO 8:30 PM

Attendees

See attached list

Highlights of the Meeting

1. Public Meeting had a number display boards showing possible alternatives. Also concepts from the Visioning Workshop were displayed.

2. Brian Appezato, Warren County Senior Planner, welcomed the public and gave a brief introduction on the project.

3. Marcia Shiffman, the Project Manager then presented an overview of the study work to date.

4. The presentation was then turned over to Corey Piasecki from the Regional Planning Association who presented a summary of the Community Visioning Workshop held on February 7, 2009. He described the workshop approach, which looked first at the bigger regional picture to identify traffic links and problem areas and the second exercise which looked at three areas along the Route 22 corridor: Memorial Parkway, Route 22/Route 519 and Route 22/Route 122. Copies of the drawings presented at the workshop were shown. The workshop provided for a wide range of ideas for corridor improvements, including pedestrian crossings, road extensions and interchange improvements, among other options.

5. N. Schaefer then gave an expansive presentation on the transportation analysis conducted to-date. He began by reviewing the existing conditions along the corridor including accident analysis, in-field investigations, sidewalk conditions and deficiencies, transit facilities, bicycle paths, and other conditions. The study looked at 2035 build-out traffic volumes. A traffic analysis compared current conditions to 2035 conditions which indicated that traffic will grow significantly in the corridor with the highest growth in the eastern section along Greenwich Street and Route 122.

   A number of alternative concepts were then developed to address both current and future traffic conditions. N. Schaefer indicated that the technical fixes which are short and mid-term improvements will not mitigate the deficiencies in 2035. Other broader regional planning techniques or long term improvements were then recommended including road redesigns, parallel roads, linkages, etc.

These options included:

- Memorial Parkway improvements – 3 concepts
- Route 22/Route 57 improvements
- Route 22/Route 519 improvements
- Extension of Center Street to Route 22
- Improvements to the Route 22 bridge over Route 57
- Addition of ramps at the westbound ramp at the Route 57/Route 22 interchange
- Improvements to the Route 519/St. James Avenue interchange, including combining eastbound and westbound Route 22 to create a more traditional intersection and providing an access road to the church and cemetery.
- Greenwich Street extension
- Bliss Boulevard extension
- Interstate 78 improvements including a possible new interchange in Alpha.
- Improvements to I-78/Route 173 west ramp
- Realignment of Strykers Road/Durbin Road
- Bridge improvements
- Access management techniques

Public Comments

1. Question was raised on how the study will proceed to get the project funded. M. Shiffman indicated this is the first step. Future long term improvement will be placed on the NJTPA project list for scoping and then design and implementation.

2. Route 122 in Alpha was an area of high concern given the many accidents at that intersection. Participant felt that it was unsafe with shoppers trying to enter the Target shopping center. The weaving distance from I-78 going west toward the Route 122 intersection was a high accident area.

3. Residents want a new interchange off I-78 to service Pohatcong and Alpha.

4. Question was raised about the Broad Street ramp entering Route 22 eastbound. N. Schaefer indicated that the new idea was to have eastbound Broad Street ramp yield now and Morris Street to have its own acceleration lane.

5. Concern over the proposed interchange at Carpentersville Road and I-78 and impact on local roads. Option of using Route 519 as an interchange location should be looked at.

6. Participant noted that Edge Road in Pohatcong had just received a grant for reconstruction improvements. This would link Route 173 to Route 122 through Stillvalley Road and Springtown Road. Stan Schneck will provide Maser with

information on this project. This could potentially be considered as an additional bypass to Route 22.

7. Comment was made that many prior studies had been done on the corridor with many good ideas; many of which have been continued in this study. This included, but not limited to the Center Street extension and improvements to the Route 22/Route 519 intersection.

8. It was noted by D. Pasquarelli that this area was studied 12 years ago and nothing was done because of lack of funding. She felt it was very important that this proceed.

   M. Shiffman indicated that the idea was this study would revisit the original corridor and get community buy-in on the study so it can be put on the NJTPA project list and move forward.

9. Comment was made that a I-78 westbound fly-over had been looked at to address the Route 122 intersection problem with the weaving distance. They noted this was not approved by FHWA.

10. Comment was raised on the proposed Bliss Boulevard extension; there was concern that this is a local road and whether it would require land acquisition. N. Schaefer indicated that the extension of Bliss Boulevard would not require land acquisition.

11. The railroad underpass on Route 519 was brought out as a problem area. Better signage was suggested to direct truckers to avoid this restricted underpass. Errant trucks have caused extensive backup problems in this area.

12. Point raised that park and ride needs better signage and advertising.

M. Shiffman indicated that the plan must be completed by June 30, 2009. A public meeting will be held to review the final study recommendations. The date was not determined yet.

Meeting adjourned approximately 8:30 p.m.

Meeting minutes prepared by Marcia Shiffman, PP, AICP, CLA

Sign in Sheet
April 27th Open House- Route 22 Corridor Study
Alpha Boro

Name	Organization	Phone	Email
Tineen Howard	NJDOT	609-530-3528	tineen.howard@dot.state.nj.us
MARCIA SHIFFMAN	MASE	908-238-0900	mshiffman@maseconsulting.com
Bill Wichert	Express-Times	610-258-7171	bwichert@express-times.
Chuck Joseph	Shop Rite	908-782-6900 x71	Chuck.joseph@wakefern.com
SHELLY McGREGOR	CMX	908-454-6780	mmcgregor@cmxengineering.com
Mike Savage	ALPHA	859-5390	
Penny Willis		454-8290	
Edward HANICS	Alpha	454-0865	
Bernie Mooney	Phillipsburg	454-8588	everinsh65@verizon.net
JOHN LACARUBA	ALPHA	454-4706	
THOMAS SEISS	ALPHA PLANNING	454-9282	EXCHIEF82@VERIZON.NET
STAN SCOTANE	Alpha Engr	454-6780	
Klara TARSI	Alpha Council	454-7770	
Bruce Williams	Greenwich Twp Comm	479-1130	
Christine Danis	NJ Highlands Council	9088796737 x.117	chris.danis@highlands.state.nj.us
Jason Sarnoski	Lopatcong	201-214-4358	Sarnoski@Hotmail.com
DEBBIE PASQUARELLI	GREENWICH + WARREN COUNTY PLANNING BOARD	908 479 6717	
Ann Miller	" NJTHC	908-246-6554	amiller156@verizon.net
BARRY A. SLACK		908 454-0490	SLACKELECTRIC@VERIZON.NET
Ronald W Knoble	St James Church	908 454 0423	
Brian Apperrato	Warren County		
Dave Deck	Warren County		
Corey Piasecki	Regional Plan Association	609-228-7080	Corey@RPA.org

Warren County Route 22 Corridor Study

Promoting Smart Growth

AGENDA

Technical Advisory Meeting #5

Tuesday June 16, 2009

Borough of Alpha Municipal Building

10AM – 12 PM

1. Welcome and TAC Introductions – Dave Dech
2. Review and Comments on Draft Route 22 Study Report
3. Open Discussion
4. Next Steps
    - Public Open House - June 22, 2009 – Pohatcong Township Municipal Building
5. Adjournment

\\Njncad\projects\2008\08000727G\Meeting_Minutes\TAC5\061609TACMtg#5 Agenda.docx

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MEETING MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
TECHNICAL ADVISORY COMMITTEE MEETING #5
ALPHA BOROUGH MUNICIPAL BUILDING
ON JUNE 16, 2009
MC Project No. 08000727G

Attendees

See attached list.

Handouts

- Warren County Route 22 Corridor Study Recommended Strategies and Improvement, June 2009 Newsletter
- Copies of the draft Route 22 Corridor Study were available for review and distribution to those requesting it.
- Agenda Technical Advisory Meeting #5

The following summarizes the results of the meeting:

1. Dave Dech welcomed the TAC to the meeting. TAC members introduced themselves. Meeting was then turned over to M. Shiffman and N. Schaeffer to present the final draft of the report.

2. M. Shiffman indicated the draft Warren County Route 22 Study was distributed on June 8, 2009. A newsletter was handed out to the TAC. It provides a summary of the Plan recommendations.

3. M. Shiffman then reviewed the work to date. As a follow-up to the last TAC meeting, the study team had received the copy of the Ingersoll Rand Developer's Agreement. Also received was grant information on the Northampton Street Free Bridge Grant Application. M. Shiffman noted we received a memo regarding the I-78 Transit Rail Study; however, this was received too late to include in the plan.

4. M. Shiffman then went on to describe the changes to the final draft report. She indicated it includes and provides updated information from Tech Memo #1 and #2. She indicated that Draft Tech Memo #1 and #2 will not be updated. The report includes the following:

    - Updated socioeconomic data.
    - Information on the Highlands land use changes.
    - Environmental scan mapping including lands 1,000 feet off of Route 22 Corridor.
    - Phasing improvements – short, mid and long-term.
    - Prioritization of intersection improvements.

5. For the pedestrian improvements, the plan includes two new pedestrian bridges at Warren Street and Roseberry Street and recommendations to improve pedestrian access especially to the new high school.

6. For bicycle improvements the Plan recommends that a regional bicycle plan be prepared to provide linkages between the municipal level bicycle plan looking at the overall region and specifically to address the Route 22 bikeway improvements.

7. Regarding the bridges, the Plan includes the Easton/Phillipsburg Toll Bridge project for removal of the tolls to improve traffic flow in the area. The Northampton Street Free Bridge has been cited in the Plan and it is noted that it will require further study.

8. Travel Demand options have been expanded in the draft report, including access management, parallel roads, and improved intersection operation especially for non-signalized intersections and TDM strategies such as flex-time and telephone work.

9. Comments raised of the TAC recommended that the Plan should indicate the next steps in the process. There was some discussion of the NJDOT Congestion Management System and placing these plans on that system. The study team had not received copies of the Congestion Management System from DOT. After discussions it was determined that the recommendations would involve new projects to go on the system. The plan should include a flow chart indicating phasing of the process to implement the study from this point forward.

10. Discussion of expanding land use recommendations to include implementation mechanisms to include how municipalities can address in their land use planning efforts. NJDOT representatives highlighted their current community and mobility strategy studies that are underway that may be useful for the communities to consider.

11. The plan should have a summary list of recommendations as well.

12. Table 6 showing Brownfield locations should be revised to reflect towns accurately.

13. The request for TAC comments were made to be provided no later than July 1, 2009 to allow them to be included in the final plan.

14. The Public Open House will be held on June 22, 2009 from 6 p.m. to 8 p.m. at the Pohatcong Municipal building. The TAC members were invited to attend.

Meeting adjourned approximately 12:00 pm.

Meeting minutes prepared by M. Shiffman.

Sign in Sheet

Route 22 Corridor Study- TAC Meeting- June 16th, 2009

Alpha Boro

Name	Organization	Phone	Email
Glenn F. Reibman	Delaware River Joint Toll Bridge Commission	215-208-4304	greibman@drjtbc.org
Bruce Williams	Greenwich Township Com.	908 479 1130	
Jane Marie McDyer	WCty DHS	908-475-6080	jmcdyer@co.warren.nj.us
GARRETT VANVLIET	LOPATCONG	908-454-1454	GLVANVLIET@EMTER.NET
DON WATT	TRANS OPTIONS	(973) 267-7600	DWATT@TRANSOPTIONS.OR
Robert Gottz		908 835-9200	bgottz@warrencountychamber
Lineen Howard	NJDOT	609-530-3826	lineen.howard@dot.state.nj.us
John Micikas	NJDOT	609-530-5001	John.Micikas@dot.state.nj.us
Bonnie Planning Bd		908 454-8580	[illegible]
Brian Appezzato		908 475-0572	
Dave Beck		"	
Bhavesh Shah		609-530-8078	bhavesh.shah@dot.state.nj.us
Debbie PASQUARELLI	WARREN COUNTY + GREENWICH PB's	9084796717	d.pasquarelli@yahoo.com
Kamlesh R. Shah	NJDOT-DPD	609-530-5539	kamlesh.shah@dot.state.nj.us
Hamilton Meghdir	NJTPA	973-639-8436	hmeghdir@NJTPA.org
CHRISTINE M. DAVIS	NJ HIGHLANDS COUNCIL	908 879 6737	chris.davis@highlands.state.nj.us
SHELLY McGREGOR	CMX	908-454-6780	mmcgregor@cmxengineering.com

OVER →

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PUBLIC OPEN HOUSE MEETING #2 MINUTES
ROUTE 22 CORRIDOR STUDY WC0865FO
POHATCONG MUNICIPAL BUILDING
ON JUNE 22, 2009
MC Project No. 08000727G

Attendees

See attached list.

Handouts

- Warren County Route 22 Corridor Study Recommended Strategies and Improvement, June, 2009 Newsletter
- Recommended Transportation Improvement (6/22/09 draft) two page handout prepared by M. Shiffman

Public open house format was provided by for this public meeting. D isplay boards of the recommended improvement concept plans were situated around the meeting room. Copies of the draft report were provided for public review. Also copies of the newsletter and the two page handout were available to the public.

The following summarizes the key points of the meeting:

1. Open house format was held. Due to large public turnout concerning the Bliss Blvd. extension as proposed, a brief presentation was made by M. Shiffman and N. Schaefer on the highlights of the plan.

2. A Bliss Blvd. resident spoke up regarding the concerns and strong opposition to the extension to Bliss Blvd. to the Phillipsburg Mall. Attendees were not interested in other alternatives but wanted to have meeting discussion focused on this alternative.

3. Question was raised by resident as to the next steps of the project so that they could express their opposition to this improvement. Dave Dech, County Planning Director spoke on the process and how the plan will be further reviewed with each of the municipalities to get municipal agreement on the strategies.

4. The residents discussed as to their concerns over the Bliss Boulevard improvement and the need to review it with their Pohatcong municipal representatives.

Meeting adjourned approximately 8:00 pm.

Meeting minutes prepared by M. Shiffman.

J:\2008\08000727G\Meeting_Minutes\Public\2009\0713mrs meeting#2 minutes.docx

Sign in Sheet

Route 22 Corridor Study- Open House- June 22nd[h], 2009
Pohatcong Township Municipal Building
6-8 P.M.

Name	Organization	Phone	Email
Ricky Waller			wallerr@stjohns.edu
GJ Atwood-Waller	/ OFAB/TLE	(908)507-4267	gloryeandesigns@gmail.com
John P. McLaughlin			
Tara J Heater			
Jill Kirkendall			
Tineen Howard	NJDOT	609-530-3828	tineen.howard@dot.state.nj
Debbie Hirt	NJDOT Community Relations	(609) 530-2110	Deborah.hirt@dot.state.nj.us
Joan Kern	resident		joan_kern@hotmail.com
JOHN PAULUS	RESIDENT	9084541497	
Maggie Manners	resident	454-7898	manners429@verizon.net
JIM KERN	RESIDEDEN		JRKERNJR@HOTMAIL.COM
Kathy + Ted Metz	Resident	908-454-5126	Tedmetz@hotmail.com
Bernie Rooney	Phillipsburg		
Barry Fleming	RES.	908-454-4686	
Lori Fleming	resident	908-454-4686	
Angelo Accetturo	Freeholder	908-303-1608	
Tom MACKLIN		908 4540392	
Kathy MACKLIN		908-454-0392	
Jane Haring		908-454-4397	
Tina Pursel		908-213-1008	
Patrick Pursel		908-213-1008	
Bill Vesta		908 859-8125	
Jim Rogers		213-0571	
Holly Ostby	Congressman Garrett	973-300-2000	Holly.Ostby@mail.house.gov
Penny Willis	Citizen	454-8290	-
KATIE HERSHEY	RESIDENT		
Angela Merrick	Bliss Blvd Resident	908-859-5818	angmerrick@hotmail.com
SHELLY McGREGOR	CMX	908-216-7027	
Brian Appeziato	Warren Cty		

Sign in Sheet

Route 22 Corridor Study- Open House- June 22nd[h], 2009
Pohatcong Township Municipal Building
6-8 P.M.

Name	Organization	Phone	Email
Marcia Shaffner	Mason		
Nicholas Schaefer	Mason		

APPENDIX C. PUBLIC COMMENTS

Township of Pohatcong

50 Municipal Drive
Phillipsburg, New Jersey 08865
Phone 908/454-6121

Office of the Clerk
Wanda L. Kutzman

RECEIVED
JUL 13 2009
WARREN COUNTY
PLANNING BOARD

July 10, 2009

Warren County Planning Department
Attn: Brian Appezzato, Senior Planner
165 County Route 519 South
Belvidere, NJ 07823-1949

RE: Route 22 Corridor Study

Dear Mr. Appezzzato:

We are writing to strongly oppose the extension of Bliss Boulevard through to the Phillipsburg Mall proposed as part of the Route 22 Corridor Study. There is no evidence that the proposed extension of Bliss Boulevard would in any way alleviate the traffic congestion on Route 22 during peak hours or be advantageous to traffic flow at any point, day or night.

At the Reorganization and Regular Meeting of the Township Council held on July 1, 2009, our meeting room was full of concerned residents that were in attendance to voice their opposition and express their concerns regarding this proposal. They presented Mayor and Council with a petition of 103 signatures to stop the extension of Bliss Boulevard.

Mayor Babinsky and Council assured them that the decision to extend Bliss Boulevard would have to be approved by the Township and that they have no intention of ever approving that extension. The Township fully intends to maintain the quality of life for our residents. It was explained further that at the time the Phillipsburg Mall was constructed, the Township Council and the Township Land Use Board ensured that the plans for the Phillipsburg Mall's egress and ingress be from Route 22 only. Later they agreed to a gated opening on Foch Boulevard for emergency vehicle access only.

Although we understand the purpose behind the Route 22 Corridor Study, it should not include an option that would have no impact in reducing the traffic along the Route 22 Corridor. Because this option would only be a detriment to our community and the health, safety and welfare of our residents, it should be removed from the plan.

Thank you for your anticipated cooperation.

Sincerely,

For Mayor and Council

Wanda L. Kutzman

Wanda L. Kutzman
Township Clerk

cc: Township Council

/wlk

Marcia Shiffman

Subject: FW: Route 22 Study- Comments from Last Night

Brian Appezzato
Senior Planner
Warren County Planning Department
908-475-6584
bappezzato@co.warren.nj.us
-----Original Message-----
From: Angela Merrick [mailto:angmerrick@hotmail.com]
Sent: Tuesday, June 23, 2009 3:43 PM
To: bappezzato@co.warren.nj.us
Subject: RE: Route 22 Study

Brian,

Thanks for giving me the opportunity to voice my concerns about this extension.

First of all, I don't think the intention of the extension will be the reality. I was told last night the intention is to give Parkside (the common name for this neighborhood) residents access to the mall to keep OUR traffic off of Route 22. Parkside already gets through traffic from the bordering Phillipsburg neighborhoods, not so much going to the mall, but when they exit the mall now. So if you open up Bliss to get into the mall, obviously those people outside the neighborhood are going to use it as well. Also, this extension creates a complete thoroughfare from the mall all the way to New Brunswick Avenue (Rt 122). Once people realize that they can exit Rt 22 east into the mall (by Panera Bread) drive down the side mall road right to Bliss and zip through the neighborhood all the way over to New Brunswick to avoid the traffic congestion and extra stop lights, they are going to be doing that from 5 am to 9 am.

My other big concern is that this is an older neighborhood, quaint, with more and more young people moving in who have younger children. There is not a single public sidewalk in this entire neighborhood. When I walk my children in a stroller or kids ride their bikes, we must share the road with automobiles. This neighborhood is not equipped to handle the amount of traffic this extension will create and still be safe for pedestrians, children on bicycles, etc.

These are my concerns, at least the valid ones as far as planners and engineers are concerned. I know that the high rates of speed people may travel, the possibility of semi-trucks barreling through our neighborhood, the fact that the mall is half empty are all things that a planner or engineer would say would be the responsibility of the Township to control, but lets be real...they are still concerns!

I have two children, ages 2 and 4, and they are among the 10 children under the age of 12 who live in this last "block" of Bliss Blvd. I know this project is 10 years out at least, but by then it could be other young families living here who would have these concerns.

Sorry it wasn't too brief, but I hope it helps! Thanks again for listening last night and for giving me this platform today.

Sincerely,
Angela Merrick

p.s. Coming from the engineering industry I feel like this project goes against everything engineers and planners try to avoid....diverting traffic FROM a highway INTO a residential neighborhood!

Marcia Shiffman

From: Brian Appezzato [bappezzato@co.warren.nj.us]
Sent: Friday, July 10, 2009 2:05 PM
To: Marcia Shiffman; Nicholas Schaefer
Subject: FW: Final Comments for Route 22 Corridor Study- Pburg
Attachments: pburg rt 22 comments.pdf; Route 22 Corridor Study.doc

Importance: High

Brian Appezzato
Senior Planner
Warren County Planning Department
908-475-6584
bappezzato@co.warren.nj.us

-----Original Message-----
From: McGregor, Shelly [mailto:MMcGregor@cmxengineering.com]
Sent: Friday, July 10, 2009 1:54 PM
To: Brian Appezzato
Subject: RE: Final Comments for Route 22 Corridor Study- by June 30th
Importance: High

Hi Brian –

Sorry these comments are late – Stan did not feel comfortable submitting without input from Pburg Officials – both documents are attached

Shelly McGregor
NW Municipal Services
Phillipsburg Office

From: Brian Appezzato [mailto:bappezzato@co.warren.nj.us]
Sent: Tuesday, June 23, 2009 2:33 PM
To: 'Brian Appezzato'; aaccetturo@co.warren.nj.us; alphaclerk@hotmail.com; Magnuson, Amy; acharlton@co.warren.nj.us; bjohnson@co.warren.nj.us; everirish65@verizon.net; diltsb@lopatcongtwp.com; bgoltz@warrencountychamber.org; bruce.williamsGTC@embarqmail.com; Chief Paul J. Hager; 'Chris Danis'; clerk@pohatcong.com; d.pasquarelli@yahoo.com; Dave Dech; Deborah.Hirt@dot.state.nj.us; dwatt@transoptions.org; Elaine Emiliani; glvanvliet@enter.net; greibman@drjtbc.org; jmcdyer@co.warren.nj.us; JJLayton@maserconsulting.com; John Micikas; kjtarsi@verizon.net; portnoy@enter.net; McGregor, Shelly; autorestnj@aol.com; michele1@enter.net; Mike Dowd; mikef@finellicon.com; PSterbenz@maserconsulting.com; Regina Fitzpatrick; rguzzo@greenwichtwppd.com; marinellis@lopatcongtwp.com; Schrek, Stanley; tineen.howard@dot.state.nj.us; tonywyhopen@comcast.net; Magnuson, Amy; Kelly, Megan; mshiffman@maserconsulting.com; nschaefer@maserconsulting.com; billkittyhann@verizon.net
Subject: Final Comments for Route 22 Corridor Study- by June 30th

TAC Members:

We would like any final comments you have on the Route 22 Corridor Study- (Draft Final Report)- by June 30th. You can access the final report by clicking on the link below.

MEMORANDUM

To: Brian Appezzato,

From: Bernard T. Rooney

Date: July 9, 2009

Reference: US ROUTE 22 Corridor Improvement Plan Draft

Enclosed please find my comments on the Draft "US ROUTE 22 corridor Improvement Plan" prepared by Maser Consulting, P.A. June 2009. First, I would like to say I have read the comments made by The Town of Pillipsburg Engineering Firm CMX and for the most part concur with their comments, findings, suggestions and recommendations. Unfortunately, due to time restraints, I was unable to comment on, embellish and rebuke some their comments as I would have like have done. However, due to the fact that a lot of their comments were in line with comments I planned on making. I cut my comments short to save time.

Comments:

General

Renumber pages and Number Figurers, Charts, and Tables and their corresponding pages.

Section 2: BACKGROUND ANALYSIS

Pages 12, 14, and 19; Legends on figures 2, 3, and 4 are hard to read. Enlarge the lettering and symbols.

Section 3: PUBLIC OUTREACH

3.2.2 Findings and Recommendations

Page 23, "big picture" bullets; add a bullet stating: Improve the safety and circulation of the intersection of Morris Street/Miller Street/Summit Avenue and the East Bound US Route 22 Morris Street Ramp with US Route 22 (Memorial Parkway). And explore ways to improve the safety and circulation of Memorial Parkway by realigning the intersection with US Route 22 and softening the US Route 22 curve.

Page 23, "big picture" bullets; add a second bullet stating: Improve the vehicular traffic safety and circulation within the US Route 22 (Memorial Parkway) corridor between the Morris Street intersection and the Bates/Ingersoll Streets intersection.

Page 23, "big picture" bullets; add a third bullet stating: Improve the pedestrian safety and circulation within the US Route 22 (Memorial Parkway) corridor between the Morris Street intersection and the Roseberry Street intersection.

Page 23, under technical fixes bullets; add a bullet stating: Improve the safety and circulation of the intersection of Morris Street/Miller Street/Summit Avenue and the East Bound US Route 22 Morris Street Ramp with US Route 22 (Memorial Parkway) by: realigning the intersection with US Route 22, softening the US Route 22 curve, providing proper speed limit and enforcement, and providing proper signage forewarning traffic of the conditions ahead before it enters the intersection and Memorial Parkway.

Page 23, under technical fixes bullets; add a second bullet stating: Improve the safety and circulation of Memorial Parkway by eliminating and easing conflicting traffic movements.

Page 23, under technical fixes bullets; add a third bullet stating: Improve the pedestrian safety and circulation of Memorial Parkway by installing medium barriers, dedicated pedestrian cross-walks and overpasses.

Page 24, under design options bullets; add a bullet stating: Install medium barriers to deter mid block pedestrian crossing by planting hedges or scrubs down the middle of the grass mediums.

Page 26, Tables 1, 2 and 3 should be enlarged and on separate Pages so they are easier to read and understand.

Page 27, Legend and Title on figure 6 are hard to read. Enlarge the lettering and symbols.

Page 28, Options 1, 2, 3, and 4 should be enlarge and on separate pages.

Section 4: EXISTING ROADWAY CODITIONS

Page 32, Legend on figure 8 is hard to read. Enlarge the lettering and symbols.

Page 34, Morris Street Intersection Worksheet: aerial photo needs to be enlarged to the Post Office to show the entire US Route 22 sharp curve and the Morris Street "Y" intersection (this is the most dangerous stretch of roadway in whole study corridor). Field investigation Photographs could be sharper and the lettering should be enlarged (this holds true for all the intersections worksheets lettering).

Page 35, Hillcrest Boulevard Intersection Worksheet: aerial photo needs to be enlarged to show the Warren Street round-about (in fact there should be an additional intersection work sheet showing all three of the round-abouts and their cross streets.

Page 36, Lincoln Road/Lincoln Street Intersection Worksheet: aerial photo needs to be enlarged to show the Warren Street turn-about or turn-around, Prospect Street intersection and more of Lincoln Street.

An additional intersection worksheet should be added between the 3rd Street and lock Street intersection worksheets for the US Route 22 and State Route 57 intersection.

Additional intersection worksheets should be added showing the I-78/US Route 22/State Route 173 interchange, State Route 57/County Route 519 intersection, the State Route 122/County Route 519 intersection and Union Square. They all impact or are impacted by the study corridor traffic and are in need of improvements for better safety and circulation in the corridor

Section 5: FUTURE ROADWAY CODITIONS

Concur with CMX comments

Section 6: TRANSPORTATION IMPROVEMENT STRATEGIES

6.3 REGIONAL IMPROVEMENT CONCEPTS; though totally opposed by the residents of Bliss Boulevard, the Bliss Boulevard Extension to the Phillipsburg Mall is still a viable option and should remain in the plan as a recommendation to be revisited in the future.

6.3.1 Memorial Parkway Conceptual Alternatives; though generally opposed by the current governing body and planning officials, Concepts #2 and #3 are viable options that will probably be looked on favorably on in the future as the traffic conditions worsen. As for the proposals themselves, I have some concerns about removing the traffic signal at the US Route22 and Bates/Ingersoll intersection and flow of traffic and recommendation for improving the flow of traffic both vehicular and pedestrian.

The Lincoln Street Intersection should have left turn turning lanes for both east bound and west bound US Route 22 traffic.

Lincoln Street between US Route 22 and Irwin Street and Irwin Street between Lincoln Street and Warren Street should be improved widen as much as possible to encourage Warren Street(one of two cross town arteries) traffic to use the Lincoln Street/US Route 22 signalize intersection.

Section 7: US ROUTE 22 CORRIDOR IMPROVEMENT PLAN

Page 140, US Route22 and Bates/Ingersoll Streets Intersection Long -Term improvements; traffic signal should remain for proper safety and circulation.

Page 156, the Morris Street/US Route 22 intersection should have its own separate Short-Term, Mid-Term, Long-Term Improvement map.

Section 8: PRIORITIZED INTERSECTION IMPROVEMENTS

Concur

As a lifelong resident of The Town of Phillipsburg and a retired Planner for the Warren County Planning Department, where I spent more than thirty years as a transportation planner, I am well aware of the

transportation and pedestrian safety and circulation issues impacting the US Route 22 corridor. As a result of my profession and residency I have been involved with many state, county and local planning boards, committees, organizations and studies regarding planning and transportation issues in the southern part of the county and the US Route 22 corridor in particular. During my tenure and the planning process I found many frustrating things that hindered the process, proposals and recommendations being implemented and projects being started and completed: federal and state rules and regulations, lack of trust of state and county officials, lack of understanding and parochial thinking of stakeholders, and lack of a comprehensive plan. As a result, several viable proposals, recommendations and projects were never implemented and studies and plans sit on shelves and in drawers collecting dust.

The current study the "US Route 22 Corridor Improvement Plan" is the most comprehensive study to date and comes closer than any other study to addressing all the issues and concerns regarding vehicular and pedestrian traffic safety and circulation within the corridor. However, Due to the time frame of the study and the July deadline I feel the study is doomed. The July deadline needs to be extended. There are still serious comments, issues, questions and concerns, and recommendations regarding the study that need to be address before the stakeholders can be expected to accept the study findings and recommendations. Some of the stakeholders will never except or be satisfied with some of the study's findings recommendation even though there viable options. However, the stakeholders must be satisfied with background analysis, data collecting process, public outreach process, land use analysis and the traffic accident and capacity analysis process and feel the improvement recommendations are warranted, reasonable and viable options, before they will accept the study's findings and recommendations. Without an extension the study is doomed to sit on the proverbial shelf collecting dust. What a waste of people's time and taxpayers money.

Comments Received from Shelly McGregor on July 10, 2009

Shelly McGregor
CMX
NW Municipal Services
Phillipsburg Office
Phillipsburg Town Engineering Representative.

Comments:

1) Under Section 2.1 – The paragraph describing pedestrian & bicycle circulation should emphasize
    a. The heavy pedestrian traffic generated by high school students crossing the highway before and after school. Seniors often cross the highway to patronize local restaurants during lunch.

    b. The existing pedestrian overpass in the vicinity of the high school is not patrolled by uniformed police officers.

    c. More importantly, pedestrians using the portion of Route 22 from Morris Street in Phillipsburg through Third Street in Lopatcong cross the highway "mid-block". This existing condition SHOULD be emphasized because there IS a significant amount of pedestrian traffic along this corridor & none of the intersections signalized or not provide safe access.

3. Under Section 2.2.3 – A significant amount of the population moving into Phillipsburg from 1990 to present are pedestrian or rely on public transportation to commute to and from work.

4. Under Section 2.2.4 – As mentioned in my previous email – Tables 5 and 6 need to be updated to reflect the current conditions with all the new retail and commercial establishments in Greenwich & Pohatcong Townships. These businesses not only impact employment, but also trips generated and significantly impact the intersections and conflicts within the corridor.

5. Under Section 2.2.4 – The numbers need to be updated to reflect all the NEW commercial establishments in Greenwich & Pohatcong. These commercial establishments employ a large number of residents within the 5 municipalities defining the Route 22 Corridor.

6. Under Section 2.3 – The map entitled "State Development & Redevelopment Plan – Policy Map" should be revised to provide more differentiation in color between Planning Areas. The various shades of pink and red are very difficult to distinguish.

7. Under Section 2.3 – Provide more detail of the "importance" or "impact" of the State Planning Designations for each municipality. For example the State Plan designates Alpha as a Proposed Town Center although currently Alpha does not have a defined town center or business district. The municipal building lies embedded within one of their residential neighborhoods.

8. Under Section 2.5.8 – Table 9 should be updated to show the correct municipality for each site.

9. Under Section 3.2.2 – Label each of the Figures (5 through 7) to correspond with the written description.

10. Under Section 4.2 – The existing conditions should note Route 22 is a limited access highway from the west side of Allentown, Pennsylvania where it splits from Route 78 until it intersects with Morris Street in Phillipsburg. The description should emphasize that although the area from the Toll Bridge to Morris Street has serious sign pollution that needs to be addressed – there are no signs warning motorists that the "Limited Access Highway Ends – Central Business District Ahead". With the limited sight distance created by the road alignment it is not apparent to eastbound drivers until it is too late to react during heavy traffic conditions.

11. Under Section 4.2 – Specifically mention the left turns through the medians between the Post Office and Lincoln Street. During morning rush hour, evening rush hour and when the high school dismisses students these medians often leave cars stacked in the left lane of east bound traffic.

Under Section 4.2 – "Study Area Corridor Map" –highlight the different conditions:

a. Limited Access Highway (Toll Bridge to Morris Street)
b. Central Business District through Phillipsburg & Lopatcong
c. Major Retail Centers (Pburg Mall, Shop Rite/Home Depot, Lowes, Target Center, Wal Mart & Stop-n-Shop, Raymour & Flanigan)
d. Redevelopment Area of the Ingersoll-Rand Tract
e. Phillipsburg High School
f. Future Phillipsburg Area High School
g. Warren Hospital
h. Coventry Medical Center
i. County & State Highways represented in different color

12. Under Section 4.2 – Morris Street intersection description (with aerial photo): Traffic Control should note a "Y" intersection with sight distance issues – describing this as a "T" intersection implies the angle of entry is closer to a right angle. This angle of entry IS the most serious problem and number one cause of the rear end collisions taking place with cars entering the highway at this location.

13. Under Section 4.2 – Lincoln Avenue intersection description (with aerial photo): Left turn through median should be mentioned. Description should note that cars waiting to either access Route 22 west or cross over the three west bound lanes to access Lincoln Street often begin stacking in the eastbound left lane during afternoon rush hour and school dismissal (picking up students).

14. Under Section 4.2 – Ingersoll Avenue/ Bates Avenue intersection description (with aerial photo): Pedestrians must deal with too many turning movements at this location. This is one of the intersections pedestrians will by-pass & use "mid-block" crossings which are perceived as "safer" because they only deal with traffic from one direction then wait in the median to continue crossing the other direction.

15. – Roseberry Street intersection description (with aerial photo): Same pedestrian issue as Ingersoll/Bates. A significant amount of pedestrian traffic crosses between these two intersections to utilize Aharts Market, Warren Hospital, Coventry Medical Center, the Phillipsburg Municipal Building and several restaurants in this portion of the corridor.

16. Under Section 4.2 – Greenwich Township intersection description (with aerial photo): Should identify Dumont Lane and Strykers Road by name for those not familiar with this area. Note the distance from Strykers Road to the commercial driveway to the north & Dumont Lane.

17. Under Section 4.2 – St James Avenue intersection description (with aerial photo): Under field investigation the notes should also highlight the stacking problem during afternoon rush hour. Vehicles are regularly stacked in the left lane attempting to turn right – especially when tractor trailers are present.

18. Under Section 4.2 – New Brunswick Avenue intersection description (with aerial photo): Throughout the Study's narrative this intersection is referred to as Route 122 – this intersection description should also note this designation.

19. Under Section 4.3 – Chart 3 should also include the traffic counts at both the Route 22 Toll Bridge and Northampton Street Bridge. These bridge counts accurately reflect the behavior of Lehigh Valley commuters who work in New Jersey and travel through the corridor during peak hours. Lincoln Street and the median crossing should be noted in the chart.

20. Under Section 4.3 – "Turning Movement Location Key" – map does not identify Ingersoll/ Bates as an intersection being monitored. The map should identify the intersection and note whether the count was performed automatically or manually.

21. Under Section 4.3 – "Turning Movement Location Key" – The information shows the data provided for the intersections for Route 122, Greenwich Avenue and St James Avenue were "provided by others". The map should identify the source of this information and the dates of the counts to insure the numbers represent the current conditions with the recent retail explosion in this section of the Corridor.

22. Under Section 4.3 – As previously mentioned the "2008 Existing Conditions – PM Peak Hour" should also identify the traffic counts at the Route 22 Bridge and Northampton Street Bridge. During PM Peak Hours a significant amount of traffic is generated by Lehigh Valley Commuters.

23. Under Section 4.5.1 – "Accident Analysis" Figures – move the scales of all figures into the title block – the black ink is too dark against the aerial photos

24. Under Section 4.5.1 – "Accident Analysis for Memorial Parkway & Morris Street" – Road adjacent to existing building should not be identified as Morris Street, this is an access ramp from Route 22 east to Morris Street.

25. Under Section 4.5.1 – "Accident Analysis US Route 22 & Roseberry Street" note the southeast corner lot has been vacant during this three year study. Also the new Wawa located on the south side Roseberry Street Jughandle opened in 2008 – after

this data was collected. Both of these issues will significantly impact the accuracy of this analysis. These conditions should be noted.

26. Under Section 4.5.1 – "Accident Analysis for US Route 22 & State Route 122" – the Analysis should note the dates when the Wal Mart Plaza, Target Center and Lowes opened for business – all of these establishments are recent additions to the Route 22 Corridor and their dates should be noted in the analysis.

27. Under Section 4.5.2 – "Accident Report Findings" – the findings note increased signage and reduced recommended speed. This area already has a significant amount of sign pollution. The recommendation should be to remove several of the existing signs and replace with more efficient / more visible signs. Drivers should be made aware that they are approaching a Central Business District near the location of the Morris Street Overpass.

28. Under Section 4.5.2 – "Accident Report Findings – US Route 22 & Miller/ Morris Street" should note the angle of approach for Morris Street entering onto Route 22 eastbound as being a major contributor to these rear end collisions.

29. Under Section 4.5.2 – "Accident Report Findings - US Route 22 & Roseberry Street" has a significant number of motorists "running the red lights" and having accidents with motorists who have made the decision to stop.

30. Under Section 4.5.2 – "Accident Report Findings" – US Route 22 & County Route 519" – The most significant problem is the number of westbound cars stacking in the center median while attempting to make the left turn to access either the retail centers in Pohatcong Township or residences in Alpha, Pohatcong and the south side of Phillipsburg.

31. Under Section 4.6.2 – "Pedestrian Mobility" – The statement that "pedestrian activity on the US Route 22 corridor is relatively light with no significant time periods and/or locations of intense pedestrian movement" should be removed. This statement is not accurate and does not reflect the need for safe pedestrian routes through Phillipsburg. While field observation during evening rush hour may not reveal significant pedestrian movement, there are several periods of significant pedestrian traffic. During the school year, students cross this highway daily before and after school. Throughout the year pedestrians cross midblock as previously mentioned between Ingersoll/Bates and First Avenue. The issue IS NOT that pedestrian traffic is light, the issue is pedestrian movement is not safe.

32. Under Section 4.6.2 – "Pedestrian Mobility" – One of the biggest reasons pedestrians cross mid-block is the "right turn on red". Drivers making this maneuver DO NOT stop before proceeding, in fact a significant number have been seen accelerating into this maneuver to "beat" the oncoming traffic. This adds to the anxiety for pedestrians trying to cross this highway at all signalized intersections.

33. Under Section 4.6.2 – "Pedestrian Mobility" – The pedestrian overpass at Morris Street needs to be patrolled for children to cross safely to school. Once the school is converted to a Middle School the result will be 6th – 8th grade students crossing this highway.

34. Under Section 4.6.3 – "Pedestrian Facilities" – The timing of the pedestrian crossings must be evaluated. At crossings like Roseberry Street and Ingersoll/Bates pedestrians are caught in the center of the highway where the medians provide minimal protection because the timing is not sufficient to provide safe passage through the entire width. The design of these medians should consider the possibility of pedestrians getting caught mid-block and provide separation from traffic for those individuals, especially at Roseberry where several individuals utilize wheel chairs due to the location of Warren Hospital north of the highway and Federal Housing south of the highway.

35. Under Section 4.6.4 – "Bicycle Facilities" – There needs to be physical separation between bikes and cars due to the speed cars/trucks travel thru this corridor. Without this separation, bike facilities will not be utilized due to safety issues.

36. Under Section 4.7.1 – "Site Access Evaluation" – It should be noted NJDOT needs to work in cooperation with the Town of Phillipsburg and Township of Lopatcong to reduce the number of commercial driveways present from Morris Street to Fifth Street. Legal representation may also be required if/when commercial property owners decide to fight these restrictions on access.

Under Section 4.7.2 – "Adjacent Land Use Identification" – Figure entitled "US Route 22 Corridor Adjacent Land Uses" should have the following additions/revisions:

<u>Eastbound</u>

Revisions:

C – "Ahart's" Market (misspelled)

H – Shopping Center should also identify Ruby Tuesday, Burger King and Frank's Italian Restaurants, and the bank.

Additions:

Phillipsburg Post Office

Wawa Convenience Store (has become a significant traffic generator at Roseberry Street)

Friendly's Restaurant and Panera Bread located adjacent to the Phillipsburg Mall

<u>Westbound</u>

Revisions:

M – Identify Coventry Medical Center, Rite Aid Drug Store, Bank and several professional medical facilities that support Warren Hospital. (The Hillcrest plaza serves a significant number of low-income families from the government housing located off Roseberry Street on the south side of the highway.)

Additions:

Key City Diner

Lopatcong Township Municipal Building (3rd Street)

Warren Hospital (Roseberry Street)

Phillipsburg Municipal Building (Corliss Avenue)

Burger King

KFC

37. Under Section 4.8.1 – "Bus Services" – As previously mentioned, bus shelters are necessary with proper signage and trash receptacles. These improvements would increase both the number of patrons utilizing transit and the perception of adjacent property owners who currently have to deal with loitering and trash left behind.

38. Under Section 4.6.2 – "Bus Services" – It should be mentioned that bus service to the Borough of Alpha needs to be addressed. This has become more critical to senior citizens with the closure of the Alpha Post Office. Many seniors with limited mobility have their prescription drugs and Social Security checks delivered to a post office box for security and now have to utilize the Phillipsburg Post Office. A loop could be added with stops along High Street, Third Street, Vulcanite Avenue and Schley Avenue which would serve a significant portion of the Borough. (Alpha is not even represented on the Map entitled "US Route 22 Corridor Transit Facilities – this oversight should be corrected.)

39. Under Section 4.6.2 – "Bus Services" – Services should be added to the Shopping Centers in Greenwich Township and Aharts Market in Phillipsburg.

40. Under Section 4.8.2 – "Rail Services" – This portion of the report should be given more attention. The impact of the extension of rail service from High Bridge, NJ should be considered.

41. Under Section 4.6.3 – "Park-and-Ride Services" – The report should note this facility is not properly identified with signage along the Corridor. Several residents who might consider using this service are not even aware it exists behind the Phillipsburg Mall.

42. Under Section 5.1.1 – "Build-out Trip Generation" – This section of the report should also note the increase in traffic generated by Lehigh Valley Commuters who do not utilize these commercial establishments but still impact the corridor. Warren County could receive data from both Northampton & Lehigh Counties in Pennsylvania which would identify the number of residents currently employed in New Jersey. In the short term, this number could be generated using traffic counts generated by the DRJTBC for the three crossings serving this region, the toll bridges on Routes 78 and 22 and the Northampton Street Bridge. As noted in the report peak hour has been established as the westbound evening rush. This is due in large part to the Pennsylvania commuters and their numbers should be represented in this Trip Generation Data.

43. Under Section 6.1 – "Intersection Technical Improvements" – The intersection of US Route 22 and 3rd Street should note that the existing railroad overpass is in terrible condition. Due to corrosion/deterioration of the structure a weight limit has been placed on this crossing. Any improvements made to this intersection should include the significant repairs or total replacement of this crossing.

44. Under Section 6.1 – "Intersection Technical Improvements" – The intersection of US Route 22 and Route 122 should address how these improvements will reduce the amount of weaving created by drivers utilizing the I-78 off ramp moving to the left while drivers from Route 173 are attempting to move right to access the shopping centers.

45. Under Section 6.1 – "Traffic Signal Coordination" – This coordination is important to reducing the number of motorists racing the yellow/ red light to avoid getting caught in the perceived red light cycle.

46. Under Section 6.3.1 – "Memorial Parkway Alternatives" – Conceptual Alternatives #2 and #3 should be analyzed in the field. There are significant sight distance

restrictions in this portion of Route 22. In order to remove the light at Ingersoll/ Bates, the existing sight distances would need to be increased to provide adequate response time from Drivers approaching the Lincoln Street Intersection. If sight distances can not be improved, the Ingersoll/ Bates traffic signal is required.

47. Under Section 6.3.7 – "I-78 Interchange at Carpentersville Road" – this section should mention that a significant number of left turns generated by westbound traffic in the evening peak hour are residents of Alpha, Pohatcong and the south side of Phillipsburg. While the Town of Phillipsburg and Borough of Alpha had previously argued against this interchange, both municipalities have now voiced their approval because of the increased commercial traffic generated by shopping centers recently constructed in Greenwich and Pohatcong Townships. Residents who previously crossed Route 22 at either Route 122 or St. James Avenue no longer feel safe making this maneuver.

48. Under Section 6.3.9 – "US Route 122 & Route 173 Barrier" – this alternative should provide a larger aerial view that would detail how the barrier would improve circulation by requiring the traffic entering from Route 173 to utilize Greenwich Street to access the commercial shopping centers located in Greenwich Township. The aerial should also address the movement of motorists entering from Route 78 as they attempt to move to the left to avoid the commercial entrances.

49. Under Section 7.1.2 – "US Route 22 & Roseberry Street" – The installation of the pedestrian overpass needs to be given the highest priority in this Corridor Study due to the new Phillipsburg High School currently under construction. Although this item may require a significant amount of resources financially and otherwise it needs to become more than a long-term improvement and be designed, installed and operational when Phillipsburg High School opens. (Anticipated Date Fall 2012).

50. Under Section 7.1.4 – "US Route 22 & 3rd Street" – The long-term improvements should mention the existing railroad overpass requires either significant improvements or total replacement prior to any circulation improvements.

51. Under Section 7.2.1 – "Memorial Parkway" – Place the detailed insert of the Morris Street Ramp on a separate sheet to increase the visibility and scale of the detail and show the surrounding road network which has been eliminated.

52. Under Section 8 – "Prioritized Intersection Improvements" – Lock Street and Sixth Street Improvements should receive higher priority. The Center Street extension with the realignment of Lock Street would reduce the traffic on Roseberry Street which is one of the highest priorities.

53. The closure of 6th Street closure would improve the intersection of US Route 22 and Route 57.

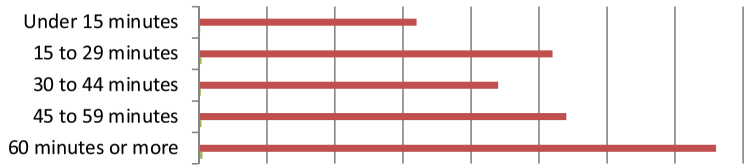
54. Renumber pages & provide figure numbers or map numbers on all graphic information.

APPENDIX D. SURVEY RESULTS

Route 22 Commuter Survey Results

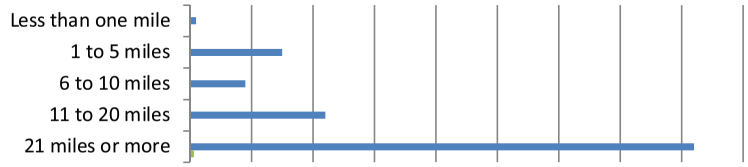
5. How long is your daily commute (one way)?		
Under 15 minutes	16	12%
15 to 29 minutes	26	20%
30 to 44 minutes	22	17%
45 to 59 minutes	27	21%
60 minutes or more	38	29%
Total	129	100%

5. How long is your daily commute (one way)?



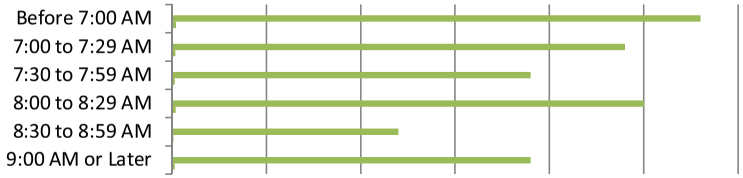
6. How many miles is your commute to work (one way)?		
Less than one mile	1	1%
1 to 5 miles	15	12%
6 to 10 miles	9	7%
11 to 20 miles	22	17%
21 miles or more	82	64%
Total	129	100%

6. How many miles is your commute to work (one way)?



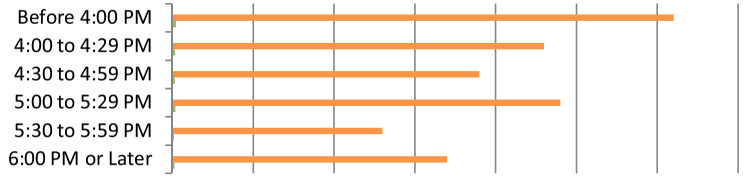
7. What time do you usually arrive to work in the morning?		
Before 7:00 AM	28	22%
7:00 to 7:29 AM	24	19%
7:30 to 7:59 AM	19	15%
8:00 to 8:29 AM	25	20%
8:30 to 8:59 AM	12	9%
9:00 AM or Later	19	15%
Total	127	100%

7. What time do you usually arrive to work in the morning?



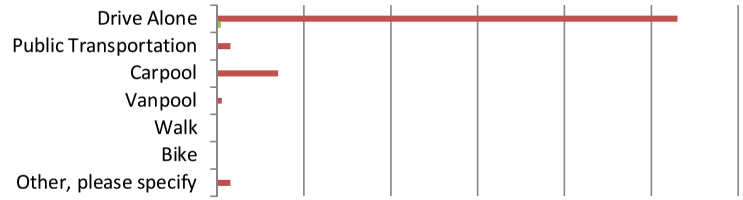
8. What time do you usually leave work for the day?		
Before 4:00 PM	31	24%
4:00 to 4:29 PM	23	18%
4:30 to 4:59 PM	19	15%
5:00 to 5:29 PM	24	19%
5:30 to 5:59 PM	13	10%
6:00 PM or Later	17	13%
Total	127	100%

8. What time do you usually leave work for the day?



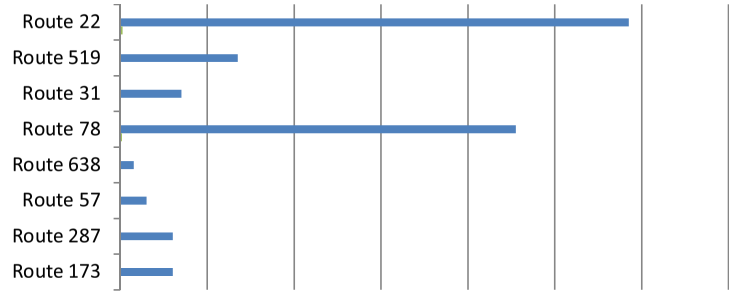
9. How do you regularly travel to work?		
Drive Alone	106	83%
Public Transportation	3	2%
Carpool	14	11%
Vanpool	1	1%
Walk	0	0%
Bike	0	0%
Other, please specify	3	2%
Total	127	100%

9. How do you regularly travel to work?



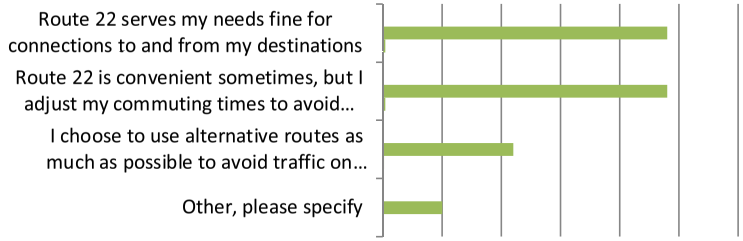
10. If you drive, which major routes in the area do you most frequently use to get to work (check all that apply)?		
Route 22	117	41%
Route 519	27	10%
Route 31	14	5%
Route 78	91	32%
Route 638	3	1%
Route 57	6	2%
Route 287	12	4%
Route 173	12	4%

10. If you drive, which major routes in the area do you most frequently use to get to work (check all that apply)?



11. How do traffic patterns on Route 22 influence your choice of driving routes?		
Route 22 serves my needs fine for connections to and from my destinations	48	38%
Route 22 is convenient sometimes, but I adjust my commuting times to avoid traffic	48	38%
I choose to use alternative routes as much as possible to avoid traffic on Route 22	22	17%
Other, please specify	10	8%
Total	128	100%

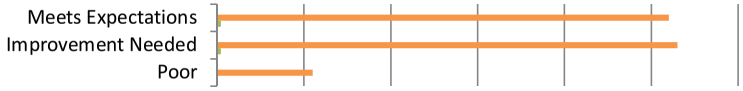
11. How do traffic patterns on Route 22 influence your choice of driving routes?



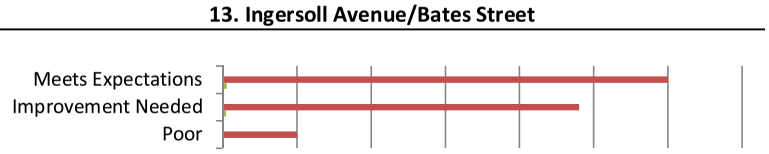
How would you rate the following intersections along Route 22 in terms of congestion and ease of use (Check one for each) using the following criteria Meets Expectations - Adequately services needsImprovement Needed - Slight delay, but expected along a major corridorPoor - Gridlock, Aggravating

12. Morris Street		
Meets Expectations	52	45%
Improvement Needed	53	46%
Poor	11	9%
Total	116	100%

12. Morris Street

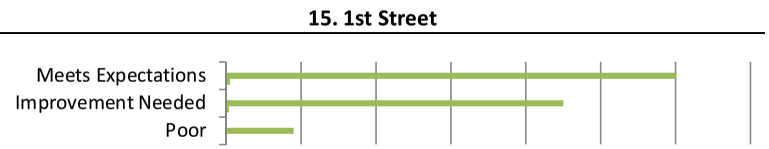


13. Ingersoll Avenue/Bates Street		
Meets Expectations	60	51%
Improvement Needed	48	41%
Poor	10	8%
Total	118	100%



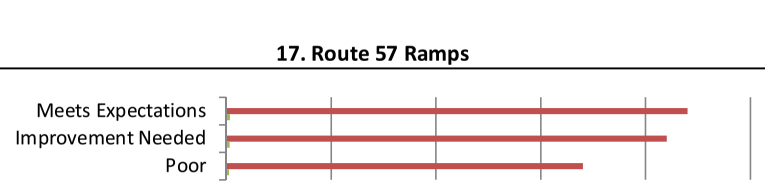
14. Roseberry Street		
Meets Expectations	37	30%
Improvement Needed	58	48%
Poor	27	22%
Total	122	100%

15. 1st Street		
Meets Expectations	60	53%
Improvement Needed	45	39%
Poor	9	8%
Total	114	100%

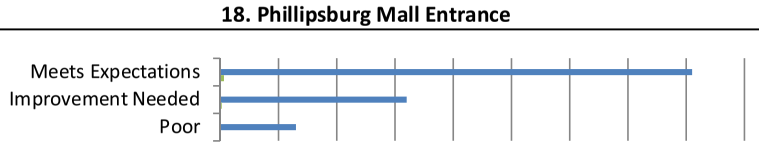


16. 3rd Street		
Meets Expectations	61	52%
Improvement Needed	44	38%
Poor	12	10%
Total	117	100%

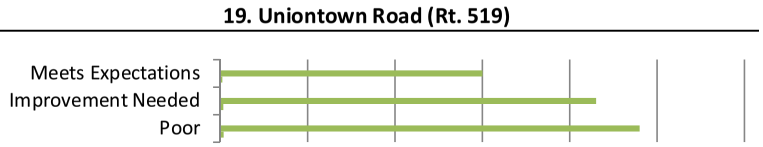
17. Route 57 Ramps		
Meets Expectations	44	37%
Improvement Needed	42	35%
Poor	34	28%
Total	120	100%



18. Phillipsburg Mall Entrance		
Meets Expectations	81	64%
Improvement Needed	32	25%
Poor	13	10%
Total	126	100%

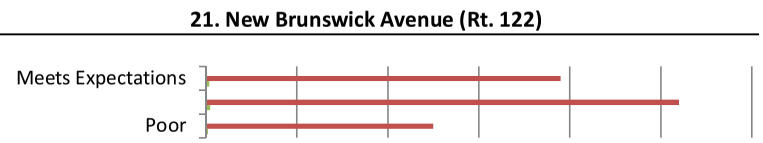


19. Uniontown Road (Rt. 519)		
Meets Expectations	30	25%
Improvement Needed	43	36%
Poor	48	40%
Total	121	100%

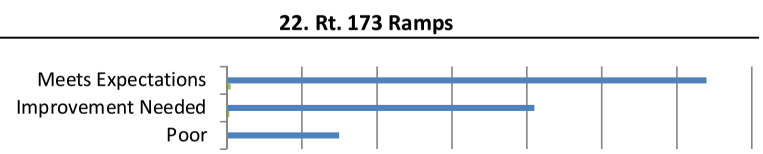


20. Greenwich Street (Rt. 638)		
Meets Expectations	55	47%
Improvement Needed	39	33%
Poor	23	20%
Total	117	100%

21. New Brunswick Avenue (Rt. 122)		
Meets Expectations	39	34%
Improvement Needed	52	45%
Poor	25	22%
Total	116	100%

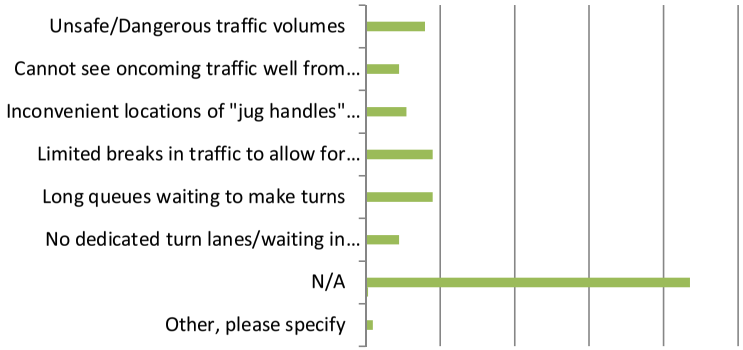


22. Rt. 173 Ramps		
Meets Expectations	64	53%
Improvement Needed	41	34%
Poor	15	12%
Total	120	100%



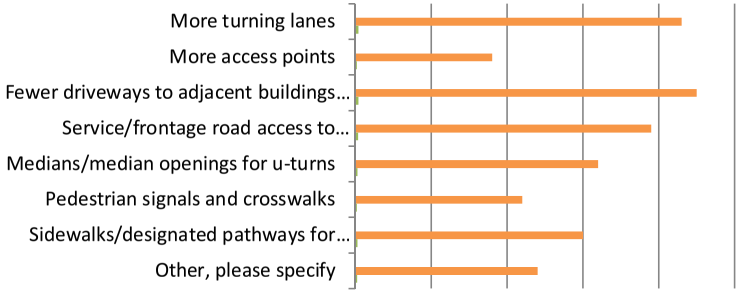
24. Are there specific problems with entering or exiting the driveway access to your place of emloyment? (Check any that apply)		
Unsafe/Dangerous traffic volumes	16	13%
Cannot see oncoming traffic well from both directions	9	7%
Inconvenient locations of "jug handles" to turn left or reverse directions	11	9%
Limited breaks in traffic to allow for turning movements	18	15%
Long queues waiting to make turns	18	15%
No dedicated turn lanes/waiting in through traffic lanes to turn	9	7%
N/A	87	72%
Other, please specify	2	2%

24. Are there specific problems with entering or exiting the driveway access to your place of emloyment? (Check any that apply)



25. What types of intersection or other physical improvements would you like to see along Route 22 to improve traffic flow?		
More turning lanes	43	36%
More access points	18	15%
Fewer driveways to adjacent buildings along Route 22	45	38%
Service/frontage road access to buildings along Route 22	39	33%
Medians/median openings for u-turns	32	27%
Pedestrian signals and crosswalks	22	18%
Sidewalks/designated pathways for other uses (bicycles, pedestrians)	30	25%
Other, please specify	24	20%

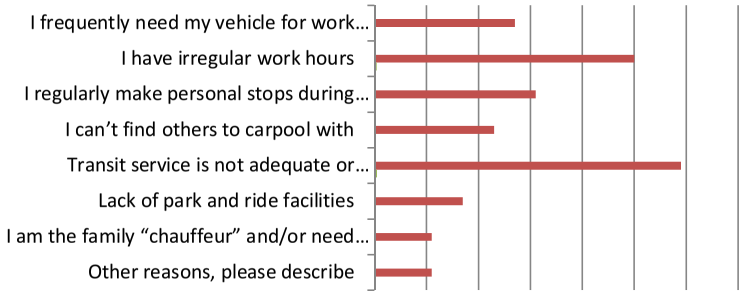
25. What types of intersection or other physical improvements would you like to see along Route 22 to improve traffic flow?



Please share your views about commuting options:

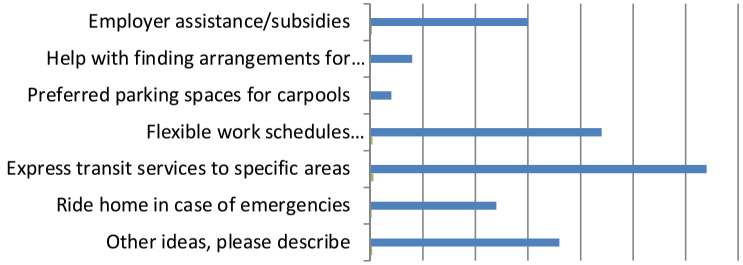
27. If you drive alone, what prevents you from ridesharing or using transit (check all that apply)?		
I frequently need my vehicle for work purposes during the day	27	24%
I have irregular work hours	50	44%
I regularly make personal stops during my commute that I can't do at other times	31	27%
I can't find others to carpool with	23	20%
Transit service is not adequate or convenient for me to use	59	52%
Lack of park and ride facilities	17	15%
I am the family "chauffeur" and/or need to be available for emergency needs	11	10%
Other reasons, please describe	11	10%

27. If you drive alone, what prevents you from ridesharing or using transit (check all that apply)?



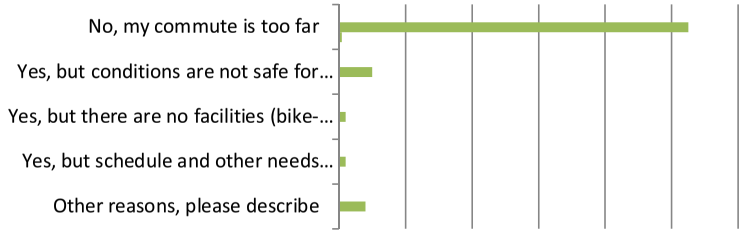
28. Which of the following incentives would best influence you to use other modes of transportation?		
Employer assistance/subsidies	15	14%
Help with finding arrangements for carpools/vanpools	4	4%
Preferred parking spaces for carpools	2	2%
Flexible work schedules ("telecommuting", 4 10-hour day workweeks, etc)	22	21%
Express transit services to specific areas	32	30%
Ride home in case of emergencies	12	11%
Other ideas, please describe	18	17%
Total	105	100%

28. Which of the following incentives would best influence you to use other modes of transportation?



29. Would you be inclined to walk or bike to work?		
No, my commute is too far	105	83%
Yes, but conditions are not safe for walking or biking	10	8%
Yes, but there are no facilities (bike-racks, showers/lockers, etc.) at, or near, my workplace	2	2%
Yes, but schedule and other needs prohibit me from regularly doing so	2	2%
Other reasons, please describe	8	6%
Total	127	100%

29. Would you be inclined to walk or bike to work?



30. If you drive alone to work, would you park once at work and walk to lunch time destinations if better pedestrian access along Route 22 existed?		
Yes	41	44%
No	53	56%
Total	94	100%

30. If you drive alone to work, would you park once at work and walk to lunch time destinations if better pedestrian access along Route 22 existed?

31. Would you be more likely to bike or walk to work if your employer (or others) provided amenities such as bike racks, storage or locker facilities, and/or shower facilities?		
Yes	16	15%
No	92	85%
Total	108	100%

31. Would you be more likely to bike or walk to work if your employer (or others) provided amenities such as bike racks, storage or locker facilities, and/or shower facilities?

32. Are you aware of the NJDOT's ridesharing program, "Carpooling Makes $ense?"		
Yes	61	49%
No	63	51%
Total	124	100%

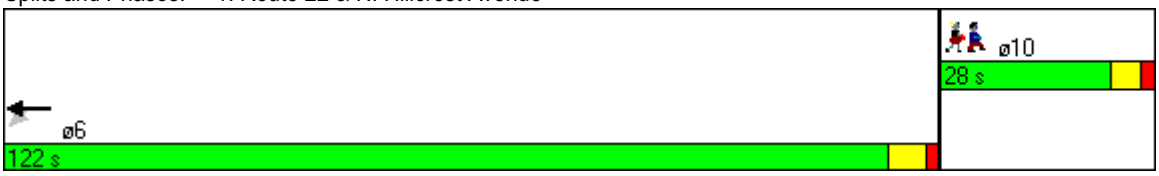
32. Are you aware of the NJDOT's ridesharing program, "Carpooling Makes $ense?"

APPENDIX E. SYNCHRO CAPACITY ANALYSIS SHEETS

Lane Group	WBL	WBT	ø10
Lane Configurations			
Volume (vph)	339	2251	
Turn Type	Perm		
Protected Phases		6	10
Permitted Phases	6		
Detector Phase	6	6	
Switch Phase			
Minimum Initial (s)	115.0	115.0	22.0
Minimum Split (s)	122.0	122.0	28.0
Total Split (s)	122.0	122.0	28.0
Total Split (%)	81.3%	81.3%	19%
Yellow Time (s)	5.0	5.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.0	7.0	
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Min	C-Min	None
Act Effct Green (s)	150.0	150.0	
Actuated g/C Ratio	1.00	1.00	
v/c Ratio	0.20	0.88	
Control Delay	0.1	14.6	
Queue Delay	0.0	0.0	
Total Delay	0.1	14.6	
LOS	A	B	
Approach Delay		13.0	
Approach LOS		B	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 32 (21%), Referenced to phase 6:WBTL, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 101.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Route 22 & N. Hillcrest Avenue



Lane Group	WBL	WBT
Lane Group Flow (vph)	353	3018
v/c Ratio	0.20	0.88
Control Delay	0.1	14.6
Queue Delay	0.0	0.0
Total Delay	0.1	14.6
Queue Length 50th (ft)	0	428
Queue Length 95th (ft)	m0	m1232
Internal Link Dist (ft)		405
Turn Bay Length (ft)		
Base Capacity (vph)	1770	3422
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.20	0.88

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations											
Volume (vph)	0	0	0	339	2251	646	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0						
Lane Util. Factor				1.00	0.95						
Frt				1.00	0.97						
Flt Protected				0.95	1.00						
Satd. Flow (prot)				1770	3421						
Flt Permitted				0.95	1.00						
Satd. Flow (perm)				1770	3421						
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	353	2345	673	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	353	3018	0	0	0	0	0	0
Turn Type				Perm					Free		
Protected Phases					6						
Permitted Phases				6					Free		
Actuated Green, G (s)				150.0	150.0						
Effective Green, g (s)				150.0	150.0						
Actuated g/C Ratio				1.00	1.00						
Clearance Time (s)				7.0	7.0						
Vehicle Extension (s)				3.0	3.0						
Lane Grp Cap (vph)				1770	3421						
v/s Ratio Prot					c0.88						
v/s Ratio Perm				0.20							
v/c Ratio				0.20	0.88						
Uniform Delay, d1				0.0	0.0						
Progression Factor				1.00	1.00						
Incremental Delay, d2				0.1	1.3						
Delay (s)				0.1	1.3						
Level of Service				A	A						
Approach Delay (s)		0.0			1.2		0.0			0.0	
Approach LOS		A			A		A			A	

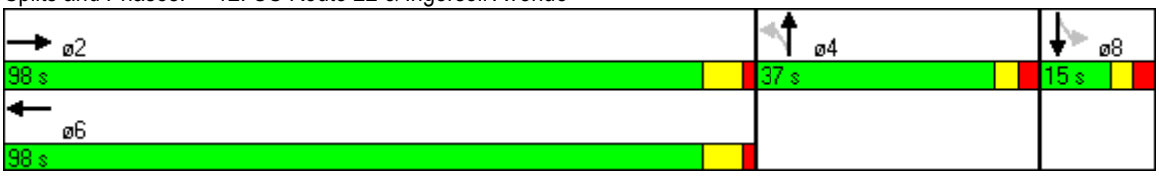
Intersection Summary			
HCM Average Control Delay	1.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1339	2999	175	56	43	60
Turn Type			Perm		Perm	
Protected Phases	2	6		4		8
Permitted Phases			4		8	
Detector Phase	2	6	4	4	8	8
Switch Phase						
Minimum Initial (s)	91.0	91.0	5.0	5.0	5.0	5.0
Minimum Split (s)	98.0	98.0	11.0	11.0	11.0	11.0
Total Split (s)	98.0	98.0	37.0	37.0	15.0	15.0
Total Split (%)	65.3%	65.3%	24.7%	24.7%	10.0%	10.0%
Yellow Time (s)	5.0	5.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	Min	Min	Min	Min
Act Effct Green (s)	91.0	91.0	29.7	29.7		10.3
Actuated g/C Ratio	0.61	0.61	0.20	0.20		0.07
v/c Ratio	0.48	1.05	1.48	0.85		1.54
Control Delay	16.9	31.2	305.0	97.1		316.0
Queue Delay	0.0	0.7	0.0	0.0		0.0
Total Delay	16.9	31.9	305.0	97.1		316.0
LOS	B	C	F	F		F
Approach Delay	16.9	31.9		199.1		316.0
Approach LOS	B	C		F		F

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 139 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 46.5 Intersection LOS: D
Intersection Capacity Utilization 103.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 12: US Route 22 & Ingersoll Avenue



Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	1465	3227	130	135	186
v/c Ratio	0.48	1.05	1.48	0.85	1.54
Control Delay	16.9	31.2	305.0	97.1	316.0
Queue Delay	0.0	0.7	0.0	0.0	0.0
Total Delay	16.9	31.9	305.0	97.1	316.0
Queue Length 50th (ft)	277	~1230	~180	130	~253
Queue Length 95th (ft)	313	m169	#329	#261	#418
Internal Link Dist (ft)	80	968		612	361
Turn Bay Length (ft)			100		
Base Capacity (vph)	3077	3085	92	165	121
Starvation Cap Reductn	0	5	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	1.05	1.41	0.82	1.54

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1339	23	0	2999	2	175	56	16	43	60	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		6.0	6.0			6.0	
Lane Util. Factor		0.91			0.91		0.95	0.95			1.00	
Frt		1.00			1.00		1.00	0.98			0.95	
Flt Protected		1.00			1.00		0.95	0.98			0.99	
Satd. Flow (prot)		5072			5085		1681	1700			1740	
Flt Permitted		1.00			1.00		0.25	0.45			0.87	
Satd. Flow (perm)		5072			5085		444	783			1534	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1440	25	0	3225	2	188	60	17	46	65	75
RTOR Reduction (vph)	0	1	0	0	0	0	0	3	0	0	16	0
Lane Group Flow (vph)	0	1464	0	0	3227	0	130	132	0	0	170	0
Turn Type							Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)		91.0			91.0		29.7	29.7			10.3	
Effective Green, g (s)		91.0			91.0		29.7	29.7			10.3	
Actuated g/C Ratio		0.61			0.61		0.20	0.20			0.07	
Clearance Time (s)		7.0			7.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		3077			3085		88	155			105	
v/s Ratio Prot		0.29			c0.63							
v/s Ratio Perm							c0.29	0.17			c0.11	
v/c Ratio		0.48			1.05		1.48	0.85			1.62	
Uniform Delay, d1		16.3			29.5		60.2	58.0			69.8	
Progression Factor		1.00			0.23		1.00	1.00			1.00	
Incremental Delay, d2		0.5			21.8		265.9	33.5			318.5	
Delay (s)		16.8			28.7		326.1	91.5			388.4	
Level of Service		B			C		F	F			F	
Approach Delay (s)		16.8			28.7			206.6			388.4	
Approach LOS		B			C			F			F	

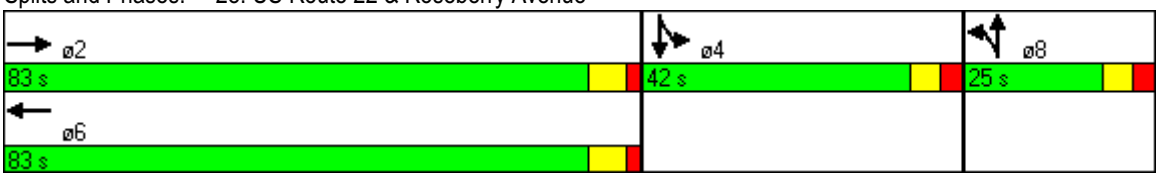
Intersection Summary			
HCM Average Control Delay	47.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	1182	2514	178	162	360
Turn Type				Split	
Protected Phases	2	6	8	4	4
Permitted Phases					
Detector Phase	2	6	8	4	4
Switch Phase					
Minimum Initial (s)	76.0	76.0	5.0	5.0	5.0
Minimum Split (s)	83.0	83.0	12.0	12.0	12.0
Total Split (s)	83.0	83.0	25.0	42.0	42.0
Total Split (%)	55.3%	55.3%	16.7%	28.0%	28.0%
Yellow Time (s)	5.0	5.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	76.0	76.0	18.0	35.0	35.0
Actuated g/C Ratio	0.51	0.51	0.12	0.23	0.23
v/c Ratio	0.56	1.10	1.12dl	0.41	1.05
Control Delay	14.0	78.3	128.3	52.4	111.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	78.3	128.3	52.4	111.0
LOS	B	E	F	D	F
Approach Delay	14.0	78.3	128.3		94.9
Approach LOS	B	E	F		F

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 124 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 67.1 Intersection LOS: E
Intersection Capacity Utilization 116.2% ICU Level of Service H
Analysis Period (min) 15
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 28: US Route 22 & Roseberry Avenue



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	1431	2813	448	171	451
v/c Ratio	0.56	1.10	1.12dl	0.41	1.05
Control Delay	14.0	78.3	128.3	52.4	111.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	78.3	128.3	52.4	111.0
Queue Length 50th (ft)	117	~1142	~256	143	~476
Queue Length 95th (ft)	m127	#1212	#374	218	#700
Internal Link Dist (ft)	968	609	86		135
Turn Bay Length (ft)					
Base Capacity (vph)	2539	2558	413	413	429
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	1.10	1.08	0.41	1.05

Intersection Summary

~ 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.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1182	178	0	2514	159	221	178	20	162	360	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0			7.0		7.0	7.0	
Lane Util. Factor		0.91			0.91			0.95		1.00	1.00	
Frt		0.98			0.99			0.99		1.00	0.98	
Flt Protected		1.00			1.00			0.97		0.95	1.00	
Satd. Flow (prot)		4986			5040			3423		1770	1818	
Flt Permitted		1.00			1.00			0.97		0.95	1.00	
Satd. Flow (perm)		4986			5040			3423		1770	1818	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1244	187	0	2646	167	240	187	21	171	379	72
RTOR Reduction (vph)	0	13	0	0	4	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	1418	0	0	2809	0	0	445	0	171	446	0
Turn Type							Split			Split		
Protected Phases		2			6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)		76.0			76.0			18.0		35.0	35.0	
Effective Green, g (s)		76.0			76.0			18.0		35.0	35.0	
Actuated g/C Ratio		0.51			0.51			0.12		0.23	0.23	
Clearance Time (s)		7.0			7.0			7.0		7.0	7.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		2526			2554			411		413	424	
v/s Ratio Prot		0.28			c0.56			c0.13		0.10	c0.25	
v/s Ratio Perm												
v/c Ratio		0.56			1.10			1.12dl		0.41	1.05	
Uniform Delay, d1		25.5			37.0			66.0		48.8	57.5	
Progression Factor		0.52			0.76			1.00		1.00	1.00	
Incremental Delay, d2		0.8			50.2			68.7		0.7	58.3	
Delay (s)		14.2			78.3			134.7		49.5	115.8	
Level of Service		B			E			F		D	F	
Approach Delay (s)		14.2			78.3			134.7			97.6	
Approach LOS		B			E			F			F	

Intersection Summary			
HCM Average Control Delay	68.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	116.2%	ICU Level of Service	H
Analysis Period (min)	15		

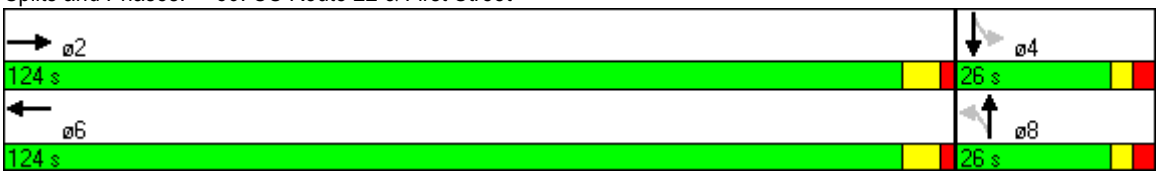
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1329	2505	32	68	27	0
Turn Type			Perm		Perm	
Protected Phases	2	6		8		4
Permitted Phases			8		4	
Detector Phase	2	6	8	8	4	4
Switch Phase						
Minimum Initial (s)	106.0	106.0	7.0	7.0	7.0	7.0
Minimum Split (s)	113.0	113.0	24.0	24.0	24.0	24.0
Total Split (s)	124.0	124.0	26.0	26.0	26.0	26.0
Total Split (%)	82.7%	82.7%	17.3%	17.3%	17.3%	17.3%
Yellow Time (s)	5.0	5.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	121.4	121.4	15.6	15.6		15.6
Actuated g/C Ratio	0.81	0.81	0.10	0.10		0.10
v/c Ratio	0.34	0.65	0.37	0.37		0.73
Control Delay	2.5	2.4	71.9	66.6		83.9
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	2.5	2.4	71.9	66.6		83.9
LOS	A	A	E	E		F
Approach Delay	2.5	2.4		68.3		83.9
Approach LOS	A	A		E		F

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 6 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 6.4 — Intersection LOS: A
Intersection Capacity Utilization 112.8% — ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 59: US Route 22 & First Street



Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	1399	2671	34	72	121
v/c Ratio	0.34	0.65	0.37	0.37	0.73
Control Delay	2.5	2.4	71.9	66.6	83.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.5	2.4	71.9	66.6	83.9
Queue Length 50th (ft)	52	72	32	67	107
Queue Length 95th (ft)	m63	76	67	114	173
Internal Link Dist (ft)	609	173		194	289
Turn Bay Length (ft)			150		
Base Capacity (vph)	4132	4125	122	254	214
Starvation Cap Reductn	0	147	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.67	0.28	0.28	0.57

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1329	0	0	2505	31	32	68	0	27	0	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		6.0	6.0			6.0	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frt		1.00			1.00		1.00	1.00			0.90	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085			5076		1770	1863			1650	
Flt Permitted		1.00			1.00		0.48	1.00			0.90	
Satd. Flow (perm)		5085			5076		888	1863			1501	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1399	0	0	2637	34	34	72	0	28	0	93
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	1399	0	0	2670	0	34	72	0	0	112	0
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		121.4			121.4		15.6	15.6			15.6	
Effective Green, g (s)		121.4			121.4		15.6	15.6			15.6	
Actuated g/C Ratio		0.81			0.81		0.10	0.10			0.10	
Clearance Time (s)		7.0			7.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		4115			4108		92	194			156	
v/s Ratio Prot		0.28			c0.53			0.04				
v/s Ratio Perm							0.04				c0.07	
v/c Ratio		0.34			0.65		0.37	0.37			0.72	
Uniform Delay, d1		3.8			5.8		62.6	62.6			65.1	
Progression Factor		0.58			0.28		1.00	1.00			1.00	
Incremental Delay, d2		0.2			0.6		2.5	1.2			14.6	
Delay (s)		2.4			2.2		65.1	63.8			79.7	
Level of Service		A			A		E	E			E	
Approach Delay (s)		2.4			2.2			64.2			79.7	
Approach LOS		A			A			E			E	

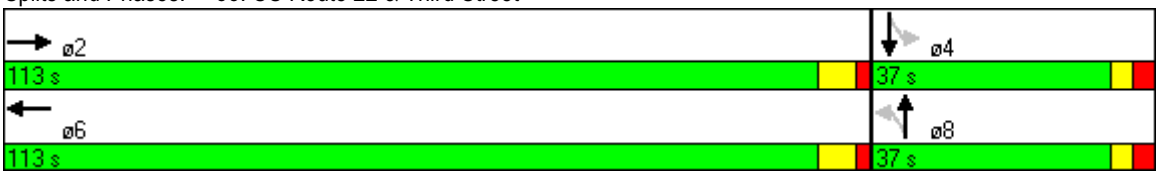
Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	112.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1454	2476	31	13	139	18
Turn Type			Perm		Perm	
Protected Phases	2	6		8		4
Permitted Phases			8		4	
Detector Phase	2	6	8	8	4	4
Switch Phase						
Minimum Initial (s)	106.0	106.0	12.0	12.0	12.0	12.0
Minimum Split (s)	113.0	113.0	22.0	22.0	22.0	22.0
Total Split (s)	113.0	113.0	37.0	37.0	37.0	37.0
Total Split (%)	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	5.0	5.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	114.6	114.6		22.4	22.4	22.4
Actuated g/C Ratio	0.76	0.76		0.15	0.15	0.15
v/c Ratio	0.40	0.68		0.34	0.79	0.15
Control Delay	2.0	10.6		42.3	88.5	47.0
Queue Delay	0.1	0.0		0.0	0.0	0.0
Total Delay	2.1	10.6		42.3	88.5	47.0
LOS	A	B		D	F	D
Approach Delay	2.1	10.6		42.3		79.9
Approach LOS	A	B		D		E

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 113.5% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 33: US Route 22 & Third Street



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	1551	2644	84	148	39
v/c Ratio	0.40	0.68	0.34	0.79	0.15
Control Delay	2.0	10.6	42.3	88.5	47.0
Queue Delay	0.1	0.0	0.0	0.0	0.0
Total Delay	2.1	10.6	42.3	88.5	47.0
Queue Length 50th (ft)	75	413	53	142	28
Queue Length 95th (ft)	93	580	101	211	61
Internal Link Dist (ft)	173	292	24		162
Turn Bay Length (ft)				150	
Base Capacity (vph)	3885	3881	333	259	360
Starvation Cap Reductn	966	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.68	0.25	0.57	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1454	4	0	2476	9	31	13	35	139	18	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0			6.0		6.0	6.0	
Lane Util. Factor		0.91			0.91			1.00		1.00	1.00	
Frt		1.00			1.00			0.94		1.00	0.92	
Flt Protected		1.00			1.00			0.98		0.95	1.00	
Satd. Flow (prot)		5083			5082			1718		1770	1719	
Flt Permitted		1.00			1.00			0.87		0.67	1.00	
Satd. Flow (perm)		5083			5082			1518		1252	1719	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1547	4	0	2634	10	33	14	37	148	19	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	20	0	0	5	0
Lane Group Flow (vph)	0	1551	0	0	2644	0	0	64	0	148	34	0
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		114.6			114.6			22.4		22.4	22.4	
Effective Green, g (s)		114.6			114.6			22.4		22.4	22.4	
Actuated g/C Ratio		0.76			0.76			0.15		0.15	0.15	
Clearance Time (s)		7.0			7.0			6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		3883			3883			227		187	257	
v/s Ratio Prot		0.31			c0.52						0.02	
v/s Ratio Perm								0.04		c0.12		
v/c Ratio		0.40			0.68			0.28		0.79	0.13	
Uniform Delay, d1		6.0			8.7			56.6		61.5	55.4	
Progression Factor		0.26			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.3			1.0			0.7		20.0	0.2	
Delay (s)		1.8			9.7			57.3		81.6	55.6	
Level of Service		A			A			E		F	E	
Approach Delay (s)		1.8			9.7			57.3			76.2	
Approach LOS		A			A			E			E	

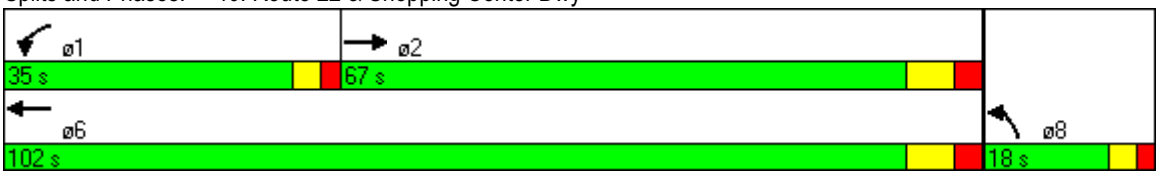
Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	1015	275	1887	177
Turn Type		Prot		
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	54.0	7.0	54.0	2.0
Minimum Split (s)	62.0	24.0	62.0	7.0
Total Split (s)	67.0	35.0	102.0	18.0
Total Split (%)	55.8%	29.2%	85.0%	15.0%
Yellow Time (s)	5.0	3.0	5.0	3.0
All-Red Time (s)	3.0	2.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None
Act Effct Green (s)	74.2	15.8	95.0	12.0
Actuated g/C Ratio	0.62	0.13	0.79	0.10
v/c Ratio	0.35	0.66	0.51	0.56
Control Delay	12.1	56.6	5.1	57.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.1	56.6	5.1	57.5
LOS	B	E	A	E
Approach Delay	12.1		11.6	57.5
Approach LOS	B		B	E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 14.2 — Intersection LOS: B
Intersection Capacity Utilization 72.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 40: Route 22 & Shopping Center Dwy



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1103	299	2051	192
v/c Ratio	0.35	0.66	0.51	0.56
Control Delay	12.1	56.6	5.1	57.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.1	56.6	5.1	57.5
Queue Length 50th (ft)	142	114	166	74
Queue Length 95th (ft)	201	156	222	109
Internal Link Dist (ft)	217		606	66
Turn Bay Length (ft)		600		
Base Capacity (vph)	3145	858	4048	387
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.35	0.51	0.50

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1015	0	275	1887	177	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0		5.0	8.0	5.0	
Lane Util. Factor	0.91		0.97	0.91	0.97	
Frt	1.00		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	5085		3433	5085	3433	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	5085		3433	5085	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1103	0	299	2051	192	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1103	0	299	2051	192	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	74.2		15.8	95.0	12.0	
Effective Green, g (s)	74.2		15.8	95.0	12.0	
Actuated g/C Ratio	0.62		0.13	0.79	0.10	
Clearance Time (s)	8.0		5.0	8.0	5.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	3144		452	4026	343	
v/s Ratio Prot	0.22		c0.09	c0.40	c0.06	
v/s Ratio Perm						
v/c Ratio	0.35		0.66	0.51	0.56	
Uniform Delay, d1	11.2		49.6	4.4	51.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		3.6	0.5	2.0	
Delay (s)	11.5		53.2	4.8	53.5	
Level of Service	B		D	A	D	
Approach Delay (s)	11.5			11.0	53.5	
Approach LOS	B			B	D	

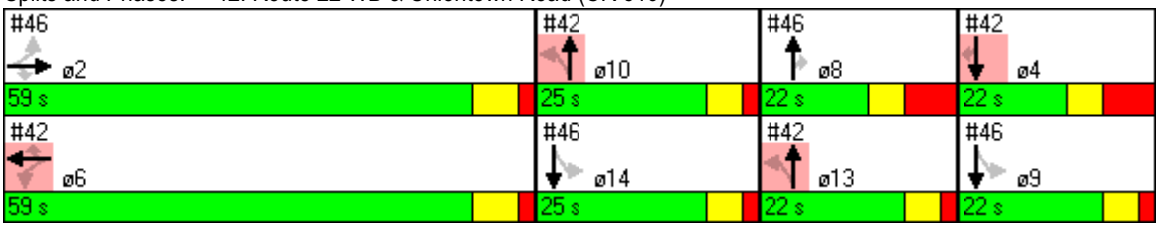
Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR	ø2	ø8	ø9	ø10	ø13
Lane Configurations												
Volume (vph)	302	1816	154	270	360	379	76					
Turn Type	Perm		Perm	Perm			Perm					
Protected Phases		6			10 13	4		2	8	9	10	13
Permitted Phases	6		6	10 13			4					
Detector Phase	6	6	6	10 13	10 13	4	4					
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0			9.0	9.0	4.0	9.0	4.0	4.0	4.0
Minimum Split (s)	58.0	58.0	58.0			19.0	19.0	58.0	19.0	10.0	22.0	10.0
Total Split (s)	59.0	59.0	59.0	47.0	47.0	22.0	22.0	59.0	22.0	22.0	25.0	22.0
Total Split (%)	46.1%	46.1%	46.1%	36.7%	36.7%	17.2%	17.2%	46%	17%	17%	20%	17%
Yellow Time (s)	5.0	5.0	5.0			4.0	4.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0			6.0	6.0	2.0	6.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	7.0	7.0	7.0	6.0	6.0	10.0	10.0					
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min			None	None	C-Min	None	Max	Max	Max
Act Effct Green (s)	52.0	52.0	52.0	41.0	41.0	12.0	12.0					
Actuated g/C Ratio	0.41	0.41	0.41	0.32	0.32	0.09	0.09					
v/c Ratio	0.46	0.96	0.26	4.97	0.34	0.86	0.56					
Control Delay	30.3	48.9	26.6	1817.7	13.8	75.7	70.8					
Queue Delay	20.0	0.0	0.0	0.0	22.8	59.9	0.0					
Total Delay	50.2	48.9	26.6	1817.7	36.6	135.6	70.8					
LOS	D	D	C	F	D	F	E					
Approach Delay		47.5			799.6	124.7						
Approach LOS		D			F	F						

Intersection Summary

Cycle Length: 128
Actuated Cycle Length: 128
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:, Start of Yellow, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 4.97
Intersection Signal Delay: 199.0 — Intersection LOS: F
Intersection Capacity Utilization 94.4% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 42: Route 22 WB & Uniontown Road (CR 519)



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	10.0
Total Split (s)	25.0
Total Split (%)	20%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

42: Route 22 WB & Uniontown Road (CR 519)

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	328	1974	167	293	391	412	83
v/c Ratio	0.46	0.96	0.26	4.97	0.34	0.86	0.56
Control Delay	30.3	48.9	26.6	1817.7	13.8	75.7	70.8
Queue Delay	20.0	0.0	0.0	0.0	22.8	59.9	0.0
Total Delay	50.2	48.9	26.6	1817.7	36.6	135.6	70.8
Queue Length 50th (ft)	196	574	91	~417	47	125	67
Queue Length 95th (ft)	282	#689	146	m#448	m49	#184	123
Internal Link Dist (ft)		517			65	893	
Turn Bay Length (ft)	300		300				200
Base Capacity (vph)	719	2066	643	59	1134	477	148
Starvation Cap Reductn	0	0	0	0	740	0	0
Spillback Cap Reductn	381	0	0	0	0	110	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.96	0.26	4.97	0.99	1.12	0.56

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	302	1816	154	270	360	0	0	379	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0	7.0	6.0	6.0			10.0	10.0
Lane Util. Factor				1.00	0.91	1.00	1.00	0.95			0.91	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1770	5085	1583	1770	3539			5085	1583
Flt Permitted				0.95	1.00	1.00	0.10	1.00			1.00	1.00
Satd. Flow (perm)				1770	5085	1583	182	3539			5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	328	1974	167	293	391	0	0	412	83
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	328	1974	167	293	391	0	0	412	83
Turn Type				Perm		Perm	Perm					Perm
Protected Phases					6			10 13			4	
Permitted Phases				6		6	10 13					4
Actuated Green, G (s)				52.0	52.0	52.0	41.0	41.0			12.0	12.0
Effective Green, g (s)				52.0	52.0	52.0	41.0	41.0			12.0	12.0
Actuated g/C Ratio				0.41	0.41	0.41	0.32	0.32			0.09	0.09
Clearance Time (s)				7.0	7.0	7.0					10.0	10.0
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Lane Grp Cap (vph)				719	2066	643	58	1134			477	148
v/s Ratio Prot					c0.39			0.11			c0.08	
v/s Ratio Perm				0.19		0.11	c1.61					0.05
v/c Ratio				0.46	0.96	0.26	5.05	0.34			0.86	0.56
Uniform Delay, d1				27.7	36.9	25.2	43.5	33.2			57.2	55.5
Progression Factor				1.00	1.00	1.00	1.40	0.40			1.00	1.00
Incremental Delay, d2				2.1	11.8	1.0	1844.4	0.5			14.9	4.8
Delay (s)				29.8	48.7	26.2	1905.2	13.7			72.1	60.3
Level of Service				C	D	C	F	B			E	E
Approach Delay (s)		0.0			44.6			823.9			70.1	
Approach LOS		A			D			F			E	

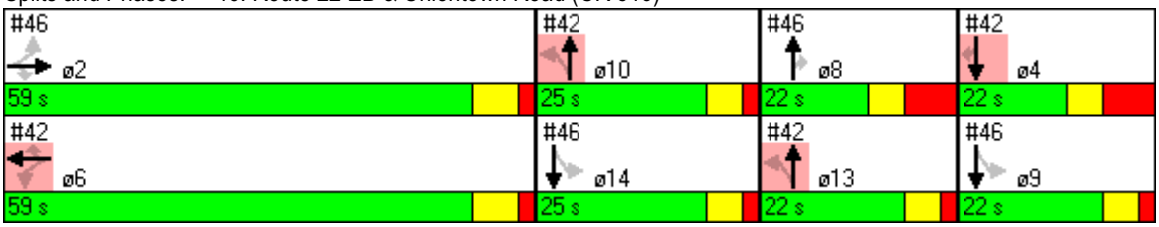
Intersection Summary			
HCM Average Control Delay	194.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.53		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT	ø4	ø6	ø9	ø10	ø13
Lane Configurations												
Volume (vph)	146	726	267	459	53	207	462					
Turn Type	Perm		Perm		Perm	Perm						
Protected Phases		2		8			14 9	4	6	9	10	13
Permitted Phases	2		2		8	14 9						
Detector Phase	2	2	2	8	8	14 9	14 9					
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	9.0	9.0			9.0	4.0	4.0	4.0	4.0
Minimum Split (s)	58.0	58.0	58.0	19.0	19.0			19.0	58.0	10.0	22.0	10.0
Total Split (s)	59.0	59.0	59.0	22.0	22.0	47.0	47.0	22.0	59.0	22.0	25.0	22.0
Total Split (%)	46.1%	46.1%	46.1%	17.2%	17.2%	36.7%	36.7%	17%	46%	17%	20%	17%
Yellow Time (s)	5.0	5.0	5.0	4.0	4.0			4.0	5.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	6.0	6.0			6.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	7.0	7.0	7.0	10.0	10.0	6.0	6.0					
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	None	None			None	C-Min	Max	Max	Max
Act Effct Green (s)	52.0	52.0	52.0	12.0	12.0	35.0	35.0					
Actuated g/C Ratio	0.41	0.41	0.41	0.09	0.09	0.27	0.27					
v/c Ratio	0.22	0.55	0.45	1.05	0.29	2.75	1.44dl					
Control Delay	25.9	30.8	30.5	109.1	17.2	845.8	155.3					
Queue Delay	0.3	0.0	0.0	177.7	0.0	0.0	261.3					
Total Delay	26.2	30.8	30.5	286.8	17.2	845.8	416.6					
LOS	C	C	C	F	B	F	F					
Approach Delay		30.2		258.8			502.8					
Approach LOS		C		F			F					

Intersection Summary

Cycle Length: 128
Actuated Cycle Length: 128
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:, Start of Yellow, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 4.97
Intersection Signal Delay: 216.9 Intersection LOS: F
Intersection Capacity Utilization 94.4% ICU Level of Service F
Analysis Period (min) 15
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 46: Route 22 EB & Uniontown Road (CR 519)



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	10.0
Total Split (s)	25.0
Total Split (%)	20%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

46: Route 22 EB & Uniontown Road (CR 519)

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	159	789	290	499	58	146	581
v/c Ratio	0.22	0.55	0.45	1.05	0.29	2.75	1.44dl
Control Delay	25.9	30.8	30.5	109.1	17.2	845.8	155.3
Queue Delay	0.3	0.0	0.0	177.7	0.0	0.0	261.3
Total Delay	26.2	30.8	30.5	286.8	17.2	845.8	416.6
Queue Length 50th (ft)	85	260	173	~164	0	~214	~232
Queue Length 95th (ft)	136	323	256	#243	43	m#304	m#339
Internal Link Dist (ft)		347		519			65
Turn Bay Length (ft)	300				150		
Base Capacity (vph)	719	1438	643	477	201	53	470
Starvation Cap Reductn	0	0	0	0	0	0	151
Spillback Cap Reductn	240	0	0	136	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.55	0.45	1.46	0.29	2.75	1.82

Intersection Summary

~ 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.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	146	726	267	0	0	0	0	459	53	207	462	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					10.0	10.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00					0.91	1.00	0.91	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3539	1583					5085	1583	1610	3367	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.11	0.51	
Satd. Flow (perm)	1770	3539	1583					5085	1583	194	1718	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	159	789	290	0	0	0	0	499	58	225	502	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	53	0	0	0
Lane Group Flow (vph)	159	789	290	0	0	0	0	499	5	146	581	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		2						8			14 9	
Permitted Phases	2		2						8	14 9		
Actuated Green, G (s)	52.0	52.0	52.0					12.0	12.0	35.0	35.0	
Effective Green, g (s)	52.0	52.0	52.0					12.0	12.0	35.0	35.0	
Actuated g/C Ratio	0.41	0.41	0.41					0.09	0.09	0.27	0.27	
Clearance Time (s)	7.0	7.0	7.0					10.0	10.0			
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0			
Lane Grp Cap (vph)	719	1438	643					477	148	53	470	
v/s Ratio Prot		c0.22						c0.10				
v/s Ratio Perm	0.09		0.18						0.00	c0.75	0.34	
v/c Ratio	0.22	0.55	0.45					1.05	0.04	2.75	1.44dl	
Uniform Delay, d1	24.8	29.0	27.6					58.0	52.7	46.5	46.5	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.35	1.33	
Incremental Delay, d2	0.7	1.5	2.3					53.8	0.1	826.3	119.2	
Delay (s)	25.5	30.5	29.9					111.8	52.8	889.0	180.8	
Level of Service	C	C	C					F	D	F	F	
Approach Delay (s)		29.7			0.0			105.6			323.0	
Approach LOS		C			A			F			F	

Intersection Summary			
HCM Average Control Delay	131.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

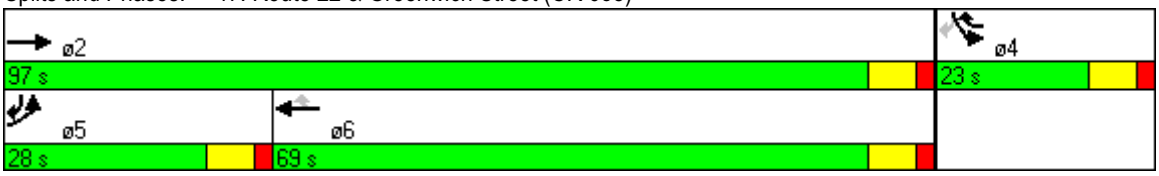
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	289	738	2278	217	192	166
Turn Type	Prot			pm+ov		pm+ov
Protected Phases	5	2	6	4	4	5
Permitted Phases				6		4
Detector Phase	5	2	6	4	4	5
Switch Phase						
Minimum Initial (s)	5.0	62.0	62.0	5.0	5.0	5.0
Minimum Split (s)	12.0	69.0	69.0	23.0	23.0	12.0
Total Split (s)	28.0	97.0	69.0	23.0	23.0	28.0
Total Split (%)	23.3%	80.8%	57.5%	19.2%	19.2%	23.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Min	C-Min	Max	Max	None
Act Effct Green (s)	15.6	90.0	67.4	90.4	16.0	38.6
Actuated g/C Ratio	0.13	0.75	0.56	0.75	0.13	0.32
v/c Ratio	0.65	0.28	0.81	0.18	0.42	0.33
Control Delay	56.4	5.1	37.9	9.7	51.0	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	5.1	37.9	9.7	51.0	31.8
LOS	E	A	D	A	D	C
Approach Delay		19.5	35.4		42.1	
Approach LOS		B	D		D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 31.8 — Intersection LOS: C
Intersection Capacity Utilization 82.9% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 47: Route 22 & Greenwich Street (CR 638)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	292	745	2301	219	194	168
v/c Ratio	0.65	0.28	0.81	0.18	0.42	0.33
Control Delay	56.4	5.1	37.9	9.7	51.0	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	5.1	37.9	9.7	51.0	31.8
Queue Length 50th (ft)	112	82	690	85	72	97
Queue Length 95th (ft)	152	104	744	m118	109	149
Internal Link Dist (ft)		307	696		555	
Turn Bay Length (ft)	150			450	150	
Base Capacity (vph)	601	2654	2855	1222	458	582
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.28	0.81	0.18	0.42	0.29

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	289	738	2278	217	192	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	0.97	0.95	0.91	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	3539	5085	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	3539	5085	1583	3433	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	292	745	2301	219	194	168
RTOR Reduction (vph)	0	0	0	37	0	1
Lane Group Flow (vph)	292	745	2301	182	194	167
Turn Type	Prot			pm+ov		pm+ov
Protected Phases	5	2	6	4	4	5
Permitted Phases				6		4
Actuated Green, G (s)	15.6	90.0	67.4	83.4	16.0	31.6
Effective Green, g (s)	15.6	90.0	67.4	83.4	16.0	31.6
Actuated g/C Ratio	0.13	0.75	0.56	0.70	0.13	0.26
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	446	2654	2856	1193	458	509
v/s Ratio Prot	c0.09	0.21	c0.45	0.02	c0.06	0.04
v/s Ratio Perm				0.09		0.06
v/c Ratio	0.65	0.28	0.81	0.15	0.42	0.33
Uniform Delay, d1	49.6	4.8	21.1	6.2	47.8	35.6
Progression Factor	1.00	1.00	1.66	4.39	1.00	1.00
Incremental Delay, d2	3.4	0.3	1.5	0.2	2.9	0.4
Delay (s)	53.1	5.0	36.5	27.6	50.6	36.0
Level of Service	D	A	D	C	D	D
Approach Delay (s)		18.5	35.7		43.8	
Approach LOS		B	D		D	

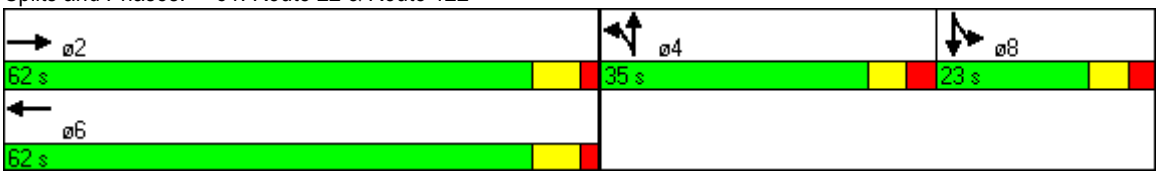
Intersection Summary			
HCM Average Control Delay	31.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	734	2372	119	62	61	413
Turn Type			Split		Split	
Protected Phases	2	6	4	4	8	8
Permitted Phases						
Detector Phase	2	6	4	4	8	8
Switch Phase						
Minimum Initial (s)	53.0	53.0	6.0	6.0	6.0	6.0
Minimum Split (s)	60.0	60.0	13.0	13.0	13.0	13.0
Total Split (s)	62.0	62.0	35.0	35.0	23.0	23.0
Total Split (%)	51.7%	51.7%	29.2%	29.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	56.8	56.8	20.6	20.6	21.6	21.6
Actuated g/C Ratio	0.47	0.47	0.17	0.17	0.18	0.18
v/c Ratio	0.32	0.84	0.39	0.70	0.20	0.80
Control Delay	15.7	31.3	46.5	41.3	45.8	57.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	31.3	46.5	41.3	45.8	57.9
LOS	B	C	D	D	D	E
Approach Delay	15.7	31.3		42.9		56.6
Approach LOS	B	C		D		E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 32.7 — Intersection LOS: C
Intersection Capacity Utilization 82.8% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 51: Route 22 & Route 122



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	773	2549	112	238	58	485
v/c Ratio	0.32	0.84	0.39	0.70	0.20	0.80
Control Delay	15.7	31.3	46.5	41.3	45.8	57.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	31.3	46.5	41.3	45.8	57.9
Queue Length 50th (ft)	105	504	82	122	41	193
Queue Length 95th (ft)	128	558	131	203	92	#344
Internal Link Dist (ft)	28	511		400		71
Turn Bay Length (ft)			250		150	
Base Capacity (vph)	2406	3024	392	431	290	607
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.84	0.29	0.55	0.20	0.80

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	734	0	0	2372	49	119	62	152	61	413	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		0.91			0.86		0.95	0.95		0.91	0.91	
Frt		1.00			1.00		1.00	0.90		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		5085			6388		1681	1587		1610	3342	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		5085			6388		1681	1587		1610	3342	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	773	0	0	2497	52	125	65	160	64	435	44
RTOR Reduction (vph)	0	0	0	0	2	0	0	66	0	0	6	0
Lane Group Flow (vph)	0	773	0	0	2547	0	112	172	0	58	479	0
Turn Type							Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)		56.8			56.8		20.6	20.6		21.6	21.6	
Effective Green, g (s)		56.8			56.8		20.6	20.6		21.6	21.6	
Actuated g/C Ratio		0.47			0.47		0.17	0.17		0.18	0.18	
Clearance Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2407			3024		289	272		290	602	
v/s Ratio Prot		0.15			c0.40		0.07	c0.11		0.04	c0.14	
v/s Ratio Perm												
v/c Ratio		0.32			0.84		0.39	0.63		0.20	0.80	
Uniform Delay, d1		19.6			27.7		44.1	46.2		41.9	47.1	
Progression Factor		0.76			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			3.0		0.9	4.7		0.3	7.2	
Delay (s)		15.3			30.7		45.0	50.9		42.2	54.3	
Level of Service		B			C		D	D		D	D	
Approach Delay (s)		15.3			30.7			49.0			53.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	69	0	0	339	0
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)	0	77	0	0	377	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)						
pX, platoon unblocked						
vC, conflicting volume	0				77	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				77	0
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				59	100
cM capacity (veh/h)	1623				926	1085

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	77	377	0
Volume Left	0	377	0
Volume Right	0	0	0
cSH	1700	926	1700
Volume to Capacity	0.05	0.41	0.00
Queue Length 95th (ft)	0	50	0
Control Delay (s)	0.0	11.5	0.0
Lane LOS		B	A
Approach Delay (s)	0.0	11.5	
Approach LOS		B	

Intersection Summary			
Average Delay	9.6		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	0	959	0	0	349	0
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.92	0.92	0.90	0.90
Hourly flow rate (vph)	0	1066	0	0	388	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	776	776	776	0	0	
vC1, stage 1 conf vol	776	776	0			
vC2, stage 2 conf vol	0	0	776			
vCu, unblocked vol	776	776	776	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)	6.1	5.5	5.5			
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	0	100	100	76	
cM capacity (veh/h)	268	273	279	1085	1623	

Direction, Lane #	EB 1	SE 1	SE 2	SE 3
Volume Total	1066	129	129	129
Volume Left	0	129	129	129
Volume Right	0	0	0	0
cSH	273	1623	1623	1623
Volume to Capacity	3.91	0.24	0.24	0.24
Queue Length 95th (ft)	Err	23	23	23
Control Delay (s)	Err	7.9	7.9	7.9
Lane LOS	F	A	A	A
Approach Delay (s)	Err	7.9		
Approach LOS	F			

Intersection Summary			
Average Delay	7333.2		
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	3244	172	0	167
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	3565	189	0	184
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		485				
pX, platoon unblocked						
vC, conflicting volume	3754				3659	1283
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3754				3659	1283
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	56				4	156

Direction, Lane #	WB 1	WB 2	WB 3	SB 1
Volume Total	1426	1426	902	184
Volume Left	0	0	0	0
Volume Right	0	0	189	184
cSH	1700	1700	1700	156
Volume to Capacity	0.84	0.84	0.53	1.18
Queue Length 95th (ft)	0	0	0	255
Control Delay (s)	0.0	0.0	0.0	185.3
Lane LOS				F
Approach Delay (s)	0.0			185.3
Approach LOS				F

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	976	6	0	2064	0	39
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1061	7	0	2243	0	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1067		2186	534
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1067		2186	534
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	91
cM capacity (veh/h)			649		39	491

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	707	360	1122	1122	42
Volume Left	0	0	0	0	0
Volume Right	0	7	0	0	42
cSH	1700	1700	1700	1700	491
Volume to Capacity	0.42	0.21	0.66	0.66	0.09
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	13.0
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.0
Approach LOS					B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	118	190	368	336	78
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	131	211	409	373	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				973		
pX, platoon unblocked	0.85					
vC, conflicting volume	1248	417	460			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1205	417	460			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	79	81			
cM capacity (veh/h)	140	636	1101			

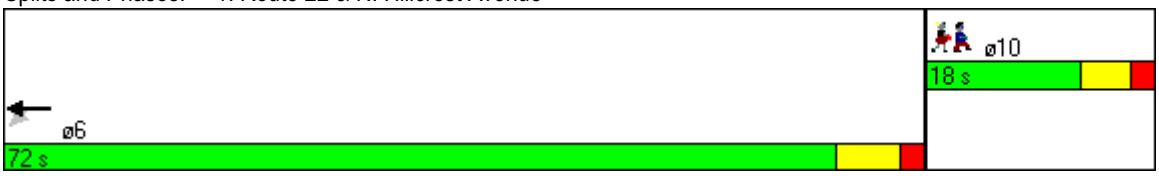
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	131	620	460
Volume Left	0	211	0
Volume Right	131	0	87
cSH	636	1101	1700
Volume to Capacity	0.21	0.19	0.27
Queue Length 95th (ft)	19	18	0
Control Delay (s)	12.1	4.6	0.0
Lane LOS	B	A	
Approach Delay (s)	12.1	4.6	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBT	ø10
Lane Configurations			
Volume (vph)	300	944	
Turn Type	Perm		
Protected Phases		6	10
Permitted Phases	6		
Detector Phase	6	6	
Switch Phase			
Minimum Initial (s)	55.0	55.0	22.0
Minimum Split (s)	62.0	62.0	28.0
Total Split (s)	72.0	72.0	18.0
Total Split (%)	80.0%	80.0%	20%
Yellow Time (s)	5.0	5.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.0	7.0	
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Min	C-Min	None
Act Effct Green (s)	90.0	90.0	
Actuated g/C Ratio	1.00	1.00	
v/c Ratio	0.17	0.41	
Control Delay	0.2	0.3	
Queue Delay	0.0	0.0	
Total Delay	0.2	0.3	
LOS	A	A	
Approach Delay		0.3	
Approach LOS		A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 64 (71%), Referenced to phase 6:WBTL, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 0.3	Intersection LOS: A
Intersection Capacity Utilization 51.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Route 22 & N. Hillcrest Avenue



Lane Group	WBL	WBT
Lane Group Flow (vph)	306	1392
v/c Ratio	0.17	0.41
Control Delay	0.2	0.3
Queue Delay	0.0	0.0
Total Delay	0.2	0.3
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	m0	m0
Internal Link Dist (ft)		405
Turn Bay Length (ft)		
Base Capacity (vph)	1770	3376
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.17	0.41

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations											
Volume (vph)	0	0	0	300	944	420	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0						
Lane Util. Factor				1.00	0.95						
Frt				1.00	0.95						
Flt Protected				0.95	1.00						
Satd. Flow (prot)				1770	3376						
Flt Permitted				0.95	1.00						
Satd. Flow (perm)				1770	3376						
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	306	963	429	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	306	1392	0	0	0	0	0	0
Turn Type				Perm					Free		
Protected Phases					6						
Permitted Phases				6					Free		
Actuated Green, G (s)				90.0	90.0						
Effective Green, g (s)				90.0	90.0						
Actuated g/C Ratio				1.00	1.00						
Clearance Time (s)				7.0	7.0						
Vehicle Extension (s)				3.0	3.0						
Lane Grp Cap (vph)				1770	3376						
v/s Ratio Prot					c0.41						
v/s Ratio Perm				0.17							
v/c Ratio				0.17	0.41						
Uniform Delay, d1				0.0	0.0						
Progression Factor				1.00	1.00						
Incremental Delay, d2				0.2	0.3						
Delay (s)				0.2	0.3						
Level of Service				A	A						
Approach Delay (s)		0.0			0.3		0.0			0.0	
Approach LOS		A			A		A			A	

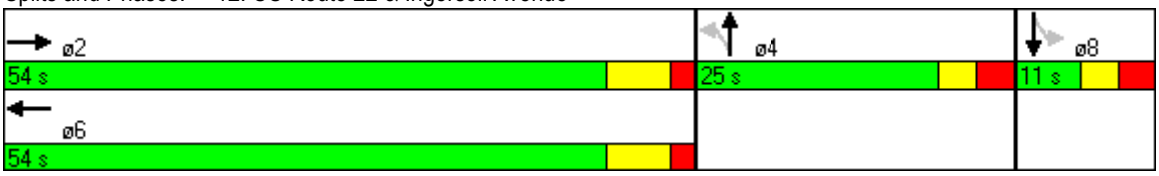
Intersection Summary			
HCM Average Control Delay	0.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1624	1595	209	72	35	28
Turn Type			Perm		Perm	
Protected Phases	2	6		4		8
Permitted Phases			4		8	
Detector Phase	2	6	4	4	8	8
Switch Phase						
Minimum Initial (s)	47.0	47.0	5.0	5.0	5.0	5.0
Minimum Split (s)	54.0	54.0	11.0	11.0	11.0	11.0
Total Split (s)	54.0	54.0	25.0	25.0	11.0	11.0
Total Split (%)	60.0%	60.0%	27.8%	27.8%	12.2%	12.2%
Yellow Time (s)	5.0	5.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	Min	Min	Min	Min
Act Effct Green (s)	47.0	47.0	19.0	19.0		5.0
Actuated g/C Ratio	0.52	0.52	0.21	0.21		0.06
v/c Ratio	0.67	0.65	1.09	0.70		1.01
Control Delay	17.4	19.9	136.6	49.6		133.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	17.4	19.9	136.6	49.6		133.1
LOS	B	B	F	D		F
Approach Delay	17.4	19.9		92.7		133.1
Approach LOS	B	B		F		F

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 27.6 — Intersection LOS: C
Intersection Capacity Utilization 64.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: US Route 22 & Ingersoll Avenue



Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	1776	1735	161	164	97
v/c Ratio	0.67	0.65	1.09	0.70	1.01
Control Delay	17.4	19.9	136.6	49.6	133.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	19.9	136.6	49.6	133.1
Queue Length 50th (ft)	257	377	~109	87	~46
Queue Length 95th (ft)	308	m419	#238	#187	#148
Internal Link Dist (ft)	80	968		612	361
Turn Bay Length (ft)			100		
Base Capacity (vph)	2653	2656	148	233	96
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	0.65	1.09	0.70	1.01

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1624	10	0	1595	1	209	72	18	35	28	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		6.0	6.0			6.0	
Lane Util. Factor		0.91			0.91		0.95	0.95			1.00	
Frt		1.00			1.00		1.00	0.98			0.96	
Flt Protected		1.00			1.00		0.95	0.98			0.98	
Satd. Flow (prot)		5081			5085		1681	1703			1753	
Flt Permitted		1.00			1.00		0.40	0.62			0.80	
Satd. Flow (perm)		5081			5085		699	1075			1424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1765	11	0	1734	1	227	78	20	38	30	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	6	0	0	17	0
Lane Group Flow (vph)	0	1776	0	0	1735	0	161	158	0	0	80	0
Turn Type							Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)		47.0			47.0		19.0	19.0			5.0	
Effective Green, g (s)		47.0			47.0		19.0	19.0			5.0	
Actuated g/C Ratio		0.52			0.52		0.21	0.21			0.06	
Clearance Time (s)		7.0			7.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2653			2656		148	227			79	
v/s Ratio Prot		c0.35			0.34							
v/s Ratio Perm							c0.23	0.15			c0.06	
v/c Ratio		0.67			0.65		1.09	0.70			1.01	
Uniform Delay, d1		15.8			15.6		35.5	32.8			42.5	
Progression Factor		1.00			1.21		1.00	1.00			1.00	
Incremental Delay, d2		1.4			0.8		99.4	9.0			104.8	
Delay (s)		17.2			19.7		134.9	41.9			147.3	
Level of Service		B			B		F	D			F	
Approach Delay (s)		17.2			19.7			88.0			147.3	
Approach LOS		B			B			F			F	

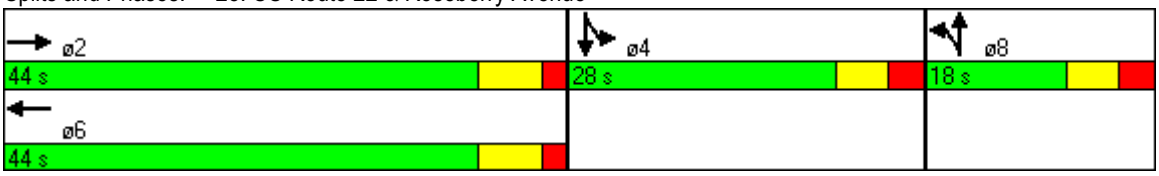
Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	1441	1376	198	183	347
Turn Type				Split	
Protected Phases	2	6	8	4	4
Permitted Phases					
Detector Phase	2	6	8	4	4
Switch Phase					
Minimum Initial (s)	35.0	35.0	5.0	5.0	5.0
Minimum Split (s)	42.0	42.0	12.0	12.0	12.0
Total Split (s)	44.0	44.0	18.0	28.0	28.0
Total Split (%)	48.9%	48.9%	20.0%	31.1%	31.1%
Yellow Time (s)	5.0	5.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	36.5	36.5	11.0	21.5	21.5
Actuated g/C Ratio	0.41	0.41	0.12	0.24	0.24
v/c Ratio	0.82	0.79	0.98	0.45	0.97
Control Delay	36.7	19.4	80.1	33.5	71.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	19.4	80.1	33.5	71.3
LOS	D	B	F	C	E
Approach Delay	36.7	19.4	80.1		59.6
Approach LOS	D	B	F		E

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 85 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 37.7 — Intersection LOS: D
Intersection Capacity Utilization 83.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 28: US Route 22 & Roseberry Avenue



28: US Route 22 & Roseberry Avenue

Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	1686	1614	419	191	429
v/c Ratio	0.82	0.79	0.98	0.45	0.97
Control Delay	36.7	19.4	80.1	33.5	71.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	19.4	80.1	33.5	71.3
Queue Length 50th (ft)	380	283	124	94	240
Queue Length 95th (ft)	m428	343	#223	159	#434
Internal Link Dist (ft)	968	609	86		135
Turn Bay Length (ft)					
Base Capacity (vph)	2074	2073	426	423	442
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.81	0.78	0.98	0.45	0.97

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1441	178	0	1376	174	170	198	35	183	347	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0			7.0		7.0	7.0	
Lane Util. Factor		0.91			0.91			0.95		1.00	1.00	
Frt		0.98			0.98			0.99		1.00	0.98	
Flt Protected		1.00			1.00			0.98		0.95	1.00	
Satd. Flow (prot)		5002			5000			3421		1770	1818	
Flt Permitted		1.00			1.00			0.98		0.95	1.00	
Satd. Flow (perm)		5002			5000			3421		1770	1818	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1501	185	0	1433	181	177	206	36	191	361	68
RTOR Reduction (vph)	0	17	0	0	18	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	1669	0	0	1596	0	0	411	0	191	421	0
Turn Type							Split			Split		
Protected Phases		2			6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)		36.5			36.5			11.0		21.5	21.5	
Effective Green, g (s)		36.5			36.5			11.0		21.5	21.5	
Actuated g/C Ratio		0.41			0.41			0.12		0.24	0.24	
Clearance Time (s)		7.0			7.0			7.0		7.0	7.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		2029			2028			418		423	434	
v/s Ratio Prot		c0.33			0.32			c0.12		0.11	c0.23	
v/s Ratio Perm												
v/c Ratio		0.82			0.79			0.98		0.45	0.97	
Uniform Delay, d1		23.9			23.4			39.4		29.2	33.9	
Progression Factor		1.43			0.71			1.00		1.00	1.00	
Incremental Delay, d2		2.9			2.9			39.4		0.8	35.5	
Delay (s)		37.0			19.5			78.8		30.0	69.4	
Level of Service		D			B			E		C	E	
Approach Delay (s)		37.0			19.5			78.8			57.3	
Approach LOS		D			B			E			E	

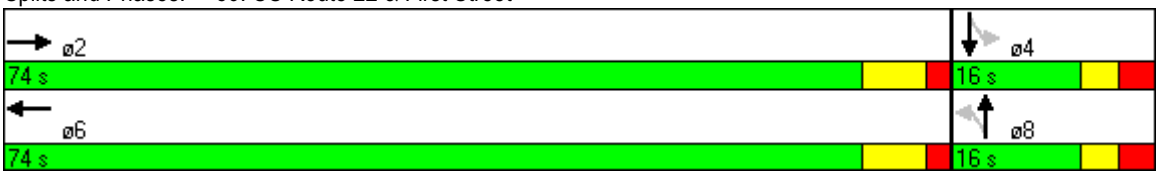
Intersection Summary			
HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1497	1683	49	65	36	0
Turn Type			Perm		Perm	
Protected Phases	2	6		8		4
Permitted Phases			8		4	
Detector Phase	2	6	8	8	4	4
Switch Phase						
Minimum Initial (s)	61.0	61.0	7.0	7.0	7.0	7.0
Minimum Split (s)	68.0	68.0	13.0	13.0	13.0	13.0
Total Split (s)	74.0	74.0	16.0	16.0	16.0	16.0
Total Split (%)	82.2%	82.2%	17.8%	17.8%	17.8%	17.8%
Yellow Time (s)	5.0	5.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	72.0	72.0	9.0	9.0		9.0
Actuated g/C Ratio	0.80	0.80	0.10	0.10		0.10
v/c Ratio	0.39	0.45	0.32	0.37		0.40
Control Delay	1.5	0.9	42.3	42.8		32.2
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	1.5	0.9	42.3	42.8		32.2
LOS	A	A	D	D		C
Approach Delay	1.5	0.9		42.6		32.2
Approach LOS	A	A		D		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 8 (9%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 3.1 — Intersection LOS: A
Intersection Capacity Utilization 71.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 59: US Route 22 & First Street



Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	1593	1818	52	69	64
v/c Ratio	0.39	0.45	0.32	0.37	0.40
Control Delay	1.5	0.9	42.3	42.8	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.5	0.9	42.3	42.8	32.2
Queue Length 50th (ft)	26	13	28	38	20
Queue Length 95th (ft)	m77	16	61	76	57
Internal Link Dist (ft)	609	173		194	289
Turn Bay Length (ft)			150		
Base Capacity (vph)	4090	4083	187	216	181
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	88	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.45	0.28	0.32	0.35

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1497	0	0	1683	26	49	65	0	36	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		6.0	6.0			6.0	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frt		1.00			1.00		1.00	1.00			0.95	
Flt Protected		1.00			1.00		0.95	1.00			0.97	
Satd. Flow (prot)		5085			5074		1770	1863			1710	
Flt Permitted		1.00			1.00		0.87	1.00			0.78	
Satd. Flow (perm)		5085			5074		1611	1863			1370	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1593	0	0	1790	28	52	69	0	38	0	26
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	24	0
Lane Group Flow (vph)	0	1593	0	0	1816	0	52	69	0	0	40	0
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		69.4			69.4		7.6	7.6			7.6	
Effective Green, g (s)		69.4			69.4		7.6	7.6			7.6	
Actuated g/C Ratio		0.77			0.77		0.08	0.08			0.08	
Clearance Time (s)		7.0			7.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		3921			3913		136	157			116	
v/s Ratio Prot		0.31			c0.36			c0.04				
v/s Ratio Perm							0.03				0.03	
v/c Ratio		0.41			0.46		0.38	0.44			0.35	
Uniform Delay, d1		3.4			3.7		39.0	39.2			38.9	
Progression Factor		0.35			0.15		1.00	1.00			1.00	
Incremental Delay, d2		0.2			0.4		1.8	2.0			1.8	
Delay (s)		1.4			0.9		40.8	41.1			40.7	
Level of Service		A			A		D	D			D	
Approach Delay (s)		1.4			0.9			41.0			40.7	
Approach LOS		A			A			D			D	

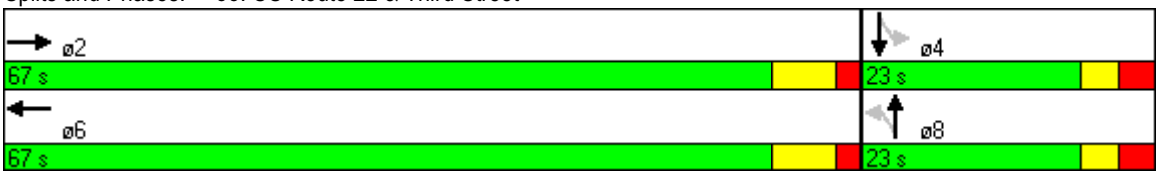
Intersection Summary			
HCM Average Control Delay	3.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1598	1666	12	5	186	10
Turn Type			Perm		Perm	
Protected Phases	2	6		8		4
Permitted Phases			8		4	
Detector Phase	2	6	8	8	4	4
Switch Phase						
Minimum Initial (s)	60.0	60.0	12.0	12.0	12.0	12.0
Minimum Split (s)	67.0	67.0	22.0	22.0	22.0	22.0
Total Split (s)	67.0	67.0	23.0	23.0	23.0	23.0
Total Split (%)	74.4%	74.4%	25.6%	25.6%	25.6%	25.6%
Yellow Time (s)	5.0	5.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	61.3	61.3		15.7	15.7	15.7
Actuated g/C Ratio	0.68	0.68		0.17	0.17	0.17
v/c Ratio	0.48	0.51		0.07	0.80	0.07
Control Delay	4.5	7.8		27.7	60.4	20.6
Queue Delay	0.1	0.0		0.0	0.0	0.0
Total Delay	4.5	7.8		27.7	60.4	20.6
LOS	A	A		C	E	C
Approach Delay	4.5	7.8		27.7		56.3
Approach LOS	A	A		C		E

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 76.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 33: US Route 22 & Third Street



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	1666	1755	20	194	22
v/c Ratio	0.48	0.51	0.07	0.80	0.07
Control Delay	4.5	7.8	27.7	60.4	20.6
Queue Delay	0.1	0.0	0.0	0.0	0.0
Total Delay	4.5	7.8	27.7	60.4	20.6
Queue Length 50th (ft)	50	163	8	105	5
Queue Length 95th (ft)	73	196	28	#208	25
Internal Link Dist (ft)	173	292	24		162
Turn Bay Length (ft)				150	
Base Capacity (vph)	3464	3458	299	262	333
Starvation Cap Reductn	405	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.07	0.74	0.07

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1598	1	0	1666	19	12	5	3	186	10	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0			6.0		6.0	6.0	
Lane Util. Factor		0.91			0.91			1.00		1.00	1.00	
Frt		1.00			1.00			0.98		1.00	0.92	
Flt Protected		1.00			1.00			0.97		0.95	1.00	
Satd. Flow (prot)		5085			5077			1772		1770	1710	
Flt Permitted		1.00			1.00			0.86		0.74	1.00	
Satd. Flow (perm)		5085			5077			1569		1386	1710	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1665	1	0	1735	20	12	5	3	194	10	12
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	10	0
Lane Group Flow (vph)	0	1666	0	0	1754	0	0	18	0	194	12	0
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		61.3			61.3			15.7		15.7	15.7	
Effective Green, g (s)		61.3			61.3			15.7		15.7	15.7	
Actuated g/C Ratio		0.68			0.68			0.17		0.17	0.17	
Clearance Time (s)		7.0			7.0			6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		3463			3458			274		242	298	
v/s Ratio Prot		0.33			c0.35						0.01	
v/s Ratio Perm								0.01		c0.14		
v/c Ratio		0.48			0.51			0.06		0.80	0.04	
Uniform Delay, d1		6.8			7.0			31.0		35.7	30.9	
Progression Factor		0.57			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.5			0.1		17.1	0.1	
Delay (s)		4.3			7.5			31.1		52.8	30.9	
Level of Service		A			A			C		D	C	
Approach Delay (s)		4.3			7.5			31.1			50.6	
Approach LOS		A			A			C			D	

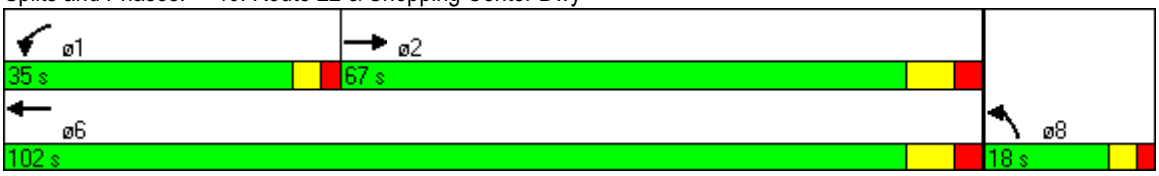
Intersection Summary			
HCM Average Control Delay	8.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	1489	535	923	208
Turn Type		Prot		
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	54.0	7.0	54.0	2.0
Minimum Split (s)	62.0	24.0	62.0	7.0
Total Split (s)	67.0	35.0	102.0	18.0
Total Split (%)	55.8%	29.2%	85.0%	15.0%
Yellow Time (s)	5.0	3.0	5.0	3.0
All-Red Time (s)	3.0	2.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None
Act Effct Green (s)	63.4	25.4	93.9	13.1
Actuated g/C Ratio	0.53	0.21	0.78	0.11
v/c Ratio	0.60	0.80	0.25	0.60
Control Delay	21.8	53.4	3.9	57.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.8	53.4	3.9	57.5
LOS	C	D	A	E
Approach Delay	21.8		22.1	57.5
Approach LOS	C		C	E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 24.3 — Intersection LOS: C
Intersection Capacity Utilization 81.2% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 40: Route 22 & Shopping Center Dwy



40: Route 22 & Shopping Center Dwy

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1618	582	1003	226
v/c Ratio	0.60	0.80	0.25	0.60
Control Delay	21.8	53.4	3.9	57.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.8	53.4	3.9	57.5
Queue Length 50th (ft)	306	222	64	87
Queue Length 95th (ft)	416	270	90	125
Internal Link Dist (ft)	217		606	66
Turn Bay Length (ft)		600		
Base Capacity (vph)	2727	864	4024	404
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.67	0.25	0.56

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1489	0	535	923	208	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0		5.0	8.0	5.0	
Lane Util. Factor	0.91		0.97	0.91	0.97	
Frt	1.00		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	5085		3433	5085	3433	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	5085		3433	5085	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1618	0	582	1003	226	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1618	0	582	1003	226	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	63.5		25.4	93.9	13.1	
Effective Green, g (s)	63.5		25.4	93.9	13.1	
Actuated g/C Ratio	0.53		0.21	0.78	0.11	
Clearance Time (s)	8.0		5.0	8.0	5.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2691		727	3979	375	
v/s Ratio Prot	c0.32		c0.17	0.20	c0.07	
v/s Ratio Perm						
v/c Ratio	0.60		0.80	0.25	0.60	
Uniform Delay, d1	19.5		44.9	3.5	51.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.0		6.3	0.2	2.7	
Delay (s)	20.5		51.2	3.7	53.7	
Level of Service	C		D	A	D	
Approach Delay (s)	20.5			21.1	53.7	
Approach LOS	C			C	D	

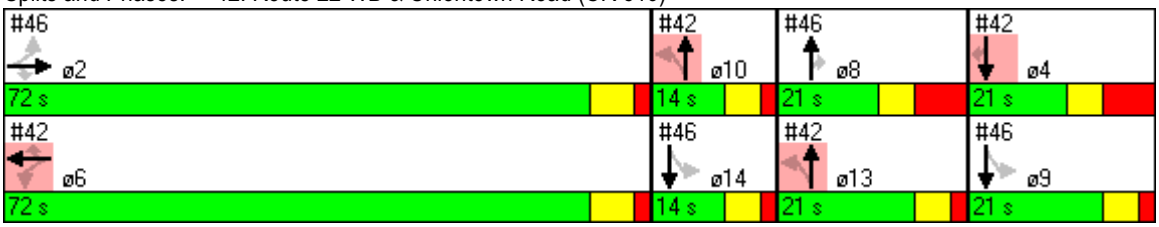
Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR	ø2	ø8	ø9	ø10	ø13
Lane Configurations												
Volume (vph)	117	1197	346	70	614	367	191					
Turn Type	Perm		Perm	Perm			Perm					
Protected Phases		6			10 13	4		2	8	9	10	13
Permitted Phases	6		6	10 13			4					
Detector Phase	6	6	6	10 13	10 13	4	4					
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0			9.0	9.0	4.0	9.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0			19.0	19.0	50.0	19.0	10.0	22.0	10.0
Total Split (s)	72.0	72.0	72.0	35.0	35.0	21.0	21.0	72.0	21.0	21.0	14.0	21.0
Total Split (%)	56.3%	56.3%	56.3%	27.3%	27.3%	16.4%	16.4%	56%	16%	16%	11%	16%
Yellow Time (s)	5.0	5.0	5.0			4.0	4.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0			6.0	6.0	2.0	6.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	7.0	7.0	7.0	6.0	6.0	10.0	10.0					
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min			None	None	C-Min	None	Max	Max	Max
Act Effct Green (s)	56.3	56.3	56.3	37.7	37.7	11.0	11.0					
Actuated g/C Ratio	0.44	0.44	0.44	0.29	0.29	0.09	0.09					
v/c Ratio	0.16	0.58	0.54	1.31	0.64	0.91	1.53					
Control Delay	20.9	27.7	28.7	194.4	42.4	84.0	310.3					
Queue Delay	0.5	0.0	0.0	0.0	148.9	122.7	0.0					
Total Delay	21.3	27.7	28.7	194.4	191.3	206.7	310.3					
LOS	C	C	C	F	F	F	F					
Approach Delay		27.4			191.6	242.2						
Approach LOS		C			F	F						

Intersection Summary

Cycle Length: 128
Actuated Cycle Length: 128
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:, Start of Yellow, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 3.28
Intersection Signal Delay: 107.5 Intersection LOS: F
Intersection Capacity Utilization 100.9% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 42: Route 22 WB & Uniontown Road (CR 519)



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	10.0
Total Split (s)	14.0
Total Split (%)	11%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

42: Route 22 WB & Uniontown Road (CR 519)

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	127	1301	376	76	667	399	208
v/c Ratio	0.16	0.58	0.54	1.31	0.64	0.91	1.53
Control Delay	20.9	27.7	28.7	194.4	42.4	84.0	310.3
Queue Delay	0.5	0.0	0.0	0.0	148.9	122.7	0.0
Total Delay	21.3	27.7	28.7	194.4	191.3	206.7	310.3
Queue Length 50th (ft)	62	290	224	~68	160	122	~241
Queue Length 95th (ft)	91	295	283	m#69	m92	#187	#401
Internal Link Dist (ft)		517			65	893	
Turn Bay Length (ft)	300		300				200
Base Capacity (vph)	899	2582	804	58	1042	437	136
Starvation Cap Reductn	0	0	0	0	538	0	0
Spillback Cap Reductn	479	0	0	0	0	125	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.50	0.47	1.31	1.32	1.28	1.53

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	117	1197	346	70	614	0	0	367	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0	7.0	6.0	6.0			10.0	10.0
Lane Util. Factor				1.00	0.91	1.00	1.00	0.95			0.91	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1770	5085	1583	1770	3539			5085	1583
Flt Permitted				0.95	1.00	1.00	0.11	1.00			1.00	1.00
Satd. Flow (perm)				1770	5085	1583	198	3539			5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	127	1301	376	76	667	0	0	399	208
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	127	1301	376	76	667	0	0	399	208
Turn Type				Perm		Perm	Perm					Perm
Protected Phases					6			10 13			4	
Permitted Phases				6		6	10 13					4
Actuated Green, G (s)				56.3	56.3	56.3	37.7	37.7			11.0	11.0
Effective Green, g (s)				56.3	56.3	56.3	37.7	37.7			11.0	11.0
Actuated g/C Ratio				0.44	0.44	0.44	0.29	0.29			0.09	0.09
Clearance Time (s)				7.0	7.0	7.0					10.0	10.0
Vehicle Extension (s)				3.0	3.0	3.0					3.0	3.0
Lane Grp Cap (vph)				779	2237	696	58	1042			437	136
v/s Ratio Prot					c0.26			0.19			0.08	
v/s Ratio Perm				0.07		0.24	c0.38					c0.13
v/c Ratio				0.16	0.58	0.54	1.31	0.64			0.91	1.53
Uniform Delay, d1				21.6	27.0	26.3	45.2	39.3			58.0	58.5
Progression Factor				1.00	1.00	1.00	1.26	1.03			1.00	1.00
Incremental Delay, d2				0.4	1.1	3.0	150.6	0.3			23.2	271.8
Delay (s)				22.1	28.1	29.3	207.7	40.7			81.3	330.3
Level of Service				C	C	C	F	D			F	F
Approach Delay (s)		0.0			27.9			57.8			166.6	
Approach LOS		A			C			E			F	

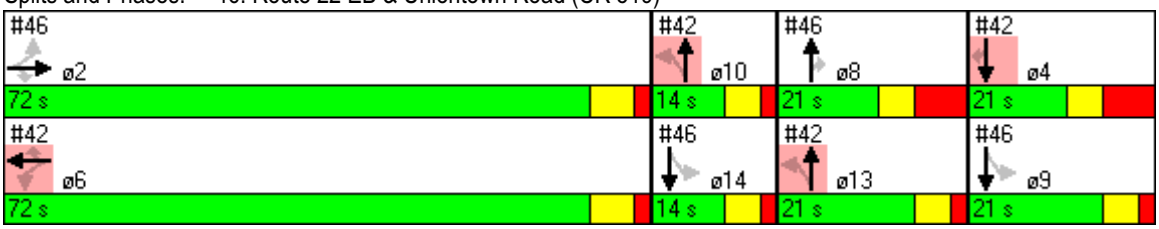
Intersection Summary			
HCM Average Control Delay	61.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT	ø4	ø6	ø9	ø10	ø13
Lane Configurations												
Volume (vph)	180	1129	364	614	70	320	389					
Turn Type	Perm		Perm		Perm	Perm						
Protected Phases		2		8			14 9	4	6	9	10	13
Permitted Phases	2		2		8	14 9						
Detector Phase	2	2	2	8	8	14 9	14 9					
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	9.0	9.0			9.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	19.0	19.0			19.0	50.0	10.0	22.0	10.0
Total Split (s)	72.0	72.0	72.0	21.0	21.0	35.0	35.0	21.0	72.0	21.0	14.0	21.0
Total Split (%)	56.3%	56.3%	56.3%	16.4%	16.4%	27.3%	27.3%	16%	56%	16%	11%	16%
Yellow Time (s)	5.0	5.0	5.0	4.0	4.0			4.0	5.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	6.0	6.0			6.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Total Lost Time (s)	7.0	7.0	7.0	10.0	10.0	6.0	6.0					
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	None	None			None	C-Min	Max	Max	Max
Act Effct Green (s)	56.3	56.3	56.3	11.0	11.0	31.7	31.7					
Actuated g/C Ratio	0.44	0.44	0.44	0.09	0.09	0.25	0.25					
v/c Ratio	0.25	0.79	0.57	1.53	0.42	3.28	3.16dl					
Control Delay	22.4	34.4	29.5	286.9	30.1	1084.5	164.8					
Queue Delay	2.1	0.0	0.0	132.9	0.0	0.0	129.7					
Total Delay	24.5	34.4	29.5	419.9	30.1	1084.5	294.5					
LOS	C	C	C	F	C	F	F					
Approach Delay		32.3		380.0			472.8					
Approach LOS		C		F			F					

Intersection Summary

Cycle Length: 128
Actuated Cycle Length: 128
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:, Start of Yellow, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 3.28
Intersection Signal Delay: 211.7 Intersection LOS: F
Intersection Capacity Utilization 100.9% 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: 46: Route 22 EB & Uniontown Road (CR 519)



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	10.0
Total Split (s)	14.0
Total Split (%)	11%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

46: Route 22 EB & Uniontown Road (CR 519)

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	196	1227	396	667	76	174	597
v/c Ratio	0.25	0.79	0.57	1.53	0.42	3.28	3.16dl
Control Delay	22.4	34.4	29.5	286.9	30.1	1084.5	164.8
Queue Delay	2.1	0.0	0.0	132.9	0.0	0.0	129.7
Total Delay	24.5	34.4	29.5	419.9	30.1	1084.5	294.5
Queue Length 50th (ft)	100	448	239	~283	20	~286	~289
Queue Length 95th (ft)	135	472	301	#368	70	m#367	m#452
Internal Link Dist (ft)		347		519			65
Turn Bay Length (ft)	300				150		
Base Capacity (vph)	899	1797	804	437	183	53	471
Starvation Cap Reductn	0	0	0	0	0	0	88
Spillback Cap Reductn	564	0	0	71	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.68	0.49	1.82	0.42	3.28	1.56

Intersection Summary

~ 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.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	1129	364	0	0	0	0	614	70	320	389	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					10.0	10.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00					0.91	1.00	0.91	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3539	1583					5085	1583	1610	3342	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.13	0.56	
Satd. Flow (perm)	1770	3539	1583					5085	1583	214	1902	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1227	396	0	0	0	0	667	76	348	423	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	47	0	0	0
Lane Group Flow (vph)	196	1227	396	0	0	0	0	667	29	174	597	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		2						8			14 9	
Permitted Phases	2		2						8	14 9		
Actuated Green, G (s)	56.3	56.3	56.3					11.0	11.0	31.7	31.7	
Effective Green, g (s)	56.3	56.3	56.3					11.0	11.0	31.7	31.7	
Actuated g/C Ratio	0.44	0.44	0.44					0.09	0.09	0.25	0.25	
Clearance Time (s)	7.0	7.0	7.0					10.0	10.0			
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0			
Lane Grp Cap (vph)	779	1557	696					437	136	53	471	
v/s Ratio Prot		c0.35						c0.13				
v/s Ratio Perm	0.11		0.25						0.02	c0.81	0.31	
v/c Ratio	0.25	0.79	0.57					1.53	0.22	3.28	3.16dl	
Uniform Delay, d1	22.6	30.7	26.8					58.5	54.5	48.1	48.1	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	0.92	
Incremental Delay, d2	0.8	4.1	3.4					248.2	0.8	1068.7	134.7	
Delay (s)	23.4	34.9	30.1					306.7	55.3	1116.9	179.0	
Level of Service	C	C	C					F	E	F	F	
Approach Delay (s)		32.6			0.0			281.0			390.7	
Approach LOS		C			A			F			F	

Intersection Summary			
HCM Average Control Delay	170.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

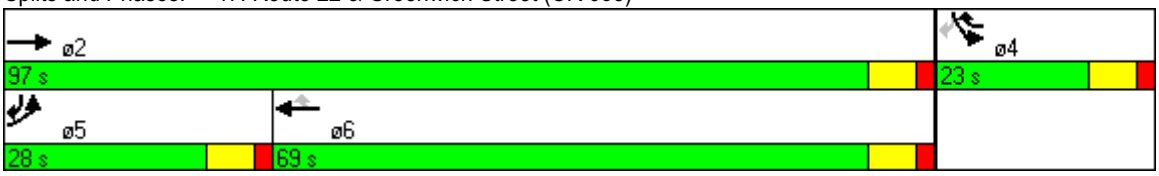
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	482	1087	1249	179	221	218
Turn Type	Prot			pm+ov		pm+ov
Protected Phases	5	2	6	4	4	5
Permitted Phases				6		4
Detector Phase	5	2	6	4	4	5
Switch Phase						
Minimum Initial (s)	5.0	62.0	62.0	5.0	5.0	5.0
Minimum Split (s)	12.0	69.0	69.0	23.0	23.0	12.0
Total Split (s)	28.0	97.0	69.0	23.0	23.0	28.0
Total Split (%)	23.3%	80.8%	57.5%	19.2%	19.2%	23.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Min	C-Min	Max	Max	None
Act Effct Green (s)	20.5	90.0	62.5	85.5	16.0	43.5
Actuated g/C Ratio	0.17	0.75	0.52	0.71	0.13	0.36
v/c Ratio	0.89	0.45	0.51	0.17	0.52	0.40
Control Delay	67.2	6.3	35.0	8.6	53.1	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	6.3	35.0	8.6	53.1	26.8
LOS	E	A	D	A	D	C
Approach Delay		25.0	31.7		40.0	
Approach LOS		C	C		D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 29.7 — Intersection LOS: C
Intersection Capacity Utilization 89.2% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 47: Route 22 & Greenwich Street (CR 638)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	524	1182	1358	195	240	237
v/c Ratio	0.89	0.45	0.51	0.17	0.52	0.40
Control Delay	67.2	6.3	35.0	8.6	53.1	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	6.3	35.0	8.6	53.1	26.8
Queue Length 50th (ft)	205	155	347	52	90	116
Queue Length 95th (ft)	#296	190	404	m100	133	188
Internal Link Dist (ft)		307	696		555	
Turn Bay Length (ft)	150			450	150	
Base Capacity (vph)	601	2654	2647	1133	458	600
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.45	0.51	0.17	0.52	0.40

Intersection Summary

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.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	482	1087	1249	179	221	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	0.97	0.95	0.91	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	3539	5085	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	3539	5085	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	1182	1358	195	240	237
RTOR Reduction (vph)	0	0	0	6	0	22
Lane Group Flow (vph)	524	1182	1358	189	240	215
Turn Type	Prot			pm+ov		pm+ov
Protected Phases	5	2	6	4	4	5
Permitted Phases				6		4
Actuated Green, G (s)	20.5	90.0	62.5	78.5	16.0	36.5
Effective Green, g (s)	20.5	90.0	62.5	78.5	16.0	36.5
Actuated g/C Ratio	0.17	0.75	0.52	0.65	0.13	0.30
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	586	2654	2648	1128	458	574
v/s Ratio Prot	c0.15	0.33	c0.27	0.02	c0.07	0.06
v/s Ratio Perm				0.10		0.07
v/c Ratio	0.89	0.45	0.51	0.17	0.52	0.38
Uniform Delay, d1	48.7	5.6	18.8	8.1	48.5	32.8
Progression Factor	1.00	1.00	1.80	1.58	1.00	1.00
Incremental Delay, d2	16.0	0.5	0.7	0.3	4.2	0.4
Delay (s)	64.7	6.2	34.6	13.0	52.7	33.2
Level of Service	E	A	C	B	D	C
Approach Delay (s)		24.1	31.9		43.0	
Approach LOS		C	C		D	

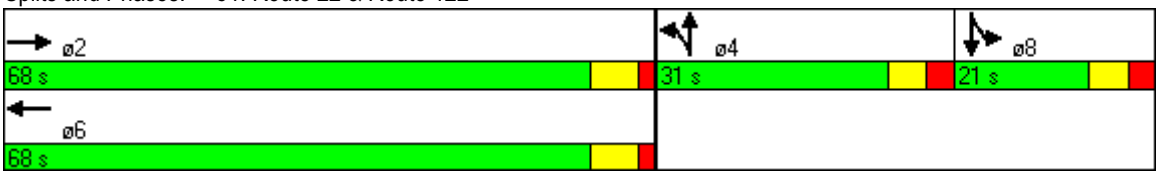
Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	987	1101	135	132	75	249
Turn Type			Split		Split	
Protected Phases	2	6	4	4	8	8
Permitted Phases						
Detector Phase	2	6	4	4	8	8
Switch Phase						
Minimum Initial (s)	59.0	59.0	6.0	6.0	6.0	6.0
Minimum Split (s)	66.0	66.0	13.0	13.0	13.0	13.0
Total Split (s)	68.0	68.0	31.0	31.0	21.0	21.0
Total Split (%)	56.7%	56.7%	25.8%	25.8%	17.5%	17.5%
Yellow Time (s)	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	61.3	61.3	23.4	23.4	14.3	14.3
Actuated g/C Ratio	0.51	0.51	0.20	0.20	0.12	0.12
v/c Ratio	0.40	0.40	0.40	0.85	0.37	0.84
Control Delay	16.6	18.3	45.4	63.5	54.8	67.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	18.3	45.4	63.5	54.8	67.4
LOS	B	B	D	E	D	E
Approach Delay	16.6	18.3		57.9		65.2
Approach LOS	B	B		E		E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 29.3 Intersection LOS: C
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 51: Route 22 & Route 122



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1039	1283	132	295	71	347
v/c Ratio	0.40	0.40	0.40	0.85	0.37	0.84
Control Delay	16.6	18.3	45.4	63.5	54.8	67.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	18.3	45.4	63.5	54.8	67.4
Queue Length 50th (ft)	146	174	92	204	56	137
Queue Length 95th (ft)	197	203	155	#341	109	#224
Internal Link Dist (ft)	28	511		400		71
Turn Bay Length (ft)			250		150	
Base Capacity (vph)	2650	3307	352	370	194	415
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.39	0.38	0.80	0.37	0.84

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	987	0	0	1101	118	135	132	134	75	249	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		0.91			0.86		0.95	0.95		0.91	0.91	
Frt		1.00			0.99		1.00	0.93		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		5085			6315		1681	1639		1610	3274	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		5085			6315		1681	1639		1610	3274	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1039	0	0	1159	124	147	139	141	79	262	77
RTOR Reduction (vph)	0	0	0	0	15	0	0	27	0	0	20	0
Lane Group Flow (vph)	0	1039	0	0	1268	0	132	268	0	71	327	0
Turn Type							Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)		61.3			61.3		23.4	23.4		14.3	14.3	
Effective Green, g (s)		61.3			61.3		23.4	23.4		14.3	14.3	
Actuated g/C Ratio		0.51			0.51		0.19	0.19		0.12	0.12	
Clearance Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2598			3226		328	320		192	390	
v/s Ratio Prot		c0.20			0.20		0.08	c0.16		0.04	c0.10	
v/s Ratio Perm												
v/c Ratio		0.40			0.39		0.40	0.84		0.37	0.84	
Uniform Delay, d1		18.0			18.0		42.2	46.5		48.7	51.7	
Progression Factor		0.87			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.4		0.8	17.0		1.2	14.5	
Delay (s)		16.1			18.3		43.0	63.5		49.9	66.2	
Level of Service		B			B		D	E		D	E	
Approach Delay (s)		16.1			18.3			57.1			63.4	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	32	0	0	209	91
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.88	0.88
Hourly flow rate (vph)	0	36	0	0	238	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				36	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				36	0
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				76	90
cM capacity (veh/h)	1623				976	1085

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	36	238	103
Volume Left	0	238	0
Volume Right	0	0	103
cSH	1700	976	1085
Volume to Capacity	0.02	0.24	0.10
Queue Length 95th (ft)	0	24	8
Control Delay (s)	0.0	9.9	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	9.5	
Approach LOS		A	

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	0	1430	0	0	216	0
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	1625	0	0	245	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	491	491	491	0	0	
vC1, stage 1 conf vol	491	491	0			
vC2, stage 2 conf vol	0	0	491			
vCu, unblocked vol	491	491	491	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)	6.1	5.5	5.5			
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	0	100	100	85	
cM capacity (veh/h)	429	414	419	1085	1623	

Direction, Lane #	EB 1	SE 1	SE 2	SE 3
Volume Total	1625	82	82	82
Volume Left	0	82	82	82
Volume Right	0	0	0	0
cSH	414	1623	1623	1623
Volume to Capacity	3.92	0.15	0.15	0.15
Queue Length 95th (ft)	Err	13	13	13
Control Delay (s)	Err	7.6	7.6	7.6
Lane LOS	F	A	A	A
Approach Delay (s)	Err	7.6		
Approach LOS	F			

Intersection Summary			
Average Delay	8687.9		
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	1831	135	0	103
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	2233	165	0	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		485				
pX, platoon unblocked						
vC, conflicting volume	2398				2315	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2398				2315	827
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	60
cM capacity (veh/h)	197				32	315

Direction, Lane #	WB 1	WB 2	WB 3	SB 1
Volume Total	893	893	611	126
Volume Left	0	0	0	0
Volume Right	0	0	165	126
cSH	1700	1700	1700	315
Volume to Capacity	0.53	0.53	0.36	0.40
Queue Length 95th (ft)	0	0	0	46
Control Delay (s)	0.0	0.0	0.0	23.8
Lane LOS				C
Approach Delay (s)	0.0			23.8
Approach LOS				C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1463	43	0	1131	0	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1784	52	0	1379	0	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1837		2500	918
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1837		2500	918
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			328		24	274

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1189	647	690	690	32
Volume Left	0	0	0	0	0
Volume Right	0	52	0	0	32
cSH	1700	1700	1700	1700	274
Volume to Capacity	0.70	0.38	0.41	0.41	0.12
Queue Length 95th (ft)	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	19.9
Lane LOS					C
Approach Delay (s)	0.0		0.0		19.9
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	140	92	402	448	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	146	96	419	467	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				973		
pX, platoon unblocked	0.85					
vC, conflicting volume	1103	493	519			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1033	493	519			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	75	91			
cM capacity (veh/h)	199	576	1047			

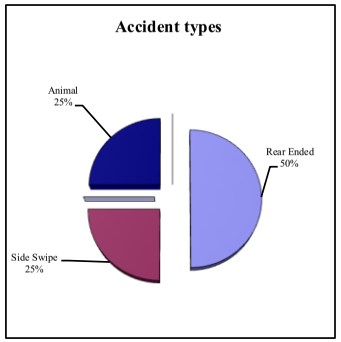
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	146	515	519
Volume Left	0	96	0
Volume Right	146	0	52
cSH	576	1047	1700
Volume to Capacity	0.25	0.09	0.31
Queue Length 95th (ft)	25	8	0
Control Delay (s)	13.4	2.5	0.0
Lane LOS	B	A	
Approach Delay (s)	13.4	2.5	0.0
Approach LOS	B		

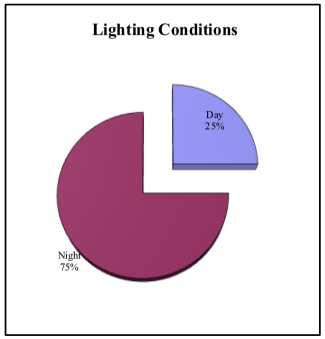
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

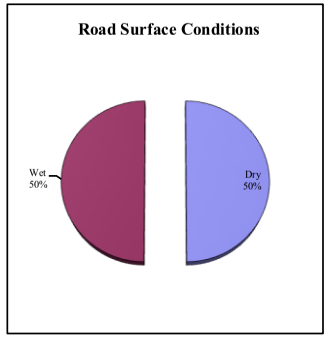
APPENDIX F. THREE YEAR ACCIDENT REPORT SUMMARY SHEETS

THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 MILE POST 0.30 - MILE POST 0.64

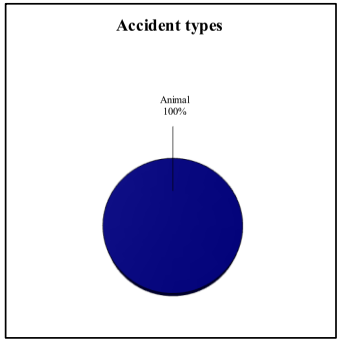
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	1	1	1	1
Side Swipe	1		1		1
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	1	1			1
Backing	0				
Total	4	2	2	1	3

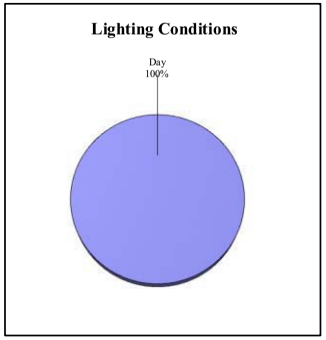




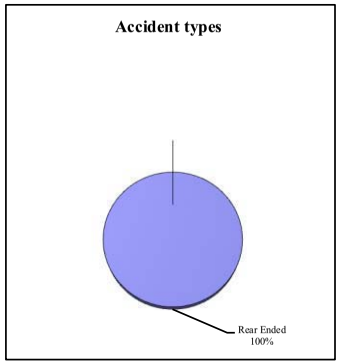


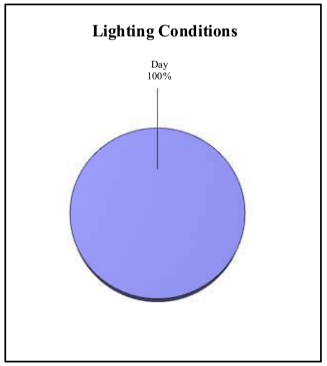
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	2	2		2	
Backing	0				
Total	2	2	0	2	0

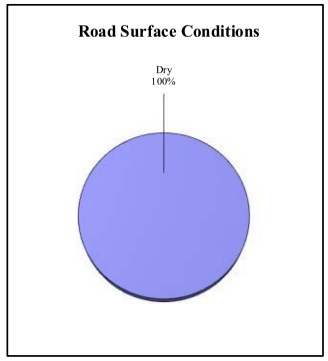




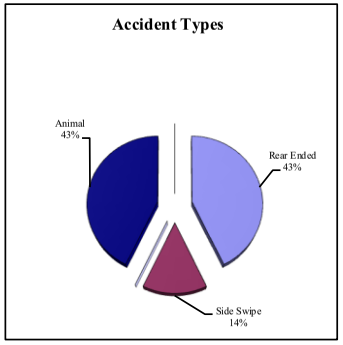
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	1	1	0	1	0

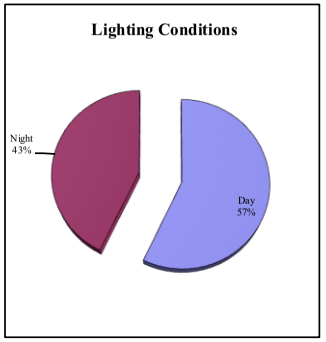


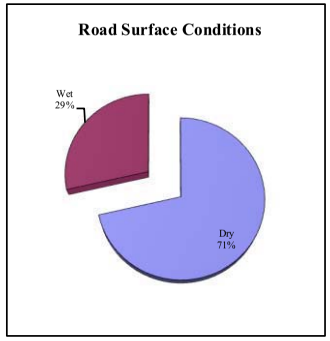




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	3	2	1	2	1
Side Swipe	1	0	1	0	1
Right Angle	0	0	0	0	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	0	0	0	0	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	3	3	0	2	1
Backing	0	0	0	0	0
Total	7	5	2	4	3

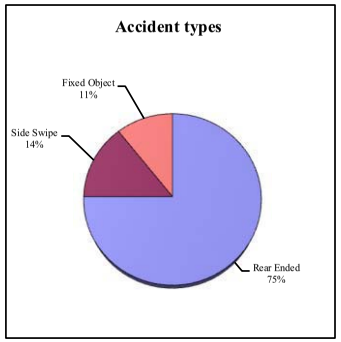


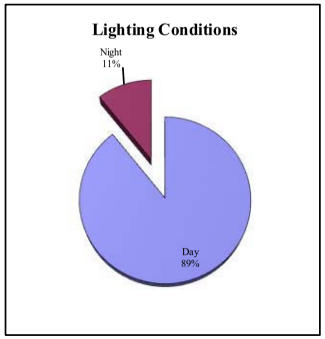


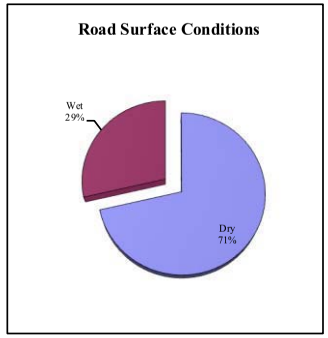


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND MILLER STREET/MORRIS STREET

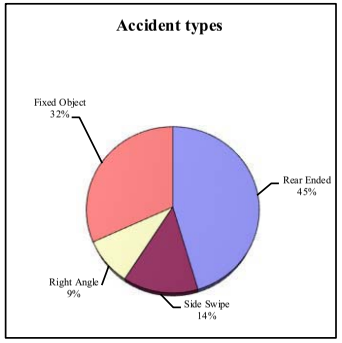
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	21	17	4	19	2
Side Swipe	4	3	1	4	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	3		3	2	1
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	28	20	8	25	3

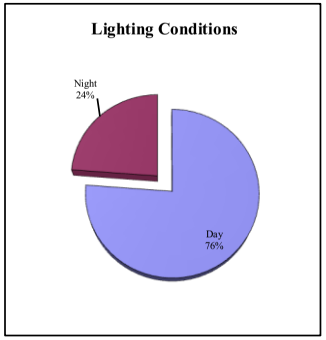


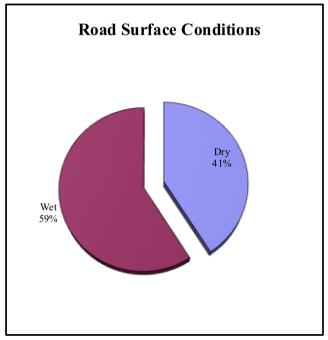




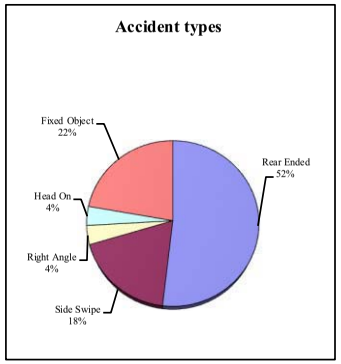
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	10	6	4	8	2
Side Swipe	3	3		1	1
Right Angle	2		2	2	
Head On	0				
Left Turn	0				
Fixed Object	7		7	5	2
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	22	9	13	16	5

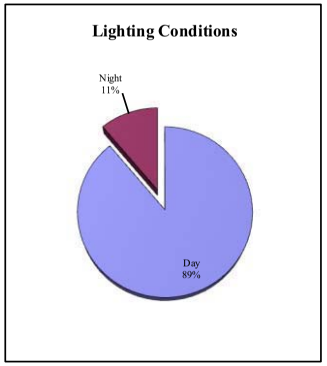


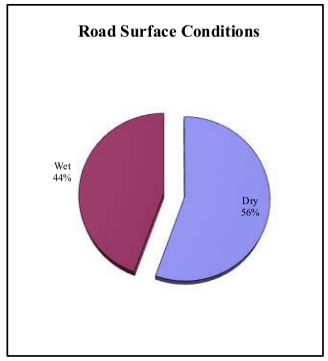




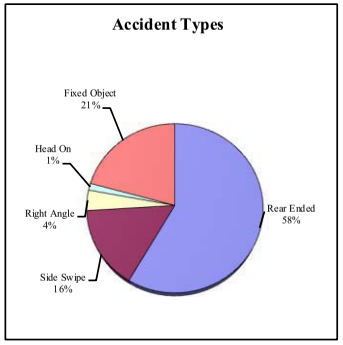
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	14	12	2	14	
Side Swipe	5	1	4	4	1
Right Angle	1	1		1	
Head On	1		1	1	
Left Turn	0				
Fixed Object	6	1	5	4	2
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	27	15	12	24	3

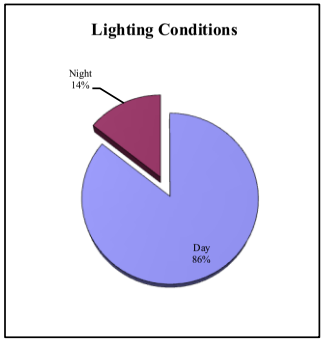


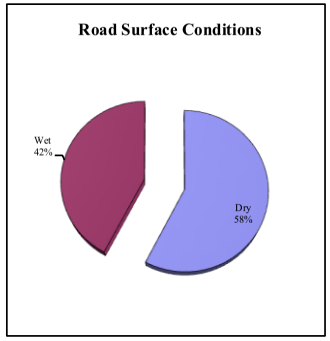




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	45	35	10	41	4
Side Swipe	12	7	5	9	2
Right Angle	3	2	2	4	0
Head On	1	0	1	1	0
Left Turn	0	0	0	0	0
Fixed Object	16	1	15	11	5
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	77	45	33	66	11

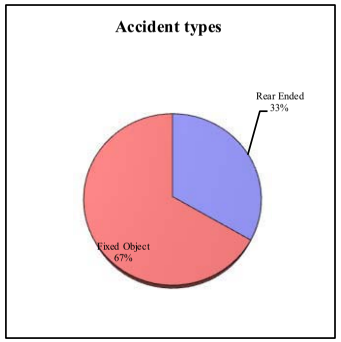


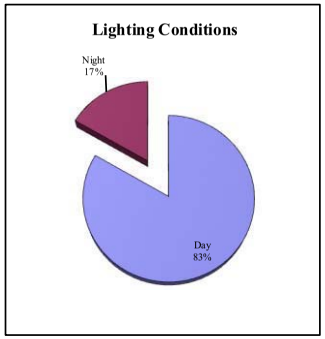


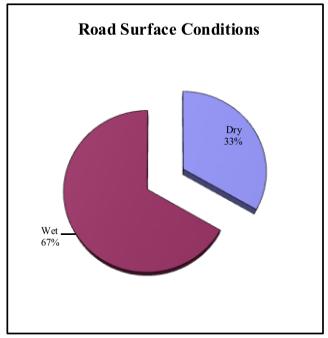


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND POTTS AVENUE

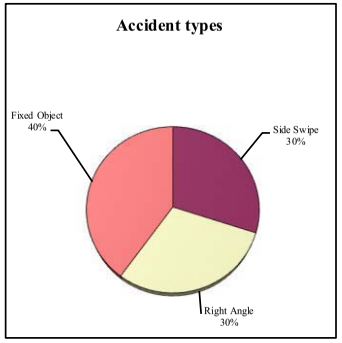
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		1	1
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	4		4	4	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	6	2	4	5	1

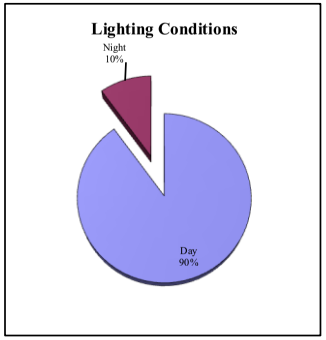


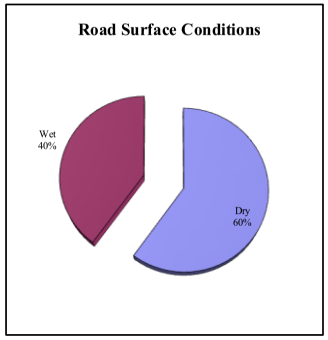




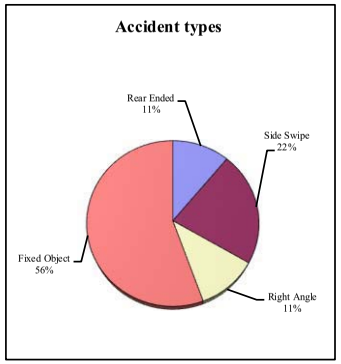
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	3	2	1	2	1
Right Angle	3	3		3	
Head On	0				
Left Turn	0				
Fixed Object	4	1	3	4	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	10	6	4	9	1

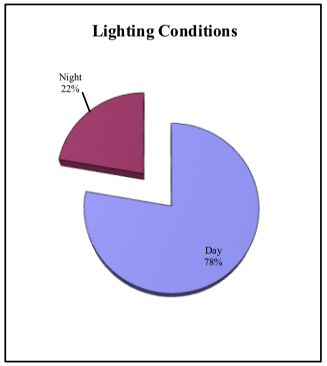


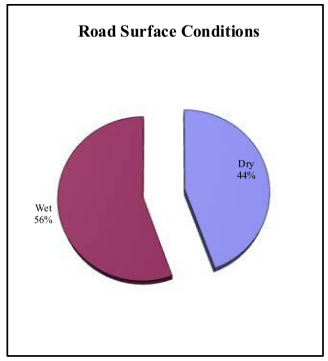




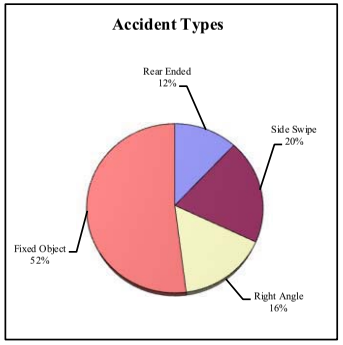
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	2	2		2	
Right Angle	1		1	1	
Head On	0				
Left Turn	0				
Fixed Object	5	1	4	3	2
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	9	4	5	7	2

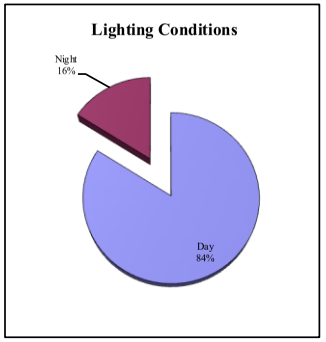


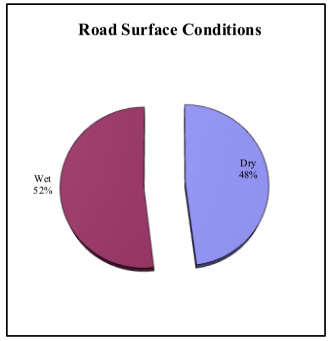




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	3	3	0	2	1
Side Swipe	5	4	1	4	1
Right Angle	4	3	1	4	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	13	2	11	11	2
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	25	12	13	21	4

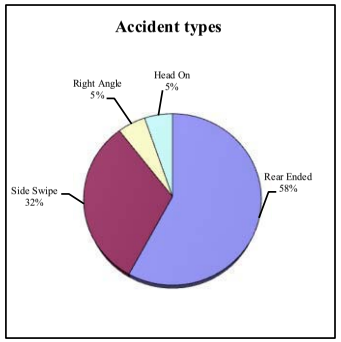


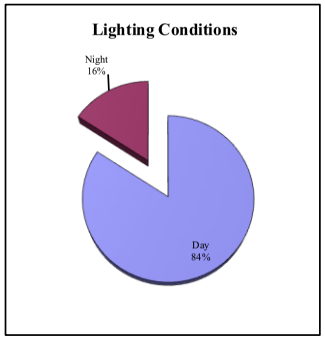


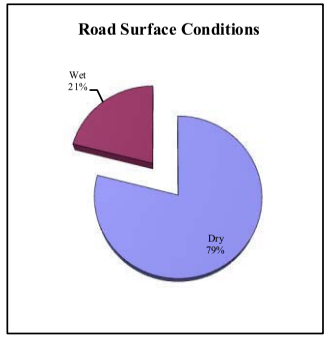


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND HILLCREST AVENUE

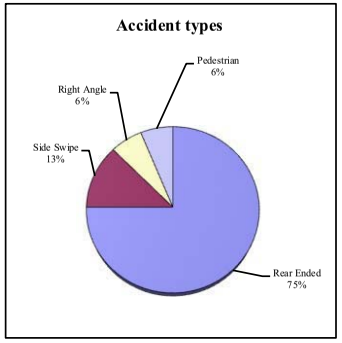
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	11	9	2	9	2
Side Swipe	6	5	1	5	1
Right Angle	1	1		1	
Head On	1		1	1	
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	19	15	4	16	3

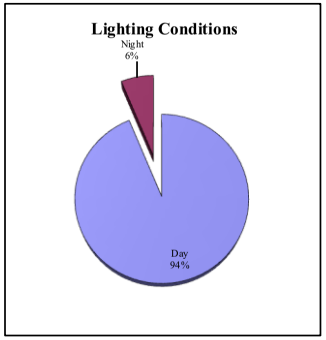


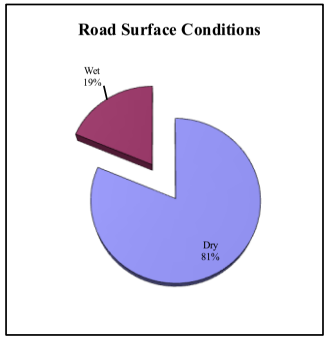




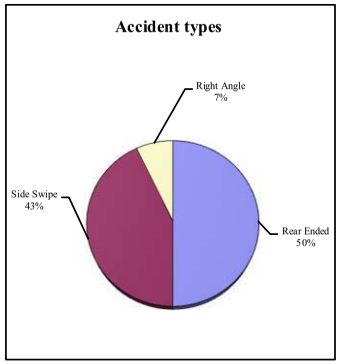
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	12	9	3	11	1
Side Swipe	2	2		2	
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	1	1		1	
Animal	0				
Backing	0				
Total	16	13	3	15	1

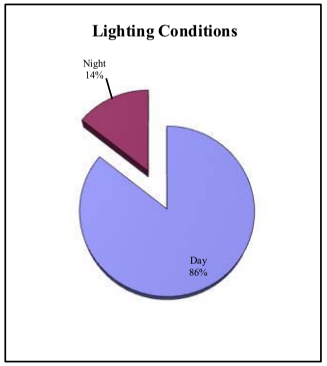


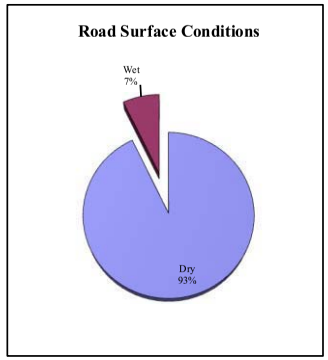




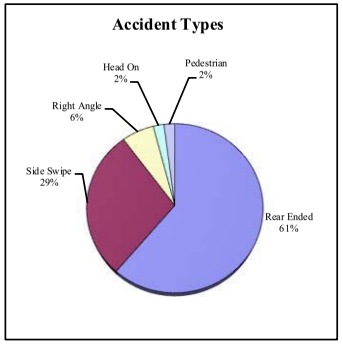
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	7	7		6	1
Side Swipe	6	5	1	5	1
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	14	13	1	12	2

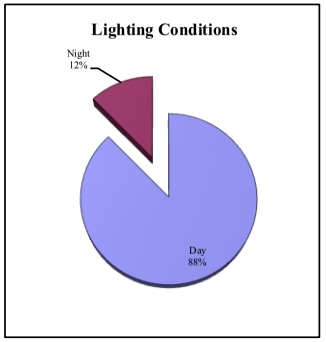


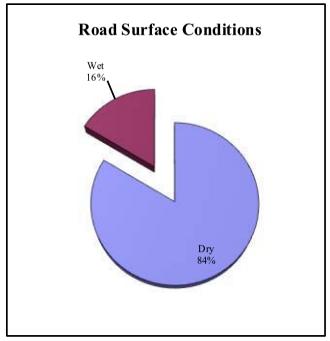




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	30	25	5	26	4
Side Swipe	14	12	2	12	2
Right Angle	3	3	0	3	0
Head On	1	0	1	1	0
Left Turn	0	0	0	0	0
Fixed Object	0	0	0	0	0
Debris	0	0	0	0	0
Pedestrian	1	1	0	1	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	49	41	8	43	6

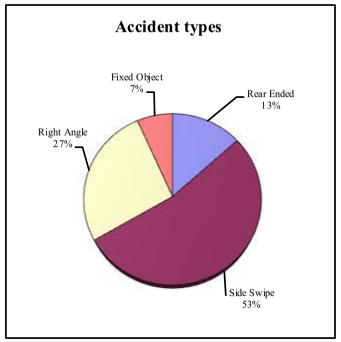


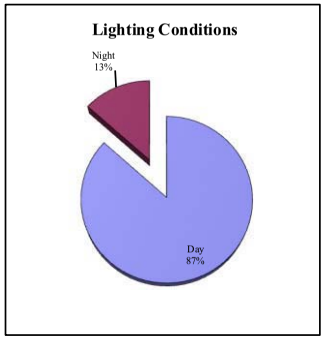


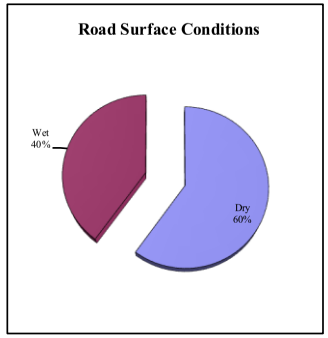


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND FIRTH STREET

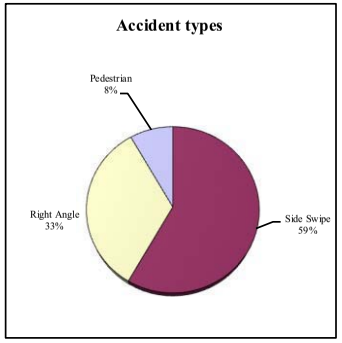
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	1	1	2	
Side Swipe	8	6	2	6	2
Right Angle	4	1	3	4	
Head On	0				
Left Turn	0				
Fixed Object	1	1		1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	15	9	6	13	2

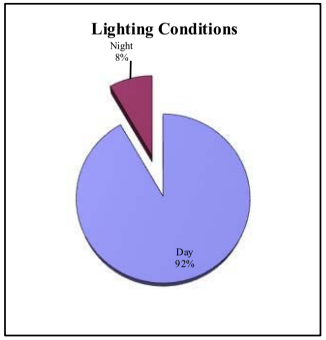


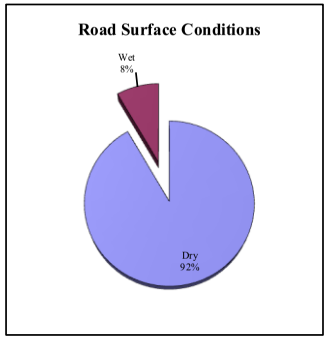




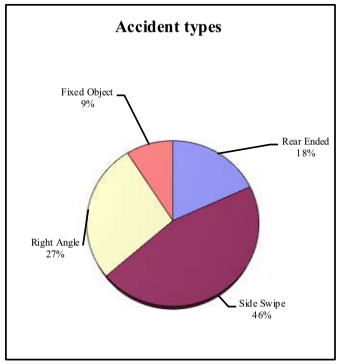
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	7	7		6	1
Right Angle	4	4		4	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	1		1	1	
Animal	0				
Backing	0				
Total	12	11	1	11	1

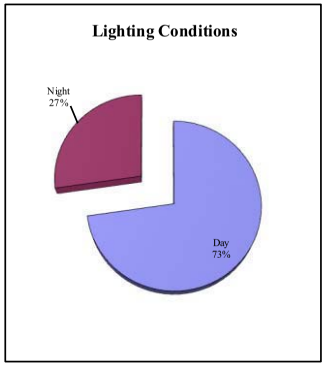


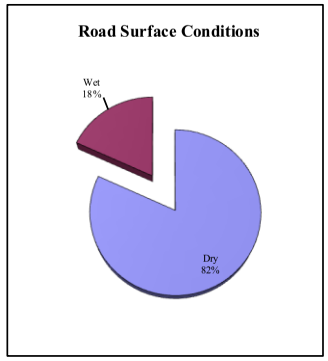




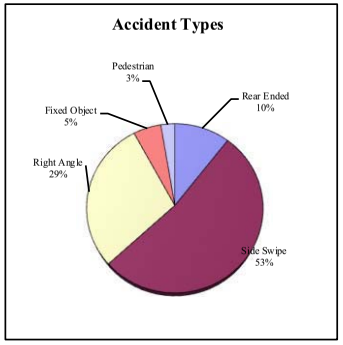
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		2	
Side Swipe	5	5		4	1
Right Angle	3	2	1	2	1
Head On	0				
Left Turn	0				
Fixed Object	1		1		1
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	11	9	2	8	3

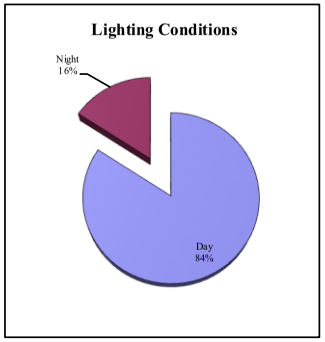


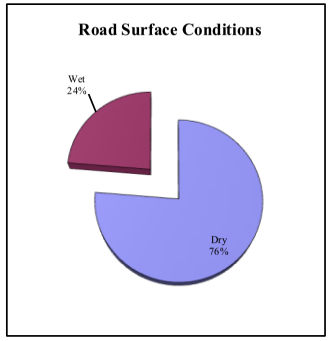




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	4	3	1	4	0
Side Swipe	20	18	2	16	4
Right Angle	11	7	4	10	1
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	2	1	1	1	1
Debris	0	0	0	0	0
Pedestrian	1	0	1	1	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	38	29	9	32	6

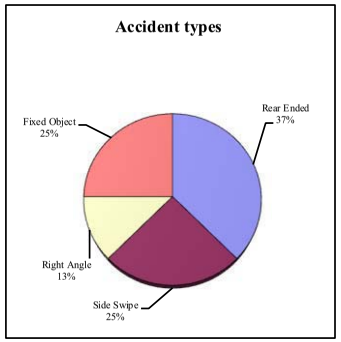


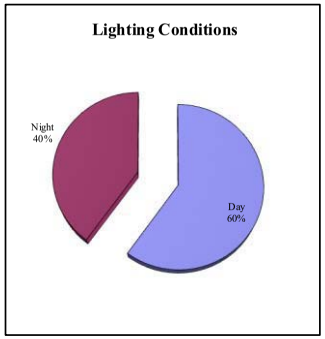


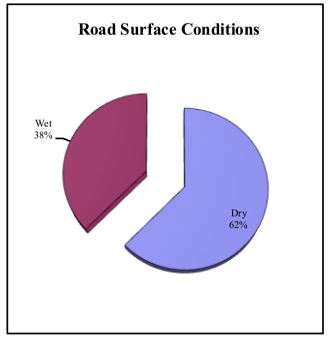


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND WARREN STREET

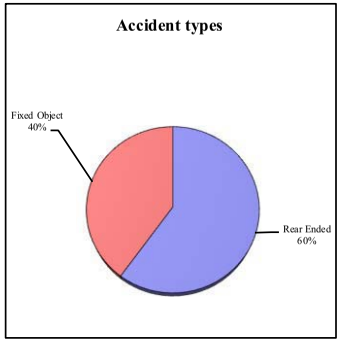
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	3	2	1	2	3
Side Swipe	2	1	1	1	1
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	2	1	1	2	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	8	5	3	6	4

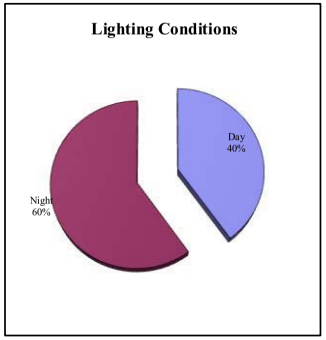


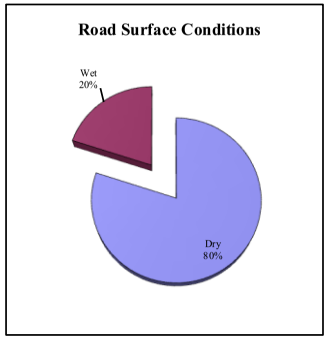




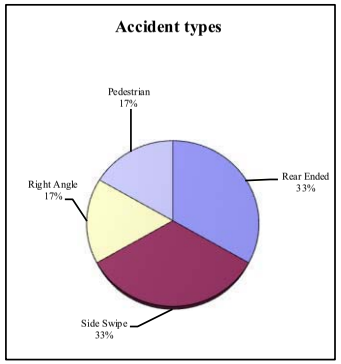
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	3	3		2	1
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	2	1	1		2
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	5	4	1	2	3

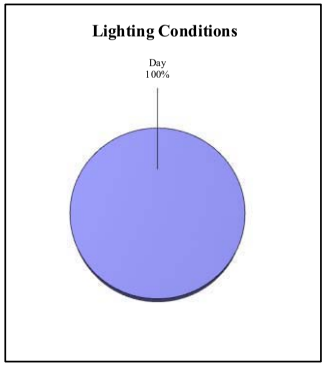


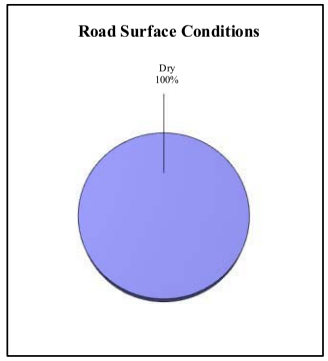




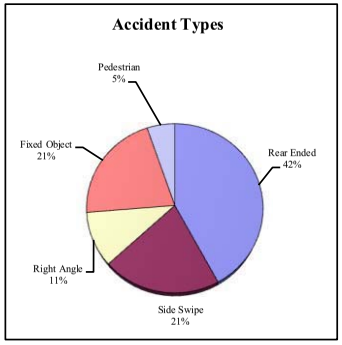
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		2	
Side Swipe	2	2		2	
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	1	1		1	
Animal	0				
Backing	0				
Total	6	6	0	6	0

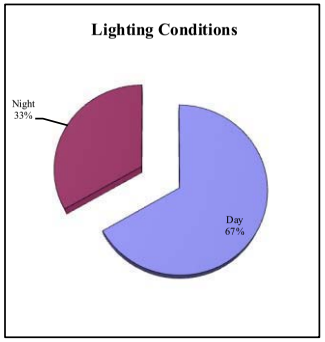


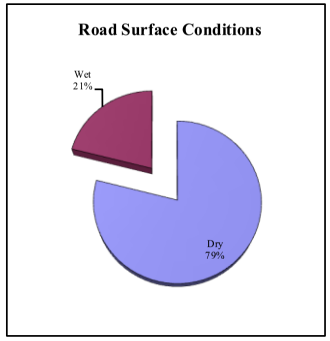




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	8	7	1	6	4
Side Swipe	4	3	1	3	1
Right Angle	2	2	0	2	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	4	2	2	2	2
Debris	0	0	0	0	0
Pedestrian	1	1	0	1	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	19	15	4	14	7

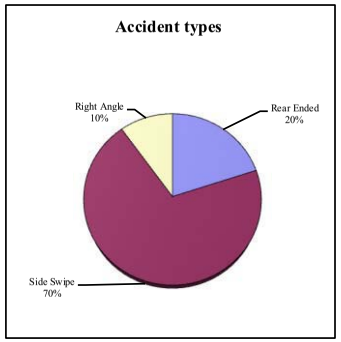


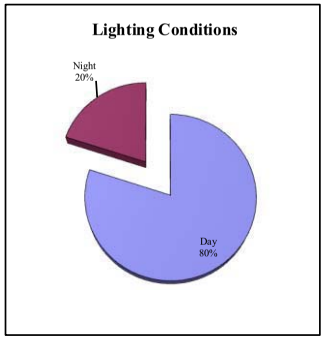


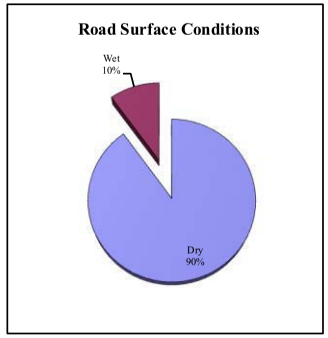


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND LINCOLN STREET

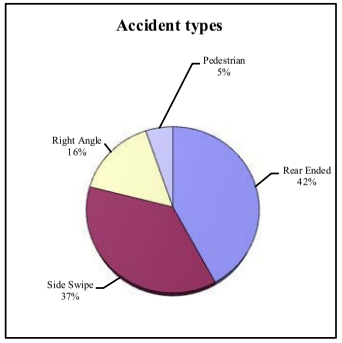
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	1	1	2	
Side Swipe	7	7		5	2
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	10	9	1	8	2

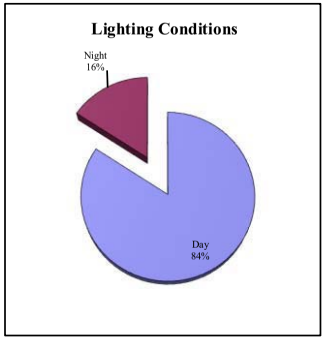


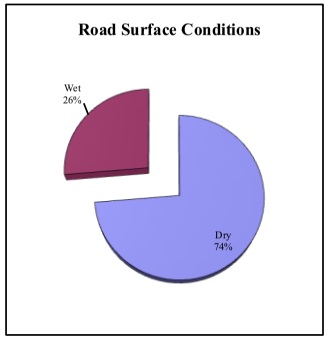




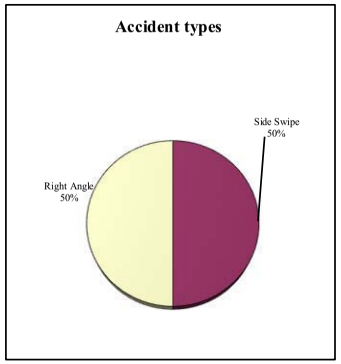
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	8	5	3	6	2
Side Swipe	7	7		7	
Right Angle	3	2	1	2	1
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	1		1	1	
Animal	0				
Backing	0				
Total	19	14	5	16	3

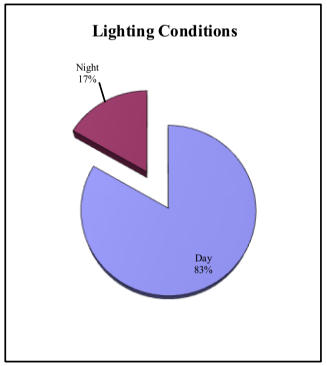


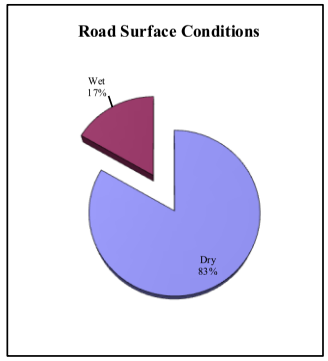




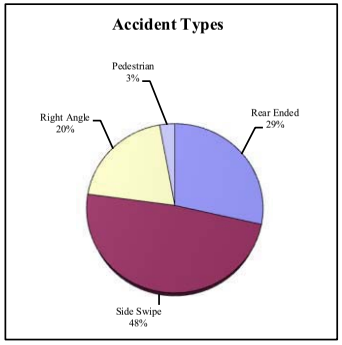
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	3	2	1	2	1
Right Angle	3	3		3	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	6	5	1	5	1

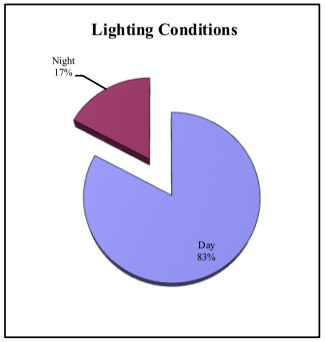


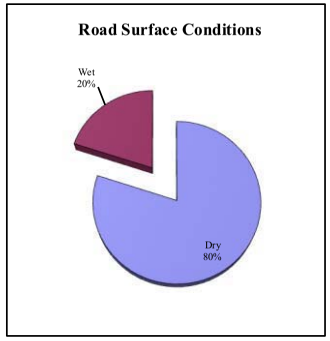




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	10	6	4	8	2
Side Swipe	17	16	1	14	3
Right Angle	7	6	1	6	1
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	0	0	0	0	0
Debris	0	0	0	0	0
Pedestrian	1	0	1	1	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	35	28	7	29	6

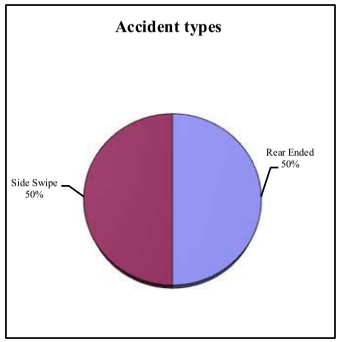


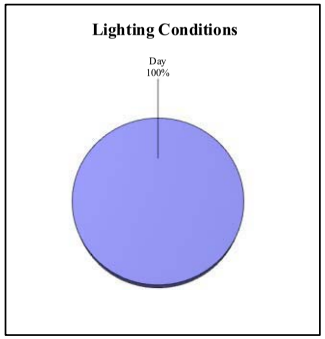


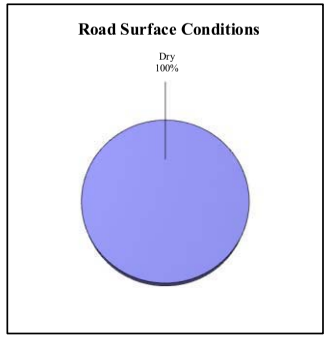


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND PROSPECT STREET

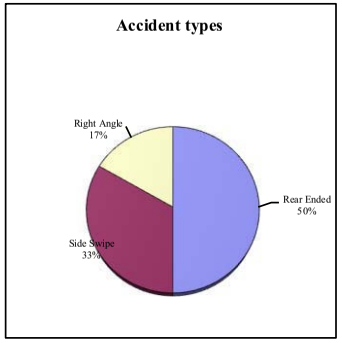
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	2	2	0	2	0

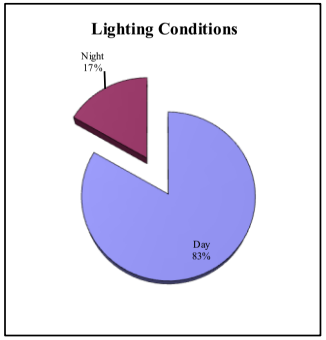


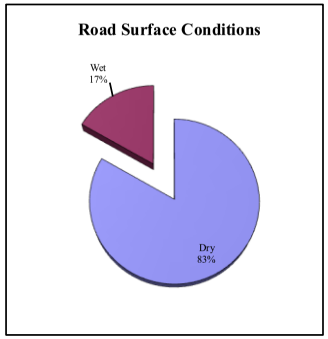




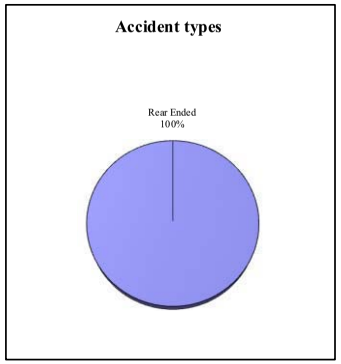
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	3	3		3	
Side Swipe	2	1	1	1	1
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	6	5	1	5	1

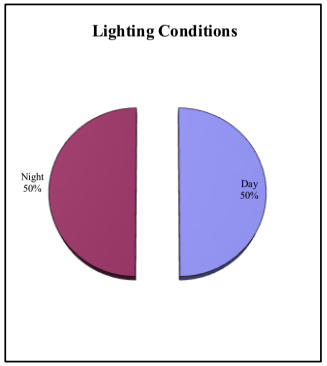


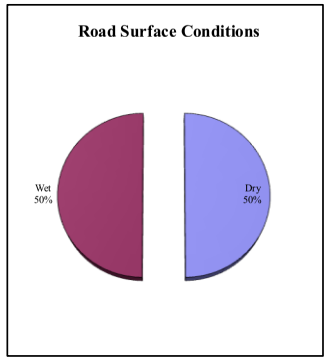




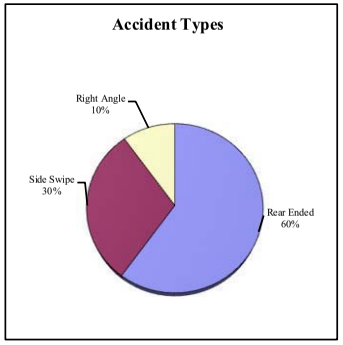
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	1	1	1	1
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	2	1	1	1	1

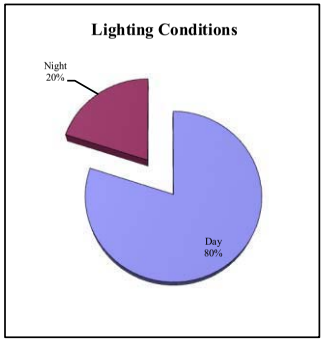


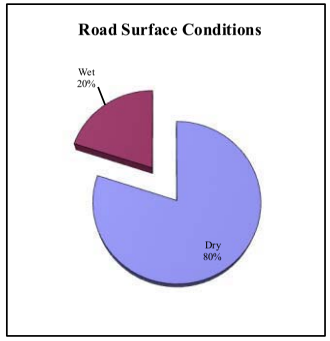




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	6	5	1	5	1
Side Swipe	3	2	1	2	1
Right Angle	1	1	0	1	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	0	0	0	0	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	10	8	2	8	2

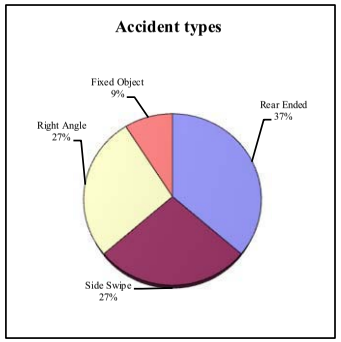


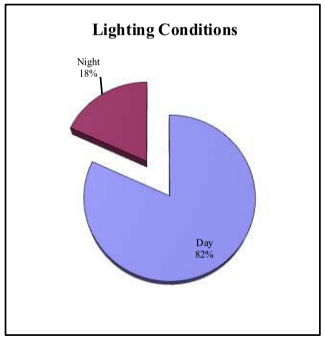


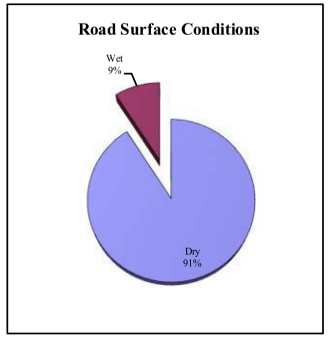


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND INGERSOLL AVENUE/BATES AVENUE

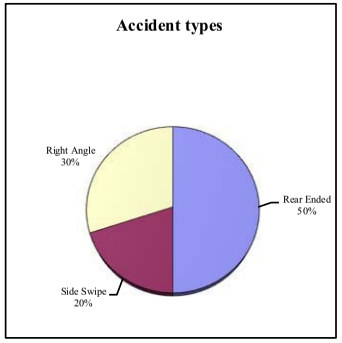
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	4	4		3	1
Side Swipe	3	3		3	
Right Angle	3	3		2	1
Head On	0				
Left Turn	0				
Fixed Object	1		1	1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	11	10	1	9	2

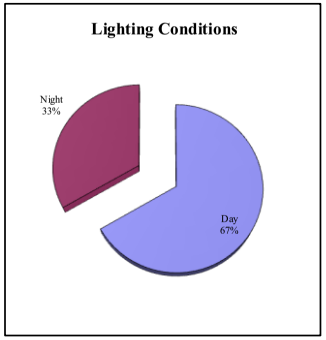


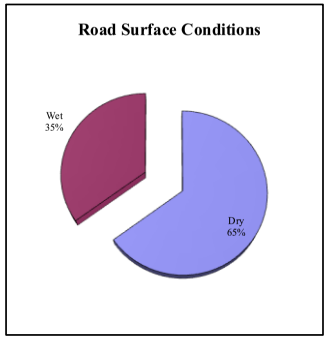




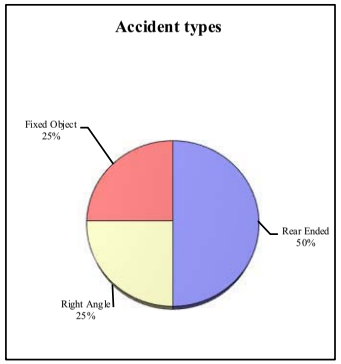
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	10	6	4	6	4
Side Swipe	4	4		4	1
Right Angle	6	3	3	4	2
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	20	13	7	14	7

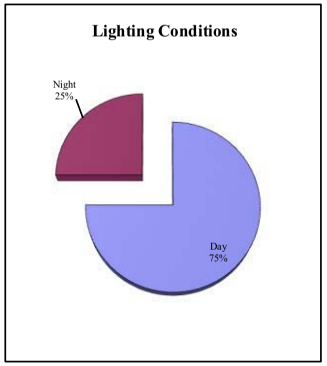


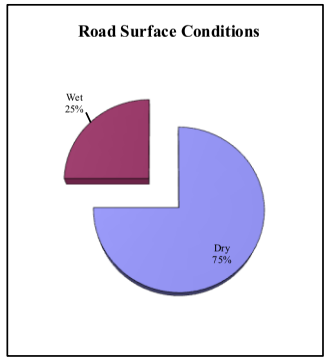




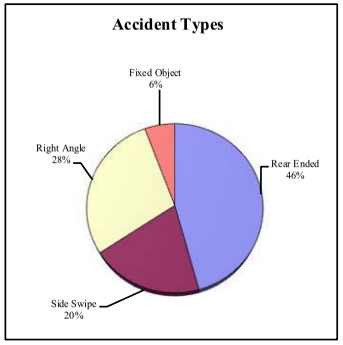
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		2	
Side Swipe	0				
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	1		1		1
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	4	3	1	3	1

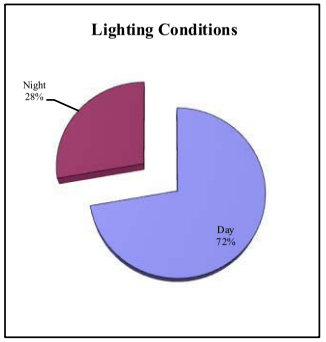


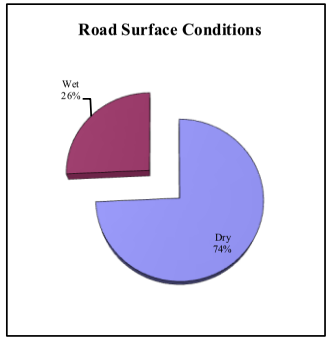




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	16	12	4	11	5
Side Swipe	7	7	0	7	1
Right Angle	10	7	3	7	3
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	2	0	2	1	1
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	35	26	9	26	10

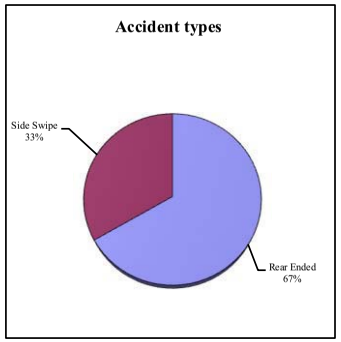


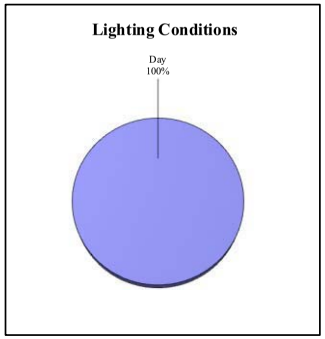




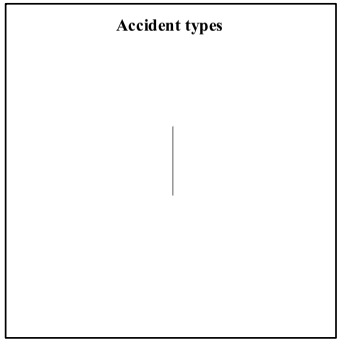
THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND SARGENT AVENUE

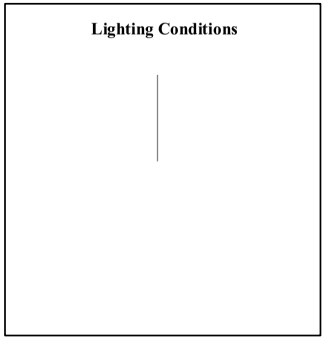
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		2	
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	3	3	0	3	0

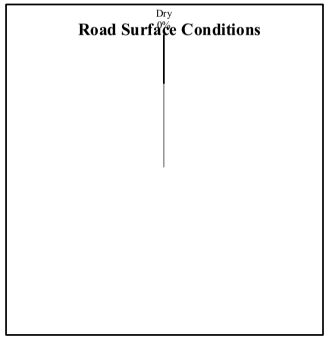




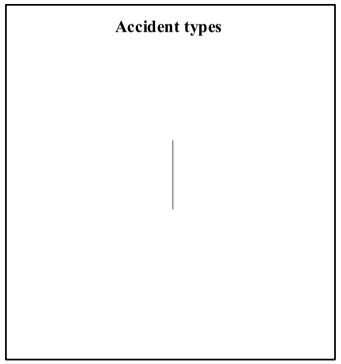
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	0	0	0	0	0

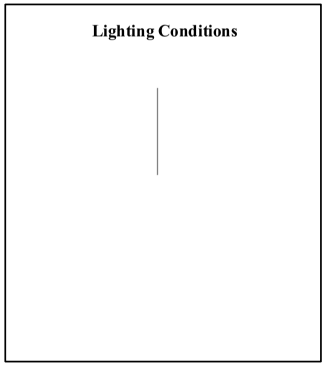


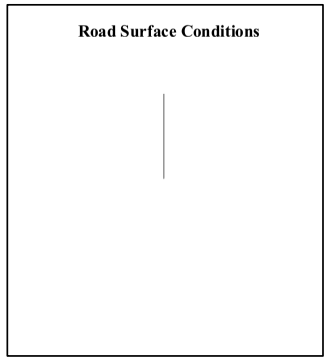




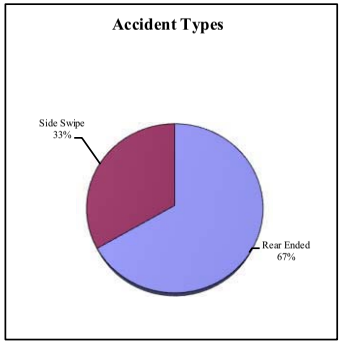
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	0	0	0	0	0

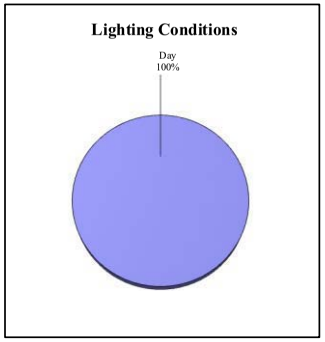


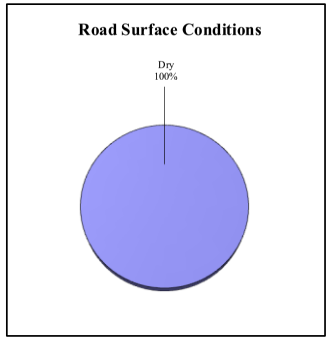




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2	0	2	0
Side Swipe	1	1	0	1	0
Right Angle	0	0	0	0	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	0	0	0	0	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	3	3	0	3	0

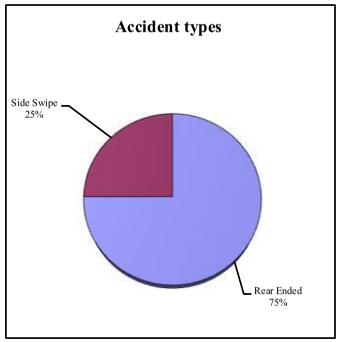


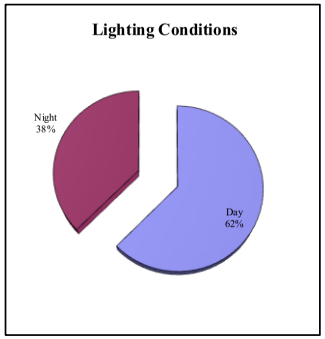




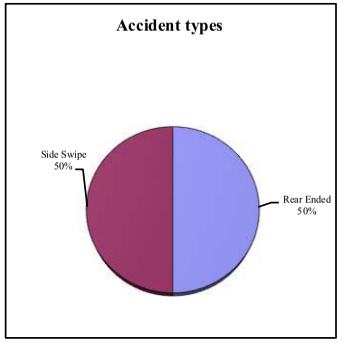
THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND PICKFORD AVENUE

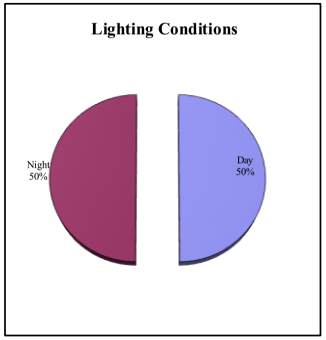
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	6	6		4	2
Side Swipe	2	2		1	1
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	8	8	0	5	3



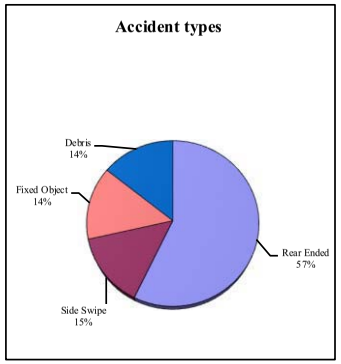


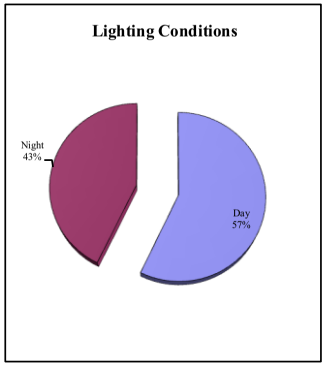
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1			1
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	2	2	0	1	1

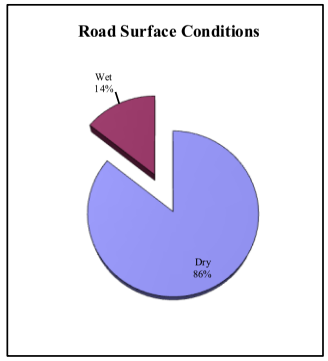




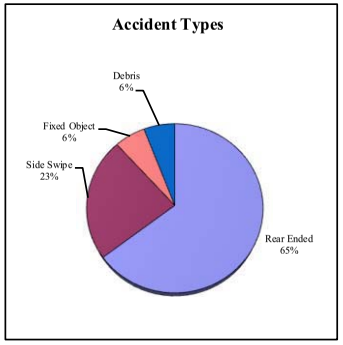
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	4	4		4	
Side Swipe	1	1			1
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	1		1		1
Debris	1	1			1
Pedestrian	0				
Animal	0				
Backing	0				
Total	7	6	1	4	3

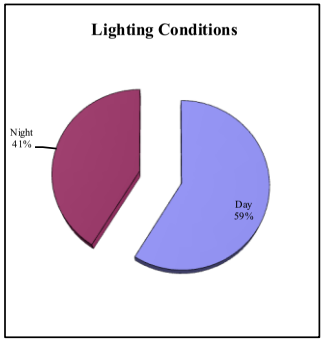


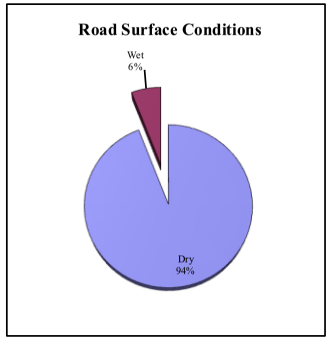




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	11	11	0	8	3
Side Swipe	4	4	0	2	2
Right Angle	0	0	0	0	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	1	0	1	0	1
Debris	1	1	0	0	1
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	17	16	1	10	7

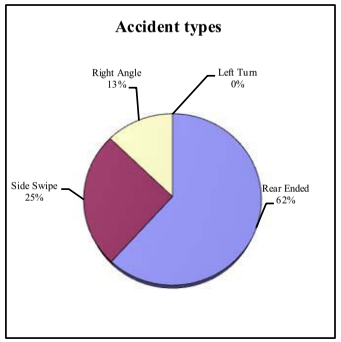


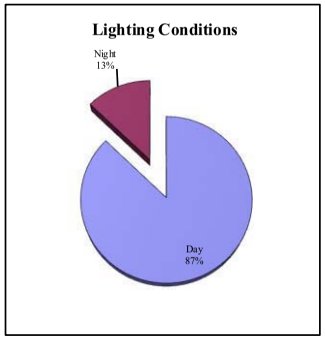


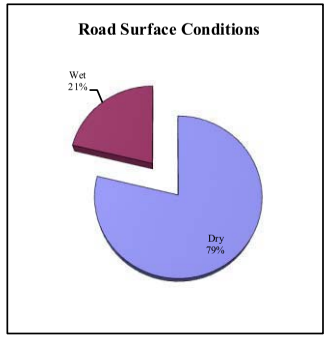


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND ROSBERRY AVENUE

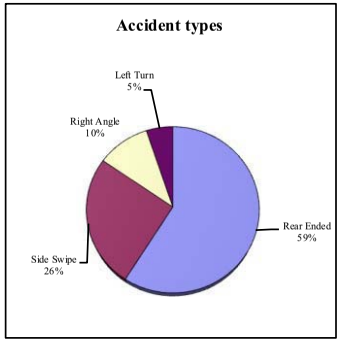
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	29	26	3	27	2
Side Swipe	12	7	5	8	4
Right Angle	6	4	2	6	0
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	47	37	10	41	6

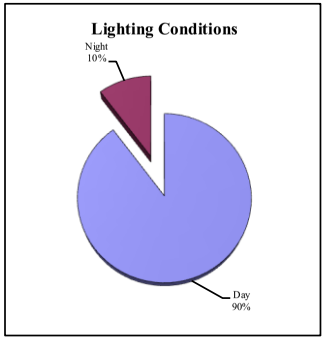


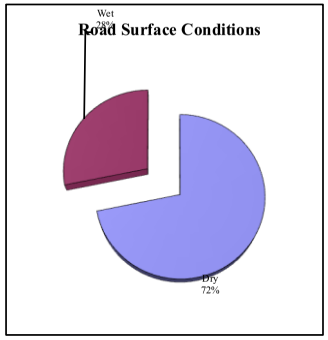




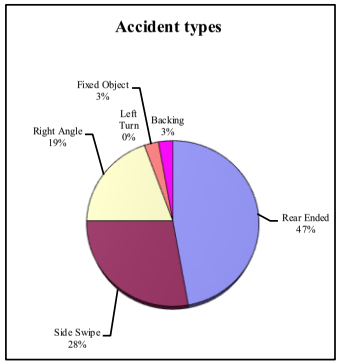
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	23	16	7	20	3
Side Swipe	10	6	4	10	
Right Angle	4	4		3	1
Head On	0				
Left Turn	2	2		2	
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	39	28	11	35	4

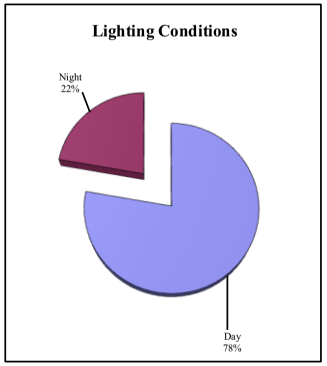


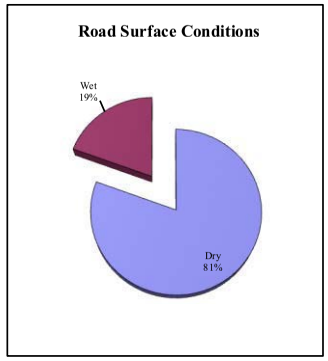




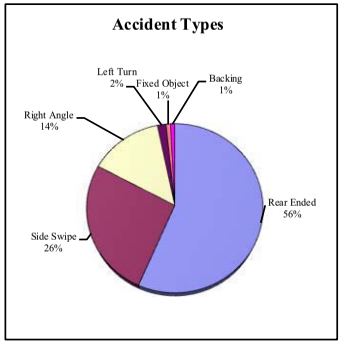
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	17	14	3	15	2
Side Swipe	10	7	3	6	4
Right Angle	7	6	1	6	1
Head On	0				
Left Turn	0				
Fixed Object	1	1		1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	1	1			1
Total	36	29	7	28	8

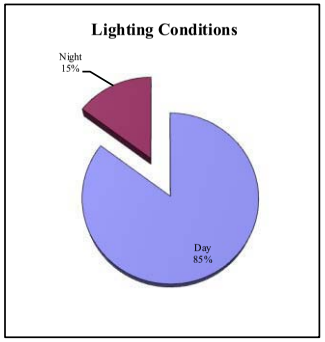


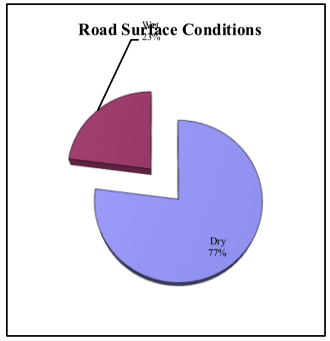




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	69	56	13	62	7
Side Swipe	32	20	12	24	8
Right Angle	17	14	3	15	2
Head On	0	0	0	0	0
Left Turn	2	2	0	2	0
Fixed Object	1	1	0	1	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	1	1	0	0	1
Total	122	94	28	104	18

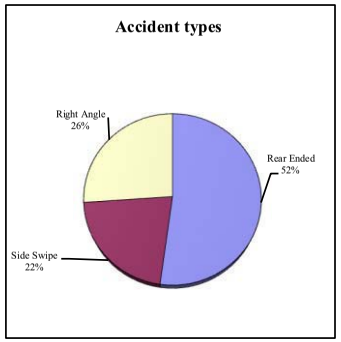


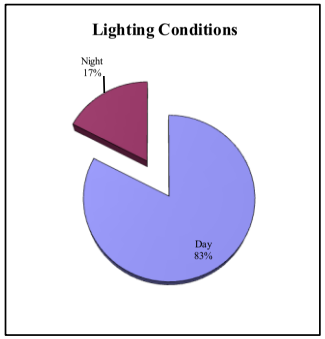


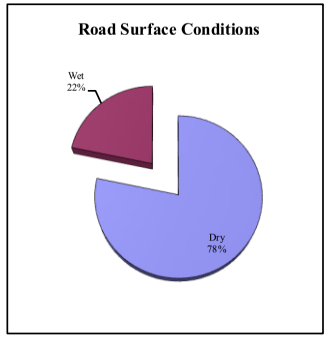


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND 1st STREET

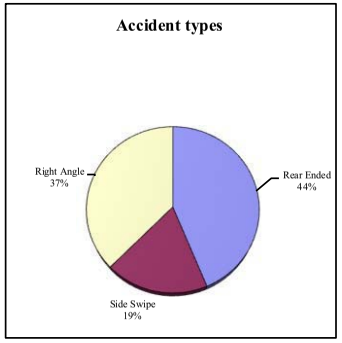
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	12	9	3	10	2
Side Swipe	5	3	2	4	1
Right Angle	6	6		5	1
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	23	18	5	19	4

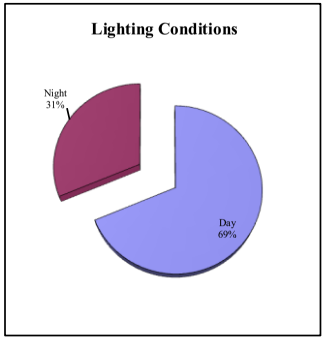


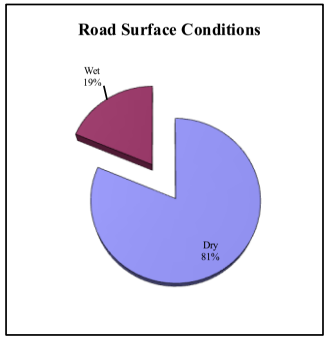




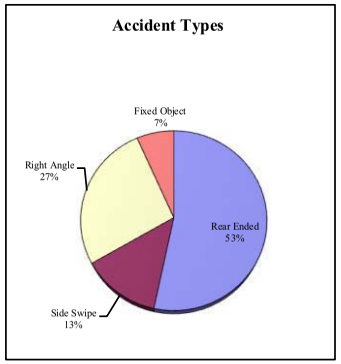
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	7	7		6	1
Side Swipe	3	3		3	
Right Angle	6	3	3	2	4
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	16	13	3	11	5

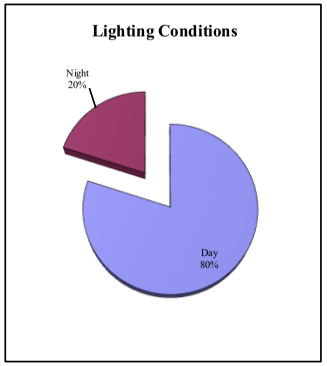


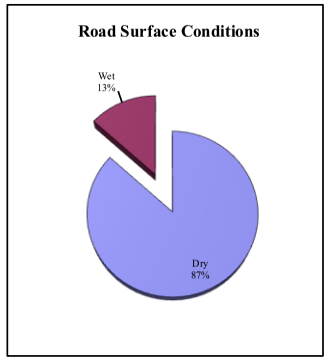




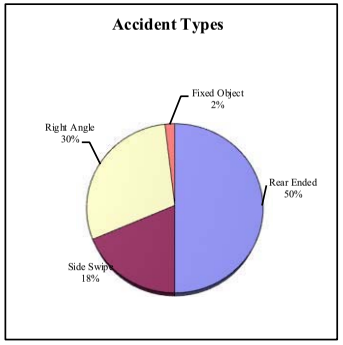
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	8	6	2	6	2
Side Swipe	2	2		2	
Right Angle	4	4		3	1
Head On	0				
Left Turn	0				
Fixed Object	1	1		1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	15	13	2	12	3

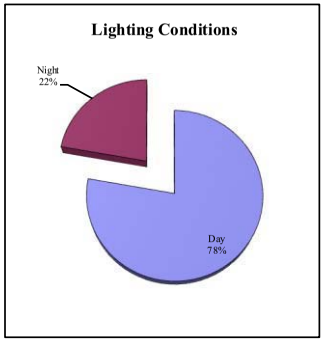


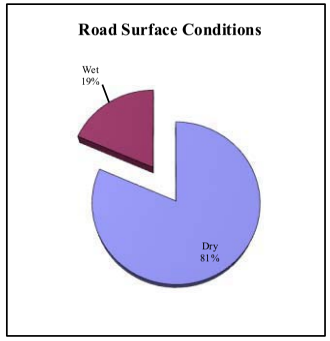




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	27	22	5	22	5
Side Swipe	10	8	2	9	1
Right Angle	16	13	3	10	6
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	1	1	0	1	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	54	44	10	42	12

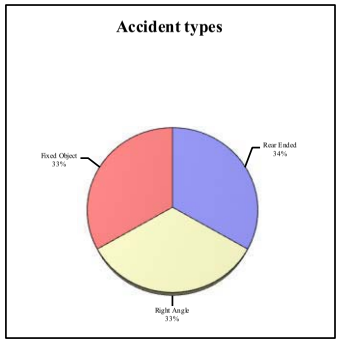


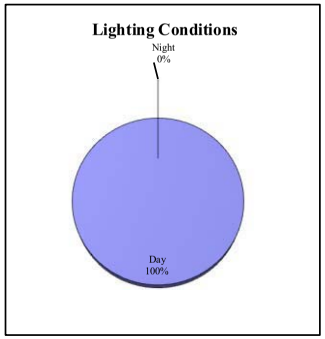


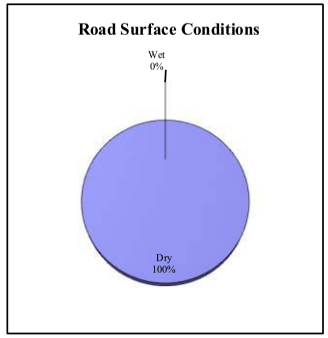


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND 2nd STREET

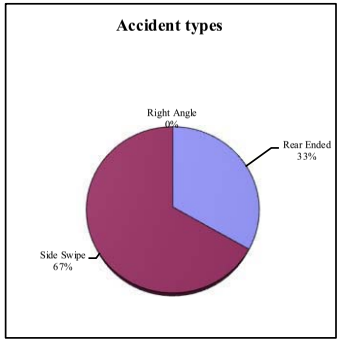
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	0				
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	1	1		1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	3	3	0	3	0

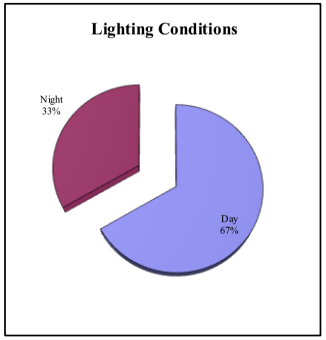


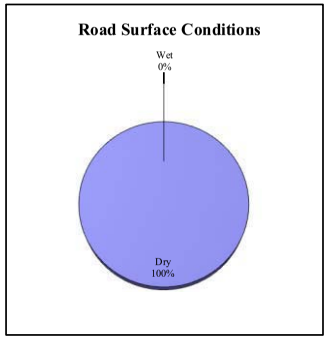




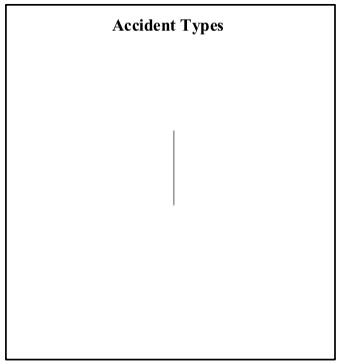
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	2	2		1	1
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	3	3	0	2	1

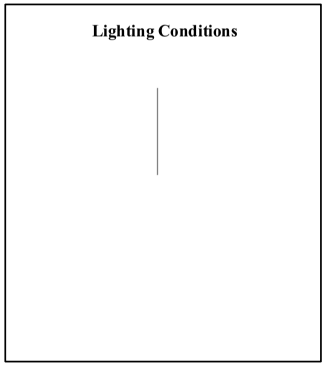


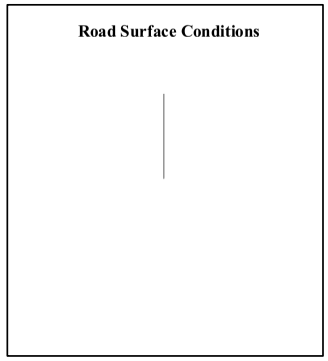




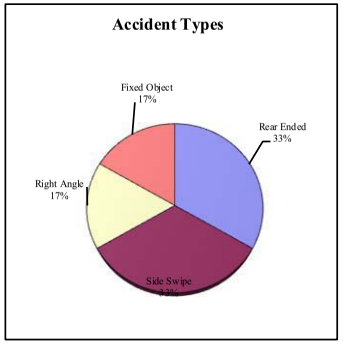
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	0	0	0	0	0

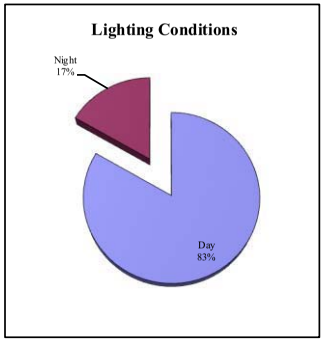


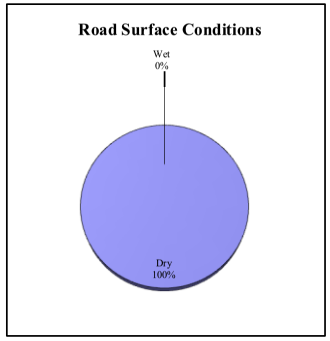




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2	0	2	0
Side Swipe	2	2	0	1	1
Right Angle	1	1	0	1	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	1	1	0	1	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	6	6	0	5	1

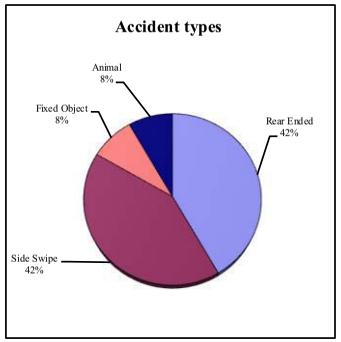


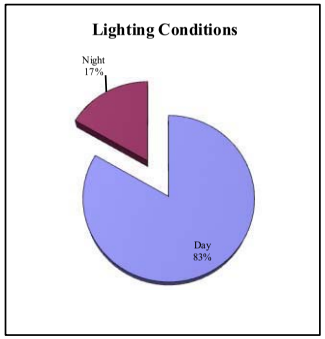


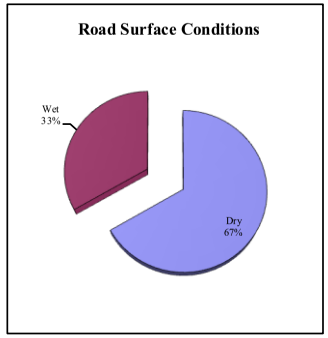


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND 3rd STREET

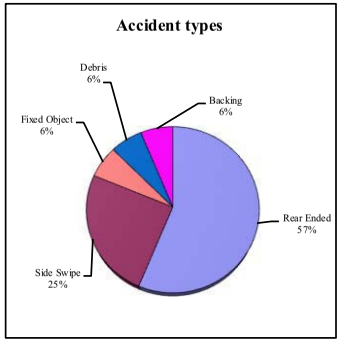
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	5	4	1	4	1
Side Swipe	5	3	2	4	1
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	1		1	1	
Debris	0				
Pedestrian	0				
Animal	1	1		1	
Backing	0				
Total	12	8	4	10	2

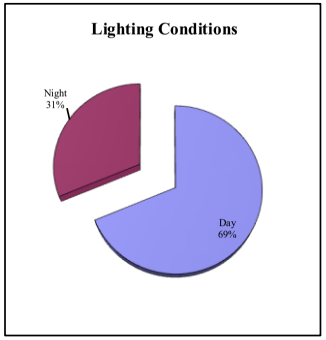


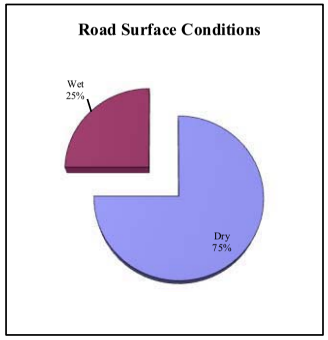




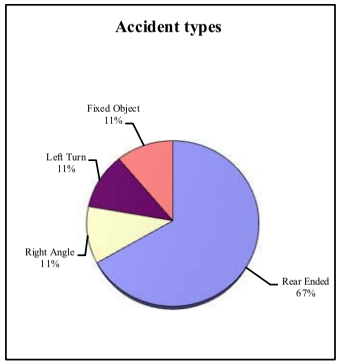
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	9	7	2	7	2
Side Swipe	4	3	1	2	2
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	1		1		1
Debris	1	1		1	
Pedestrian	0				
Animal	0				
Backing	1	1		1	
Total	16	12	4	11	5

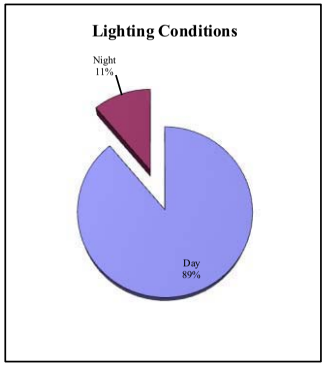


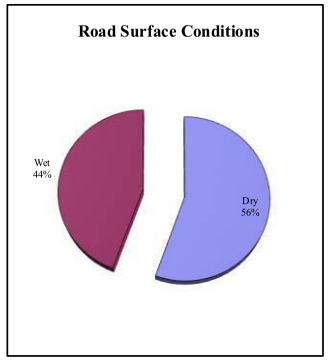




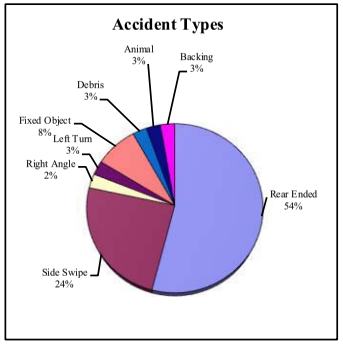
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	6	2	4	5	1
Side Swipe	0				
Right Angle	1	1		1	
Head On	0				
Left Turn	1	1		1	
Fixed Object	1	1		1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	9	5	4	8	1

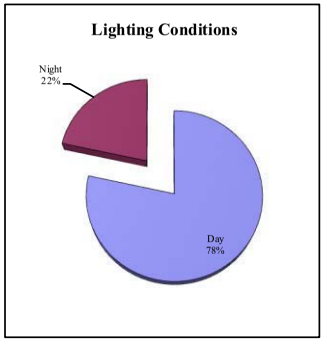


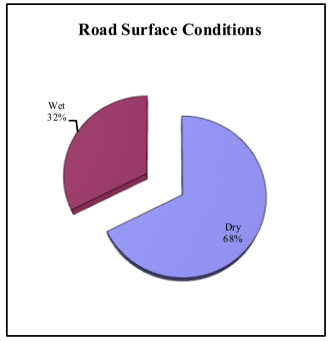




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	20	13	7	16	4
Side Swipe	9	6	3	6	3
Right Angle	1	1	0	1	0
Head On	0	0	0	0	0
Left Turn	1	1	0	1	0
Fixed Object	3	1	2	2	1
Debris	1	1	0	1	0
Pedestrian	0	0	0	0	0
Animal	1	1	0	1	0
Backing	1	1	0	1	0
Total	37	25	12	29	8

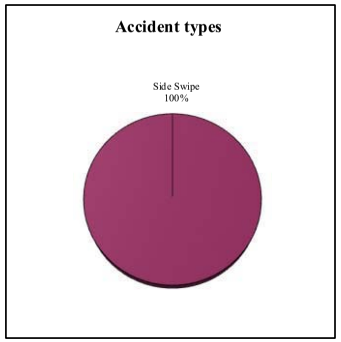


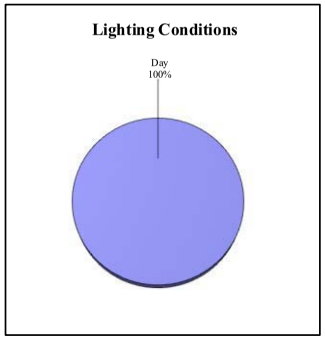


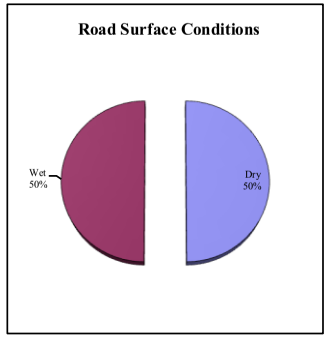


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND 4th STREET

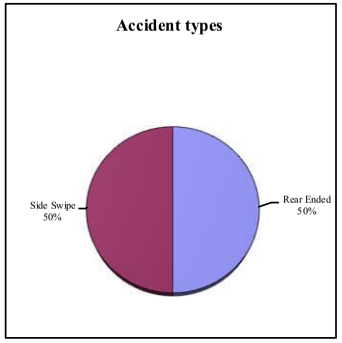
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	2	1	1	2	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	2	1	1	2	0

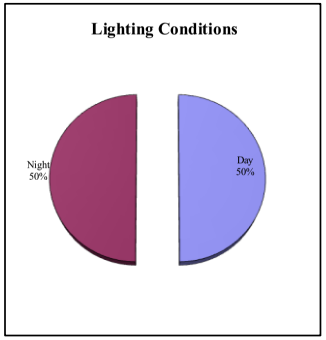


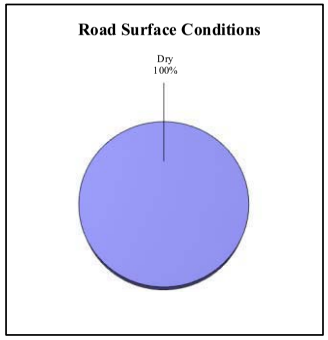




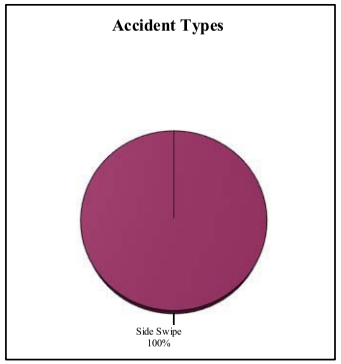
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	1	1			1
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	2	2	0	1	1

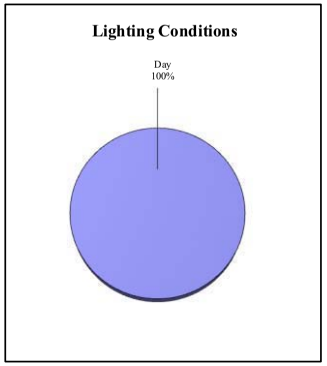


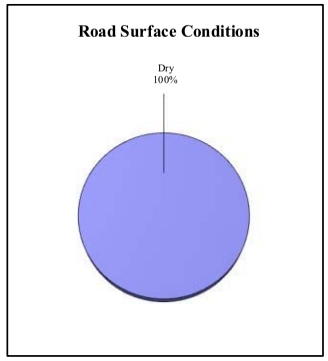




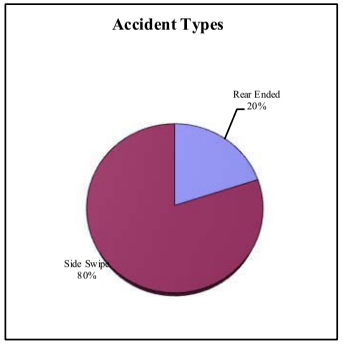
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	1	1	0	1	0

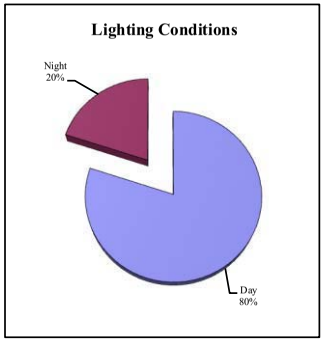


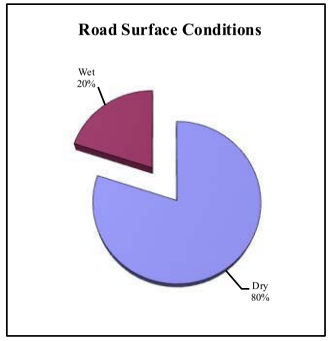




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1	0	1	0
Side Swipe	4	3	1	3	1
Right Angle	0	0	0	0	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	0	0	0	0	0
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	5	4	1	4	1

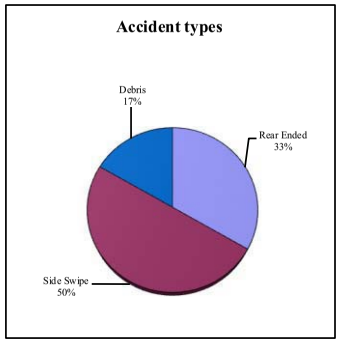


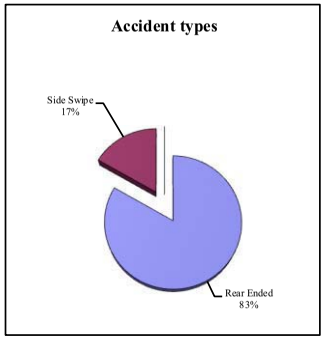


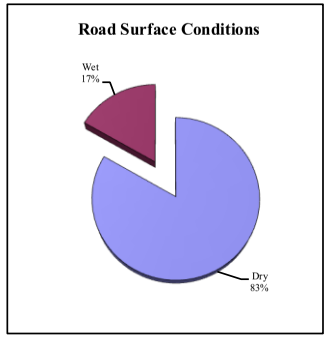


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND 5th STREET

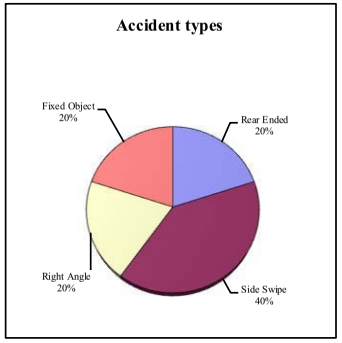
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		1	1
Side Swipe	3	3		3	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	1		1	1	
Pedestrian	0				
Animal	0				
Backing	0				
Total	6	5	1	5	1

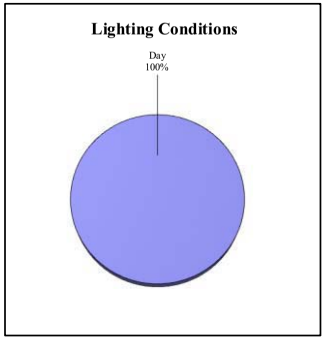


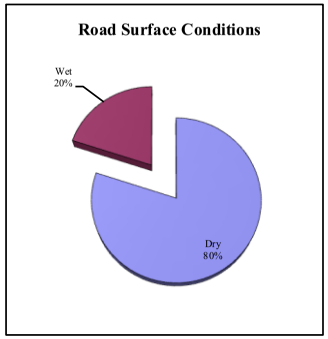




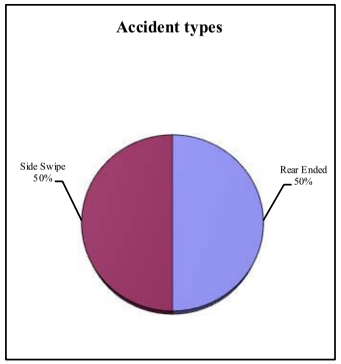
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1		1	1	
Side Swipe	2	2		2	
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	1	1		1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	5	4	1	5	0

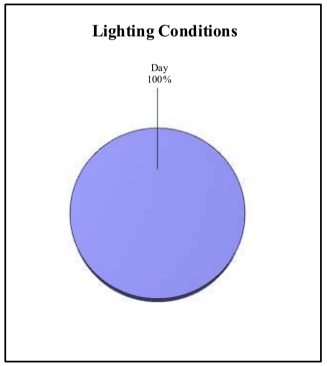


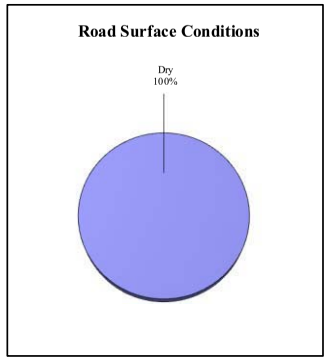




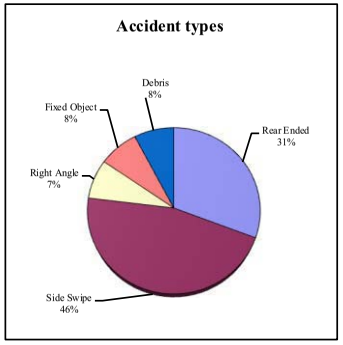
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	2	2	0	2	0

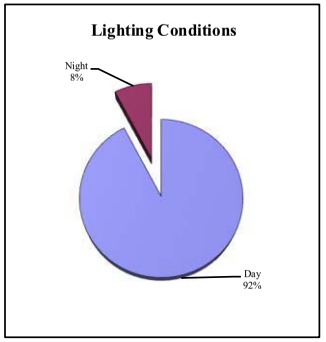


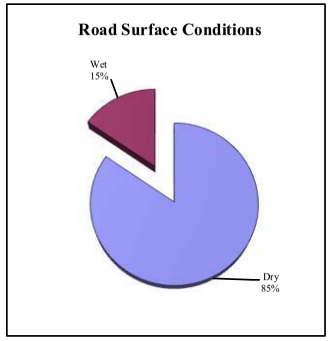




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	4	3	1	3	1
Side Swipe	6	6	0	6	0
Right Angle	1	1	0	1	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	1	1	0	1	0
Debris	1	0	1	1	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	13	11	2	12	1

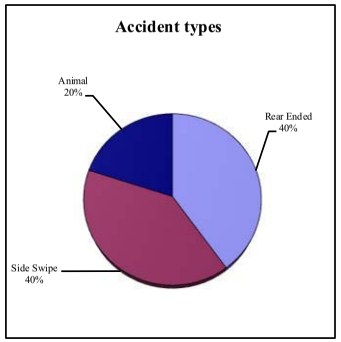


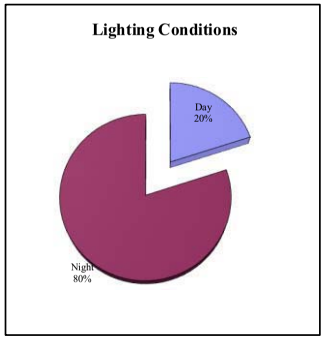


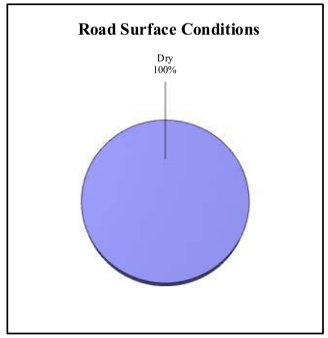


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND 6th STREET

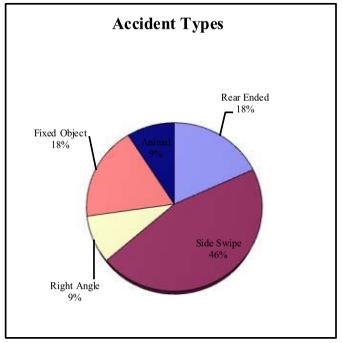
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		1	1
Side Swipe	2	2			2
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	1	1			1
Backing	0				
Total	5	5	0	1	4

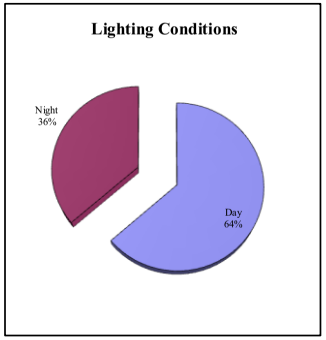


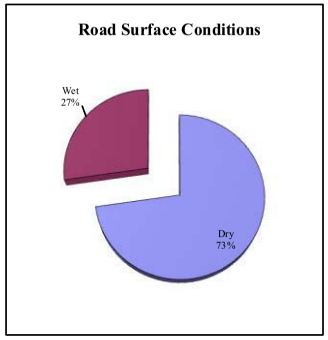




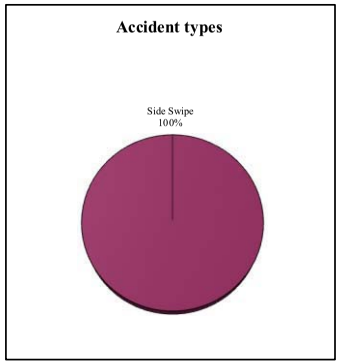
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	1	1	1	1
Side Swipe	5	3	2	4	1
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	2	2		1	1
Debris	0				
Pedestrian	0				
Animal	1	1			1
Backing	0				
Total	11	8	3	7	4

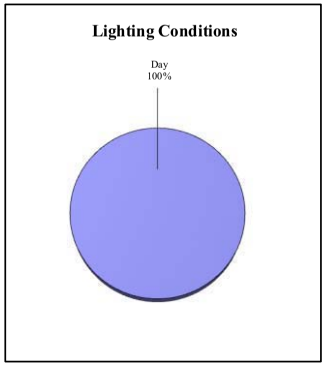


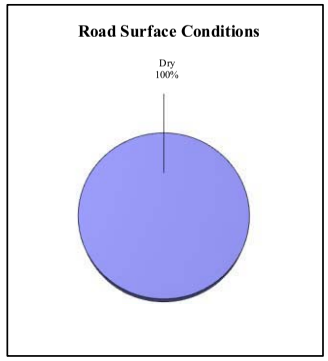




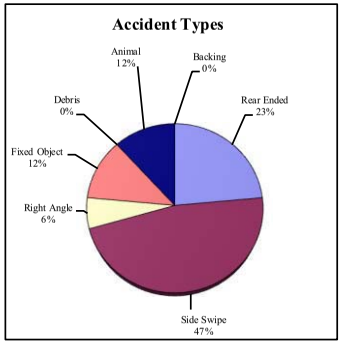
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	1	1	0	1	0

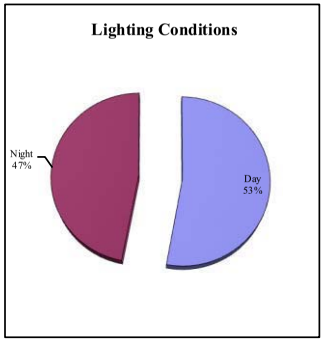


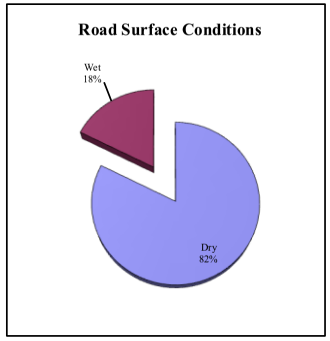




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	4	3	1	2	2
Side Swipe	8	6	2	5	3
Right Angle	1	1	0	1	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	2	2	0	1	1
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	2	2	0	0	2
Backing	0	0	0	0	0
Total	17	14	3	9	8

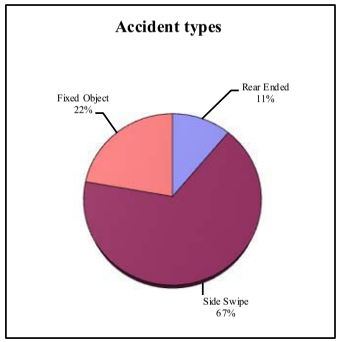


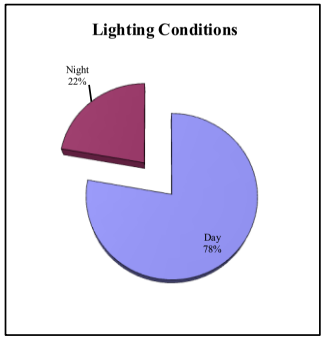


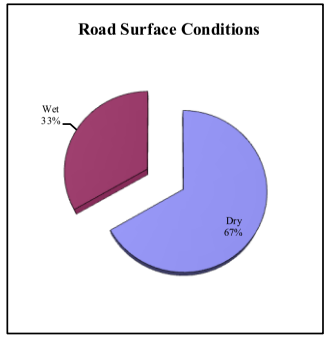


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND ROUTE 57

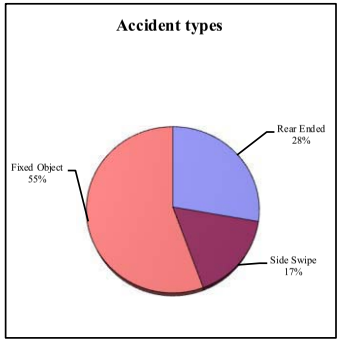
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1			1
Side Swipe	6	4	2	6	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	2	1	1	1	1
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	9	6	3	7	2

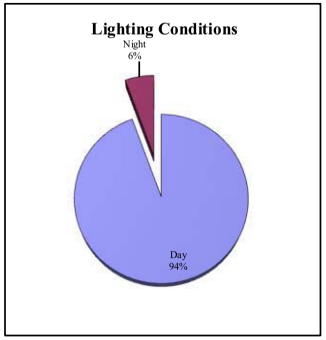


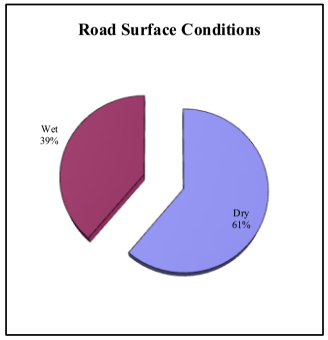




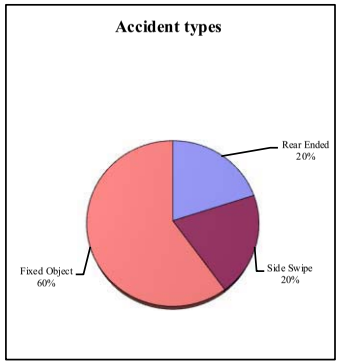
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	5	5		5	
Side Swipe	3	3		3	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	10	3	7	9	1
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	18	11	7	17	1

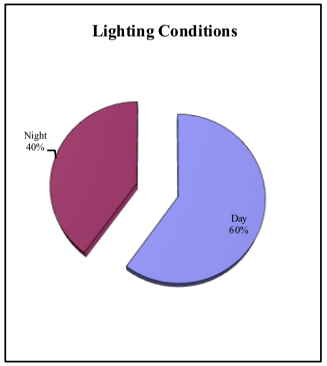


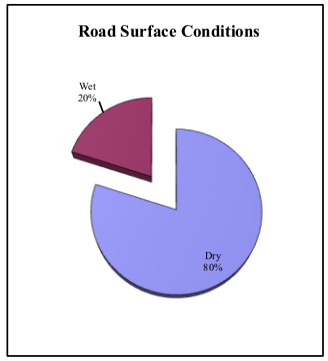




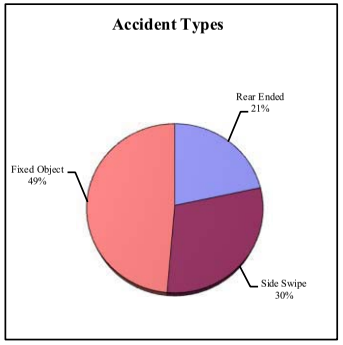
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		1	1
Side Swipe	2	2		2	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	6	4	2	3	3
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	10	8	2	6	4

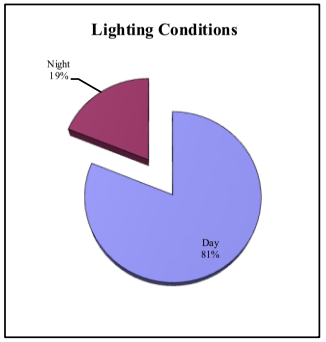


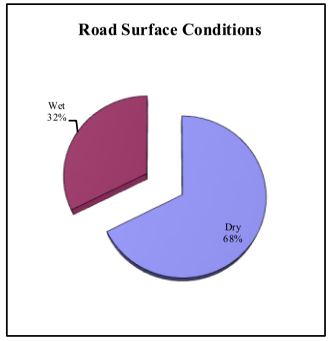




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	8	8	0	6	2
Side Swipe	11	9	2	11	0
Right Angle	0	0	0	0	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	18	8	10	13	5
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	0	0	0	0	0
Backing	0	0	0	0	0
Total	37	25	12	30	7

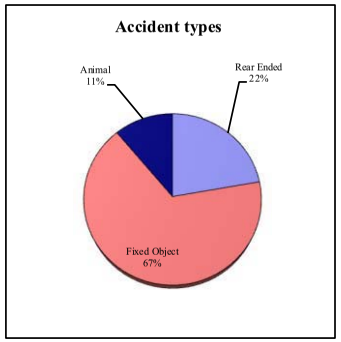


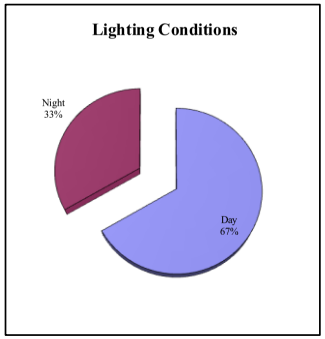


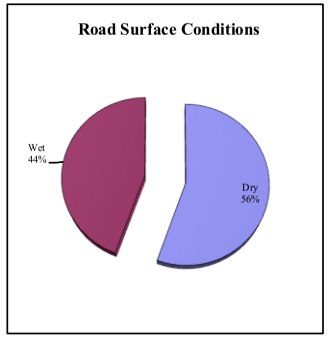


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND LOCK STREET

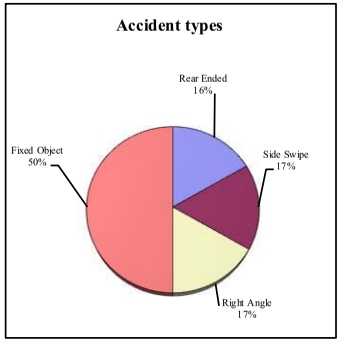
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	2		1	1
Side Swipe	0				
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	6	2	4	5	1
Debris	0				
Pedestrian	0				
Animal	1	1			1
Backing	0				
Total	9	5	4	6	3

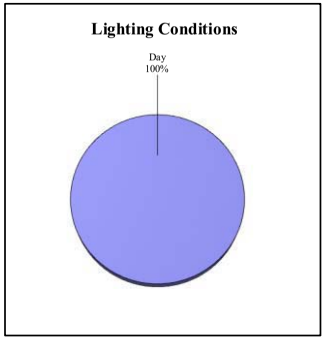


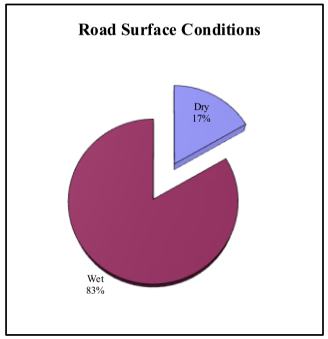




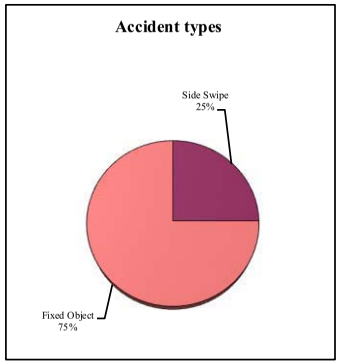
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	1	1		1	
Side Swipe	1		1	1	
Right Angle	1		1	1	
Head On	0				
Left Turn	0				
Fixed Object	3		3	3	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	6	1	5	6	0

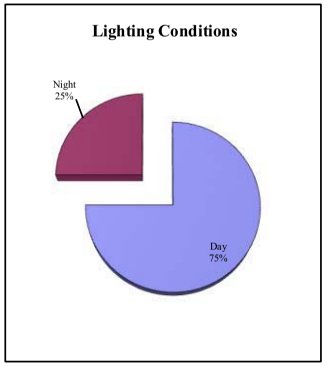


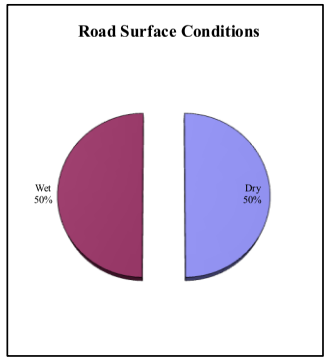




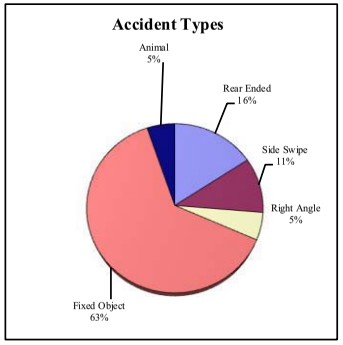
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	0				
Side Swipe	1	1		1	
Right Angle	0				
Head On	0				
Left Turn	0				
Fixed Object	3	1	2	2	1
Debris	0				
Pedestrian	0				
Animal	0				
Backing	0				
Total	4	2	2	3	1

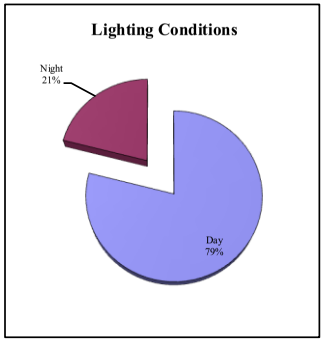


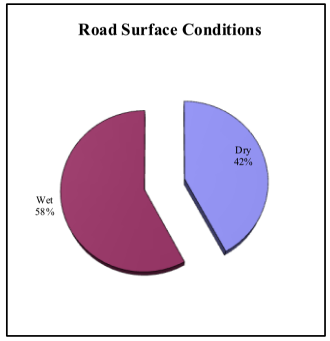




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	3	3	0	2	1
Side Swipe	2	1	1	2	0
Right Angle	1	0	1	1	0
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	12	3	9	10	2
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	1	1	0	0	1
Backing	0	0	0	0	0
Total	19	8	11	15	4

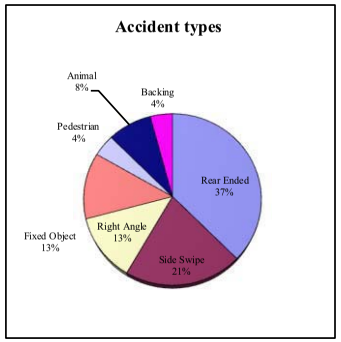


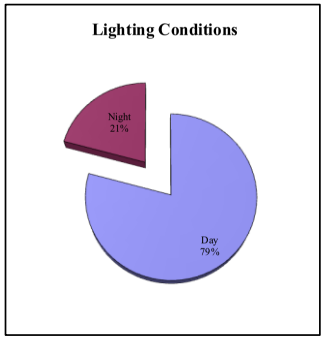


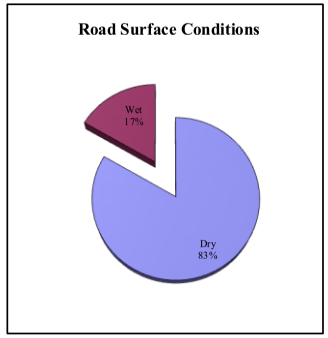


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 ANF SHOPPING CENTER DRIVE (MILE POST 3.1)

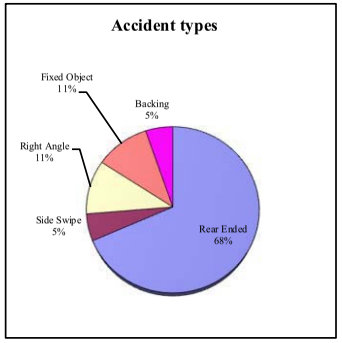
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	9	8	1	8	1
Side Swipe	5	5		4	1
Right Angle	3	3		3	
Head On	0				
Left Turn	0				
Fixed Object	3	2	1	3	
Debris	0				
Pedestrian	1		1		1
Animal	2	1	1		2
Backing	1	1		1	
Total	24	20	4	19	5

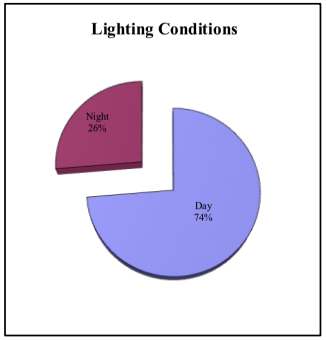


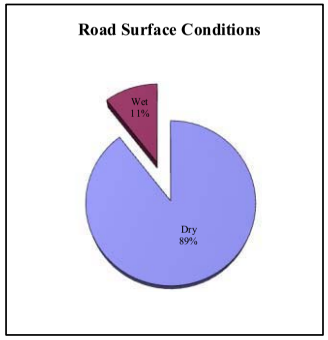




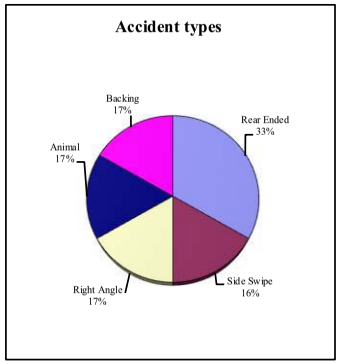
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	13	12	1	9	4
Side Swipe	1	1		1	
Right Angle	2	2		2	
Head On	0				
Left Turn	0				
Fixed Object	2	2		2	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	1		1		1
Total	19	17	2	14	5

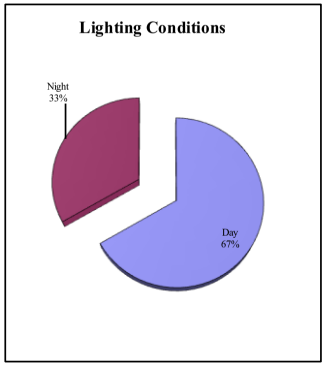


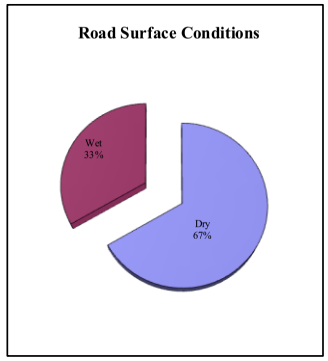




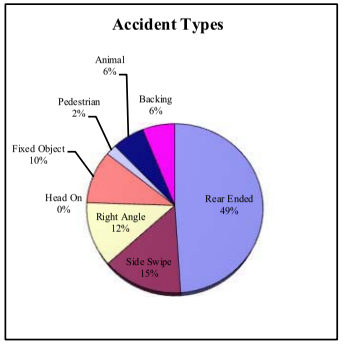
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	2	1	1	2	
Side Swipe	1	1		1	
Right Angle	1		1		1
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	1	1			1
Backing	1	1		1	
Total	6	4	2	4	2

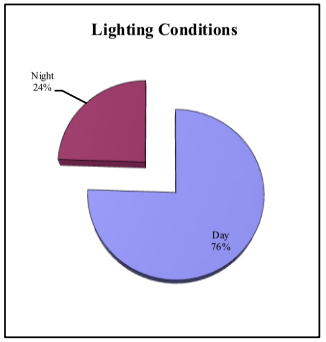


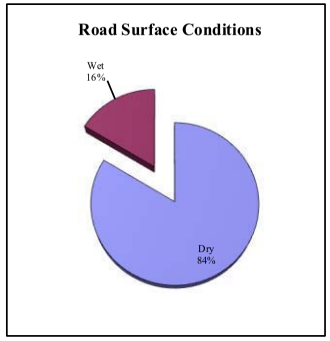




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	24	21	3	19	5
Side Swipe	7	7	0	6	1
Right Angle	6	5	1	5	1
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	5	4	1	5	0
Debris	0	0	0	0	0
Pedestrian	1	0	1	0	1
Animal	3	2	1	0	3
Backing	3	2	1	2	1
Total	49	41	8	37	12

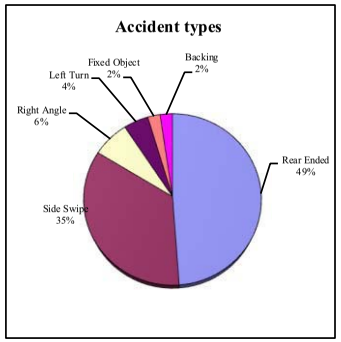


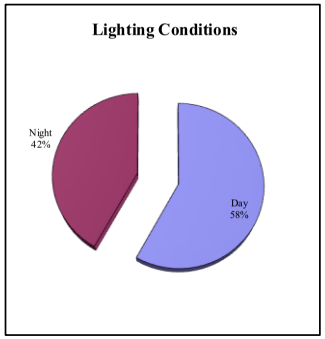


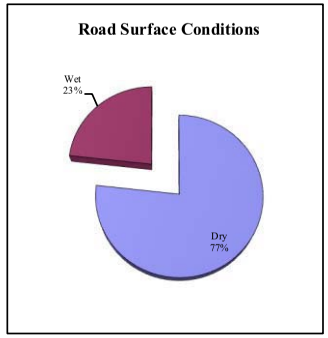


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND COUNTY ROUTE 519

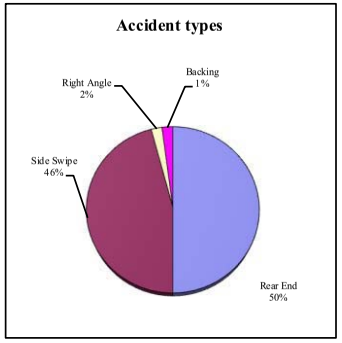
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	21	17	4	11	10
Side Swipe	15	13	2	11	4
Right Angle	3	1	2	2	1
Head On	0				
Left Turn	2	1	1	0	2
Fixed Object	1		1	1	
Debris	0				
Pedestrian	0				
Animal	0				
Backing	1	1			1
Total	43	33	10	25	18

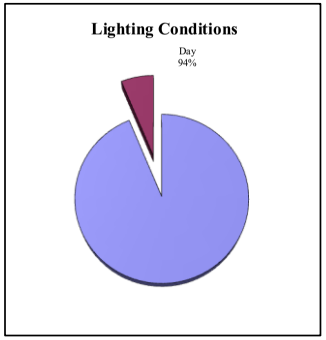


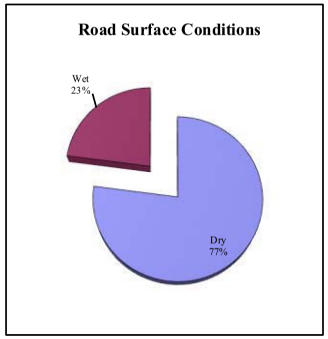




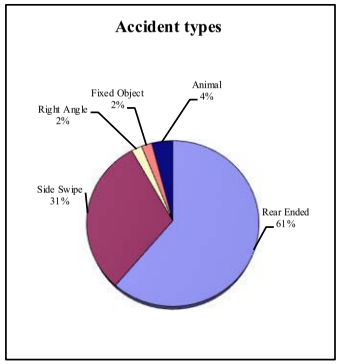
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	24	19	5	24	
Side Swipe	22	17	5	20	2
Right Angle	1	1	0	1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Debris	0				
Pedestrian	0				
Animal	0				
Backing	1		1		1
Total	48	37	11	45	3

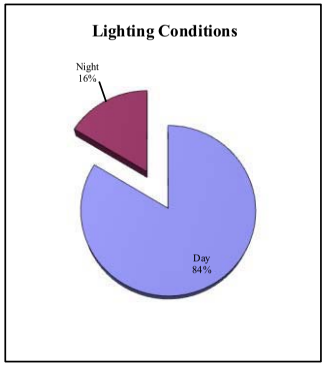


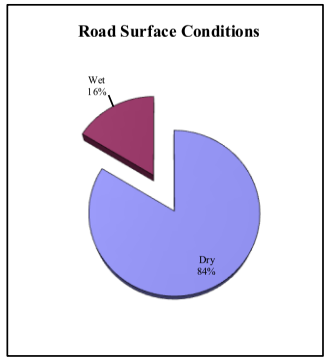




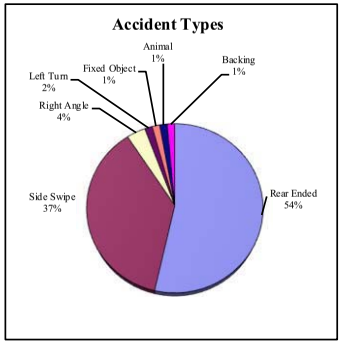
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	30	25	5	27	3
Side Swipe	15	14	1	11	4
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	1	1			1
Debris	0				
Pedestrian	0				
Animal	2		2	2	
Backing	0				
Total	49	41	8	41	8

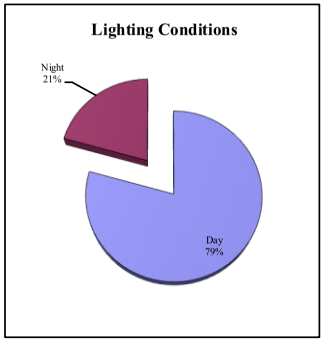


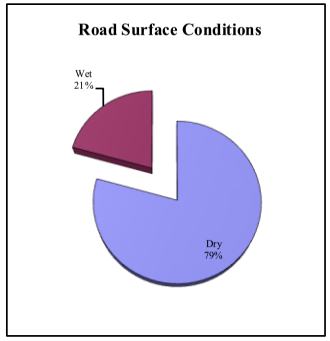




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	75	61	14	62	13
Side Swipe	52	44	8	42	10
Right Angle	5	3	2	4	1
Head On	0	0	0	0	0
Left Turn	2	1	1	0	2
Fixed Object	2	1	1	1	1
Debris	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	2	0	2	2	0
Backing	2	1	1	0	2
Total	140	111	29	111	29

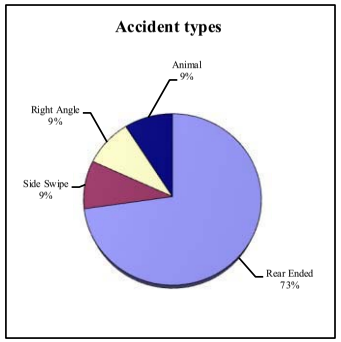


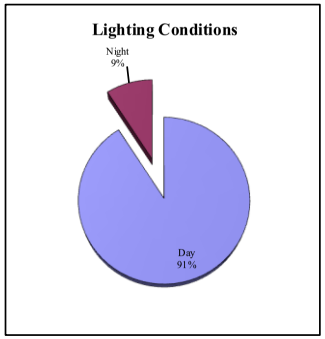


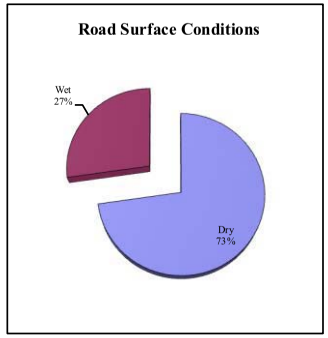


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND GREENWICH STREET

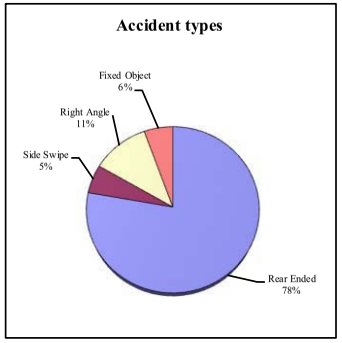
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	8	5	3	8	
Side Swipe	1	1		1	
Right Angle	1	1		1	
Head On	0				
Left Turn	0				
Fixed Object	0				
Parked	0				
Pedestrian	0				
Animal	1	1			1
Bicycle	0				
Total	11	8	3	10	1

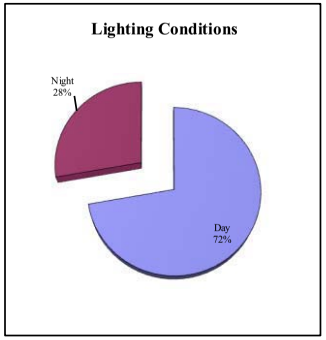


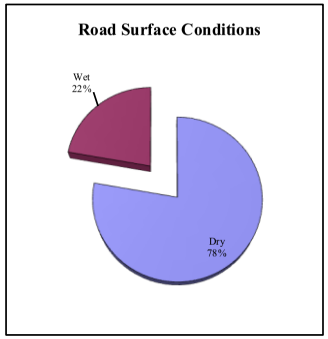




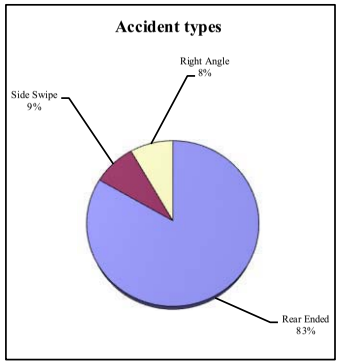
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	14	11	3	12	2
Side Swipe	1		1		1
Right Angle	2	2			2
Head On	0				
Left Turn	0				
Fixed Object	1	1		1	
Parked	0				
Pedestrian	0				
Animal	0				
Bicycle	0				
Total	18	14	4	13	5

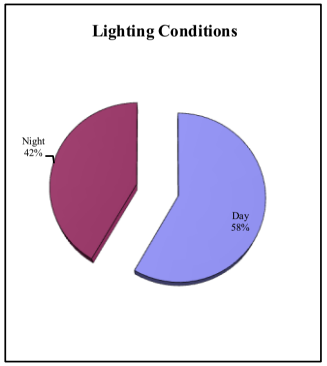


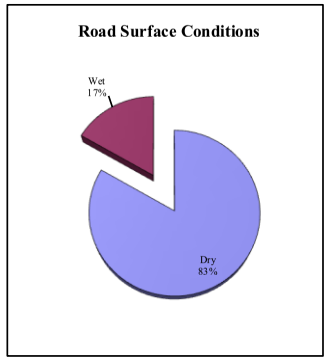




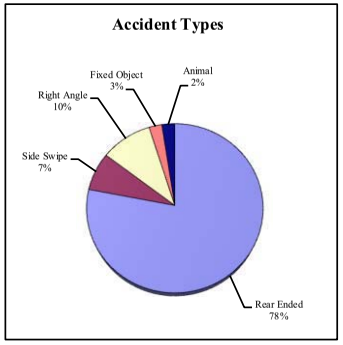
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	10	8	2	6	4
Side Swipe	1	1		1	
Right Angle	1	1			1
Head On	0				
Left Turn	0				
Fixed Object	0				
Parked	0				
Pedestrian	0				
Animal	0				
Bicycle	0				
Total	12	10	2	7	5

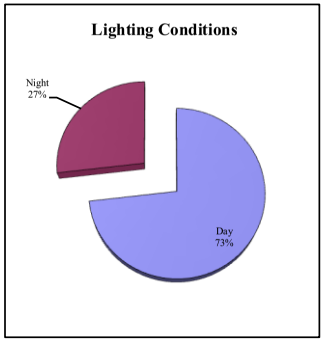


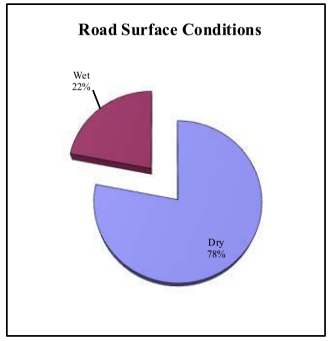




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	32	24	8	26	6
Side Swipe	3	2	1	2	1
Right Angle	4	4	0	1	3
Head On	0	0	0	0	0
Left Turn	0	0	0	0	0
Fixed Object	1	1	0	1	0
Parked	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	1	1	0	0	1
Bicycle	0	0	0	0	0
Total	41	32	9	30	11

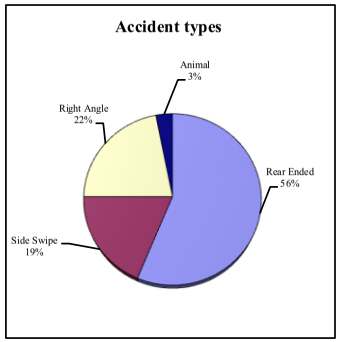


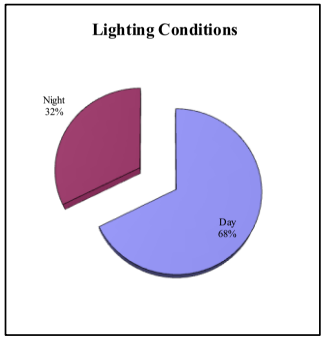


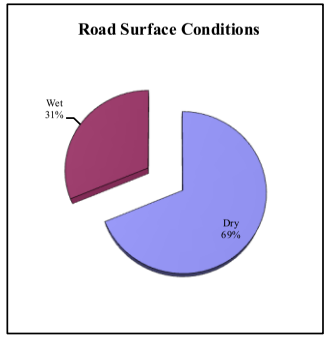


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22 AND W. BRUNSWICK AVENUE

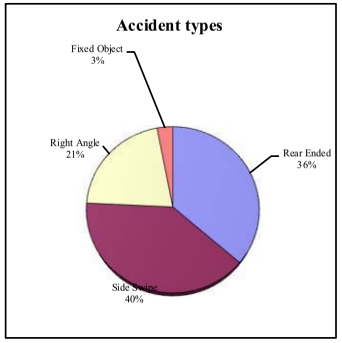
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	18	10	8	13	5
Side Swipe	6	4	2	4	2
Right Angle	7	7		4	3
Head On	0				
Left Turn	0	0		2	
Fixed Object	0				
Parked	0				
Pedestrian	0				
Animal	1	1			1
Bicycle	0				
Total	32	22	10	23	11

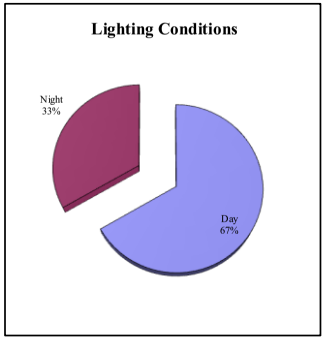


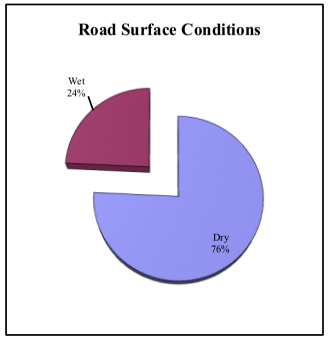




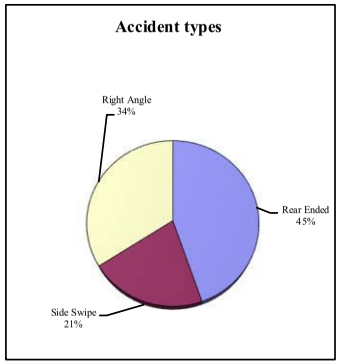
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	12	8	4	9	3
Side Swipe	13	10	3	10	3
Right Angle	7	7		3	4
Head On	0				
Left Turn	0				
Fixed Object	1		1		1
Parked	0				
Pedestrian	0				
Animal	0				
Bicycle	0				
Total	33	25	8	22	11

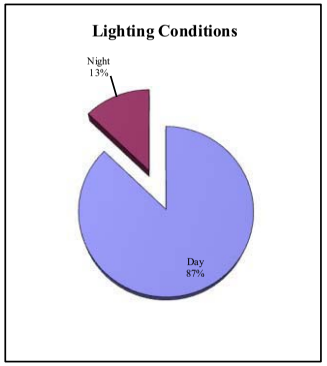


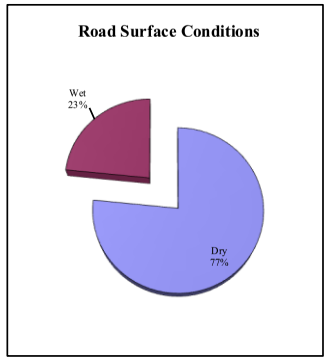




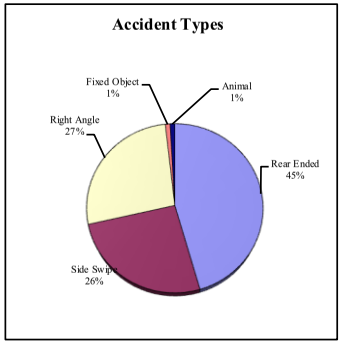
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	21	16	5	19	2
Side Swipe	10	9	1	9	1
Right Angle	16	11	5	13	3
Head On	0				
Left Turn	0				
Fixed Object	0				
Parked	0				
Pedestrian	0				
Animal	0				
Bicycle	0				
Total	47	36	11	41	6

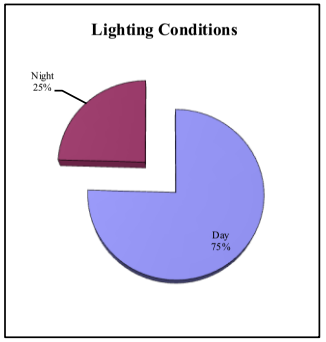


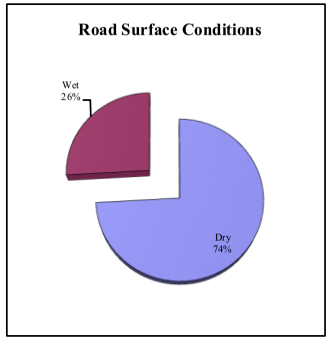




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	51	34	17	41	10
Side Swipe	29	23	6	23	6
Right Angle	30	25	5	20	10
Head On	0	0	0	0	0
Left Turn	0	0	0	2	0
Fixed Object	1	0	1	0	1
Parked	0	0	0	0	0
Pedestrian	0	0	0	0	0
Animal	1	1	0	0	1
Bicycle	0	0	0	0	0
Total	112	83	29	86	28

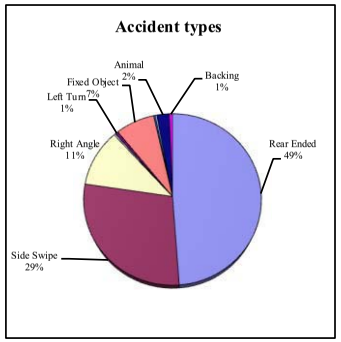


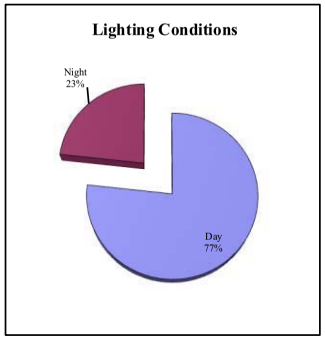


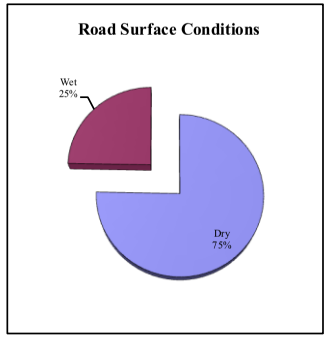


THREE YEAR ACCIDENT REPORT SUMMARY: US ROUTE 22

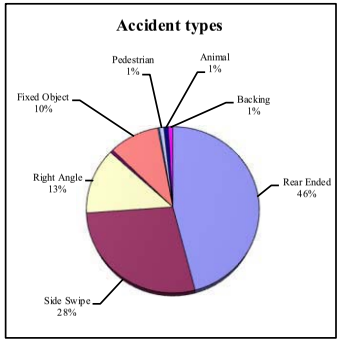
2005		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	166	133	33	131	37
Side Swipe	97	75	22	74	23
Right Angle	37	30	7	31	6
Head On	1	0	1	1	0
Left Turn	2	1	1	2	2
Fixed Object	25	8	17	22	3
Debris	1	0	1	1	0
Pedestrian	1	0	1	0	1
Animal	8	7	1	1	7
Backing	2	2	0	1	1
Total	340	256	84	264	80

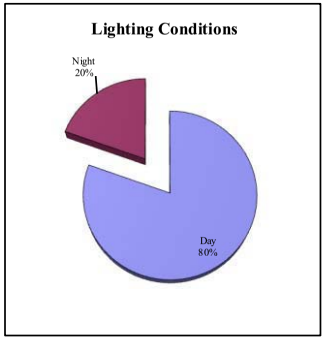


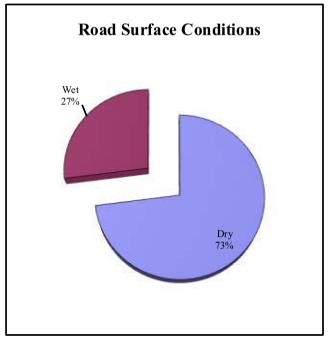




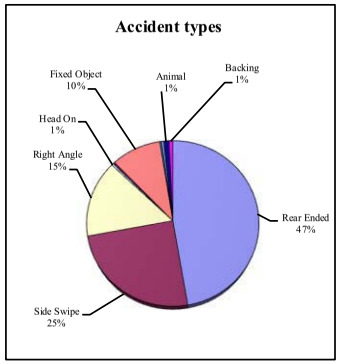
2006		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	160	122	38	133	27
Side Swipe	97	78	19	81	16
Right Angle	45	35	10	31	14
Head On	0	0	0	0	0
Left Turn	2	2	0	2	0
Fixed Object	34	11	23	26	8
Debris	1	1	0	1	0
Pedestrian	3	1	2	3	0
Animal	3	3	0	2	1
Backing	3	1	2	1	2
Total	348	254	94	280	68

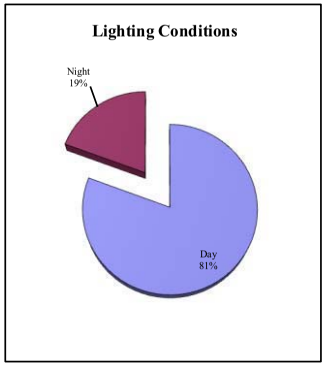


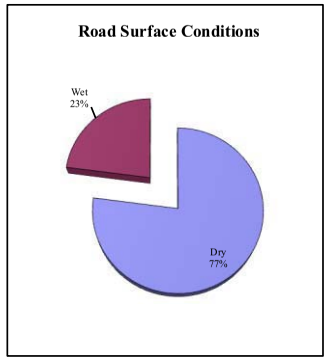




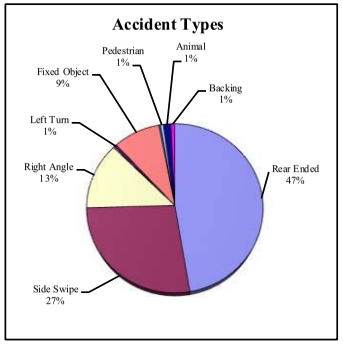
2007		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	132	107	25	115	17
Side Swipe	69	58	11	55	14
Right Angle	42	33	9	34	8
Head On	1	0	1	1	0
Left Turn	1	1	0	1	0
Fixed Object	27	11	16	15	12
Debris	1	1	0	0	1
Pedestrian	1	1	0	1	0
Animal	3	1	2	2	1
Backing	2	2	0	1	1
Total	279	215	64	225	54

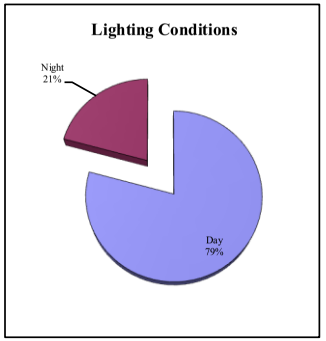


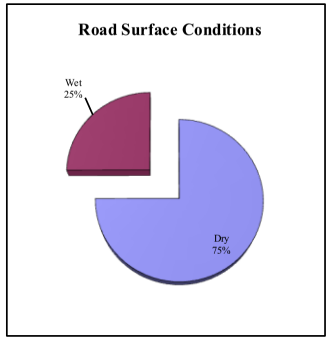




TOTAL		Conditions			
		Roadway Surface		Light Condition	
Accident Type	Count	Dry	Wet	Day	Night
Rear Ended	458	362	96	379	81
Side Swipe	263	211	52	210	53
Right Angle	124	98	26	96	28
Head On	2	0	2	2	0
Left Turn	5	4	1	5	2
Fixed Object	86	30	56	63	23
Debris	3	2	1	2	1
Pedestrian	5	2	3	4	1
Animal	14	11	3	5	9
Backing	7	5	2	3	4
Total	967	725	242	769	202







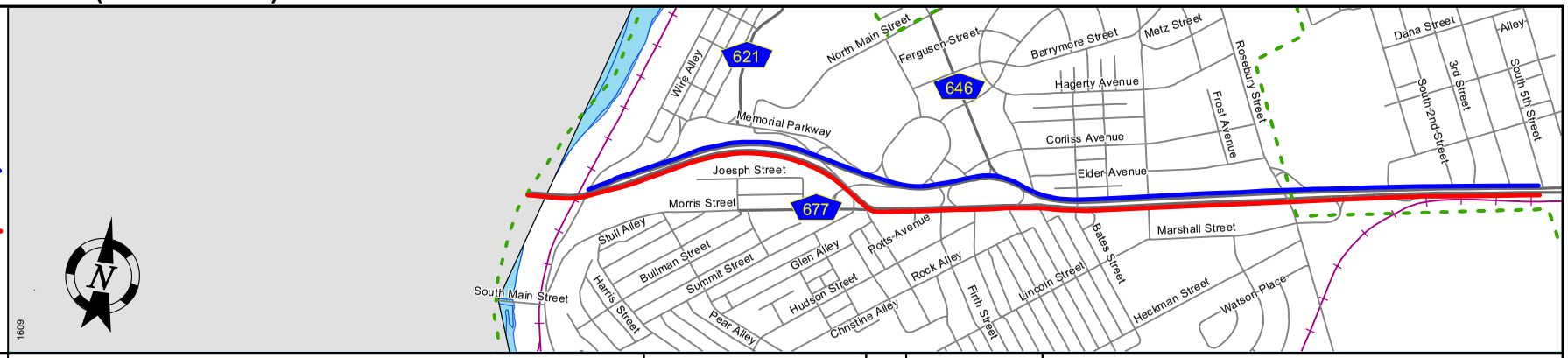
APPENDIX G. NJDOT STRAIGHT LINE DIAGRAM

US 22 (West to East)

Mile Posts: 0.000 - 2.000

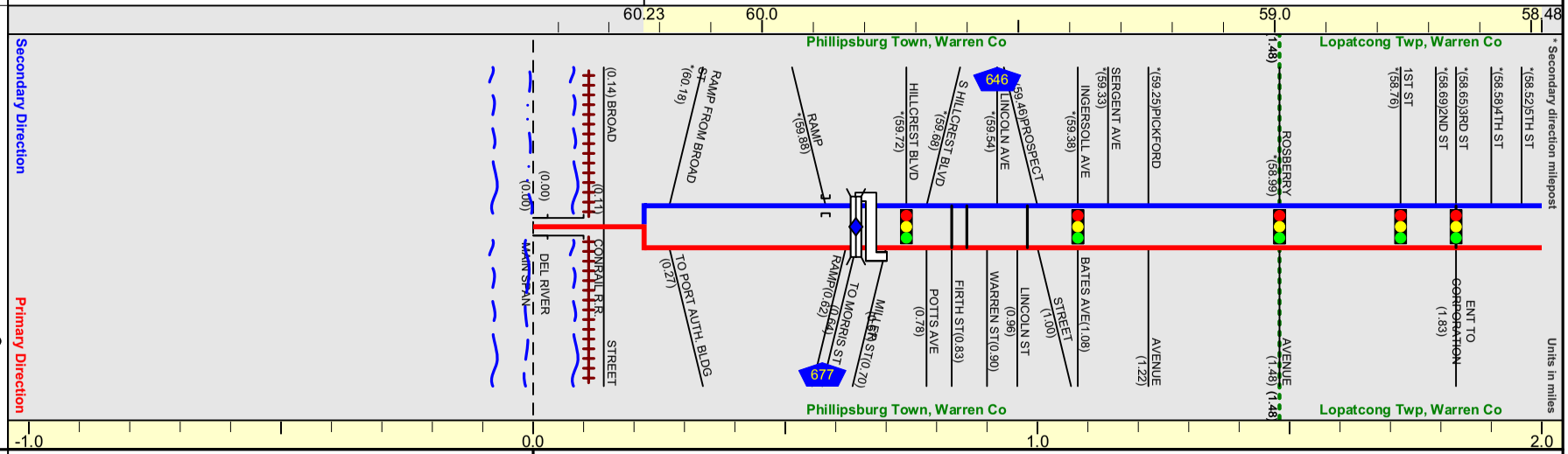
Secondary Direction

Primary Direction



Pavement	24	26	40	36
Shoulder	10	0		
Number of Lanes	2	3		
Speed Limit	35	40		
Street Name	US 22			

Interstate Route 287
US Route 22
NJ Route 21
County Road 689
Interchange Number 2
Grade Separated Interchange
Traffic Signal
Traffic Monitoring Sites WIM AVC VOL
Road Underpass
Road Overpass



Street Name	US 22				
Jurisdiction	D.R.J.T.B.C.	N.J.D.O.T.			
Functional Class	Urban Principal Arterial				
Federal Aid Sys	NHS				
Control Section	2101				
Speed Limit	25	35	40		
Number of Lanes	4	2	3		
Med. Type	None	Positive	Unprotected	Positive	
Med. Width	0	VAR	4		
Pavement	40	24	40	36	
Shoulder	0	13	0		
Traffic Volume	38,477 (2005)	45,751 (2004)	43,279 (2005)	44,980 (2006)	
Traffic Sta. ID	1-2-012	1-7-016	1-7-010	1-5-019	
Structure No.	N/A FOCHT	2101153 2101150 2101151			
Enlarged Views	See Enlarged View #7				

Begin US 22 MP=0.00

Page Created: May 2007

SRI = 00000022__

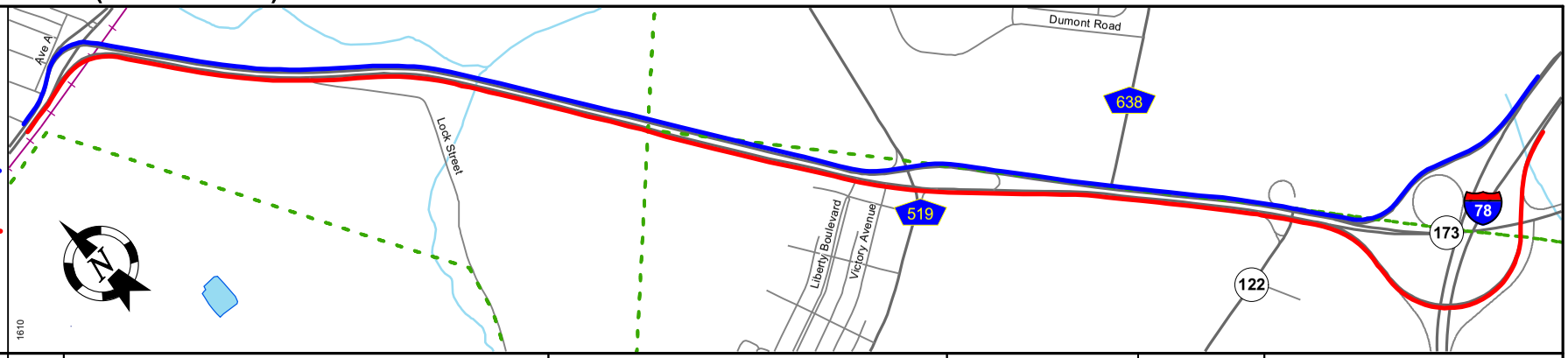
Date last inventoried: March 2006

US 22 (West to East)

Mile Posts: 2.000 - 5.000

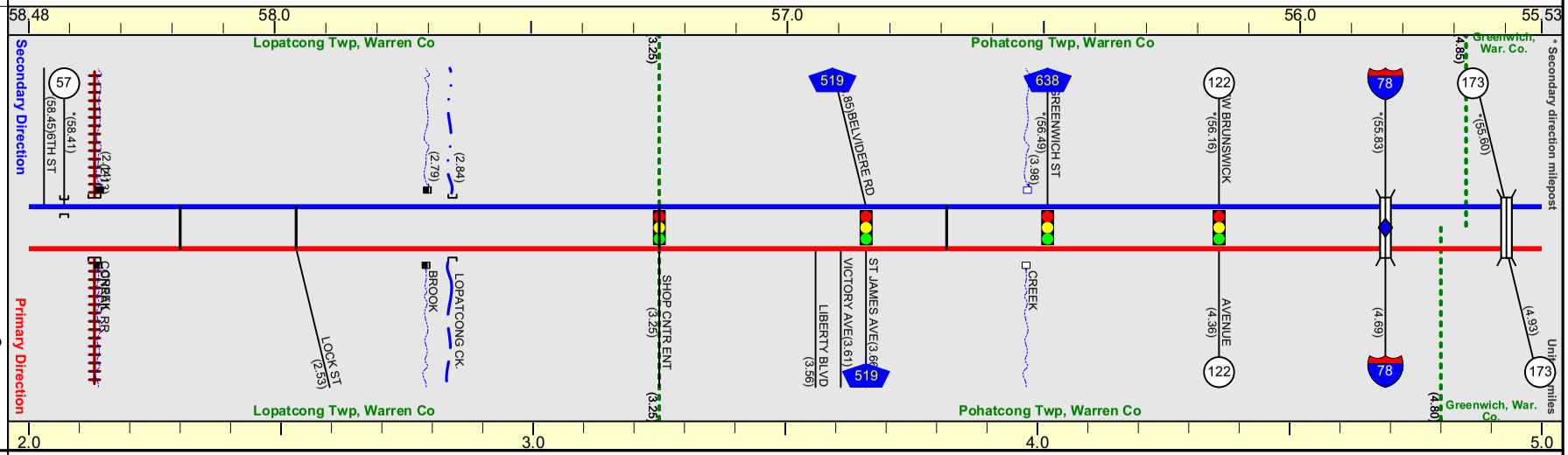
Secondary Direction

Primary Direction



Pavement	36	24	36	24	36	24
Shoulder	0	10	12	10	12	
Number of Lanes	3	2	3	2		
Speed Limit	40	50				
Street Name	US 22					

Interstate Route 287
US Route 22
NJ Route 21
County Road 689
Interchange Number 2
Grade Separated Interchange
Traffic Signal
Traffic Monitoring Sites WIM AVC VOL
Road Underpass
Road Overpass



Street Name	US 22					
Jurisdiction	N.J.D.O.T.					
Functional Class	Urban Principal Arterial					
Federal Aid Sys	NHS					
Control Section	2101	2102			2113	
Speed Limit	40	50				
Number of Lanes	3	2	3		2	
Med. Type	Positive	Unprotected	Curbed	Unprotected	Curbed	
Med. Width	4	20		VAR		
Pavement	36				24	
Shoulder	0	10	12	10	12	
Traffic Volume	34,650 (2006)	37,096 (2004)		35,398 (2004)	39,167 (2004)	
Traffic Sta. ID	1-4-206	1-5-020		1-5-021	1-4-210	
Structure No.	2101154,155 2101152 2101156	2102154 2102153		N/A	2112162,161	2103156
Enlarged Views						

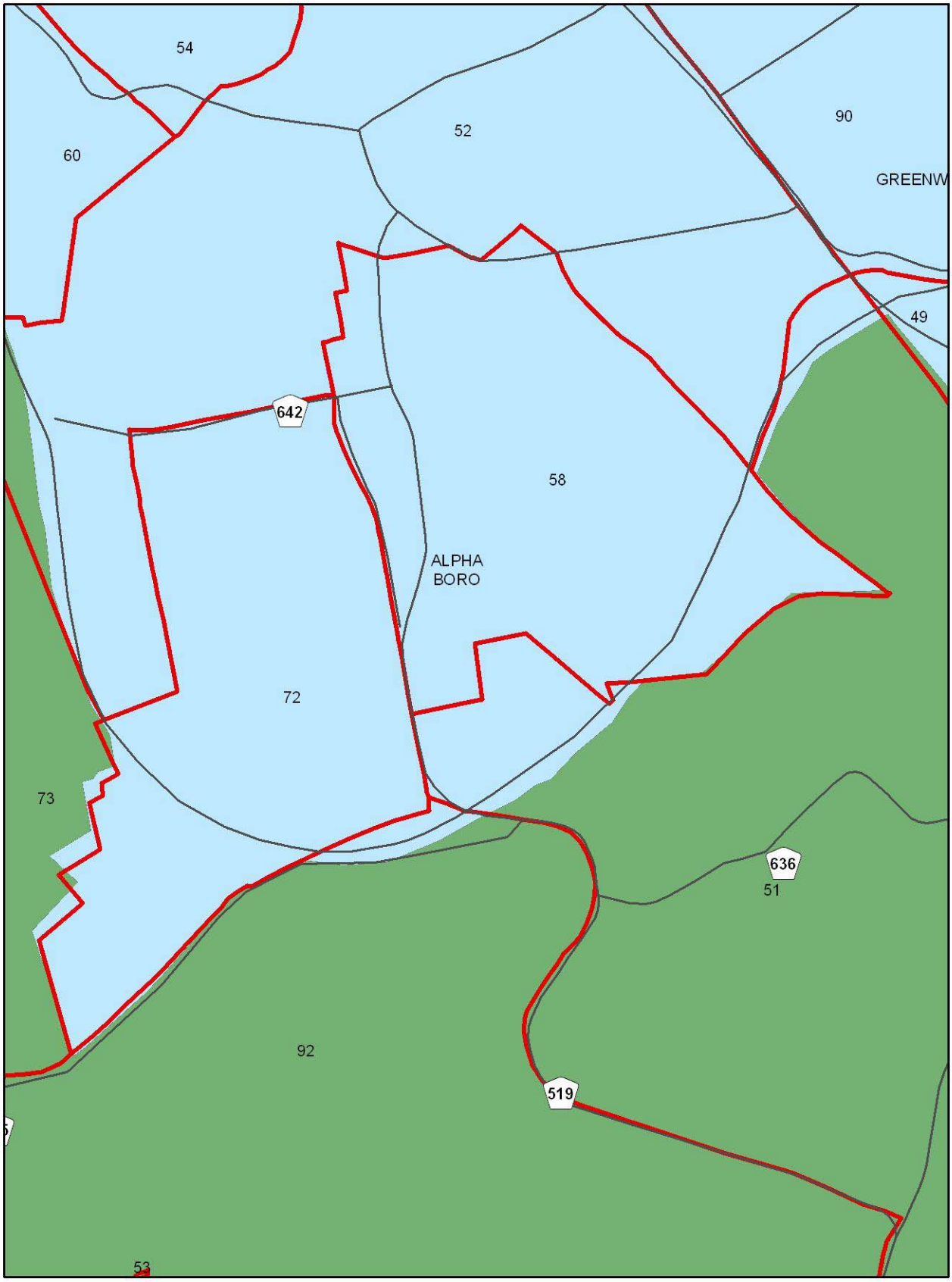
SRI = 00000022__

Date last inventoried: March 2006

Page Created: May 2007

APPENDIX H. TRAFFIC ANALYSIS ZONES

Alpha Borough



Source :
New Jersey Department of Environmental Protection,
Warren County Planning and United State Census

Produced By : Warren County Planning Department, February 2009

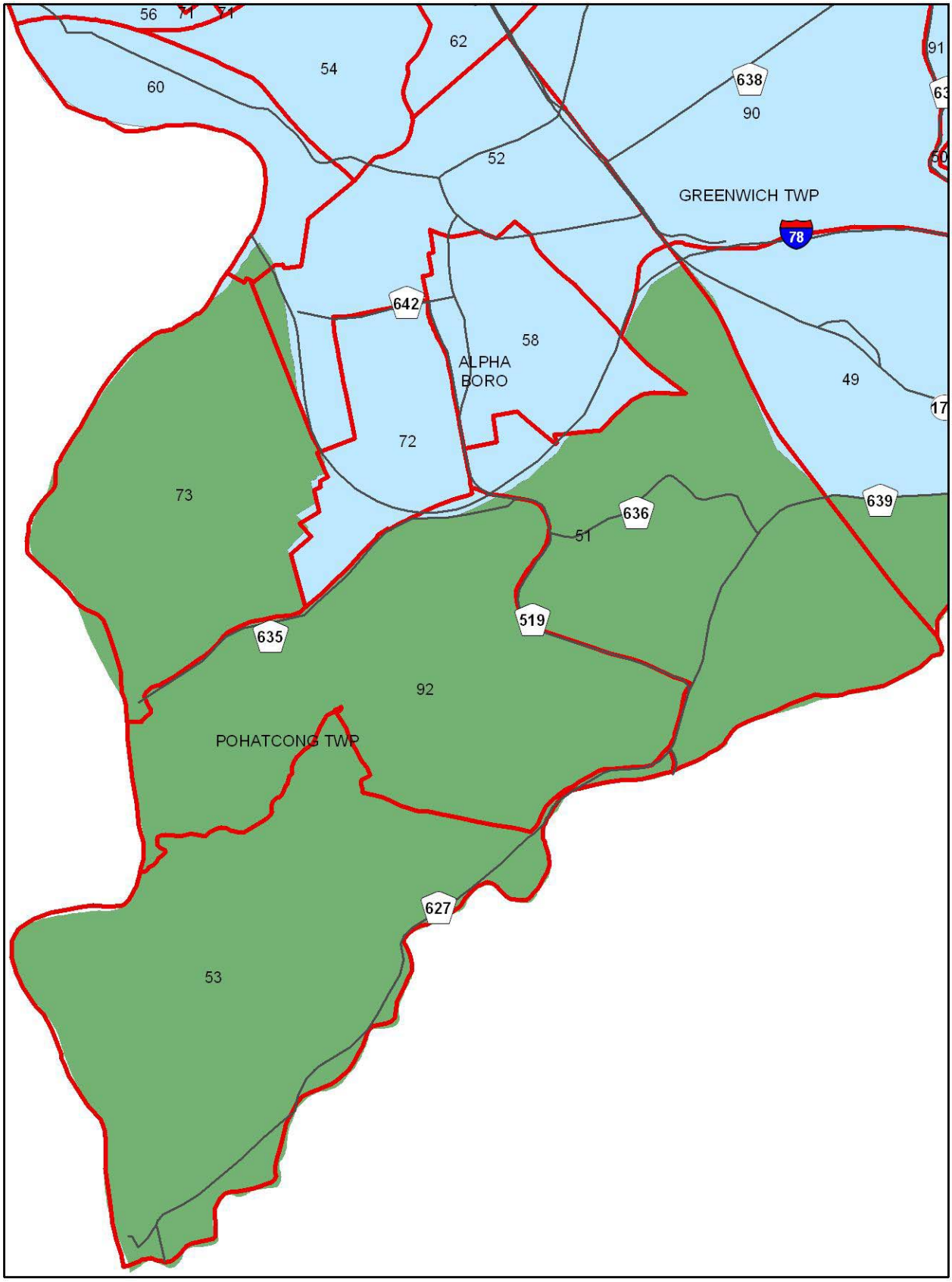
0.2 0 0.2 0.4 Miles

Legend

- Roads
- New_TAZ's
- Highlands Preservation Area
- Highlands_Planning_Area

N

Pohatcong Township



Source :
New Jersey Department of Environmental Protection,
Warren County Planning and United State Census

Produced By : Warren County Planning Department, February 2009

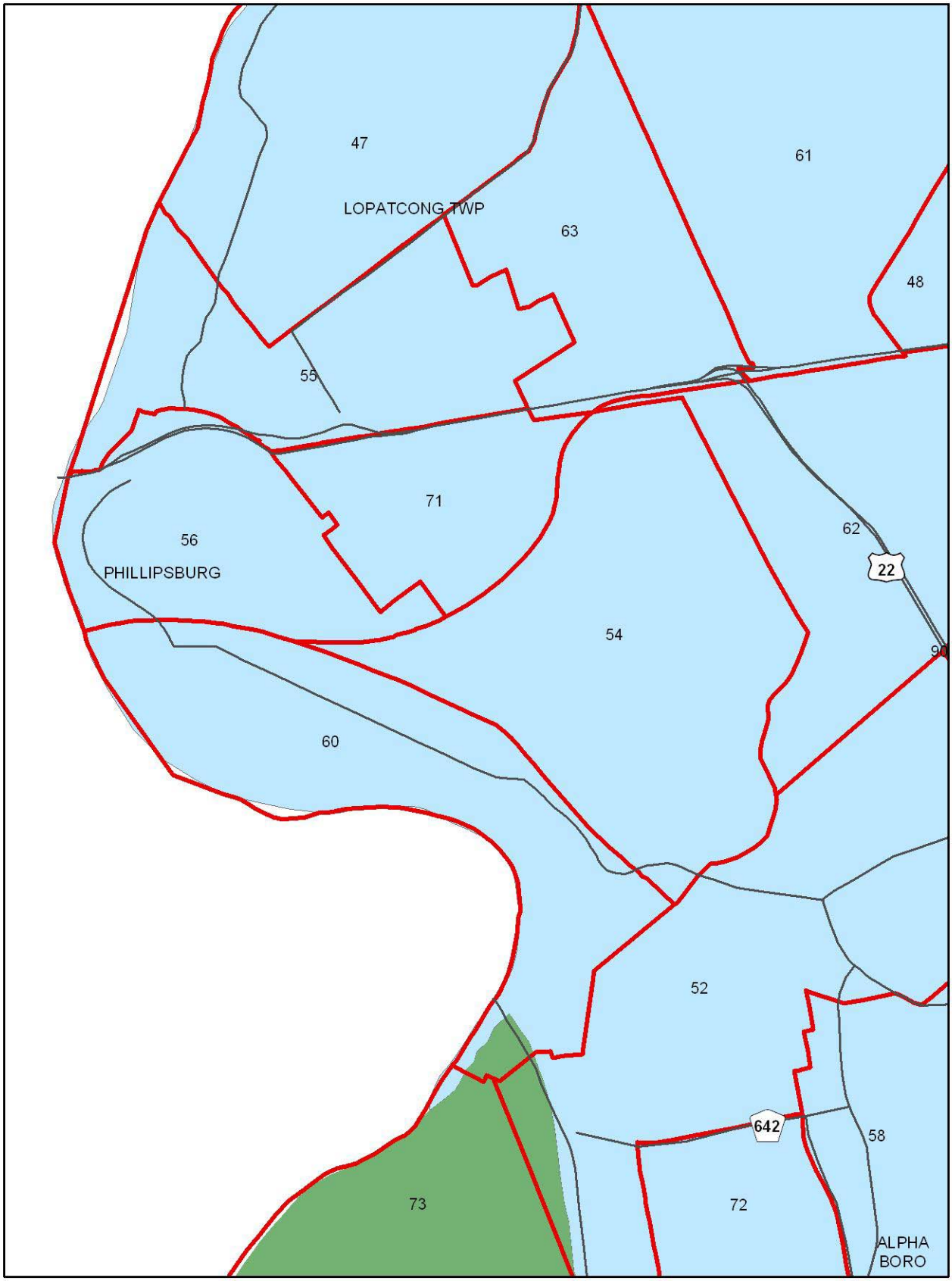
0.4 0 0.4 0.8 Miles

Legend

- Roads
- New_TAZ's
- Highlands Preservation Area
- Highlands_Planning_Area

N

Phillipsburg



Source :
New Jersey Department of Environmental Protection,
Warren County Planning and United State Census

Produced By : Warren County Planning Department, February 2009

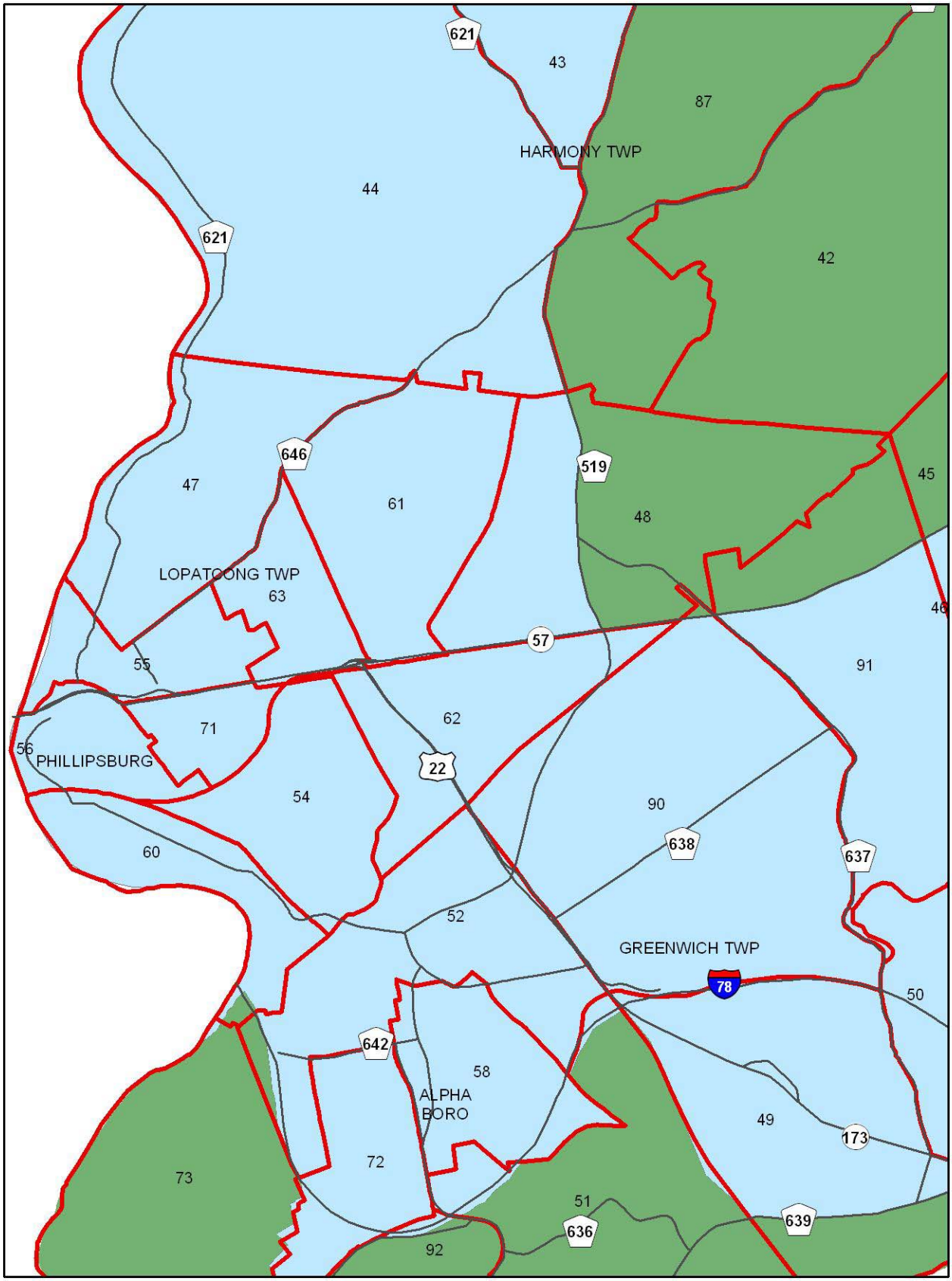
0.25 0 0.25 0.5 Miles

Legend

- Roads
- New_TAZ's
- Highlands Preservation Area
- Highlands_Planning_Area

N

Lopatcong Township



Source :
New Jersey Department of Environmental Protection,
Warren County Planning and United State Census

Produced By : Warren County Planning Department, February 2009

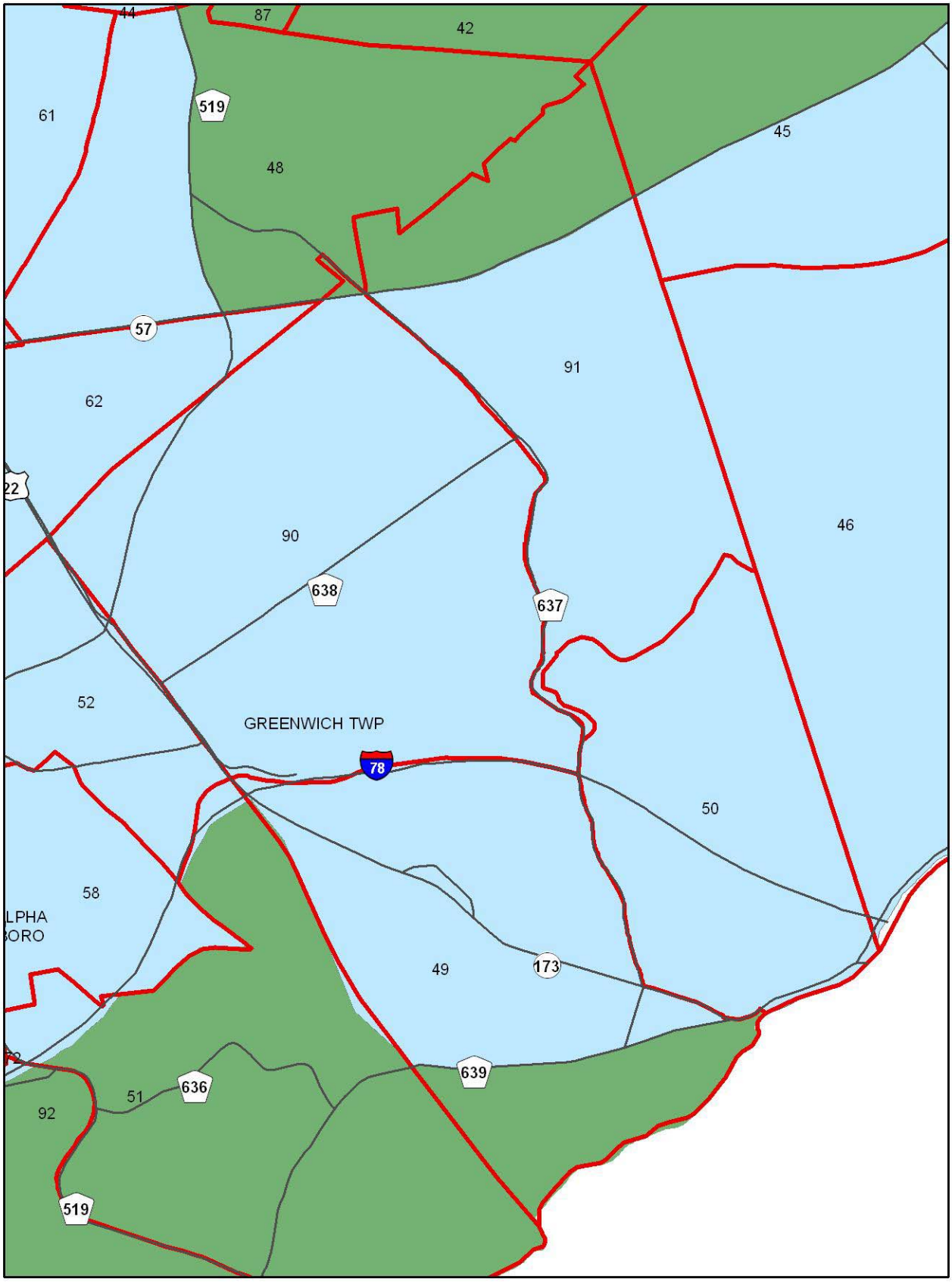
0.5 0 0.5 1 Miles

Legend

- Roads
- New_TAZ's
- Highlands Preservation Area
- Highlands_Planning_Area

N

Greenwich Township



Source :
New Jersey Department of Environmental Protection,
Warren County Planning and United State Census

Produced By : Warren County Planning Department, February 2009

0.4 0 0.4 0.8 Miles

Legend

- Roads
- New_TAZ's
- Highlands Preservation Area
- Highlands_Planning_Area

N

APPENDIX I. MANUAL TURNING MOVEMENT COUNTS (MTCS) & PEAK HOUR DETERMINATION

MANUAL TURNING COUNT DATA

US ROUTE 22 & HILLCREST AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & HILLCREST AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	0	0	0	0	81	521	76	678	0	5	5	10	7	293	11	311	
4:15 PM	0	0	0	0	167	589	66	822	0	6	7	13	6	288	17	311	
4:30 PM	0	0	0	0	155	517	77	749	0	5	11	16	11	336	12	359	
4:45 PM	0	0	0	0	155	573	93	821	0	7	8	15	10	360	21	391	4496
5:00 PM	0	0	0	0	169	572	97	838	0	7	9	16	15	324	37	376	4727
5:15 PM	0	0	0	0	141	490	78	709	0	13	5	18	8	337	25	370	4678
5:30 PM	0	0	0	0	168	471	78	717	0	11	6	17	12	352	20	384	4672
5:45 PM	0	0	0	0	175	455	59	689	0	15	0	15	9	319	16	344	4493

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:15 PM	0	0	0	0	646	2251	333	3230	0	25	35	60	42	1308	87	1437	**4727**
PHF					**0.96**				**0.94**				**0.92**				**0.96**

US ROUTE 22 & HILLCREST AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	0	0	0	0	115	210	64	389	0	10	10	20	7	412	27	446	
11:15 AM	0	0	0	0	93	202	69	364	0	12	10	22	7	439	28	474	
11:30 AM	0	0	0	0	113	221	81	415	0	9	7	16	6	403	30	439	
11:45 PM	0	0	0	0	119	231	91	441	0	5	6	11	7	402	26	435	3472
12:00 PM	0	0	0	0	92	248	60	400	0	8	6	14	6	426	20	452	3483
12:15 PM	0	0	0	0	96	244	68	408	0	11	4	15	8	415	22	445	3491
12:30 PM	0	0	0	0	118	240	66	424	0	5	7	12	18	390	10	418	3475
12:45 PM	0	0	0	0	119	231	82	432	0	6	5	11	14	389	28	431	3462

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:30 AM	0	0	0	0	420	944	300	1664	0	33	23	56	27	1646	98	1771	**3491**
PHF					**0.94**				**0.88**				**0.98**				**0.98**

MANUAL TURNING COUNT DATA

US ROUTE 22 & MORRIS STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & MORRIS STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	34	16	1	51	0	0	0	0	9	0	0	9	18	0	73	91	
4:15 PM	39	24	7	70	0	0	0	0	9	0	0	9	16	0	91	107	
4:30 PM	58	26	11	95	0	0	0	0	7	0	0	7	22	0	86	108	
4:45 PM	58	27	4	89	0	0	0	0	8	0	0	8	27	0	78	105	749
5:00 PM	54	25	6	85	0	0	0	0	7	0	0	7	22	0	66	88	778
5:15 PM	31	34	14	79	0	0	0	0	9	0	0	9	15	0	68	83	763
5:30 PM	46	11	4	61	0	0	0	0	7	0	0	7	17	0	72	89	710
5:45 PM	29	10	5	44	0	0	0	0	9	0	0	9	16	0	89	105	666

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:15 PM	209	102	28	339	0	0	0	0	31	0	0	31	87	0	321	408	**-**
PHF	**0.89**				**-**				**0.86**				**0.94**				**0.90**

US ROUTE 22 & MORRIS STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	9	10	3	22	0	0	0	0	15	0	0	15	11	0	39	50	
11:15 AM	17	4	3	24	0	0	0	0	11	0	0	11	14	0	57	71	
11:30 AM	28	5	2	35	0	0	0	0	15	0	0	15	11	0	42	53	
11:45 PM	19	2	3	24	0	0	0	0	22	0	0	22	11	0	36	47	389
12:00 PM	18	7	2	27	0	0	0	0	14	0	0	14	6	0	55	61	404
12:15 PM	14	8	4	26	0	0	0	0	15	0	0	15	13	0	54	67	406
12:30 PM	21	3	3	27	0	0	0	0	19	0	0	19	9	0	43	52	401
12:45 PM	19	9	4	32	0	0	0	0	17	0	0	17	10	0	51	61	418

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
12:00 PM	72	27	13	112	0	0	0	0	65	0	0	65	38	0	203	241	**418**
PHF	**0.88**				**-**				**0.86**				**0.90**				**0.88**

MANUAL TURNING COUNT DATA

US ROUTE 22 & LINCOLN AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & LINCOLN AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	43	0	0	43	41	0	0	41	0	53	0	53	0	0	0	0	
4:15 PM	34	0	0	34	43	0	0	43	0	46	0	46	0	0	0	0	
4:30 PM	48	0	0	48	38	0	0	38	0	42	0	42	0	0	0	0	
4:45 PM	42	0	0	42	50	0	0	50	0	55	0	55	0	0	0	0	535
5:00 PM	55	0	0	55	39	0	0	39	0	32	0	32	0	0	0	0	524
5:15 PM	37	0	0	37	47	0	0	47	0	37	0	37	0	0	0	0	522
5:30 PM	43	0	0	43	40	0	0	40	0	31	0	31	0	0	0	0	508
5:45 PM	35	0	0	35	52	0	0	52	0	24	0	24	0	0	0	0	472

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	167	0	0	167	172	0	0	172	0	196	0	196	0	0	0	0	**535**
PHF	**0.76**				**0.86**				**0.89**				**-**				**0.91**

US ROUTE 22 & LINCOLN AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	17	0	0	17	42	0	0	42	0	43	0	43	0	0	0	0	
11:15 AM	27	0	0	27	30	0	0	30	0	33	0	33	0	0	0	0	
11:30 AM	27	0	0	27	43	0	0	43	0	51	0	51	0	0	0	0	
11:45 PM	36	0	0	36	34	0	0	34	0	36	0	36	0	0	0	0	419
12:00 PM	16	0	0	16	27	0	0	27	0	39	0	39	0	0	0	0	399
12:15 PM	24	0	0	24	31	0	0	31	0	33	0	33	0	0	0	0	397
12:30 PM	22	0	0	22	38	0	0	38	0	43	0	43	0	0	0	0	379
12:45 PM	21	0	0	21	37	0	0	37	0	46	0	46	0	0	0	0	377

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:30 AM	103	0	0	103	135	0	0	135	0	159	0	159	0	0	0	0	**397**
PHF					**0.78**				**0.78**				**#DIV/0!**				**0.82**

MANUAL TURNING COUNT DATA

US ROUTE 22 & INGERSOLL AVENUE/BATES AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & INGERSOLL AVENUE/BATES AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	14	14	11	39	2	564	0	566	2	16	36	54	5	319	0	324	
4:15 PM	13	10	7	30	1	711	0	712	7	11	33	51	3	298	0	301	
4:30 PM	19	16	9	44	1	672	0	673	5	14	44	63	9	318	0	327	
4:45 PM	18	16	6	40	0	801	0	801	2	10	40	52	6	319	0	325	4402
5:00 PM	23	14	14	51	0	803	0	803	6	16	50	72	5	356	0	361	4706
5:15 PM	10	14	14	38	1	723	0	724	3	16	41	60	3	346	0	349	4783
5:30 PM	11	15	10	36	0	644	0	644	5	17	40	62	4	307	0	311	4729
5:45 PM	7	9	7	23	0	639	0	639	1	12	21	34	1	277	0	278	4485

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:30 PM	70	60	43	173	2	2999	0	3001	16	56	175	247	23	1339	0	1362	**4783**
PHF	**0.85**				**0.93**				**0.86**				**0.94**				**0.93**

US ROUTE 22 & INGERSOLL AVENUE/BATES AVENUE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	6	7	11	24	4	307	0	311	1	12	27	40	9	453	0	462	
11:15 AM	8	5	12	25	5	313	0	318	2	11	25	38	7	443	0	450	
11:30 AM	7	3	8	18	0	354	0	354	2	18	29	49	2	417	0	419	
11:45 PM	11	10	9	30	0	429	0	429	6	26	31	63	2	436	0	438	3468
12:00 PM	8	4	12	24	0	384	0	384	5	18	31	54	6	416	0	422	3515
12:15 PM	5	9	8	22	1	385	0	386	4	13	17	34	2	396	0	398	3524
12:30 PM	3	5	6	14	0	397	0	397	3	15	29	47	0	376	0	376	3518
12:45 PM	7	11	12	30	0	422	0	422	3	10	15	28	3	409	0	412	3450

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:45 PM	27	28	35	90	1	1595	0	1596	18	72	108	198	10	1624	0	1634	**3518**
PHF	**0.75**				**0.93**				**0.79**				**0.93**				**0.92**

MANUAL TURNING COUNT DATA

US ROUTE 22 & ROSBERRY STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & ROSBERRY STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	9	84	30	123	14	536	0	550	6	59	37	102	33	260	0	293	
4:15 PM	16	72	31	119	35	600	0	635	5	46	51	102	43	282	0	325	
4:30 PM	17	108	45	170	47	563	0	610	6	43	54	103	49	269	0	318	
4:45 PM	20	92	35	147	39	664	0	703	6	44	43	93	37	297	0	334	4727
5:00 PM	15	72	46	133	40	673	0	713	4	45	71	120	52	303	0	355	4980
5:15 PM	16	88	36	140	33	614	0	647	4	46	53	103	40	313	0	353	5042
5:30 PM	6	47	22	75	31	554	0	585	4	67	57	128	43	305	0	348	4977
5:45 PM	18	96	37	151	61	578	0	639	4	58	46	108	40	269	0	309	4907

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:30 PM	68	360	162	590	159	2514	0	2673	20	178	221	419	178	1182	0	1360	**5042**
PHF	**0.87**				**0.94**				**0.87**				**0.96**				**0.95**

US ROUTE 22 & ROSBERRY STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	10	93	38	141	48	290	0	338	8	50	39	97	51	379	0	430	
11:15 AM	14	89	47	150	43	281	0	324	9	51	42	102	57	361	0	418	
11:30 AM	15	82	51	148	43	325	0	368	9	44	49	102	59	333	0	392	
11:45 PM	15	81	39	135	60	336	0	396	6	56	50	112	32	379	0	411	4064
12:00 PM	23	84	40	147	38	366	0	404	11	56	33	100	55	384	0	439	4148
12:15 PM	12	100	53	165	33	349	0	382	9	42	38	89	32	345	0	377	4167
12:30 PM	1	71	26	98	36	401	0	437	11	50	36	97	37	326	0	363	4152
12:45 PM	6	72	50	128	44	427	0	471	6	40	31	77	34	351	0	385	4159

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:30 AM	65	347	183	595	174	1376	0	1550	35	198	170	403	178	1441	0	1619	**4167**
PHF	**0.90**				**0.96**				**0.90**				**0.92**				**0.96**

MANUAL TURNING COUNT DATA

US ROUTE 22 & 1st STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & 1st STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	14	0	11	25	18	554	0	572	0	22	9	31	0	305	0	305	
4:15 PM	11	0	6	17	11	632	0	643	0	19	7	26	0	303	0	303	
4:30 PM	20	0	7	27	7	598	0	605	0	13	4	17	0	335	0	335	
4:45 PM	32	0	5	37	4	627	0	631	0	17	8	25	0	337	0	337	3936
5:00 PM	25	0	9	34	9	648	0	657	0	19	13	32	0	354	0	354	4080
5:15 PM	15	0	6	21	9	583	0	592	0	16	7	23	0	340	0	340	4067
5:30 PM	10	0	5	15	4	589	0	593	0	14	5	19	0	317	0	317	4027
5:45 PM	21	0	3	24	1	546	0	547	0	12	7	19	0	305	0	305	3892

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:15 PM	88	0	27	115	31	2505	0	2536	0	68	32	100	0	1329	0	1329	**4080**
PHF	**0.78**				**0.96**				**0.78**				**0.94**				**0.95**

US ROUTE 22 & 1st STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	11	0	12	23	9	294	0	303	1	17	18	36	0	389	0	389	
11:15 AM	15	0	11	26	12	300	0	312	0	18	21	39	0	378	0	378	
11:30 AM	16	0	8	24	9	375	0	384	1	18	9	28	0	365	0	365	
11:45 PM	13	0	5	18	5	389	0	394	0	15	26	41	0	383	0	383	3143
12:00 PM	5	0	12	17	10	368	0	378	0	18	16	34	0	401	0	401	3222
12:15 PM	10	0	10	20	9	393	0	402	1	16	8	25	0	382	0	382	3296
12:30 PM	2	0	7	9	3	444	0	447	0	15	9	24	0	339	0	339	3314
12:45 PM	7	0	7	14	4	478	0	482	0	16	16	32	0	375	0	375	3381

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
12:00 PM	24	0	36	60	26	1683	0	1709	1	65	49	115	0	1497	0	1497	**3381**
PHF	**0.75**				**0.89**				**0.85**				**0.93**				**0.94**

MANUAL TURNING COUNT DATA

US ROUTE 22 & 3rd STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & 3rd STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	5	4	41	50	11	584	0	595	8	3	6	17	3	337	0	340	
4:15 PM	8	4	22	34	0	602	0	602	7	2	8	17	0	338	0	338	
4:30 PM	5	6	35	46	1	617	0	618	19	6	13	38	0	367	0	367	
4:45 PM	2	6	34	42	2	601	0	603	5	1	7	13	2	335	0	337	4057
5:00 PM	7	4	42	53	4	656	0	660	7	4	5	16	1	383	0	384	4168
5:15 PM	5	2	28	35	2	602	0	604	4	2	6	12	1	369	0	370	4198
5:30 PM	6	9	29	44	2	618	0	620	3	1	5	9	1	338	0	339	4141
5:45 PM	3	5	35	43	3	573	0	576	3	2	4	9	0	290	0	290	4064

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:30 PM	19	18	139	176	9	2476	0	2485	35	13	31	79	4	1454	0	1458	**4198**
PHF	**0.83**				**0.94**				**0.52**				**0.95**				**0.94**

US ROUTE 22 & 3rd STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	2	2	28	32	3	277	0	280	3	2	2	7	1	398	0	399	
11:15 AM	3	3	29	35	3	284	0	287	4	1	1	6	1	406	0	407	
11:30 AM	2	2	29	33	4	348	0	352	0	4	2	6	0	400	0	400	
11:45 PM	3	4	37	44	4	385	0	389	2	1	4	7	0	410	0	410	3094
12:00 PM	2	2	42	46	0	408	0	408	1	1	10	12	0	407	0	407	3249
12:15 PM	2	0	55	57	4	412	0	416	1	2	0	3	1	386	0	387	3377
12:30 PM	3	2	46	51	9	406	0	415	1	1	2	4	0	392	0	392	3448
12:45 PM	5	6	43	54	6	440	0	446	0	1	0	1	0	413	0	413	3512

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
12:00 PM	12	10	186	208	19	1666	0	1685	3	5	12	20	1	1598	0	1599	**3512**
PHF	**0.91**				**0.94**				**0.42**				**0.97**				**0.96**

MANUAL TURNING COUNT DATA

US ROUTE 22 & LOCK STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & LOCK STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	0	0	0	0	0	0	0	0	4	0	0	4	2	212	0	214	
4:15 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	194	0	194	
4:30 PM	0	0	0	0	0	0	0	0	9	0	0	9	0	228	0	228	
4:45 PM	0	0	0	0	0	0	0	0	13	0	0	13	2	261	0	263	931
5:00 PM	0	0	0	0	0	0	0	0	8	0	0	8	2	241	0	243	964
5:15 PM	0	0	0	0	0	0	0	0	9	0	0	9	2	246	0	248	1021
5:30 PM	0	0	0	0	0	0	0	0	7	0	0	7	2	212	0	214	1005
5:45 PM	0	0	0	0	0	0	0	0	6	0	0	6	1	211	0	212	947

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:30 PM	0	0	0	0	0	2064	0	2064	39	0	0	39	6	976	0	982	**3085**
PHF									**0.75**				**0.93**				**-**

US ROUTE 22 & LOCK STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	1	270	0	271	
11:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	278	0	278	
11:30 AM	0	0	0	0	0	0	0	0	7	0	0	7	2	351	0	353	
11:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	1	306	0	307	1225
12:00 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	308	0	308	1260
12:15 PM	0	0	0	0	0	0	0	0	10	0	0	10	1	350	0	351	1342
12:30 PM	0	0	0	0	0	0	0	0	8	0	0	8	38	345	0	383	1373
12:45 PM	0	0	0	0	0	0	0	0	4	0	0	4	4	460	0	464	1532

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
12:00 PM	0	0	0	0	0	1131	0	1131	26	0	0	26	43	1463	0	1506	**2663**
PHF									**0.65**				**0.81**				**-**

MANUAL TURNING COUNT DATA

US ROUTE 22 & SHOPPING CENTER DRIVE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & SHOPPING CENTER DRIVE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	0	0	0	0	0	0	73	73	0	0	34	34	0	212	1	213	
4:15 PM	0	0	0	0	0	0	89	89	0	0	42	42	0	194	0	194	
4:30 PM	0	0	0	0	0	0	70	70	0	0	39	39	0	228	0	228	
4:45 PM	0	0	0	0	0	0	67	67	0	0	37	37	0	261	0	261	1347
5:00 PM	0	0	0	0	0	0	64	64	0	0	43	43	0	241	0	241	1375
5:15 PM	0	0	0	0	0	0	74	74	0	0	58	58	0	246	0	246	1428
5:30 PM	0	0	0	0	0	0	63	63	0	0	44	44	0	212	0	212	1410
5:45 PM	0	0	0	0	0	0	76	76	0	0	41	41	0	211	0	211	1373

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:30 PM	0	0	0	0	0	1887	275	2162	0	0	177	177	0	976	0	976	**3315**
PHF									**0.76**				**0.93**				**-**

US ROUTE 22 & SHOPPING CENTER DRIVE																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	0	0	0	0	0	0	130	130	0	0	34	34	0	270	0	270	
11:15 AM	0	0	0	0	0	0	131	131	0	0	35	35	0	278	0	278	
11:30 AM	0	0	0	0	0	0	115	115	0	0	44	44	0	351	0	351	
11:45 PM	0	0	0	0	0	0	146	146	0	0	36	36	0	306	0	306	1876
12:00 PM	0	0	0	0	0	0	108	108	0	0	51	51	0	308	0	308	1909
12:15 PM	0	0	0	0	0	0	146	146	0	0	52	52	0	350	0	350	2013
12:30 PM	0	0	0	0	0	0	122	122	0	0	36	36	0	345	0	345	2006
12:45 PM	0	0	0	0	0	0	159	159	0	0	69	69	0	460	0	460	2206

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
12:00 PM	0	0	0	0	0	923	535	1458	0	0	208	208	0	1463	0	1463	**3129**
PHF									**0.75**				**0.80**				**-**

MANUAL TURNING COUNT DATA

US ROUTE 22 EB & COUNTY ROUTE 519 (ST. JAMES AVENUE)

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
	0	462	207	669	0	0	0	0	53	459	0	512	267	726	146	1139	**2320**

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
	0	389	320	709	0	0	0	0	70	614	0	684	364	1129	180	1673	**3066**

US ROUTE 22 WB & COUNTY ROUTE 519 (UNIONTOWN ROAD)

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
	76	379	0	455	154	1816	302	2272	0	360	270	630	0	0	0	0	**3357**

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
	191	367	0	558	117	1197	346	1660	0	614	70	684	0	0	0	0	**2902**

MANUAL TURNING COUNT DATA

CR 519 & STRYKERS ROAD																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

CR 519 & STRYKERS ROAD																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	19	94	0	113	0	0	0	0	0	55	45	100	26	0	0	26	
4:15 PM	18	93	0	111	0	0	0	0	0	70	25	95	24	0	0	24	
4:30 PM	22	78	0	100	0	0	0	0	0	78	34	112	30	0	0	30	
4:45 PM	14	89	0	103	0	0	0	0	0	101	41	142	36	0	0	36	992
5:00 PM	25	90	0	115	0	0	0	0	0	103	52	155	33	0	0	33	1056
5:15 PM	17	79	0	96	0	0	0	0	0	86	63	149	19	0	0	19	1090
5:30 PM	8	42	0	50	0	0	0	0	0	49	24	73	21	0	0	21	992
5:45 PM	15	67	0	82	0	0	0	0	0	61	54	115	19	0	0	19	927

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:30 PM	78	336	0	414	0	0	0	0	0	368	190	558	118	0	0	118	**1090**
PHF	**0.90**								**0.90**				**0.82**				**0.90**

CR 519 & STRYKERS ROAD																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	9	96	0	105	0	0	0	0	0	60	25	85	44	0	0	44	
11:15 AM	5	91	0	96	0	0	0	0	0	69	29	98	40	0	0	40	
11:30 AM	12	82	0	94	0	0	0	0	0	102	34	136	52	0	0	52	
11:45 PM	12	124	0	136	0	0	0	0	0	100	17	117	28	0	0	28	1031
12:00 PM	16	118	0	134	0	0	0	0	0	95	20	115	25	0	0	25	1071
12:15 PM	10	124	0	134	0	0	0	0	0	105	21	126	35	0	0	35	1132
12:30 PM	12	106	0	118	0	0	0	0	0	85	20	105	23	0	0	23	1096
12:45 PM	17	104	0	121	0	0	0	0	0	92	19	111	20	0	0	20	1067

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:30 AM	50	448	0	498	0	0	0	0	0	402	92	494	140	0	0	140	**1132**
PHF	**0.92**								**0.91**				**0.67**				**0.96**

MANUAL TURNING COUNT DATA

US ROUTE 22 & GREENWICH STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & GREENWICH STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	40	0	54	94	42	519	0	561	0	0	0	0	0	176	65	241	
4:15 PM	33	0	50	83	38	532	0	570	0	0	0	0	0	167	51	218	
4:30 PM	31	0	59	90	43	585	0	628	0	0	0	0	0	153	55	208	
4:45 PM	44	0	56	100	58	522	0	580	0	0	0	0	0	183	90	273	3646
5:00 PM	45	0	52	97	52	596	0	648	0	0	0	0	0	161	66	227	3722
5:15 PM	35	0	45	80	50	573	0	623	0	0	0	0	0	199	70	269	3823
5:30 PM	42	0	39	81	57	587	0	644	0	0	0	0	0	195	63	258	3880
5:45 PM	32	0	45	77	50	538	0	588	0	0	0	0	0	165	55	220	3812

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:45 PM	166	0	192	358	217	2278	0	2495	0	0	0	0	0	738	289	1027	**3880**
PHF	**0.90**				**0.96**								**0.94**				**0.99**

US ROUTE 22 & GREENWICH STREET																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	218	0	221	439	179	1249	0	1427	0	0	0	0	0	1087	482	1569	3436
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3436
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3436
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3436

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
12:00 PM	218	0	221	439	179	1249	0	1427	0	0	0	0	0	1087	482	1569	**3435**
PHF																	

MANUAL TURNING COUNT DATA

US ROUTE 22 & US ROUTE 122 (NEW BRUNSWICK AVENUE)																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PHF																	

US ROUTE 22 & US ROUTE 122 (NEW BRUNSWICK AVENUE)																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
4:00 PM	21	109	26	156	17	577	0	594	53	17	36	106	0	173	0	173	
4:15 PM	19	138	14	171	12	551	0	563	32	18	29	79	0	160	0	160	
4:30 PM	11	107	16	134	17	620	0	637	31	17	30	78	0	163	0	163	
4:45 PM	19	99	17	135	10	470	0	480	41	21	47	109	0	168	0	168	3906
5:00 PM	19	94	20	133	19	587	0	606	57	12	31	100	0	201	0	201	3917
5:15 PM	11	128	18	157	10	608	0	618	31	16	36	83	0	191	0	191	3993
5:30 PM	7	83	9	99	11	614	0	625	43	19	29	91	0	186	0	186	3982
5:45 PM	5	108	14	127	9	563	0	572	21	15	23	59	0	156	0	156	4004

PM PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
5:00 PM	42	413	61	516	49	2372	0	2421	152	62	119	333	0	734	0	734	**4004**
PHF	**0.82**				**0.97**				**0.83**				**0.91**				**0.95**

US ROUTE 22 & US ROUTE 122 (NEW BRUNSWICK AVENUE)																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:00 AM	19	40	15	74	24	271	0	295	30	28	44	102	0	325	0	325	
11:15 AM	19	56	11	86	30	255	0	285	31	27	38	96	0	227	0	227	
11:30 AM	19	24	15	58	32	256	0	288	32	42	45	119	0	203	0	203	
11:45 PM	13	60	18	91	32	241	0	273	34	30	39	103	0	230	0	230	2855
12:00 PM	18	65	19	102	35	300	0	335	32	32	35	99	0	258	0	258	2853
12:15 PM	25	64	15	104	35	265	0	300	27	36	31	94	0	233	0	233	2890
12:30 PM	17	60	23	100	16	295	0	311	41	34	30	105	0	266	0	266	3004
12:45 PM	26	44	28	98	31	242	0	273	45	28	44	117	0	205	0	205	3000

SAT PEAK HOUR DATA																	
Direction	Southbound				Westbound				Northbound				Eastbound				TOTALS
Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	
11:45 PM	73	249	75	397	118	1101	0	1219	134	132	135	401	0	987	0	987	**3004**
PHF	**0.95**				**0.91**				**0.95**				**0.93**				**0.95**

APPENDIX J. AUTOMATIC TRAFFIC RECORDER DATA

NEW JERSEY DEPARTMENT OF TRANSPORTATION

DIVISION OF TRAFFIC ENGINEERING AND SAFETY
Bureau of Transportation Data Development

Station ID : 1-4-210
SRI : 00000022__
Milepost : 4.45
Date : 4/16/2007
Latitude : 40.672557
Longitude : -75.137786

Street Name : US 22 Memorial Parkw
Location: BET NJ 122 AND I-78
Direction: East/West

County : Warren
Municipality : Pohatcong Twp
By : Berger

Date	4/16/2007		4/17/2007		4/18/2007		4/19/2007		4/20/2007		4/21/2007		4/22/2007		HOUR	Weekday Average	
Day	monday		tuesday		wednesday		thursday		friday		saturday		sunday				
direction	e	w	e	w	e	w	e	w	e	w	e	w	e	w		e	w
0AM - 1AM	-	-	127	231	123	263	118	268							**0AM - 1AM**	**123**	**254**
1 - 2	-	-	**64**	**150**	**85**	**153**	**94**	**184**							1 - 2	**81**	**162**
2 - 3	-	-	108	133	102	117	84	126							2 - 3	**98**	**125**
3 - 4	-	-	**205**	**162**	**171**	**151**	**192**	**130**							3 - 4	**189**	**148**
4 - 5	-	-	494	138	424	160	449	134							4 - 5	**456**	**144**
5 - 6	-	-	**1491**	**195**	**1544**	**215**	**1488**	**237**							5 - 6	**1508**	**216**
6 - 7	-	-	2403	465	2505	481	2494	480							6 - 7	**2467**	**475**
7 - 8	-	-	**2336**	**845**	**2364**	**856**	**2382**	**913**							7 - 8	**2361**	**871**
8 - 9	-	-	1821	889	1828	903	1834	845							8 - 9	**1828**	**879**
9 - 10	-	-	**1111**	**880**	**1082**	**925**	**1136**	**991**							9 - 10	**1110**	**932**
10 - 11	-	-	855	881	895	870	878	981							10 - 11	**876**	**911**
11 - 12	-	-	**925**	**989**	**886**	**942**	**895**	**975**							11 - 12	**902**	**969**
12 N - 1PM	-	-	901	1084	853	1043	931	1073							**12 N - 1PM**	**895**	**1067**
1 - 2	-	-	**944**	**1040**	**922**	**1048**	**969**	**1073**							1 - 2	**945**	**1054**
2 - 3	-	-	966	1287	1003	1226									2 - 3	**984**	**1256**
3 - 4	-	-	**955**	**1867**	**958**	**1904**									3 - 4	**956**	**1886**
4 - 5	-	-	958	2307	989	2462									4 - 5	**974**	**2384**
5 - 6	**886**	**2111**	**883**	**2488**	**1024**	**2545**									5 - 6	**931**	**2381**
6 - 7	718	1575	766	1980	730	1992									6 - 7	**738**	**1849**
7 - 8	**536**	**1074**	**628**	**1305**	**668**	**1322**									7 - 8	**611**	**1234**
8 - 9	423	692	477	890	541	958									8 - 9	**480**	**847**
9 - 10	**368**	**478**	**448**	**660**	**433**	**738**									9 - 10	**416**	**625**
10 - 11	328	428	285	554	327	551									10 - 11	**313**	**511**
11 - 12	**157**	**335**	**190**	**424**	**163**	**452**									11 - 12	**170**	**404**
															24 hours	20412	21584
															Pattern Factor	0.94	0.94
															Axle Cor. Fact	0.969	0.969
															Est. AADT	18592	19660
															2 - way AADT	**38252**	
															k - factor	0.09	
															D - factor	0.71	

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

DIVISION OF TRAFFIC ENGINEERING AND SAFETY
Bureau of Transportation Data Development

Station ID : 1-7-010
SRI : 00000022__
Milepost : 1.18
Date : 11/8/2005
Latitude : 40.696513889
Longitude : -75.18224722

Street Name : MEMORIAL PARKWAY
Location: BET PICKFORD & SARGENT AVES
Direction: East/West

County : Warren
Municipality : Phillipsburg Town
By : Berger

Date	11/8/2005		11/9/2005		11/10/2005		11/11/2005		11/12/2005		11/13/2005		11/14/2005		HOUR	Weekday Average	
Day	tuesday		wednesday		thursday		friday		saturday		sunday		monday				
direction	e	w	e	w	e	w	e	w	e	w	e	w	e	w		e	w
0AM - 1AM	-	-	116	246	129	271	166	289	200	396	198	300	119	160	**0AM - 1AM**	**132**	**242**
1 - 2	-	-	**112**	**193**	**97**	**179**	**131**	**187**	**151**	**250**	**140**	**160**	**110**	**94**	1 - 2	**113**	**186**
2 - 3	-	-	116	109	122	123	136	157	133	174	135	119	100	74	2 - 3	**125**	**130**
3 - 4	-	-	**144**	**143**	**187**	**132**	**184**	**147**	**96**	**127**	**98**	**72**	**179**	**94**	3 - 4	**172**	**141**
4 - 5	-	-	503	152	482	189	419	161	226	136	115	66	498	134	4 - 5	**468**	**167**
5 - 6	-	-	**1402**	**297**	**1337**	**294**	**1113**	**305**	**498**	**143**	**246**	**77**	**1394**	**262**	5 - 6	**1284**	**299**
6 - 7	-	-	2183	609	2052	619	1778	556	698	316	399	184	2181	607	6 - 7	**2004**	**595**
7 - 8	-	-	**2265**	**1195**	**1937**	**1084**	**1750**	**1023**	**820**	**650**	**468**	**377**	**2285**	**1181**	7 - 8	**1984**	**1101**
8 - 9	-	-	1828	1127	1737	1042	1607	1046	998	877	682	537	1815	1065	8 - 9	**1724**	**1072**
9 - 10	-	-	**1336**	**1018**	**1388**	**1228**	**1412**	**1169**	**1338**	**1227**	**914**	**722**	**1307**	**1039**	9 - 10	**1379**	**1138**
10 - 11	-	-	1109	1101	1299	1247	1301	1394	1519	1330	1264	901			10 - 11	**1236**	**1247**
11 - 12	-	-	**1163**	**1185**	**1211**	**1308**	**1391**	**1473**	**1510**	**1506**	**1338**	**1213**			11 - 12	**1255**	**1322**
12 N - 1PM	-	-	1262	1290	1367	1354	1434	1607	1497	1539	1325	1327			**12 N - 1PM**	**1314**	**1322**
1 - 2	-	-	**1156**	**1410**	**1391**	**1470**	**1493**	**1554**	**1513**	**1514**	**1399**	**1344**			1 - 2	**1274**	**1440**
2 - 3	-	-	1287	1507	1306	1630	1505	1602	1483	1562	1298	1309			2 - 3	**1296**	**1568**
3 - 4	-	-	**1228**	**2022**	**1352**	**2118**	**1518**	**2126**	**1411**	**1555**	**1326**	**1288**			3 - 4	**1290**	**2070**
4 - 5	1340	2384	1250	2415	1380	2439	1518	2283	1353	1483	1336	1242			4 - 5	**1323**	**2413**
5 - 6	**1295**	**2414**	**1176**	**2278**	**1336**	**2465**	**1415**	**2561**	**1343**	**1372**	**1238**	**1185**			5 - 6	**1269**	**2386**
6 - 7	991	1825	916	1783	1068	1915	1286	1993	1138	1228	1009	1025			6 - 7	**992**	**1841**
7 - 8	**702**	**1239**	**739**	**1344**	**809**	**1338**	**941**	**1348**	**904**	**977**	**797**	**946**			7 - 8	**750**	**1307**
8 - 9	644	847	680	939	663	1020	751	989	777	875	609	764			8 - 9	**662**	**935**
9 - 10	**553**	**765**	**564**	**813**	**582**	**820**	**879**	**874**	**659**	**794**	**462**	**546**			9 - 10	**566**	**799**
10 - 11	317	481	355	529	432	560	496	709	471	637	291	363			10 - 11	**368**	**523**
11 - 12	**177**	**437**	**197**	**439**	**235**	**472**	**330**	**576**	**341**	**493**	**182**	**327**			11 - 12	**203**	**449**
															24 hours	23183	24693
															Pattern Factor	0.94	0.94
															Axle Cor. Fact	0.97	0.97
															Est. AADT	21138	22515
															2 - way AADT	**43653**	
															k - factor	0.09	
															D - factor	0.65	

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

DIVISION OF TRAFFIC ENGINEERING AND SAFETY
Bureau of Transportation Data Development

Station ID : 1-5-209
SRI : 00000022__
Milepost : 0.18
Date : 8/7/2007
Latitude : 40.696456
Longitude : -75.196689

Street Name : US 22
Location: BET BROAD ST AND RAMPS
Direction: East/West

County : Warren
Municipality : Phillipsburg Town
By : Berger

Date	8/7/2007		8/8/2007		8/9/2007		8/10/2007		8/11/2007		8/12/2007		8/13/2007		HOUR	Weekday Average	
Day	tuesday		wednesday		thursday		friday		saturday		sunday		monday				
direction	e	w	e	w	e	w	e	w	e	w	e	w	e	w		e	w
0AM - 1AM	-	-	174	151	213	195									**0AM - 1AM**		
1 - 2	-	-	**114**	**112**	**134**	**140**									1 - 2	**194**	**173**
2 - 3	-	-	107	112	138	113									2 - 3	**124**	**126**
3 - 4	-	-	**151**	**127**	**167**	**133**									3 - 4	**122**	**112**
4 - 5	-	-	375	145	442	124									4 - 5	**159**	**130**
5 - 6	-	-	**1091**	**182**	**1189**	**205**									5 - 6	**408**	**134**
6 - 7	-	-	1783	435	1856	477									6 - 7	**1140**	**194**
7 - 8	-	-	**2100**	**759**	**2100**	**754**									7 - 8	**1820**	**456**
8 - 9	-	-	1753	719	1691	762									8 - 9	**2100**	**756**
9 - 10	-	-	**1197**	**749**	**1255**	**756**									9 - 10	**1722**	**740**
10 - 11	-	-	1029	808	1002	833									10 - 11	**1226**	**752**
11 - 12	-	-	**1037**	**924**	**1057**	**861**									11 - 12	**1016**	**820**
12 N - 1PM	-	-	1068	954	1076	984									**12 N - 1PM**	**1047**	**892**
1 - 2	**986**	**949**	**1092**	**977**	**1051**	**991**									1 - 2	**1072**	**969**
2 - 3	1052	1063	1032	1122	1124	1126									2 - 3	**1043**	**972**
3 - 4	**1062**	**1454**	**1105**	**1491**	**1132**	**1529**									3 - 4	**1069**	**1104**
4 - 5	1176	1874	1371	1959											4 - 5	**1100**	**1491**
5 - 6	**1150**	**2135**	**1499**	**2303**											5 - 6	**1274**	**1916**
6 - 7	930	1589	1359	1709											6 - 7	**1324**	**2219**
7 - 8	**744**	**1061**	**1306**	**1141**											7 - 8	**1144**	**1649**
8 - 9	626	700	1207	824											8 - 9	**1025**	**1101**
9 - 10	**563**	**474**	**1233**	**626**											9 - 10	**916**	**762**
10 - 11	514	321	776	448											10 - 11	**898**	**550**
11 - 12	**356**	**266**	**370**	**278**											11 - 12	**645**	**384**
																363	**272**
															24 hours	22951	18674
															Pattern Factor	0.93	0.93
															Axle Cor. Fact	0.969	0.969
															Est. AADT	20683	16828
															2 - way AADT	**37511**	
															k - factor	0.09	
															D - factor	0.63	

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

DIVISION OF TRAFFIC ENGINEERING AND SAFETY
Bureau of Transportation Data Development

Station ID : 1-5-021
SRI : 00000022__
Milepost : 4.1
Date : 5/22/2007
Latitude : 40.677809
Longitude : -75.14311

Street Name : US 22
Location: BET I-78 & RT 519
Direction: East/West

County : Warren
Municipality : Pohatcong Twp
By : Berger

Date	5/22/2007		5/23/2007		5/24/2007		5/25/2007		5/26/2007		5/27/2007		5/28/2007		HOUR	Weekday Average	
Day	tuesday		wednesday		thursday		friday		saturday		sunday		monday				
direction	e	w	e	w	e	w	e	w	e	w	e	w	e	w		e	w
0AM - 1AM	-	-	87	253	135	270	152	316	169	365	144	271	122	240	**0AM - 1AM**	**124**	**270**
1 - 2	-	-	**89**	**160**	**96**	**151**	**95**	**213**	**133**	**230**	**106**	**170**			1 - 2	**93**	**175**
2 - 3	-	-	92	116	82	144	126	138	118	132	65	105			2 - 3	**100**	**133**
3 - 4	-	-	**179**	**122**	**176**	**134**	**194**	**119**	**113**	**142**	**56**	**71**			3 - 4	**183**	**125**
4 - 5	-	-	384	123	420	100	385	113	174	113	111	44			4 - 5	**396**	**112**
5 - 6	-	-	**1450**	**203**	**1397**	**202**	**1253**	**227**	**364**	**133**	**204**	**73**			5 - 6	**1367**	**211**
6 - 7	-	-	2007	456	2009	502	1677	479	498	282	298	161			6 - 7	**1898**	**479**
7 - 8	-	-	**1884**	**779**	**1919**	**818**	**1616**	**758**	**634**	**573**	**373**	**343**			7 - 8	**1806**	**785**
8 - 9	-	-	1435	904	1420	870	1395	969	816	793	511	510			8 - 9	**1417**	**914**
9 - 10	-	-	**1081**	**1012**	**1081**	**1078**	**1147**	**1123**	**974**	**1030**	**780**	**765**			9 - 10	**1103**	**1071**
10 - 11	933	1003	1016	1020	1030	1072	1150	1209	1219	1288	986	1039			10 - 11	**1032**	**1076**
11 - 12	**1020**	**1066**	**1028**	**1092**	**1068**	**1093**	**1131**	**1330**	**1325**	**1397**	**1199**	**1236**			11 - 12	**1062**	**1145**
12 N - 1PM	1034	1163	1023	1231	1087	1220	1279	1602	1305	1450	1271	1393			**12 N - 1PM**	**1048**	**1205**
1 - 2	**1090**	**1219**	**1071**	**1238**	**1026**	**1262**	**1277**	**1658**	**1364**	**1535**	**1357**	**1433**			1 - 2	**1062**	**1240**
2 - 3	1108	1399	1147	1404	1138	1458	1290	1974	1207	1495	1196	1392			2 - 3	**1131**	**1420**
3 - 4	**1053**	**2020**	**1018**	**1896**	**1069**	**1951**	**1171**	**2078**	**1173**	**1423**	**1163**	**1266**			3 - 4	**1047**	**1956**
4 - 5	980	2259	999	2351	967	2366	1126	2174	1088	1227	1029	1071			4 - 5	**982**	**2325**
5 - 6	**1046**	**2374**	**965**	**2141**	**1101**	**2289**	**1091**	**2163**	**937**	**1194**	**962**	**930**			5 - 6	**1037**	**2268**
6 - 7	819	1931	827	1886	899	1955	986	1865	978	1090	984	944			6 - 7	**848**	**1924**
7 - 8	**694**	**1383**	**769**	**1506**	**758**	**1478**	**981**	**1505**	**834**	**1045**	**773**	**883**			7 - 8	**740**	**1456**
8 - 9	638	1000	714	1042	763	1151	861	1197	804	858	688	747			8 - 9	**705**	**1064**
9 - 10	**471**	**718**	**526**	**754**	**584**	**887**	**651**	**950**	**721**	**784**	**569**	**659**			9 - 10	**527**	**786**
10 - 11	316	491	344	519	377	592	495	680	493	562	439	534			10 - 11	**346**	**534**
11 - 12	**121**	**402**	**171**	**429**	**230**	**509**	**250**	**558**	**254**	**500**	**290**	**445**			11 - 12	**174**	**447**
															24 hours	20228	23121
															Pattern Factor	0.93	0.93
															Axle Cor. Fact	0.969	0.969
															Est. AADT	18229	20836
															2 - way AADT	**39065**	
															k - factor	0.08	
															D - factor	0.7	

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1PCVHRVOL-1 08/07/06 NEW JERSEY DEPARTMENT OF TRANSPORTATION PAGE 50

CONTROL STATION HOURLY VOLUME REPORT

YEAR 2006

COUNTY WARREN

STATION ID 1-5-019

MUNICIP. LOPATCONG TWP.

FUNC. CLASS. 14 URBAN OTHER PRIN. ART. (CONN LINK)

ROUTE US 22

STREET MEMORIAL PARKWAY

PATTERN NO. 2

LOCATION BET ROSEBERRY & 1ST STS

PATTERN FAC. 0.92

MACHINE NO.

MILEPOST 1.60

AXLE CORR FAC. 0.970

SUPERVISOR BERGER

HOUR	MON 05/08 E	MON 05/08 W	TUE 05/09 E	TUE 05/09 W	WED 05/10 E	WED 05/10 W	THU 05/11 E	THU 05/11 W	FRI 05/12 E	FRI 05/12 W	SAT 5/13 E	SAT 5/13 W	SUN 5/14 E	SUN 5/14 W	AVG WEEKDAY E	AVG WEEKDAY W	TOTAL
00-01			140	217	95	191	114	207							116	205	321
01-02			202	129	169	163	158	155							176	149	325
02-03			427	155	415	129	422	151							421	145	566
03-04			1288	166	1305	165	1299	173							1297	168	1465
04-05			2139	270	2120	256	2136	259							2131	261	2392
05-06			2265	493	2237	565	2235	488							2245	515	2760
06-07			1691	1116	1758	1059	1687	1069							1712	1081	2793
07-08			1367	1217	1281	1270	1387	1256							1345	1247	2592
08-09			1227	1162	1253	1244	1241	1210							1240	1205	2445
09-10			1215	1203	1267	1133	1268	1214							1250	1183	2433
10-11			1340	1249	1372	1232	1442	1279							1384	1253	2637
11-12			1271	1293	1301	1362	1345	1418							1305	1357	2662
12-13	1330	1368	1460	1401	1392	1403	1500	1494							1420	1416	2836
13-14	1353	1487	1356	1554	1368	1552	1423	1578							1375	1542	2917
14-15	1228	1869	1300	1918	1290	1855	1350	1973							1292	1903	3195
15-16	1267	2448	1352	2484	1348	2490	1355	2489							1330	2477	3807
16-17	1072	2536	1117	2603	1103	2433	1131	2599							1105	2542	3647
17-18	884	2204	896	2174	938	2220	901	2218							904	2204	3108
18-19	649	1505	705	1736	809	1847									721	1696	2417
19-20	525	1300	556	1213	592	1262									557	1258	1815
20-21	350	914	345	990	395	1087									363	997	1360
21-22	193	626	210	593	210	713									204	644	848
22-23	100	425	127	493	136	533									121	483	604
23-24	101	319	85	354	98	368									94	347	441
TOTAL	9052	17001	24081	26183	24252	26532	22394	21230	0	0					24108	26278	50386
10-6	7134	11912	10092	14676	10112	14547	10447	15048	0	0					10115	14694	24809
WEATHER	(C)		(C)		(C)		(C)		(C)								
AADT :															21514	23450	44964

DIVISION OF TRAFFIC ENGINEERING AND SAFETY
BUREAU OF TRANSPORTATION DATA DEVELOPMENT
IN CO-OOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

1PCVHRVOL-1 08/07/06 NEW JERSEY DEPARTMENT OF TRANSPORTATION PAGE 51

NEW JERSEY DEPARTMENT OF TRANSPORTATION

DIVISION OF TRAFFIC ENGINEERING AND SAFETY
Bureau of Transportation Data Development

Station ID : 1-7-688
SRI : 00000022__
Milepost : 0.4
Date : 11/13/2007
Latitude : 40.69705
Longitude : -75.19646667

Street Name : MEMORIAL PKY
Location: BET FAIRVIEW AVE & MAIN ST
Direction: East/West

County : Warren
Municipality : Phillipsburg Town
By : Berger

Date	11/13/2007		11/14/2007		11/15/2007		11/16/2007		11/17/2007		11/18/2007		11/19/2007		HOUR	Weekday Average	
Day	tuesday		wednesday		thursday		friday		saturday		sunday		monday				
direction	e	w	e	w	e	w	e	w	e	w	e	w	e	w		e	w
0AM - 1AM	-	-	9	103	15	102									**0AM - 1AM**	**12**	**102**
1 - 2	-	-	**7**	**57**	**6**	**61**									1 - 2	**6**	**59**
2 - 3	-	-	3	30	9	24									2 - 3	**6**	**27**
3 - 4	-	-	**11**	**28**	**5**	**25**									3 - 4	**8**	**26**
4 - 5	-	-	14	67	20	67									4 - 5	**17**	**67**
5 - 6	-	-	**74**	**113**	**65**	**110**									5 - 6	**70**	**112**
6 - 7	-	-	172	283	186	254									6 - 7	**179**	**268**
7 - 8	-	-	**287**	**481**	**251**	**468**									7 - 8	**269**	**474**
8 - 9	-	-	198	542	217	510									8 - 9	**208**	**526**
9 - 10	-	-	**166**	**465**	**158**	**471**									9 - 10	**162**	**468**
10 - 11	-	-	160	467	157	449									10 - 11	**158**	**458**
11 - 12	-	-	**175**	**540**	**201**	**520**									11 - 12	**188**	**530**
12 N - 1PM	-	-	191	583	213	569									**12 N - 1PM**	**202**	**576**
1 - 2	**167**	**615**	**161**	**569**											1 - 2	**164**	**592**
2 - 3	205	645	180	592											2 - 3	**192**	**618**
3 - 4	**184**	**822**	**194**	**809**											3 - 4	**189**	**816**
4 - 5	207	861	198	917											4 - 5	**202**	**889**
5 - 6	**167**	**853**	**161**	**860**											5 - 6	**164**	**856**
6 - 7	143	702	176	676											6 - 7	**160**	**689**
7 - 8	**108**	**578**	**99**	**525**											7 - 8	**104**	**552**
8 - 9	70	432	77	450											8 - 9	**74**	**441**
9 - 10	**61**	**336**	**59**	**357**											9 - 10	**60**	**346**
10 - 11	37	230	60	248											10 - 11	**48**	**239**
11 - 12	**25**	**184**	**25**	**226**											11 - 12	**25**	**205**
															24 hours	2867	9936
															Pattern Factor	0.94	0.94
															Axle Cor. Fact	0.969	0.969
															Est. AADT	2611	9050
															2 - way AADT	**11661**	
															k - factor	0.09	
															D - factor	0.81	

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APPENDIX K. GRAVITY MODELS

Office Trip Gravity Model - 2000 Job Planning Data

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

4621 Nottingham Way, Suite 8,
Hamilton Square, NJ 08690-3819
Tel: 609-587-8200 Fax: 609-587-8260
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Project No. 08000727G

Site Location: State Route 22 (Mile Post 0.00 - 5.00) in Warren County, NJ

	Municipality	2000 Census Households	% in Trade Area	Trade Area Households (H)	Travel Time (D) in mins	H/D	% of Total	Approach Route
	Warren County, NJ							
1	Allamuchy Twp	15	78%	12	53	0	0.04%	100% ROUTE 57
2	Alpha Boro	465	100%	465	9	52	9.40%	100% ROUTE 122 NB
3	Belvidere Twp	128	100%	128	31	4	0.75%	100% ROUTE 57
4	Blairstown Twp	64	93%	60	56	1	0.19%	100% ROUTE 57
5	Franklin Twp	209	100%	209	54	4	0.70%	100% ROUTE 57
6	Frelinghuysen Twp	8	66%	5	62	0	0.02%	100% ROUTE 57
7	Greenwich Twp	295	100%	295	11	27	4.88%	100% ROUTE 22 WB
8	Hackettstown Town	124	100%	124	42	3	0.54%	100% ROUTE 57
9	Hardwick Twp	10	28%	3	68	0	0.01%	100% ROUTE 57
10	Harmony Twp	114	100%	114	18	6	1.15%	100% ROUTE 57
11	Hope Twp	29	100%	29	46	1	0.11%	100% ROUTE 57
12	Independence Twp	44	100%	44	44	1	0.18%	100% ROUTE 57
13	Knowlton Twp	14	100%	14	49	0	0.05%	100% ROUTE 57
14	Liberty Twp	18	100%	18	41	0	0.08%	100% ROUTE 57
15	Lopatcong Twp	795	100%	795	10	80	14.47%	50/50 ROUTE 22
16	Mansfield Twp	63	100%	63	88	1	0.13%	100% I-78 WB
17	Oxford Twp	39	100%	39	29	1	0.24%	100% ROUTE 57
18	Phillipsburg Town	2,450	100%	2,450	9	272	49.53%	50/50 ROUTE 22
19	Pohatcong Twp	930	100%	930	13	72	13.02%	50/50 ROUTE 22
20	Washington Boro	250	100%	250	21	12	2.17%	100% ROUTE 57
21	Washington Twp	175	100%	175	21	8	1.52%	100% ROUTE 57
22	White Twp	135	100%	135	30	5	0.82%	100% ROUTE 57
	Total	6,374				550	100.00%	
	Morris County, NJ							
23	Chester Boro	0	19%	0	49	0	0.00%	100% I-78 WB
24	Chester Twp	10	37%	4	49	0	8.48%	100% I-78 WB
25	Mount Olive	38	41%	16	53	0	33.02%	100% ROUTE 57
26	Washinton Twp	25	100%	25	48	1	58.50%	100% ROUTE 57
	Total	73				1	100.00%	
	Hunterdon County, NJ							
27	Alexandria Twp	45	100%	45	28	2	2.34%	100% ROUTE 22 WB
28	Bethlehem Twp	38	100%	38	22	2	2.52%	100% I-78 WB
29	Bloomsbury Boro	139	100%	139	13	11	15.58%	100% ROUTE 22 WB
30	Califon Boro	4	100%	4	39	0	0.15%	100% I-78 WB
31	Clinton Town	175	100%	175	21	8	12.15%	100% I-78 WB
32	Clinton Twp	310	100%	310	28	11	16.14%	100% I-78 WB
33	Delaware Twp	14	100%	14	55	0	0.37%	100% I-78 WB
34	East Amwell Twp	8	67%	5	52	0	0.15%	100% I-78 WB
35	Flemington Twp	155	100%	155	36	4	6.28%	100% I-78 WB
36	Frenchtown Boro	39	100%	39	34	1	1.67%	100% ROUTE 122 NB
37	Glen Gardner Boro	15	100%	15	32	0	0.68%	100% ROUTE 57
38	Hampton Boro	8	100%	8	29	0	0.40%	100% ROUTE 57
39	High Bridge Boro	28	100%	28	30	1	1.36%	100% I-78 WB
40	Holland Twp	39	100%	39	28	1	2.03%	100% ROUTE 122 NB
	Kingwood Twp	30	100%	30	43	1	1.02%	100% ROUTE 122 NB
41	Lambertville City	14	100%	14	53	0	0.38%	100% I-78 WB
42	Lebanon Boro	48	100%	48	26	2	2.69%	100% I-78 WB
43	Lebanon Twp	95	100%	95	40	2	3.46%	100% I-78 WB
44	Milford Boro	100	100%	100	26	4	5.61%	100% ROUTE 122 NB
45	Raritan Twp	285	100%	285	41	7	10.13%	100% I-78 WB
46	Readington Twp	164	100%	164	44	4	5.43%	100% I-78 WB
47	Stockton Boro	4	100%	4	53	0	0.11%	100% ROUTE 122 NB
48	Tewksbury Twp	79	100%	79	42	2	2.74%	100% I-78 WB
49	Union Twp	265	100%	265	59	4	6.55%	100% I-78 WB
50	West Amwell Twp	4	57%	2	56	0	0.06%	100% I-78 WB
	Total	2,105				69	100.00%	

	Somerset County, NJ							
51	Bedminster Twp	58	55%	32	36	1	21.77%	100% I-78 WB
52	Branchburg Twp	195	67%	131	42	3	76.42%	100% I-78 WB
53	Hillsborough Twp	49	8%	4	53	0	1.82%	100% I-78 WB
	Total	302				4	100.00%	
	Northampton County, PA							
1	Allen Twp	4	100%	4	36	0	0.04%	100% ROUTE 22 EB
2	Bangor Boro	69	100%	69	34	2	0.78%	100% ROUTE 22 EB
3	Bath Boro	14	100%	14	25	1	0.21%	100% ROUTE 22 EB
4	Belfast CDP	0	100%	0	20	0	0.00%	100% ROUTE 22 EB
5	Bethlehem City	149	100%	149	24	6	2.37%	100% ROUTE 22 EB
6	Bethlehem Twp	295	100%	295	24	12	4.70%	100% ROUTE 22 EB
7	Bushkill Twp	84	100%	84	30	3	1.07%	100% ROUTE 22 EB
8	Chapman Boro	0	100%	0	31	0	0.00%	100% ROUTE 22 EB
9	East Allen Twp	10	100%	10	27	0	0.14%	100% ROUTE 22 EB
10	East Bangor Boro	22	100%	22	38	1	0.22%	100% ROUTE 22 EB
11	Eastlawn Gardens	0	100%	0	20	0	0.00%	100% ROUTE 22 EB
12	Easton City	795	100%	795	9	88	33.79%	100% ROUTE 22 EB
13	Forks Twp	355	100%	355	15	24	9.05%	100% ROUTE 22 EB
14	Freemanburg Boro	16	100%	16	24	1	0.26%	100% ROUTE 22 EB
15	Glendon Boro	12	100%	12	14	1	0.33%	100% ROUTE 22 EB
16	Hanover Twp	89	100%	89	23	4	1.48%	100% ROUTE 22 EB
	Hellertown Boro	0	100%	0	27	0	0.00%	100% ROUTE 22 EB
17	Lehigh	25	1%	0	39	0	0.00%	100% ROUTE 22 EB
18	Lower Mt. Bethel Twp	54	100%	54	28	2	0.74%	100% ROUTE 22 EB
19	Lower Nazareth Twp	40	100%	40	16	3	0.96%	100% ROUTE 22 EB
20	Lower Saucon Twp	0	100%	0	28	0	0.00%	100% ROUTE 22 EB
21	Middletown CDP	0	100%	0	21	0	0.00%	100% ROUTE 22 EB
22	Moore Twp	40	100%	40	37	1	0.41%	100% ROUTE 22 EB
23	Nazareth Boro	104	100%	104	20	5	1.99%	100% ROUTE 22 EB
24	Northampton Boro	0	100%	0	27	0	0.00%	100% ROUTE 22 EB
25	North Catasauqua Boro	4	100%	4	32	0	0.05%	100% ROUTE 22 EB
26	Old Orchard CDP	0	100%	0	15	0	0.00%	100% ROUTE 22 EB
27	Palmer Twp	674	100%	674	13	52	19.83%	100% ROUTE 22 EB
28	Palmer Heights CDP	0	100%	0	14	0	0.00%	100% ROUTE 22 EB
29	Pen Argyl Boro	19	100%	19	30	1	0.24%	100% ROUTE 22 EB
30	Plainfield Twp	185	100%	185	29	6	2.44%	100% ROUTE 22 EB
31	Portland Boro	8	100%	8	43	0	0.07%	100% ROUTE 22 EB
32	Roseto Boro	16	100%	16	39	0	0.16%	100% ROUTE 22 EB
33	Stockertown Boro	18	100%	18	19	1	0.36%	100% ROUTE 22 EB
34	Tatamy Boro	23	100%	23	19	1	0.46%	100% ROUTE 22 EB
35	Upper Mt. Bethel Twp	99	100%	99	40	2	0.95%	100% ROUTE 22 EB
36	Upper Nazareth Twp	59	100%	59	24	2	0.94%	100% ROUTE 22 EB
37	Washington Twp	75	100%	75	31	2	0.93%	100% ROUTE 22 EB
38	West Easton Boro	43	100%	43	14	3	1.17%	100% ROUTE 22 EB
39	Williams Twp	160	100%	160	19	8	3.22%	100% ROUTE 22 EB
40	Wilson Boro	285	100%	285	11	26	9.91%	100% ROUTE 22 EB
41	Wind Gap Boro	49	100%	49	26	2	0.72%	100% ROUTE 22 EB
	Total	3,894				261	100.00%	
	Total					885		

Residential Trip Gravity Model - 2000 Census Data

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

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e-mail: solutions@maserconsulting.com

Project No. 08000727G

Site Location: State Route 22 (Mile Post 0.00 - 5.00) in Warren County, NJ

	Municipality	2000 Census Households	% in Trade Area	Trade Area Households (H)	Travel Time (D) in mins	H/D	% of Total	Approach Route
	Warren County, NJ							
1	Allamuchy Twp	1,774	78%	1,384	53	26	1.24%	100% ROUTE 57
2	Alpha Boro	1,034	100%	1,034	9	115	5.45%	100% ROUTE 122 NB
3	Belvidere Twp	1,165	100%	1,165	31	38	1.78%	100% ROUTE 57
4	Blairstown Twp	2,136	93%	1,986	56	35	1.68%	100% ROUTE 57
5	Franklin Twp	1,019	100%	1,019	54	19	0.90%	100% ROUTE 57
6	Frelinghuysen Twp	755	66%	498	62	8	0.38%	100% ROUTE 57
7	Greenwich Twp	1,477	100%	1,477	11	134	6.37%	100% ROUTE 22 WB
8	Hackettstown Town	4,347	100%	4,347	42	104	4.91%	100% ROUTE 57
9	Hardwick Twp	530	28%	148	68	2	0.10%	100% ROUTE 57
10	Harmony Twp	1,076	100%	1,076	18	60	2.84%	100% ROUTE 57
11	Hope Twp	747	100%	747	46	16	0.77%	100% ROUTE 57
12	Independence Twp	2,210	100%	2,210	44	50	2.38%	100% ROUTE 57
13	Knowlton Twp	1,135	100%	1,135	49	23	1.10%	100% ROUTE 57
14	Liberty Twp	1,088	100%	1,088	41	27	1.26%	100% ROUTE 57
15	Lopatcong Twp	2,429	100%	2,429	10	243	11.53%	50/50 ROUTE 22
16	Mansfield Twp	2,415	100%	2,415	88	27	1.30%	100% I-78 WB
17	Oxford Twp	938	100%	938	29	32	1.54%	100% ROUTE 57
18	Phillipsburg Town	6,651	100%	6,651	9	739	35.08%	50/50 ROUTE 22
19	Pohatcong Twp	1,411	100%	1,411	13	109	5.15%	50/50 ROUTE 22
20	Washington Boro	2,876	100%	2,876	21	137	6.50%	100% ROUTE 57
21	Washington Twp	2,174	100%	2,174	21	104	4.91%	100% ROUTE 57
22	White Twp	1,770	100%	1,770	30	59	2.80%	100% ROUTE 57
	Total					2,107	100.00%	
	Morris County, NJ							
23	Chester Boro	627	19%	119	49	2	1.13%	100% I-78 WB
24	Chester Twp	2,377	37%	879	49	18	8.34%	100% I-78 WB
25	Mount Olive	9,311	41%	3,818	53	72	33.48%	100% ROUTE 57
26	Washinton Twp	5,890	100%	5,890	48	123	57.04%	100% ROUTE 57
	Total					215	100.00%	
	Hunterdon County, NJ							
27	Alexandria Twp	1,598	100%	1,598	28	57	4.76%	100% ROUTE 22 WB
28	Bethlehem Twp	1,303	100%	1,303	22	59	4.94%	100% I-78 WB
29	Bloomsbury Boro	342	100%	342	13	26	2.20%	100% ROUTE 22 WB
30	Califon Boro	410	100%	410	39	11	0.88%	100% I-78 WB
31	Clinton Town	1,095	100%	1,095	21	52	4.35%	100% I-78 WB
32	Clinton Twp	4,234	100%	4,234	28	151	12.62%	100% I-78 WB
33	Delaware Twp	1,701	100%	1,701	55	31	2.58%	100% I-78 WB
34	East Amwell Twp	1,624	67%	1,088	52	21	1.75%	100% I-78 WB
35	Flemington Twp	1,876	100%	1,876	36	52	4.35%	100% I-78 WB
36	Frenchtown Boro	630	100%	630	34	19	1.55%	100% ROUTE 122 NB
37	Glen Gardner Boro	829	100%	829	32	26	2.16%	100% ROUTE 57
38	Hampton Boro	574	100%	574	29	20	1.65%	100% ROUTE 57
39	High Bridge Boro	1,478	100%	1,478	30	49	4.11%	100% I-78 WB
40	Holland Twp	1,942	100%	1,942	28	69	5.79%	100% ROUTE 122 NB
	Kingwood Twp	1,422	100%	1,422	43	33	2.76%	100% ROUTE 122 NB
41	Lambertville City	1,961	100%	1,961	53	37	3.09%	100% I-78 WB
42	Lebanon Boro	477	100%	477	26	18	1.53%	100% I-78 WB
43	Lebanon Twp	2,020	100%	2,020	40	51	4.21%	100% I-78 WB
44	Milford Boro	484	100%	484	26	19	1.55%	100% ROUTE 122 NB
45	Raritan Twp	7,094	100%	7,094	41	173	14.44%	100% I-78 WB
46	Readington Twp	5,794	100%	5,794	44	132	10.99%	100% I-78 WB
47	Stockton Boro	258	100%	258	53	5	0.41%	100% ROUTE 122 NB
48	Tewksbury Twp	2,052	100%	2,052	42	49	4.08%	100% I-78 WB
49	Union Twp	1,725	100%	1,725	59	29	2.44%	100% I-78 WB
50	West Amwell Twp	984	57%	561	56	10	0.84%	100% I-78 WB
	Total					1,199	100.00%	

	Somerset County, NJ							
51	Bedminster Twp	4,467	55%	2,457	36	68	39.25%	100% I-78 WB
52	Branchburg Twp	5,405	67%	3,621	42	86	49.59%	100% I-78 WB
53	Hillsborough Twp	12,854	8%	1,028	53	19	11.16%	100% I-78 WB
	Total					174	100.00%	
	Northampton County, PA							
1	Allen Twp	1,030	100%	1,030	36	29	0.51%	100% ROUTE 22 EB
2	Bangor Boro	2,249	100%	2,249	34	66	1.17%	100% ROUTE 22 EB
3	Bath Boro	1,126	100%	1,126	25	45	0.80%	100% ROUTE 22 EB
4	Belfast CDP	517	100%	517	20	26	0.46%	100% ROUTE 22 EB
5	Bethlehem City	21,089	100%	21,089	24	879	15.55%	100% ROUTE 22 EB
6	Bethlehem Twp	7,831	100%	7,831	24	326	5.78%	100% ROUTE 22 EB
7	Bushkill Twp	2,406	100%	2,406	30	80	1.42%	100% ROUTE 22 EB
8	Chapman Boro	91	100%	91	31	3	0.05%	100% ROUTE 22 EB
9	East Allen Twp	1,907	100%	1,907	27	71	1.25%	100% ROUTE 22 EB
10	East Bangor Boro	417	100%	417	38	11	0.19%	100% ROUTE 22 EB
11	Eastlawn Gardens	1,028	100%	1,028	20	51	0.91%	100% ROUTE 22 EB
12	Easton City	10,545	100%	10,545	9	1,172	20.74%	100% ROUTE 22 EB
13	Forks Twp	3,159	100%	3,159	15	211	3.73%	100% ROUTE 22 EB
14	Freemanburg Boro	721	100%	721	24	30	0.53%	100% ROUTE 22 EB
15	Glendon Boro	150	100%	150	14	11	0.19%	100% ROUTE 22 EB
16	Hanover Twp	3,729	100%	3,729	23	162	2.87%	100% ROUTE 22 EB
	Hellertown Boro	2,570	100%	2,570	27	95	1.68%	100% ROUTE 22 EB
17	Lehigh	3,816	1%	38	39	1	0.02%	100% ROUTE 22 EB
18	Lower Mt. Bethel Twp	1,347	100%	1,347	28	48	0.85%	100% ROUTE 22 EB
19	Lower Nazareth Twp	1,821	100%	1,821	16	114	2.01%	100% ROUTE 22 EB
20	Lower Saucon Twp	3,915	100%	3,915	28	140	2.48%	100% ROUTE 22 EB
21	Middletown CDP	2,862	100%	2,862	21	136	2.41%	100% ROUTE 22 EB
22	Moore Twp	3,464	100%	3,464	37	94	1.66%	100% ROUTE 22 EB
23	Nazareth Boro	2,658	100%	2,658	20	133	2.35%	100% ROUTE 22 EB
24	Northampton Boro	4,023	100%	4,023	27	149	2.64%	100% ROUTE 22 EB
25	North Catasauqua Boro	1,186	100%	1,186	32	37	0.66%	100% ROUTE 22 EB
26	Old Orchard CDP	940	100%	940	15	63	1.11%	100% ROUTE 22 EB
27	Palmer Twp	6,865	100%	6,865	13	528	9.35%	100% ROUTE 22 EB
28	Palmer Heights CDP	1,428	100%	1,428	14	102	1.81%	100% ROUTE 22 EB
29	Pen Argyl Boro	1,506	100%	1,506	30	50	0.89%	100% ROUTE 22 EB
30	Plainfield Twp	2,191	100%	2,191	29	76	1.34%	100% ROUTE 22 EB
31	Portland Boro	247	100%	247	43	6	0.10%	100% ROUTE 22 EB
32	Roseto Boro	670	100%	670	39	17	0.30%	100% ROUTE 22 EB
33	Stockertown Boro	293	100%	293	19	15	0.27%	100% ROUTE 22 EB
34	Tatamy Boro	356	100%	356	19	19	0.33%	100% ROUTE 22 EB
35	Upper Mt. Bethel Twp	2,574	100%	2,574	40	64	1.14%	100% ROUTE 22 EB
36	Upper Nazareth Twp	1,364	100%	1,364	24	57	1.01%	100% ROUTE 22 EB
37	Washington Twp	1,670	100%	1,670	31	54	0.95%	100% ROUTE 22 EB
38	West Easton Boro	482	100%	482	14	34	0.61%	100% ROUTE 22 EB
39	Williams Twp	1,738	100%	1,738	19	91	1.62%	100% ROUTE 22 EB
40	Wilson Boro	3,345	100%	3,345	11	304	5.38%	100% ROUTE 22 EB
41	Wind Gap Boro	1,294	100%	1,294	26	50	0.88%	100% ROUTE 22 EB
	Total					5,649	100.00%	
	Total					9,343		

Commercial Trip Gravity Model - 2000 Census Data

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Project No. 08000727G

Site Location: State Route 22 (Mile Post 0.00 - 5.00) in Warren County, NJ

	Municipality	2000 Census Population	% in Trade Area	Trade Area Population (P)	Travel Time (D) in mins	P/D	% of Total	Approach Route
	Warren County, NJ							
1	Allamuchy Twp	20,709	78%	16,153	53	305	5.67%	100% ROUTE 57
2	Alpha Boro	2,482	100%	2,482	9	276	5.13%	100% ROUTE 122 NB
3	Belvidere Twp	2,771	100%	2,771	31	89	1.66%	100% ROUTE 57
4	Blairstown Twp	5,747	93%	5,345	56	95	1.78%	100% ROUTE 57
5	Franklin Twp	2,768	100%	2,768	54	51	0.95%	100% ROUTE 57
6	Frelinghuysen Twp	2,083	66%	1,375	62	22	0.41%	100% ROUTE 57
7	Greenwich Twp	4,365	100%	4,365	11	397	7.38%	100% ROUTE 22 WB
8	Hackettstown Town	10,403	100%	10,403	42	248	4.61%	100% ROUTE 57
9	Hardwick Twp	1,464	28%	410	68	6	0.11%	100% ROUTE 57
10	Harmony Twp	2,729	100%	2,729	18	152	2.82%	100% ROUTE 57
11	Hope Twp	1,891	100%	1,891	46	41	0.76%	100% ROUTE 57
12	Independence Twp	5,603	100%	5,603	44	127	2.37%	100% ROUTE 57
13	Knowlton Twp	2,977	100%	2,977	49	61	1.13%	100% ROUTE 57
14	Liberty Twp	2,765	100%	2,765	41	67	1.25%	100% ROUTE 57
15	Lopatcong Twp	5,765	100%	5,765	10	577	10.72%	50/50 ROUTE 22
16	Mansfield Twp	6,653	100%	6,653	88	76	1.41%	100% I-78 WB
17	Oxford Twp	2,307	100%	2,307	29	80	1.48%	100% ROUTE 57
18	Phillipsburg Town	15,166	100%	15,166	9	1,685	31.35%	50/50 ROUTE 22
19	Pohatcong Twp	3,416	100%	3,416	13	263	4.89%	50/50 ROUTE 22
20	Washington Boro	6,715	100%	6,715	21	320	5.95%	100% ROUTE 57
21	Washington Twp	6,248	100%	6,248	21	298	5.53%	100% ROUTE 57
22	White Twp	4,245	100%	4,245	30	142	2.63%	100% ROUTE 57
	Total					5,376	100.00%	
	Morris County, NJ							
23	Chester Boro	1,635	19%	311	49	6	1.03%	100% I-78 WB
24	Chester Twp	7,282	37%	2,694	49	55	8.94%	100% I-78 WB
25	Mount Olive	24,193	41%	9,919	53	187	30.43%	100% ROUTE 57
26	Washinton Twp	17,592	100%	17,592	48	367	59.60%	100% ROUTE 57
	Total					615	100.00%	
	Hunterdon County, NJ							
27	Alexandria Twp	4,698	100%	4,698	28	168	5.16%	100% ROUTE 22 WB
28	Bethlehem Twp	3,820	100%	3,820	22	174	5.34%	100% I-78 WB
29	Bloomsbury Boro	886	100%	886	13	68	2.10%	100% ROUTE 22 WB
30	Califon Boro	1,055	100%	1,055	39	27	0.83%	100% I-78 WB
31	Clinton Town	2,632	100%	2,632	21	125	3.85%	100% I-78 WB
32	Clinton Twp	12,957	100%	12,957	28	463	14.23%	100% I-78 WB
33	Delaware Twp	4,478	100%	4,478	55	81	2.50%	100% I-78 WB
34	East Amwell Twp	4,455	67%	2,985	52	57	1.76%	100% I-78 WB
35	Flemington Twp	4,200	100%	4,200	36	117	3.59%	100% I-78 WB
36	Frenchtown Boro	1,488	100%	1,488	34	44	1.35%	100% ROUTE 122 NB
37	Glen Gardner Boro	1,902	100%	1,902	32	59	1.83%	100% ROUTE 57
38	Hampton Boro	1,546	100%	1,546	29	53	1.64%	100% ROUTE 57
39	High Bridge Boro	3,776	100%	3,776	30	126	3.87%	100% I-78 WB
40	Holland Twp	5,124	100%	5,124	28	183	5.63%	100% ROUTE 122 NB
	Kingwood Twp	3,782	100%	3,782	43	88	2.70%	100% ROUTE 122 NB
41	Lambertville City	3,868	100%	3,868	53	73	2.24%	100% I-78 WB
42	Lebanon Boro	1,065	100%	1,065	26	41	1.26%	100% I-78 WB
43	Lebanon Twp	5,816	100%	5,816	40	145	4.47%	100% I-78 WB
44	Milford Boro	1,195	100%	1,195	26	46	1.41%	100% ROUTE 122 NB
45	Raritan Twp	19,809	100%	19,809	41	483	14.86%	100% I-78 WB
46	Readington Twp	15,803	100%	15,803	44	359	11.04%	100% I-78 WB
47	Stockton Boro	560	100%	560	53	11	0.32%	100% ROUTE 122 NB
48	Tewksbury Twp	5,541	100%	5,541	42	132	4.06%	100% I-78 WB
49	Union Twp	6,160	100%	6,160	59	104	3.21%	100% I-78 WB
50	West Amwell Twp	2,383	57%	1,358	56	24	0.75%	100% I-78 WB
	Total					3,252	100.00%	

	Somerset County, NJ							
51	Bedminster Twp	8,302	55%	4,566	36	127	30.60%	100% I-78 WB
52	Branchburg Twp	14,566	67%	9,759	42	232	56.06%	100% I-78 WB
53	Hillsborough Twp	36,634	8%	2,931	53	55	13.34%	100% I-78 WB
	Total					414	100.00%	
	Northampton County, PA							
1	Allen Twp	2,630	100%	2,630	36	73	0.52%	100% ROUTE 22 EB
2	Bangor Boro	5,319	100%	5,319	34	156	1.11%	100% ROUTE 22 EB
3	Bath Boro	2,678	100%	2,678	25	107	0.76%	100% ROUTE 22 EB
4	Belfast CDP	1,301	100%	1,301	20	65	0.46%	100% ROUTE 22 EB
5	Bethlehem City	52,300	100%	52,300	24	2,179	15.40%	100% ROUTE 22 EB
6	Bethlehem Twp	21,171	100%	21,171	24	882	6.24%	100% ROUTE 22 EB
7	Bushkill Twp	6,982	100%	6,982	30	233	1.65%	100% ROUTE 22 EB
8	Chapman Boro	234	100%	234	31	8	0.05%	100% ROUTE 22 EB
9	East Allen Twp	4,903	100%	4,903	27	182	1.28%	100% ROUTE 22 EB
10	East Bangor Boro	979	100%	979	38	26	0.18%	100% ROUTE 22 EB
11	Eastlawn Gardens	2,832	100%	2,832	20	142	1.00%	100% ROUTE 22 EB
12	Easton City	26,263	100%	26,263	9	2,918	20.63%	100% ROUTE 22 EB
13	Forks Twp	8,419	100%	8,419	15	561	3.97%	100% ROUTE 22 EB
14	Freemanburg Boro	1,897	100%	1,897	24	79	0.56%	100% ROUTE 22 EB
15	Glendon Boro	367	100%	367	14	26	0.19%	100% ROUTE 22 EB
16	Hanover Twp	9,563	100%	9,563	23	416	2.94%	100% ROUTE 22 EB
	Hellertown Boro	5,606	100%	5,606	27	208	1.47%	100% ROUTE 22 EB
17	Lehigh	9,728	1%	97	39	2	0.02%	100% ROUTE 22 EB
18	Lower Mt. Bethel Twp	3,228	100%	3,228	28	115	0.81%	100% ROUTE 22 EB
19	Lower Nazareth Twp	5,259	100%	5,259	16	329	2.32%	100% ROUTE 22 EB
20	Lower Saucon Twp	9,884	100%	9,884	28	353	2.50%	100% ROUTE 22 EB
21	Middletown CDP	7,378	100%	7,378	21	351	2.48%	100% ROUTE 22 EB
22	Moore Twp	8,673	100%	8,673	37	234	1.66%	100% ROUTE 22 EB
23	Nazareth Boro	6,023	100%	6,023	20	301	2.13%	100% ROUTE 22 EB
24	Northampton Boro	9,405	100%	9,405	27	348	2.46%	100% ROUTE 22 EB
25	North Catasauqua Boro	2,814	100%	2,814	32	88	0.62%	100% ROUTE 22 EB
26	Old Orchard CDP	2,443	100%	2,443	15	163	1.15%	100% ROUTE 22 EB
27	Palmer Twp	16,809	100%	16,809	13	1,293	9.14%	100% ROUTE 22 EB
28	Palmer Heights CDP	3,612	100%	3,612	14	258	1.82%	100% ROUTE 22 EB
29	Pen Argyl Boro	3,615	100%	3,615	30	121	0.85%	100% ROUTE 22 EB
30	Plainfield Twp	5,668	100%	5,668	29	195	1.38%	100% ROUTE 22 EB
31	Portland Boro	579	100%	579	43	13	0.10%	100% ROUTE 22 EB
32	Roseto Boro	1,653	100%	1,653	39	42	0.30%	100% ROUTE 22 EB
33	Stockertown Boro	687	100%	687	19	36	0.26%	100% ROUTE 22 EB
34	Tatamy Boro	930	100%	930	19	49	0.35%	100% ROUTE 22 EB
35	Upper Mt. Bethel Twp	6,063	100%	6,063	40	152	1.07%	100% ROUTE 22 EB
36	Upper Nazareth Twp	4,426	100%	4,426	24	184	1.30%	100% ROUTE 22 EB
37	Washington Twp	4,152	100%	4,152	31	134	0.95%	100% ROUTE 22 EB
38	West Easton Boro	1,152	100%	1,152	14	82	0.58%	100% ROUTE 22 EB
39	Williams Twp	4,470	100%	4,470	19	235	1.66%	100% ROUTE 22 EB
40	Wilson Boro	7,682	100%	7,682	11	698	4.94%	100% ROUTE 22 EB
41	Wind Gap Boro	2,812	100%	2,812	26	108	0.76%	100% ROUTE 22 EB
	Total					14,148	100.00%	
	Total					23,805		