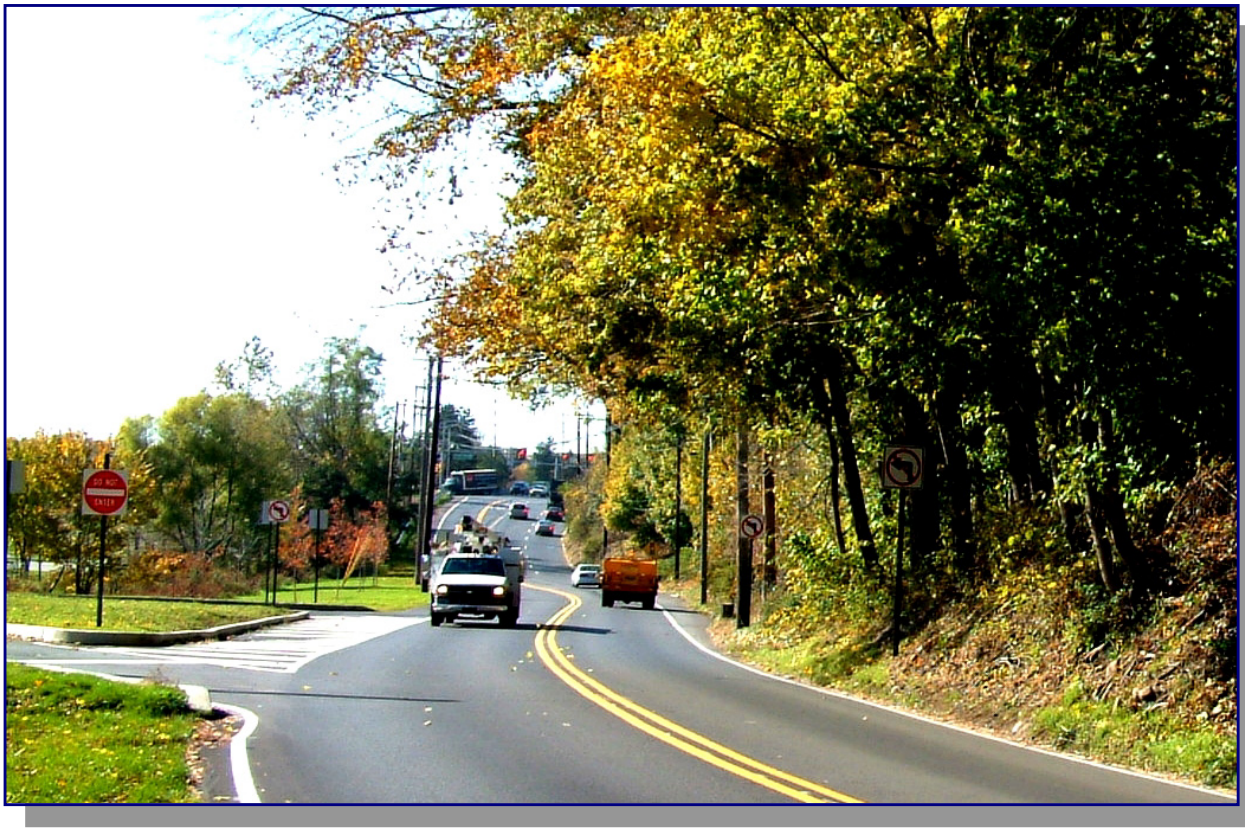
SR 23 SECTION UMT IMPROVEMENT STUDY

Montgomery County, Pennsylvania



Prepared for
Pennsylvania Department of Transportation
By
Delaware Valley Regional Planning Commission

October 2004

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Delaware Valley Regional Planning Commission
The Bourse Building, 8th Floor
111 South Independence Mall East
Philadelphia, PA 19106-2582

October 2004

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty, and intercity agency that provides continuing, comprehensive, and coordinated planning to shape a vision for the future growth of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties, as well as the City of Philadelphia in Pennsylvania. It also includes Burlington, Camden, Gloucester, and Mercer counties in New Jersey. DVRPC provides technical assistance and services, conducts high-priority studies that respond to the request and demands of member state and local governments, fosters cooperation among various constituents to forge a consensus on diverse regional issues, determines and meets the needs of the private sector, and practices public outreach efforts to promote two-way communication and public awareness of regional issues and the commission.

Our logo is adapted from the official DVRPC seal, and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of sources including federal grants from the US Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. This report was primarily funded by the Pennsylvania Department of Transportation and the Federal Highway Administration. The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

On the cover: SR 23, Valley Forge Road east of Moore Road intersection.

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EXECUTIVE SUMMARY

This report presents a summary of the current traffic volumes, projections of opening year 2010 and design year 2030 traffic forecasts for four alternatives for the SR 23 corridor in Upper Merion Township, Montgomery County Pennsylvania. These four alternatives consist of no-build and three alternative build conditions. This traffic study was necessary to provide design volumes that reflect anticipated growth in the area due to possible developments and changes to the roadway configurations between the no-build and build design scenarios.

The Upper Merion Township (UMT) section of SR 23 generally traverses the township in an east-west direction and covers approximately 4-miles of roadway. The SR 23 Section UMT is a 2-lane roadway with additional turning lanes at various key signalized intersections throughout the township. SR 23 is a vital commuter route providing access to US 422, US 202, the Schuylkill Expressway (I-76), and the Pennsylvania Turnpike (I-76/I-276). SR 23 provides access to numerous residential subdivisions as well as various office parks in the area. Additionally, SR 23 provides direct access to the Valley Forge National Historical Park as well as indirect access to the King of Prussia Mall.

The No-Build Alternative for the SR 23 Section UMT includes completion of new interchange ramps between US 422 and Trooper Road (PA 363). With the completion of US 422 eastbound off-ramp and the US 422 westbound on-ramp, the US 422/PA 363 interchange will become a full-movement interchange. In addition the no-build alternative assumes that the replacement Betzwood Bridge is opened to two-way traffic.

To address growing traffic volumes and congestion along the corridor, three build alternatives have been proposed. As with the No-Build Alternative, all of the three build alternatives assume the reconstruction and opening to traffic of the new Betzwood Bridge. The first alternative will require widening of the existing 2-lane cross-section of SR 23 to a 5-lane cross-section from the SR 23/US 422 interchange ramps to the reconstructed Schuylkill Parkway/SR 23 ramps interchange connecting US 202 just outside Bridgeport. Modifications to the ramp geometry and ramp terminal intersection operations have been proposed for the SR 23/US 422 interchange as well as updating and modifying various key signalized intersections along the SR 23 corridor.

In the second alternative, the SR 23 roadway will be relocated. A new 5-lane controlled access cross-section will be provided that links US 422/SR 23 west of Beidler Road to the existing terminus of the Schuylkill Parkway. This new corridor will follow the general alignment of the existing railroad tracks, parallel to the Schuylkill River in Upper Merion Township. Both Geerdes Boulevard and Henderson Road will be extended to provide a connection to the relocated SR 23 roadway. The second alternative will also include modifications to the ramp geometry and ramp terminal intersection operations at the SR 23/US 422 interchange.

To encourage commuter traffic to utilize the relocated roadway, a traffic signing and traffic demand management plan will be implemented along the existing SR 23 from Geerdes Boulevard to the Schuylkill Parkway underpass. This element of the proposed plan would downgrade this existing section of SR 23 to a local road. Implementation of

this traffic plan would encourage through traffic volumes along Valley Forge Road (SR 23) to divert to the new relocated SR 23 Schuylkill Parkway.

Under the third alternative, SR 23 will be relocated to the north side of the Schuylkill River via Trooper Road (PA 363), Egypt Road, and Main Street in West Norriton Township and Norristown. The Alternative 3 alignment than crosses back over the Schuylkill River and the existing railroad tracks via US 202 to reconnect with SR 23 in Bridgeport. The new SR 23 will have a 5-lane cross-section with at-grade signalized intersections. As under the second build alternative, a traffic demand management plan will be implemented on the existing SR 23.

The Delaware Valley Regional Planning Commission's (DVPRC) traffic simulation model was used to predict 2010 and 2030 no-build and build traffic volumes based on the proposed roadway improvements and DVRPC board adopted demographic and employment forecasts as updated by local development proposals within the corridor. Detailed capacity/level-of-service analysis were performed for various links and intersections along the SR 23 Section UMT corridor to evaluate the differences between the no-build and build roadway configurations, as well as to determine additional roadway improvements required at various major intersections.

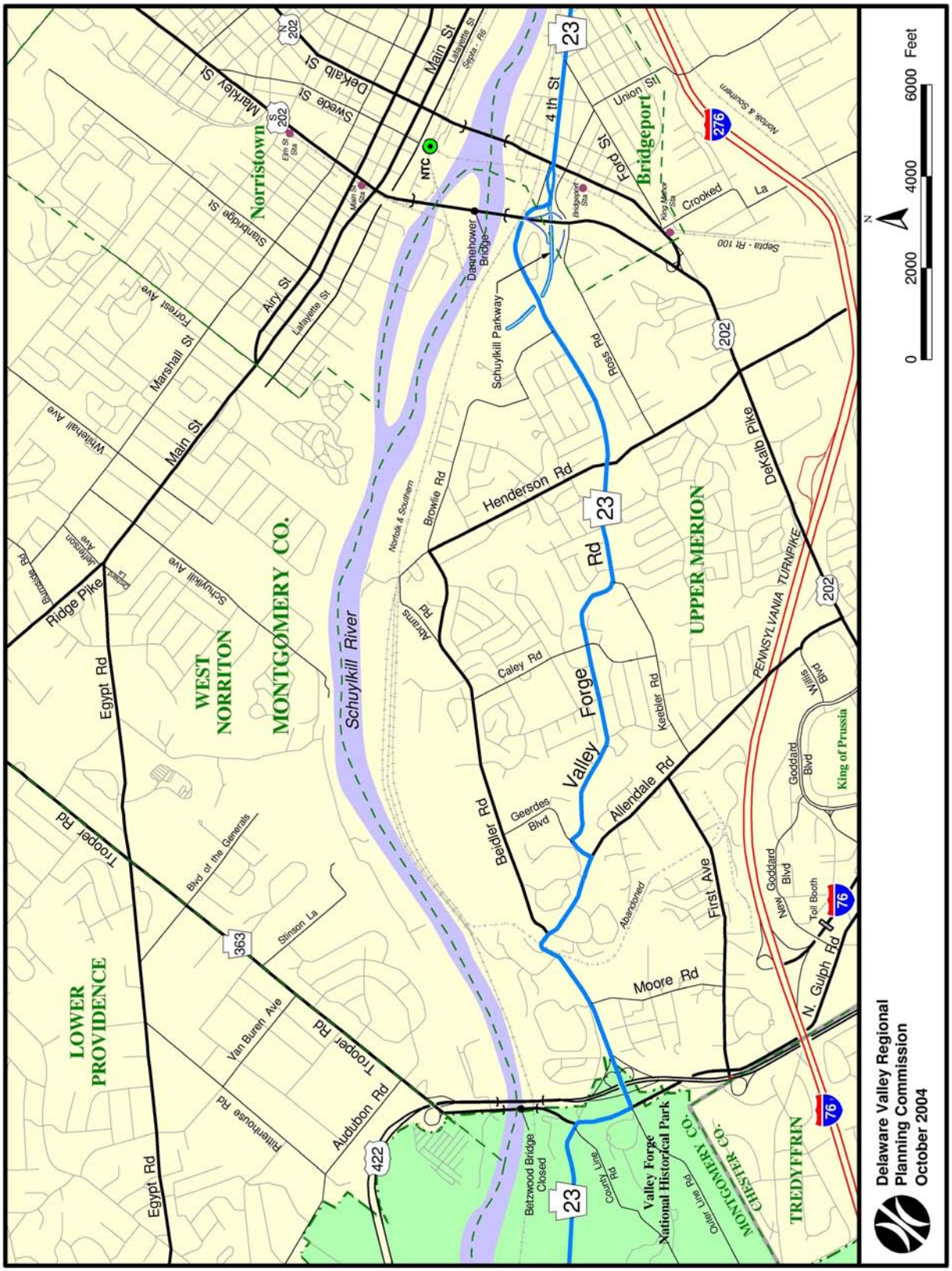
I. INTRODUCTION

This report presents a summary of the current traffic volumes and forecasts for opening year 2010 and design year 2030 for the No-Build and three Build Alternatives for the SR 23 Corridor in Upper Merion Township in Montgomery County Pennsylvania. The Upper Merion Township (UMT) section of SR 23 generally traverses the township in an east-west direction and covers approximately 4-miles of roadway. The SR 23 Section UMT is a 2-lane roadway with additional turning lanes at various key signalized intersections throughout the township. **Map I-1** provides an overview of the traffic study area surrounding the SR 23 corridor, as well as the limits of the corridor. SR 23 is a vital commuter route providing access to US 422, US 202, the Schuylkill Expressway (I-76), and the Pennsylvania Turnpike (I-76/I-276). SR 23 provides access to numerous residential subdivisions as well as various office parks in the area. Additionally, SR 23 provides indirect access to the Valley Forge National Historical Park as well as the King of Prussia Mall.

This traffic study was necessary to provide design volumes that reflect anticipated growth in the area due to possible developments and proposed changes to the roadway configurations. The build alternatives also assume the major transit initiatives in the area, which includes the Schuylkill Valley Metro, the Cross Country Metro, and the Route 100 Extension to King of Prussia, will be undertaken. Outside of the SR 23 Section UMT corridor study area, it is assumed that the Henderson Road/I-76 Westbound Ramps, Lafayette Street Improvements, and the Valley Forge Area improvements outlined in these studies will not be implemented but the US 422/PA 363 full-movement interchange and that reconstructed Betzwood Bridge will be opened to traffic.

The report has been sub-divided into four chapters. Chapter II provides a description of the SR 23 Section UMT corridor, including current highway facilities, land uses, and traffic volumes. The travel forecasting procedures used in the study are briefly described in Chapter III. Highway traffic volume forecasts are presented and analyzed in Chapter IV for the no-build and build alternatives. The Congestion Management System Analyses (CMS) is presented in Chapter V. Current traffic counts are included in the Appendix A and current AM/PM peak hour turning movement counts in Appendix B.

Map I-1. SR 23 Section UMT Improvement Traffic Study Area



II. DESCRIPTION OF THE SR 23 SECTION UMT CORRIDOR

The SR 23 Section UMT corridor is located in Upper Merion Township, Montgomery County, Pennsylvania. The corridor spans a four-mile section from the US 422 interchange ramps to the existing terminus Schuylkill Parkway in Bridgeport Borough. SR 23 Section UMT services a number of residential subdivisions as well as office complexes. The corridor also provides indirect access to the Valley Forge National Historical Park and the King of Prussia Mall.

A. Existing Facilities and Land Uses

SR 23 traverses Upper Merion Township in an east-west direction for a four-mile span. The SR 23 corridor in Upper Merion Township is generally a two-lane roadway with additional turn lanes at key signalized intersections. The SR 23 corridor provides access to a number of residences, as well as a mixture of various office developments and a limited number of commercial and industrial developments. The SR 23 corridor provides both direct and indirect access to a number of major roadways, including Trooper Road (PA 363), US 422, US 202, the Schuylkill Expressway (I-76), and the Pennsylvania Turnpike (I-76/I-276).

SEPTA bus service is provided via Bus Route 125, which provides service to and from Philadelphia to King of Prussia/Chesterbrook area via Schuylkill Expressway (I-76). Along SR 23 the Bus Route 125 stops at the Valley Forge Towers, and the Valley Forge National Historical Park. Other stops are provided along Allendale Road, First Avenue, North Gulph Road, and DeKalb Pike (US 202). An additional service is also provided by Bus Route 124, which provides service to and from Philadelphia to the King of Prussia/Chesterbrook area via Schuylkill Expressway (I-76). However Route 124, has no direct stops along SR 23, but does provide service to the area via DeKalb Pike (US 202) and Henderson Road.

B. Existing Traffic Volumes

DVRPC and the traffic consultant collected existing traffic counts in the study area, including Automatic Traffic Recorder (ATR) counts and Manual Turning Movement counts. The ATR count locations were counted utilizing inductive loop and pneumatic tubes. The resultant annual average daily traffic volumes (AADT) have been summarized in **Figure II-1, Figure II-1A** (US 422 Inset)**, and Figure II-1B** (SR 23 and Valley Creek Road (PA 252) Inset). The detailed hourly traffic counts - corresponding to the AADT information for the study area has been included in **Appendix A**.

Current two-way AADT traffic counts on SR 23 vary from 22,700 vehicles to 9,000 vehicles per day (vpd). As can be seen in Figure II-1, the highest daily traffic volumes are experienced along SR 23 near the US 422 interchanges (17,500 vpd to 22,700 vpd), while lower traffic volumes are experienced to the east (9,000 vpd to 13,700 vpd) and to the west (12,900 vpd).

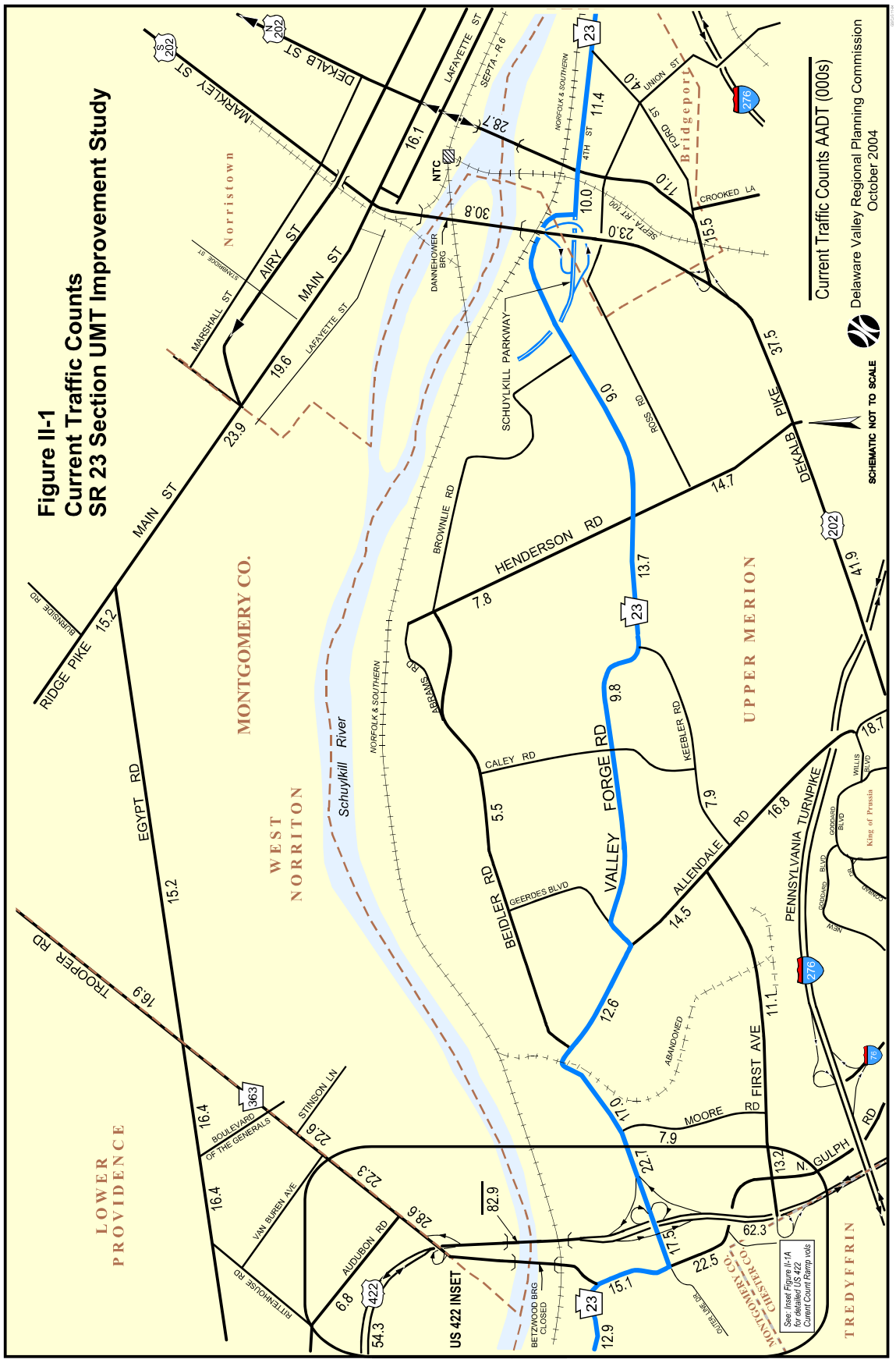
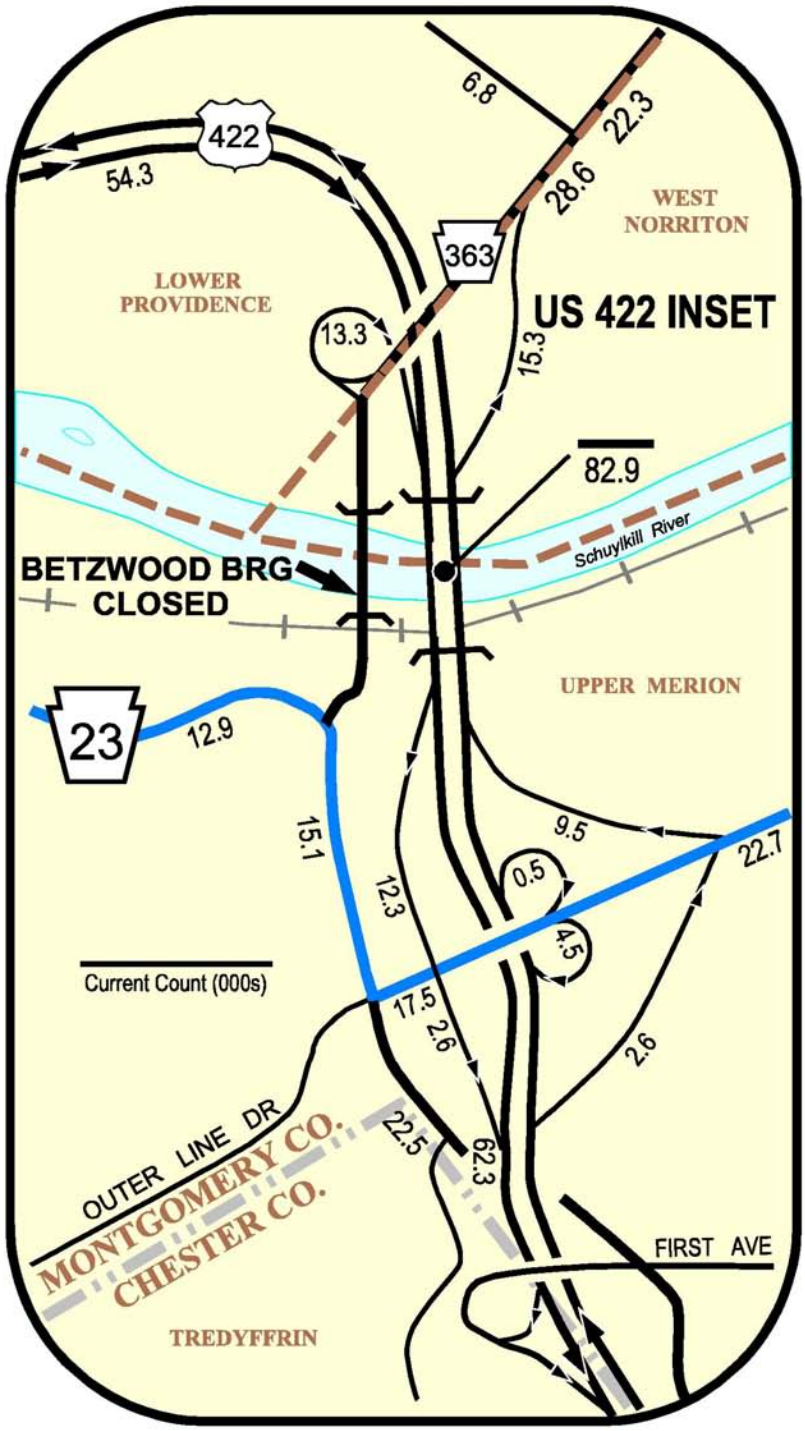


Figure II-1
Current Traffic Counts
SR 23 Section UMT Improvement Study
Current Traffic Counts AADT (000s)
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
MONTGOMERY CO.
LOWER PROVIDENCE
WEST NORRITON
UPPER MERION
TREDYFFRIN
CHESTER CO.
MONTGOMERY CO.
Norristown
Bridgeport
Schuylkill River
SCHUYLKILL PARKWAY
NORFOLK & SOUTHERN
SEPTA - R 6
SEPTA - RT 100
DANNEHOWER BRG
NTC
BETZWOOD BRG CLOSED
ABANDONED
US 422 INSET
See: Inset Figure II-1A for detailed US 422 Current Count Ramp tots
MAIN ST
AIRY ST
MARSHALL ST
MARKLEY ST
DEKALB ST
LAFAYETTE ST
RIDGE PIKE
EGYPT RD
TROOPER RD
BLUEBELL RD
BOULEVARD OF THE GENERALS
STINSON LN
VAN BUREN AVE
BRITTENHOUSE RD
AUDUBON RD
HENDERSON RD
BROWNLIE RD
ABRAMS RD
ROSS RD
BEIDLER RD
GEERDES BLVD
CALEY RD
VALLEY FORGE RD
KEEBLER RD
ALLENDALE RD
MOORE RD
FIRST AVE
N. GULPH RD
PENNSYLVANIA TURNPIKE
DEKALB PIKE
WILLIS BLVD
CROOKED LA
FORD ST
UNION ST
47TH ST
NORFOLK & SOUTHERN
422
23
202
276
363
S 202
N 202

Figure II-1A
Current Traffic Counts
SR 23 Section UMT Improvement Study



Delaware Valley Regional Planning Commission
October 2004

SCHEMATIC NOT TO SCALE

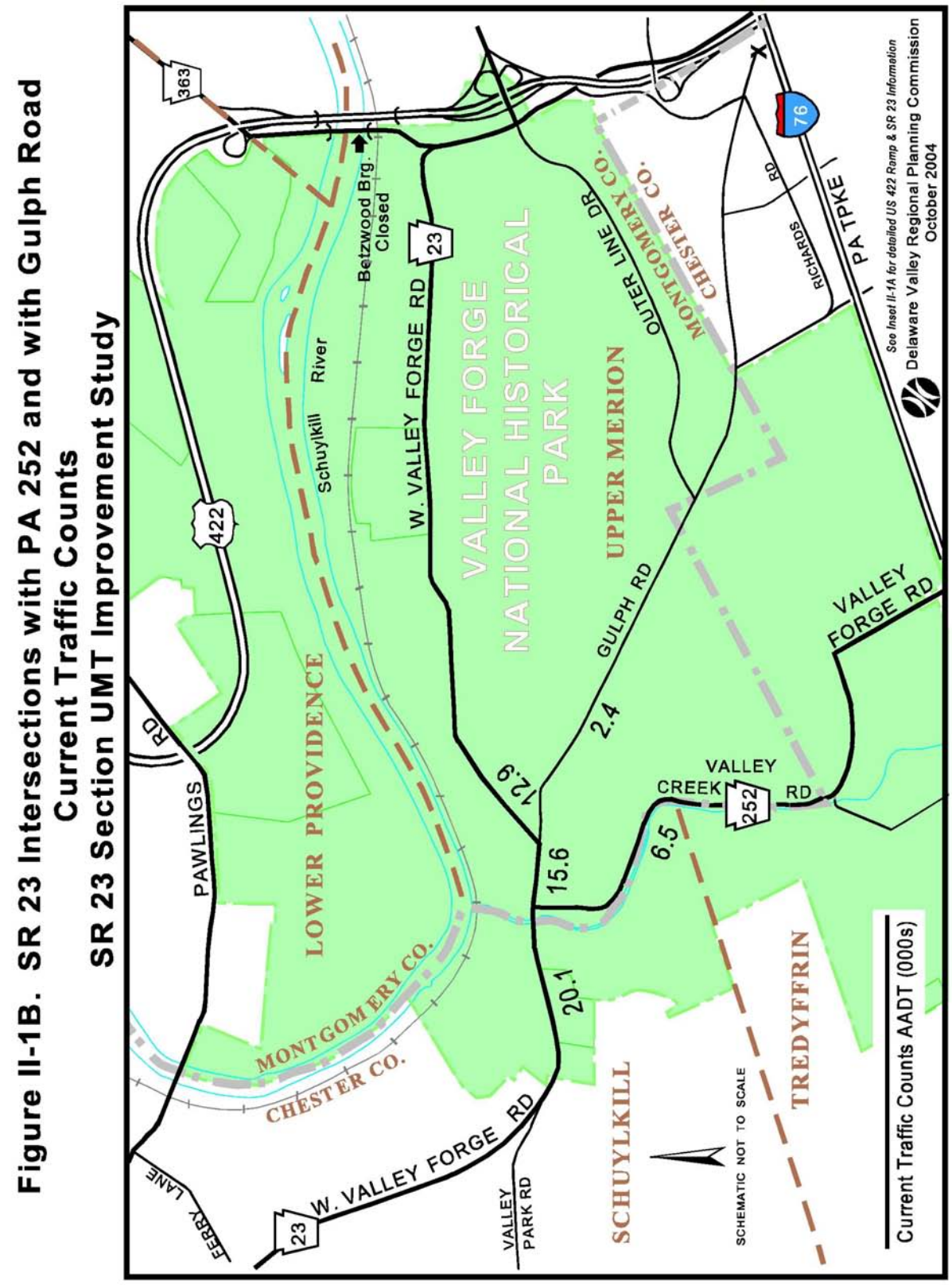


Figure II-1B. SR 23 Intersections with PA 252 and with Gulph Road
Current Traffic Counts
SR 23 Section UMT Improvement Study
363
422
23
252
76
PAWLINGS RD
LANE
FERRY
W. VALLEY FORGE RD
VALLEY PARK RD
LOWER PROVIDENCE
MONTGOMERY CO.
CHESTER CO.
Schuylkill River
Betzwood Brg.
Closed
VALLEY FORGE NATIONAL HISTORICAL PARK
UPPER MERION
OUTER LINE DR
MONTGOMERY CO.
CHESTER CO.
GULPH RD
VALLEY FORGE RD
VALLEY CREEK RD
RICHARDS RD
PA TPKE
SCHUYLKILL
TREDYFFRIN
SCHEMATIC NOT TO SCALE
See Inset II-1A for detailed US 422 Ramp & SR 23 Information
Delaware Valley Regional Planning Commission
October 2004
Current Traffic Counts AADT (000s)
1.2.9
2.4
15.6
6.5
20.1

The SR 23 corridor provides access to US 422 near the Valley Forge National Historical Park. US 422 services between 54,300 vpd to 82,900 vpd (total east and west) with the highest traffic volume between the SR 23 and Trooper Road (PA 363) ramp interchanges.

Other routes intersecting SR 23 include US 202, Henderson Road, Allendale Road, North Gulph Road, Moore Road, Geerdes Boulevard, Caley Road, Ford Street, and in the future Trooper Road (PA 363) via the reconstructed Old Betzwood Bridge. Trooper Road (PA 363) carries between 16,900 to 28,600 vpd (total both directions) with traffic increasing from the north to the south as Trooper Road (PA 363) currently terminates at the US 422 ramp interchanges. North Gulph Road carries about 22,500 vpd while Allendale Road carries between 14,500 and 18,700 vpd (total both directions), and Henderson Road serves 7,800 to 14,700 vpd (total both directions). Traffic volumes on the roads increase from the north to the south as they approach DeKalb Pike (US 202). However, traffic volumes also increase from south to north along the Bridgeport Bypass (23,000 vpd) to the Dannehower Bridge (30,800 vpd) and along DeKalb Pike (US 202 North) in Bridgeport Borough (11,000 vpd) to Norristown Borough (28,700 vpd). Moore Road carries 7,900 vpd (total both directions).

Parallel routes to SR 23 include Ridge Pike/Main Street, Egypt Road, Audubon Road, Beidler Road, Keebler Road, US 202, Brownlie Road, and First Avenue. Ridge Pike/Main Street and Egypt Road both carry between 15,200 and 23,900 vpd while the remaining parallel routes, except for US 202, all carry less than 11,100 vpd. US 202 carries between 37,500 to 41,900 vpd with higher volumes to the south of Henderson Road.

C. Current Turning Volumes

Manual turning movement counts were collected within the study area as part of this effort at the major study area intersections. **Figure II-2A and II-2B** summarizes the result of the Manual Turning Movement (MTM) count data, which were collected at the following intersection locations during the weekday morning (7:00 A.M.–9:00 A.M.) and weekday afternoon (4:00 P.M.– 6:00 P.M.) peak hours:

- SR 23 (Valley Forge Road) and Valley Creek Road (PA 252)
- SR 23 (Valley Forge Road) and County Line Road/ Old Betzwood Bridge
- SR 23 (Valley Forge Road) and North Gulph Road
- SR 23 (Valley Forge Road) and US 422 Ramp Interchanges
- SR 23 (Valley Forge Road) and Moore Road
- SR 23 (Valley Forge Road) and Beidler Road
- SR 23 (Valley Forge Road) and Allendale Road/Geerdes Boulevard
- SR 23 (Valley Forge Road) and Geerdes Boulevard
- SR 23 (Valley Forge Road) and Keebler Road
- SR 23 (Valley Forge Road) and Henderson Road
- SR 23 (Valley Forge Road) and DeKalb Pike (US 202 N)
- SR 23 (Fourth Street) and Ford Street
- DeKalb Pike (US 202) and Henderson Road
- Allendale Road and Keebler Road
- Allendale Road and First Avenue
- North Gulph Road and First Avenue
- US 422 Ramp Interchanges and Trooper Road (PA 363)
- Trooper Road (PA 363) and Audubon Road
- Trooper Road (PA 363) and Boulevard of the Generals
- Trooper Road (PA 363) and Egypt Road
- Ridge Pike and Egypt Road
- Main Street and Schuylkill Avenue
- Main Street and Whitehall Avenue
- Main Street and Airy Road
- Main Street and Stanbridge Street
- Main Street and Markley Street (US 202 S)

The detailed traffic MTM data counts at the study area intersections are included in **Appendix B**.

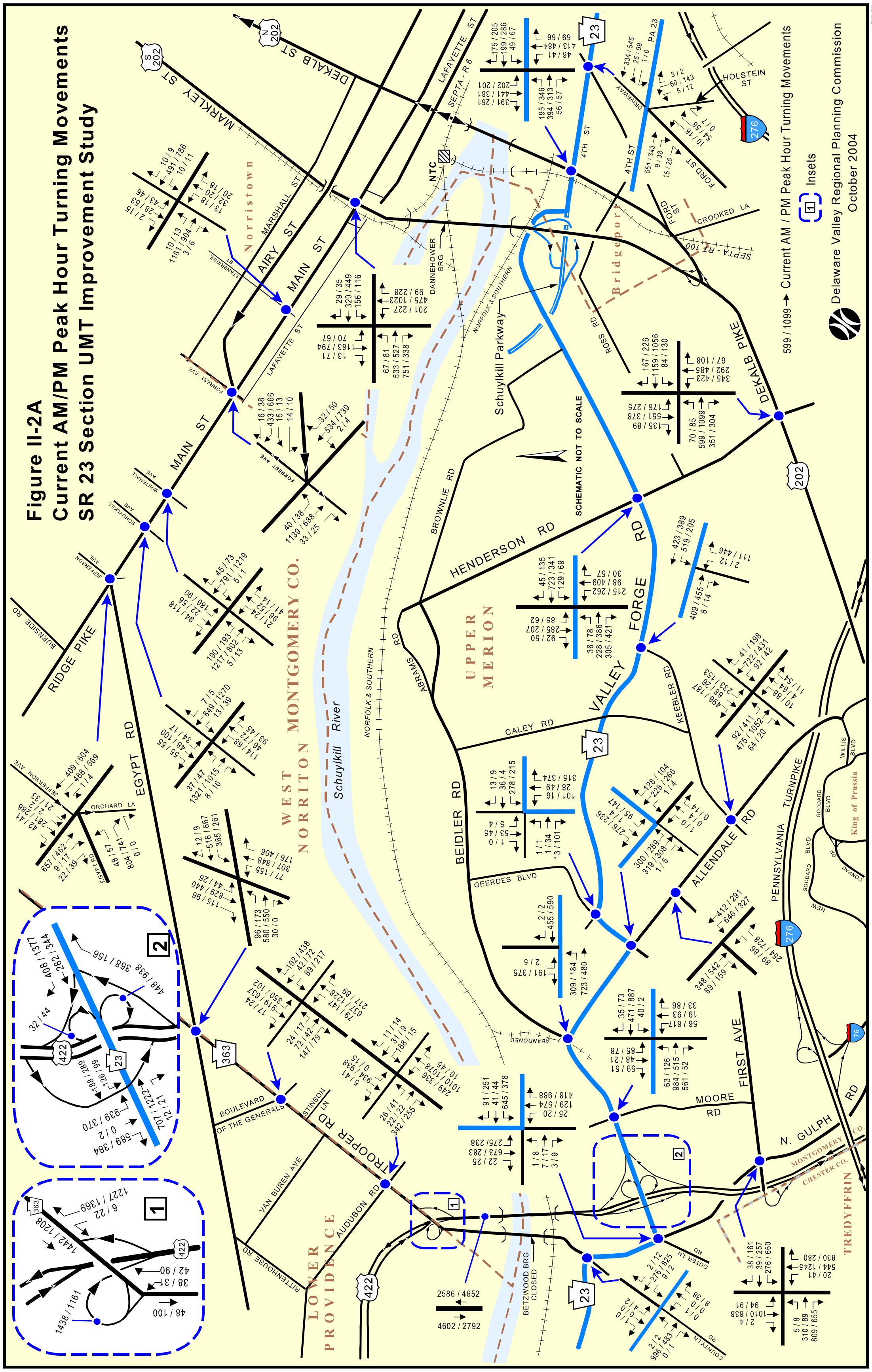
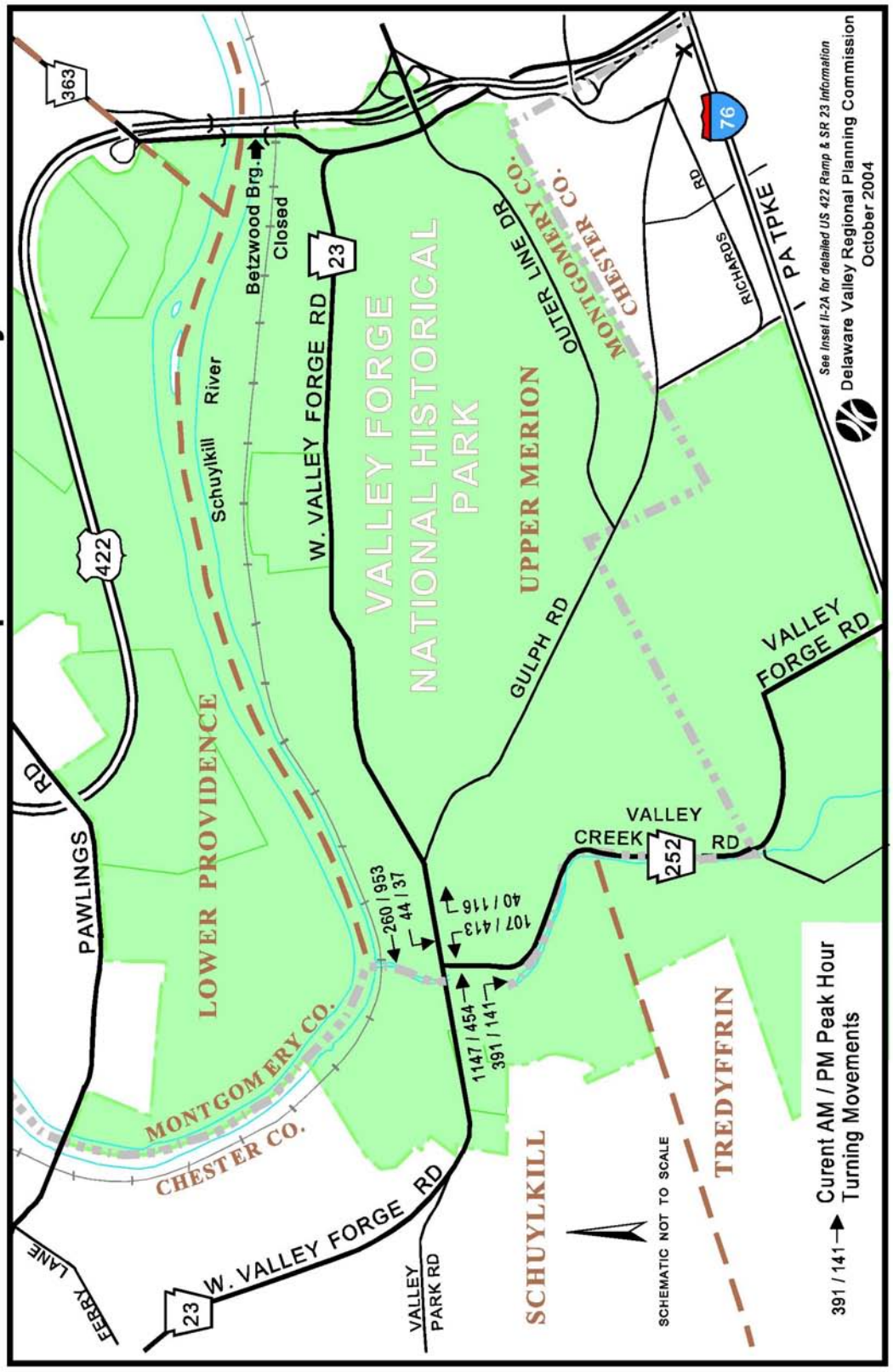


Figure II-2A
Current AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study
599 / 1099 → Current AM / PM Peak Hour Turning Movements
Insets
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
Schuylkill River
Schuylkill Parkway
WEST NORRITON
MONTGOMERY CO.
UPPER MERION
LOWER PROVIDENCE
Norristown
Bridgeport
King of Prussia
TREDYFFRIN
MONTGOMERY CO.
CHESTER CO.
RIDGE PIKE
EGYPT RD
MAIN ST
AIRY ST
MARKLEY ST
DEKALB ST
DEKALB PIKE
VALLEY FORGE RD
HENDERSON RD
BEIDLER RD
TROOPER RD
ALLENDALE RD
FIRST AVE
N. GULPH RD
MOORE RD
PENNSYLVANIA TURNPIKE
CALEY RD
GEERDES BLVD
BROWNLIE RD
ABRAMS RD
KEEBLER RD
ROSS RD
FORD ST
4TH ST
HOLSTEIN ST
CROOKED LA
BOULEVARD OF THE GENERALS
VAN BUREN AVE
AUDUBON RD
RITTENHOUSE RD
STINSON LN
BETZWOOD BRG CLOSED
DANNEHOWER BRG
NORFOLK & SOUTHERN
SEPTA - R 6
NTC

Figure II-2B. SR 23 Intersections with PA 252 Valley Creek Road
Current AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study



III. TRAVEL FORECASTING PROCEDURES

A. Socioeconomic Projections

DVRPC's long-range population and employment forecasts are revised periodically to reflect changing market trends, development patterns, local and national economic conditions, and available data. The completed forecasts reflect all reasonably known current information and the best professional judgment of predicted future conditions. The revised forecasts adopted by the DVRPC Board on February 24, 2000 reflect an update to municipal forecasts that were last completed in June 1993.

DVRPC uses a multi-step, multi-source methodology to produce its population and employment forecasts at the county-level. County forecasts serve as control totals for municipal forecasts, which are disaggregated from county totals. Municipal forecasts are based on an analysis of historical data trends adjusted to account for infrastructure availability, environmental constraints to development, local zoning policy, and development proposals. Municipal population forecasts are constrained using density ceilings and floors. County, and where necessary, municipal input is used throughout the process to derive the most likely population forecasts for all geographic levels.

1. Population Forecasting

Population forecasting at the regional level involves review and analysis of six major components: births, deaths, domestic in-migration, domestic out-migration, international immigration, and changes in group quarters populations (e.g. dormitories, military barracks, prisons, and nursing homes). DVRPC uses both the cohort survival concept to age individuals from one age group to the next, and a modified Markov transition probability model based on the most recent US Census and the US Census' recent Current Population Survey (CPS) research to determine the flow of individuals between the Delaware Valley and the outside world. For movement within the region, Census and IRS migration data coupled with CPS data are used to determine migration rates between counties. DVRPC relies on county planning offices to provide information on any known, expected, or forecasted changes in group quarters populations. These major population components are then aggregated and the resulting population forecasts are reviewed by member counties for final adjustments based on local knowledge.

2. Employment Forecasting

Employment is influenced by local, national, and global political and socio-economic factors. The Bureau of Economic Analysis provides the most complete and consistent time series data on county employment by sector, and serves as DVRPC's primary data source for employment forecasting. Employment sectors

include mining, agriculture, construction, manufacturing, transportation, retail, wholesale, finance/insurance, service industries, government, and military. Other supplemental sources of data include the U.S. Census, Dun & Bradstreet, Bureau of Labor Statistics, Occupational Privilege tax data, and other public and private sector forecasts. The OBERS shift-share model in combination with the Woods and Poole Economics' sectoral forecasts provides the basis for DVRPC's employment forecasts. As in the population forecasts, county level total employment is used as a control total for sector distribution and municipal level forecasts. Forecasts are then reviewed by member counties for final adjustments based on local knowledge.

3. SR 23 Section UMT Improvement Study Area Population and Employment Forecasts

DVRPC's long-range population and employment forecasts to year 2025 were developed prior to the release of the 2000 Census. At the time the SR 23 Section UMT Improvement Study was initiated, 2000 municipal-level Census population data was unavailable. 2000 Census employment data is scheduled for release in 2003.

As part of the SR 23 Section UMT Improvement study, DVRPC staff reviewed its most recent current population and employment estimates (1997), its 2025 long-range population and employment forecasts, and all proposed land-use developments in the study area. Based on this review, DVRPC updated the 2025 municipal and traffic zone population and employment forecasts for use as inputs to the traffic simulation models.

Table III-1 summarizes the population forecasts and **Table III-2** summarizes the employment forecasts used in the SR 23 Section UMT Improvement Study. In these tables the "DVRPC 2025" column refers to the local adopted numbers and the "Forecast 2025" column refers to the updated estimate used in the study.

B. Travel Forecasting Methods

DVRPC's traffic simulation models were used in conjunction with the 2025 population and employment forecasts to develop 2025 traffic volumes and patterns. Projection of travel demand for the SR 23 alternatives was accomplished in two phases. First a 2025 projection of roadway traffic volumes was made based on the updated DVRPC board adopted 2025 socioeconomic forecast and the facility improvements included in the transportation alternative under study. In a second step, 2010 link traffic volumes were estimated by interpolating between current estimates and year 2030 forecasts were prepared by extrapolating from 2025.

1. Focused Simulation Process

The regional travel assignments do not give the detailed forecasts of AM and PM peak hour link volumes and turns required for corridor level design studies. In

Table III-1
Municipal Population Forecasts for the SR 23 Section UMT Improvement Study

Municipality	DVRPC 1997	Census 2000	DVRPC 2025	Forecast 2025	Difference between 1997 and 2025 Forecast	
					Diff.	% Diff.
Bridgeport	4,193	4,371	4,270	4,380	187	4.5%
Conshohocken	8,252	7,589	7,800	8,000	-252	-3.1%
Lower Providence	20,815	22,390	27,790	28,740	7,925	38.1%
Norristown	30,008	31,282	29,860	31,380	1,372	4.6%
Plymouth	16,028	16,045	15,170	16,590	562	3.5%
Upper Merion	26,289	26,863	28,300	28,510	2,221	8.4%
West Conshohocken	1,325	1,446	1,500	1,450	125	9.4%
West Norriton	14,963	14,901	14,830	16,560	1,597	10.7%
Montgomery County	**121,873**	**124,887**	**129,520**	**135,610**	**13,737**	**11.3%**
Schuylkill	6,155	6,960	8,310	11,503	5,348	86.9%
Tredyffrin	29,703	29,062	31,510	32,550	2,847	9.6%
Chester County	**35,858**	**36,022**	**39,820**	**44,053**	**8,195**	**22.9%**
TOTAL	**157,731**	**160,909**	**169,340**	**179,663**	**21,932**	**13.9%**

Table III-2
Municipal Employment Forecasts for the SR 23 Section UMT Improvement Study

Municipality	DVRPC 1997	DVRPC 2025	Forecast 2025	Difference between 1997 and 2025 Forecast	
				Diff.	% Diff.
Bridgeport	1,526	1,300	1,570	44	2.9%
Conshohocken	5,655	10,500	9,450	3,795	67.1%
Lower Providence	10,503	13,000	15,140	4,637	44.1%
Norristown	15,923	14,500	16,400	477	3.0%
Plymouth	22,399	32,000	28,810	6,411	28.6%
Upper Merion	49,737	60,250	60,250	10,513	21.1%
West Conshohocken	2,408	3,450	3,110	702	29.2%
West Norriton	6,925	7,750	9,250	2,325	33.6%
Montgomery County	**115,076**	**142,750**	**143,980**	**28,904**	**25.1%**
Schuylkill	2,893	2,800	3,200	307	10.6%
Tredyffrin	28,626	35,000	36,017	7,391	25.8%
Chester County	**31,519**	**37,800**	**39,217**	**7,698**	**24.4%**
TOTAL	**146,595**	**180,550**	**183,197**	**36,602**	**25.0%**

addition, local streets not included in the regional highway network are often of great interest to local planners and engineers. In order to improve the forecasting levels provided and to accommodate these special needs, an enhanced assignment technique focused on a detailed study area is used to produce corridor level highway and transit forecasts. This focused simulation process allows the use of DVRPC regional simulation models and increases the accuracy and detail of the travel forecasts within the detailed study area. At the same time, all existing and proposed highways throughout the region and their impact on both regional and interregional travel patterns become an integral part of the simulation process.

A focused approach was used to estimate traffic volumes based on the highway service levels provided by the SR 23 alternatives. The focused simulation process involved adding missing local streets to the network. Simulation zones inside the study area were subdivided so that traffic from existing and proposed land use developments could be loaded directly onto the network.

2. Traffic Assignment Validation and Future Trip Table Preparation

The final step in the preparation of the focused simulation process is the validation of the simulated highway assignment outputs using current traffic counts taken on roadways serving the study area. The focused simulation model was executed with inputs reflective of 1997 conditions and the results compared with recent traffic counts collected by DVRPC. Based on this analysis, the focused model produced reasonable daily traffic volumes.

To establish the current travel demand for the area under influence of the proposed roadway access improvements, DVRPC gathered information from a traffic counting effort conducted by field personnel. Automatic Traffic Recorder equipment was set at selected locations. These traffic counts were then tabulated on a peak period and daily basis and factored to represent annual average daily traffic (AADT). These daily traffic counts form the basis for the validation of the travel simulation model. In addition, the peak hour distributions of traffic at the count locations provide guidance for the estimation of AM and PM peak hour traffic forecasts under the No-Build and Build alternatives.

For this study, the focused 2025 trip table was prepared by disaggregating the socio-economic inputs to the DVRPC trip generation model and surcharging these data to reflect the additional industrial, commercial, and residential development in the area not included in the DVRPC Board adopted 2025 forecast. Following this, the DVRPC model from trip generation through traffic assignment was executed for both of the improvement alternatives. The resulting travel matrix includes all travel patterns throughout the Delaware Valley Region. Travel to and from all parts of Bucks, Chester, Delaware, and Montgomery counties, Philadelphia, and New Jersey via the Delaware River bridges is included as are trips to/from the remainder of Pennsylvania and the state of Delaware.

C. Synopsis of the Enhanced DVRPC Travel Simulation Process

The enhanced DVRPC travel simulation process utilizes the Evans Algorithm to iterate the model. The Evans Algorithm re-executes the trip distribution and modal split models based on updated highway speeds after each iteration of highway assignment and assigns a weight (λ) to each iteration. This weight is then used to prepare a convex combination of the link volumes and trip tables for the current iteration and a running weighted average of the previous iterations. This algorithm converges rapidly to the equilibrium solution on highway travel speeds and congestion levels. About seven iterations are needed for the process to converge to the approximate equilibrium state for travel patterns. After equilibrium is achieved, the weighted average transit trip tables are assigned to the transit networks to produce link and route passenger volumes. The final step of this iterative simulation process is the assignment of vehicle trips to the highway network.

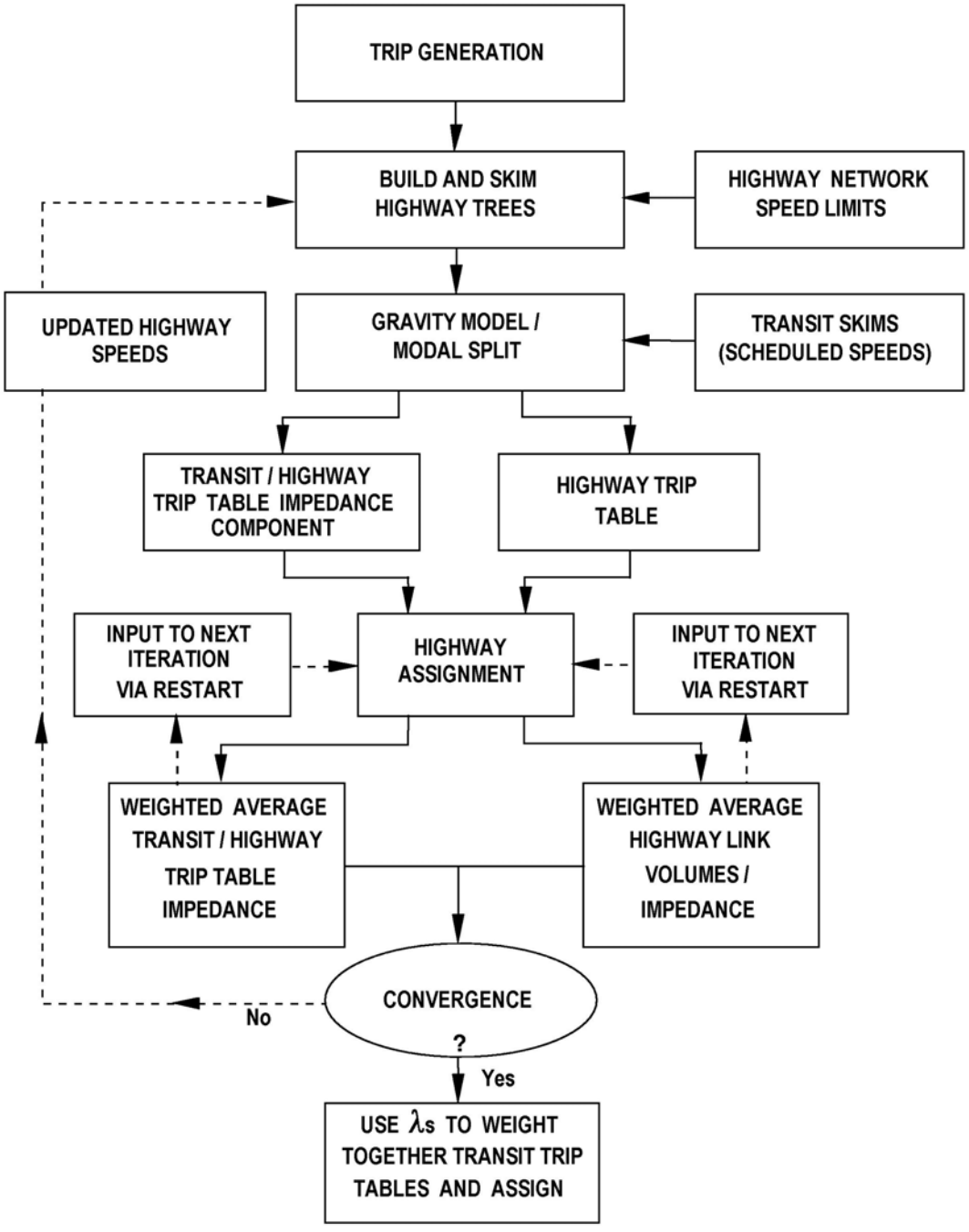
DVRPC's enhanced travel simulation model is disaggregated into separate peak period, midday, and evening time periods. This disaggregation begins in trip generation where factors are used to separate daily trips into peak and midday travel. Evening travel is then defined as the residual after peak and midday travel are removed from daily travel. The enhanced process utilizes completely separate model chains for peak, midday, and evening travel simulation runs. The peak period (combined AM and PM) is defined as 7:00 A.M. to 9:00 A.M. and 3:00 P.M. to 6:00 P.M.; midday is defined as 9:00 A.M. to 3:00 P.M. and evening as 6:00 P.M. to 7:00 A.M. The separation of the models into three time periods was accomplished with few changes to the basic models or their parameters. Inputs sensitive to time of day such as highway capacities and transit service levels were disaggregated to be reflective of time-period specific conditions.

The enhanced iterative DVRPC model is charted in **Figure III-1**. The first step in the process involves generating the number of trips that are produced by and destined for each traffic zone and cordon station throughout the nine-county region.

1. Trip Generation

Both internal trips (those made within the DVRPC region) and external trips (those which cross the boundary of the region) must be considered in the simulation of regional travel. Internal trip generation is based on zonal forecasts of population and employment, whereas external trips are estimated from cordon line traffic counts. The latter also include trips, which pass through the Delaware Valley region. Estimates of internal trip productions and attractions by zone are established on the basis of trip rates applied to the zonal estimates of demographic and employment data. This part of the DVRPC model is not iterated on highway travel speed. Rather, estimates of daily trip making by traffic zone are calculated and then disaggregated into peak, midday, and evening time periods.

Figure III-1: Evans Implementation Using DVRPC's Regional Simulation Model



2. Evans Iterations

The iterative portion of the Evans Algorithm involves updating the highway network restrained link travel speeds, rebuilding the minimum time paths through the network, and skimming the inter-zonal travel time for the minimum paths. Then the trip distribution, modal split, and highway assignment models are executed in sequence for each pass through the model chain (see Figure III-1). After convergence is reached, the transit trip tables for each iteration are weighted together and the weighted average table assigned to the transit network. The highway trip tables are loaded onto the network during each Evans iteration. A composite highway trip table is not required to perform the highway assignment - rather the highway link volumes from the assignment are weighted together directly. Seven iterations of the Evans process, for each time period, are performed to ensure that convergence on travel times is reached.

3. Trip Distribution

Trip distribution is the process whereby the zonal trip ends established in the trip generation analysis are linked together to form origin-destination patterns in the trip table format. Peak, midday, and evening trip ends are distributed separately. For each Evans iteration, a series of seven gravity type distribution models are applied at the zonal level for each time period. These models follow the trip purpose and vehicle type stratifications established in trip generation. Documentation of the trip distribution models is included in the commission report entitled, "***1997 Travel Simulation Model for the Delaware Valley Region***."

4. Modal Split

The modal split model is also run separately for the peak, midday and evening time periods. The modal split model calculates the fraction of each person trip interchange in the trip table, which should be allocated to transit, and then assigns the residual to highway. The choice between highway and transit usage is made on the basis of comparative cost, travel time, and frequency of service, with other aspects of modal choice being used to modify this basic relationship. In general, the better the transit service, the higher the fraction assigned to transit, although trip purpose and auto ownership also affect the allocation. The model subdivides highway trips into auto drivers and passengers. Auto driver trips are added to the truck, taxi, and external vehicle trips in preparation for assignment to the highway network. See "***1990 Travel Simulation Model for the Delaware Valley Region***" for a detailed description of the model parameters.

5. Highway Assignment

The final step in the iterative simulation process is the assignment of vehicle trips to the highway network. For peak, midday, and evening travel, this assignment model produces the future traffic volumes for individual highway links that are required for planning analyses. The highway network and trip table underlying the assignment is regional in nature. This allows the diversion of highway

vehicular travel into and through the study area to various points of entry and exit in response to the characteristics of the transportation system.

For each Evans iteration, highway trips are assigned to the network by determining the best (minimum time) route through the highway network for each zonal interchange and then allocating the inter-zonal highway travel to the highway facilities along that route. This assignment model is “capacity restrained” in that congestion levels are considered when determining the best route. The Evans equilibrium assignment method is used to implement the capacity restraint. When the assignment and associated trip table reach equilibrium, no path faster than the one actually assigned can be found through the network, given the capacity restrained travel times on each link.

Initial estimates of future year intersection turning volumes were determined by scaling current year turning volumes according to growth factors on each intersection leg. These growth factors are the ratio of future year peak hour link volumes to current peak hour volumes. The future year peak hour link volumes for each leg of the intersection were determined by multiplying the forecasted AADT, an output of the DVRPC traffic assignment, by AM and PM “K” factors. Existing “K” factors were calculated from traffic counts as the ratio of the highest morning and evening hourly volumes to the total AADT. Future year “K” factors were based on the existing “K” factors and the AADT growth on each intersection approach. The resulting forecasted turning volumes for the AM and PM peak hours were reviewed for reasonableness and adjusted as necessary to balance traffic flows between adjacent intersections.

6. Transit Assignment

After equilibrium is achieved, the weighted average transit trip tables (using the λ’s calculated from the overall Evans process as weights) are assigned to the transit network to produce link and route passenger volumes. The transit person trips produced by the modal split model are "linked" in that they do not include any transfers that occur either between transit trips or between auto approaches and transit lines. The transit assignment procedure accomplishes two major tasks. First, the transit trips are "unlinked" to include transfers, and second, the unlinked transit trips are associated with specific transit facilities to produce link, line, and station volumes. These tasks are accomplished simultaneously within the transit assignment model, which assigns the transit trip matrix to minimum impedance paths built through the transit network. There is no capacity restraining procedure in the transit assignment model.

IV. HIGHWAY TRAFFIC VOLUME FORECASTS

Projected average daily traffic volumes for selected highway links within the study area are presented and analyzed in this Chapter of the report. Forecasts for two future years are presented, the anticipated opening year (2010) and the design year (2030), which is twenty years beyond the opening year. Traffic volumes for 2010 were developed by interpolating between the current and forecasted 2025 volumes while traffic volumes for 2030 were developed by extrapolating from the 2025 volumes.

The annual average daily traffic (AADT) and AM and PM peak hour traffic volume forecasts under the No-build Alternative assume that the proposed Schuylkill Valley Metro, Cross Country Metro and Route 100 Extension to King of Prussia Mall are not constructed. The Build Alternative AADT projections assume that these three proposed transit lines are constructed and in revenue service. Traffic reductions on highway links in the study area from these proposed transit facilities ranges from zero to 7.5 percent of the projected Build Alternative AADT traffic volumes depending on the location of a given highway link. The highest reductions in highway volumes from the proposed transit facilities will be on highway links adjacent to and parallel to the proposed facilities. The AM and PM peak hour Build Alternative forecasts presented in figures IV-4A, IV-4B, IV-6B, IV-8A and IV-8B do not assume construction of the Schuylkill Valley Metro, Cross County Metro, or Route 100 Extension. These Build Alternative peak hour ramp and turning movement forecasts are intended to reflect the worst case assumptions for design purposes.

To address growing traffic volumes and congestion along the SR 23 corridor, three build alternatives have been proposed. The first alternative will require widening of the existing 2-lane cross-section of SR 23 to a 5-lane cross-section from the SR 23/US 422 interchange ramps to the reconstructed Schuylkill Parkway/SR 23 interchange ramps with US 202. Modifications to the ramp geometry and ramp terminal intersection operations have been proposed for the SR 23/US 422 interchange as well as updating and modifying various key signalized intersections along the SR 23 corridor.

In the second alternative, the SR 23 roadway will be relocated, in that a new 5-lane cross-section will be provided that links Allendale Road to the existing terminus Schuylkill Parkway/SR 23 interchange ramps. This new cross-section will follow the general alignment of the existing railroad tracks and parallel the river in Upper Merion Township. Both Allendale Road and Henderson Road will be extended to provide a connection to the relocated SR 23 roadway. The second alternative will also require modifications to the ramp geometry and ramp terminal intersection operations at the SR 23/US 422 interchange as well as updating and modifying various key signalized intersections along the SR 23/Schuylkill Parkway corridor.

To encourage commuter traffic to utilize the relocated corridor, a traffic signing and a traffic demand management plan will be implemented along the existing SR 23 from Geerdes Boulevard to the Schuylkill Parkway underpass. This element of the plan would downgrade this existing section of SR 23 to a local road. Implementation of this traffic plan would encourage through traffic volumes along Valley Forge Road currently (SR 23) to divert to the new relocated SR 23/Schuylkill Parkway.

Under the third alternative, SR 23 will be relocated to the north side of the Schuylkill River via Trooper Road (PA 363), Egypt Road, and Main Street in West Norriton Township before crossing over the river and the existing railroad tracts via US 202 to connect to the Schuylkill Parkway. The new SR 23 will have a 5-lane cross-section with at-grade signalized intersections. As under the second build alternative, a traffic demand management plan will be implemented on the existing SR 23. The No-Build and Build Alternatives assume that the reconstructed Betzwood Bridge would be open to traffic.

A discussion of the no-build and build alternatives is included in the following sections along with details regarding analysis results. A comparison of the no-build and build conditions is also included.

A. 2010 and 2030 No-Build Alternative

Figures IV-1, IV-1A, and IV-1B (pages 26-28) compare the current traffic volumes with future 2010 and 2030 No-Build traffic forecasts. **Table IV-1** (pages 29-30) provides a comparison of the current traffic volumes to the 2030 future no-build traffic volumes. **Figures IV-2A and IV-2B** (pages 31-32) provide a summary of the future 2030 no-build weekday morning and weekday afternoon peak hour turning movement volumes at the study area intersections.

As can be seen from Table IV-1, traffic volumes along the SR 23 corridor have increased by 13.1 percent (1,490 vpd) to 74.8 percent (11,299 vpd) over current traffic counts by the year 2030. The lowest growth occurs along SR 23 in Bridgeport Borough while the highest growth occurs along the segments of SR 23 near the US 422 interchange ramps where there is at least a 7,200 vpd increase in traffic. The remaining segments of SR 23 all have traffic increases less than 4,300 vpd although the actual increases compared to existing traffic volumes is at least 24.0 percent.

Mainline US 422 traffic volumes have increased between 8,100 vpd and 11,000 vpd (range of 19.2 percent to 35.7 percent) while the interchange ramp volumes have increased from 1,400 vpd to 3,700 vpd. And the new US 422 westbound on-ramp to Trooper Road (PA 363) will carry about 4,100 vpd in 2030 while the new US 422 eastbound off ramp will carry about 3,000 vpd in 2030.

Traffic volumes along the US 202 corridor will increase from 16.9 percent to 36.3 percent by the year 2030 (range of 2,081 to 7,967 vpd). Other major intersecting routes, such as Henderson Road, Allendale Road, and Moore Road, all experience traffic increases less than 8,300 vpd. Traffic along the Trooper Road (PA 363) increases by at least 49.7 percent (8,400 vpd).

Ridge Pike/Main Street experience traffic increases from 21.0 percent to 27.2 percent (4,133 to 5,023 vpd). The other parallel routes also experience traffic increases less than 37.3 percent with the exception of Audubon Road, which experiences an increase of 72.1 percent (4,900 vpd). Traffic is increased by about 220.8 percent or 5,300 vpd along Gulph Road, which traverses through Valley Forge National Historical Park.

B. 2010 and 2030 Widening of Existing SR 23 (Alternative 1)

Figures IV-3, IV-3A, and IV-3B (pages 33-35) compares the 2010 and 2030 no-build alternative traffic forecasts to the 2010 and 2030 traffic forecasts for widening of existing SR 23, also known as Alternative 1. **Table IV-2** (pages 36-37) provides a comparison of the current traffic volumes to the 2030 build Alternative 1 traffic volumes. **Figures IV-4A and IV-4B** (pages 38-39) provides a summary of the future 2030 weekday morning and weekday afternoon peak hour turning movement volumes at the study area intersections for Alternative 1.

As a result of the widening of the existing SR 23 roadway, traffic volumes (see Table IV-2) along the SR 23 from Henderson Road to the Old Betzwood Bridge have increased from 40.9 percent to 127.6 percent (7,174 vpd to 12,447 vpd) over the current counts. To the east in Bridgeport Borough, SR 23 experiences less than a 25 percent (2,500 vpd) increase in volumes as the widening of the roadway does not extend into this municipality. West of the Old Betzwood Bridge, SR 23 experiences a 33 percent increase in traffic volumes (4,300 vpd).

Along the US 422, the traffic volumes to the west of the Trooper Road (PA 363) interchange have increase by about 30.6 percent and 32.0 percent (8,300 vpd and 8,700 vpd) with higher traffic volumes eastbound, while the interchange ramps volumes are increased by about 2,400 vpd (15.3 percent to 18.3 percent). Between the Trooper Road (PA 363) and SR 23 ramp interchanges, the mainline of US 422 experiences traffic growth of about 14.7 percent and 19.7 percent with higher traffic growths occurring eastbound (6,225 vpd and 7,988 vpd), while the SR 23 ramp interchanges have a minimum growth of 35.0 percent and 1,900 vpd. And the mainline of US 422 to the east of SR 23 experiences traffic growth of about 21.0 percent and 27.6 percent (6,600 vpd and 8,500 vpd) with the larger increase in traffic traveling to the east.

With the exception of Trooper Road (PA 363), the major intersecting routes all experience traffic growth less than 6,500 vpd. Trooper Road (PA 363) experiences traffic growth ranging from 7,700 vpd to 12,300 vpd, which are all at least a 43.0 percent increase in the traffic volumes compared to existing conditions. And the parallel routes all experience a growth in their traffic volumes less than 5,000 vpd. This growth is less than 22.9 percent on all of the parallel routes with the exception of the Audubon Road whose increase in traffic volumes is about 64.7 percent. Traffic is increased by about 187.5 percent or 4,500 vpd along Gulph Road, which traverses through Valley Forge National Historical Park.

C. 2010 and 2030 Relocated SR 23 (Alternative 2)

Figures IV-5, IV-5A, and IV-5B (pages 40-42) compares the 2010 and 2030 No-Build alternative traffic forecasts to the 2010 and 2030 traffic forecasts for the relocation of SR 23 beginning to the east of Moore Road and commencing at the existing terminus Schuylkill Parkway underpass outside of Bridgeport Borough, also known as Alternative 2. **Table IV-3** (pages 43-45) provides a comparison of the current traffic volumes to the 2030 Build Alternative 2 traffic volumes. **Figures IV-6A and IV-6B** (pages 46-47) provides a summary of the future 2030 weekday morning and weekday afternoon peak hour turning movement volumes at the study area intersections for Alternative 2.

As a result of relocating SR 23 from the existing intersection of Allendale Road and Beidler Road to west of Moore Road to the existing terminus Schuylkill Parkway underpass outside of Bridgeport Borough, the traffic volumes in these segments have experienced a decrease in traffic volumes ranging from 19.0 percent to 38.1 percent (1,853 vpd to 4,311 vpd) over current counts. To the east in Bridgeport Borough, SR 23 experiences an increase from 14.8 percent to 33.0 percent (1,690 vpd to 3,300 vpd). West of Moore Road and the east of North Gulph Road, the SR 23 traffic volumes increase by 74.5 percent (16,954 vpd) while to the east of North Gulph Road traffic volumes increase by less than 44.9 percent (7,874 vpd). The new SR 23 roadway segments will carry between 16,500 vpd and 22,000 vpd.

Along the US 422, the traffic volumes to the west of the Trooper Road (PA 363) interchange will increase by about 30.6 percent and 31.6 percent (8,300 vpd and 8,600 vpd) over current traffic counts, with the higher traffic increase to the eastbound, while the interchange ramps volumes are increased by at least 2,500 vpd (17.3 percent). Between the Trooper Road (PA 363) and SR 23 ramp interchanges, the mainline of US 422 experiences traffic growth of about 16.6 percent and 20.5 percent with higher traffic volumes traveling to the east (7,025 vpd and 8,288 vpd), while the SR 23 ramp volumes have a minimum growth of 39.0 percent or 2,000 vpd. The mainline of US 422 to the east of SR 23 will experience traffic growth of about 21.9 percent and 28.2 percent (6,900 vpd and 8,700 vpd) with the larger increase in traffic traveling to the east.

With the exception Trooper Road (PA 363) and the Dannehower Bridge, the major intersecting routes all are projected to experience traffic growth less than 6,500 vpd. The Dannehower Bridge experiences traffic growth over 7,300 vpd in the southbound direction. Trooper Road (PA 363) experiences traffic growths ranging from 7,700 vpd to 11,600 vpd, a 39.5 percent increase compared to existing conditions. Parallel routes all experience growth in their traffic volumes of less than 5,000 vpd although this growth is less than 21.3 percent on all of the parallel routes with the exception of Audubon Road whose increase in traffic volumes is about 60.3 percent. With the closing of County Line Road, traffic is increased by about 191.7 percent or 4,600 vpd along Gulph Road, which traverses through Valley Forge National Historical Park. And Beidler Road between Caley Road and Geerdes Boulevard experiences a decrease in traffic volumes of about 43.3 percent or 2,364 vpd as traffic is diverted to the relocated SR 23 roadway.

D. 2010 and 2030 Relief Route North Side Schuylkill River (Alternative 3)

Figures IV-7, IV-7A, and IV-7B (pages 48-50) compares the 2010 and 2030 No-Build alternative traffic forecasts to the 2010 and 2030 traffic forecasts for the relief route that will be provided for SR 23 to the north of the Schuylkill River via widening Trooper Road (PA 363), Egypt Road, and Main Street to its intersection with Markley Street in Norristown Borough (also known as Alternative 3). **Table IV-4** (pages 51-52) provides a comparison of the current traffic volumes to the 2030 future Alternative 2 traffic volumes. **Figures IV-8A and IV-8B** (pages 53-54) provides a summary of the future 2030 weekday morning and weekday afternoon peak hour turning movement volumes at the study area intersections for Alternative 3.

As a result of the SR 23 relief route provided to the north of the Schuylkill River via Trooper Road (PA 363), Egypt Road and Main Street in Norristown Borough, the traffic volumes along the SR 23 experiences traffic growth of less than 2,700 vpd over the current counts. This compares with growth of up to 23,600 under Alternative 1. And to the west of Moore Road and the east of North Gulph Road, the SR 23 traffic volumes increase by about 6,500 vpd with the most significant increase (9,090 vpd) occurring between North Gulph Road and the Betzwood Bridge (62.9 percent).

Along the US 422 corridor, the traffic volumes to the west of the Trooper Road (PA 363) interchange will increase by about 29.5 percent and 30.1 percent (8,000 vpd and 8,200 vpd) with higher traffic volume increases eastbound, while the interchange ramps volumes have increased by at least 2,700 vpd (19.9 percent). Between the Trooper Road (PA 363) and SR 23 ramp interchanges, the mainline of US 422 experiences traffic growth of about 13.5 percent and 16.8 percent with higher traffic volumes traveling to the east (6,788 vpd and 5,725 vpd), while the SR 23 ramp interchanges will not increased by less than 3,600 vpd (138.5 percent). The mainline of US 422 to the east of SR 23 experiences traffic growth of about 21.6 percent and 27.9 percent (6,800 vpd and 8,600 vpd) with the larger increase in traffic traveling eastbound.

With the exception of the Trooper Road (PA 363), the major intersecting routes all experience traffic growth less than 8,100 vpd or (49.4 percent). Trooper Road (PA 363) experiences traffic growth ranging from 8,500 vpd to 18,000 vpd, which are increases of at least 50.3 percent compared to existing conditions. Egypt Road is projected to sustain a traffic growth of 10,187 vpd or 67.0 percent as a result of its relief road status. Main Street also increases by about 10,000 vpd or about 45 percent because of traffic directed from the Valley Forge corridor. With the exception of the Egypt Road and Main Street (relief routes), the parallel routes all experience a growth in their traffic volumes less than 6,700 vpd. This growth is less than 35.4 percent on all of the parallel routes with the exception of Audubon Road whose increase in traffic volumes is about 69.1 percent. Traffic is increased by about 166.7 percent or 4,000 vpd along Gulph Road, which traverses through Valley Forge National Historical Park.

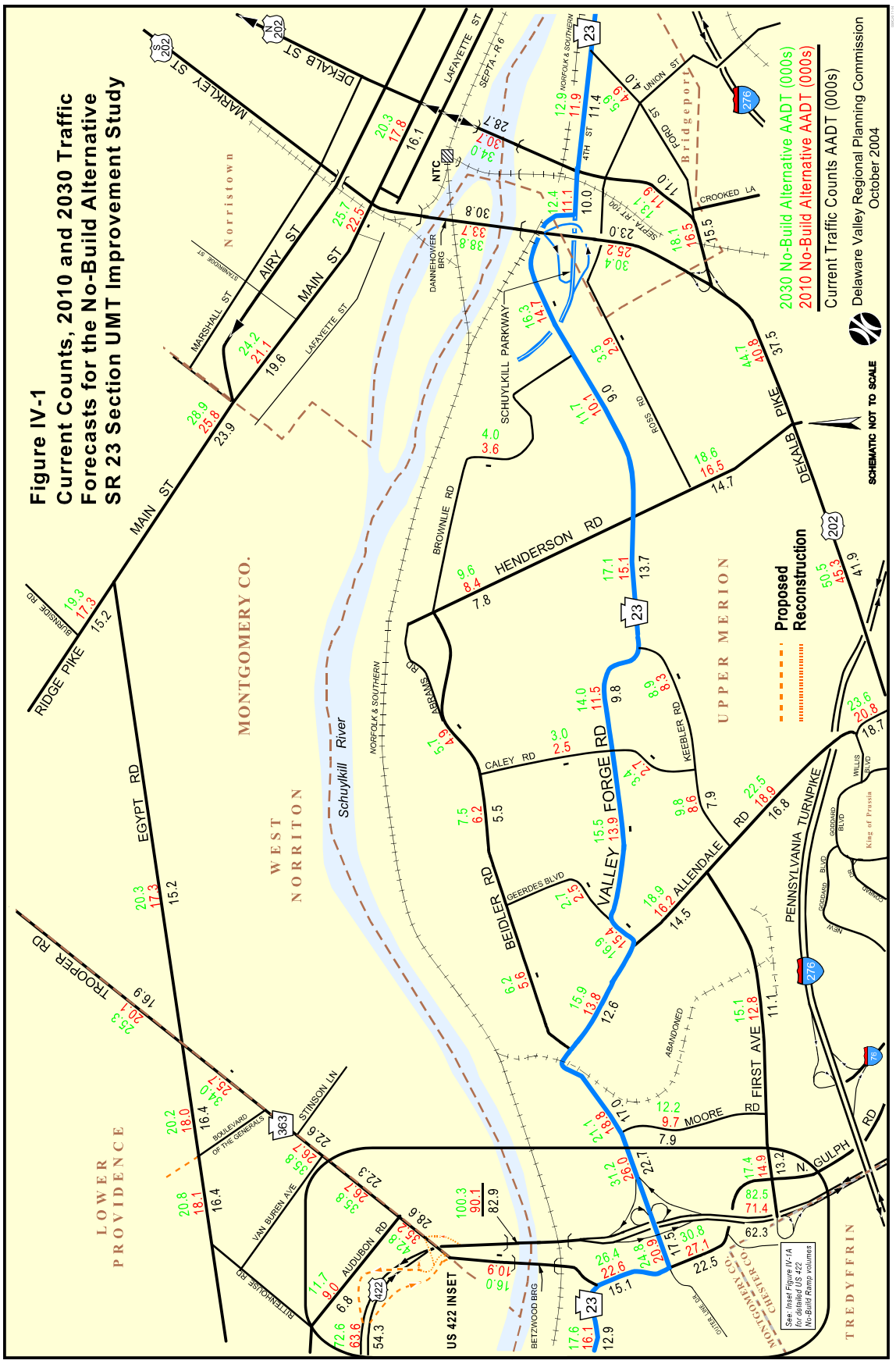
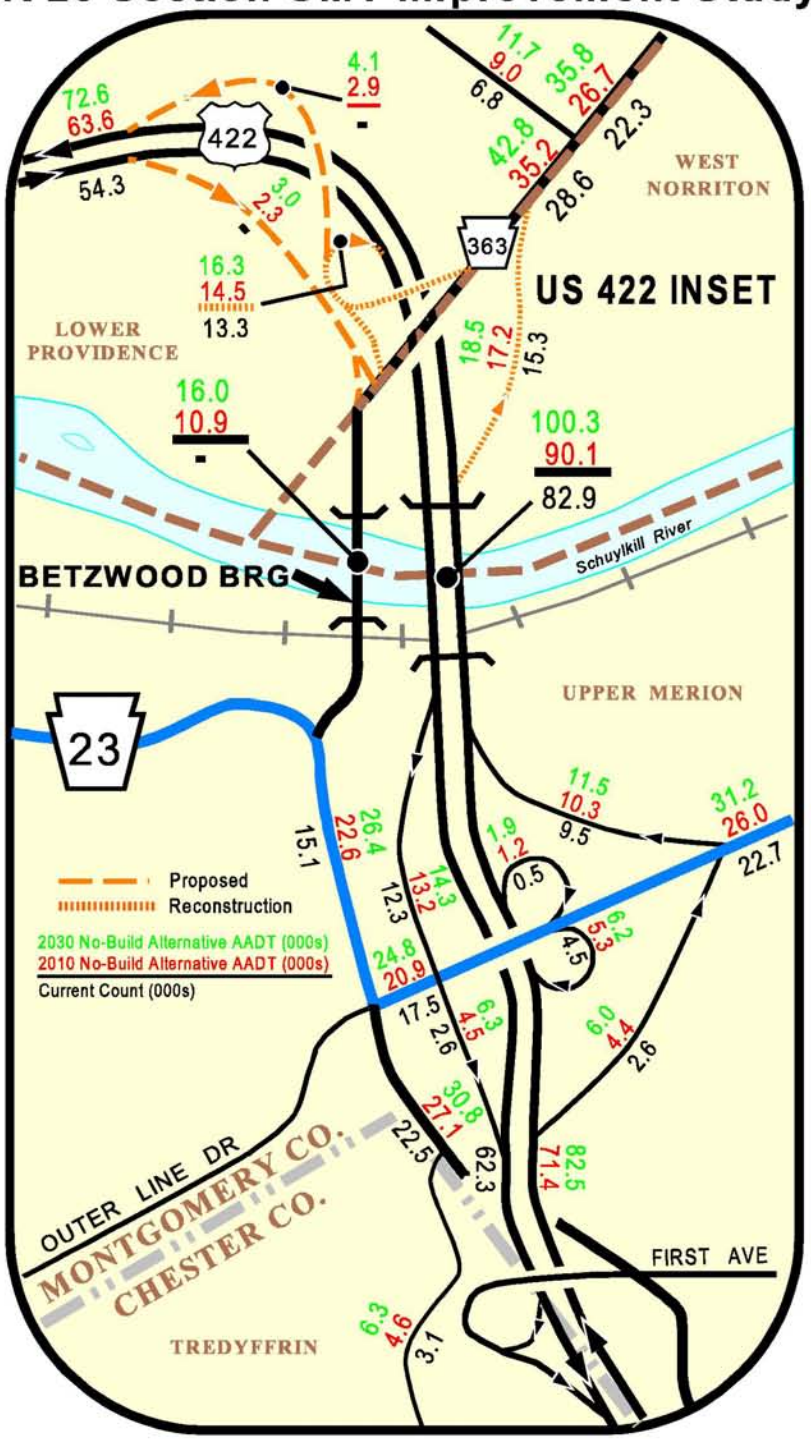


Figure IV-1
Current Counts, 2010 and 2030 Traffic
Forecasts for the No-Build Alternative
SR 23 Section UMT Improvement Study
2030 No-Build Alternative AADT (000s)
2010 No-Build Alternative AADT (000s)
Current Traffic Counts AADT (000s)
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
Proposed Reconstruction
MONTGOMERY CO.
LOWER PROVIDENCE
WEST NORRITON
UPPER MERION
TREDYFFRIN
Norristown
Bridgeport
Schuylkill River
MAIN ST
EGYPT RD
RIDGE PIKE
TROOPER RD
BLUEBELL RD
MARKLEY ST
DEKALB ST
AIRY ST
LAFAYETTE ST
MARSHALL ST
STANBRIDGE ST
SEPTA - R 6
NTC
DANNEHOWER BRG
NORFOLK & SOUTHERN
SCHUYLKILL PARKWAY
UNION ST
FORD ST
4TH ST
CROOKED LA
SEPTA - RT 101
ROSS RD
DEKALB PIKE
HENDERSON RD
BROWNLIE RD
ABRAMS RD
CALEY RD
KEEBLER RD
BEIDLER RD
GEERDES BLVD
VALLEY FORGE RD
ALLENDALE RD
PENNSYLVANIA TURNPIKE
WILLIS BLVD
GODDARD BLVD
King of Prussia
ABANDONED
FIRST AVE
MOORE RD
N. GULPH RD
OUTER LINE SB
MONTGOMERY CO.
CHESTER CO.
BETZWOOD BRG
US 422 INSET
AUDUBON RD
VAN BUREN AVE
STINSON LN
BOULEVARD OF THE GENERALS
ALTEMUS LN
See: Inset Figure IV-1A for detailed US 422 No-Build Ramp volumes

Figure IV-1A
Current Counts, 2010 and 2030 Traffic Forecast for the No-Build Alternative
SR 23 Section UMT Improvement Study



SCHEMATIC NOT TO SCALE

Figure IV-1B. SR 23 Intersections with PA 252 and with Gulph Road Current Counts, and 2010, 2030 Traffic Forecasts for the No-Build Alternative SR 23 Section UMT Improvement Study

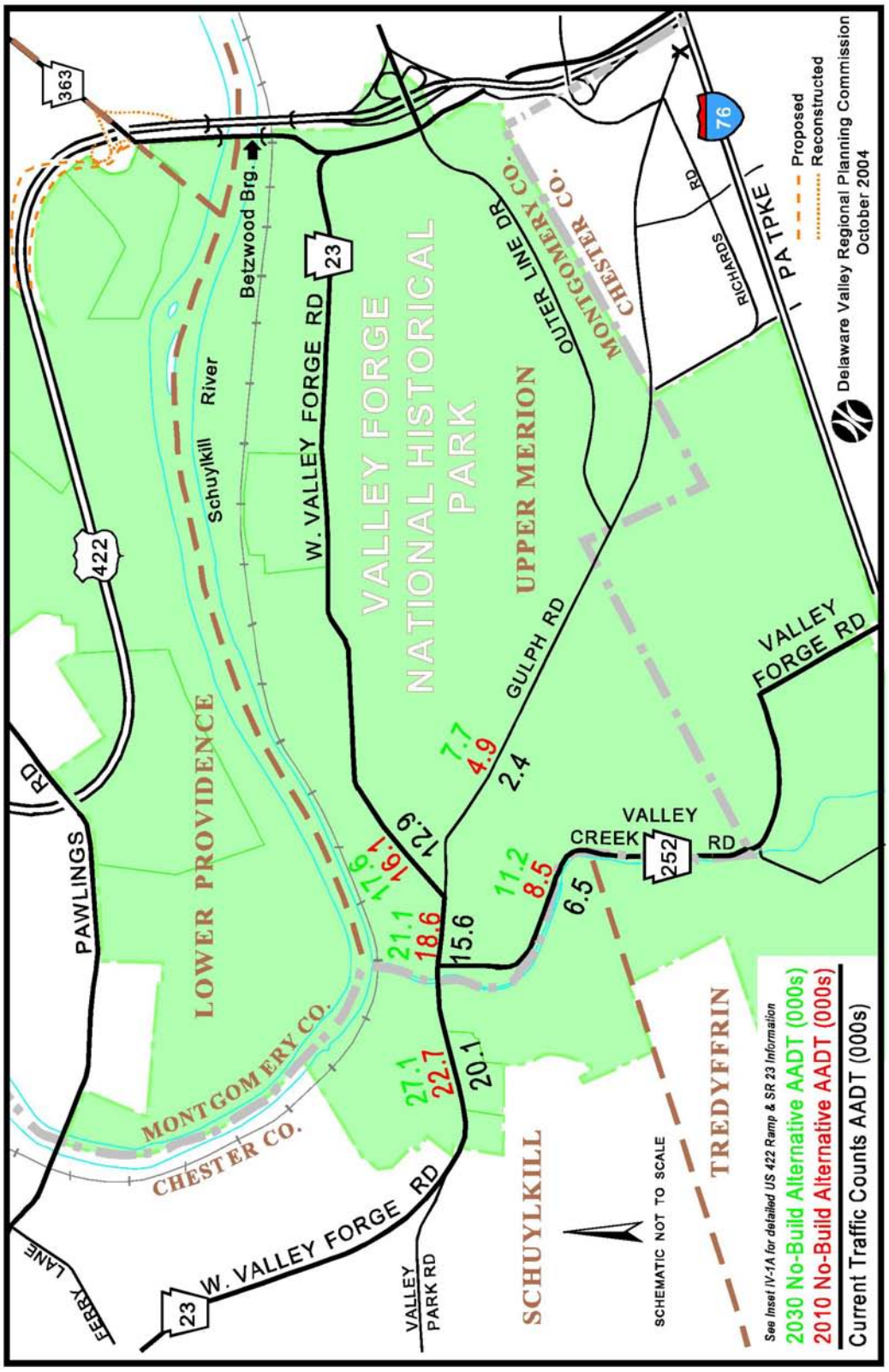


Table IV-1
Current, 2010 and 2030 No-Build Alternative
Average Daily Traffic Volumes

Highway Facility	Location	Current Volume	2010 No-Build Volume	2030 No-Build Volume	2030 No-Build/Current Growth	2030 No-Build/Current Percent
SR 23						
SR 23 (Fourth Street)	US 202 North to Ford Street	11,410	11,900	12,900	1,490	13.1%
SR 23 (Valley Forge Road)	US 202 North to US 202 South	10,000	11,100	12,400	2,400	24.0%
SR 23 (Valley Forge Road) On-Ramp	Dannehower Bridge SB to SR 23 (Valley Forge Rd) WB	0	0	0	0	0
SR 23 (Valley Forge Road) Off-Ramp	SE 23 (Valley Forge Road) EB to Dannehower Bridge NB	0	0	0	0	0
SR 23 (Valley Forge Road)	Brownlie Road to US 202 SB	0	14,700	16,300	n/a	n/a
SR 23 (Valley Forge Road)	Henderson Road to Brownlie Road	9,041	10,100	11,700	2,659	29.4%
SR 23 (Valley Forge Road)	Keebler Road to Henderson Road	13,726	15,100	17,100	3,374	24.6%
SR 23 (Valley Forge Road)	Caley Road to Keebler Road	9,753	11,500	14,000	4,247	43.5%
SR 23 (Valley Forge Road)	Allendale Road to Caley Road	n/a	13,900	15,500	n/a	n/a
SR 23 (Valley Forge Road)	Geerdes Boulevard to Allendale Road	n/a	15,400	16,900	n/a	n/a
SR 23 (Valley Forge Road)	Allendale Road to Beidler Road	12,611	13,800	15,900	3,289	26.1%
SR 23 (Valley Forge Road)	Beidler Road to Moore Road	17,011	18,800	21,100	4,089	24.0%
SR 23 (Valley Forge Road)	US 422 to Moore Road	22,746	26,000	31,200	8,454	37.2%
SR 23 (Valley Forge Road)	North Gulph Road to US 422	17,526	20,900	24,800	7,274	41.5%
SR 23 (Valley Forge Road)	North Gulph Road to Old Betzwood Bridge	15,101	22,600	26,400	11,299	74.8%
SR 23 (Valley Forge Road)	Old Betzwood Bridge to Quarry Road	12,900	16,100	17,600	4,700	36.4%
US 422 Expressway						
US 422 WB	Trooper Road (PA 363) to Egypt Road	27,100	31,700	36,100	9,000	33.2%
US 422 EB	Egypt Road to Trooper Road (PA 363)	27,200	31,900	36,500	9,300	34.2%
US 422 WB Off-Ramp	US 422 to Trooper Road (PA 363)	15,262	17,200	18,500	3,238	21.2%
US 422 EB On-Ramp	Trooper Road (PA 363) to US 422	13,269	14,500	16,300	3,031	22.8%
US 422 WB On-Ramp	Trooper Road (PA 363) to US 422	0	2,900	4,100	4,100	100.0%
US 422 EB Off-Ramp	US 422 to Trooper Road (PA 363)	0	2,300	3,000	3,000	100.0%
US 422 WB	SR 23 (Valley Forge Rd) to Trooper Rd (PA 363)	42,375	46,000	50,500	8,125	19.2%
US 422 EB	Trooper Rd (PA 363) to SR 23 (Valley Forge Road)	40,512	44,100	49,800	9,288	22.9%
US 422 WB On-Ramp	SR 23 (Valley Forge Road) WB to US 422 WB	9,500	10,300	11,500	2,000	21.1%
US 422 WB On-Ramp	SR 23 (Valley Forge Road) EB to US 422 WB	4,500	5,300	6,200	1,700	37.8%
US 422 EB Off-Ramp	US 422 EB to SR 23 (Valley Forge Road) (EB-WB)	12,300	13,200	14,300	2,000	16.3%
US 422 EB On-Ramp	SR 23 (Valley Forge Road) (EB-WB) to US 422 WB	2,600	4,500	6,300	3,700	142.3%
US 422 WB Off-Ramp	US 422 WB to SR 23(Valley Forge Road) EB	2,600	4,400	6,000	3,400	130.8%
US 422 WB Off-Ramp	US 422 WB to SR 23 (Valley Forge Road) WB	500	1,200	1,900	1,400	280.0%
US 422 WB Off-Ramp	US 422 WB to SR 23 (Valley Forge Road)	0	0	0	0	n/a
US 422 WB	US 202 to SR 23 (Valley Forge Road)	31,500	36,000	40,700	9,200	29.2%
US 422 EB	First Avenue to SR 23 (Valley Forge Road)	30,800	35,400	41,800	11,000	35.7%
Intersecting Roads						
Ford Street	US 202 NB to SR 23 (Fourth Street)	3,966	4,900	5,900	1,934	48.8%
US 202 North, DeKalb Street	Bridgeport Bypass to Crooked Lane	15,482	16,500	18,100	2,618	16.9%
US 202 North, DeKalb Street.	Ford Road to SR 23 (Fourth Street)	11,019	11,900	13,100	2,081	18.9%
US 202 North, DeKalb Street.	Valley Forge Road (SR 23) to Main Street	28,666	30,700	34,000	5,334	18.6%
US 202 S, Dannehower Bridge	Main Street to SR 23 (Valley Forge Road)	30,833	33,700	38,800	7,967	25.8%
US 202, Bridgeport Bypass SB	SR 23 (Valley Forge Rd) to DeKalb St. (US 202 N)	12,470	13,600	16,100	3,630	29.1%
US 202, Bridgeport Bypass NB	SR 23 (Valley Forge Rd) to DeKalb St. (US 202 N)	10,490	11,600	14,300	3,810	36.3%

Table IV-1
Current, 2010 and 2030 No-Build Alternative
Average Daily Traffic Volumes (Continued)

Highway Facility	Location	Current Volume	2010 No-Build Volume	2030 No-Build Volume	2030 No-Build/Current Growth	2030 No-Build/Current Percent
Intersecting Roads (continued)						
Henderson Road	Beidler Road to SR 23 (Valley Forge Road)	7,805	8,400	9,600	1,795	23.0%
Henderson Road	Ross Road to DeKalb Pike (US 202)	14,650	16,500	18,600	3,950	27.0%
Caley Road	SR 23 (Valley Forge Road) to Beidler Road	n/a	2,500	3,000	n/a	n/a
General Knox Boulevard	Keebler Road to SR 23 (Valley Forge Road)	n/a	2,700	3,400	n/a	n/a
Geerdes Boulevard	SR 23 (Valley Forge Road) to Beidler Road	n/a	2,500	2,700	n/a	n/a
Allendale Road	First Avenue to SR 23 (Valley Forge Road)	14,500	16,200	18,900	4,400	30.3%
Allendale Road	Keebler Road to Willis Boulevard	16,753	18,900	22,500	5,747	34.3%
Allendale Road	Willis Boulevard to DeKalb Pike (US 202)	18,738	20,800	23,600	4,862	25.9%
Moore Road	First Avenue to SR 23 (Valley Forge Road)	7,897	9,700	12,200	4,303	54.5%
North Gulph Road	SR 23 (Valley Forge Road) to First Avenue	22,500	27,100	30,800	8,300	36.9%
Betzwood Bridge	SR 23 (Valley Forge Rd) to Trooper Road (PA 363)	0	10,900	16,000	16,000	n/a
Trooper Road (PA 363)	Audubon Road to US 422	28,600	35,200	42,800	14,200	49.7%
Trooper Road (PA 363)	Audubon Road to Van Buren Avenue	22,300	26,700	35,800	13,500	60.5%
Trooper Road (PA 363)	Van Buren Avenue to Boulevard of the Generals	22,551	26,700	35,800	13,249	58.8%
Trooper Road (PA 363)	Stinson Lane to Egypt Road	0	25,700	34,000	n/a	n/a
Trooper Road (PA 363)	Egypt Road to Ridge Pike	16,900	20,100	25,300	8,400	49.7%
Parallel Roads						
Ridge Pike	Burnside Road to Egypt Road	15,167	17,300	19,300	4,133	27.2%
Main Street	Egypt Road to Airy Street	23,877	25,800	28,900	5,023	21.0%
Main Street	Airy Street to Stanbridge Street	19,634	21,100	24,200	4,566	23.3%
Main Street	Stanbridge Street to Markley Street (US 202 S)	n/a	22,500	25,700	n/a	n/a
Main Street	Markley Street to DeKalb Street (US 202 N)	16,059	17,800	20,300	4,241	26.4%
Egypt Road	Main Street to Trooper Road (PA 363)	15,213	17,300	20,300	5,087	33.4%
Egypt Road	Trooper Road (PA 363) to Rittenhouse Road	16,372	18,000	20,200	3,828	23.4%
Egypt Road	Rittenhouse Road to Boulevard of the Generals	16,400	18,100	20,800	4,400	26.8%
Audubon Road	Trooper Road (PA 363) to Adams Avenue	6,800	9,000	11,700	4,900	72.1%
Brownlie Road	SR 23 (Valley Forge Road) to Henderson Road	n/a	3,600	4,000	n/a	n/a
Beidler Road	Caley Road to Henderson Road	n/a	4,900	5,700	n/a	n/a
Beidler Road	Caley Road to Geerdes Boulevard	5,464	6,200	7,500	2,036	37.3%
Beidler Road	SR 23 (Valley Forge Road) to Geerdes Boulevard	n/a	5,600	6,200	n/a	n/a
Ross Road	Henderson Road to Quarry Road	n/a	2,900	3,500	n/a	n/a
First Avenue	North Gulph Road to Moore Road	13,204	14,900	17,400	4,196	31.8%
First Avenue	Moore Road to Allendale Road	11,129	12,800	15,100	3,971	35.7%
Keebler Road	SR 23 (Valley Forge Road) to General Knox Blvd	n/a	8,300	8,900	n/a	n/a
Keebler Road	General Knox Boulevard to Allendale Road	7,859	8,600	9,800	1,941	24.7%
DeKalb Pike (US 202)	Allendale Road to Henderson Road	41,936	45,300	50,500	8,564	20.4%
DeKalb Pike (US 202)	Henderson Road to Bridgeport Bypass	37,532	40,800	44,700	7,168	19.1%
Valley Creek Road (PA 252) and Gulph Road Area						
SR 23 (Valley Forge Road)	Valley Park Road to Valley Creek Road (PA 252)	20,100	22,700	27,100	7,000	34.8%
SR 23 (Valley Forge Road)	Valley Creek Road (PA 252) to Gulph Road	15,600	18,600	21,100	5,500	35.3%
Gulph Road	SR 23 (Valley Forge Road) to County Line Road	2,400	4,900	7,700	5,300	220.8%
Valley Creek Road (PA 252)	SR 23 (Valley Forge Road) to Yellow Springs Road	6,500	8,500	11,200	4,700	72.3%

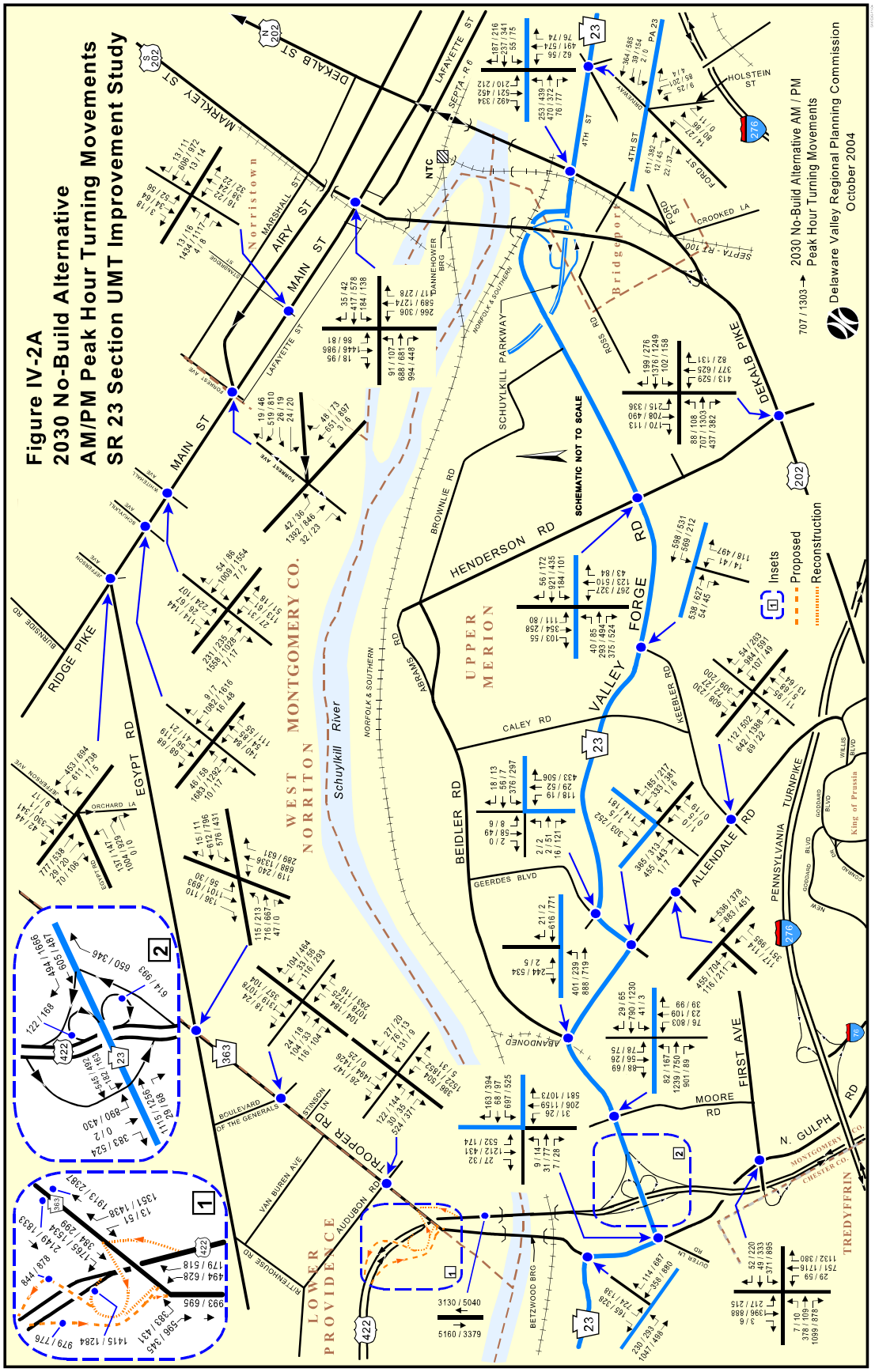
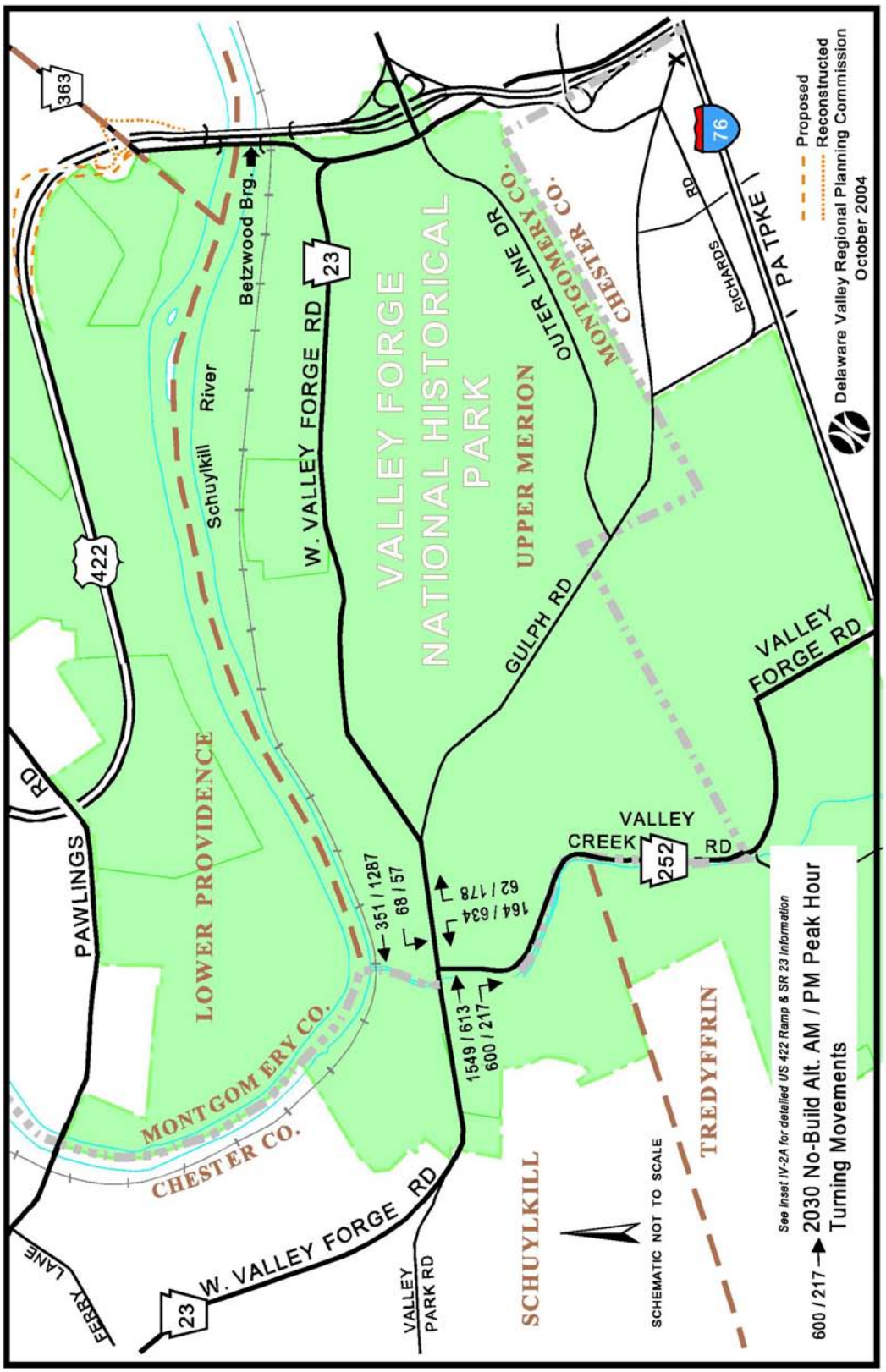


Figure IV-2A
2030 No-Build Alternative
AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study
2030 No-Build Alternative AM / PM
Peak Hour Turning Movements
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
Insets
Proposed
Reconstruction
MAIN ST
AIRY ST
MARKLEY ST
DEKALB ST
LAFAYETTE ST
SEPTA - R6
4TH ST
HOLSTEIN ST
FORD ST
CROOKED LA
SEPTA - R100
Bridgeport
ROSS RD
DEKALB PIKE
SCHUYLKILL PARKWAY
NORFOLK & SOUTHERN
DANNEHOWER BRG
NTC
BROWNIE RD
HENDERSON RD
VALLEY FORGE RD
KEBLER RD
CALEY RD
ARRAMS RD
RIDGE PIKE
EGYPT RD
ORCHARD LA
BEIDLER RD
GEERDES BLVD
ABANDONED
ALLENDALE RD
PENNSYLVANIA TURNPIKE
WILLIS BLVD
GODDARD BLVD
King of Prussia
MOORE RD
FIRST AVE
N. GULPH RD
TREDYFFRIN
MONTGOMERY CO.
CHESTER CO.
TROOPER RD
STINSON LN
BOULEVARD OF THE GENERALS
VAN BUREN AVE
MITTENHOUSE RD
AUDUBON RD
BETZWOOD BRG
OUTER LN
WEST NORRITON
UPPER MERION
LOWER PROVIDENCE
Norristown
Schuylkill River
202
23
422
363
276
76

Figure IV-2B. SR 23 Intersections with PA 252 Valley Creek Road
2030 No-Build Alternative AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study



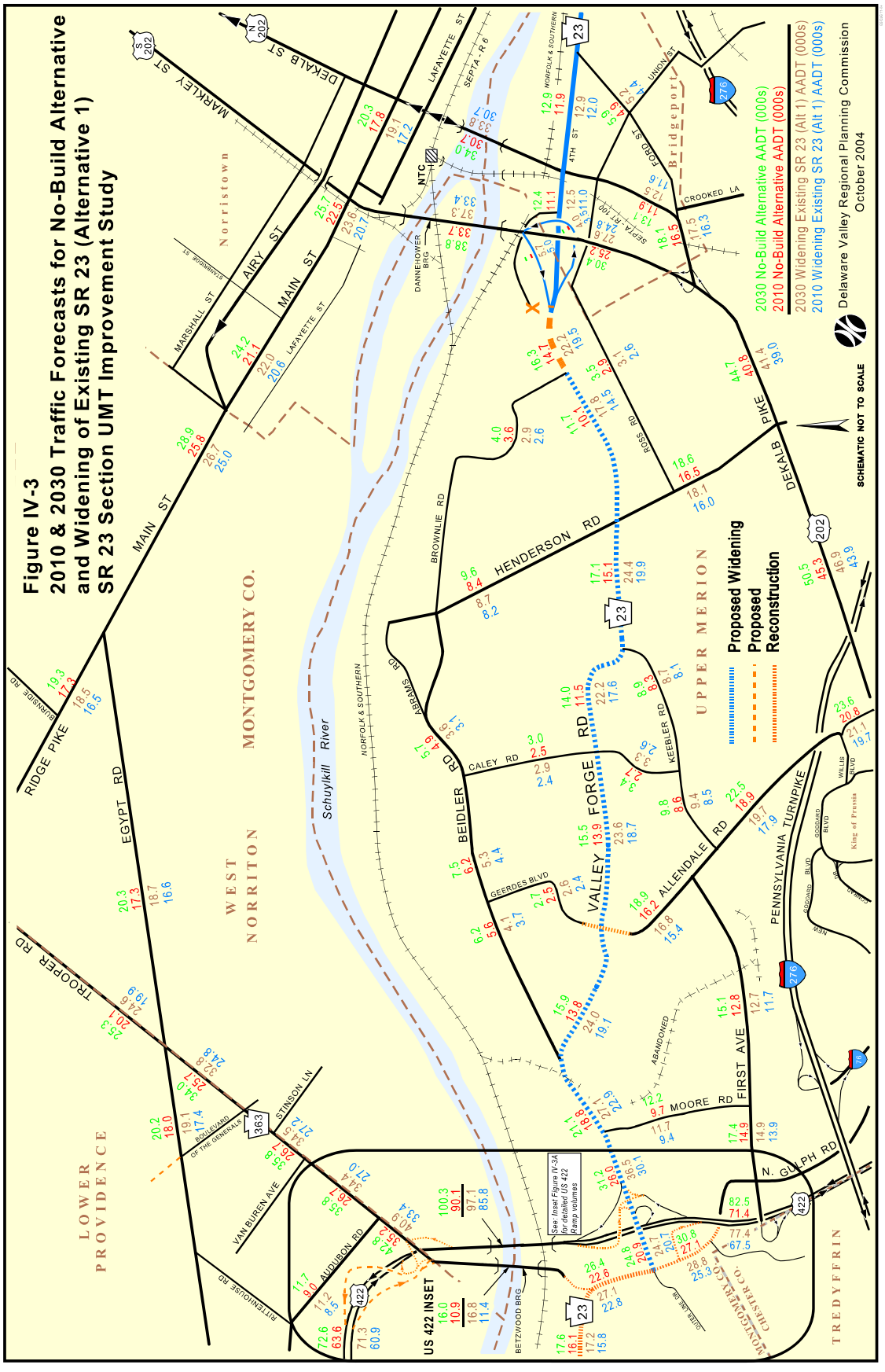
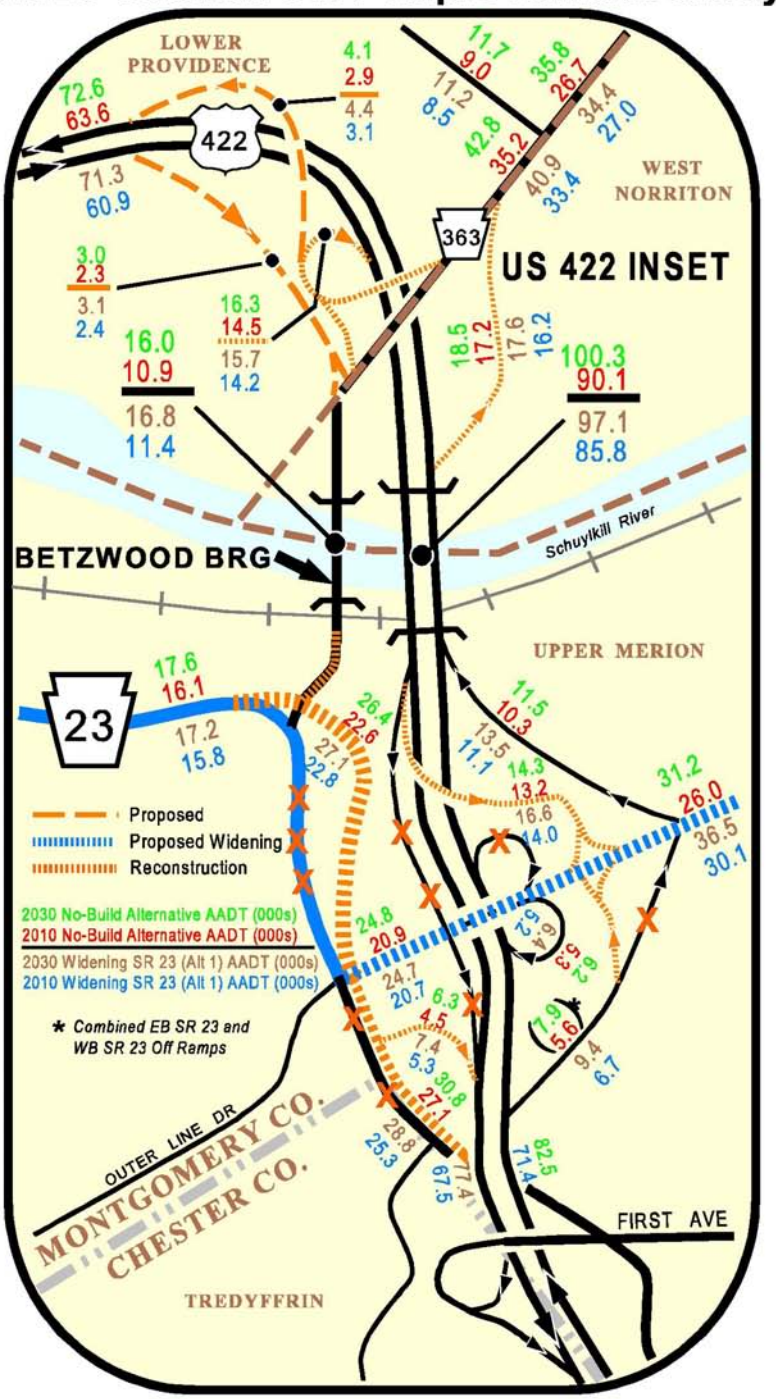


Figure IV-3
2010 & 2030 Traffic Forecasts for No-Build Alternative and Widening of Existing SR 23 (Alternative 1)
SR 23 Section UMT Improvement Study
2030 No-Build Alternative AADT (000s)
2010 No-Build Alternative AADT (000s)
2030 Widening Existing SR 23 (Alt 1) AADT (000s)
2010 Widening Existing SR 23 (Alt 1) AADT (000s)
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
Proposed Widening
Proposed Reconstruction
MONTGOMERY CO.
LOWER PROVIDENCE
WEST NORRITON
UPPER MERION
TREDYFFRIN
Norristown
Bridgeport
King of Prussia
Schuylkill River
MAIN ST
EGYPT RD
RIDGE PIKE
TROOPER RD
MARKLEY ST
DEKALB ST
AIRY ST
LAFAYETTE ST
MARSHALL ST
SUMNEYTOWN PIKE
BOULEVARD OF THE GENERALS
STINSON LN
VAN BUREN AVE
AUDUBON RD
BUTTONWOOD RD
US 422 INSET
See: Inset Figure IV-3A for detailed US 422 Ramp volumes
BETZWOOD BRG
DANNEHOWER BRG
NTC
SEPTA - R 6
NORFOLK & SOUTHERN
ABRAM CLOTHIER RD
BEIDLER RD
CALEY RD
GEERDES BLVD
VALLEY FORGE RD
KEEBLER RD
ALLENDALE RD
ABANDONED
MOORE RD
FIRST AVE
PENNSYLVANIA TURNPIKE
N. GULPH RD
HENDERSON RD
BROWNLIE RD
ROSS RD
DEKALB PIKE
4TH ST
FORD ST
UNION ST
CROOKED LA
SEPTA - R 100
MONTGOMERY CO. CHESTER CO.
GULPH CREEK
WILLIS BLVD
GODDARD BLVD
202
276
422
363
23

Figure IV-3A
2010 and 2030 Traffic Forecasts for No-Build Alternative and Widening of Existing SR 23 (Alternative 1)
SR 23 Section UMT Improvement Study



Delaware Valley Regional Planning Commission
October 2004

SCHEMATIC NOT TO SCALE

Figure IV-3B. SR 23 Intersections with PA 252 and with Gulph Road 2010 and 2030 Traffic Forecasts for No-Build Alternative and Widening of Existing Route 23 (Alternative 1) SR 23 Section UMT Improvement Study

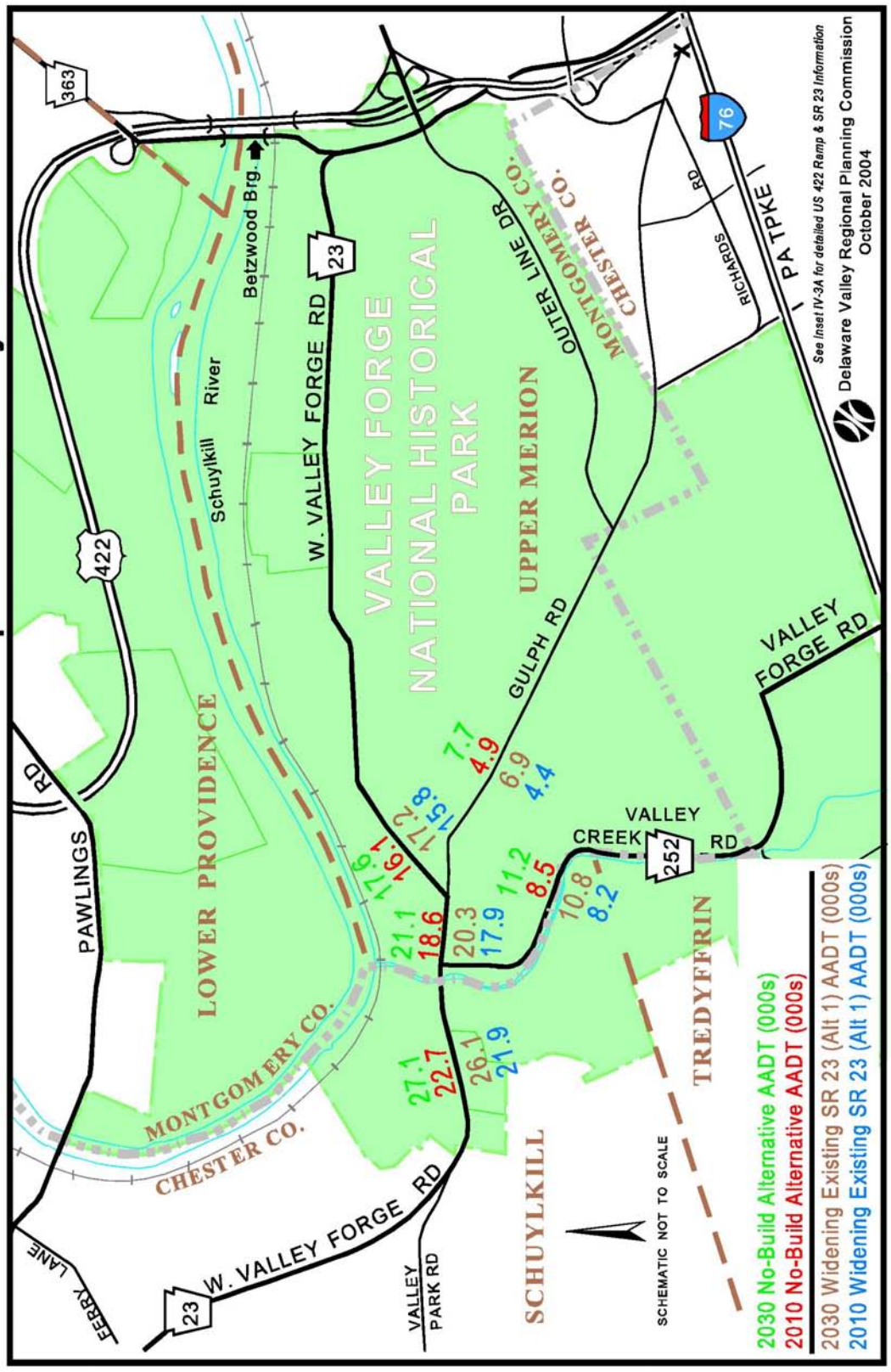


Table IV-2
Current, 2010 and 2030 Widening of Existing SR 23 (Alternative 1)
Average Daily Traffic Volumes

Highway Facility	Location	Current Volume	2010 Alt#1 Bld Volume	2030 Alt#1 Bld Volume	2030 Alt#1 Bld/Current Growth	2030 Alt#1 Bld/Current Percent
SR 23						
SR 23 (Fourth Street)	US 202 North to Ford Street	11,410	11,991	12,900	1,490	13.1%
SR 23 (Valley Forge Road) On-Ramp	US 202 North to US 202 South	10,000	10,975	12,500	2,500	25.0%
SR 23 (Valley Forge Road) Off-Ramp	Dannehower Bridge SB to SR 23 (Valley Forge Road) WB	0	5,000	5,700	5,700	n/a
SR 23 (Valley Forge Road)	SR 23 (Valley Forge Road) EB to Dannehower Bridge NB	0	3,500	4,000	4,000	n/a
SR 23 (Valley Forge Road)	Brownlie Road to US 202 SB	0	19,475	22,200	22,200	n/a
SR 23 (Valley Forge Road)	Henderson Road to Brownlie Road	9,041	14,457	17,800	8,759	96.9%
SR 23 (Valley Forge Road)	Keebler Road to Henderson Road	13,726	19,889	24,400	10,674	77.8%
SR 23 (Valley Forge Road)	Caley Road to Keebler Road	9,753	17,607	22,200	12,447	127.6%
SR 23 (Valley Forge Road)	Allendale Road to Caley Road	n/a	18,735	23,600	23,600	n/a
SR 23 (Valley Forge Road)	Allendale Road to Beidler Road	12,611	19,053	24,000	11,389	90.3%
SR 23 (Valley Forge Road)	Beidler Road to Moore Road	17,011	22,946	27,100	10,089	59.3%
SR 23 (Valley Forge Road)	US 422 to Moore Road	22,746	30,110	36,500	13,754	60.5%
SR 23 (Valley Forge Road)	North Gulph Road to US 422	17,526	20,724	24,700	7,174	40.9%
SR 23 (Valley Forge Road)	North Gulph Road to Old Betzwood Bridge	15,101	22,781	27,100	11,999	79.5%
SR 23 (Valley Forge Road)	Old Betzwood Bridge to Quarry Road	12,900	15,777	17,200	4,300	33.3%
US 422 Expressway						
US 422 WB	Trooper Rd (PA 363) to Egypt Rd	27,100	30,337	35,400	8,300	30.6%
US 422 EB	Egypt Rd to Trooper Rd (PA 363)	27,200	30,593	35,900	8,700	32.0%
US 422 WB Off-Ramp	US 422 to Trooper Road (PA 363)	15,262	16,174	17,600	2,338	15.3%
US 422 EB On-Ramp	Trooper Road (PA 363) to US 422	13,269	14,217	15,700	2,431	18.3%
US 422 WB On-Ramp	Trooper Road (PA 363) to US 422	0	3,112	4,400	4,400	n/a
US 422 EB Off-Ramp	US 422 to Trooper Road (PA 363)	0	2,377	3,100	3,100	n/a
US 422 WB	SR 23 (Valley Forge Rd) to Trooper Rd (PA 363)	42,375	43,399	48,600	6,225	14.7%
US 422 EB	Trooper Rd (PA 363) to SR 23 (Valley Forge Rd)	40,512	42,433	48,500	7,988	19.7%
US 422 WB On-Ramp	SR 23 (Valley Forge Rd) WB to US 422 WB	9,500	11,060	13,500	4,000	42.1%
US 422 WB On-Ramp	SR 23 (Valley Forge Rd) EB to US 422 WB	4,500	5,241	6,400	1,900	42.2%
US 422 EB Off-Ramp	US 422 EB to SR 23 (Valley Forge Rd) (EB-WB)	12,300	13,977	16,600	4,300	35.0%
US 422 EB On-Ramp	SR 23 (Valley Forge Rd) (EB-WB) to US 422 WB	2,600	5,286	7,400	4,800	184.6%
US 422 WB Off-Ramp	US 422 WB to SE 23 (Valley Forge Rd) EB	2,600	0	0	-2,600	n/a
US 422 WB Off-Ramp	US 422 WB to SE 23 (Valley Forge Rd) WB	500	0	0	-500	n/a
US 422 WB Off-Ramp	US 422 WB to SR 23 (Valley Forge Road)	0	6,663	9,400	9,400	n/a
US 422 WB	US 202 to SR 23 (Valley Forge Road)	31,500	33,761	38,100	6,600	21.0%
US 422 EB	First Avenue to SR 23 (Valley Forge Road)	30,800	33,742	39,300	8,500	27.6%
Intersecting Roads						
Ford Street	US 202 NB to SR 23 (Fourth Street)	3,966	4,447	5,200	1,234	31.1%
US 202 North, DeKalb Street	Bridgeport Bypass to Crooked Lane	15,482	16,269	17,500	2,018	13.0%
US 202 North, DeKalb Street	Ford Road to SR 23 (Fourth Street)	11,019	11,597	12,500	1,481	13.4%
US 202 North, DeKalb Street	SR 23 (Valley Forge Road) to Main Street	28,666	30,668	33,800	5,134	17.9%
US 202 S, Dannehower Bridge	Main Street to SR 23 (Valley Forge Road)	30,833	33,355	37,300	6,467	21.0%
US 202,Bridgeport Bypass SB	SR 23 (Valley Forge Rd) to DeKalb St (US 202 N)	12,470	13,301	14,600	2,130	17.1%
US 202,Bridgeport Bypass NB	SR 23 (Valley Forge Rd to DeKalb St (US 202 N)	10,490	11,469	13,000	2,510	23.9%

Table IV-2
Current, 2010 and 2030 Widening of Existing SR 23 (Alternative 1)
Average Daily Traffic Volumes (Continued)

Highway Facility	Location	Current Volume	2010 Alt#1 Bld Volume	2030 Alt#1 Bld Volume	2030 Alt#1 Bld/Current Growth	2030 Alt#1 Bld/Current Percent
Intersecting Roads (continued)						
Henderson Road	Beidler Road to SR 23 (Valley Forge Road)	7,805	8,154	8,700	895	11.5%
Henderson Road	Ross Road to DeKalb Pike (US 202)	14,650	15,996	18,100	3,450	23.5%
Caley Road	SR 23 (Valley Forge Road) to Beidler Road	n/a	2,417	2,900	n/a	n/a
General Knox Boulevard	Keebler Road to SR 23 (Valley Forge Road)	n/a	2,621	3,300	n/a	n/a
Geerdes Boulevard	SR 23 (Valley Forge Road) to Beidler Road	n/a	2,407	2,600	n/a	n/a
Allendale Road	First Avenue to SR 23 (Valley Forge Road)	14,500	15,397	16,800	2,300	15.9%
Allendale Road	Keebler Road to Willis Boulevard	16,753	17,902	19,700	2,947	17.6%
Allendale Road	Willis Boulevard to DeKalb Pike (US 202)	18,738	19,659	21,100	2,362	12.6%
Moore Road	First Avenue to SR 23 (Valley Forge Road)	7,897	9,380	11,700	3,803	48.2%
North Gulph Road to US 422	SR 23 (Valley Forge Rd) to First Avenue	22,500	25,340	28,800	6,300	28.0%
Betzwood Bridge	SR 23 (Valley Forge Rd) to Trooper Rd (PA 363)	0	11,445	16,800	16,800	100.0%
Trooper Road (PA 363)	Audubon Road to US 422	28,600	33,397	40,900	12,300	43.0%
Trooper Road (PA 363)	Audubon Road to Van Buren Ave	22,300	27,019	34,400	12,100	54.3%
Trooper Road (PA 363)	Van Buren Avenue to Boulevard of the Generals	22,551	27,211	34,500	11,949	53.0%
Trooper Road (PA 363)	Stinson Lane to Egypt Road	n/a	24,793	32,800	n/a	n/a
Trooper Road (PA 363)	Egypt Road to Ridge Pike	16,900	19,903	24,600	7,700	45.6%
Parallel Roads						
Ridge Pike	Burnside Road to Egypt Road	15,167	16,467	18,500	3,333	22.0%
Main Street	Egypt Road to Airy Street	23,877	24,978	26,700	2,823	11.8%
Main Street	Airy Street to Stanbridge Street	19,634	20,557	22,000	2,366	12.1%
Main Street	Stanbridge Street to Markley Street (US 202 S)	n/a	20,661	23,600	n/a	n/a
Main Street	Markley St (US 202 S) to DeKalb St (US 202 N)	16,059	17,245	19,100	3,041	18.9%
Egypt Road	Main Street to Trooper Road (PA 363)	15,213	16,573	18,700	3,487	22.9%
Egypt Road	Trooper Road (PA 363) to Rittenhouse Road	16,372	17,436	19,100	2,728	16.7%
Audubon Road	Trooper Road (PA 363) to Adams Avenue	6,800	8,516	11,200	4,400	64.7%
Brownlie Road	SR 23 (Valley Forge Road) to Henderson Road	n/a	2,610	2,900	n/a	n/a
Beidler Road	Caley Road to Henderson Road	n/a	3,095	3,600	n/a	n/a
Beidler Road	Caley Road to Geerdes Boulevard	5,464	4,381	5,300	-164	-3.0%
Beidler Road	SR 23 (Valley Forge Rd) to Geerdes Boulevard	n/a	3,703	4,100	n/a	n/a
Ross Road	Henderson Road to Quarry Road	n/a	2,600	3,100	n/a	n/a
First Avenue	North Gulph Road to Moore Road	13,204	13,865	14,900	1,696	12.8%
First Avenue	Moore Road to Allendale Road	11,129	11,742	12,700	1,571	14.1%
Keebler Road	SR 23 (Valley Forge Rd) to General Knox Blvd	n/a	8,113	8,700	n/a	n/a
Keebler Road	General Knox Boulevard to Allendale Road	7,859	8,460	9,400	1,541	19.6%
DeKalb Pike (US 202)	Allendale Road to Henderson Road	41,936	43,872	46,900	4,964	11.8%
DeKalb Pike (US 202)	Henderson Road to Bridgeport Bypass	37,532	39,041	41,400	3,868	10.3%
Valley Creek Road (PA 252) and Gulph Road Area						
SR 23 (Valley Forge Road)	Valley Park Rd to Valley Creek Rd (PA 252)	20,100	21,862	26,100	6,000	29.9%
SR 23 (Valley Forge Road)	Valley Creek Road (PA 252) to Gulph Road	15,600	17,895	20,300	4,700	30.1%
Gulph Road	SR 23 (Valley Forge Road) to County Line Road	2,400	4,391	6,900	4,500	187.5%
Valley Creek Road (PA 252)	SR 23 (Valley Forge Road) to Yellow Springs Rd	6,500	8,196	10,800	4,300	66.2%

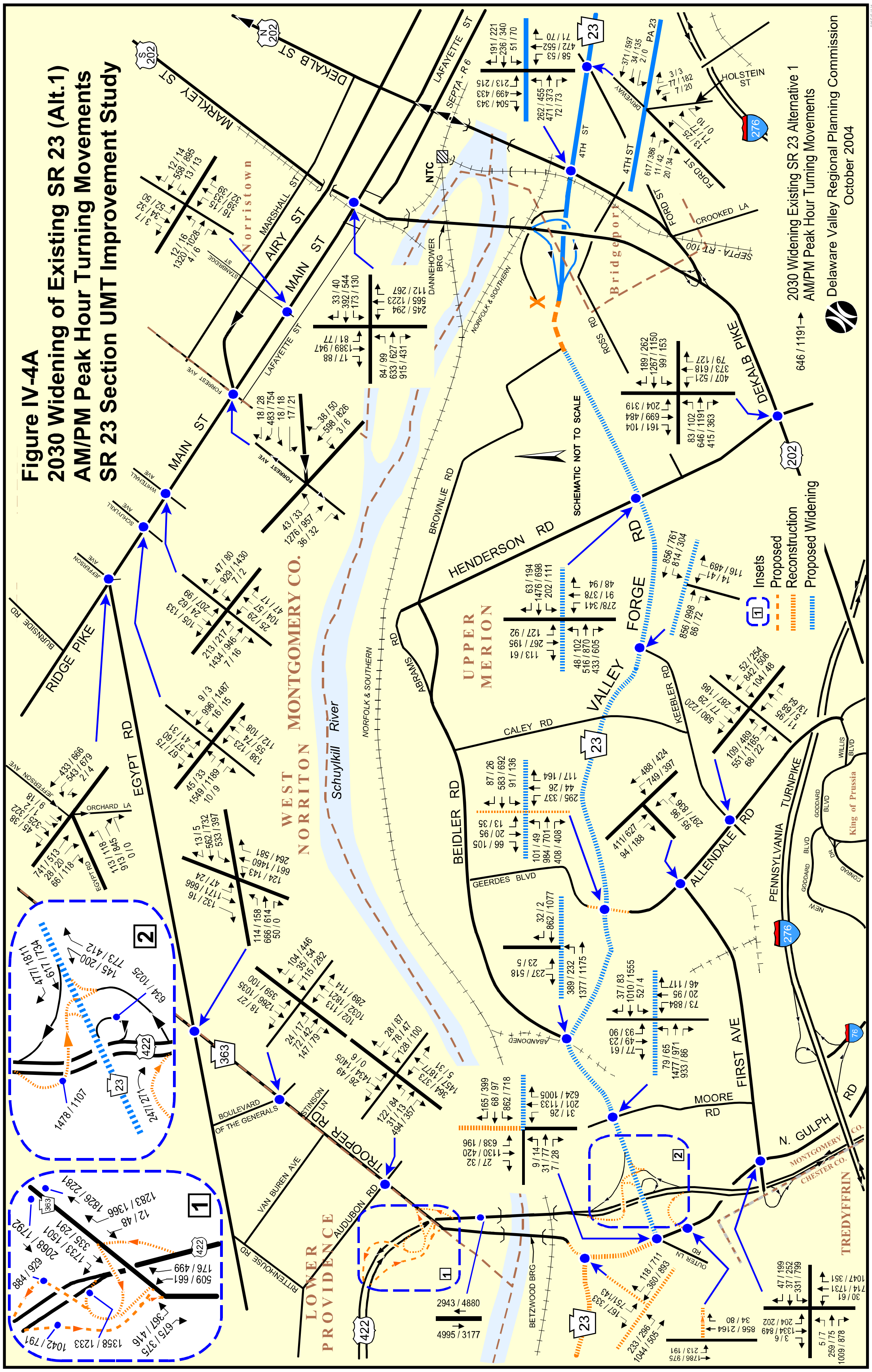


Figure IV-4A
2030 Widening of Existing SR 23 (Alt.1)
AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study
SCHEMATIC NOT TO SCALE
Insets
Proposed Reconstruction
Proposed Widening
646 / 1191
2030 Widening Existing SR 23 Alternative 1
AM/PM Peak Hour Turning Movements
Delaware Valley Regional Planning Commission
October 2004
Norristown
Bridgeport
WEST NORRITON
MONTGOMERY CO.
UPPER MERION
LOWER PROVIDENCE
King of Prussia
TREDYFFRIN
MONTGOMERY CO.
CHESTER CO.
Schuylkill River
RIDGE PIKE
EGYPT RD
MAIN ST
MARKLEY ST
DEKALB ST
DEKALB PIKE
AIRY ST
MARSHALL ST
LAFAYETTE ST
4TH ST
FORD ST
HOLSTEIN ST
CROOKED LA
HENDERSON RD
BROWNLIE RD
VALLEY FORGE RD
BEIDLER RD
CALEY RD
KEEBLER RD
ALLENDALE RD
GEERDES BLVD
FIRST AVE
MOORE RD
N. GULPH RD
PENNSYLVANIA TURNPIKE
TROOPER RD
AUDUBON RD
VAN BUREN AVE
RITTENHOUSE RD
BOULEVARD OF THE GENERALS
STINSON LN
OUTER LN
BETZWOOD BRG
DANNEHOWER BRG
NORFOLK & SOUTHERN
SEPTA - R6
SEPTA - RT 100
NTC

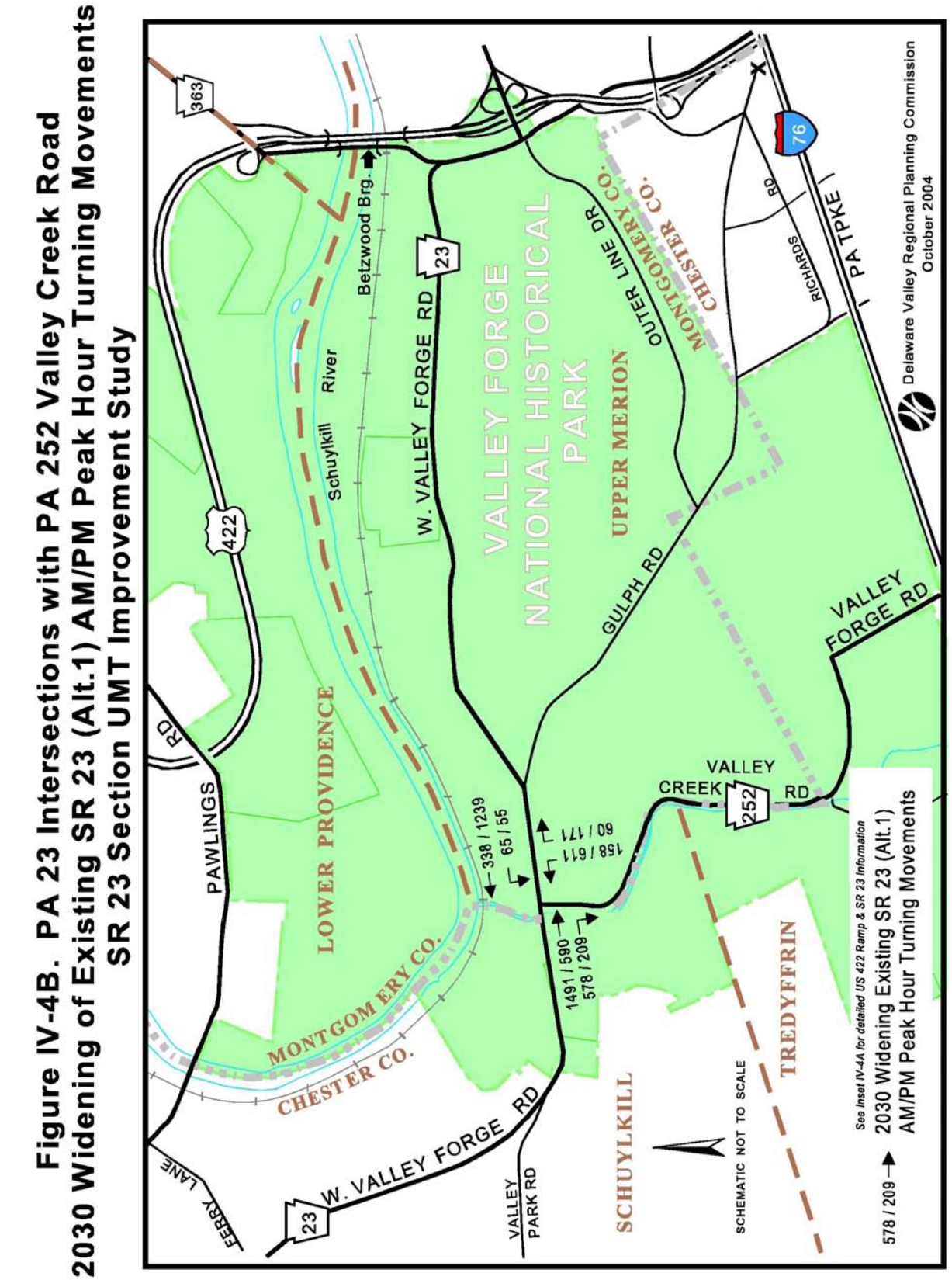


Figure IV-4B. PA 23 Intersections with PA 252 Valley Creek Road
2030 Widening of Existing SR 23 (Alt.1) AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study

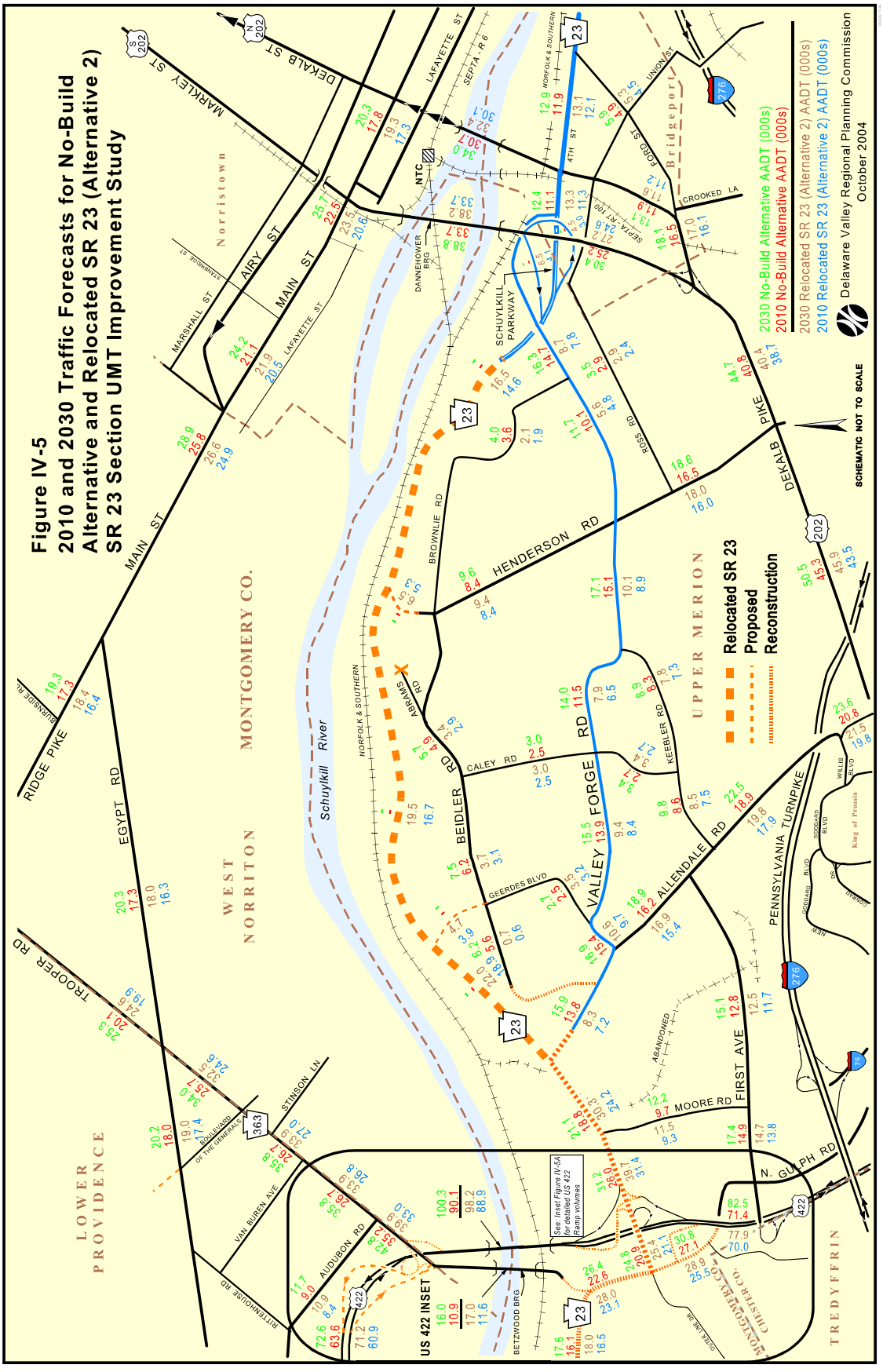
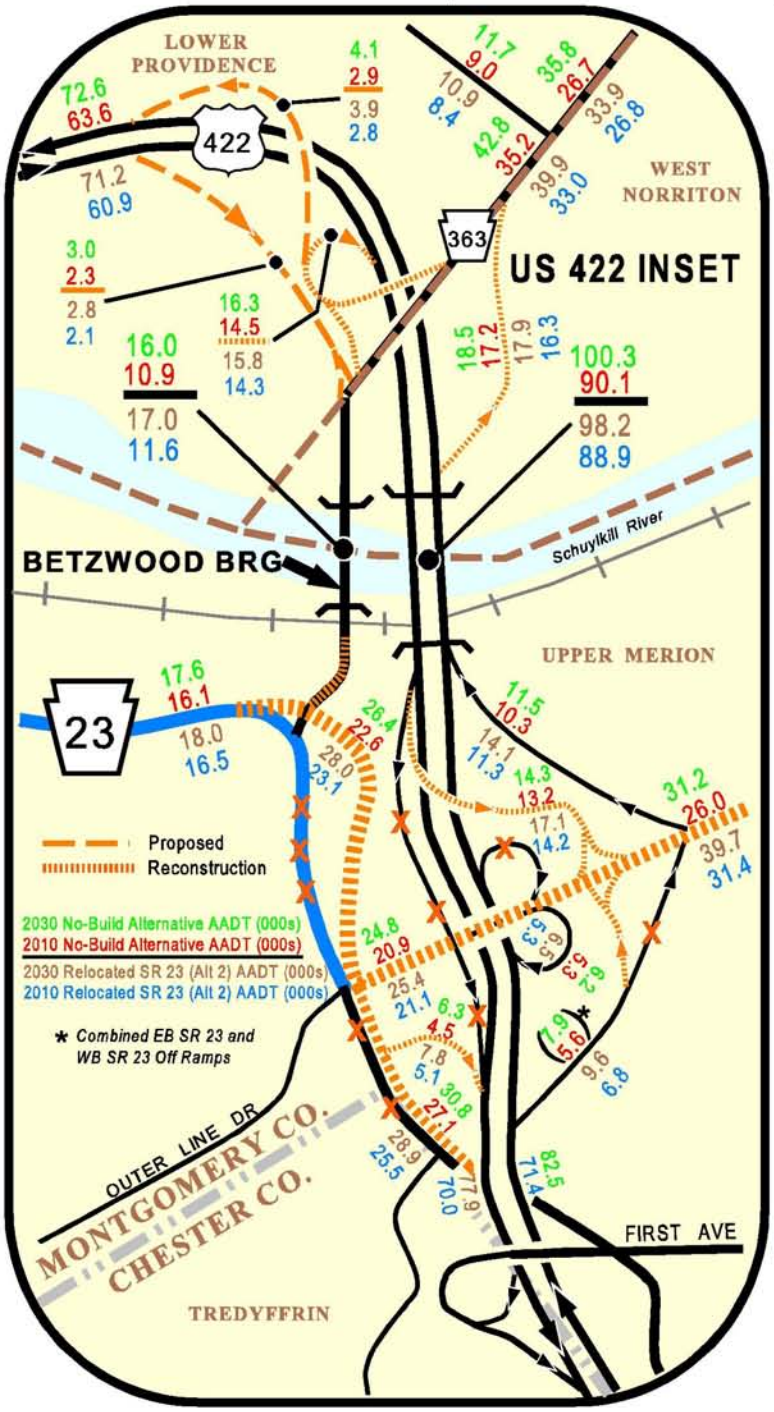


Figure IV-5
2010 and 2030 Traffic Forecasts for No-Build Alternative and Relocated SR 23 (Alternative 2)
SR 23 Section UMT Improvement Study
2030 Relocated SR 23 (Alternative 2) AADT (000s)
2010 Relocated SR 23 (Alternative 2) AADT (000s)
2030 No-Build Alternative AADT (000s)
2010 No-Build Alternative AADT (000s)
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
Relocated SR 23
Proposed
Reconstruction
MONTGOMERY CO.
LOWER PROVIDENCE
WEST NORRITON
UPPER MERION
TREDYFFRIN
Norristown
Bridgeport
King of Prussia
Schuylkill River
MAIN ST
AIRY ST
MARKLEY ST
DEKALB ST
MARSHALL ST
LAFAYETTE ST
RIDGE PIKE
EGYPT RD
TROOPER RD
STINSON LN
BOULEVARD OF THE GENERALS
VAN BUREN AVE
RITTENHOUSE RD
AUDUBON RD
BETZWOOD BRG
US 422 INSET
See Inset Figure IV-5A for detailed US 422 Ramp volumes
BEIDLER RD
ABRAMS RD
CALEY RD
GEERDES BLVD
KEEBLER RD
VALLEY FORGE RD
ALLENDALE RD
MOORE RD
FIRST AVE
ABANDONED
N. GULPH RD
PENNSYLVANIA TURNPIKE
HENDERSON RD
BROWNLIE RD
SCHUYLKILL PARKWAY
DANNEHOWER BRG
NTC
NORFOLK & SOUTHERN
SEPTA - R6
ROSS RD
DEKALB PIKE
4TH ST
FORD ST
UNION ST
CROOKED LA
CHESTER CO.
MONTGOMERY CO.
OUTER LINE DR
23
202
276
422
363

Figure IV-5A
2010 and 2030 Traffic Forecasts for No-Build Alternative and Relocated SR 23 (Alternative 2)
SR 23 Section UMT Improvement Study



Delaware Valley Regional Planning Commission
October 2004

SCHEMATIC NOT TO SCALE

Figure IV-5B. SR 23 Intersections with PA 252 and with Gulph Road 2010 and 2030 Traffic Forecasts for No-Build Alternative and Relocated SR 23 (Alternative 2) SR 23 Section UMT Improvement Study

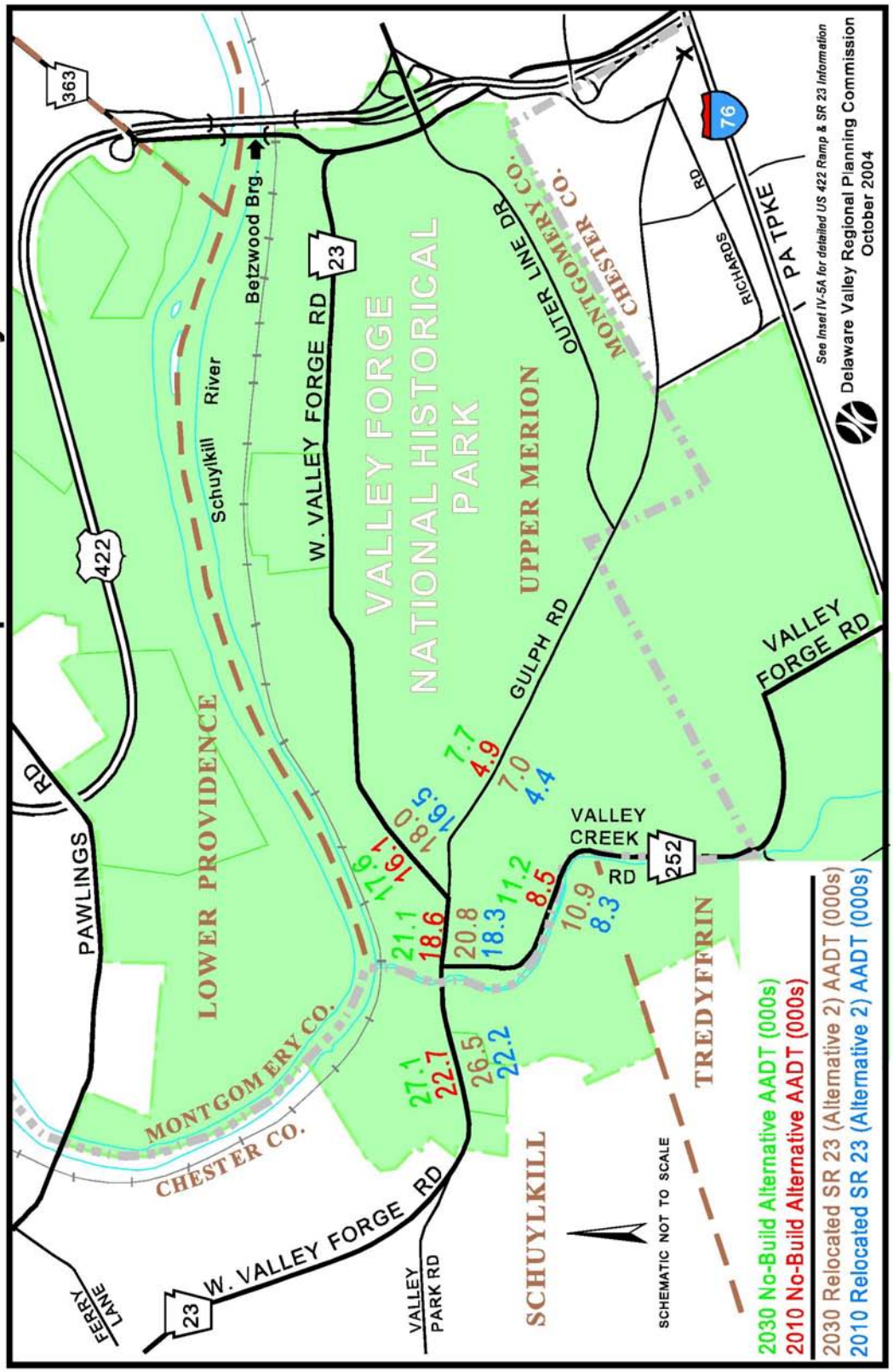


Table IV-3
Current, 2010 and 2030 Relocated SR 23 (Alternative 2)
Average Daily Traffic Volumes

Highway Facility	Location	Current Volume	2010 Alt#2 Bld Volume	2030 Alt#2 Bld Volume	2030 Alt#2 Bld/Current Growth	2030 Alt#2 Bld/Current Percent
SR 23						
SR 23 (Fourth Street)	US 202 North to Ford Street	11,410	12,069	13,100	1,690	14.8%
SR 23 (Fourth Street)	US 202 North to US 202 South	10,000	11,287	13,300	3,300	33.0%
SR 23 On-Ramp	Dannehower Bridge SB to SR 23 WB	0	4,100	6,500	6,500	100.0%
SR 23 Off-Ramp	SR 23 EB to Dannehower Bridge NB	0	3,000	4,500	4,500	100.0%
Valley Forge Road	Brownlie Road to US 202 SB	n/a	7,846	8,700	8,700	n/a
Valley Forge Road	Henderson Road to Brownlie Road	9,041	4,834	5,600	-3,441	-38.1%
Valley Forge Road	Keebler Road to Henderson Road	13,726	8,919	10,100	-3,626	-26.4%
Valley Forge Road	Caley Road to Keebler Road	9,753	6,489	7,900	-1,853	-19.0%
Valley Forge Road	Allendale Road to Caley Road	n/a	8,430	9,400	n/a	n/a
Valley Forge Road	Allendale Road to Geerdes Boulevard	n/a	9,659	10,600	n/a	n/a
Valley Forge Road	Reconstructed Beidler Road to SR 23/Schuylkill Parkway	12,611	7,204	8,300	-4,311	-34.2%
SR 23	Beidler Road to Moore Road	17,011	24,194	30,300	13,289	78.1%
SR 23	US 422 to Moore Road	22,746	31,358	39,700	16,954	74.5%
SR 23	North Gulph Road to US 422	17,526	21,097	25,400	7,874	44.9%
SR 23	North Gulph Road to Old Betzwood Bridge	15,101	23,132	28,000	12,899	85.4%
SR 23	Old Betzwood Bridge to Quarry Road	12,900	16,489	18,000	5,100	39.5%
New SR 23/Schuylkill Parkway Alignment						
SR 23/Schuylkill Parkway	US 202 South to Henderson Road	0	14,559	16,500	16,500	100.0%
SR 23/Schuylkill Parkway	Henderson Rd to Geerdes Boulevard Extension	0	16,706	19,500	19,500	100.0%
SR 23/Schuylkill Parkway	Geerdes Boulevard Extension to Valley Forge Rd	0	18,912	22,000	22,000	100.0%
New Geerdes Blvd Extension	Beidler Road to SR 23/Schuylkill Parkway	0	3,852	4,700	4,700	100.0%
New Henderson Road Extension	Beidler Road to SR 23/Schuylkill Parkway	0	5,327	6,500	6,500	100.0%
US 422 Expressway						
US 422 WB	Trooper Rd (PA 363) to Egypt Rd	27,100	30,337	35,400	8,300	30.6%
US 422 EB	Egypt Rd to Trooper Rd (PA 363)	27,200	30,554	35,800	8,600	31.6%
US 422 WB Off-Ramp	US 422 to Trooper Road (PA 363)	15,262	16,291	17,900	2,638	17.3%
US 422 EB On-Ramp	Trooper Road (PA 363) to US 422	13,269	14,256	15,800	2,531	19.1%
US 422 WB On-Ramp	Trooper Road (PA 363) to US 422	0	2,759	3,900	3,900	100.0%
US 422 EB Off-Ramp	US 422 to Trooper Road (PA 363)	0	2,147	2,800	2,800	100.0%
US 422 WB	SR 23 to Trooper Rd (PA 363)	42,375	45,115	49,400	7,025	16.6%
US 422 EB	Trooper Rd (PA 363) to SR 23	40,512	43,744	48,800	8,288	20.5%
US 422 WB On-Ramp	SR 23 WB to US 422 WB	9,500	11,294	14,100	4,600	48.4%
US 422 WB On-Ramp	SR 23 EB to US 422 WB	4,500	5,280	6,500	2,000	44.4%
US 422 EB Off-Ramp	US 422 EB to SR 23 (EB-WB)	12,300	14,172	17,100	4,800	39.0%
US 422 EB On-Ramp	SR 23 (EB-WB) to US 422 WB	2,600	5,128	7,800	5,200	200.0%
US 422 WB Off-Ramp	US 422 WB to SR 23 EB	2,600	0	0	-2,600	100.0%
US 422 WB Off-Ramp	US 422 WB to SR 23 WB	500	0	0	-500	100.0%
US 422 WB Off-Ramp	US 422 WB to SR 23	0	6,805	9,600	9,600	n/a
US 422 WB	US 202 to SR 23	31,500	35,346	38,400	6,900	21.9%
US 422 EB	First Avenue to SR 23	30,800	34,700	39,500	8,700	28.2%

Table IV-3
Current, 2010 and 2030 Relocated SR 23 (Alternative 2)
Average Daily Traffic Volumes (Continued)

Highway Facility	Location	Current Volume	2010 Alt#2 Bld Volume	2030 Alt#2 Bld Volume	2030 Alt#2 Bld/Current Growth	2030 Alt#2 Bld/Current Percent
Intersecting Roads						
Ford Street	US 202 NB to SR 23 (Fourth Street)	3,966	4,486	5,300	1,334	33.6%
US 202 North, DeKalb Street	Bridgeport Bypass to Crooked Lane	15,482	16,074	17,000	1,518	9.8%
US 202 North, DeKalb Street	Ford Road to SR 23 (Fourth Street)	11,019	11,246	11,600	581	5.3%
US 202 North, DeKalb Street	SR 23 (Fourth Street) to Main Street	28,666	30,122	32,400	3,734	13.0%
US 202 S, Dannehower Bridge	Main Street to SR 23	30,833	33,706	38,200	7,367	23.9%
US 202,Bridgeport Bypass SB	SR 23 to DeKalb St (US 202 N)	12,470	13,262	14,500	2,030	16.3%
US 202,Bridgeport Bypass NB	SR 23 to DeKalb St (US 202 N)	10,490	11,352	12,700	2,210	21.1%
Henderson Road	Beidler Road to Valley Forge Road	7,805	8,427	9,400	1,595	20.4%
Henderson Road	Ross Road to DeKalb Pike (US 202)	14,650	15,957	18,000	3,350	22.9%
Caley Road	Valley Forge Road to Beidler Road	0	2,500	3,000	3,000	n/a
General Knox Boulevard	Keebler Road to Valley Forge Road	0	2,700	3,400	3,400	n/a
Geerdes Boulevard	Valley Forge Roado Beidler Road	0	3,241	3,500	3,500	n/a
Allendale Road	First Avenue to Valley Forge Road	14,500	15,436	16,900	2,400	16.6%
Allendale Road	Keebler Road to Willis Boulevard	16,753	17,941	19,800	3,047	18.2%
Allendale Road	Willis Boulevard to DeKalb Pike (US 202)	18,738	19,815	21,500	2,762	14.7%
Moore Road	First Avenue to SR 23	7,897	9,302	11,500	3,603	45.6%
North Gulph Road to US 422	SR 23 to First Avenue	22,500	25,496	28,900	6,400	28.4%
Betzwood Bridge	SR 23 to Trooper Rd (PA 363)	0	11,581	17,000	17,000	100.0%
Trooper Road (PA 363)	Audubon Road to US 422	28,600	33,007	39,900	11,300	39.5%
Trooper Road (PA 363)	Audubon Road to Van Buren Avenue	22,300	26,824	33,900	11,600	52.0%
Trooper Road (PA 363)	Van Buren Avenue to Boulevard of the Generals	22,551	26,977	33,900	11,349	50.3%
Trooper Road (PA 363)	Stinson Lane to Egypt Road	n/a	24,566	32,500	n/a	n/a
Trooper Road (PA 363)	Egypt Road to Ridge Pike	16,900	19,903	24,600	7,700	45.6%
Parallel Roads						
Ridge Pike	Burnside Road to Egypt Road	15,167	16,428	18,400	3,233	21.3%
Main Street	Egypt Road to Airy Street	23,877	24,939	26,600	2,723	11.4%
Main Street	Airy Street to Stanbridge Street	19,634	20,518	21,900	2,266	11.5%
Main Street	Stanbridge Street to Markley Street	n/a	20,574	23,500	n/a	n/a
Main Street	Markley Street to DeKalb Pike (US 202)	16,059	17,323	19,300	3,241	20.2%
Egypt Road.	Main Street to Trooper Road (PA 363)	15,213	16,300	18,000	2,787	18.3%
Egypt Road.	Trooper Rd (PA 363) to Rittenhouse Road	16,372	17,397	19,000	2,628	16.1%
Audubon Road.	Trooper Road (PA 363) to Adams Avenue	6,800	8,399	10,900	4,100	60.3%
Brownlie Road	Valley Forge Road to Henderson Road	n/a	1,890	2,100	n/a	n/a
Beidler Road	Caley Road to Henderson Road	n/a	2,923	3,400	n/a	n/a
Beidler Road	Caley Road to Geerdes Boulevard	5,464	3,059	3,100	-2,364	-43.3%
Beidler Road	Valley Forge Road to Geerdes Boulevard	n/a	632	700	n/a	n/a
Ross Road	Henderson Road to Quarry Road	n/a	2,403	2,900	n/a	n/a
First Avenue	North Gulph Road to Moore Road	13,204	13,787	14,700	1,496	11.3%
First Avenue	Moore Road to Allendale Road	11,129	11,664	12,500	1,371	12.3%
Keebler Road	Valley Forge Road to General Knox Blvd	n/a	7,274	7,800	n/a	n/a
Keebler Road	General Knox Boulevard to Allendale Road	7,859	7,459	8,500	641	8.2%

Table IV-3
Current, 2010 and 2030 Relocated SR 23 (Alternative 2)
Average Daily Traffic Volumes (Continued)

Highway Facility	Location	Current Volume	2010 Alt#2 Bld Volume	2030 Alt#2 Bld Volume	2030 Alt#2 Bld/Current Growth	2030 Alt#2 Bld/Current Percent
Parallel Roads (continued)						
DeKalb Pike (US 202)	Allendale Road to Henderson Road	41,936	43,482	45,900	3,964	9.5%
DeKalb Pike (US 202)	Henderson Road to Bridgeport Bypass	37,532	38,651	40,400	2,868	7.6%
Valley Creek Road (PA 252) and Gulph Road Area						
SR 23 (Valley Forge Road)	Valley Park Road to Valley Creek Road (PA 252)	20,100	22,197	26,500	6,400	31.8%
SR 23 (Valley Forge Road)	Valley Creek Road (PA 252) to Gulph Road	15,600	18,336	20,800	5,200	33.3%
Gulph Road	SR 23 (Valley Forge Road) to County Line Road	2,400	4,455	7,000	4,600	191.7%
Valley Creek Road (PA 252)	SR 23 (Valley Forge Rd) to Yellow Springs Road	6,500	8,272	10,900	4,400	67.7%

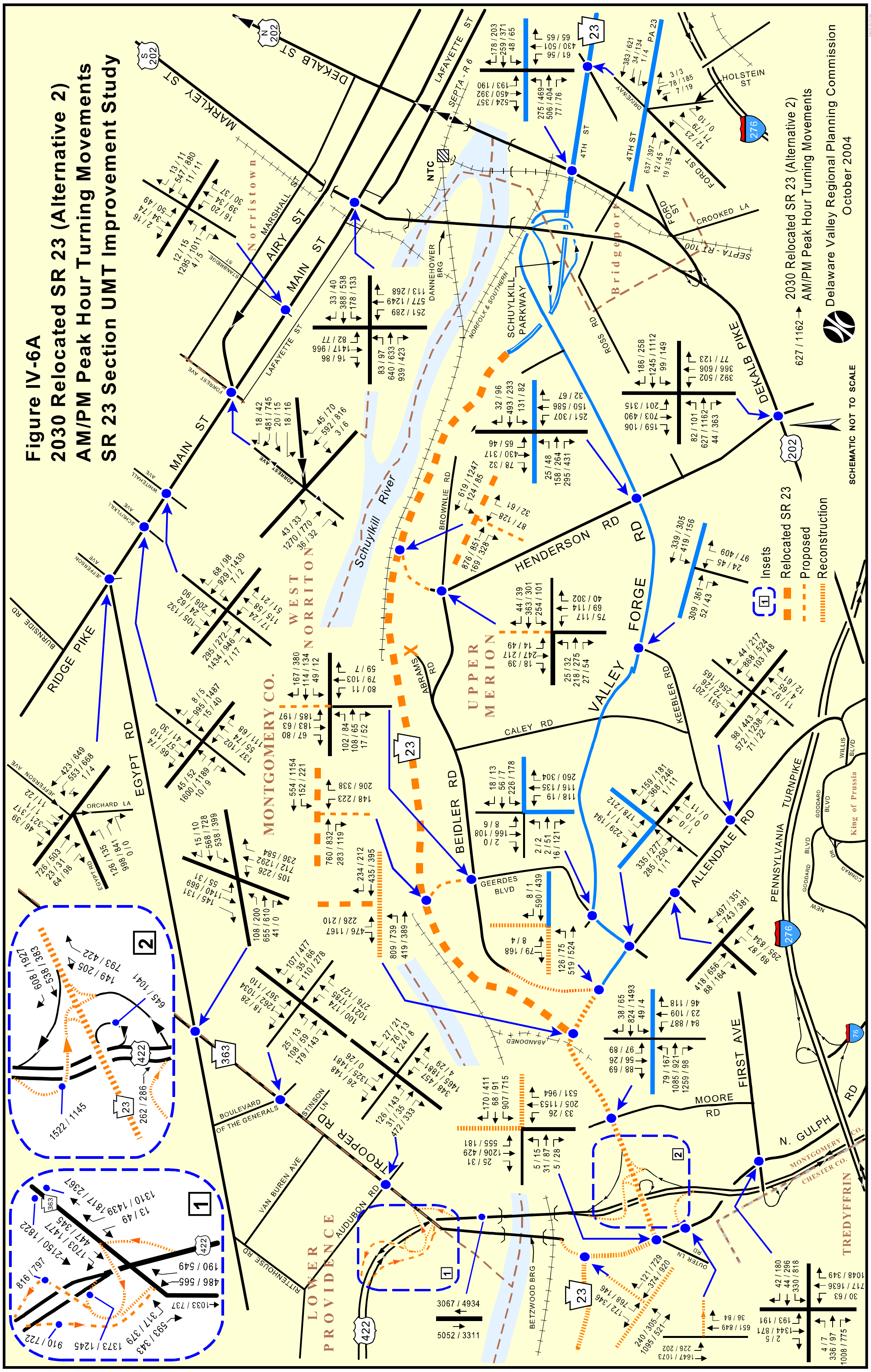
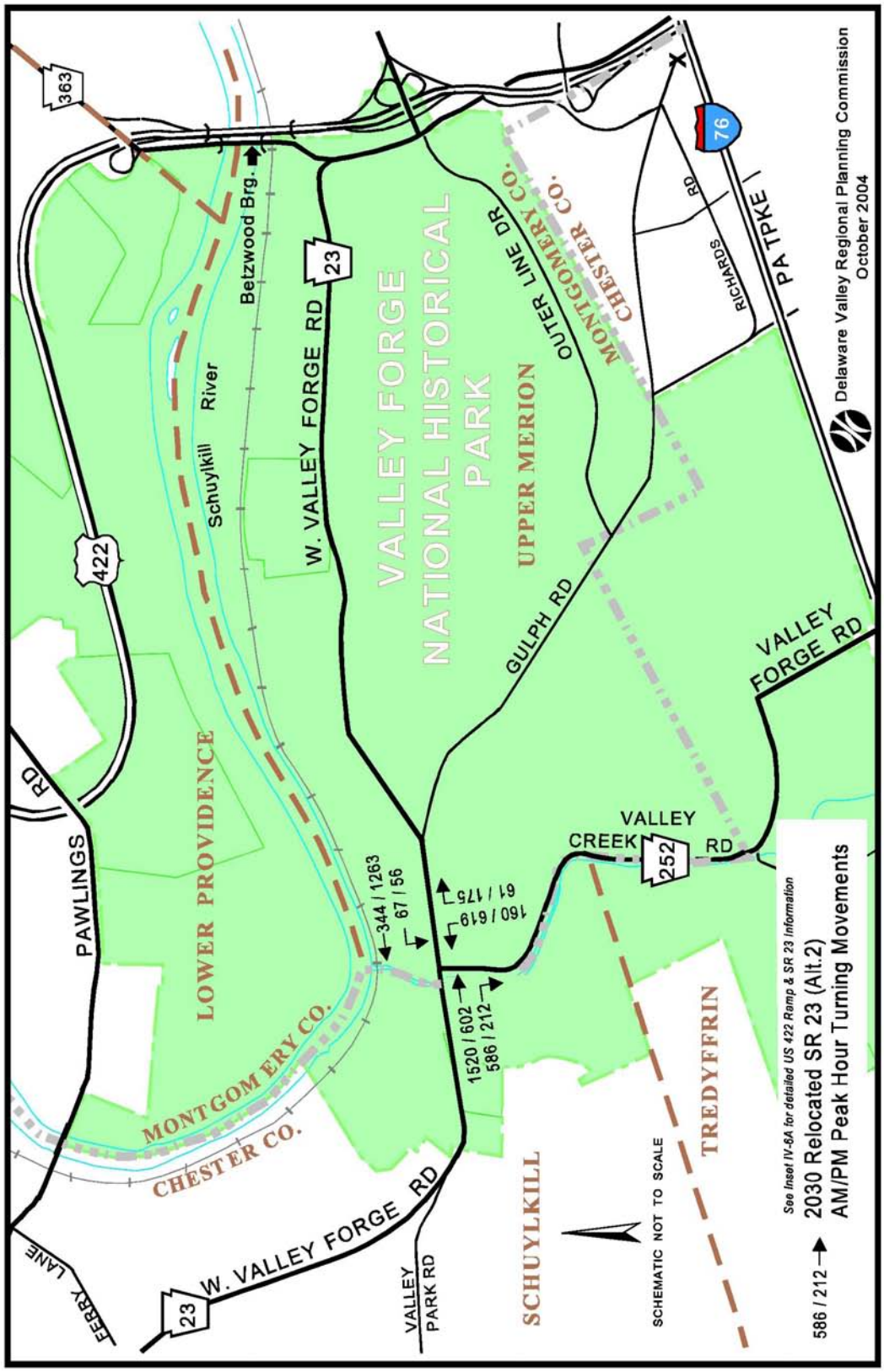


Figure IV-6A
2030 Relocated SR 23 (Alternative 2)
AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study
Insets
Relocated SR 23
Proposed
Reconstruction
627 / 1162 → 2030 Relocated SR 23 (Alternative 2) AM/PM Peak Hour Turning Movements
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
MONTGOMERY CO.
WEST NORRITON
UPPER MERION
LOWER PROVIDENCE
Norristown
Bridgeport
Schuylkill River
RIDGE PIKE
MAIN ST
DEKALB ST
MARKLEY ST
DEKALB PIKE
HENDERSON RD
VALLEY FORGE RD
BEIDLER RD
TROOPER RD
EGYPT RD
PENNSYLVANIA TURNPIKE
FIRST AVE
ALLENDALE RD
N. GULPH RD
MOORE RD
TREDYFFRIN

Figure IV-6B. SR 23 Intersections with PA 252 Valley Creek Road
2030 Relocated SR 23 (Alt.2) AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study



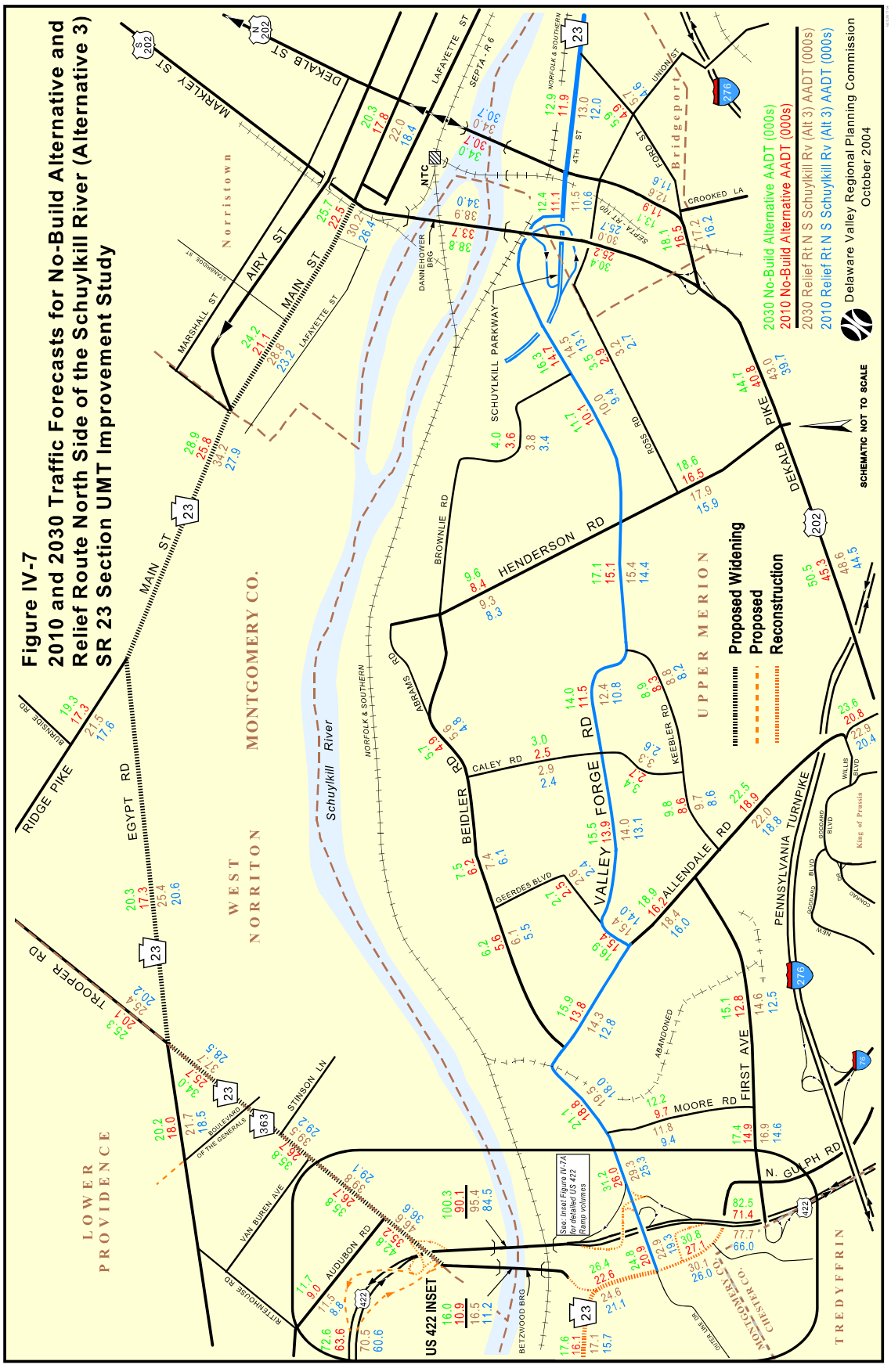
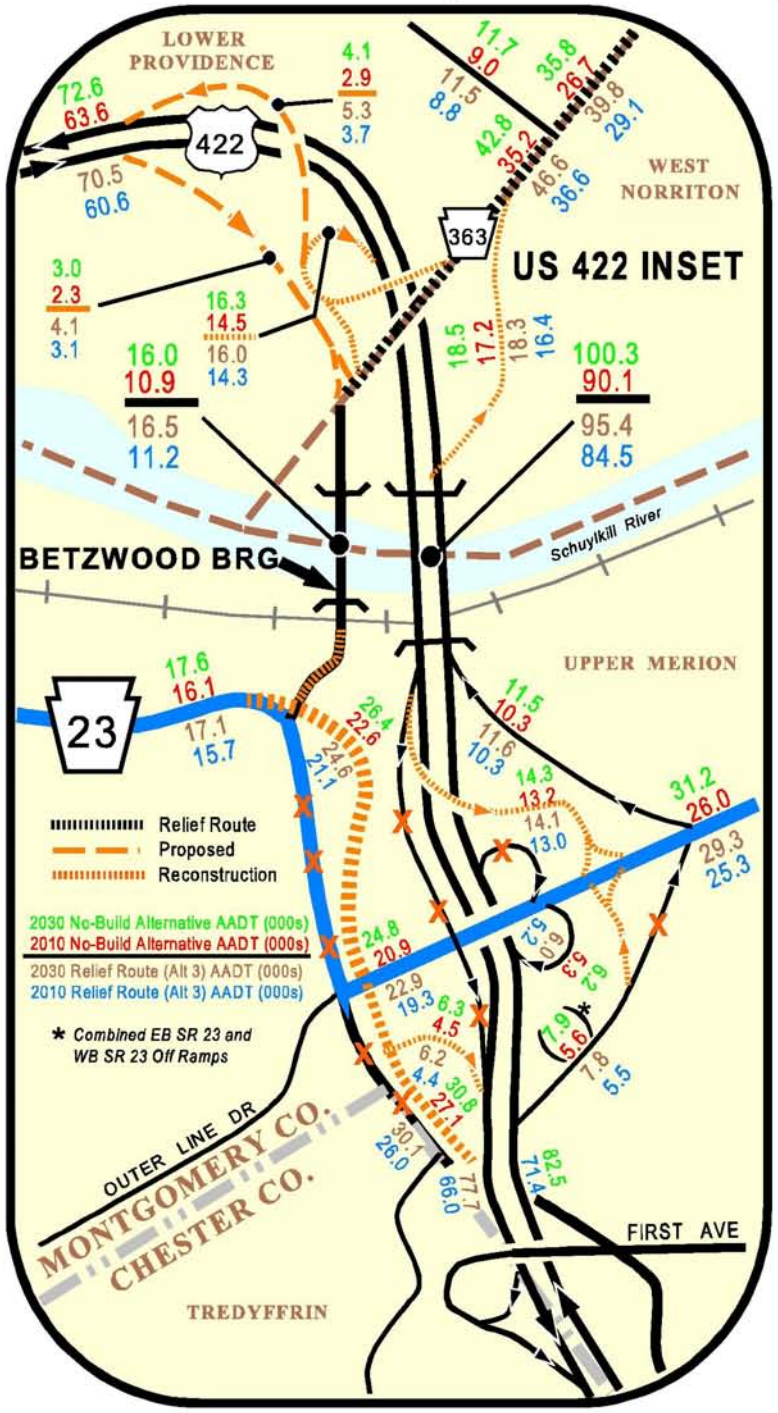


Figure IV-7
2010 and 2030 Traffic Forecasts for No-Build Alternative and Relief Route North Side of the Schuylkill River (Alternative 3)
SR 23 Section UMT Improvement Study
2030 No-Build Alternative AADT (000s)
2010 No-Build Alternative AADT (000s)
2030 Relief Rt N S Schuylkill Rv (Alt 3) AADT (000s)
2010 Relief Rt N S Schuylkill Rv (Alt 3) AADT (000s)
Proposed Widening
Proposed Reconstruction
SCHEMATIC NOT TO SCALE
Delaware Valley Regional Planning Commission
October 2004
LOWER PROVIDENCE
WEST NORRITON
MONTGOMERY CO.
UPPER MERION
TREDYFFRIN
Schuylkill River
RIDGE PIKE
EGYPT RD
TROOPER RD
MAIN ST
MARKLEY ST
DEKALB ST
AIRY ST
LAFAYETTE ST
MARSHALL ST
HENDERSON RD
BROWNLIE RD
ABRAMS RD
BEIDLER RD
CALEY RD
KEEBLER RD
VALLEY FORGE RD
GEERDES BLVD
ALLENDALE RD
FIRST AVE
MOORE RD
N. GULPH RD
PENNSYLVANIA TURNPIKE
SCHUYLKILL PARKWAY
NORFOLK & SOUTHERN
SEPTA - R 6
DANNEHOWER BRG
ROSS RD
DEKALB PIKE
FORD ST
UNION ST
CROOKED LA
4TH ST
BOULEVARD OF THE GENERALS
STINSON LN
VAN BUREN AVE
RITTENHOUSE RD
AUDUBON RD
BETZWOOD BRG
ABANDONED
US 422 INSET
See Inset Figure IV-7A for detailed US 422 Ramp volumes
NTC
Norristown
Bridgeport
King of Prussia
WILLIS BLVD
GODDARD BLVD
CONWAY
NEW

Figure IV-7A
2010 and 2030 Traffic Forecasts for No-Build Altenative and Relief Route North Side of the Schuylkill River (Alt. 3)
SR 23 Section UMT Improvement Study



SCHEMATIC NOT TO SCALE

Figure IV-7B. SR 23 Intersections with PA 252 and with Gulph Road 2010 and 2030 Traffic Forecasts for No-Build Alternative and Relief Route North Side of Schuylkill River (Alternative 3) SR 23 Section UMT Improvement Study

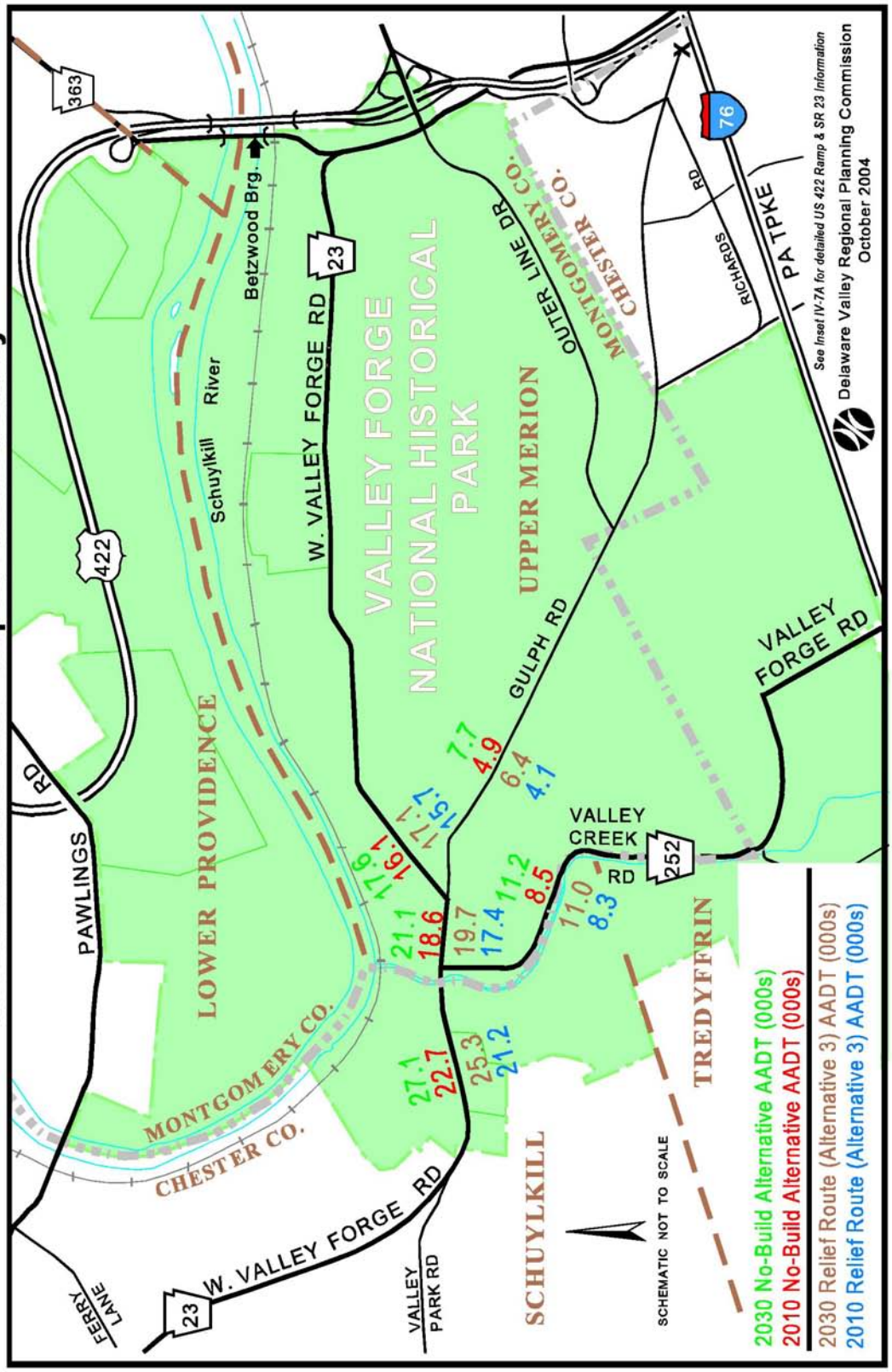


Table IV-4
Current, 2010 and 2030 Relief Route North Side of Schuylkill River (Alternative 3)
Average Daily Traffic Volumes

Highway Facility	Location	Current Volume	2010 Alt#3 Bld Volume	2030 Alt#3 Bld Volume	2030 Alt#2 Bld/Current Growth	2030 Alt#2 Bld/Current Percent
SR 23						
SR 23 (Fourth Street)	US 202 North to Ford Street	11,410	12,030	13,000	1,590	13.9%
SR 23 (Fourth Street)	US 202 North to US 202 South	10,000	10,585	11,500	1,500	15.0%
Valley Forge Road	Brownlie Road to US 202 SB	n/a	13,077	14,500	n/a	n/a
Valley Forge Road	Henderson Road to Brownlie Road	9,041	9,415	10,000	959	10.6%
Valley Forge Road	Keebler Road to Henderson Road	13,726	14,379	15,400	1,674	12.2%
Valley Forge Road	Caley Road to Keebler Road	9,753	10,785	12,400	2,647	27.1%
Valley Forge Road	Caley Road to Geerdes Boulevard	n/a	13,055	14,000	n/a	n/a
Valley Forge Road	Geerdes Boulevard to Allendale Road	n/a	14,033	15,400	n/a	n/a
Valley Forge Road	Allendale Road to Beidler Road	12,611	12,770	14,300	1,689	13.4%
Valley Forge Road	Beidler Road to Moore Road	17,011	17,982	19,500	2,489	14.6%
Valley Forge Road	US 422 to Moore Road	22,746	25,302	29,300	6,554	28.8%
SR 23 (Valley Forge Road)	North Gulph Road to US 422	17,526	19,299	22,900	5,374	30.7%
SR 23 (Valley Forge Road)	North Gulph Road to Old Betzwood Bridge	15,101	21,059	24,600	9,499	62.9%
SR 23 (Valley Forge Road)	Old Betzwood Bridge to Quarry Road	12,900	15,738	17,100	4,200	32.6%
US 422 Expressway						
US 422 WB	Trooper Rd (PA 363) to Egypt Road	27,100	30,220	35,100	8,000	29.5%
US 422 EB	Egypt Road to Trooper Road (PA 363)	27,200	30,398	35,400	8,200	30.1%
US 422 WB Off-Ramp	US 422 to Trooper Road (PA 363)	15,262	16,447	18,300	3,038	19.9%
US 422 EB On-Ramp	Trooper Road (PA 363) to US 422	13,269	14,334	16,000	2,731	20.6%
US 422 WB On-Ramp	Trooper Road (PA 363) to US 422	0	3,749	5,300	5,300	100.0%
US 422 EB Off-Ramp	US 422 to Trooper Road (PA 363)	0	3,143	4,100	4,100	100.0%
US 422 WB	SR 23 (Valley Forge Rd) to Trooper Rd (PA 363)	42,375	42,918	48,100	5,725	13.5%
US 422 EB	Trooper Rd (PA 363) to SR 23 (Valley Forge Rd)	40,512	41,589	47,300	6,788	16.8%
US 422 WB On-Ramp	SR 23 (Valley Forge Road) WB to US 422 WB	9,500	10,294	11,600	2,100	22.1%
US 422 WB On-Ramp	SR 23 (Valley Forge Road) EB to US 422 WB	4,500	5,129	6,000	1,500	33.3%
US 422 EB Off-Ramp	US 422 EB to SR 23 (Valley Forge Rd) (EB-WB)	12,300	13,002	14,100	1,800	14.6%
US 422 EB On-Ramp	SR 23 (Valley Forge Rd) (EB-WB) to US 422 WB	2,600	4,429	6,200	3,600	138.5%
US 422 WB Off-Ramp	US 422 WB to SR 23 (Valley Forge Rd) EB	2,600	0	0	-2,600	-100.0%
US 422 WB Off-Ramp	US 422 WB to SR 23 (Valley Forge Rd) WB	500	0	0	-500	-100.0%
US 422 WB Off-Ramp	US 422 WB to SR 23 (Valley Forge Rd)	0	5,533	7,800	7,800	n/a
US 422 WB	US 202 to SR 23 (Valley Forge Road)	31,500	33,028	38,300	6,800	21.6%
US 422 EB	First Avenue to SR 23 (Valley Forge Road)	30,800	33,015	39,400	8,600	27.9%
Intersecting Roads						
Ford Street	US 202 NB to SR 23 (Fourth Street)	3,966	1,642	5,700	1,734	43.7%
US 202 North, DeKalb Street	Bridgeport Bypass to Crooked Lane	15,482	16,152	17,200	1,718	11.1%
US 202 North, DeKalb Street	Ford Road to SR 23 (Fourth Street)	11,019	11,636	12,600	1,581	14.3%
US 202 North, DeKalb Street	SR 23 (Fourth Street) to Main Street	28,666	30,746	34,000	5,334	18.6%
US 202 S, Dannehower Bridge	Main Street to SR 23 (Valley Forge Road)	30,833	33,979	38,900	8,067	26.2%
US 202,Bridgeport Bypass SB	SR 23 to DeKalb Street (US 202 N)	12,470	13,769	15,800	3,330	26.7%
US 202,Bridgeport Bypass NB	SR 23 to DeKalb Street (US 202 N)	10,490	11,937	14,200	3,710	35.4%
Henderson Road	Beidler Road to Valley Forge Road	7,805	8,288	9,300	1,495	19.2%
Henderson Road	Ross Road to DeKalb Pike (US 202)	14,650	15,918	17,900	3,250	22.2%

Table IV-4
Current, 2010 and 2030 Relief Route North Side of Schuylkill River (Alternative 3)
Average Daily Traffic Volumes (Continued)

Highway Facility	Location	Current Volume	2010 Alt#3 Bld Volume	2030 Alt#3 Bld Volume	2030 Alt#2 Bld/Current Growth	2030 Alt#2 Bld/Current Percent
Intersecting Roads (continued)						
Caley Road	Valley Forge Road to Beidler Road	n/a	2,417	2,900	n/a	n/a
General Knox Boulevard	Keebler Road to Valley Forge Road	n/a	2,621	3,300	n/a	n/a
Geerdes Boulevard	Valley Forge Road to Beidler Road	n/a	2,407	2,600	n/a	n/a
Allendale Road	First Avenue to Valley Forge Road	14,500	16,021	18,400	3,900	26.9%
Allendale Road	Keebler Road to Willis Boulevard	16,753	18,799	22,000	5,247	31.3%
Allendale Road	Willis Boulevard to DeKalb Pike (US 202)	18,738	20,361	22,900	4,162	22.2%
Moore Road	First Avenue to Valley Forge Road	7,897	9,419	11,800	3,903	49.4%
North Gulph Road to US 422	SR 23 (Valley Forge Road) to First Avenue	22,500	25,964	30,100	7,600	33.8%
Betzwood Bridge	SR 23 (Valley Forge Rd) to Trooper Rd (PA 363)	0	11,241	16,500	16,500	100.0%
Trooper Road (PA 363) (Relief Route)	Audubon Road to US 422	28,600	36,620	46,600	18,000	62.9%
Trooper Road (PA 363) (Relief Route)	Audubon Rd to Van Buren Avenue	22,300	29,125	39,800	17,500	78.5%
Trooper Road (PA 363) (Relief Route)	Van Buren Ave to Boulevard of the Generals	22,551	29,161	39,500	16,949	75.2%
Trooper Road (PA 363) (Relief Route)	Stinson Lane to Egypt Road	n/a	28,497	37,700	n/a	n/a
Trooper Road (PA 363) (Relief Route)	Egypt Road to Ridge Pike	16,900	20,215	25,400	8,500	50.3%
Parallel Roads						
Ridge Pike (Relief Route)	Burnside Road to Egypt Road	15,167	17,637	21,500	6,333	41.8%
Main Street (Relief Route)	Egypt Road to Airy Street	23,877	27,903	34,200	10,323	43.2%
Main Street (Relief Route)	Airy Street to Stanbridge Street	19,634	23,209	28,800	9,166	46.7%
Main Street (Relief Route)	Stanbridge Street to Markley Street (US 202 S)	n/a	26,440	30,200	n/a	n/a
Main Street	Markley Street to DeKalb Pike (US 202 N)	16,059	18,376	22,000	5,941	37.0%
Egypt Road (Relief Route)	Main Street to Trooper Road (PA 363)	15,213	20,586	25,400	10,187	67.0%
Egypt Road	Trooper Rd (PA 363) to Rittenhouse Road	16,372	18,450	21,700	5,328	32.5%
Audubon Road	Trooper Road (PA 363) to Adams Avenue	6,800	8,833	11,500	4,700	69.1%
Brownlie Road	Valley Forge Road to Henderson Road	n/a	3,420	3,800	n/a	n/a
Beidler Road	Caley Road to Henderson Road	n/a	4,814	5,600	n/a	n/a
Beidler Road	Caley Road to Geerdes Boulevard	5,464	6,117	7,400	1,936	35.4%
Beidler Road	Valley Forge Road to Geerdes Boulevard	n/a	5,510	6,100	n/a	n/a
Ross Road	Henderson Road to Quarry Road	n/a	2,651	3,200	n/a	n/a
First Avenue	North Gulph Road to Moore Road	13,204	14,645	16,900	3,696	28.0%
First Avenue	Moore Road to Allendale Road	11,129	12,483	14,600	3,471	31.2%
Keebler Road	Valley Forge Road to General Knox Blvd	n/a	8,207	8,800	n/a	n/a
Keebler Road	General Knox Boulevard to Allendale Road	7,859	8,577	9,700	1,841	23.4%
DeKalb Pike (US 202)	Allendale Road to Henderson Road	41,936	44,535	48,600	6,664	15.9%
DeKalb Pike (US 202)	Henderson Road to Bridgeport Bypass	37,532	39,665	43,000	5,468	14.6%
Valley Creek Road (PA 252) and Gulph Road Area						
SR 23 (Valley Forge Road)	Valley Park Road to Valley Creek Rd (PA 252)	20,100	21,192	25,300	5,200	25.9%
SR 23 (Valley Forge Road)	Valley Creek Road (PA 252) to Gulph Road	15,600	17,366	19,700	4,100	26.3%
Gulph Road	SR 23 (Valley Forge Road) to County Line Road	2,400	4,073	6,400	4,000	166.7%
Valley Creek Road (PA 252)	SR 23 (Valley Forge Rd) to Yellow Springs Rd	6,500	8,348	11,000	4,500	69.2%

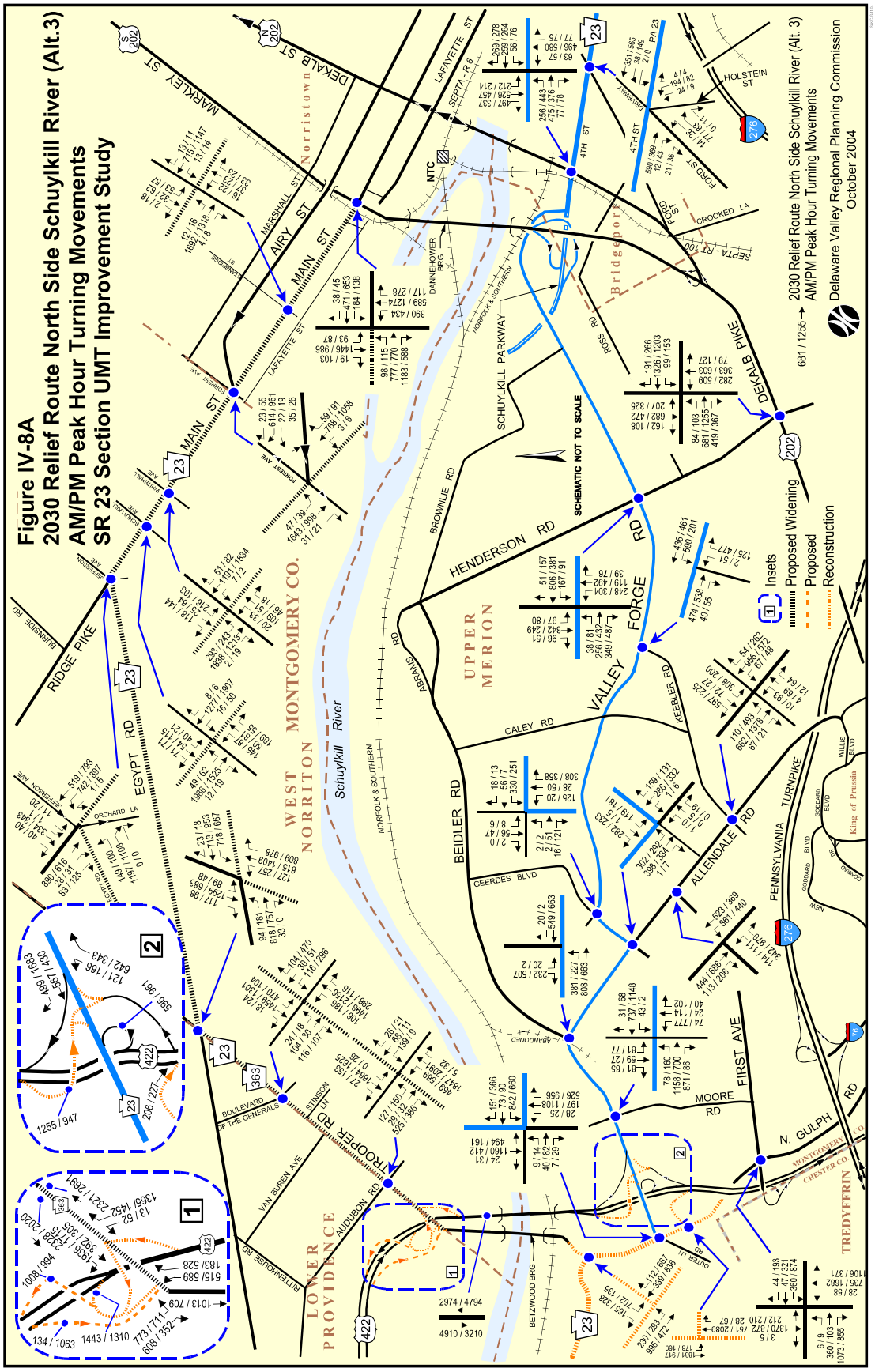
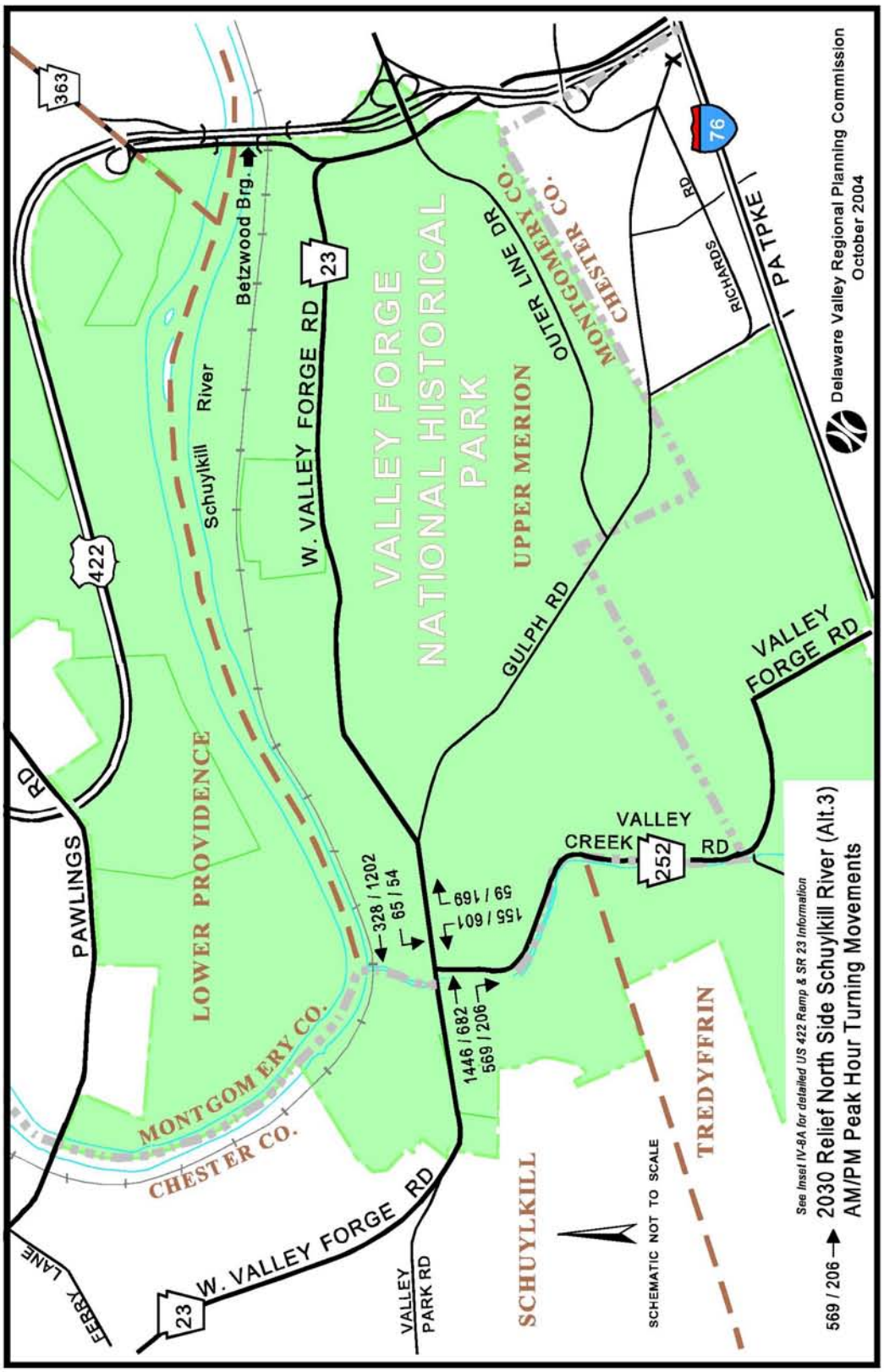


Figure IV-8A
2030 Relief Route North Side Schuylkill River (Alt.3)
AM/PM Peak Hour Turning Movements
SR 23 Section UMT Improvement Study
2030 Relief Route North Side Schuylkill River (Alt. 3)
AM/PM Peak Hour Turning Movements
Delaware Valley Regional Planning Commission
October 2004
SCHEMATIC NOT TO SCALE
Insets
Proposed Widening
Proposed Reconstruction
MONTGOMERY CO.
UPPER MERION
WEST NORRITON
LOWER PROVIDENCE
TREDYFFRIN
Norristown
Bridgeport
King of Prussia
Schuylkill River
HENDERSON RD
RIDGE PIKE
EGYPT RD
MARKLEY ST
DEKALB ST
MAIN ST
AIRY ST
LAFAYETTE ST
SCHUYLKILL PARKWAY
DEKALB PIKE
BROWNLIE RD
ROSS RD
CROOKED LA
FORD ST
47TH ST
4TH ST
HOLSTEIN ST
VALLEY FORGE RD
KEEBLER RD
CALEY RD
ABRAMS RD
BEIDLER RD
GEERDES BLVD
ALLENDALE RD
PENNSYLVANIA TURNPIKE
FIRST AVE
MOORE RD
N. GULPH RD
TROOPER RD
BOULEVARD OF THE GENERALS
VAN BUREN AVE
AUDUBON RD
RITTENHOUSE RD
ETNYRE DR
BETZWOOD BRG
DANNEHOWER BRG
NORFOLK & SOUTHERN
SEPTA - R 6
SEPTA - R1 100
NTC
ORCHARD LA
PLEASANT VIEW DR
HUNTSMAN BLVD
GODDARD BLVD
WILLIS BLVD
OUTER LN
1255 / 947
2974 / 4794
4910 / 3210
134 / 1063
1443 / 1310
773 / 711
608 / 352
1013 / 709
515 / 589
183 / 528
1936 / 1729
392 / 305
966 / 800
1365 / 1452
232 / 269
2020 / 2691
681 / 1255

Figure IV-8B. SR 23 Intersections with PA 252 Valley Creek Road
2030 Relief Rt North Side of Schuylkill River (Alt.3) AM/PM Pk Hr Turning Movements
SR 23 Section UMT Improvement Study



V. CONGESTION MANAGEMENT SYSTEM ANALYSIS

A. INTRODUCTION

Proposed improvements to SR 23 require a CMS analysis. The following sections describe the federal requirements that mandate a CMS analysis, the development and findings of the regional operational CMS, the requirements of a project-level CMS, and the results of the SR 23 CMS analysis.

B. FEDERAL REQUIREMENTS

The Congestion Management System was established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) to aid decision makers in gauging system performance and needs, and selecting cost-efficient strategies and actions to improve and protect the investment in the nation's infrastructure. The Congestion Management System is defined in the federal regulations as a "systematic process that provides information on transportation system performance and alternative strategies to alleviate congestion and enhance the mobility of persons and goods." The federal guidance states that the CMS should evaluate and include strategies to reduce single-occupant vehicle travel and improve the efficiency of the existing transportation infrastructure.

As of October 1, 1997, federal funds may not be programmed for any project that will result in a significant increase in carrying capacity of single-occupant vehicles unless the project comes from a fully operational Congestion Management System. A project needs to be considered for inclusion in the CMS if it receives federal funds, is located in an air quality nonattainment area (the entire DVRPC region is designated a moderate ozone nonattainment area under the 8-hour standard) and results in the equivalent of one or more general purpose lanes in carrying capacity for single-occupant vehicles. The federal guidance did not define what constitutes a significant capacity increase. However, DVRPC has adopted a policy of excluding projects that comprise either non-significant capacity increases or spot improvements from the CMS.

Non-significant capacity increases are projects that do not primarily provide through capacity but instead are a consequence of improvements such as acceleration/ deceleration lanes, center turning lanes, climbing lanes, and arterial signal systems. Spot improvements are projects that may increase capacity but are applied to a localized section of the transportation network such as isolated intersection improvements, ramp revisions at existing interchanges that do not permit additional movements between facilities, and limited at-grade circle cut-throughs. In addition, the federal guidance specifically excludes safety improvements and bottleneck elimination projects from the CMS. The ***Pennsylvania Congestion Management System Phase 2 Report***, published by DVRPC in July 1997, serves as the operational CMS for the Pennsylvania portion of the DVRPC region.

C. THE DVRPC CONGESTION MANAGEMENT SYSTEM FOR PENNSYLVANIA

DVRPC, in conjunction with its planning partners, developed the Congestion Management System for the Pennsylvania portion of the region in two phases. The first phase consisted of the cataloging of existing data and other information-gathering activities, identifying current and future congested facilities, and developing the CMS network. Phase 1 established a CMS network composed of major highways and a passenger rail network. With over 13,000 miles of roads in the Pennsylvania portion of the region, a smaller network was required to focus attention and resources on the most critical transportation facilities for moving people and goods.

The highway portion of the CMS network is based upon the following facility types:

- National Highway System (NHS) routes
- Congested principal arterials not on the NHS
- Streets with significant bus activity (200+ buses per day)
- Roads connecting the NHS with major passenger intermodal facilities and major freight intermodal facilities
- Roads impacted by special event generators (i.e., the sports complex or shore traffic)

The passenger rail network includes the following facilities:

- SEPTA's Regional Rail network
- SEPTA's Broad Street Subway, Market-Frankford Subway-Elevated, Norristown High Speed, and Media/Sharon Hill Light Rail lines
- PATCO High Speed Line
- NJ Transit and Amtrak rail lines

Traffic congestion at the systems level (as opposed to location-specific "spot" congestion) for 1996 and 2005 was identified by a number of quantitative and qualitative methods including:

- Volume to capacity (V/C) ratios from DVRPC's travel demand simulation model
- Development trends by assessing 1996-2005 trip growth
- Discussions with county planning officials, PENNDOT District 6-0 personnel, state police, traffic reporting services, DVRPC's Goods Movement Task Force and Regional Citizens Committee (RCC)

The second phase identified causes of congestion and reviewed strategies to relieve congestion at the corridor level. The CMS corridors were based on the corridors first established in DVRPC's ***Year 2020 Long Range Plan***. Each CMS corridor is typically organized around a major highway and parallel roads. Even though a corridor contains many other roads, and the CMS recommendations apply to the entire corridor, the primary focus is on the major highway(s). A total of eighteen corridors were evaluated. To be more reflective of the transportation network, land use, and trip-making patterns, corridors were divided into subcorridors. In each subcorridor, the location and severity of traffic congestion in the CMS network were evaluated along with the primary and secondary causes of congestion. Similarly, for the passenger rail network, all stations in the subcorridor were identified along with information on service frequency, parking availability, and connecting rail and feeder buses. This information is documented on individual corridor fact sheets and maps. Over fifty improvement strategies were identified from a number of sources including the federal CMS regulations and PENNDOT's guidance on single-occupant vehicle capacity-adding (SOVCAP) projects. The strategies attempt to meet the three goals of the CMS: (1) easing traffic congestion through the reduction of single occupant vehicles; (2) optimizing the efficiency of existing transportation systems; and (3) improving access to and proficiency of the transportation network to relieve congestion and improve the mobility of goods and people. Conceptually, the strategies range from low cost alternatives to driving, to moderate improvements to the transit and highway systems, and ultimately to significant SOV capacity improvements.

For each sub-corridor, strategies were reviewed for applicability and effectiveness based upon the characteristics of the transportation network; the extent and cause of traffic congestion; and population, employment, and other characteristics inventoried in the Long Range Plan corridor analyses. A standard strategy matrix was developed that rated each strategy as either *very practical*, *practical* or *not practical* within a sub-corridor. The criteria for evaluating practicality is shown below. After DVRPC's initial analysis, members of the Pennsylvania Subcommittee of the Regional Transportation Committee (RTC) and a subcommittee of the RCC made extensive modifications based upon their knowledge of, and familiarity with, the sub-corridors.

CRITERIA FOR STRATEGY MATRIX EVALUATION

Very Practical

- Widely applicable
- Very effective
- Can be implemented by an appropriate agency with minimal difficulty

Practical

- Not widely applicable
- May not be fully effective for the subcorridor (i.e., employer-based ridesharing in an area that is primarily residential)
- Highly desirable yet entail some implementation obstacles

Not Practical

- Not applicable or effective
- Not feasible in terms of implementation

The detailed fact sheets and strategy matrices provide a comprehensive macro-level overview of the location and causes of congestion and improvement strategies. The corridor overviews summarize the existing transportation facilities in the subcorridors, the level of congestion and key causes, and presents a brief overview of the primary and secondary strategies to manage congestion. The *Pennsylvania Congestion Management System Phase 2 Report* is considered a systems-level analysis because it examines generalized highway links and evaluates strategies that are applicable to larger areas. In the project development process the opposite is true; the focus is on a small study area. DVRPC revises the regional CMS by conducting corridor and project-level studies using performance measures to examine congestion levels and the effectiveness of improvement strategies.

D. PROCEDURES FOR SOV CAPACITY-ADDING PROJECTS

The Pennsylvania Congestion Management System Phase 2 Report serves as the operational CMS for the Pennsylvania portion of the DVRPC region. It functions as a framework for future analysis. CMS analysis for specific locations or projects is performed when applicable using the guidelines set forth in the regional CMS. The *Pennsylvania Congestion Management System Phase 2 Report* provides an initial assessment of the appropriateness of SOV widening within a particular corridor. Further study may be necessary to determine if SOV widening is warranted for a particular facility. Typically, a facility for which a SOV enhancement is proposed will be classified as congested in the *Pennsylvania Congestion Management System Phase 2 Report*. However, there are a couple of conditions that preclude every congested facility from being identified. The CMS network is limited to the facilities described earlier. Therefore, there are many facilities that are not included in the CMS network. Because the *Pennsylvania Congestion Management System Phase 2 Report* is a systems-level analysis, localized or spot congestion may not always be documented. Also, development is continuously impacting the transportation infrastructure but not all future development is able to be accounted for in the travel demand simulation models. In many cases, DVRPC will perform an operations-level or project-specific analysis on roads for which SOV enhancement is proposed, to determine or verify if that facility is or will be congested.

Generally, a project is said to result from the CMS if SOV widening is identified in the *Pennsylvania Congestion Management System Phase 2 Report* as a very practical or practical strategy for the subcorridor. This serves as a first screening for CMS requirements and DVRPC then makes a determination of whether a more detailed CMS study is required. All regionally significant projects that add a general purpose lane(s) of a mile in length or longer or a new interchange will require further CMS analysis and commitments.

E. SR 23 PROJECT-LEVEL CONGESTION MANAGEMENT SYSTEM STUDY AREA

The CMS study area for the SR 23 improvements also encompasses the Henderson Road/I-76 Westbound Ramps and Lafayette Street traffic study areas. A larger CMS study area provides an expanded set of strategies to be evaluated because there is a larger population and employment base to work with. Henderson Road and Lafayette Street improvements were evaluated separately in terms of project need and ability to reduce congestion. However, all three projects will encompass a single CMS study area and a single set of CMS strategies that will be evaluated for their adequacy to meet future travel demand. For this purpose, the CMS study area corresponds approximately to the study area used for the base-level travel-demand simulation modeling effort for all three projects. Many CMS strategies, like TDM and transit, are corridor or area-based strategies. Consequently, a larger CMS study area is more beneficial when developing and evaluating these types of strategies.

F. FINDINGS OF THE PENNSYLVANIA CONGESTION MANAGEMENT SYSTEM PHASE 2 REPORT

In the *Pennsylvania Congestion Management System Phase 2 Report,* the CMS study area is covered by four different corridors (Corridors 3, 4, 22, and 25). Each corridor is further broken down into subcorridors based on land use and travel patterns, among other criteria. Because of the drastic change in land use and confluence of travel patterns inherent at the juncture of four major highways, the CMS study area is a break point or boundary for six subcorridors.

The congested facilities are identical in each (sub)corridor. However, since each corridor has a different focus, the recommended strategies differ from corridor to corridor and subcorridor to subcorridor even though they cover the same facilities and geographic area. After reviewing each of the corridors, a primary and secondary sphere of influence was designated for the purpose of the SR 23 CMS analysis. These primary and secondary spheres of influence will help guide commitments for this project.

The primary corridor for the SR 23 traffic study area is Corridor 4, Pottstown to King of Prussia, following US 422 and Ridge Pike/Germantown Pike. Within Corridor 4, subcorridor 4B is the pertinent subcorridor.

One secondary corridor for the study area is Corridor 3, Coatesville to Center City which generally follows US 30 between Coatesville and Center City, and also encompasses the Schuylkill Expressway (I-76). Within this corridor, two overlapping subcorridors, 3C and 3D, cover the study area. Another secondary corridor is Corridor 22, King of Prussia to New Jersey, which focuses on the Pennsylvania Turnpike (I-276), the most direct route between these two locations. The focus of this corridor is reducing congestion on a limited-access expressway and on the small number of access points/interchanges. The final secondary corridor is Corridor 25, King of Prussia to Doylestown. Corridor 25 addresses travel between King of

Prussia and Doylestown, with the most direct route being US 202, which is a full access facility. The pertinent subcorridor is 25A.

SR 23 is included in the CMS network that was analyzed in the *Pennsylvania Congestion Management System Phase 2 Report*. It is currently classified as an arterial facility.

Due to the large number of overlapping subcorridors, a composite strategy matrix was developed for the study area based on the individual strategy matrixes from each of the five subcorridors that cover the CMS study area. Priority was given to the primary corridor. The five subcorridors actually had similar prioritization of the majority of screened strategies. In many other cases the prioritization only varied slightly, between very practical and practical, or practical and not practical. In the cases where the prioritization varied greatly (between very practical and not practical), the majority determined the composite, with emphasis being given to the two primary corridors. Every subcorridor listed SOV roadway widening as a practical strategy. This means that the proposed projects did meet the first criteria of being part of an operational CMS.

The recommended strategies from the *Pennsylvania Congestion Management System Phase 2 Report* place a heavy emphasis on mode shift, transportation demand management, incident management, traffic operation improvements, and alternate work hours. There is a dual goal of removing vehicles/trips from the system and improving the flow on the network. The profusion of expressways in the vicinity (I-76, I-276, I-476, US 202, and US 422) naturally lends itself to incident management and ITS strategies that improve the traffic flow on freeways. The number and density of commercial and office employment destinations lend themselves to mode shift strategies such as carpooling, transit marketing, and associated strategies such as ridematching and other services provided by transportation management associations. In addition, traffic operation improvements, such as a coordinating and upgrading traffic signals, are particularly appropriate along heavily congested corridors.

G. PROJECT NEEDS ASSESMENT

A detailed Project Needs assessment was conducted by the Upper Merion Transportation Authority and the Pennsylvania Department of Transportation in July 2002. The study documented current conditions along SR 23, including traffic volumes, level-of-service, and accident history. The following needs, related to existing conditions and deficiencies were noted in the evaluation:

- *Need to improve existing problems of safety by providing transportation facilities that meet current geometric design standards on state highways and allow for efficient operations for emergency vehicles.* (The segment of SR 23 in the vicinity of Mancill Mill Road experienced the highest accident rate along this stretch of SR 23. On average, there were 14.4 crashes annually per mile with a rate of 3.03 crashes per million vehicle miles)

- *Need to reduce impacts of through traffic, including trucks, in residential areas. Currently, SR 23 traffic proceeds on an indirect course through several of Upper Merion's neighborhoods, with the added impact of heavy trucks in the western section.*

- *Need to improve system linkage between the Schuylkill River crossings to improve travel choices, provide alternatives for incident avoidance and improve overall system capacity and efficiency. Travel between the US 422 and US 202 river crossings is now limited to three insufficient options. First, using the regional highway network involves travel along an indirect path through the often-congested US 202/I-76/US 422 interchange complex and then north along US 202. The second is to travel along existing SR 23 with its two-lane width, frequent sharp turns, substandard geometrics, complex connections, and frequently congested conditions. The third is the longer, indirect path on the north side of the Schuylkill River via Trooper Road (PA 363), Egypt Road and Main Street in Norristown.*

- *Need to reconfigure SR 23 for system continuity as a productive element in the regional transportation network. Currently, SR 23 is a succession of varying road types and land uses with abrupt changes between differing geometric and operational candidates, following a disjointed, indirect path roughly parallel to the Schuylkill River. In the study area, SR 23 lacks either the physical continuity or the perceptual presence a designated State Route needs to serve as an efficient element in the regional highway network.*

  The project study area and Upper Merion have become a hub in the regional highway network, where major expressways converge and traffic congestion routinely impedes one or more expressway links and interchanges. Therefore, the reconfiguring and rationalizing of SR 23 as a relief route will make it more meaningful and intuitive element in the highway network and a more viable option for drivers.

- *Need to reduce existing traffic congestion which is routine and pronounced in the project study area. These problems include peak period congestion and unacceptable levels-of-service seen at the US 422/SR 23/North Gulph Road interchange complex and the section of SR 23 just east of the interchange through the Mancill Mill Road and West Beidler Road area.*

- *Need to remedy roadway deficiencies now experienced by SR 23 traffic. With the geometric and operational problems and deficiencies identified, the existing roadway cannot adequately serve either the function of a designated State Route or the demands of the current combination of State Route and local traffic.*

SR 23 now consists of a two-lane roadway section with varying geometric conditions, including narrow bridges, sharp turns, abrupt grade changes and limited sight distance. There are 18 intersections within a two mile distance, as well as extensive sections with free access to residential driveways.

Intersection conditions at both ends of the study area are routinely congested during traffic peaks and will be inadequate for increases in future traffic. At the west end, connections with US 422 and North Gulph Road, high turning volumes, close intersection spacing and substandard geometry inhibit efficient operations. Problems in this interchange complex cause congestion and difficulty in driver orientation.

At the east end connection with US 202, the existing traffic configuration was meant only as an interim solution. It is complex and roadway directions are non-intuitive, with varying geometrics and roadway conditions.

H. PROJECT-LEVEL CMS ANALYSIS

Even though SOV roadway widening is identified as an appropriate strategy in each of the five subcorridors that cover the CMS study area, additional CMS analysis is necessary because the proposed SR 23 improvements include a significant increase in single occupant vehicle (SOV) capacity and SR 23 was not found to be currently congested at major signalized intersections as part of the *Pennsylvania Congestion Management System Phase 2 Report* (July 1997). The project-level CMS analysis builds upon the results of the systems-level *Pennsylvania Congestion Management System Phase 2 Report*. The project-level CMS analysis addresses three questions: is the facility congested currently or in the future; can CMS strategies meet future travel demand; and does the proposed improvements reduce congestion in the study area or fulfill other project needs?

Future no-build and build volumes are generated using the DVRPC travel demand simulation model. The Level-Of-Service (LOS) is then derived from the link volumes for current conditions as well as future scenarios. The first step in the project-level analysis is to determine if congestion exists on the facility, either now or in the future, based on Level-Of-Service. Additionally, future scenario link volumes and intersection Level-Of-Service are compared to current volumes and LOS to determine if congestion improves or worsens in the future. An adequacy test is conducted to determine if future demand can be met by means other than increasing SOV capacity, such as implementing Transportation Control Measures (TCM) or Transportation Demand Management (TDM) strategies. Finally, Level-Of-Service results are analyzed to determine if the proposed project (build scenario) improves LOS compared to the future no-build scenario. This determines whether the proposed improvements are a legitimate congestion mitigation strategy.

If warranted, a set of CMS strategies may be selected and endorsed as project commitments to help reduce SOV travel, improve the efficiency of the existing transportation network and prolong the usefulness of capacity increases.

I. RESULTS

Four design year scenarios — a no-build and three alternative build scenarios — were analyzed using the travel demand simulation model. The three Build alternatives are: Widening Existing SR 23 (Alternative 1); Relocated SR 23 (Alternative 2); and North Side Schuylkill River Relief Route (Alternative 3). Results were forecast for a design year of 2030. The no-build scenario includes regionally significant projects to be completed by 2025. Proposed improvements to this section of SR 23 are part of DVRPC's Year 2025 Long Range Plan and FY 2003 Transportation Improvement Program (TIP).

Traffic volumes from the current and no-build scenarios were compared to determine the extent of congestion in the future. Level-Of-Service under the no-build and build scenarios were also contrasted to determine if the proposed roadway project improved or worsened future conditions. **Table V-1** shows the percentage increase in the future no-build peak-hour traffic volumes over current volumes along SR 23 and selected adjacent cross streets.

Analysis of the model runs reveals that by 2030, average annual daily traffic (AADT) within the SR 23 Traffic Study area will increase by 13.2 percent to 74.8 percent in the no-build scenario over current levels. Intersection Level-Of-Service analysis, shown in **Table V-2,** reveals that Level-Of-Service generally deteriorates or remains constant at most of the 23 signalized intersections in 2030 under no-build conditions in comparison to existing conditions, with several intersections experiencing congested conditions (LOS E or F). The analysis also shows the three Build alternatives, in comparison to the future No-Build scenario, results in an overall improvement in Level-Of-Service but with a varying order of magnitude by alternative and by intersection. Alternative 1 shows a decline in Level-Of-Service at three intersections, Alternative 2 shows a decline in LOS at a single intersection, and Alternative 3 shows a decline in LOS at five intersections in comparison to the future No-Build scenario. However, in the instances where Level-Of-Service declines in the Build scenario, it declines by a single grade.

Table V-1. Percent Increase in Traffic Volume (2003 to 2030 No-Build)

Road	Limits	Increase
Trooper Road (PA 363)	North of Egypt Rd	49.7%
Trooper Road (PA 363)	Stinson Lane - Van Buren Ave	58.4%
Trooper Road (PA 363)	Van Buren Avenue - Audubon Rd	60.5%
Trooper Road (PA 363)	Audubon Rd - US 422	49.7%
Trooper Road (PA 363)	Betzwood (US 422) Bridge	21.0%
Trooper Road (PA 363)	North Gulph Rd - First Ave	32.4%
Pt. Kennedy Rd.(SR 23)	Inner Line Rd - County Line Rd	36.4%
Pt. Kennedy Rd.(SR 23)	County Line Rd - Outer Line Rd	74.8%
Pt. Kennedy Rd.(SR 23)	Outer Line Rd - US 422	41.7%
Valley Forge Rd.(SR 23)	US 422 - Moore Rd	37.4%
Valley Forge Rd.(SR 23)	Moore Rd - Beidler Rd	24.1%
Valley Forge Rd.(SR 23)	Beidler Rd - Allendale Rd	26.2%
Valley Forge Rd.(SR 23)	Caley Rd - Keebler Rd	42.9%
Valley Forge Rd.(SR 23)	Keebler Rd - Henderson Rd	24.8%
Valley Forge Rd.(SR 23)	Henderson Rd - Brownlie Rd	30.0%
Valley Forge Rd.(SR 23)	Markley St (US 202 SB) - DeKalb St (US 202 NB)	24.0%
Fourth Street (SR 23)	DeKalb St (US 202 NB) - Ford St	13.2%
DeKalb Street (US 202 NB)	Fourth Street (SR 23) - Lafayette St	18.5%
Markley Street (US 202 SB)	Main St - Valley Forge Rd (SR 23)	26.0%
Main Street	DeKalb St (US 202 NB) - Markley St (US 202 SB)	26.1%
Main Street	Stanbridge Street - Airy St	23.5%
Main Street	Airy St - Egypt Rd	20.9%
Main Street	Egypt Rd - Burnside Rd	27.0%
Egypt Road	Main St - Trooper Rd (PA 363)	33.6%
Egypt Road	Trooper Rd (PA 363) - Boulevard of the Generals	23.2%
Egypt Road	Boulevard of the Generals - Rittenhouse Rd	26.8%
Audubon Road	Rittenhouse Rd - Trooper Rd (PA 363)	72.1%
US 422	Rittenhouse Rd - Trooper Rd (PA 363)	33.7%
North Gulph Road	Outer Line Rd - US 422	36.9%
First Avenue	North Gulph Rd - Moore Rd	31.8%
First Avenue	Moore Rd - Allendale Rd	36.0%
Moore Road	First Ave - Valley Forge Rd (SR 23)	54.4%
Allendale Road	DeKalb Pike (US 202) - Pennsylvania Turnpike (I-276)	26.2%
Allendale Road	Pennsylvania Turnpike (I-276) - Keebler Rd	33.9%
Allendale Road	First Ave - Valley Forge Rd (SR 23)	30.3%
Keebler Road	Allendale Rd - Caley Rd	24.1%
Beidler Road	Geerdes Blvd - Caley Rd	36.4%
DeKalb Pike (US 202)	I-276 - Henderson Rd	20.5%
DeKalb Pike (US 202)	Henderson Rd - ramps for David Rd and Boro Line Rd	19.2%
DeKalb St (US 202 NB)	Boro Line Rd - Ford St	16.8%
DeKalb St (US 202 NB)	Ford St - Fourth St	19.1%
Markley St (US 202 SB)	Boro Line Rd - Fifth St	32.2%
Ford Road	Union St - Fourth St (SR 23)	47.5%

Road	Limits	Increase
Henderson Road	DeKalb Pike (US 202) - Ross Rd	26.5%
Henderson Road	Valley Forge Rd (SR 23) - Brownlie Rd	23.1%
Study Area Average:		31.3%

Table V-2. Comparison of Signalized Intersection Peak Hour Level-Of-Service (AM/PM)

Intersection	Existing	No-Build 2030	Alt. 1 2030	Alt. 2 2030	Alt. 3 2030
Port Kennedy Rd (SR 23) & V. Creek Rd (PA 252)	C/F	F/F	E/F	E/F	E/F
Port Kennedy (SR 23) & Trooper Rd (PA 363)	NA	F/F	C/D	D/D	C/C
Valley Forge Rd (SR 23) & North Gulph Rd	E/F	F/F	C/C	C/C	C/C
Valley Forge Rd (SR 23)& US 422 Ramps	E/C	E/C	C/C	C/C	B/C
Valley Forge Rd (SR 23) & Moore Rd	C/D	C/D	B/E	B/E	B/D
Valley Forge Rd (SR 23) & Beidler Rd	C/F***	F/F***	B/B	B/B	F/F***
Valley Forge Rd (SR 23) & Allendale Rd	B/C	B/C	C/C**	B/B	B/B
Valley Forge Rd (SR 23) & Geerdes Blvd	C/B	C/B	C/C**	B/B	C/B
Valley Forge Rd (SR 23) & Keebler Rd	C/F***	F/F***	D/B***	D/E***	C/F***
Valley Forge Rd (SR 23) & Prince Frederick St	A/B	C/C	A/A	A/A	B/B
Valley Forge Rd (SR 23) & Henderson Rd	C/C	D/C	C/C	C/C	D/C
Fourth St (SR 23) & DeKalb St (US 202 NB)	E/F	E/F	E/F	E/F	F/F
North Gulph Rd & First Ave	E/F	F/F	E/E	E/D	E/E
Allendale Rd & First Ave	C/B	C/C	B/B	B/B	C/C
Allendale Rd & Keebler Rd	B/C	C/C	C/C	B/B	C/C
Henderson Rd & DeKalb St (US 202)	E/F	F/F	F/F	E/F	E/F
Trooper Rd (PA 363) & Audubon Rd	B/B	C/D	C/C	C/D	D/E
Trooper Rd (PA 363) & Blvd of Generals	C/C	C/C	C/C	C/C	D/C
Trooper Rd (PA 363) & Egypt Rd	D/C	F/E	E/D	E/D	F/F
Main St & Egypt Rd & Jefferson Ave	D/E	F/F	F/F	F/F	D/C
Main St & Whitehall Ave	E/C	F/E	F/D	F/D	D/E
Main St & Airy St & Forrest Ave	D/C	C/C	C/C	C/C	D/D
Main St. & Markley St (US 202 SB)	F/E	F/F****	F/F****	F/F****	F/F****
Relocate SR 23 & Henderson Rd	NA	NA	NA	A/A	NA

* Note: Congestion may occur at locations on roadways between the signalized intersections, as well as on US 422 Main line and ramps

** Note: Intersections have been reconfigured as part of Alternative 1 - Widen SR 23. The two intersections have been combined into one intersection.

*** Note: Unsignalized intersection. Valley Forge Rd (SR 23) & Beidler Rd to be signalized in Alt 1 - Widen SR 23 and Alt 2 – Relocate SR 23.

**** Note: Does not include the US 202 Section 500 Markley Street Improvements.

1. CMS Strategy Adequacy Test

An appropriate set of Transportation Control Measures (TCM) and Transportation Demand Management (TDM) strategies was reviewed to determine if they met the travel demand of the study area and would thereby eliminate the need for roadway widening. The analysis, performed by DVRPC staff, focused on all the strategies ranked *very practical* in the *Pennsylvania Congestion Management System Phase 2 Report*. Additional *practical* and *not very practical* strategies were evaluated to determine the maximum potential for alternatives to increasing SOV capacity.

The CMS study area has a large set of CMS commitments and strategies in place. There are two transportation centers, over twenty transit routes including two rail lines and three shuttle services, two Transportation Management Associations, a network of multi use trails with connections to major destinations, Intelligent Transportation System components on the numerous expressways that intersect in the study area, and several area wide traffic signal closed-loop systems. However, even with all the CMS-type strategies currently in place, traffic congestion is forecast to worsen in the future. Even the addition of several SOV capacity-enhancing projects, which are currently under construction or are planned for the area, will not eliminate congestion according to future traffic modeling simulations.

Table V-3 outlines the CMS strategies being currently implemented or committed to within the CMS study area. The abundance of CMS-type strategies has had a discernable impact on the adequacy test. The achievable impact of the analyzed strategies has been downgraded because many of the strategies are already accounted for in the existing conditions and any additional benefit will be incremental, at best.

Table V-4 presents the results of the adequacy assessment portion of the CMS analysis, including the practicality ranking of the strategy in the *Pennsylvania Congestion Management System Phase 2 Report*. Each of the twelve selected categories of strategies was reviewed for its ability to independently meet the project needs, the opportunity to implement the strategy within the corridor, the maximum potential of a full implementation of the strategy, and the estimated potential in the study area. Generally, the maximum potential reflects the extreme upper limit of success that each strategy has achieved in nationwide case studies. The estimated achievable reduction, which is used for the adequacy analysis, is based on local circumstances such as the presence of complementary and supplementary strategies within the study area and the magnitude of the proposed strategies.

The potential reduction in vehicle miles traveled was based primarily upon data reported in ***Transportation Control Measures: An Analysis of Potential Transportation Control Measures for Implementation in the Pennsylvania Portion of the DVRPC Region*** (May 1994) performed by COMSIS Corporation for DVRPC. Strategies not analyzed in that report were evaluated using case studies from ***Costs and Effectiveness of Transportation Control Measures: A Review and Analysis of the Literature*** (January 1994) prepared by Apogee Research for

the National Association of Regional Councils. Data from these sources was supplemented by professional judgment and knowledge of local conditions.

The categories of strategies analyzed for the adequacy test are more inclusive than in either the *Pennsylvania Congestion Management System Phase 2 Report* or the review of commitments. For instance, for the adequacy test, the "Transit Service/ Operations Improvements" category includes a broad array of transit-related strategies ranging from new transit route(s) to better transit coordination. However, for purposes of the *Pennsylvania Congestion Management System Phase 2 Report* and the commitments review, each of these strategies was considered separately. This consolidation of strategies was necessary because many of the nationwide case studies applied in this assessment, are predicated upon broader, more inclusive categories of improvement types.

Table V-3. Existing CMS Programs and Commitments Within the CMS Study Area

STRATEGY	PREVIOUSLY INITIATED OR ALREADY COMPLETED PROJECTS AND PROGRAMS	COMMITTED AREAWIDE PROJECTS AND PROGRAMS ASSOCIATED WITH CORRIDOR
New Transit Service		A Major Investment Study/ Draft Environmental Impact Statement has been completed for the Schuylkill Valley Metro rail line between Philadelphia and Wyomissing, Berks County. The project is now in the Preliminary Engineering and Final Environmental Impact Statement phase. SEPTA is currently conducting an alternatives analysis of extending service on the Route 100 Norristown High Speed Line to King of Prussia
Demand Responsive/ Shuttle Transit Service	The Cruise Line Corporate Shuttle provides connections from transportation centers directly to a work site. This is an employer-based subscription service. The Rambler residential shuttle service operates in Upper Merion Township and West Conshohocken, Conshohocken and Bridgeport boroughs. Service is provided Monday through Saturday. Stops include the King of Prussia Transportation Center and SEPTA's Gulph Mills Station (Route 100). The Suburban Link connects King of Prussia to Collegeville via the Phoenixville area. Connections are made at SEPTA's Gulph Mills Station (Route 100) and King of Prussia Transportation Center. Three runs are made during the morning peak period and three runs are made during the afternoon peak period.	
Parking Management	GVFTMA has a "Share-a-Lot" program which seeks to maximize the availability of parking by sharing underutilized facilities.	Upper Merion Township is investigating fringe parking as part of its "Horizons" transportation and land use plan.

Table V-3. (Continued)

STRATEGY	PREVIOUSLY INITIATED OR ALREADY COMPLETED PROJECTS AND PROGRAMS	COMMITTED AREAWIDE PROJECTS AND PROGRAMS ASSOCIATED WITH CORRIDOR
Transportation Management Associations (TMAs)	Greater Valley Forge TMA and the TMA of Chester County are both active within the study area. They coordinate shuttle services (with a guaranteed ride home program), promote transit, carpooling and ridesharing, telecommuting, parking management programs and flexible and staggered work schedules/hours to area employers.	
Park and Ride	Park-and-ride lots have been constructed or expanded at the following locations: Matsonford Rd. at I-76/I-476 interchange (60 spaces) Lewis Rd. at US 422 (50 spaces) Matthews Rd. at US 202/PA 29 (100 spaces) US 30 at US 202 (125 spaces) Paoli Pike at US 202 (60 spaces) PA 113 east of PA 100 (37 spaces) Intermodal connections can be made at the following lots: PA 100 at US 30 (Exton Bypass) next to the SEPTA R5 station (116 spaces) US 202 and South Gulph Rd. (120 spaces)	
Traffic Operations Improvements		The I-76 Corridor Traffic Management Program will provide for the interconnection of signals along the I-76 corridor to be used when incidents detour traffic from I-76 to local roads. Upper Merion Township will install a township-wide closed loop traffic signal system. Norristown will institute a signal coordination and interconnection project. Provide left turn lanes on all approaches to Sandy Hill Road and Belvoir Road. Realign and provide a left turn lane at SR 23 and Balligomingo Rd. intersection. Reconstruct and add a center turn lane on Ridge Pike between the Norristown Borough line and Butler Pike. Add a left turn lane and a traffic signal and upgrade existing signal at SR 23 and Old Betzwood Bridge intersection.

Table V-3. (Continued)

STRATEGY	PREVIOUSLY INITIATED OR ALREADY COMPLETED PROJECTS AND PROGRAMS	COMMITTED AREAWIDE PROJECTS AND PROGRAMS ASSOCIATED WITH CORRIDOR
Bicycle/Pedestrian Improvements	The Allendale Road Bridge over the Pennsylvania Turnpike was recently replaced and a separate bike and pedestrian lane constructed as part of the project. As part of the US 202 Section 400 project, the new Chester Valley Trail Bridge over I-76 will be completed in 2003. The Schuylkill River Trail between Valley Forge park and Oaks was opened in 2002. The Park and Ride lot on US 202 and S. Gulph Road includes bicycle facilities and access to the future Chester Valley Trail.	The Chester Valley multi-use trail will be constructed from to Downingtown. This trail will connect to the existing Schuylkill River Trail between Valley Forge National Historical Park and Center City Philadelphia and the planned Cross County Trail to the Willow Grove area. The Cross-County Trail will be a nine mile paved commuter and recreational trail that will connect the Schuylkill Trail in Conshohocken to the Willow Grove area. The Schuylkill Trail from the Perkiomen Creek in Oaks to PA 29 in Lower and Upper Providence Townships will be constructed. This will extend the Schuylkill River Trail from its current terminus in Oaks. The Old Betzwood Bridge will be replaced and space and connections provided for a bicycle/pedestrian trail. The Upper Merion Bicycle Mobility Improvement Program will provide bicycle facilities on the following roads: N. Henderson Road, W. Beidler Road, SR 23, W. Valley Forge Road, Keebler Road, S. Gulph Road, S. Henderson Road. Croton Road, and S. Warner Road. Bike racks will be installed at the King of Prussia Transportation Center, Gulph Mills (Route 100), and Paoli (R5) stations.
Intelligent Transportation System (ITS)	ITS components (including vehicle detection system, Closed Circuit Television Cameras, Variable Message Signs, Highway Advisory Radio, and EZ Pass) installed on I-76, I-476, US 202, US 422, and the Pennsylvania Turnpike.	

Table V-3. (Continued)

STRATEGY	PREVIOUSLY INITIATED OR ALREADY COMPLETED PROJECTS AND PROGRAMS	COMMITTED AREAWIDE PROJECTS AND PROGRAMS ASSOCIATED WITH CORRIDOR
Transit Service Enhancements	In 1989, SEPTA opened the Norristown Transportation Center, which consolidated the R6 commuter rail line, the Route 100 Norristown High Speed Line and seven bus routes at one location. A park and ride lot was also provided at this location. During the past decade, the King of Prussia Transportation Center was upgraded and amenities added. The King of Prussia Transportation Center serves six bus routes in addition to the Rambler and Suburban Link shuttles and facilitates connections and travel to the King of Prussia mall. While not offering the same amenities as the Norristown and King of Prussia Transportation Centers, the Route 100 Gulph Mills station also has timed connections with three bus routes as well as the Rambler and Suburban Link shuttles. Parking facilities at the Thorndale (450 spaces), Malvern (70 spaces), and Whitford (130 spaces) stations on the SEPTA R5 rail line were recently constructed or expanded. An additional 50 parking spaces were added at the R6 Elm Street Station. Additional service has been added on SEPTA's R5 rail line during midday and peak periods. There has been an addition of an early morning train from Philadelphia to Thorndale on SEPTA's R5 rail line to serve reverse commuters. Provide ½ hour service during the peak period on Route 133 between King of Prussia and the Paoli rail station. Headways were decreased to ½ hour during the off-peak period on SEPTA Routes 124 and 125 to employment centers.	A 500 space parking garage will be constructed at the Norristown Transportation Center. This will help alleviate the demand for parking at the Transportation Center, which currently exceeds capacity. A new intermodal center will be constructed at Paoli. Provision of additional midday and early evening service on SEPTA Route 206 between Great Valley and Center City Philadelphia via Paoli. As part of its Automatic Vehicle Locator project, SEPTA will install four kiosks that will provide real-time arrival information for Routes 124 and 125.
Land Use Planning	All planning and zoning ordinances are the responsibility of local municipalities. Each municipality within the study area has adopted a comprehensive land use plan and zoning ordinance. Upper Merion Township has recently completed its "Horizons" transportation and land use plan. This visionary plan seeks to reduce congestion, improve quality of life and provide for orderly growth in the township.	
SOV and Mobility Enhancements	US 202 Section 400 and I-76/US 422 interchange	US 202 Section 300 US 202 Section 500 US 422/PA 363 Interchange Old Betzwood Bridge replacement US 422 Study

Table V-4. Adequacy Test of CMS Strategies to Meet Project Needs

Strategy	Strategy Independently Meets Project Purpose and Need	Strategy Opportunity Within Corridor	Applicability of Strategy within Corridor in *PA CMS Phase 2 Report*	Estimated Potential % Reduction in Daily VMT in 2030	
				Maximum Potential	Estimated Achievable
Transit Expansion and Enhancements	No	Good	Very Practical	2.6	**2.6**
Telecommuting, Staggered Work Hours Flexible Work Schedules	No	Moderate	Very Practical	4.0	**0.75**
Carpooling/Vanpooling, Areawide Ridesharing Programs	No	Good	Very Practical	2.0	**0.1**
Employer-Based Travel Demand Management (Preferential HOV facilities, Guaranteed Ride Home, Transit Shuttles)	No	Good	Very Practical	2.0	**0.1**
Transportation Management Associations	No	Excellent	Very Practical	Included with Other Strategies	**Included with Other Strategies**
Bicycle and Pedestrian Facilities and Programs	No	Moderate	Very Practical	0.2	**0.2**
Park and Ride	No	Moderate	Very Practical	0.5	**0**
Operational and Traffic Flow Improvements (TSM)	No	Good	Very Practical	0.1	**0.1**
ITS, Incident Management	No	Excellent	Very Practical	0.1	**0.1**
Ramp Metering	No	Limited	Practical	0.1	**0.1**
Land Use Planning, Activity Centers	No	Limited	Practical	5.2	**1.0**
High Occupancy Vehicle (HOV) Facilities	No	Very Limited	Not Practical	1.4	**0.5**
TOTAL				18.2	**5.55**

The adequacy test determined that none of the analyzed strategies is able to meet the increased travel demand forecast for the study area in the design year of 2030. Furthermore, even cumulatively, the strategies are still not able to meet the average increase of 31.3 percent in AADT forecast for 2030 for the traffic study area. Accordingly, the adequacy test concludes that CMS-type strategies are not able to meet the additional travel demand in the corridor in the future

2. Effect of SR 23 Improvements

The Level-Of-Service analysis shows that LOS at 16 of 23 intersections throughout the study area worsens in the no-build scenario when compared to current conditions. Implementing the proposed improvement (build scenario) alternatives has the overall effect of reducing congestion within the study area varying by alternative and location. There are a few intersections where LOS decreases slightly under a specific Build alternative compared to the No-Build scenario. Overall, however, the proposed alternatives improve Level-Of-Service at intersections in the study area.

In summary, the proposed improvements are included in the DVRPC Long Range Plan and widening within the corridor is included as a practical strategy in the *Pennsylvania Congestion Management System Phase 2 Report*. Travel demand simulation modeling has shown that the proposed alternative improvements to SR 23 do result in overall improvement in LOS in the future within the study area, when compared to the No-Build scenario. Additionally, the project need study identifies additional measures, including safety improvement, reducing traffic in residential neighborhoods, and system connectivity and linkage, which all three alternatives meet. Therefore, as a result of a project-level CMS analysis, the proposed improvements to SR 23 are considered to be a part of an operational Congestion Management System.

A set of Traffic Operations strategies should be analyzed to determine if they can improve operations at intersections where LOS deteriorates under the chosen Build scenario. If they can improve operations, the improvements should be forwarded as part of the CMS commitments.

3. CMS Commitments

In order to prolong the usefulness of the proposed improvements to SR 23, a set of CMS commitments are being forwarded as part of the project. These enhancements will also insure that bicycle and pedestrian facilities are included in the final project design. Additionally, they will analyze traffic operations and make appropriate improvements, where warranted. **Table V-5** includes the additional CMS enhancements associated with the SR 23 improvements.

Table V-5. CMS Enhancements to Be Included with Project Design

ENHANCEMENT STRATEGY	DESCRIPTION
Traffic Operations Improvements	Examine alternatives to reduce congestion at the intersections showing a decline in LOS under the chosen Build alternative and implement additional improvements if warranted
Construction Management Techniques	Depending upon which alternative is chosen, maintain at least one lane per direction on existing roads within the study area. (Alternative 2 is a new alignment and will not directly impact existing roads).
Pedestrian Amenities	Construct a separate bike path (alternative 2) or stripe bike lanes (alternatives 1 and 3) depending upon which alternative is chosen.

APPENDIX A
24-HOUR MACHINE TRAFFIC COUNTS

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

* ***DVRPC Traffic Counts***

All other roadway segments and traffic counts were taken by the consultant and shown without using DVRPC format.

Municipality: Plymouth Twp
Comments: None
Weather: Clear
ATR #/ Operator: McM-5818/JB
Street name :Valley Forge Rd E/of Cross street:Orchard Rd ,

McMahon Associates, Inc.
Transportation Enginneers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Site Code : 000080100257
Start Date: 07/30/2001
File I.D. : DVRPC57
Page : 2

Begin	Mon.	08/06	Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 am	26	82	27	65	40	91	40	83	39	135	*	*	*	*	34	91
01:00	28	45	32	42	14	49	29	49	27	63	*	*	*	*	26	50
02:00	18	20	18	29	22	28	22	33	19	39	*	*	*	*	20	30
03:00	32	36	34	25	31	22	39	25	31	26	*	*	*	*	33	27
04:00	75	26	61	31	66	24	58	36	76	25	*	*	*	*	67	28
05:00	280	86	306	69	294	82	313	98	293	77	*	*	*	*	297	82
06:00	996	187	1005	221	987	204	970	215	933	209	*	*	*	*	978	207
07:00	1460	315	1480	330	1491	320	1451	339	1425	323	*	*	*	*	1461	325
08:00	1198	381	1280	371	1261	390	1281	419	1247	414	*	*	*	*	1253	395
09:00	723	352	778	356	725	400	735	389	747	396	*	*	*	*	742	379
10:00	545	342	561	393	588	402	629	399	*	*	*	*	*	*	581	384
11:00	516	461	578	459	591	453	624	483	*	*	*	*	*	*	577	464
12:00 pm	555	507	553	517	581	529	650	518	*	*	*	*	*	*	585	518
01:00	563	518	533	537	528	599	618	532	*	*	*	*	*	*	560	546
02:00	509	565	485	616	506	591	555	657	*	*	*	*	*	*	514	607
03:00	546	764	542	803	561	827	526	820	*	*	*	*	*	*	544	804
04:00	512	1120	550	1113	472	1092	556	1102	*	*	*	*	*	*	522	1107
05:00	548	1306	633	1326	511	1239	578	1268	*	*	*	*	*	*	568	1285
06:00	455	865	550	873	552	859	518	830	*	*	*	*	*	*	519	857
07:00	401	633	411	630	432	618	457	619	*	*	*	*	*	*	425	625
08:00	291	512	316	593	315	572	333	538	*	*	*	*	*	*	314	554
09:00	191	418	210	424	305	431	218	444	*	*	*	*	*	*	231	429
10:00	164	237	170	281	153	316	173	275	*	*	*	*	*	*	165	277
11:00	57	171	58	191	60	193	87	193	*	*	*	*	*	*	66	187
Totals	10689	9949	11171	10295	11086	10331	11460	10364	4837	1707	0	0	0	0	11082	10258
	20638		21466		21417		21824		6544		0		0		21340	
Avg. Day	96.4%	96.9%	100.8%	100.3%	100.0%	100.7%	103.4%	101.0%	43.6%	16.6%	.0%	.0%	.0%	.0%		
AM Peaks	07:00	11:00	07:00	11:00	07:00	11:00	07:00	11:00	07:00	08:00					07:00	11:00
Volume	1460	461	1480	459	1491	453	1451	483	1425	414					1461	464
PM Peaks	01:00	05:00	05:00	05:00	12:00	05:00	12:00	05:00							12:00	05:00
Volume	563	1306	633	1326	581	1239	650	1268							585	1285

ADTs

Municipality: Plymouth Twp
Comments: None
Weather: Clear
ATR #/ Operator: McM-5818/JB
Street name :Valley Forge Rd E/of Cross street:Orchard Rd ,

McMahon Associates, Inc.
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Begin	Mon.	07/30	Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 am	*	*	*	*	*	*	*	*	*	*	66	181	75	164	70	172
01:00	*	*	*	*	*	*	*	*	*	*	31	102	45	106	38	104
02:00	*	*	*	*	*	*	*	*	*	*	27	61	16	62	22	62
03:00	*	*	*	*	*	*	*	*	*	*	22	33	16	29	19	31
04:00	*	*	*	*	*	*	*	*	*	*	44	23	26	22	35	22
05:00	*	*	*	*	*	*	*	*	*	*	97	44	44	25	70	34
06:00	*	*	*	*	*	*	*	*	*	*	191	114	122	50	156	82
07:00	*	*	*	*	*	*	*	*	*	*	331	178	166	83	248	130
08:00	*	*	*	*	*	*	*	*	*	*	448	251	264	150	356	200
09:00	*	*	*	*	*	*	*	*	*	*	561	338	397	191	479	264
10:00	*	*	*	*	*	*	*	*	*	*	684	419	449	309	566	364
11:00	*	*	*	*	*	*	*	*	*	*	668	519	587	417	628	468
12:00 pm	*	*	*	*	*	*	*	*	*	*	631	562	676	473	654	518
01:00	*	*	*	*	*	*	*	*	645	642	706	572	573	569	641	594
02:00	*	*	*	*	*	*	*	*	599	693	541	605	596	544	579	614
03:00	*	*	*	*	*	*	*	*	602	838	484	609	550	627	545	691
04:00	*	*	*	*	*	*	*	*	593	1105	495	564	469	552	519	740
05:00	*	*	*	*	*	*	*	*	603	1175	442	557	368	518	471	750
06:00	*	*	*	*	*	*	*	*	563	750	476	543	374	492	471	595
07:00	*	*	*	*	*	*	*	*	533	559	403	420	361	379	432	453
08:00	*	*	*	*	*	*	*	*	377	472	418	408	302	421	366	434
09:00	*	*	*	*	*	*	*	*	256	442	244	385	184	317	228	381
10:00	*	*	*	*	*	*	*	*	166	325	195	289	137	224	166	279
11:00	*	*	*	*	*	*	*	*	100	239	131	271	62	107	98	206
Totals	0	0	0	0	0	0	0	0	5037	7240	8336	8048	6859	6831	7857	8188
	0		0		0		0		12277		16384		13690		16045	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	64.1%	88.4%	106.1%	98.2%	87.3%	83.4%		
AM Peaks											10:00	11:00	11:00	11:00	11:00	11:00
Volume											684	519	587	417	628	468
PM Peaks									01:00	05:00	01:00	03:00	12:00	03:00	12:00	05:00
Volume									645	1175	706	609	676	627	654	750

Tri-State Traffic Data, Inc.

(610) 444-8030

Title1 : Rt 23-South of County Line Rd
Title2 : Site 01
Title3 :

Site: 01
Date: 05/21/01

Interval	Mon 21		Tue 22		Wed 23		Thu 24		Fri 25		Sat 26		Sun 27		Weekday Avg.	
Begin	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb
12:AM	*	*	24	-20	36	84	24	67	*	*	*	*	*	*	28	75
01:00	*	*	15	-12	9	32	19	44	*	*	*	*	*	*	14	38
02:00	*	*	9	-4	14	23	22	18	*	*	*	*	*	*	15	20
03:00	*	*	10	-8	24	14	28	13	*	*	*	*	*	*	20	13
04:00	*	*	42	-37	52	13	46	20	*	*	*	*	*	*	46	16
05:00	*	*	182	-146	190	55	179	63	*	*	*	*	*	*	183	59
06:00	*	*	648	-613	722	179	692	168	*	*	*	*	*	*	687	173
07:00	*	*	983	-890	1,008	274	1,038	252	*	*	*	*	*	*	1,009	263
08:00	*	*	887	-837	896	263	855	286	*	*	*	*	*	*	879	274
09:00	*	*	572	-548	516	290	508	269	*	*	*	*	*	*	532	279
10:00	*	*	386	-344	378	272	*	*	*	*	*	*	*	*	382	272
11:00	300	266	390	297	474	356	*	*	*	*	*	*	*	*	388	306
12:PM	398	322	446	333	460	376	*	*	*	*	*	*	*	*	434	343
01:00	425	328	451	370	485	398	*	*	*	*	*	*	*	*	453	365
02:00	406	335	417	404	460	462	*	*	*	*	*	*	*	*	427	400
03:00	374	192	421	552	460	614	*	*	*	*	*	*	*	*	418	452
04:00	434	217	458	756	580	746	*	*	*	*	*	*	*	*	490	573
05:00	490	205	544	830	624	922	*	*	*	*	*	*	*	*	552	652
06:00	394	204	434	621	623	686	*	*	*	*	*	*	*	*	483	503
07:00	246	-50	294	398	418	447	*	*	*	*	*	*	*	*	319	422
08:00	152	-109	179	296	340	372	*	*	*	*	*	*	*	*	223	334
09:00	103	-93	130	228	202	374	*	*	*	*	*	*	*	*	145	301
10:00	105	-99	99	163	119	214	*	*	*	*	*	*	*	*	107	188
11:00	46	-40	56	116	72	164	*	*	*	*	*	*	*	*	58	140
Total	3,873	1,678	8,077	1,905	9,162	7,630	3,411	1,200	0	0	0	0	0	0	8,292	6,461
Combined	5,551		9,982		16,792		4,611		0		0		0		14,753	
Split	69.8	30.2	80.9	19.1	54.6	45.4	74.0	26.0	0.0	.0	0.0	.0	0.0	.0	56.2	43.8
A																
Peak Hr	11:00	11:00	07:00	11:00	07:00	11:00	07:00	08:00	*	*	*	*	*	*	07:00	11:00
Volume	300	266	983	297	1,008	356	1,038	286	*	*	*	*	*	*	1,009	306
P																
PeakHr	05:00	02:00	05:00	05:00	05:00	05:00	*	*	*	*	*	*	*	*	05:00	05:00
Volume	490	335	544	830	624	922	*	*	*	*	*	*	*	*	552	652

DVRPC – Travel Monitoring

DATE: 09/15/1997

ROAD: TR 23 PORT KENNEDY RD **FROM:** GULPH RD **TO:** QUARRY RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0020/1000 **FC:** 16

PROJECT: PASM97 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 25831 **DVRPC FILE #:** 1625 **COUNTER:** **WEATHER:** F

Hour Ending	Monday 09/15/97	Tuesday 09/16/97	Wednesday 09/17/97	Thursday 09/18/97	Friday 09/19/97
1 AM		114	81		
2 AM		59	42		
3 AM		26	36		
4 AM		30	45		
5 AM		48	39		
6 AM		187	182		
7 AM		706	706		
8 AM		1,214	1,245		
9 AM		1,178	1,153		
10 AM		734	739		
11 AM		600	603		
12 PM		638	680		
1 PM	677	737	650		
2 PM	700	663			
3 PM	698	787			
4 PM	822	868			
5 PM	1,107	1,166			
6 PM	1,367	1,387			
7 PM	1,133	1,074			
8 PM	729	824			
9 PM	440	481			
10 PM	339	415			
11 PM	224	290			
12 AM	156	164			
		14,390			

SEASONAL FACTOR:	.923	AADT: **12,923**	AM PEAK %:	8.4	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.973		PM PEAK %:	9.6	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 06/08/1999

ROAD: TR 23 PORT KENNEDY RD **FROM:** COUNTY LINE RD **TO:** GULPH RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0050/1000 **FC:** 16

PROJECT: PAM99 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 25832 **DVRPC FILE #:** 6659 **COUNTER:** 9623 **WEATHER:** F

Hour Ending	Tuesday 06/08/99	Wednesday 06/09/99	Thursday 06/10/99	Friday 06/11/99	Saturday 06/12/99
1 AM		140	112		
2 AM		64	67		
3 AM		40	46		
4 AM		40	52		
5 AM		82	88		
6 AM		220	226		
7 AM		843	788		
8 AM		1,286	1,318		
9 AM		1,200	1,258		
10 AM		798	824		
11 AM		723	720		
12 PM		844	826		
1 PM	924	942			
2 PM	916	926			
3 PM	922	999			
4 PM	1,014	1,112			
5 PM	1,275	1,322			
6 PM	1,506	1,550			
7 PM	1,146	1,122			
8 PM	829	898			
9 PM	714	804			
10 PM	548	591			
11 PM	339	378			
12 AM	243	253			
		17,177			

SEASONAL FACTOR:	.912	AADT: **15,101**	AM PEAK %:	7.5	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.964		PM PEAK %:	9.	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: TR 23 EB VALLEY FORGE RD **FROM:** N GULPH RD **TO:** TR 422 RAMPS

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0060/0500 **FC:** 16

PROJECT: PAM98 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 11656 **DVRPC FILE #:** 3214 **COUNTER:** 9763 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		24	38		
2 AM		16	13		
3 AM		12	14		
4 AM		13	16		
5 AM		20	24		
6 AM		100	106		
7 AM		723	546		
8 AM	962	1,023	872		
9 AM	882	1,028	946		
10 AM	458	508			
11 AM	366	368			
12 PM	418	432			
1 PM	479	434			
2 PM	368	388			
3 PM	362	380			
4 PM	486	484			
5 PM	781	707			
6 PM	842	880			
7 PM	554	550			
8 PM	392	378			
9 PM	177	226			
10 PM	128	124			
11 PM	63	80			
12 AM	52	72			
		8,970			

SEASONAL FACTOR:	.919	AADT: **8,029**	AM PEAK %:	11.5	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.974		PM PEAK %:	9.8	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: TR 23 WB VALLEY FORGE RD **FROM:** N GULPH RD **TO:** TR 422 RAMPS

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0061/0500 **FC:** 16

PROJECT: PAM98 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 11656 **DVRPC FILE #:** 3211 **COUNTER:** 9870 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		35	52		
2 AM		28	38		
3 AM		14	18		
4 AM		20	20		
5 AM		13	17		
6 AM		59	66		
7 AM		304	344		
8 AM	708	738	666		
9 AM	662	716			
10 AM	414	416			
11 AM	343	367			
12 PM	426	446			
1 PM	603	588			
2 PM	648	620			
3 PM	632	620			
4 PM	796	800			
5 PM	975	972			
6 PM	1,122	1,141			
7 PM	766	901			
8 PM	562	616			
9 PM	367	412			
10 PM	372	432			
11 PM	202	222			
12 AM	94	130			
		10,610			

SEASONAL FACTOR:	.919	AADT: **9,497**	AM PEAK %:	7.	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.974		PM PEAK %:	10.8	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/17/2000

ROAD: TR 23 EB VALLEY FORGE RD **FROM:** MOORE RD **TO:** TR 422 RAMPS

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0070/0500 **FC:** 16

PROJECT: 202-400 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 28737 **COUNTER:** 9763 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		60	48		
2 AM		26	36		
3 AM		24	24		
4 AM		28	26		
5 AM		54	54		
6 AM		222	204		
7 AM		1,070	1,038		
8 AM		1,562	1,608		
9 AM		1,578	1,647		
10 AM		930	787		
11 AM		512	541		
12 PM	500	567			
1 PM	606	687			
2 PM	601	660			
3 PM	548	548			
4 PM	566	590			
5 PM	676	656			
6 PM	746	746			
7 PM	603	594			
8 PM	453	488			
9 PM	356	436			
10 PM	268	306			
11 PM	200	238			
12 AM	98	113			
		12,695			

SEASONAL FACTOR:	.924	AADT: **11,355**	AM PEAK %:	12.4	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.968		PM PEAK %:	5.9	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/17/2000

ROAD: TR 23 WB VALLEY FORGE RD **FROM:** MOORE RD **TO:** TR 422 RAMPS

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0071/0500 **FC:** 16

PROJECT: 202-400 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 28738 **COUNTER:** 9763 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		57	49		
2 AM		21	23		
3 AM		16	10		
4 AM		15	17		
5 AM		24	22		
6 AM		77	89		
7 AM		288	306		
8 AM		750	722		
9 AM		749	742		
10 AM		532	507		
11 AM		465	508		
12 PM	589	612			
1 PM	711	677			
2 PM	578	642			
3 PM	670	642			
4 PM	1,052	1,075			
5 PM	1,544	1,600			
6 PM	1,628	1,692			
7 PM	978	1,004			
8 PM	589	652			
9 PM	394	510			
10 PM	276	344			
11 PM	166	169			
12 AM	118	122			
		12,735			

SEASONAL FACTOR:	.924	AADT: **11,391**	AM PEAK %:	5.9	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.968		PM PEAK %:	13.3	HOUR ENDING:	6:00 PM

Tri-State Traffic Data, Inc.

(610) 444-8030

Title1 : Rt 23 East of Moore Rd-Site 03 Site: 03

Title2 : Date: 05/21/01

Title3 :

Interval	Mon 21		Tue 22		Wed 23		Thu 24		Fri 25		Sat 26		Sun 27		Weekday Avg.	
Begin	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb
12:AM	*	*	39	33	56	34	0	68	*	*	*	*	*	*	31	45
01:00	*	*	5	16	20	24	0	32	*	*	*	*	*	*	8	24
02:00	*	*	14	17	4	30	0	38	*	*	*	*	*	*	6	28
03:00	*	*	15	18	2	28	0	36	*	*	*	*	*	*	5	27
04:00	*	*	12	31	0	46	0	51	*	*	*	*	*	*	4	42
05:00	*	*	51	194	2	222	0	254	*	*	*	*	*	*	17	223
06:00	*	*	201	724	10	960	0	1,008	*	*	*	*	*	*	70	897
07:00	*	*	509	1,096	6	1,566	0	1,628	*	*	*	*	*	*	171	1,430
08:00	*	*	558	869	3	1,470	0	1,482	*	*	*	*	*	*	187	1,273
09:00	*	*	344	669	0	967	0	958	*	*	*	*	*	*	114	864
10:00	*	*	314	396	0	800	0	792	*	*	*	*	*	*	104	662
11:00	199	183	472	426	1	912	*	*	*	*	*	*	*	*	224	507
12:PM	472	510	518	541	2	1,086	*	*	*	*	*	*	*	*	330	712
01:00	471	434	527	499	2	1,022	*	*	*	*	*	*	*	*	333	651
02:00	550	395	630	433	0	1,038	*	*	*	*	*	*	*	*	393	622
03:00	836	418	892	468	4	1,364	*	*	*	*	*	*	*	*	577	750
04:00	942	488	1,050	518	2	1,637	*	*	*	*	*	*	*	*	664	881
05:00	816	564	1,002	627	0	1,622	*	*	*	*	*	*	*	*	606	937
06:00	695	439	664	425	0	1,274	*	*	*	*	*	*	*	*	453	712
07:00	422	249	466	307	0	838	*	*	*	*	*	*	*	*	296	464
08:00	272	143	342	216	0	728	*	*	*	*	*	*	*	*	204	362
09:00	170	138	222	136	0	454	*	*	*	*	*	*	*	*	130	242
10:00	107	103	111	110	0	324	*	*	*	*	*	*	*	*	72	179
11:00	76	44	114	58	0	156	*	*	*	*	*	*	*	*	63	86
Total	6,028	4,108	9,072	8,827	114	18,602	0	6,347	0	0	0	0	0	0	5,062	12,620
Combined	10,136		17,899		18,716		6,347		0		0		0		17,682	
Split	59.5	40.5	50.7	49.3	0.6	99.4	0.0	100	0.0	.0	0.0	.0	0.0	.0	28.6	71.4
A																
Peak Hr	11:00	11:00	08:00	07:00	12:00	07:00	07:00	07:00	*	*	*	*	*	*	11:00	07:00
Volume	199	183	558	1,096	56	1,566	0	1,628	*	*	*	*	*	*	224	1,430
P																
PeakHr	04:00	05:00	04:00	05:00	03:00	04:00	*	*	*	*	*	*	*	*	04:00	05:00
Volume	942	564	1,050	627	4	1,637	*	*	*	*	*	*	*	*	664	937

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1	: Rt 23 West of Vanderberg- 04	Site:	04 Eb
Title2	:	Date:	05/21/01
Title3	: Directio Eb		

Interval Begin	Mon 5/21	Tue 5/22	Wed 5/23	Thu 5/24	Fri 5/25	Sat 5/26	Sun 5/27	Weekday Avg	Week Avg
12:AM	*	24	20	0	*	*	*	14	14
1:00	*	15	20	0	*	*	*	11	11
2:00	*	14	16	0	*	*	*	10	10
3:00	*	15	13	0	*	*	*	9	9
4:00	*	20	21	0	*	*	*	13	13
5:00	*	122	116	0	*	*	*	79	79
6:00	*	461	480	0	*	*	*	313	313
7:00	*	690	666	8	*	*	*	454	454
8:00	*	641	696	0	*	*	*	445	445
9:00	*	496	444	1	*	*	*	313	313
10:00	*	318	348	3	*	*	*	223	223
11:00	90	395	74	*	*	*	*	186	186
12:PM	448	450	1	*	*	*	*	299	299
1:00	386	405	23	*	*	*	*	271	271
2:00	319	382	10	*	*	*	*	237	237
3:00	414	432	4	*	*	*	*	283	283
4:00	491	514	8	*	*	*	*	337	337
5:00	557	568	0	*	*	*	*	375	375
6:00	407	352	0	*	*	*	*	253	253
7:00	180	229	0	*	*	*	*	136	136
8:00	110	174	4	*	*	*	*	96	96
9:00	86	84	0	*	*	*	*	56	56
10:00	77	78	0	*	*	*	*	51	51
11:00	35	38	4	*	*	*	*	25	25
Total	3,600	6,917	2,968	12	0	0	0	4,489	4,489
AM Pea	11:00	7:00	8:00	7:00	*	*	*	7:00	7:00
Volume	90	690	696	8	*	*	*	454	454
PM Pea	5:00	5:00	1:00	*	*	*	*	5:00	5:00
Volume	557	568	23	*	*	*	*	375	375

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1	: Rt 23 West of Vanderberg-04	Site:	04 Wb
Title2	: 100 ft west of Vanderberg	Date:	05/21/01
Title3	: Directio Wb		

Interval Begin	Mon 5/21	Tue 5/22	Wed 5/23	Thu 5/24	Fri 5/25	Sat 5/26	Sun 5/27	Weekday Avg	Week Avg
12:AM	*	25	45	26	*	*	*	32	32
1:00	*	7	12	10	*	*	*	9	9
2:00	*	13	18	13	*	*	*	14	14
3:00	*	15	11	18	*	*	*	14	14
4:00	*	11	12	11	*	*	*	11	11
5:00	*	40	34	59	*	*	*	44	44
6:00	*	199	184	201	*	*	*	194	194
7:00	*	452	436	474	*	*	*	454	454
8:00	*	414	437	442	*	*	*	431	431
9:00	*	260	306	298	*	*	*	288	288
10:00	*	260	272	276	*	*	*	269	269
11:00	120	376	374	*	*	*	*	290	290
12:PM	425	468	463	*	*	*	*	452	452
1:00	440	466	455	*	*	*	*	453	453
2:00	434	482	476	*	*	*	*	464	464
3:00	609	644	660	*	*	*	*	637	637
4:00	588	634	654	*	*	*	*	625	625
5:00	498	517	532	*	*	*	*	515	515
6:00	430	428	433	*	*	*	*	430	430
7:00	306	340	364	*	*	*	*	336	336
8:00	198	250	322	*	*	*	*	256	256
9:00	126	169	203	*	*	*	*	166	166
10:00	74	81	147	*	*	*	*	100	100
11:00	64	82	85	*	*	*	*	77	77
Total	4,312	6,633	6,935	1,828	0	0	0	6,561	6,561
AM Pea	11:00	7:00	8:00	7:00	*	*	*	7:00	7:00
Volume	120	452	437	474	*	*	*	454	454
PM Pea	3:00	3:00	3:00	*	*	*	*	3:00	3:00
Volume	609	644	660	*	*	*	*	637	637

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1 : Rt 23 East of Fairview-Site 07 Site: 07
Title2 : Date: 05/21/01
Title3 :

Interval	Mon 21		Tue 22		Wed 23		Thu 24		Fri 25		Sat 26		Sun 27		Weekday Avg.	
Begin	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb
12:AM	*	*	20	22	15	30	15	26	*	*	*	*	*	*	16	26
01:00	*	*	10	7	7	9	8	11	*	*	*	*	*	*	8	9
02:00	*	*	10	7	11	11	7	6	*	*	*	*	*	*	9	8
03:00	*	*	4	9	4	9	4	-2	*	*	*	*	*	*	4	9
04:00	*	*	6	16	10	10	12	-11	*	*	*	*	*	*	9	13
05:00	*	*	36	66	42	69	59	-55	*	*	*	*	*	*	45	67
06:00	*	*	164	282	176	310	176	-135	*	*	*	*	*	*	172	296
07:00	*	*	344	770	314	745	358	-304	*	*	*	*	*	*	338	757
08:00	*	*	301	745	331	747	287	-239	*	*	*	*	*	*	306	746
09:00	*	*	198	344	216	327	174	-166	*	*	*	*	*	*	196	335
10:00	*	*	154	190	182	246	158	-152	*	*	*	*	*	*	164	218
11:00	*	*	162	238	182	248	203	-193	*	*	*	*	*	*	182	243
12:PM	16	20	182	228	200	271	*	*	*	*	*	*	*	*	132	173
01:00	164	234	171	248	204	261	*	*	*	*	*	*	*	*	179	247
02:00	227	254	215	294	220	248	*	*	*	*	*	*	*	*	220	265
03:00	332	349	318	358	301	324	*	*	*	*	*	*	*	*	317	343
04:00	389	474	416	466	432	561	*	*	*	*	*	*	*	*	412	500
05:00	506	563	474	549	534	574	*	*	*	*	*	*	*	*	504	562
06:00	269	319	276	374	316	396	*	*	*	*	*	*	*	*	287	363
07:00	134	186	149	204	196	224	*	*	*	*	*	*	*	*	159	204
08:00	94	102	120	133	160	154	*	*	*	*	*	*	*	*	124	129
09:00	68	84	89	103	101	115	*	*	*	*	*	*	*	*	86	100
10:00	47	62	62	59	88	116	*	*	*	*	*	*	*	*	65	79
11:00	31	20	43	46	39	47	*	*	*	*	*	*	*	*	37	37
Total	2,277	2,667	3,924	5,758	4,281	6,052	1,461	-1,214	0	0	0	0	0	0	3,971	5,729
Combined	4,944		9,682		10,333		247		0		0		0		9,700	
Split	46.1	53.9	40.5	59.5	41.4	58.6	591.5	*	0.0	.0	0.0	.0	0.0	.0	40.9	59.1
A																
Peak Hr	*	*	07:00	07:00	08:00	08:00	07:00	12:00	*	*	*	*	*	*	07:00	07:00
Volume	*	*	344	770	331	747	358	26	*	*	*	*	*	*	338	757
P																
PeakHr	05:00	05:00	05:00	05:00	05:00	05:00	*	*	*	*	*	*	*	*	05:00	05:00
Volume	506	563	474	549	534	574	*	*	*	*	*	*	*	*	504	562

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: TR 23 VALLEY FORGE RD **FROM:** ABRAMS RUN BR **TO:** MARK LA

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0150/0500 **FC:** 16

PROJECT: PAM98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 20 **LOOP OR CLASS:**

STATION ID: 25835 **DVRPC FILE #:** 3219 **COUNTER:** 9768 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		53	56		
2 AM		27	34		
3 AM		18	19		
4 AM		16	24		
5 AM		39	34		
6 AM		146	135		
7 AM		634	685		
8 AM		1,506	1,554		
9 AM		1,464	1,532		
10 AM	636	747	800		
11 AM	608	585			
12 PM	758	789			
1 PM	885	908			
2 PM	824	850			
3 PM	762	838			
4 PM	971	1,030			
5 PM	1,224	1,234			
6 PM	1,418	1,617			
7 PM	916	1,000			
8 PM	654	720			
9 PM	418	504			
10 PM	326	310			
11 PM	167	196			
12 AM	119	104			
		15,335			

SEASONAL FACTOR:	.919	AADT: **13,726**	AM PEAK %:	9.8	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.974		PM PEAK %:	10.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/15/1997

ROAD: TR 23 VALLEY FORGE RD **FROM:** ANDERSON RD **TO:** VALLEY FORGE RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0023/0190/1000 **FC:** 16

PROJECT: PASM97 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 11658 **DVRPC FILE #:** 1188 **COUNTER:** **WEATHER:** F

Hour Ending	Monday 09/15/97	Tuesday 09/16/97	Wednesday 09/17/97	Thursday 09/18/97	Friday 09/19/97
1 AM		73	38		
2 AM		24	15		
3 AM		18	17		
4 AM		12	15		
5 AM		9	16		
6 AM		71	71		
7 AM		354	360		
8 AM		1,060	1,049		
9 AM		1,131	1,085		
10 AM		470	547		
11 AM		361	410		
12 PM	235	409	506		
1 PM	494	446			
2 PM	449	442			
3 PM	512	528			
4 PM	613	677			
5 PM	856	924			
6 PM	1,135	1,074			
7 PM	620	679			
8 PM	433	477			
9 PM	289	319			
10 PM	197	243			
11 PM	124	162			
12 AM	87	104			
		10,067			

SEASONAL FACTOR:	.923	AADT: **9,041**	AM PEAK %:	11.2	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.973		PM PEAK %:	10.7	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 05/25/1999

ROAD: TR 23 4TH ST **FROM:** MILL RD **TO:** FORD ST

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 0023/0220/1000 **FC:** 16

PROJECT: PAM99 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 11659 **DVRPC FILE #:** 6646 **COUNTER:** 9866 **WEATHER:** F

Hour Ending	Tuesday 05/25/99	Wednesday 05/26/99	Thursday 05/27/99	Friday 05/28/99	Saturday 05/29/99
1 AM		88	87		
2 AM		58	58		
3 AM		34	31		
4 AM		30	22		
5 AM		65	66		
6 AM		161	160		
7 AM		581	576		
8 AM		918	964		
9 AM		1,114	1,031		
10 AM	798	786			
11 AM	616	614			
12 PM	729	693			
1 PM	796	744			
2 PM	691	713			
3 PM	750	730			
4 PM	856	872			
5 PM	986	1,002			
6 PM	1,089	1,068			
7 PM	830	749			
8 PM	605	579			
9 PM	508	440			
10 PM	362	361			
11 PM	248	253			
12 AM	155	143			
		12,796			

SEASONAL FACTOR:	.925	AADT: **11,410**	AM PEAK %:	8.7	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.964		PM PEAK %:	8.3	HOUR ENDING:	6:00 PM

Municipality : West Norriton
Comments : None
Weather: Variable
ATR #/Operator : 4439/JB
Street name :Route 422 Off Ramp Cross street:@ Trooper Rd

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Site Code : 000080100221
Start Date: 06/18/2001
File I.D. : DVRPC21
Page : 1

Begin	Mon. 06/18		Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
12:00 am	*	*	*	*	126	0	158	0	169	0	219	0	229	0	180	0
01:00	*	*	*	*	79	0	75	0	96	0	142	0	125	0	103	0
02:00	*	*	*	*	76	0	50	0	72	0	128	0	106	0	86	0
03:00	*	*	*	*	48	0	60	0	68	0	62	0	68	0	61	0
04:00	*	*	*	*	95	0	75	0	71	0	64	0	32	0	67	0
05:00	*	*	*	*	261	0	271	0	249	0	103	0	48	0	186	0
06:00	*	*	*	*	801	0	850	0	818	0	201	0	109	0	556	0
07:00	*	*	*	*	1082	0	1091	0	1073	0	303	0	171	0	744	0
08:00	*	*	*	*	1030	0	1022	0	927	0	384	0	232	0	719	0
09:00	*	*	*	*	778	0	797	15	738	0	433	0	342	0	618	3
10:00	*	*	*	*	665	0	668	0	649	0	492	0	563	0	607	0
11:00	*	*	*	*	908	0	815	0	843	0	580	0	547	0	739	0
12:00 pm	*	*	*	*	914	0	940	0	1064	0	647	0	745	0	862	0
01:00	*	*	*	*	929	0	971	0	971	0	711	0	762	0	869	0
02:00	*	*	1000	0	1008	0	1037	0	1073	0	720	0	720	0	926	0
03:00	*	*	1206	0	1188	0	1182	0	1236	0	743	0	753	0	1051	0
04:00	*	*	1318	0	1352	0	1344	0	1272	0	725	0	758	0	1128	0
05:00	*	*	1409	0	1308	0	1339	0	1302	0	659	0	614	0	1105	0
06:00	*	*	1183	0	1148	0	1062	0	859	0	647	0	585	0	914	0
07:00	*	*	824	0	777	0	828	0	695	0	520	0	555	0	700	0
08:00	*	*	727	0	722	0	812	0	564	0	488	0	547	0	643	0
09:00	*	*	625	0	611	0	615	0	542	0	507	0	380	0	547	0
10:00	*	*	421	0	399	0	400	0	391	0	366	0	308	0	381	0
11:00	*	*	269	0	267	0	246	0	322	0	315	0	202	0	270	0
Totals	0	0	8982	0	16572	0	16708	15	16064	0	10159	0	9501	0	14062	3
	0		8982		16572		16723		16064		10159		9501		14065	
Avg. Day	.0%	.0%	63.8%	.0%	117.8%	.0%	118.8%	500.0%	114.2%	.0%	72.2%	.0%	67.5%	.0%		
AM Peaks					07:00		07:00	09:00	07:00		11:00		10:00		07:00	09:00
Volume					1082		1091	15	1073		580		563		744	3
PM Peaks			05:00		04:00		04:00		05:00		03:00		01:00		04:00	
Volume			1409		1352		1344		1302		743		762		1128	

Municipality : West Norriton
Comments : None
Weather: Variable
ATR #/Operator : 4342/JB
Street name :Route 422 on Ramp Cross street:@ Trooper Rd

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Site Code : 000080100220
Start Date: 06/18/2001
File I.D. : DVRPC20
Page : 1

Begin	Mon. 06/18		Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
12:00 am	*	*	*	*	127	0	132	0	111	0	163	0	97	0	126	0
01:00	*	*	*	*	73	1	66	0	62	0	80	1	68	0	70	0
02:00	*	*	*	*	46	0	54	0	51	0	57	0	46	0	51	0
03:00	*	*	*	*	56	0	55	1	52	0	37	0	24	0	45	0
04:00	*	*	*	*	102	0	100	0	105	0	67	0	34	0	82	0
05:00	*	*	*	*	481	0	424	0	404	1	124	0	70	0	301	0
06:00	*	*	*	*	1220	1	1132	0	1129	0	330	1	195	0	801	0
07:00	*	*	*	*	1339	0	1375	0	1364	0	375	0	210	0	933	0
08:00	*	*	*	*	1316	0	1260	0	1238	0	607	0	326	0	949	0
09:00	*	*	*	*	952	0	1013	1	985	0	698	0	565	0	843	0
10:00	*	*	*	*	853	0	831	0	866	0	725	0	664	0	788	0
11:00	*	*	*	*	906	0	945	0	999	0	751	0	664	0	853	0
12:00 pm	*	*	*	*	963	0	1024	0	986	0	732	0	749	0	891	0
01:00	*	*	*	*	907	0	952	0	977	0	722	0	783	0	868	0
02:00	*	*	877	0	903	0	917	0	1002	0	710	0	744	0	859	0
03:00	*	*	1070	0	1105	0	1100	0	1098	0	718	0	708	0	966	0
04:00	*	*	1182	0	1273	0	1207	0	1197	0	644	0	669	0	1029	0
05:00	*	*	1148	0	1151	0	1178	0	996	0	541	0	495	0	918	0
06:00	*	*	907	0	1043	0	890	1	777	0	549	0	426	0	765	0
07:00	*	*	790	0	645	0	708	0	655	0	503	0	438	0	623	0
08:00	*	*	595	0	475	0	482	0	466	0	395	0	433	0	474	0
09:00	*	*	433	0	376	0	371	0	350	0	330	0	253	0	352	0
10:00	*	*	332	0	283	0	276	0	328	0	285	0	196	0	283	0
11:00	*	*	177	0	171	0	207	0	207	0	177	0	95	0	172	0
Totals	0	0	7511	0	16766	2	16699	3	16405	1	10320	2	8952	0	14042	0
	0		7511		16768		16702		16406		10322		8952		14042	
Avg. Day	.0%	*	53.4%	*	119.4%	*	118.9%	*	116.8%	*	73.4%	*	63.7%	*		
AM Peaks					07:00	01:00	07:00	03:00	07:00	05:00	11:00	01:00	10:00		08:00	
Volume					1339	1	1375	1	1364	1	751	1	664		949	
PM Peaks			04:00		04:00		04:00	06:00	04:00		12:00		01:00		04:00	
Volume			1182		1273		1207	1	1197		732		783		1029	

Tri-State Traffic Data, Inc.

(610) 444-8030

Location: : Rt 422 Eb over Sch. River
Weather: : Varied
Counter: : JV

Site: 696
Date: 05/28/01

Directio Eb

Interval Begin	Mon 5/28	Tue 5/29	Wed 5/30	Thu 5/31	Fri 6/1	Sat 6/2	Sun 6/3	Weekday Avg	Week Avg
12:AM	*	*	*	371	334	454	458	352	404
1:00	*	*	*	176	192	203	258	184	207
2:00	*	*	*	176	200	158	207	188	185
3:00	*	*	*	236	266	142	108	251	188
4:00	*	*	*	427	453	242	137	440	314
5:00	*	*	*	1,676	1,588	506	281	1,632	1,012
6:00	*	*	*	4,371	4,294	994	626	4,332	2,571
7:00	*	*	*	4,623	4,582	1,418	842	4,602	2,866
8:00	*	*	*	4,571	4,324	1,800	1,063	4,447	2,939
9:00	*	*	*	3,118	2,957	2,215	1,480	3,037	2,442
10:00	*	*	558	2,478	2,542	2,342	*	1,859	1,980
11:00	*	*	2,278	2,310	2,497	2,363	*	2,361	2,362
12:PM	*	*	2,394	2,428	2,515	2,436	*	2,445	2,443
1:00	*	*	2,263	2,255	2,443	2,442	*	2,320	2,350
2:00	*	*	2,316	2,378	2,498	2,388	*	2,397	2,395
3:00	*	*	2,828	2,752	2,699	2,128	*	2,759	2,601
4:00	*	*	2,804	2,776	2,796	2,154	*	2,792	2,632
5:00	*	*	2,768	2,804	2,570	1,998	*	2,714	2,535
6:00	*	*	2,234	2,328	2,176	2,002	*	2,246	2,185
7:00	*	*	1,726	1,730	1,792	1,780	*	1,749	1,757
8:00	*	*	1,302	1,404	1,256	1,406	*	1,320	1,342
9:00	*	*	1,009	1,100	993	1,217	*	1,034	1,079
10:00	*	*	775	831	882	1,118	*	829	901
11:00	*	*	436	490	504	749	*	476	544
Total	0	0	25,691	47,809	47,353	34,655	5,460	46,766	40,234
AM Pea	*	*	11:00	7:00	7:00	11:00	9:00	7:00	8:00
Volume	*	*	2,278	4,623	4,582	2,363	1,480	4,602	2,939
PM Pea	*	*	3:00	5:00	4:00	1:00	*	4:00	4:00
Volume	*	*	2,828	2,804	2,796	2,442	*	2,792	2,632

Tri-State Traffic Data, Inc.
(610) 444-8030

Location: : Rt 422 Wb over Sch. River
Weather: : Varied
Counter: : JV
Directio Wb
Site: 694
Date: 05/28/01

Interval Begin	Mon 5/28	Tue 5/29	Wed 5/30	Thu 5/31	Fri 6/1	Sat 6/2	Sun 6/3	Weekday Avg	Week Avg
12:AM	*	*	*	841	482	742	916	661	745
1:00	*	*	*	367	308	416	522	337	403
2:00	*	*	*	216	252	340	421	234	307
3:00	*	*	*	204	248	195	200	226	211
4:00	*	*	*	308	268	188	135	288	224
5:00	*	*	*	722	675	353	216	698	491
6:00	*	*	*	1,975	1,932	622	338	1,953	1,216
7:00	*	*	*	2,522	2,650	880	556	2,586	1,652
8:00	*	*	*	2,528	2,585	1,107	728	2,556	1,737
9:00	*	*	*	2,095	2,069	1,265	962	2,082	1,597
10:00	*	*	808	1,846	1,736	1,618	*	1,463	1,502
11:00	*	*	1,970	2,128	2,208	1,972	*	2,102	2,069
12:PM	*	*	2,278	2,294	2,508	2,244	*	2,360	2,331
1:00	*	*	2,459	2,608	2,672	2,260	*	2,579	2,499
2:00	*	*	2,809	3,070	2,928	2,417	*	2,935	2,806
3:00	*	*	3,744	3,896	3,757	2,549	*	3,799	3,486
4:00	*	*	4,662	4,672	4,224	2,526	*	4,519	4,021
5:00	*	*	4,799	4,724	4,434	2,384	*	4,652	4,085
6:00	*	*	3,868	3,930	3,730	2,306	*	3,842	3,458
7:00	*	*	2,498	2,590	2,384	1,812	*	2,490	2,321
8:00	*	*	2,096	2,114	1,913	1,693	*	2,041	1,954
9:00	*	*	1,906	2,052	1,654	1,736	*	1,870	1,837
10:00	*	*	1,161	1,416	1,130	1,441	*	1,235	1,287
11:00	*	*	780	925	983	1,262	*	896	987
Total	0	0	35,838	50,043	47,730	34,328	4,994	48,404	43,226
AM Pea	*	*	11:00	8:00	7:00	11:00	9:00	7:00	11:00
Volume	*	*	1,970	2,528	2,650	1,972	962	2,586	2,069
PM Pea	*	*	5:00	5:00	5:00	3:00	*	5:00	5:00
Volume	*	*	4,799	4,724	4,434	2,549	*	4,652	4,085

DVRPC – Travel Monitoring

DATE: 7/29/2002

ROAD: TR 422 EB OFF RAMP **FROM:** TR 422 EB **TO:** TR 23

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 422// **FC:** 14

PROJECT: 2-43-350-07 **COUNT DIR:** EAST **TRAFFIC DIR:** EAST **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 32904 **COUNTER:** 9769 **WEATHER:** F

Hour Ending	Monday 07/29/02	Tuesday 07/30/02	Wednesday 07/31/02	Thursday 08/01/02	Friday 08/02/02
1 AM		48	51		
2 AM		41	23		
3 AM		30	23		
4 AM		32	35		
5 AM		76	76		
6 AM		357	308		
7 AM		1,283	1,289		
8 AM	1,516	1,527			
9 AM	1,543	1,596			
10 AM	832	853			
11 AM	660	676			
12 PM	572	605			
1 PM	653	715			
2 PM	630	580			
3 PM	744	773			
4 PM	876	935			
5 PM	952	1,001			
6 PM	949	988			
7 PM	706	757			
8 PM	624	646			
9 PM	445	424			
10 PM	286	301			
11 PM	174	161			
12 AM	69	73			
		14,478			

SEASONAL FACTOR:	.905	AADT: **12,316**	AM PEAK %:	11.	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.94		PM PEAK %:	6.9	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 7/29/2002

ROAD: TR 422 EB ON RAMP **FROM:** TR 23 **TO:** TR 422 EB

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 422// **FC:** 14

PROJECT: 2-43-350-08 **COUNT DIR:** EAST **TRAFFIC DIR:** EAST **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 32905 **COUNTER:** 9763 **WEATHER:** F

Hour Ending	Monday 07/29/02	Tuesday 07/30/02	Wednesday 07/31/02	Thursday 08/01/02	Friday 08/02/02
1 AM		11	14		
2 AM		17	17		
3 AM		15	4		
4 AM		14	6		
5 AM		22	14		
6 AM		41	35		
7 AM		117	116		
8 AM	215	206			
9 AM	273	284			
10 AM	193	173			
11 AM	155	195			
12 PM	184	215			
1 PM	181	182			
2 PM	211	201			
3 PM	175	188			
4 PM	196	193			
5 PM	185	207			
6 PM	144	160			
7 PM	157	153			
8 PM	149	166			
9 PM	102	106			
10 PM	81	61			
11 PM	55	62			
12 AM	32	36			
		3,025			

SEASONAL FACTOR:	.905	AADT: **2,573**	AM PEAK %:	9.4	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.94		PM PEAK %:	6.8	HOUR ENDING:	5:00 PM

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1 : Rt 23 Eb to Nb Rt 422 Site: 11
Title2 : Date: 05/21/01
Title3 : Directio

Interval Begin	Mon 5/21	Tue 5/22	Wed 5/23	Thu 5/24	Fri 5/25	Sat 5/26	Sun 5/27	Weekday Avg	Week Avg
12:AM	*	37	55	63	*	*	*	51	51
1:00	*	12	23	28	*	*	*	21	21
2:00	*	10	14	31	*	*	*	18	18
3:00	*	7	14	10	*	*	*	10	10
4:00	*	14	10	16	*	*	*	13	13
5:00	*	34	41	39	*	*	*	38	38
6:00	*	214	240	252	*	*	*	235	235
7:00	*	344	420	429	*	*	*	397	397
8:00	*	376	448	438	*	*	*	420	420
9:00	*	340	334	282	*	*	*	318	318
10:00	90	248	275	222	*	*	*	208	208
11:00	270	310	314	*	*	*	*	298	298
12:PM	376	382	466	*	*	*	*	408	408
1:00	374	438	496	*	*	*	*	436	436
2:00	492	476	586	*	*	*	*	518	518
3:00	654	646	700	*	*	*	*	666	666
4:00	832	858	896	*	*	*	*	862	862
5:00	932	878	938	*	*	*	*	916	916
6:00	757	602	682	*	*	*	*	680	680
7:00	428	457	464	*	*	*	*	449	449
8:00	302	330	434	*	*	*	*	355	355
9:00	325	310	425	*	*	*	*	353	353
10:00	160	137	209	*	*	*	*	168	168
11:00	72	98	119	*	*	*	*	96	96
Total	6,064	7,558	8,603	1,810	0	0	0	7,934	7,934
AM Pea	11:00	8:00	8:00	8:00	*	*	*	8:00	8:00
Volume	270	376	448	438	*	*	*	420	420
PM Pea	5:00	5:00	5:00	*	*	*	*	5:00	5:00
Volume	932	878	938	*	*	*	*	916	916

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1 : Rt 422 Nb to Rt 23 Wb-Site 09 Site: 09
Title2 - : Date: 05/21/01
Title3 : Directio

Interval Begin	Mon 5/21	Tue 5/22	Wed 5/23	Thu 5/24	Fri 5/25	Sat 5/26	Sun 5/27	Weekday Avg	Week Avg
12:AM	*	8	9	6	*	*	*	7	7
1:00	*	10	6	5	*	*	*	7	7
2:00	*	2	8	6	*	*	*	5	5
3:00	*	6	5	4	*	*	*	5	5
4:00	*	2	4	14	*	*	*	6	6
5:00	*	19	7	19	*	*	*	15	15
6:00	*	19	32	32	*	*	*	27	27
7:00	*	27	24	24	*	*	*	25	25
8:00	*	24	20	32	*	*	*	25	25
9:00	*	50	56	38	*	*	*	48	48
10:00	4	37	49	54	*	*	*	36	36
11:00	36	35	62	*	*	*	*	44	44
12:PM	40	37	61	*	*	*	*	46	46
1:00	36	38	58	*	*	*	*	44	44
2:00	42	44	45	*	*	*	*	43	43
3:00	28	44	42	*	*	*	*	38	38
4:00	29	37	44	*	*	*	*	36	36
5:00	19	20	25	*	*	*	*	21	21
6:00	21	34	62	*	*	*	*	39	39
7:00	30	30	45	*	*	*	*	35	35
8:00	26	22	30	*	*	*	*	26	26
9:00	24	21	27	*	*	*	*	24	24
10:00	18	21	30	*	*	*	*	23	23
11:00	13	14	20	*	*	*	*	15	15
Total	366	601	771	234	0	0	0	640	640
AM Pea	11:00	9:00	11:00	10:00	*	*	*	9:00	9:00
Volume	36	50	62	54	*	*	*	48	48
PM Pea	2:00	2:00	6:00	*	*	*	*	12:00	12:00
Volume	42	44	62	*	*	*	*	46	46

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1	: Nb Rt 422 to Rt 23 Eb	Site:	12
Title2	:	Date:	05/21/01
Title3	: Directio		

Interval Begin	Mon 5/21	Tue 5/22	Wed 5/23	Thu 5/24	Fri 5/25	Sat 5/26	Sun 5/27	Weekday Avg	Week Avg
12:AM	*	17	18	22	*	*	*	19	19
1:00	*	16	14	13	*	*	*	14	14
2:00	*	10	10	17	*	*	*	12	12
3:00	*	11	17	14	*	*	*	14	14
4:00	*	8	8	4	*	*	*	6	6
5:00	*	40	28	49	*	*	*	39	39
6:00	*	156	156	158	*	*	*	156	156
7:00	*	342	344	358	*	*	*	348	348
8:00	*	331	368	353	*	*	*	350	350
9:00	*	234	202	210	*	*	*	215	215
10:00	63	125	150	105	*	*	*	110	110
11:00	118	125	179	*	*	*	*	140	140
12:PM	122	144	170	*	*	*	*	145	145
1:00	160	140	184	*	*	*	*	161	161
2:00	104	130	138	*	*	*	*	124	124
3:00	122	127	121	*	*	*	*	123	123
4:00	104	133	109	*	*	*	*	115	115
5:00	118	142	135	*	*	*	*	131	131
6:00	145	150	156	*	*	*	*	150	150
7:00	80	126	114	*	*	*	*	106	106
8:00	74	81	87	*	*	*	*	80	80
9:00	72	92	105	*	*	*	*	89	89
10:00	55	54	74	*	*	*	*	61	61
11:00	20	44	36	*	*	*	*	33	33
Total	1,357	2,778	2,923	1,303	0	0	0	2,741	2,741
AM Pea	11:00	7:00	8:00	7:00	*	*	*	8:00	8:00
Volume	118	342	368	358	*	*	*	350	350
PM Pea	1:00	6:00	1:00	*	*	*	*	1:00	1:00
Volume	160	150	184	*	*	*	*	161	161

Tri-State Traffic Data, Inc.

(610) 444-8030

Title1	: Rt 23 Wb Ramp to Rt 422 Nb	Site:	10
Title2	:	Date:	05/21/01
Title3	: Directio Ch 1		

Interval Begin	Mon 5/21	Tue 5/22	Wed 5/23	Thu 5/24	Fri 5/25	Sat 5/26	Sun 5/27	Weekday Avg	Week Avg
12:AM	*	31	51	34	*	*	*	38	38
1:00	*	11	13	14	*	*	*	12	12
2:00	*	8	9	12	*	*	*	9	9
3:00	*	21	12	15	*	*	*	16	16
4:00	*	10	10	12	*	*	*	10	10
5:00	*	31	37	40	*	*	*	36	36
6:00	*	160	156	180	*	*	*	165	165
7:00	*	388	406	408	*	*	*	400	400
8:00	*	359	366	368	*	*	*	364	364
9:00	*	251	241	276	*	*	*	256	256
10:00	28	242	248	274	*	*	*	198	198
11:00	359	360	354	*	*	*	*	357	357
12:PM	428	438	440	*	*	*	*	435	435
1:00	379	400	430	*	*	*	*	403	403
2:00	446	508	506	*	*	*	*	486	486
3:00	791	814	842	*	*	*	*	815	815
4:00	1,200	1,255	1,268	*	*	*	*	1,241	1,241
5:00	1,281	1,377	1,470	*	*	*	*	1,376	1,376
6:00	948	753	745	*	*	*	*	815	815
7:00	363	412	420	*	*	*	*	398	398
8:00	227	278	324	*	*	*	*	276	276
9:00	140	174	214	*	*	*	*	176	176
10:00	90	80	146	*	*	*	*	105	105
11:00	67	97	96	*	*	*	*	86	86
Total	6,747	8,458	8,804	1,633	0	0	0	8,473	8,473
AM Pea	11:00	7:00	7:00	7:00	*	*	*	7:00	7:00
Volume	359	388	406	408	*	*	*	400	400
PM Pea	5:00	5:00	5:00	*	*	*	*	5:00	5:00
Volume	1,281	1,377	1,470	*	*	*	*	1,376	1,376

DVRPC – Travel Monitoring

DATE: 9/8/1998

ROAD: TR 252 VALLEY CREEK RD **FROM:** CHESTER CO LINE **TO:** TR 23

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0252/0010/1500 **FC:** 16

PROJECT: PAM98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 24720 **DVRPC FILE #:** 3325 **COUNTER:** 9834 **WEATHER:** F

Hour Ending	Tuesday 09/08/98	Wednesday 09/09/98	Thursday 09/10/98	Friday 09/11/98	Saturday 09/12/98
1 AM		26	23		
2 AM		14	20		
3 AM		13	19		
4 AM		9	12		
5 AM		14	13		
6 AM		53	60		
7 AM		285	246		
8 AM		548	601		
9 AM		650	628		
10 AM		348	324		
11 AM		320	354		
12 PM		356	374		
1 PM	426	424			
2 PM	458	452			
3 PM	398	404			
4 PM	466	466			
5 PM	565	631			
6 PM	752	779			
7 PM	527	600			
8 PM	342	366			
9 PM	213	188			
10 PM	172	172			
11 PM	108	122			
12 AM	66	63			
		7,303			

SEASONAL FACTOR:	.919	AADT: **6,537**	AM PEAK %:	8.9	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.974		PM PEAK %:	10.7	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 6/7/2000

ROAD: NORTH GULPH RD **FROM:** TR 23 PORT KENNEDY RD **TO:** TR 422

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 3039/0120/0500 **FC:** 16

PROJECT: 202-400 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 3889 **DVRPC FILE #:** 28002 **COUNTER:** 9766 **WEATHER:** F

Hour Ending	Wednesday 06/07/00	Thursday 06/08/00	Friday 06/09/00	Saturday 06/10/00	Sunday 06/11/00
1 AM		162	204		
2 AM		74	80		
3 AM		52	80		
4 AM		44	54		
5 AM		72	80		
6 AM		306	255		
7 AM		1,370	1,383		
8 AM		1,924	1,870		
9 AM		1,772	1,634		
10 AM		1,156			
11 AM		957			
12 PM		1,151			
1 PM	1,252	1,368			
2 PM	1,286	1,288			
3 PM	1,284	1,361			
4 PM	1,734	1,712			
5 PM	2,028	2,092			
6 PM	2,187	2,100			
7 PM	1,786	1,758			
8 PM	1,242	1,194			
9 PM	1,056	1,010			
10 PM	939	983			
11 PM	627	546			
12 AM	344	311			
		24,763			

SEASONAL FACTOR:	.937	AADT: **22,460**	AM PEAK %:	7.8	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.968		PM PEAK %:	8.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 06/08/1999

ROAD: ALLENDALE RD **FROM:** TR 202 **TO:** FIRST AVE

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** G345/0010/ **FC:** 16

PROJECT: PAM99 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 29447 **DVRPC FILE #:** 6962 **COUNTER:** 9624 **WEATHER:** F

Hour Ending	Tuesday 06/08/99	Wednesday 06/09/99	Thursday 06/10/99	Friday 06/11/99	Saturday 06/12/99
1 AM		70	82		
2 AM		36	43		
3 AM		32	28		
4 AM		39	35		
5 AM		25	35		
6 AM		130	106		
7 AM		544	529		
8 AM		1,182	1,110		
9 AM		1,242	1,210		
10 AM		904	928		
11 AM		886	799		
12 PM		1,312	1,216		
1 PM	1,520	1,540			
2 PM	1,519	1,564			
3 PM	1,198	1,327			
4 PM	1,184	1,278			
5 PM	1,360	1,296			
6 PM	1,592	1,560			
7 PM	1,168	1,289			
8 PM	930	986			
9 PM	735	736			
10 PM	556	547			
11 PM	320	330			
12 AM	194	201			
		19,056			

SEASONAL FACTOR:	.912	AADT: **16,753**	AM PEAK %:	6.9	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.964		PM PEAK %:	8.2	HOUR ENDING:	2:00 PM

Municipality : Upper Merion Twp
Comments : None
Weather : Variable
ATR #/Operator : 545/3593/JB
Street name :Allendale Rd — Willis/Dekalb

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Site Code : 000080100228
Start Date: 06/18/2001
File I.D. : DVRPC28W
Page : 1

Begin	Mon. 06/18		Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 am	*	*	*	*	61	67	50	58	56	105	77	125	109	120	71	95
01:00	*	*	*	*	44	41	39	36	36	40	58	53	47	45	45	43
02:00	*	*	*	*	39	37	37	22	40	27	51	50	38	30	41	33
03:00	*	*	*	*	16	31	20	32	17	43	19	29	24	19	19	31
04:00	*	*	*	*	32	6	23	17	36	17	18	13	16	13	25	13
05:00	*	*	*	*	105	43	95	27	93	37	41	18	24	16	72	28
06:00	*	*	*	*	409	120	437	124	428	123	139	53	85	30	300	90
07:00	*	*	*	*	714	346	735	373	724	401	129	139	155	87	491	269
08:00	*	*	*	*	769	446	683	169	694	422	222	151	128	178	499	273
09:00	*	*	*	*	561	422	547	6	558	406	401	292	314	167	476	259
10:00	*	*	*	*	577	380	557	278	587	496	531	397	385	336	527	377
11:00	*	*	*	*	631	628	605	610	661	684	597	622	521	390	603	587
12:00 pm	*	*	*	*	871	865	920	844	902	940	695	617	560	568	790	767
01:00	*	*	*	*	881	808	939	824	896	905	665	635	545	580	785	750
02:00	*	*	682	703	649	718	730	713	733	851	639	613	618	548	675	691
03:00	*	*	560	783	577	753	593	819	653	904	643	718	581	673	601	775
04:00	*	*	620	853	599	843	641	928	675	967	637	685	457	623	605	816
05:00	*	*	676	835	661	893	686	940	692	906	565	711	350	562	605	808
06:00	*	*	648	764	699	807	689	740	678	753	491	689	345	533	592	714
07:00	*	*	531	653	524	635	576	650	552	660	440	510	241	266	477	562
08:00	*	*	412	556	419	545	441	609	391	552	379	478	215	210	376	492
09:00	*	*	330	471	313	495	314	512	335	502	261	491	182	180	289	442
10:00	*	*	212	294	214	283	211	263	266	338	244	257	187	116	222	258
11:00	*	*	92	179	80	196	107	148	98	237	115	201	85	140	96	184
Totals	0	0	4763	6091	10445	10408	10675	9742	10801	11316	8057	8547	6212	6430	9282	9357
	0		10854		20853		20417		22117		16604		12642		18639	
Avg. Day	.0%	.0%	51.3%	65.1%	112.5%	111.2%	115.0%	104.1%	116.3%	120.9%	86.8%	91.3%	66.9%	68.7%		
AM Peaks					08:00	11:00	07:00	11:00	07:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
Volume					769	628	735	610	724	684	597	622	521	390	603	587
PM Peaks			02:00	04:00	01:00	05:00	01:00	05:00	12:00	04:00	12:00	03:00	02:00	03:00	12:00	04:00
Volume			682	853	881	893	939	940	902	967	695	718	618	673	790	816

Municipality : Upper Merion Twp
Comments : None
Weather : Variable
ATR #/Operator : 545/3593/JB
Street name :Allendale Rd

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Site Code : 000080100228
Start Date: 06/18/2001
File I.D. : DVRPC28W
Page : 2

Begin	Mon. 06/25		Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 am	57	68	*	*	*	*	*	*	*	*	*	*	*	*	57	68
01:00	29	28	*	*	*	*	*	*	*	*	*	*	*	*	29	28
02:00	22	12	*	*	*	*	*	*	*	*	*	*	*	*	22	12
03:00	23	16	*	*	*	*	*	*	*	*	*	*	*	*	23	16
04:00	32	15	*	*	*	*	*	*	*	*	*	*	*	*	32	15
05:00	91	41	*	*	*	*	*	*	*	*	*	*	*	*	91	41
06:00	433	117	*	*	*	*	*	*	*	*	*	*	*	*	433	117
07:00	675	388	*	*	*	*	*	*	*	*	*	*	*	*	675	388
08:00	733	427	*	*	*	*	*	*	*	*	*	*	*	*	733	427
09:00	533	381	*	*	*	*	*	*	*	*	*	*	*	*	533	381
10:00	508	464	*	*	*	*	*	*	*	*	*	*	*	*	508	464
11:00	572	575	*	*	*	*	*	*	*	*	*	*	*	*	572	575
12:00 pm	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Totals	3708	2532	0	0	0	0	0	0	0	0	0	0	0	0	3708	2532
	6240		0		0		0		0		0		0		6240	
Avg. Day	100.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%		
AM Peaks	08:00	11:00													08:00	11:00
Volume	733	575													733	575
PM Peaks																

ADTs

Municipality : Upper Merion Twp
Comments : None
Weather : Variable
ATR #/Operator : 559/JB
Street name :Henderson Rd Cross street:btw Hawthorn Rd & Route 23 ,

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Site Code : 000080100207
Start Date: 06/04/2001
File I.D. : DVRPC07
Page : 1

Begin	Mon. 06/04		Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week Avg.	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 am	*	*	*	*	24	15	36	27	25	20	71	74	29	24	37	32
01:00	*	*	*	*	10	18	14	12	12	11	16	21	30	24	16	17
02:00	*	*	*	*	9	7	11	9	13	11	23	16	17	17	15	12
03:00	*	*	*	*	8	16	7	11	4	15	12	10	16	3	9	11
04:00	*	*	*	*	13	25	5	18	6	21	11	10	6	9	8	17
05:00	*	*	*	*	28	52	31	57	27	61	14	26	9	14	22	42
06:00	*	*	*	*	101	205	104	220	99	200	36	71	30	40	74	147
07:00	*	*	*	*	192	368	189	362	165	316	93	137	66	74	141	251
08:00	*	*	*	*	198	331	215	304	210	346	142	174	120	120	177	255
09:00	*	*	*	*	155	176	175	233	213	229	208	257	191	188	188	217
10:00	*	*	*	*	177	172	179	201	201	228	206	251	191	201	191	211
11:00	*	*	218	213	236	202	196	194	252	245	274	260	206	317	230	238
12:00 pm	*	*	254	232	230	271	275	234	313	267	254	240	276	243	267	248
01:00	*	*	224	214	225	214	245	213	288	251	288	220	231	227	250	223
02:00	*	*	244	231	246	238	238	242	283	272	246	230	266	236	254	242
03:00	*	*	339	255	345	261	331	219	330	259	271	212	240	204	309	235
04:00	*	*	480	225	429	251	481	242	502	271	248	265	216	199	393	242
05:00	*	*	533	277	541	285	529	261	523	295	249	224	223	207	433	258
06:00	*	*	335	298	360	290	357	271	384	309	248	221	205	188	315	263
07:00	*	*	277	205	307	204	281	247	266	267	209	172	221	184	260	213
08:00	*	*	235	190	267	205	276	180	250	204	222	175	149	149	233	184
09:00	*	*	169	144	148	82	211	128	147	114	165	137	129	111	162	119
10:00	*	*	99	59	82	70	91	100	103	81	88	90	78	76	90	79
11:00	*	*	49	28	35	20	61	37	65	50	80	63	50	41	57	40
Totals	0	0	3456	2571	4366	3978	4538	4022	4681	4343	3674	3556	3195	3096	4131	3796
	0		6027		8344		8560		9024		7230		6291		7927	
Avg. Day	.0%	.0%	83.6%	67.7%	105.6%	104.7%	109.8%	105.9%	113.3%	114.4%	88.9%	93.6%	77.3%	81.5%		
AM Peaks			11:00	11:00	11:00	07:00	08:00	07:00	11:00	08:00	11:00	11:00	11:00	11:00	11:00	08:00
Volume			218	213	236	368	215	362	252	346	274	260	206	317	230	255
PM Peaks			05:00	06:00	05:00	06:00	05:00	06:00	05:00	06:00	01:00	04:00	12:00	12:00	05:00	06:00
Volume			533	298	541	290	529	271	523	309	288	265	276	243	433	263

DVRPC – Travel Monitoring

DATE: 09/28/1998

ROAD: HENDERSON RD **FROM:** TR 202 **TO:** TR 23

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 3029/0030/1500 **FC:** 16

PROJECT: PAM98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 40 **LOOP OR CLASS:**

STATION ID: 21150 **DVRPC FILE #:** 3487 **COUNTER:** 9763 **WEATHER:** F

Hour Ending	Monday 09/28/98	Tuesday 09/29/98	Wednesday 09/30/98	Thursday 10/01/98	Friday 10/02/98
1 AM		73	85		
2 AM		36	57		
3 AM		32	34		
4 AM		22	43		
5 AM		50	48		
6 AM		160	166		
7 AM		594	568		
8 AM		1,143	1,087		
9 AM	1,246	1,204	1,125		
10 AM	877	867			
11 AM	836	784			
12 PM	928	942			
1 PM	1,086	1,061			
2 PM	969	1,007			
3 PM	972	960			
4 PM	1,100	1,135			
5 PM	1,218	1,201			
6 PM	1,336	1,384			
7 PM	1,064	1,132			
8 PM	861	962			
9 PM	556	626			
10 PM	426	438			
11 PM	296	358			
12 AM	160	196			
		16,367			

SEASONAL FACTOR:	.919	AADT: **14,650**	AM PEAK %:	7.4	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.974		PM PEAK %:	8.5	HOUR ENDING:	6:00 PM

Tri-State Traffic Data, Inc.
(610) 444-8030

Title1 : Beidler Rd West of Geerdes Blv
Title2 : Site 08
Title3 :

Site: 0
Date: 05/21/0

Interval	Mon 21		Tue 22		Wed 23		Thu 24		Fri 25		Sat 26		Sun 27		Weekday Avg	
Begin	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	W
12:AM	*	*	15	8	20	12	14	12	*	*	*	*	*	*	16	
01:00	*	*	5	1	9	6	5	7	*	*	*	*	*	*	6	
02:00	*	*	6	3	6	2	7	3	*	*	*	*	*	*	6	
03:00	*	*	5	4	2	3	4	3	*	*	*	*	*	*	3	
04:00	*	*	10	2	10	7	10	4	*	*	*	*	*	*	10	
05:00	*	*	46	22	39	20	50	22	*	*	*	*	*	*	45	
06:00	*	*	176	92	186	92	190	89	*	*	*	*	*	*	184	
07:00	*	*	264	224	273	220	250	207	*	*	*	*	*	*	262	2
08:00	*	*	205	216	184	196	208	226	*	*	*	*	*	*	199	2
09:00	*	*	176	137	148	126	154	136	*	*	*	*	*	*	159	1
10:00	*	*	108	102	131	104	120	109	*	*	*	*	*	*	119	1
11:00	*	*	141	116	170	106	*	*	*	*	*	*	*	*	155	
12:PM	152	154	184	154	174	159	*	*	*	*	*	*	*	*	170	
01:00	116	135	164	172	142	160	*	*	*	*	*	*	*	*	140	
02:00	146	158	138	184	129	161	*	*	*	*	*	*	*	*	137	
03:00	156	243	171	244	172	242	*	*	*	*	*	*	*	*	166	
04:00	166	360	172	374	224	416	*	*	*	*	*	*	*	*	187	
05:00	206	392	266	404	248	410	*	*	*	*	*	*	*	*	240	
06:00	165	214	166	208	194	252	*	*	*	*	*	*	*	*	175	
07:00	87	104	107	139	114	130	*	*	*	*	*	*	*	*	102	
08:00	60	62	80	76	112	121	*	*	*	*	*	*	*	*	84	
09:00	71	42	74	49	102	65	*	*	*	*	*	*	*	*	82	
10:00	36	30	44	29	46	42	*	*	*	*	*	*	*	*	42	
11:00	17	11	22	25	22	16	*	*	*	*	*	*	*	*	20	
Total	1,378	1,905	2,745	2,985	2,857	3,068	1,012	818	0	0	0	0	0	0	2,709	2,
Combined	3,283		5,730		5,925		1,830		0		0		0			5,663
Split	42.0	58.0	47.9	52.1	48.2	51.8	55.3	44.7	0.0	.0	0.0	.0	0.0	.0	47.8	
A																
Peak Hr	*	*	07:00	07:00	07:00	07:00	07:00	08:00	*	*	*	*	*	*	07:00	0
Volume	*	*	264	224	273	220	250	226	*	*	*	*	*	*	262	
P																
PeakHr	05:00	05:00	05:00	05:00	05:00	04:00	*	*	*	*	*	*	*	*	05:00	0
Volume	206	392	266	404	248	416	*	*	*	*	*	*	*	*	240	

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: MOORE RD **FROM:** FIRST AVE **TO:** TR 23

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** G351/0010/ **FC:** 17

PROJECT: PAM98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 29449 **DVRPC FILE #:** 3595 **COUNTER:** 9872 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		20	12		
2 AM		14	16		
3 AM		18	14		
4 AM		14	18		
5 AM		26	18		
6 AM		66	82		
7 AM		308	320		
8 AM		725	755		
9 AM	834	908	862		
10 AM	406	493			
11 AM	298	368			
12 PM	452	474			
1 PM	752	688			
2 PM	628	612			
3 PM	452	466			
4 PM	520	524			
5 PM	866	903			
6 PM	920	968			
7 PM	480	508			
8 PM	216	243			
9 PM	136	142			
10 PM	82	99			
11 PM	69	60			
12 AM	28	40			
		8,687			

SEASONAL FACTOR:	.921	AADT: **7,897**	AM PEAK %:	10.5	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.987		PM PEAK %:	11.1	HOUR ENDING:	6:00 PM

Municipality : Upper Merion Twp
Comments : None
Weather : Variable
ATR #/Operator : 5710/JB
Street name :First Ave Cross street:btw Moore Rd 7 Rt 422

JAMAR Technologies, Inc.
TAS for Windows

Site Code : 000008010226
Start Date: 06/18/2001
File I.D. : DVRPC26

Begin	Mon. 06/18		Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 am	*	*	*	*	35	39	35	32	32	29	26	40	15	42	29	36
01:00	*	*	*	*	9	15	8	14	12	17	17	26	17	26	13	20
02:00	*	*	*	*	13	9	13	13	16	17	13	21	9	11	13	14
03:00	*	*	*	*	16	14	16	18	21	23	7	8	4	9	13	14
04:00	*	*	*	*	18	31	18	25	20	31	7	14	4	11	13	22
05:00	*	*	*	*	62	101	67	105	59	111	24	23	7	11	44	70
06:00	*	*	*	*	137	518	129	518	137	553	36	56	33	30	94	335
07:00	*	*	*	*	335	927	352	961	333	911	92	91	41	43	231	587
08:00	*	*	*	*	422	975	436	934	395	830	84	111	71	51	282	580
09:00	*	*	*	*	301	567	266	526	253	480	129	133	88	107	207	363
10:00	*	*	*	*	301	361	277	289	327	351	136	185	98	134	228	264
11:00	*	*	*	*	478	447	471	413	458	420	161	228	98	150	333	332
12:00 pm	*	*	453	547	514	532	460	524	534	527	116	187	123	171	367	415
01:00	*	*	425	510	405	521	379	527	460	488	138	181	108	175	319	400
02:00	*	*	351	367	382	347	399	343	430	359	138	203	116	192	303	302
03:00	*	*	574	333	584	396	521	385	557	370	146	184	135	156	420	304
04:00	*	*	793	473	808	463	825	510	685	512	132	184	110	157	559	383
05:00	*	*	770	543	800	546	772	530	539	466	111	168	77	131	512	397
06:00	*	*	468	342	443	363	443	333	294	265	101	128	92	107	307	256
07:00	*	*	260	206	247	206	208	213	157	184	97	117	80	110	175	173
08:00	*	*	186	141	144	152	160	166	103	138	58	104	53	105	117	134
09:00	*	*	110	144	111	151	86	130	75	127	57	101	61	95	83	125
10:00	*	*	73	102	69	97	60	96	65	114	51	91	39	65	60	94
11:00	*	*	52	65	46	72	47	55	52	90	45	83	34	46	46	68
Totals	0	0	4515	3773	6680	7850	6448	7660	6014	7413	1922	2667	1513	2135	4768	5688
	0		8288		14530		14108		13427		4589		3648		10456	
Avg. Day	.0%	.0%	94.6%	66.3%	140.1%	138.0%	135.2%	134.6%	126.1%	130.3%	40.3%	46.8%	31.7%	37.5%		
AM Peaks					11:00	08:00	11:00	07:00	11:00	07:00	11:00	11:00	10:00	11:00	11:00	07:00
Volume					478	975	471	961	458	911	161	228	98	150	333	587
PM Peaks			04:00	12:00	04:00	05:00	04:00	05:00	04:00	12:00	03:00	02:00	03:00	02:00	04:00	12:00
Volume			793	547	808	546	825	530	685	527	146	203	135	192	559	415

DVRPC – Travel Monitoring

DATE: 07/17/2000

ROAD: FIRST AVE **FROM:** MOORE RD **TO:** CLARK RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** G350/0010/ **FC:** 16

PROJECT: 202-400 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 28742 **COUNTER:** 9956 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		41	42		
2 AM		20	28		
3 AM		26	12		
4 AM		24	32		
5 AM		34	32		
6 AM		112	110		
7 AM		492	464		
8 AM		982	1,022		
9 AM		1,206	1,244		
10 AM		699	746		
11 AM		523	598		
12 PM	728	764			
1 PM	1,014	976			
2 PM	880	933			
3 PM	659	704			
4 PM	744	756			
5 PM	1,042	1,066			
6 PM	1,404	1,266			
7 PM	671	646			
8 PM	438	458			
9 PM	279	284			
10 PM	198	201			
11 PM	128	143			
12 AM	89	86			
		12,442			

SEASONAL FACTOR:	.924	AADT: **11,129**	AM PEAK %:	9.7	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.968		PM PEAK %:	10.2	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 5/21/1996

ROAD: KEEBLER RD **FROM:** ALLENDALE RD **TO:** VALLEY FORGE RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** LOC **FC:** 16

PROJECT: MCPC-106 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 14909 **COUNTER:** **WEATHER:** F

Hour Ending	Tuesday 05/21/96	Wednesday 05/22/96	Thursday 05/23/96	Friday 05/24/96	Saturday 05/25/96
1 AM		35	45		
2 AM		9	17		
3 AM		11	7		
4 AM		4	8		
5 AM		6	8		
6 AM		39	39		
7 AM	77	200	234		
8 AM	743	773			
9 AM	782	803			
10 AM	373	360			
11 AM	334	358			
12 PM	495	498			
1 PM	537	547			
2 PM	498	518			
3 PM	527	486			
4 PM	616	589			
5 PM	710	734			
6 PM	936	918			
7 PM	560	582			
8 PM	369	469			
9 PM	330	343			
10 PM	210	238			
11 PM	113	107			
12 AM	52	67			
		8,694			

SEASONAL FACTOR:	.904	AADT: **7,859**	AM PEAK %:	9.2	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	1		PM PEAK %:	10.6	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/11/2000

ROAD: TR 202 NB DEKALB PK **FROM:** ALLENDALE RD **TO:** COLONIAL RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0202/0060/0500 **FC:** 14

PROJECT: PAM00 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 12847 **DVRPC FILE #:** 27488 **COUNTER:** 9946 **WEATHER:** F

Hour Ending	Tuesday 07/11/00	Wednesday 07/12/00	Thursday 07/13/00	Friday 07/14/00	Saturday 07/15/00
1 AM		184	202		
2 AM		100	105		
3 AM		81	72		
4 AM		81	66		
5 AM		122	98		
6 AM		216	205		
7 AM		610	622		
8 AM		1,074	941		
9 AM	1,176	1,049			
10 AM	1,058	1,060			
11 AM	1,102	1,187			
12 PM	1,343	1,372			
1 PM	1,740	1,658			
2 PM	1,568	1,556			
3 PM	1,546	1,482			
4 PM	1,643	1,614			
5 PM	1,856	1,761			
6 PM	2,086	1,972			
7 PM	1,676	1,752			
8 PM	1,396	1,391			
9 PM	1,234	1,286			
10 PM	1,084	1,090			
11 PM	553	607			
12 AM	348	340			
		23,645			

SEASONAL FACTOR:	.896	AADT: **20,275**	AM PEAK %:	5.8	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.957		PM PEAK %:	8.3	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/11/2000

ROAD: TR 202 SB DEKALB PK **FROM:** ALLENDALE RD **TO:** COLONIAL RD

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0202/0061/0500 **FC:** 14

PROJECT: PAM00 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 12847 **DVRPC FILE #:** 27489 **COUNTER:** 9833 **WEATHER:** F

Hour Ending	Tuesday 07/11/00	Wednesday 07/12/00	Thursday 07/13/00	Friday 07/14/00	Saturday 07/15/00
1 AM		161	143		
2 AM		80	83		
3 AM		61	71		
4 AM		50	57		
5 AM		94	92		
6 AM		304	310		
7 AM		1,072	1,064		
8 AM		1,745	1,831		
9 AM		1,919	1,896		
10 AM		1,546	1,486		
11 AM	1,230	1,379			
12 PM	1,427	1,366			
1 PM	1,684	1,724			
2 PM	1,677	1,682			
3 PM	1,514	1,531			
4 PM	1,564	1,574			
5 PM	1,616	1,624			
6 PM	1,635	1,662			
7 PM	1,572	1,584			
8 PM	1,255	1,352			
9 PM	1,134	1,128			
10 PM	880	868			
11 PM	484	488			
12 AM	290	268			
		25,262			

SEASONAL FACTOR:	.896	AADT: **21,661**	AM PEAK %:	7.6	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	6.8	HOUR ENDING:	1:00 PM

DVRPC – Travel Monitoring

DATE: 03/07/2000

ROAD: TR 202 NB DEKALB PK **FROM:** HENDERSON RD **TO:** BRIDGEPORT BYP

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0202/0080/1500 **FC:** 14

PROJECT: 202-400 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 12848 **DVRPC FILE #:** 27737 **COUNTER:** 9489 **WEATHER:** F

Hour Ending	Tuesday 03/07/00	Wednesday 03/08/00	Thursday 03/09/00	Friday 03/10/00	Saturday 03/11/00
1 AM		158	145		
2 AM		83	90		
3 AM		81	65		
4 AM		38	41		
5 AM		81	84		
6 AM		208	201		
7 AM		577			
8 AM		1,071			
9 AM	1,020	1,083			
10 AM	1,045	1,054			
11 AM	950	959			
12 PM	1,074	1,113			
1 PM	1,246	1,237			
2 PM	1,328	1,320			
3 PM	1,240	1,244			
4 PM	1,362	1,369			
5 PM	1,538	1,544			
6 PM	1,804	1,814			
7 PM	1,334	1,362			
8 PM	1,098	1,060			
9 PM	985	949			
10 PM	738	753			
11 PM	438	431			
12 AM	252	232			
		19,821			

SEASONAL FACTOR:	.972	AADT: **18,438**	AM PEAK %:	5.6	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.957		PM PEAK %:	9.2	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 03/07/2000

ROAD: TR 202 SB DEKALB PK **FROM:** HENDERSON RD **TO:** BRIDGEPORT BYP

COUNTY: MONTGOMERY **MCD:** 228 - UPPER MERION TOWNSHIP **SR/SEG/OFF:** 0202/0081/1500 **FC:** 14

PROJECT: 202-400 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 12848 **DVRPC FILE #:** 27738 **COUNTER:** 9489 **WEATHER:** F

Hour Ending	Tuesday 03/07/00	Wednesday 03/08/00	Thursday 03/09/00	Friday 03/10/00	Saturday 03/11/00
1 AM		98	88		
2 AM		52	70		
3 AM		42	57		
4 AM		48	41		
5 AM		96	73		
6 AM		281	253		
7 AM		963			
8 AM		1,675			
9 AM	1,493	1,557			
10 AM	1,221	1,117			
11 AM	1,143	1,092			
12 PM	1,312	1,346			
1 PM	1,396	1,454			
2 PM	1,356	1,340			
3 PM	1,163	1,202			
4 PM	1,228	1,247			
5 PM	1,474	1,425			
6 PM	1,569	1,572			
7 PM	1,276	1,351			
8 PM	937	868			
9 PM	713	716			
10 PM	492	512			
11 PM	358	290			
12 AM	167	183			
		20,527			

SEASONAL FACTOR:	.972	AADT: **19,094**	AM PEAK %:	8.2	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	7.7	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 05/26/1999

ROAD: TR 202 NB DEKALB PK **FROM:** BRIDGEPORT BYP **TO:** CROOKED LA

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 0202/0090/0500 **FC:** 14

PROJECT: PAM99 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 12849 **DVRPC FILE #:** 6718 **COUNTER:** 9835 **WEATHER:** F

Hour Ending	Wednesday 05/26/99	Thursday 05/27/99	Friday 05/28/99	Saturday 05/29/99	Sunday 05/30/99
1 AM		80	91		
2 AM		50	53		
3 AM		30	20		
4 AM		12	6		
5 AM		34	50		
6 AM		101	121		
7 AM		276	283		
8 AM		502	516		
9 AM		492	501		
10 AM		450			
11 AM		410			
12 PM		387			
1 PM	412	422			
2 PM	415	406			
3 PM	445	426			
4 PM	555	546			
5 PM	628	605			
6 PM	851	822			
7 PM	653	628			
8 PM	405	390			
9 PM	309	293			
10 PM	190	200			
11 PM	136	158			
12 AM	112	121			
		7,841			

SEASONAL FACTOR:	.927	AADT: **6,963**	AM PEAK %:	6.4	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	10.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 05/26/1999

ROAD: TR 202 SB DEKALB PK **FROM:** BRIDGEPORT BYP **TO:** CROOKED LA

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 0202/0091/0500 **FC:** 14

PROJECT: PAM99 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 12849 **DVRPC FILE #:** 6719 **COUNTER:** 9835 **WEATHER:** F

Hour Ending	Wednesday 05/26/99	Thursday 05/27/99	Friday 05/28/99	Saturday 05/29/99	Sunday 05/30/99
1 AM		140	163		
2 AM		58	72		
3 AM		24	31		
4 AM		23	28		
5 AM		42	31		
6 AM		111	96		
7 AM		336	355		
8 AM		622	641		
9 AM		629	658		
10 AM		490			
11 AM		478			
12 PM		512			
1 PM	564	585			
2 PM	616	634			
3 PM	612	624			
4 PM	697	676			
5 PM	734	717			
6 PM	705	674			
7 PM	360	319			
8 PM	602	576			
9 PM	453	452			
10 PM	371	375			
11 PM	255	274			
12 AM	208	222			
		9,593			

SEASONAL FACTOR:	.927	AADT: **8,519**	AM PEAK %:	6.6	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	7.5	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 07/11/2000

ROAD: TR 202 DEKALB ST **FROM:** FORD ST **TO:** TR 23

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 0202/0100/1500 **FC:** 14

PROJECT: PAM00 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 12850 **DVRPC FILE #:** 27490 **COUNTER:** 9834 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		70	104		
2 AM		39	53		
3 AM		48	43		
4 AM		22	30		
5 AM		62	49		
6 AM		121	126		
7 AM		436	460		
8 AM		870	832		
9 AM		896	845		
10 AM	648	752			
11 AM	622	684			
12 PM	707	730			
1 PM	825	808			
2 PM	870	885			
3 PM	829	864			
4 PM	897	939			
5 PM	986	993			
6 PM	1,013	1,063			
7 PM	759	816			
8 PM	512	536			
9 PM	454	457			
10 PM	370	370			
11 PM	208	235			
12 AM	130	154			
		12,850			

SEASONAL FACTOR:	.896	AADT: **11,019**	AM PEAK %:	7.	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	8.3	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/17/2000

ROAD: BRIDGEPORT BYP NB **FROM:** TR 202 DEKALB PK **TO:** ROSS RD OVP

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 3020/0010/0500 **FC:** 12

PROJECT: PAM00 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 50 **LOOP OR CLASS:**

STATION ID: 3884 **DVRPC FILE #:** 27607 **COUNTER:** 9766 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		129	138		
2 AM		61	78		
3 AM		34	46		
4 AM		41	40		
5 AM		62	56		
6 AM		112	130		
7 AM		314	289		
8 AM		546	512		
9 AM		570	572		
10 AM		505	468		
11 AM	494	526			
12 PM	505	552			
1 PM	624	654			
2 PM	637	720			
3 PM	795	790			
4 PM	846	923			
5 PM	1,153	1,152			
6 PM	1,285	1,319			
7 PM	910	940			
8 PM	594	681			
9 PM	585	618			
10 PM	550	623			
11 PM	332	328			
12 AM	265	256			
		12,456			

SEASONAL FACTOR:	.895	AADT: **10,490**	AM PEAK %:	4.6	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.941		PM PEAK %:	10.6	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/17/2000

ROAD: BRIDGEPORT BYP SB **FROM:** TR 202 DEKALB PK **TO:** ROSS RD OVP

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 3020/0011/0500 **FC:** 12

PROJECT: PAM00 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 50 **LOOP OR CLASS:**

STATION ID: 3884 **DVRPC FILE #:** 27608 **COUNTER:** 9835 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		92	96		
2 AM		42	36		
3 AM		56	44		
4 AM		38	52		
5 AM		100	100		
6 AM		312	306		
7 AM		918	918		
8 AM		1,471	1,466		
9 AM		1,391	1,340		
10 AM		948	954		
11 AM	724	717			
12 PM	762	724			
1 PM	821	836			
2 PM	831	810			
3 PM	794	763			
4 PM	780	804			
5 PM	896	901			
6 PM	948	964			
7 PM	786	794			
8 PM	627	664			
9 PM	488	564			
10 PM	360	449			
11 PM	258	268			
12 AM	166	180			
		14,806			

SEASONAL FACTOR:	.895	AADT: **12,470**	AM PEAK %:	9.9	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.941		PM PEAK %:	6.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 5/25/1999

ROAD: FORD ST **FROM:** EIGHTH ST **TO:** SIXTH ST

COUNTY: MONTGOMERY **MCD:** 179 - BRIDGEPORT BOROUGH **SR/SEG/OFF:** 3055/0020/0500 **FC:** 17

PROJECT: PAM99 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 21497 **DVRPC FILE #:** 6901 **COUNTER:** 9835 **WEATHER:** F

Hour Ending	Tuesday 05/25/99	Wednesday 05/26/99	Thursday 05/27/99	Friday 05/28/99	Saturday 05/29/99
1 AM		23	26		
2 AM		14	14		
3 AM		10	12		
4 AM		8	8		
5 AM		18	24		
6 AM		44	46		
7 AM		138	124		
8 AM		230	240		
9 AM		301	267		
10 AM	222	208			
11 AM	196	244			
12 PM	260	254			
1 PM	235	238			
2 PM	244	252			
3 PM	272	259			
4 PM	328	294			
5 PM	310	340			
6 PM	354	382			
7 PM	324	337			
8 PM	285	229			
9 PM	213	192			
10 PM	178	160			
11 PM	100	109			
12 AM	61	60			
		4,344			

SEASONAL FACTOR:	.924	AADT: **3,966**	AM PEAK %:	6.9	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.988		PM PEAK %:	8.8	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: TR 202 NB DEKALB ST **FROM:** FOURTH ST **TO:** LAFAYETTE ST

COUNTY: MONTGOMERY **MCD:** 207 - NORRISTOWN BOROUGH **SR/SEG/OFF:** 0202/0120/1500 **FC:** 14

PROJECT: PAM98 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 12851 **DVRPC FILE #:** 3314 **COUNTER:** 9776 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		136	130		
2 AM		54	72		
3 AM		50	41		
4 AM		38	47		
5 AM		52	59		
6 AM		144	140		
7 AM		376	373		
8 AM		648	704		
9 AM		678	702		
10 AM		594	584		
11 AM		598	552		
12 PM		665			
1 PM	740	721			
2 PM	694	704			
3 PM	814	838			
4 PM	1,007	964			
5 PM	1,179	1,256			
6 PM	1,468	1,426			
7 PM	926	1,050			
8 PM	746	818			
9 PM	604	656			
10 PM	530	578			
11 PM	358	343			
12 AM	226	223			
		13,610			

SEASONAL FACTOR:	.909	AADT: **11,877**	AM PEAK %:	5.	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	10.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: TR 202 SB DEKALB ST **FROM:** FOURTH ST **TO:** LAFAYETTE ST

COUNTY: MONTGOMERY **MCD:** 207 - NORRISTOWN BOROUGH **SR/SEG/OFF:** 0202/0121/1500 **FC:** 14

PROJECT: PAM98 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 12851 **DVRPC FILE #:** 3315 **COUNTER:** 9776 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		84	100		
2 AM		61	51		
3 AM		44	44		
4 AM		63	72		
5 AM		140	128		
6 AM		483	469		
7 AM		1,318	1,354		
8 AM		2,036	2,044		
9 AM		1,711	1,904		
10 AM		1,108	1,044		
11 AM		998	931		
12 PM		989			
1 PM	1,152	1,149			
2 PM	1,003	1,057			
3 PM	1,022	1,080			
4 PM	1,082	1,084			
5 PM	1,164	1,216			
6 PM	1,196	1,229			
7 PM	982	997			
8 PM	851	850			
9 PM	550	568			
10 PM	410	469			
11 PM	286	323			
12 AM	194	182			
		19,239			

SEASONAL FACTOR:	.909	AADT: **16,789**	AM PEAK %:	10.6	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	6.4	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/20/1999

ROAD: DANNENHOWER BR SB **FROM:** ROSS RD RAMPS **TO:** MARKLEY ST RAMPS

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 3020/0031/2000 **FC:** 12

PROJECT: PAM99 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 50 **LOOP OR CLASS:**

STATION ID: 20825 **DVRPC FILE #:** 6873 **COUNTER:** 9763 **WEATHER:** F

Hour Ending	Tuesday 07/20/99	Wednesday 07/21/99	Thursday 07/22/99	Friday 07/23/99	Saturday 07/24/99
1 AM		115	108		
2 AM		87	68		
3 AM		65	61		
4 AM		68	66		
5 AM		160	174		
6 AM		412	400		
7 AM		1,200	1,143		
8 AM		1,884	1,933		
9 AM		1,760	1,738		
10 AM		1,025	990		
11 AM		884	890		
12 PM	894	892			
1 PM	948	967			
2 PM	958	920			
3 PM	948	926			
4 PM	1,023	1,043			
5 PM	1,186	1,122			
6 PM	1,240	1,210			
7 PM	1,007	1,017			
8 PM	923	888			
9 PM	693	660			
10 PM	530	551			
11 PM	400	412			
12 AM	234	240			
		18,508			

SEASONAL FACTOR:	.895	AADT: **15,736**	AM PEAK %:	10.2	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.95		PM PEAK %:	6.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 9/21/1998

ROAD: MARKLEY ST **FROM:** AIRY ST **TO:** SWEDE RD

COUNTY: MONTGOMERY **MCD:** 207 - NORRISTOWN BOROUGH **SR/SEG/OFF:** G721/0010/ **FC:** 14

PROJECT: PAM98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 29519 **DVRPC FILE #:** 3614 **COUNTER:** 9773 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		143	108		
2 AM		72	80		
3 AM		58	60		
4 AM		40	44		
5 AM		104	98		
6 AM		304	328		
7 AM		834	896		
8 AM		1,162	1,152		
9 AM		1,099	1,156		
10 AM		1,090	1,044		
11 AM		1,100	1,051		
12 PM		1,154	1,186		
1 PM		1,302			
2 PM	1,132	1,181			
3 PM	1,199	1,247			
4 PM	1,291	1,290			
5 PM	1,468	1,512			
6 PM	1,544	1,527			
7 PM	1,206	1,250			
8 PM	930	1,048			
9 PM	718	718			
10 PM	596	638			
11 PM	413	399			
12 AM	237	231			
		19,503			

SEASONAL FACTOR:	.909	AADT: **17,019**	AM PEAK %:	6.	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	7.8	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/17/2000

ROAD: MAIN ST **FROM:** ORCHARD LA **TO:** BURNSIDE AVE

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 3009/0150/0500 **FC:** 14

PROJECT: PAM00 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 40 **LOOP OR CLASS:**

STATION ID: 20167 **DVRPC FILE #:** 27597 **COUNTER:** 9786 **WEATHER:** F

Hour Ending	Monday 07/17/00	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00
1 AM		126	143		
2 AM		62	64		
3 AM		70	57		
4 AM		58	54		
5 AM		106	112		
6 AM		374	356		
7 AM		820	770		
8 AM		1,141	1,114		
9 AM		1,120	1,086		
10 AM		968	898		
11 AM	923	930			
12 PM	976	1,028			
1 PM	1,062	1,090			
2 PM	998	1,030			
3 PM	1,088	1,080			
4 PM	1,105	1,158			
5 PM	1,230	1,241			
6 PM	1,176	1,231			
7 PM	996	1,078			
8 PM	885	919			
9 PM	752	777			
10 PM	562	625			
11 PM	402	410			
12 AM	230	246			
		17,688			

SEASONAL FACTOR:	.896	AADT: **15,167**	AM PEAK %:	6.5	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	7.	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: MAIN ST EB **FROM:** WHITEHALL RD **TO:** ORCHARD LA

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 3009/0140/1000 **FC:** 14

PROJECT: PAM98 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 40 **LOOP OR CLASS:**

STATION ID: 20166 **DVRPC FILE #:** 3470 **COUNTER:** 9787 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		100	92		
2 AM		54	62		
3 AM		46	46		
4 AM		47	44		
5 AM		104	98		
6 AM		282	288		
7 AM		848	902		
8 AM		1,312	1,351		
9 AM		1,215	1,186		
10 AM	752	813	806		
11 AM	712	718	702		
12 PM	708	726	666		
1 PM	736	778			
2 PM	762	798			
3 PM	821	813			
4 PM	911	916			
5 PM	886	905			
6 PM	914	981			
7 PM	847	774			
8 PM	686	776			
9 PM	528	515			
10 PM	380	418			
11 PM	250	328			
12 AM	202	201			
		14,468			

SEASONAL FACTOR:	.909	AADT: **12,625**	AM PEAK %:	9.1	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	6.8	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/21/1998

ROAD: MAIN ST WB **FROM:** WHITEHALL RD **TO:** ORCHARD LA

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 3009/0141/1000 **FC:** 14

PROJECT: PAM98 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 40 **LOOP OR CLASS:**

STATION ID: 20166 **DVRPC FILE #:** 3471 **COUNTER:** 9766 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		104	95		
2 AM		48	58		
3 AM		58	41		
4 AM		34	48		
5 AM		46	46		
6 AM		152	160		
7 AM		419	456		
8 AM		714	735		
9 AM		726	760		
10 AM		650	642		
11 AM	584	602	580		
12 PM	630	732	670		
1 PM	766	736			
2 PM	792	726			
3 PM	774	824			
4 PM	968	992			
5 PM	1,110	1,092			
6 PM	1,133	1,226			
7 PM	940	874			
8 PM	648	709			
9 PM	481	513			
10 PM	391	410			
11 PM	290	308			
12 AM	172	199			
		12,894			

SEASONAL FACTOR:	.909	AADT: **11,252**	AM PEAK %:	5.7	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.96		PM PEAK %:	9.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 11/17/1998

ROAD: MAIN ST **FROM:** FOREST AVE **TO:** STANBRIDGE AVE

COUNTY: MONTGOMERY **MCD:** 207 - NORRISTOWN BOROUGH **SR/SEG/OFF:** G115/0130/ **FC:** 14

PROJECT: MON98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 29353 **DVRPC FILE #:** 4476 **COUNTER:** 9833 **WEATHER:** F

Hour Ending	Tuesday 11/17/98	Wednesday 11/18/98	Thursday 11/19/98	Friday 11/20/98	Saturday 11/21/98
1 AM		194	208		
2 AM		110	113		
3 AM		98	110		
4 AM		89	94		
5 AM		160	177		
6 AM		428	430		
7 AM		1,191	1,236		
8 AM		1,467	1,663		
9 AM		1,454			
10 AM	1,224	1,288			
11 AM	1,137	1,071			
12 PM	1,146	1,166			
1 PM	1,229	1,282			
2 PM	1,322	1,216			
3 PM	1,304	1,224			
4 PM	1,443	1,431			
5 PM	1,459	1,528			
6 PM	1,508	1,540			
7 PM	1,274	1,428			
8 PM	1,027	1,116			
9 PM	790	870			
10 PM	730	782			
11 PM	545	611			
12 AM	364	366			
		22,110			

SEASONAL FACTOR:	.925	AADT: **19,634**	AM PEAK %:	6.6	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	7.	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 06/26/2000

ROAD: MAIN ST **FROM:** DEKALB ST **TO:** MARKLEY ST

COUNTY: MONTGOMERY **MCD:** 207 - NORRISTOWN BOROUGH **SR/SEG/OFF:** G115/0120/ **FC:** 14

PROJECT: PAM00 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 29353 **DVRPC FILE #:** 27675 **COUNTER:** 9954 **WEATHER:** F

Hour Ending	Monday 06/26/00	Tuesday 06/27/00	Wednesday 06/28/00	Thursday 06/29/00	Friday 06/30/00
1 AM		226	196		
2 AM		124	136		
3 AM		118	106		
4 AM		82	72		
5 AM		140	146		
6 AM		372	376		
7 AM		789	745		
8 AM		1,021	1,028		
9 AM		1,068	1,038		
10 AM	1,061	1,012			
11 AM	928	1,058			
12 PM	982	1,034			
1 PM	1,033	1,069			
2 PM	1,065	1,040			
3 PM	1,090	1,082			
4 PM	1,202	1,171			
5 PM	1,268	1,235			
6 PM	1,254	1,312			
7 PM	984	1,126			
8 PM	868	862			
9 PM	740	793			
10 PM	694	730			
11 PM	525	478			
12 AM	338	337			
		18,279			

SEASONAL FACTOR:	.918	AADT: **16,059**	AM PEAK %:	5.8	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	7.2	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 5/7/2001

ROAD: EGYPT RD **FROM:** BUCKWATER RD **TO:** RITTENHOUSE RD

COUNTY: MONTGOMERY **MCD:** 201 - LOWER PROVIDENCE TOWNSHIP **SR/SEG/OFF:** 4002/0110/1684 **FC:** 14

PROJECT: PAM01 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 21835 **DVRPC FILE #:** 30551 **COUNTER:** 9388 **WEATHER:** F

Hour Ending	Monday 05/07/01	Tuesday 05/08/01	Wednesday 05/09/01	Thursday 05/10/01	Friday 05/11/01
1 AM		104	134		
2 AM		66	62		
3 AM		55	58		
4 AM		32	46		
5 AM		83	90		
6 AM		332	346		
7 AM		1,053	998		
8 AM		1,487	1,539		
9 AM		1,490	1,422		
10 AM		992	1,017		
11 AM		810	832		
12 PM		928	968		
1 PM	1,146	1,082			
2 PM	1,036	1,099			
3 PM	1,112	1,094			
4 PM	1,320	1,380			
5 PM	1,222	1,268			
6 PM	1,252	1,212			
7 PM	1,111	1,183			
8 PM	848	916			
9 PM	693	746			
10 PM	524	572			
11 PM	341	369			
12 AM	249	236			
		18,589			

SEASONAL FACTOR:	.932	AADT: **16,372**	AM PEAK %:	8.	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.4	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 9/21/1998

ROAD: EGYPT RD **FROM:** PORT INDIAN RD **TO:** SCHOOL LA

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 4002/0150/0500 **FC:** 14

PROJECT: PAM98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 21836 **DVRPC FILE #:** 3506 **COUNTER:** 9834 **WEATHER:** F

Hour Ending	Monday 09/21/98	Tuesday 09/22/98	Wednesday 09/23/98	Thursday 09/24/98	Friday 09/25/98
1 AM		132	139		
2 AM		72	61		
3 AM		52	56		
4 AM		53	60		
5 AM		93	93		
6 AM		281	269		
7 AM		927	935		
8 AM		1,360	1,484		
9 AM		1,338	1,380		
10 AM		900	944		
11 AM	716	733	754		
12 PM	810	819	836		
1 PM	940	933			
2 PM	918	918			
3 PM	1,012	992			
4 PM	1,220	1,218			
5 PM	1,382	1,367			
6 PM	1,416	1,454			
7 PM	1,105	1,093			
8 PM	812	962			
9 PM	564	590			
10 PM	484	491			
11 PM	359	375			
12 AM	264	280			
		17,433			

SEASONAL FACTOR:	.909	AADT: **15,213**	AM PEAK %:	7.8	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	8.3	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 6/7/1999

ROAD: TR 363 NB TROOPER RD **FROM:** TR 422 RAMP **TO:** AUDUBON RD

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 0363/0020/0500 **FC:** 14

PROJECT: PAM99 **COUNT DIR:** NORTH **TRAFFIC DIR:** NORTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 13615 **DVRPC FILE #:** 6763 **COUNTER:** 9626 **WEATHER:** F

Hour Ending	Monday 06/07/99	Tuesday 06/08/99	Wednesday 06/09/99	Thursday 06/10/99	Friday 06/11/99
1 AM		106	128		
2 AM		78	66		
3 AM		52	63		
4 AM		46	51		
5 AM		56	68		
6 AM		206	250		
7 AM		656	688		
8 AM		1,079	1,052		
9 AM		990	984		
10 AM		784	798		
11 AM		708	720		
12 PM		723	710		
1 PM		855			
2 PM	777	863			
3 PM	875	934			
4 PM	938	1,026			
5 PM	1,041	1,106			
6 PM	1,086	1,116			
7 PM	998	990			
8 PM	716	730			
9 PM	648	681			
10 PM	573	672			
11 PM	446	396			
12 AM	286	302			
		15,155			

SEASONAL FACTOR:	.914	AADT: **13,270**	AM PEAK %:	7.1	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	7.4	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 6/7/1999

ROAD: TR 363 SB TROOPER RD **FROM:** TR 422 RAMP **TO:** AUDUBON RD

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 0363/0021/0500 **FC:** 14

PROJECT: PAM99 **COUNT DIR:** SOUTH **TRAFFIC DIR:** SOUTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 13615 **DVRPC FILE #:** 6764 **COUNTER:** 9322 **WEATHER:** F

Hour Ending	Monday 06/07/99	Tuesday 06/08/99	Wednesday 06/09/99	Thursday 06/10/99	Friday 06/11/99
1 AM		115	137		
2 AM		48	57		
3 AM		52	52		
4 AM		46	42		
5 AM		136	155		
6 AM		716	726		
7 AM		1,368	1,337		
8 AM		1,426	1,412		
9 AM		1,291	1,320		
10 AM		1,086	1,100		
11 AM		914	922		
12 PM		972	951		
1 PM		893			
2 PM	974	845			
3 PM	908	888			
4 PM	1,075	968			
5 PM	1,330	1,302			
6 PM	1,308	1,324			
7 PM	971	932			
8 PM	714	734			
9 PM	644	552			
10 PM	440	417			
11 PM	242	226			
12 AM	190	180			
		17,431			

SEASONAL FACTOR:	.914	AADT: **15,263**	AM PEAK %:	8.2	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	7.6	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/18/2000

ROAD: TR 363 NB TROOPER RD **FROM:** VAN BUREN AVE **TO:** STINSON LA

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 0363/0030/1500 **FC:** 14

PROJECT: PAM00 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 25863 **DVRPC FILE #:** 27512 **COUNTER:** 9787 **WEATHER:** F

Hour Ending	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00	Saturday 07/22/00
1 AM		92	80		
2 AM		50	56		
3 AM		54	48		
4 AM		39	40		
5 AM		97	97		
6 AM		270	297		
7 AM		798	811		
8 AM		1,060	1,046		
9 AM		980	980		
10 AM	743	761			
11 AM	654	723			
12 PM	684	704			
1 PM	767	774			
2 PM	714	754			
3 PM	689	744			
4 PM	804	808			
5 PM	862	882			
6 PM	857	892			
7 PM	706	729			
8 PM	566	546			
9 PM	421	402			
10 PM	308	337			
11 PM	240	220			
12 AM	147	156			
		12,872			

SEASONAL FACTOR:	.896	AADT: **11,037**	AM PEAK %:	8.2	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	6.9	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 07/18/2000

ROAD: TR 363 SB TROOPER RD **FROM:** VAN BUREN AVE **TO:** STINSON LA

COUNTY: MONTGOMERY **MCD:** 234 - WEST NORRITON TOWNSHIP **SR/SEG/OFF:** 0363/0031/1500 **FC:** 14

PROJECT: PAM00 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 45 **LOOP OR CLASS:**

STATION ID: 25863 **DVRPC FILE #:** 27513 **COUNTER:** 9765 **WEATHER:** F

Hour Ending	Tuesday 07/18/00	Wednesday 07/19/00	Thursday 07/20/00	Friday 07/21/00	Saturday 07/22/00
1 AM		120	121		
2 AM		82	88		
3 AM		59	52		
4 AM		52	49		
5 AM		60	60		
6 AM		204	186		
7 AM		552	530		
8 AM		824	794		
9 AM		713	735		
10 AM	660	656			
11 AM	520	548			
12 PM	574	628			
1 PM	768	755			
2 PM	720	744			
3 PM	738	766			
4 PM	988	956			
5 PM	1,090	1,088			
6 PM	1,182	1,216			
7 PM	978	1,002			
8 PM	734	684			
9 PM	621	616			
10 PM	544	478			
11 PM	332	382			
12 AM	243	243			
		13,428			

SEASONAL FACTOR:	.896	AADT: **11,514**	AM PEAK %:	6.1	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.957		PM PEAK %:	9.1	HOUR ENDING:	6:00 PM

Municipality: Lower Providence
Comments: None
Weather: Variable
ATR #/ Operator: 5811/JB
Street name :Audubon Rd Cross street:btw Park Ave & Trooper Rd ,

JAMAR Technologies, Inc.
TAS for Windows
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Site Code : 000080100251
Start Date: 07/09/2001
File I.D. : DVRPC51
Page : 1

Begin	Mon.	07/09	Tues.		Wed.		Thur.		Fri.		Sat.		Sun.		Week	Avg.
Time	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 am	*	*	52	8	45	4	51	14	43	18	64	12	45	26	50	14
01:00	*	*	12	9	23	6	27	13	27	8	29	15	31	9	25	10
02:00	*	*	12	2	7	1	13	3	13	4	18	11	23	13	14	6
03:00	*	*	15	3	11	5	9	3	12	5	11	6	8	7	11	5
04:00	*	*	17	13	13	17	14	16	14	16	8	15	5	13	12	15
05:00	*	*	24	117	21	111	23	100	25	104	15	37	16	15	21	81
06:00	*	*	84	353	75	332	78	336	88	310	37	64	29	46	65	240
07:00	*	*	101	444	118	441	112	449	119	411	51	119	50	102	92	328
08:00	*	*	139	410	162	426	160	417	136	380	144	144	87	103	138	313
09:00	*	*	145	252	150	255	142	229	132	255	139	198	84	198	132	231
10:00	*	*	129	186	146	191	137	157	162	201	183	194	161	211	153	190
11:00	*	*	239	196	201	191	222	194	235	226	172	261	153	237	204	218
12:00 pm	*	*	243	267	256	253	294	265	332	261	189	205	245	211	260	244
01:00	*	*	205	230	198	208	215	262	259	251	185	211	242	181	217	224
02:00	*	*	243	199	236	196	240	200	276	225	189	196	165	186	225	200
03:00	355	220	354	212	336	211	327	225	352	262	190	173	154	186	295	213
04:00	409	247	403	275	414	265	400	265	410	282	206	152	194	139	348	232
05:00	423	345	394	360	410	353	403	397	351	302	158	188	173	128	330	296
06:00	305	210	310	230	363	250	290	253	252	204	187	136	162	122	267	201
07:00	220	182	193	178	213	192	207	160	184	171	126	110	145	112	184	158
08:00	162	106	181	126	193	124	231	119	192	108	130	105	130	78	174	109
09:00	130	69	124	69	173	99	162	78	137	97	110	73	105	55	134	77
10:00	109	51	91	45	86	56	96	59	116	89	103	54	64	42	95	57
11:00	46	29	75	36	49	33	66	36	69	50	70	58	38	24	59	38
Totals	2159	1459	3785	4220	3899	4220	3919	4250	3936	4240	2714	2737	2509	2444	3505	3700
		3618		8005		8119		8169		8176		5451		4953		7205
Avg. Day	61.6%	39.4%	107.9%	114.0%	111.2%	114.0%	111.8%	114.8%	112.3%	114.5%	77.4%	73.9%	71.5%	66.0%		
AM Peaks			11:00	07:00	11:00	07:00	11:00	07:00	11:00	07:00	10:00	11:00	10:00	11:00	11:00	07:00
Volume			239	444	201	441	222	449	235	411	183	261	161	237	204	328
PM Peaks	05:00	05:00	04:00	05:00	04:00	05:00	05:00	05:00	04:00	05:00	04:00	01:00	12:00	12:00	04:00	05:00
Volume	423	345	403	360	414	353	403	397	410	302	206	211	245	211	348	296

APPENDIX B
INTERSECTION TURNING MOVEMENT COUNTS

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TABLE OF CONTENTS

All intersection turning movement counts were taken by the consultant and are not shown in DVRPC format.

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McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Upper Merion Twp
Location: Valley Forge Rd (rt23) &
Valley Creek Rd (rt252)
Counter/Board #: HR/McM-1399

Study Name: PHOEX11W
Site Code : 89920511
Start Date: 09/09/99
Page : 1

	Valley Forge Rd (rt23) Westbound			Valley Creek Rd (rt252) Northbound				Valley Forge Rd (rt23) Eastbound						
Start Time	Left	Thru	HV	Left	Right	RTOR	HV	Thru	Right	RTOR	HV	Intrvl. Total	Exclude Total	Include Total
09/09/99														
07:00	7	66	7	21	2	1	0	288	83	13	8	496	15	481
07:15	8	71	3	24	7	3	1	308	79	16	2	522	6	516
07:30	15	58	3	35	11	2	1	279	78	19	5	506	9	497
07:45	14	65	8	27	10	4	1	272	86	17	11	515	20	495
Hour	44	260	21	107	30	10	3	1147	326	65	26	2039	50	1989
08:00	16	59	9	27	9	5	0	272	78	14	8	497	17	480
08:15	15	70	8	28	10	2	0	247	115	10	14	519	22	497
08:30	18	76	7	18	3	10	0	273	101	11	10	527	17	510
08:45	8	66	11	37	4	5	1	226	97	24	14	493	26	467
Hour	57	271	35	110	26	22	1	1018	391	59	46	2036	82	1954
[BREAK]														
15:00	8	142	12	72	7	7	5	100	24	12	9	398	26	372
15:15	1	146	6	66	9	6	1	117	24	9	17	402	24	378
15:30	3	151	15	74	12	5	7	114	18	4	11	414	33	381
15:45	2	162	7	51	8	14	1	112	49	4	7	417	15	402
Hour	14	601	40	263	36	32	14	443	115	29	44	1631	98	1533
16:00	11	167	8	68	3	16	2	109	23	10	5	422	15	407
16:15	8	193	9	90	10	11	1	112	33	7	7	481	17	464
16:30	14	227	5	94	11	12	0	110	40	3	3	519	8	511
16:45	15	233	3	79	14	4	3	114	17	5	6	493	12	481
Hour	48	820	25	331	38	43	6	445	113	25	21	1915	52	1863
17:00	12	207	5	115	8	16	1	90	26	11	1	492	7	485
17:15	12	278	2	111	4	22	1	122	22	10	1	585	4	581
17:30	6	244	2	103	9	16	0	132	18	11	4	545	6	539
17:45	7	224	2	84	18	23	0	110	33	10	2	513	4	509
Hour	37	953	11	413	39	77	2	454	99	42	8	2135	21	2114
Total	200	2905	132	1224	169	184	26	3507	1044	220	145	9756	303	9453
% Apr.	6.1	89.7	4.0	76.3	10.5	11.4	1.6	71.3	21.2	4.4	2.9	-	-	-
% Int.	2.0	29.7	1.3	12.5	1.7	1.8	0.2	35.9	10.7	2.2	1.4	-	-	-

Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 09/09/99 to 08:45 on 09/09/99

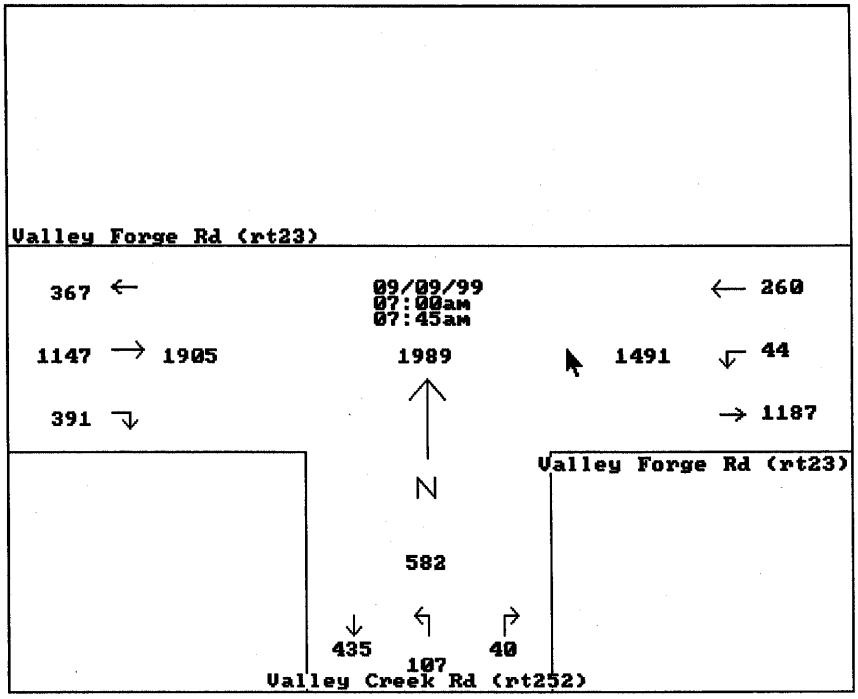
Time	07:00			07:00				07:00						
Vol.	44	260	x	107	30	10	x	1147	326	65	x			
Pct.	14.4	85.5	x	72.7	20.4	6.8	x	74.5	21.1	4.2	x			
Total	304			147				1538						
High	07:15			07:30				07:15						
Vol.	8	71	x	35	11	2	x	308	79	16	x			
Total	79			48				403						
PHF	0.962			0.765				0.954						

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Upper Merion Twp
Location: Valley Forge Rd (rt23) &
Valley Creek Rd (rt252)
Counter/Board #: HR/McM-1399

Study Name: PHOEX11W
Site Code : 89920511
Start Date: 09/09/99
Page : 2

Start Time	Valley Forge Rd (rt23) Westbound			Valley Creek Rd (rt252) Northbound				Valley Forge Rd (rt23) Eastbound				Intrvl. Total	Exclude Total	Include Total
	Left	Thru	HV	Left	Right	RTOR	HV	Thru	Right	RTOR	HV			

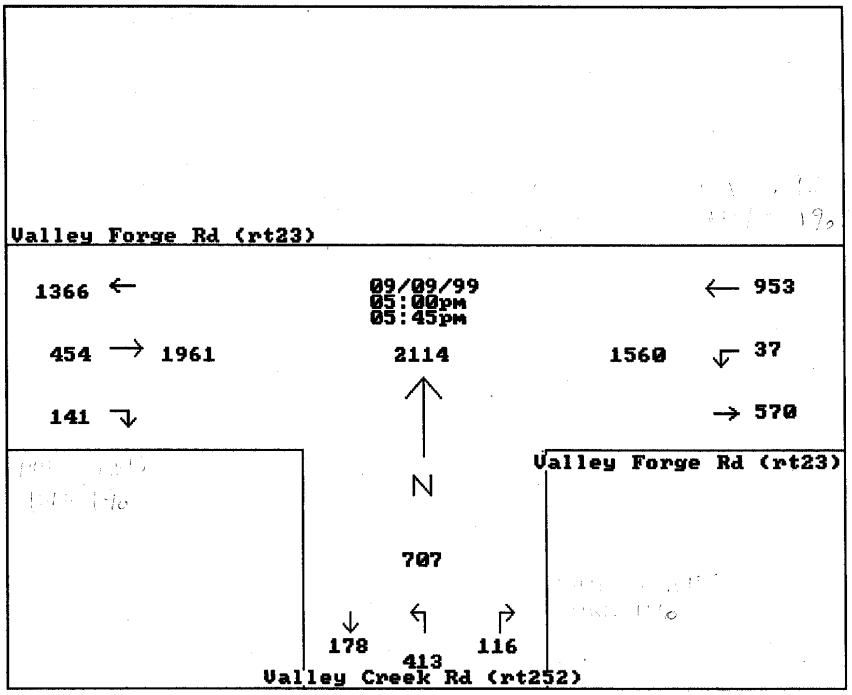


McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Upper Merion Twp
Location: Valley Forge Rd (rt23) &
Valley Creek Rd (rt252)
Counter/Board #: HR/McM-1399

Study Name: PHOEX11W
Site Code : 89920511
Start Date: 09/09/99
Page : 3

Start Time	Valley Forge Rd (rt23) Westbound			Valley Creek Rd (rt252) Northbound				Valley Forge Rd (rt23) Eastbound				Intrvl. Total	Exclude Total	Include Total
	Left	Thru	HV	Left	Right	RTOR	HV	Thru	Right	RTOR	HV			



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Route 23 @ Valley Forge Rd
Date: Tuesday, May 22, 2001
Counter: RZ/VG

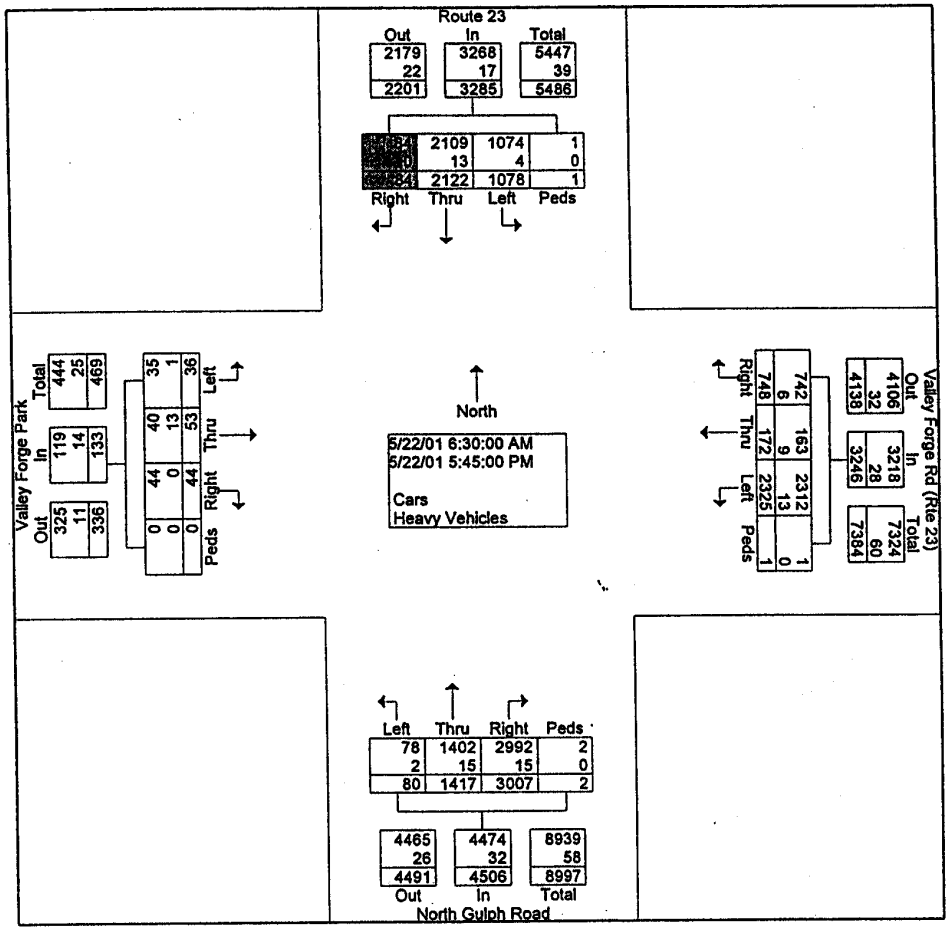
File Name : bs0522a
Site Code : 00000000
Start Date : 05/22/2001
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Route 23 Southbound					Valley Forge Rd (Rte 23) Westbound					North Gulph Road Northbound					Valley Forge Park Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	3	117	51	1	172	19	2	170	0	191	70	30	1	1	102	0	0	12	0	12	477
06:45 AM	2	164	76	0	242	11	4	165	0	180	102	34	1	0	137	0	0	0	0	0	559
Total	5	281	127	1	414	30	6	335	0	371	172	64	2	1	239	0	0	12	0	12	1036
07:00 AM	1	195	42	0	238	24	6	160	0	190	92	43	4	0	139	1	1	0	0	2	569
07:15 AM	3	184	67	0	254	21	9	179	0	209	99	28	1	0	128	0	1	0	0	1	592
07:30 AM	6	164	76	0	246	15	11	155	0	181	109	35	7	0	151	0	2	0	0	2	580
07:45 AM	9	181	66	0	256	23	11	149	0	183	103	30	13	0	146	0	0	2	0	2	587
Total	19	724	251	0	994	83	37	643	0	763	403	136	25	0	564	1	4	2	0	7	2328
08:00 AM	4	144	66	0	214	32	10	162	0	204	107	36	4	0	147	1	4	1	0	6	571
08:15 AM	3	162	69	0	234	31	15	154	0	200	95	28	2	0	125	0	1	1	0	2	561
08:30 AM	2	130	57	0	189	32	6	150	0	188	134	31	4	0	169	1	3	0	0	4	550
08:45 AM	4	147	76	0	227	28	9	136	0	173	83	41	3	0	127	1	2	0	0	3	530
Total	13	583	268	0	864	123	40	602	0	765	419	136	13	0	568	3	10	2	0	15	2212
*** BREAK ***																					
04:00 PM	5	61	43	0	109	66	16	93	0	175	232	118	3	0	353	2	2	2	0	6	643
04:15 PM	3	66	45	0	114	70	10	87	0	167	295	117	2	0	414	18	6	5	0	29	724
04:30 PM	6	54	54	0	114	72	6	87	1	166	246	136	8	1	391	6	6	1	0	13	684
04:45 PM	8	70	52	0	130	53	13	100	0	166	252	136	7	0	395	5	8	4	0	17	708
Total	22	251	194	0	467	261	45	367	1	674	1025	507	20	1	1553	31	22	12	0	65	2759
05:00 PM	7	56	56	0	119	76	10	86	0	172	243	143	3	0	389	5	4	4	0	13	693
05:15 PM	11	76	74	0	161	47	12	81	0	140	269	131	3	0	403	2	4	1	0	7	711
05:30 PM	2	71	56	0	129	68	3	121	0	192	243	143	3	0	389	2	6	2	0	10	720
05:45 PM	5	80	52	0	137	60	19	90	0	169	233	157	11	0	401	0	3	1	0	4	711
Total	25	283	238	0	546	251	44	378	0	673	988	574	20	0	1582	9	17	8	0	34	2835
Grand Total	84	2122	1078	1	3285	748	172	2325	1	3246	3007	1417	80	2	4506	44	53	36	0	133	11170
Apprch %	2.6	64.6	32.8	0.0		23.0	5.3	71.6	0.0		66.7	31.4	1.8	0.0		33.1	39.8	27.1	0.0		
Total %	0.8	19.0	9.7	0.0	29.4	6.7	1.5	20.8	0.0	29.1	26.9	12.7	0.7	0.0	40.3	0.4	0.5	0.3	0.0	1.2	

Tri-State Traffic Data, Inc.
(610) 444-8030

File Name : bs0522a
Site Code : 00000000
Start Date : 05/22/2001
Page No : 2



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(610) 444-8030

File Name : bs0522a
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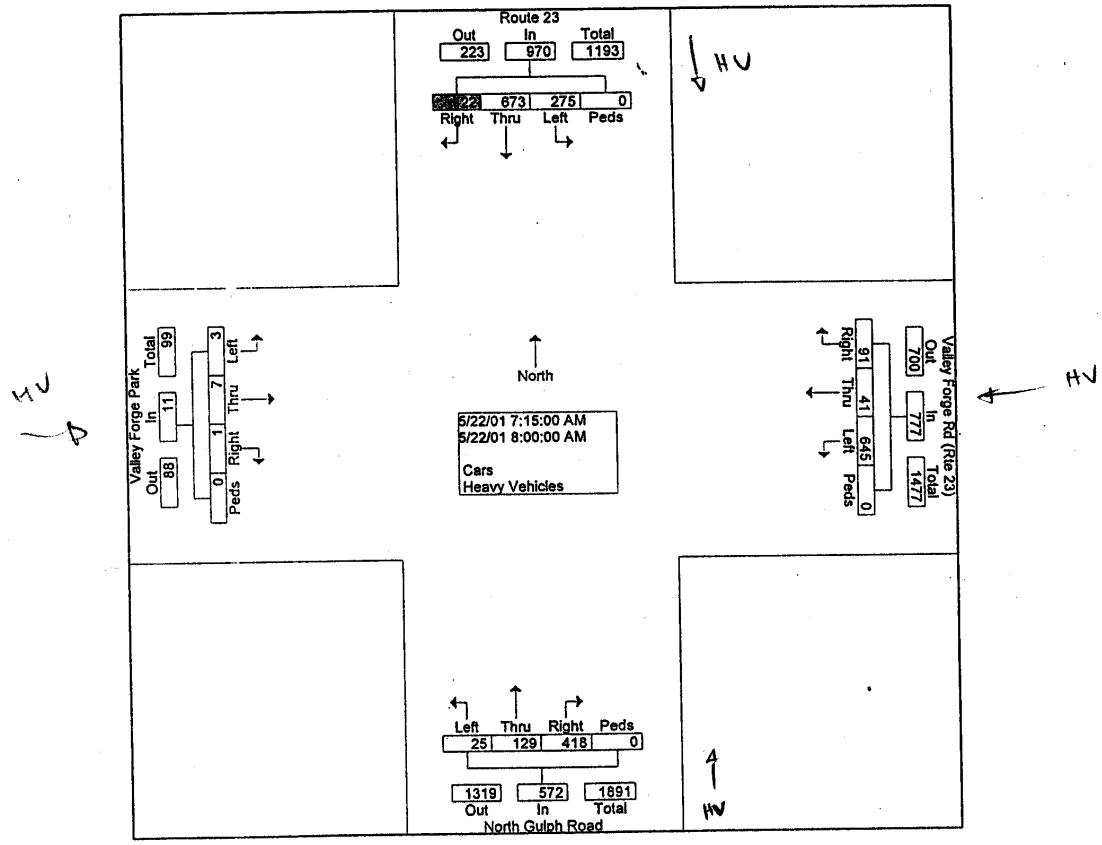
Start Date : 05/22/2001
Page No : 3

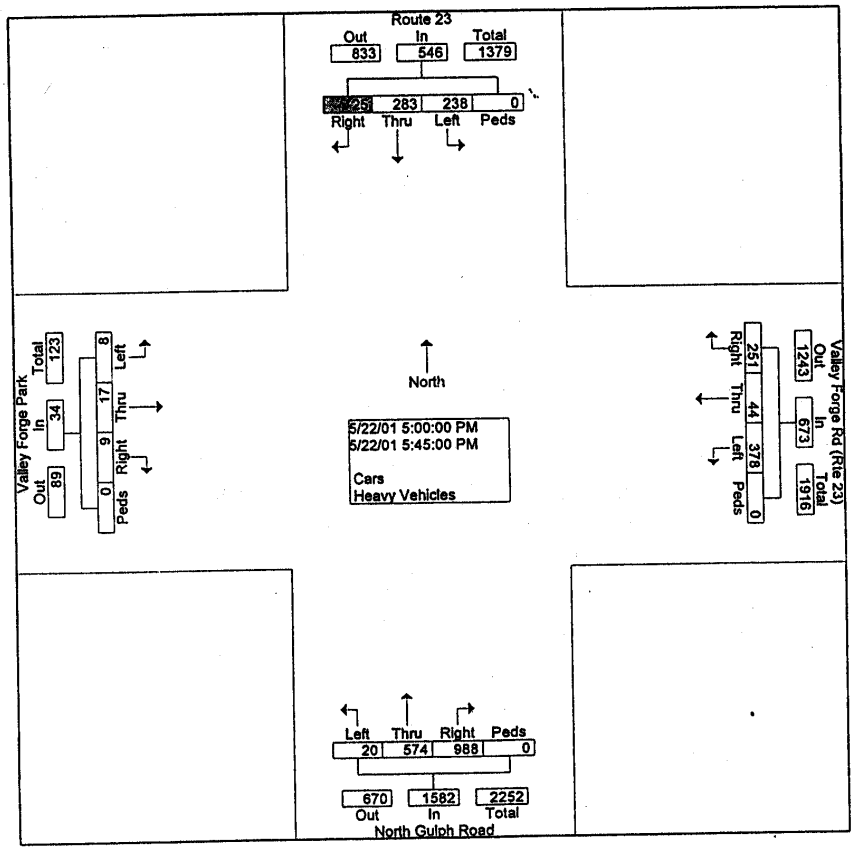
	Route 23 Southbound					Valley Forge Rd (Rte 23) Westbound					North Gulph Road Northbound					Valley Forge Park Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	22	673	275	0	970	91	41	645	0	777	418	129	25	0	572	1	7	3	0	11	2330
Percent	2.3	69.4	28.4	0.0		11.7	5.3	83.0	0.0		73.1	22.6	4.4	0.0		9.1	63.6	27.3	0.0		
07:15 Volume	3	184	67	0	254	21	9	179	0	209	99	28	1	0	128	0	1	0	0	1	592
Peak Factor																					0.984
High Int.	07:45 AM					07:15 AM					07:30 AM					08:00 AM					
Volume	9	181	66	0	256	21	9	179	0	209	109	35	7	0	151	1	4	1	0	6	
Peak Factor					0.947					0.929					0.947					0.458	



Tri-State Traffic Data, Inc.
(610) 444-8030

File Name : bs0522a
Site Code : 00000000
Start Date : 05/22/2001
Page No : 4

	Route 23 Southbound					Valley Forge Rd (Rte 23) Westbound					North Gulph Road Northbound					Valley Forge Park Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	25	283	238	0	546	251	44	378	0	673	988	574	20	0	1582	9	17	8	0	34	2835
Percent	4.6	51.8	43.6	0.0		37.3	6.5	56.2	0.0		62.5	36.3	1.3	0.0		26.5	50.0	23.5	0.0		
05:30 Volume	2	71	56	0	129	68	3	121	0	192	243	143	3	0	389	2	6	2	0	10	720
Peak Factor																					0.984
High Int.	05:15 PM					05:30 PM					05:15 PM					05:00 PM					
Volume	11	76	74	0	161	68	3	121	0	192	269	131	3	0	403	5	4	4	0	13	
Peak Factor					0.848					0.876					0.981					0.654	



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Township
Intersection: Rt. 23 / Rt. 422 SB Ramps
Date: Tuesday, June 12, 2001
Counter: ET / JT

File Name : bs0612a
Site Code : 00000000
Start Date : 06/12/2001
Page No : 1

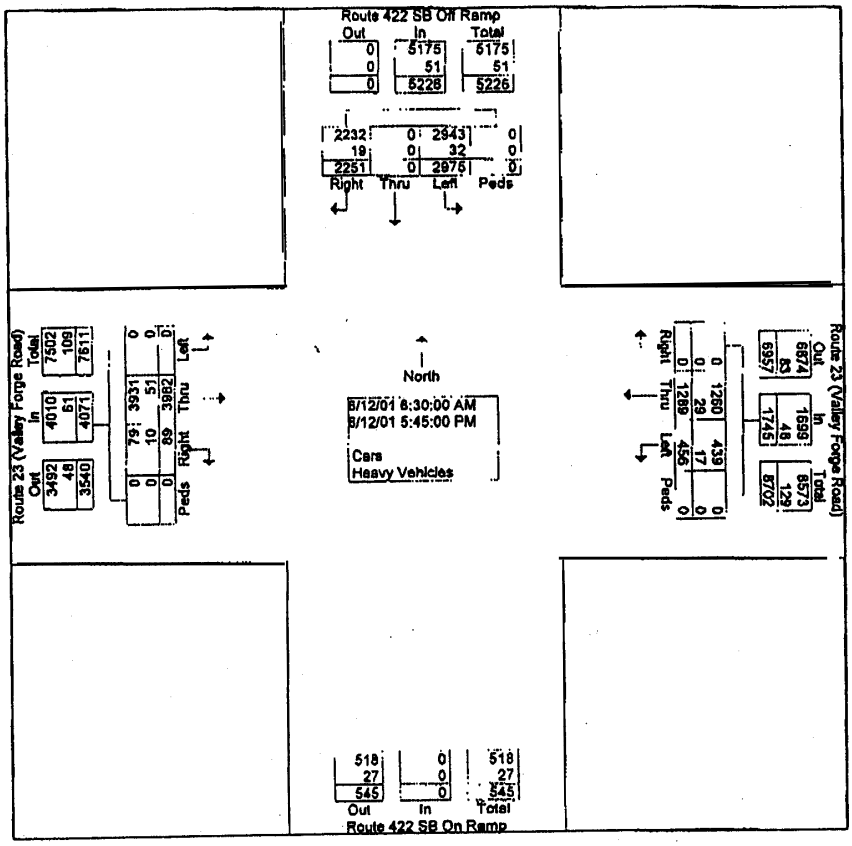
Groups Printed- Cars - Heavy Vehicles

	Route 422 SB Off Ramp Southbound					Route 23 (Valley Forge Road) Westbound					Route 23 (Valley Forge Road) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	165	0	196	0	361	0	28	17	0	45	3	133	0	0	136	542
06:45 AM	170	0	233	0	403	0	39	16	0	55	5	185	0	0	190	648
Total	335	0	429	0	764	0	67	33	0	100	8	318	0	0	326	1190
07:00 AM	160	0	232	0	392	0	43	23	0	66	2	172	0	0	174	632
07:15 AM	154	0	222	0	376	0	62	20	0	82	4	185	0	0	189	647
07:30 AM	115	0	221	0	336	0	73	42	0	115	5	186	0	0	191	642
07:45 AM	139	0	219	0	358	0	69	33	0	102	6	191	0	0	197	657
Total	568	0	894	0	1462	0	247	118	0	365	17	734	0	0	751	2578
08:00 AM	142	0	243	0	385	0	83	35	0	118	5	175	0	0	180	683
08:15 AM	125	0	220	0	345	0	73	40	0	113	4	168	0	0	172	630
08:30 AM	137	0	198	0	335	0	60	45	0	105	5	178	0	0	183	623
08:45 AM	130	0	198	0	328	0	59	34	0	93	1	175	0	0	176	597
Total	534	0	859	0	1393	0	275	154	0	429	15	696	0	0	711	2533
*** BREAK ***																
04:00 PM	91	0	97	0	188	0	72	27	0	99	6	245	0	0	251	538
04:15 PM	79	0	86	0	165	0	79	25	0	104	9	260	0	0	269	538
04:30 PM	99	0	107	0	206	0	86	19	0	105	4	278	0	0	282	593
04:45 PM	95	0	93	0	188	0	85	11	0	96	3	297	0	0	300	584
Total	364	0	383	0	747	0	322	82	0	404	22	1080	0	0	1102	2253
05:00 PM	126	0	110	0	236	0	96	16	0	112	8	280	0	0	288	636
05:15 PM	108	0	102	0	210	0	88	15	0	103	5	299	0	0	304	617
05:30 PM	121	0	96	0	217	0	110	15	0	125	8	300	0	0	308	650
05:45 PM	95	0	102	0	197	0	84	23	0	107	6	275	0	0	281	585
Total	450	0	410	0	860	0	378	69	0	447	27	1154	0	0	1181	2488
Grand Total	2251	0	2975	0	5226	0	1289	456	0	1745	89	3982	0	0	4071	11042
Apprch %	43.1	0.0	56.9	0.0		0.0	73.9	26.1	0.0		2.2	97.8	0.0	0.0		
Total %	20.4	0.0	26.9	0.0	47.3	0.0	11.7	4.1	0.0	15.8	0.8	36.1	0.0	0.0	36.9	

Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Township
Intersection: Rt. 23 / Rt. 422 SB Ramps
Date: Tuesday, June 12, 2001
Counter: ET / JT

File Name : bs0612a
Site Code : 00000000
Start Date : 06/12/2001
Page No : 2

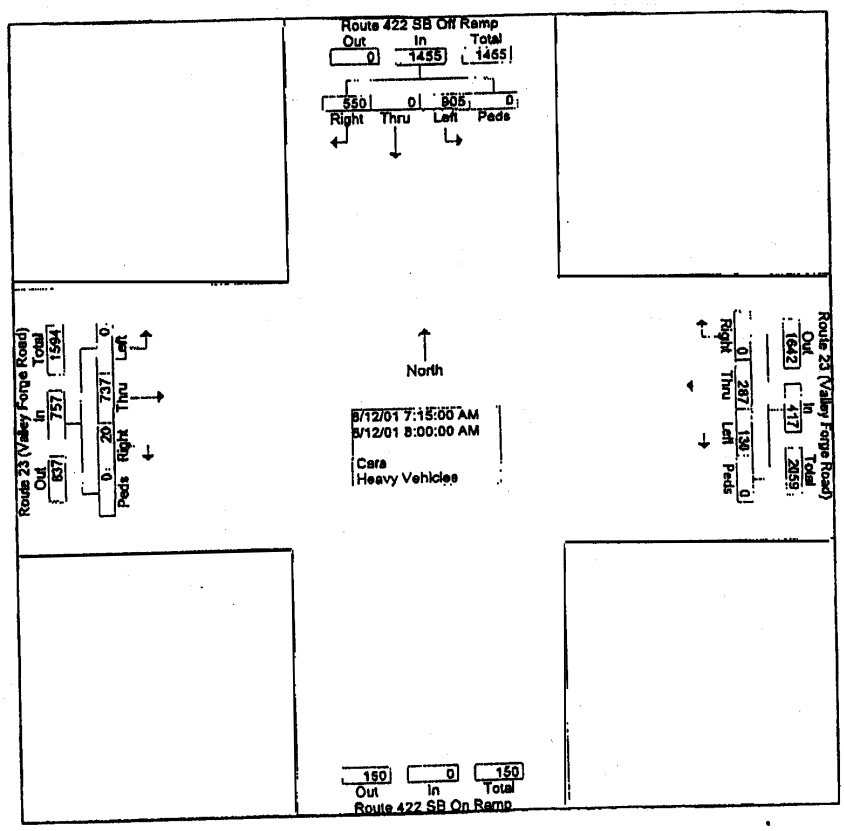


Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Township
Intersection: Rt. 23 / Rt. 422 SB Ramps
Date: Tuesday, June 12, 2001
Counter: ET / JT

File Name : bs0612a
Site Code : 00000000
Start Date : 06/12/2001
Page No : 3

	Route 422 SB Off Ramp Southbound					Route 23 (Valley Forge Road) Westbound					Route 23 (Valley Forge Road) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 12:15 PM - Peak 1 of 1																
Intersection	07:15 AM															
Volume	550	0	905	0	1455	0	287	130	0	417	20	737	0	0	757	2629
Percent	37.8	0.0	62.2	0.0		0.0	68.8	31.2	0.0		2.6	97.4	0.0	0.0		
08:00 Volume	142	0	243	0	385	0	83	35	0	118	5	175	0	0	180	683
Peak Factor																0.962
High Int.	08:00 AM					08:00 AM					07:45 AM					
Volume	142	0	243	0	385	0	83	35	0	118	6	191	0	0	197	
Peak Factor					0.945					0.883					0.961	

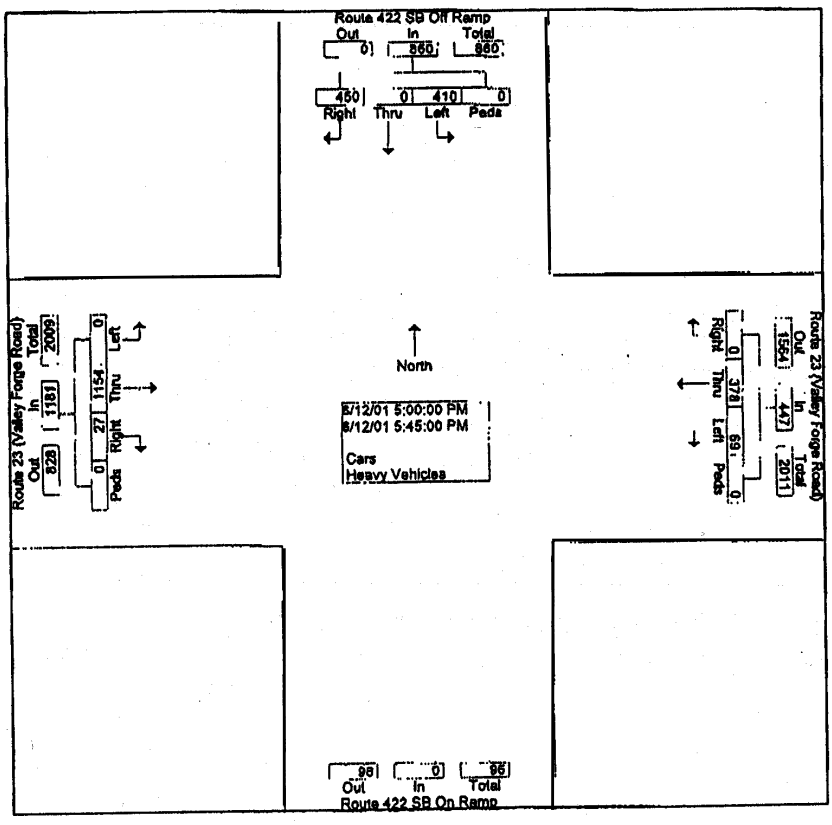


Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Township
Intersection: Rt. 23 / Rt. 422 SB Ramps
Date: Tuesday, June 12, 2001
Counter: ET / JT

File Name : bs0612a
Site Code : 00000000
Start Date : 06/12/2001
Page No : 4

	Route 422 SB Off Ramp Southbound					Route 23 (Valley Forge Road) Westbound					Route 23 (Valley Forge Road) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 12:30 PM to 05:45 PM - Peak 1 of 1																
Intersection 05:00 PM																
Volume	450	0	410	0	860	0	378	69	0	447	27	1154	0	0	1181	2488
Percent	52.3	0.0	47.7	0.0		0.0	84.6	15.4	0.0		2.3	97.7	0.0	0.0		
05:30 Volume	121	0	96	0	217	0	110	15	0	125	8	300	0	0	308	650
Peak Factor																0.957
High Int.	05:00 PM					05:30 PM					05:30 PM					
Volume	126	0	110	0	236	0	110	15	0	125	8	300	0	0	308	
Peak Factor					0.911					0.894					0.959	



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Township
Intersection: Rt. 23 / Rt. 422 SB Ramps
Date: Tuesday, June 12, 2001
Counter: ET / JT

File Name : bs0612a
Site Code : 00000000
Start Date : 06/12/2001
Page No : 1

Groups Printed- Heavy Vehicles

	Route 422 SB Off Ramp Southbound					Route 23 (Valley Forge Road) Westbound					Route 23 (Valley Forge Road) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	1	0	4	0	5	0	2	1	0	3	0	0	0	0	0	8
06:45 AM	0	0	0	0	0	0	1	0	0	1	2	5	0	0	7	8
Total	1	0	4	0	5	0	3	1	0	4	2	5	0	0	7	16
07:00 AM	4	0	0	0	4	0	3	2	0	5	0	4	0	0	4	13
07:15 AM	1	0	3	0	4	0	2	1	0	3	0	3	0	0	3	10
07:30 AM	1	0	1	0	2	0	4	2	0	6	1	4	0	0	5	13
07:45 AM	1	0	0	0	1	0	1	1	0	2	1	6	0	0	7	10
Total	7	0	4	0	11	0	10	6	0	16	2	17	0	0	19	46
08:00 AM	1	0	4	0	5	0	1	3	0	4	0	3	0	0	3	12
08:15 AM	2	0	4	0	6	0	4	0	0	4	1	3	0	0	4	14
08:30 AM	0	0	1	0	1	0	4	2	0	6	1	2	0	0	3	10
08:45 AM	1	0	5	0	6	0	0	2	0	2	1	5	0	0	6	14
Total	4	0	14	0	18	0	9	7	0	16	3	13	0	0	16	50
*** BREAK ***																
04:00 PM	1	0	2	0	3	0	0	1	0	1	0	4	0	0	4	8
04:15 PM	0	0	2	0	2	0	3	0	0	3	0	1	0	0	1	6
04:30 PM	2	0	0	0	2	0	0	0	0	0	1	4	0	0	5	7
04:45 PM	1	0	2	0	3	0	2	1	0	3	0	2	0	0	2	8
Total	4	0	6	0	10	0	5	2	0	7	1	11	0	0	12	29
05:00 PM	1	0	2	0	3	0	0	1	0	1	0	2	0	0	2	6
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
05:30 PM	1	0	1	0	2	0	0	0	0	0	1	2	0	0	3	5
05:45 PM	1	0	1	0	2	0	1	0	0	1	1	1	0	0	2	5
Total	3	0	4	0	7	0	2	1	0	3	2	5	0	0	7	17
Grand Total	19	0	32	0	51	0	29	17	0	46	10	51	0	0	61	158
Apprch %	37.3	0.0	62.7	0.0		0.0	63.0	37.0	0.0		16.4	83.6	0.0	0.0		
Total %	12.0	0.0	20.3	0.0	32.3	0.0	18.4	10.8	0.0	29.1	6.3	32.3	0.0	0.0	38.6	

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:Valley Forge Rd. & Moore Rd.

Counter/Board #:DS/2285

Study Name: UMERI01W
Site Code : 80024601
Start Date: 06/15/00
Page : 1

	Valley Forge Cir. Southbound					Valley Forge Rd. Westbound					Moore Rd. Northbound					Valley Forge Rd. Eastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	Right	RTOR	HV	Intvl Total
06/15/00																					
07:00	17	16	5	5	1	4	107	5	2	3	10	3	2	3	1	13	265	94	37	4	597
07:15	17	12	4	6	3	6	137	5	2	6	18	4	2	7	4	14	235	88	41	4	615
07:30	25	8	6	10	0	9	129	6	3	7	15	4	5	6	1	17	256	103	38	7	655
07:45	26	12	7	16	1	21	98	8	4	5	13	8	7	1	2	19	228	116	44	7	643
Hour	85	48	22	37	5	40	471	24	11	21	56	19	16	17	8	63	984	401	160	22	2510
08:00	25	16	6	7	2	17	110	9	7	7	10	4	4	2	2	19	194	110	37	4	592
08:15	27	16	5	8	1	15	107	2	4	7	15	3	3	9	0	24	185	115	54	22	622
08:30	24	12	3	9	1	10	122	12	3	34	27	5	5	3	1	23	173	95	43	10	615
08:45	12	7	4	20	1	20	92	8	2	14	27	4	6	3	4	25	120	55	41	13	478
Hour	88	51	18	44	5	62	431	31	16	62	79	16	18	17	7	91	672	375	175	49	2307
[BREAK]																					
16:00	16	4	8	5	1	3	226	14	2	3	109	12	8	2	2	37	122	11	8	7	600
16:15	15	15	6	2	2	2	212	18	3	10	117	16	6	7	2	18	119	15	6	11	602
16:30	21	6	14	4	5	0	205	20	0	4	167	13	7	11	3	40	125	15	3	7	670
16:45	17	3	10	1	0	1	220	23	3	3	142	19	15	6	3	26	123	12	2	3	632
Hour	69	28	38	12	8	6	863	75	8	20	535	60	36	26	10	121	489	53	19	28	2504
17:00	25	5	6	3	0	0	222	13	0	5	167	18	14	8	0	25	134	11	3	7	666
17:15	12	8	15	2	2	0	221	16	0	0	154	30	10	8	0	32	132	11	2	2	657
17:30	24	5	10	4	1	1	224	15	3	4	154	26	14	11	0	43	126	8	3	2	678
17:45	12	5	3	3	0	1	164	13	0	3	93	16	10	8	2	19	85	5	4	20	466
Hour	73	23	34	12	3	2	831	57	3	12	568	90	48	35	2	119	477	35	12	31	2467
Total	315	150	112	105	21	110	2596	187	38	115	1238	185	118	95	27	394	2622	864	366	130	9788
% Apr.	44.8	21.3	15.9	14.9	2.9	3.6	85.2	6.1	1.2	3.7	74.4	11.1	7.0	5.7	1.6	9.0	59.9	19.7	8.3	2.9	-
% Int.	3.2	1.5	1.1	1.0	0.2	1.1	26.5	1.9	0.3	1.1	12.6	1.8	1.2	0.9	0.2	4.0	26.7	8.8	3.7	1.3	-

Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 06/15/00 to 08:45 on 06/15/00

Time	07:00					07:00					07:00					07:00				
Vol.	85	48	22	37	x	40	471	24	11	x	56	19	16	17	x	63	984	401	160	x
Pct.	44.2	25.0	11.4	19.2	x	7.3	86.2	4.3	2.0	x	51.8	17.5	14.8	15.7	x	3.9	61.1	24.9	9.9	x
Total	192					546					108					1608				
High	07:45					07:15					07:15					07:30				
Vol.	26	12	7	16	x	6	137	5	2	x	18	4	2	7	x	17	256	103	38	x
Total	61					150					31					414				
PHF	0.786					0.910					0.870					0.971				

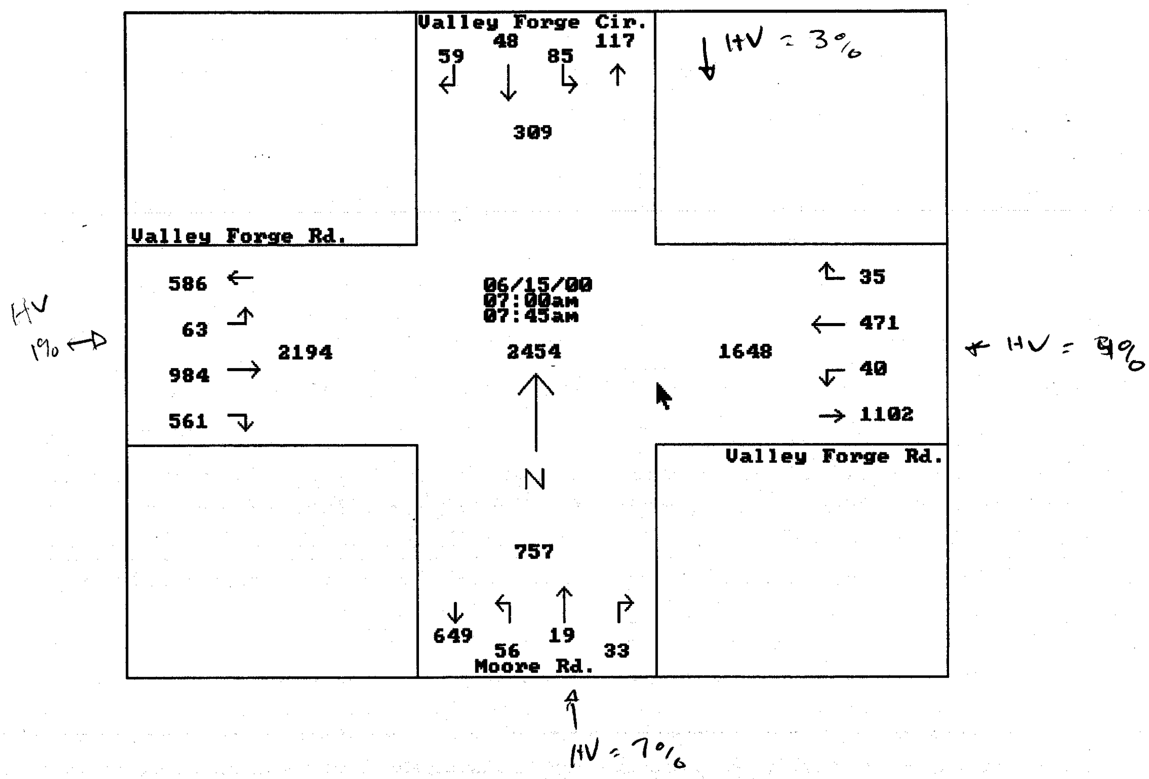
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:Valley Forge Rd. & Moore Rd.

Counter/Board #:DS/2285

Study Name: UMERI01W
Site Code : 80024601
Start Date: 06/15/00
Page : 2

Start Time	Valley Forge Cir. Southbound Left	Thru	Right	RTOR RTOR	HV	Valley Forge Rd. Westbound Left	Thru	Right	RTOR RTOR	HV	Moore Rd. Northbound Left	Thru	RTOR RTOR	Right	HV	Valley Forge Rd. Eastbound Left	Thru	Right	RTOR RTOR	HV	Intvl Total



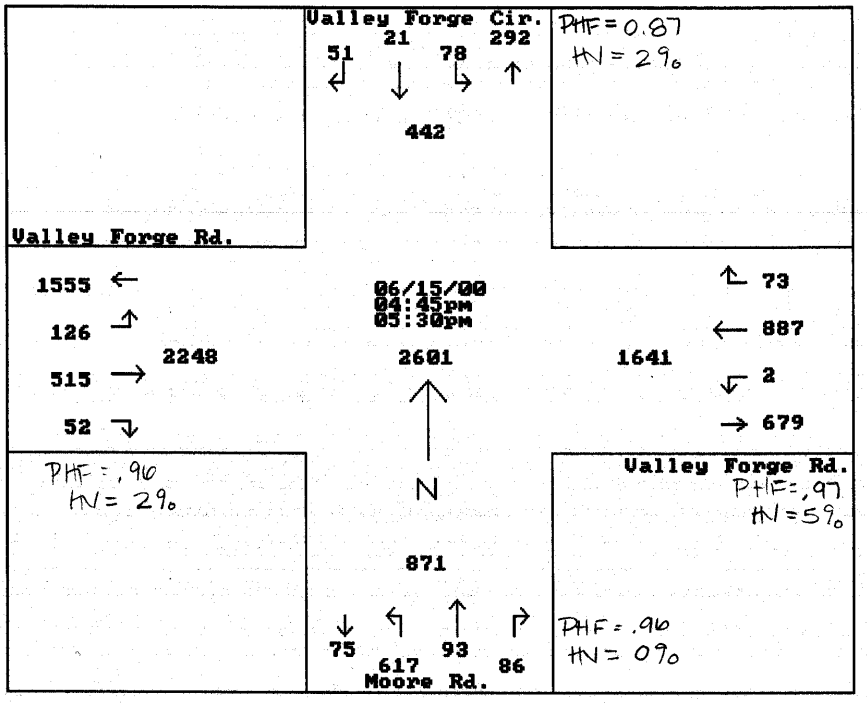
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:Valley Forge Rd. & Moore Rd.

Counter/Board #:DS/2285

Study Name: UMERI01W
Site Code : 80024601
Start Date: 06/15/00
Page : 3

Start Time	Valley Forge Cir. Southbound Left	Thru	Right	RTOR	HV	Valley Forge Rd. Westbound Left	Thru	Right	RTOR	HV	Moore Rd. Northbound Left	Thru	RTOR Right	HV	Valley Forge Rd. Eastbound Left	Thru	Right	RTOR	HV	Int'v Total



Tri-State Traffic Data, Inc.
610-466-1469

Location: Upper Merion, Mont. Co., PA
Intersection: Beidler / Valley Forge
Date: Thursday, June 26, 2003
Counter: ET

File Name : AAA0626E
Site Code : 00000000
Start Date : 06/26/2003
Page No : 1

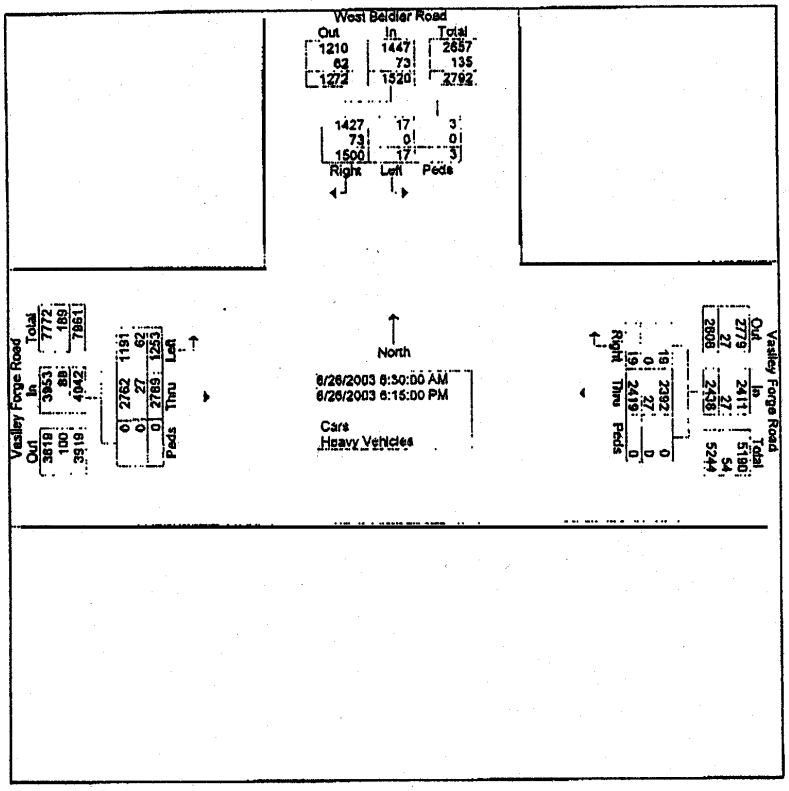
Groups Printed- Cars - Heavy Vehicles

	West Beidler Road Southbound					Valley Forge Road Westbound					Valley Forge Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	28	0	28	0	35	1	0	36	74	162	0	0	236	300
06:45 AM	0	0	34	0	34	0	57	0	0	57	74	199	0	0	273	364
Total	0	0	62	0	62	0	92	1	0	93	148	361	0	0	509	664
07:00 AM	2	0	46	0	48	0	65	2	0	67	78	187	0	0	265	380
07:15 AM	0	0	63	1	64	0	67	0	0	67	83	167	0	0	230	361
07:30 AM	0	0	48	0	48	0	98	0	0	98	94	170	0	0	264	410
07:45 AM	1	0	61	0	62	0	91	0	0	91	55	129	0	0	184	337
Total	3	0	218	1	222	0	321	2	0	323	290	653	0	0	943	1488
08:00 AM	0	0	61	0	61	0	87	1	0	88	62	161	0	0	223	372
08:15 AM	0	0	61	0	61	0	98	1	0	99	68	151	0	0	219	379
08:30 AM	0	0	66	0	66	0	89	0	0	89	53	182	0	0	235	390
08:45 AM	1	0	49	0	50	0	96	0	0	96	50	145	0	0	195	341
Total	1	0	237	0	238	0	370	2	0	372	233	639	0	0	872	1482
*** BREAK ***																
03:30 PM	2	0	89	0	91	0	169	2	0	171	44	72	0	0	116	378
03:45 PM	0	0	83	0	83	0	162	2	0	164	48	86	0	0	134	381
Total	2	0	172	0	174	0	331	4	0	335	92	158	0	0	250	759
04:00 PM	2	0	91	0	93	0	147	0	0	147	46	95	0	0	141	381
04:15 PM	0	0	96	0	96	0	156	2	0	158	36	77	0	0	113	367
04:30 PM	2	0	94	0	96	0	147	0	0	147	57	104	0	0	161	404
04:45 PM	1	0	94	1	96	0	140	0	0	140	45	104	0	0	149	385
Total	5	0	375	1	381	0	590	2	0	592	184	380	0	0	564	1537
05:00 PM	0	0	76	0	76	0	110	1	0	111	51	113	0	0	164	351
05:15 PM	0	0	63	0	63	0	111	0	0	111	44	109	0	0	153	327
05:30 PM	0	0	57	0	57	0	85	1	0	86	59	112	0	0	171	314
05:45 PM	3	0	87	1	91	0	131	4	0	135	56	92	0	0	148	374
Total	3	0	283	1	287	0	437	6	0	443	210	426	0	0	636	1366
06:00 PM	3	0	71	0	74	0	132	0	0	132	48	83	0	0	131	337
06:15 PM	0	0	82	0	82	0	146	2	0	148	48	89	0	0	137	367
Grand Total	17	0	1500	3	1520	0	2419	19	0	2438	1253	2789	0	0	4042	8000
Apprch %	1.1	0.0	98.7	0.2		0.0	99.2	0.8	0.0		31.0	69.0	0.0	0.0		
Total %	0.2	0.0	18.8	0.0	19.0	0.0	30.2	0.2	0.0	30.5	15.7	34.9	0.0	0.0	50.5	

Tri-State Traffic Data, Inc.
610-466-1469

Location: Upper Merion, Mont. Co., PA
Intersection: Beidler / Valley Forge
Date: Thursday, June 26, 2003
Counter: ET

File Name : AAA0626E
Site Code : 00000000
Start Date : 06/26/2003
Page No : 2

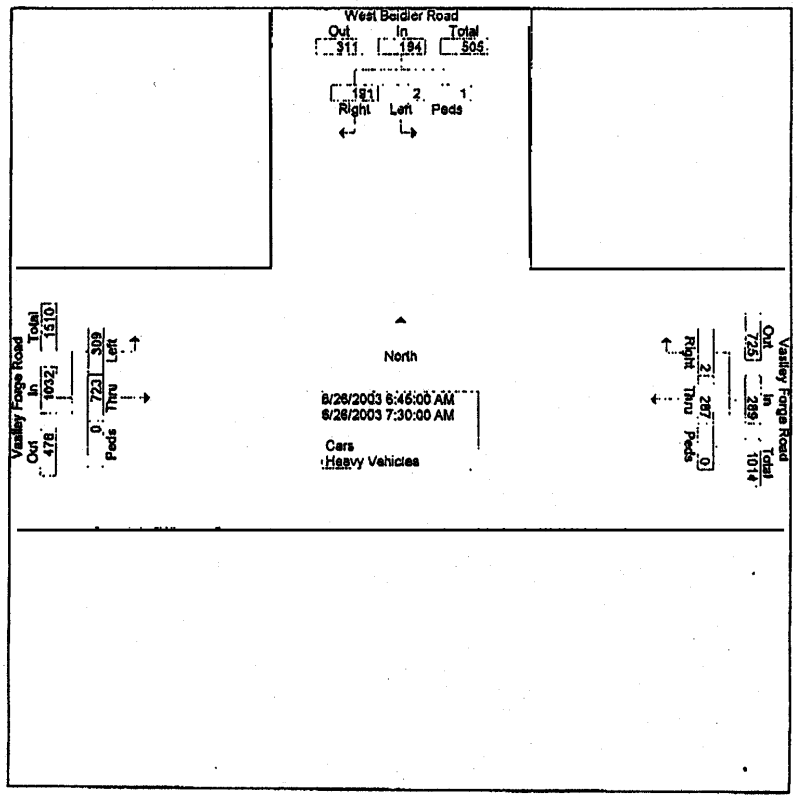


Tri-State Traffic Data, Inc.
610-466-1469

Location: Upper Merion, Mont. Co., PA
Intersection: Beidler / Valley Forge
Date: Thursday, June 26, 2003
Counter: ET

File Name : AAA0626E
Site Code : 00000000
Start Date : 06/26/2003
Page No : 3

	West Beidler Road Southbound					Valley Forge Road Westbound					Valley Forge Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 12:30 PM - Peak 1 of 1																
Intersection 06:45 AM																
Volume	2	0	191	1	194	0	287	2	0	289	309	723	0	0	1032	1515
Percent	1.0	0.0	98.5	0.5		0.0	99.3	0.7	0.0		29.9	70.1	0.0	0.0		
07:30 Volume	0	0	48	0	48	0	98	0	0	98	94	170	0	0	264	410
Peak Factor																0.924
High Int.	07:15 AM					07:30 AM					06:45 AM					
Volume	0	0	63	1	64	0	98	0	0	98	74	189	0	0	273	
Peak Factor					0.758					0.737					0.945	

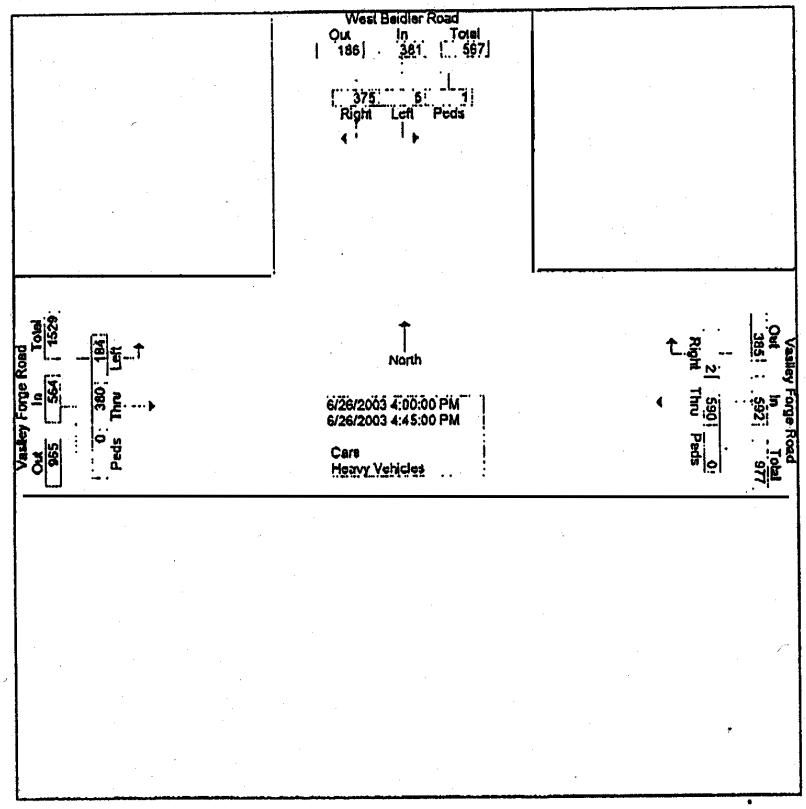


Tri-State Traffic Data, Inc.
610-466-1469

Location: Upper Merion, Mont. Co., PA
Intersection: Beidler / Valley Forge
Date: Thursday, June 26, 2003
Counter: ET

File Name : AAA0626E
Site Code : 00000000
Start Date : 06/26/2003
Page No : 4

	West Beidler Road Southbound					Valley Forge Road Westbound					Valley Forge Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:45 PM to 06:15 PM - Peak 1 of 1																
Intersection	04:00 PM															
Volume	5	0	375	1	381	0	590	2	0	592	184	380	0	0	564	1537
Percent	1.3	0.0	98.4	0.3		0.0	99.7	0.3	0.0		32.6	67.4	0.0	0.0		
04:30 Volume	2	0	94	0	96	0	147	0	0	147	57	104	0	0	161	404
Peak Factor																0.951
High Int.	04:15 PM					04:15 PM					04:30 PM					
Volume	0	0	96	0	96	0	156	2	0	158	57	104	0	0	161	
Peak Factor					0.992					0.937					0.876	



Tri-State Traffic Data, Inc.
610-466-1469

Location: Upper Merion, Mont. Co., PA
Intersection: Beidler / Valley Forge
Date: Thursday, June 26, 2003
Counter: ET

File Name : AAA0626E
Site Code : 00000000
Start Date : 06/26/2003
Page No : 1

Groups Printed- Heavy Vehicles

	West Beidler Road Southbound					Valley Forge Road Westbound					Valley Forge Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	4	0	4	0	1	0	0	1	4	1	0	0	5	10
06:45 AM	0	0	4	0	4	0	1	0	0	1	7	0	0	0	7	12
Total	0	0	8	0	8	0	2	0	0	2	11	1	0	0	12	22
07:00 AM	0	0	9	0	9	0	1	0	0	1	6	1	0	0	7	17
07:15 AM	0	0	5	0	5	0	1	0	0	1	4	1	0	0	5	11
07:30 AM	0	0	5	0	5	0	3	0	0	3	6	3	0	0	9	17
07:45 AM	0	0	5	0	5	0	1	0	0	1	4	0	0	0	4	10
Total	0	0	24	0	24	0	6	0	0	6	20	5	0	0	25	55
08:00 AM	0	0	5	0	5	0	1	0	0	1	4	2	0	0	6	12
08:15 AM	0	0	5	0	5	0	1	0	0	1	6	3	0	0	9	15
08:30 AM	0	0	7	0	7	0	2	0	0	2	7	4	0	0	11	20
08:45 AM	0	0	7	0	7	0	3	0	0	3	5	0	0	0	5	15
Total	0	0	24	0	24	0	7	0	0	7	22	9	0	0	31	62
*** BREAK ***																
03:30 PM	0	0	4	0	4	0	3	0	0	3	7	2	0	0	9	16
03:45 PM	0	0	8	0	8	0	0	0	0	0	2	2	0	0	4	12
Total	0	0	12	0	12	0	3	0	0	3	9	4	0	0	13	28
04:00 PM	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	3	0	3	0	2	0	0	2	0	2	0	0	2	7
*** BREAK ***																
05:15 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
05:45 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	2	0	2	0	3	0	0	3	0	4	0	0	4	9
06:00 PM	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
06:15 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
Grand Total	0	0	73	0	73	0	27	0	0	27	62	27	0	0	89	189
Apprch %	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		69.7	30.3	0.0	0.0		
Total %	0.0	0.0	38.6	0.0	38.6	0.0	14.3	0.0	0.0	14.3	32.8	14.3	0.0	0.0	47.1	

Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Allendale Rd @ Geerdes Blv
Date: Tuesday, May 22, 2001
Counter: WC/LD

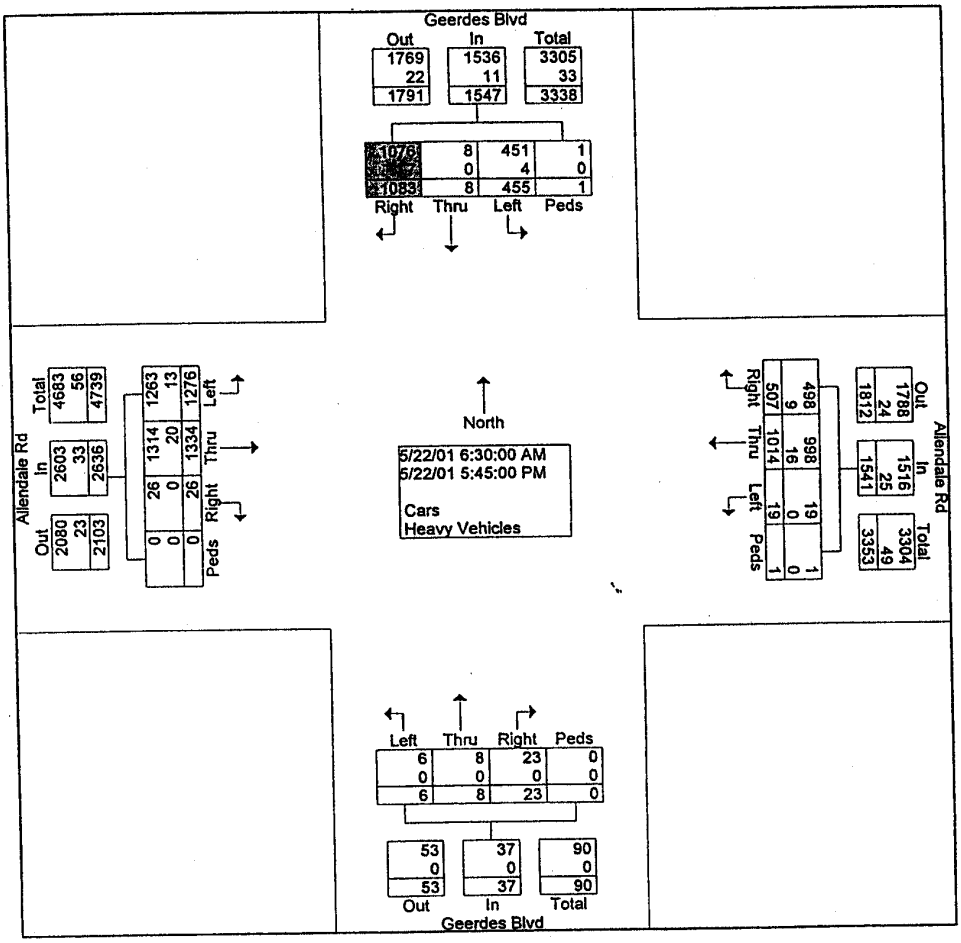
File Name : bs0522c
Site Code : 00000000
Start Date : 05/22/2001
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Geerdes Blvd Southbound					Allendale Rd Westbound					Geerdes Blvd Northbound					Allendale Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	33	0	8	0	41	24	28	0	0	52	0	0	0	0	0	1	60	48	0	109	202
06:45 AM	43	0	17	0	60	35	48	1	0	84	0	0	0	0	0	2	72	73	0	147	291
Total	76	0	25	0	101	59	76	1	0	136	0	0	0	0	0	3	132	121	0	256	493
07:00 AM	55	1	8	0	64	25	54	3	0	82	0	0	0	0	0	6	69	68	0	143	289
07:15 AM	57	1	14	0	72	38	50	2	0	90	0	0	0	0	0	0	60	77	0	137	299
07:30 AM	62	0	26	0	88	43	71	0	0	114	0	0	1	0	1	1	86	77	0	164	367
07:45 AM	72	0	19	0	91	40	64	0	0	104	0	0	0	0	0	0	91	84	0	175	370
Total	246	2	67	0	315	146	239	5	0	390	0	0	1	0	1	7	306	306	0	619	1325
08:00 AM	64	1	24	0	89	16	49	1	0	66	0	0	0	0	0	0	73	75	0	148	303
08:15 AM	78	0	26	0	104	29	44	0	0	73	0	0	0	0	0	0	69	64	0	133	310
08:30 AM	63	0	24	0	87	26	43	1	0	70	0	0	1	0	1	0	75	68	0	143	301
08:45 AM	54	0	29	1	84	25	46	0	1	72	0	0	0	0	0	2	93	66	0	161	317
Total	259	1	103	1	364	96	182	2	1	281	0	0	1	0	1	2	310	273	0	585	1231
*** BREAK ***																					
04:00 PM	93	0	42	0	135	15	76	1	0	92	2	0	3	0	5	3	63	56	0	122	354
04:15 PM	63	0	40	0	103	22	61	2	0	85	5	1	0	0	6	1	82	62	0	145	339
04:30 PM	65	2	44	0	111	24	62	2	0	88	1	2	0	0	3	0	71	71	0	142	344
04:45 PM	60	2	28	0	90	18	62	0	0	80	6	0	0	0	6	1	72	79	0	152	328
Total	281	4	154	0	439	79	261	5	0	345	14	3	3	0	20	5	288	268	0	561	1365
05:00 PM	48	0	35	0	83	40	81	0	0	121	2	1	0	0	3	3	83	77	0	163	370
05:15 PM	50	0	26	0	76	29	61	2	0	92	2	2	0	0	4	2	66	97	0	165	337
05:30 PM	67	0	27	0	94	23	61	2	0	86	1	0	1	0	2	1	77	75	0	153	335
05:45 PM	56	1	18	0	75	35	53	2	0	90	4	2	0	0	6	3	72	59	0	134	305
Total	221	1	106	0	328	127	256	6	0	389	9	5	1	0	15	9	298	308	0	615	1347
Grand Total	1083	8	455	1	1547	507	1014	19	1	1541	23	8	6	0	37	26	1334	1276	0	2636	5761
Apprch %	70.0	0.5	29.4	0.1		32.9	65.8	1.2	0.1		62.2	21.6	16.2	0.0		1.0	50.6	48.4	0.0		
Total %	18.8	0.1	7.9	0.0	26.9	8.8	17.6	0.3	0.0	26.7	0.4	0.1	0.1	0.0	0.6	0.5	23.2	22.1	0.0	45.8	

Tri-State Traffic Data, Inc.
(610) 444-8030

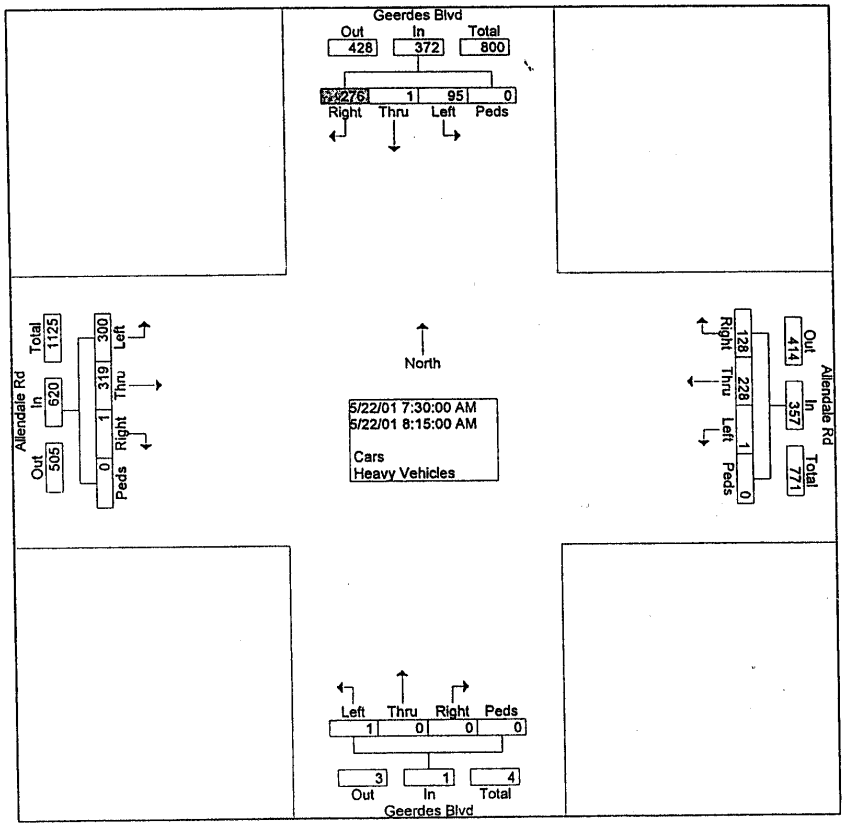
File Name : bs0522c
Site Code : 00000000
Start Date : 05/22/2001
Page No : 2



Tri-State Traffic Data, Inc.
(610) 444-8030

File Name : bs0522c
Site Code : 00000000
Start Date : 05/22/2001
Page No : 3

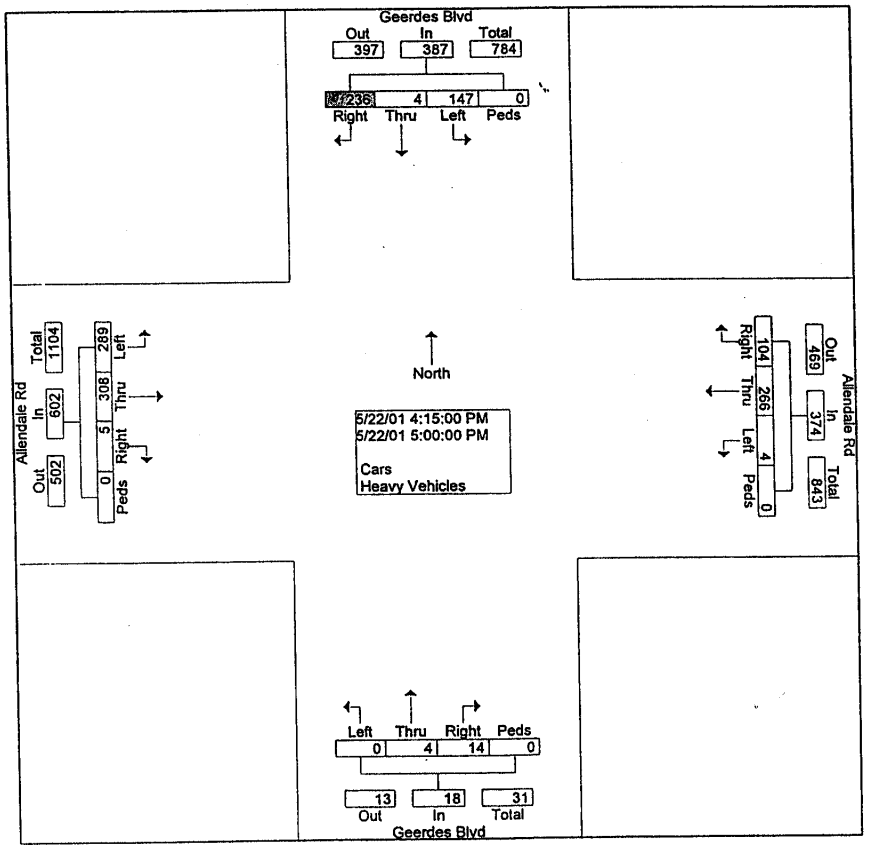
	Geerdes Blvd Southbound					Allendale Rd Westbound					Geerdes Blvd Northbound					Allendale Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	276	1	95	0	372	128	228	1	0	357	0	0	1	0	1	1	319	300	0	620	1350
Percent	74.2	0.3	25.5	0.0		35.9	63.9	0.3	0.0		0.0	0.0	100.0	0.0		0.2	51.5	48.4	0.0		
07:45 Volume	72	0	19	0	91	40	64	0	0	104	0	0	0	0	0	0	91	84	0	175	370
Peak Factor																					0.912
High Int.	08:15 AM					07:30 AM					07:30 AM					07:45 AM					
Volume	78	0	26	0	104	43	71	0	0	114	0	0	1	0	1	0	91	84	0	175	
Peak Factor					0.894					0.783					0.250					0.886	



Tri-State Traffic Data, Inc.
(610) 444-8030

File Name : bs0522c
Site Code : 00000000
Start Date : 05/22/2001
Page No : 4

	Geerdes Blvd Southbound					Allendale Rd Westbound					Geerdes Blvd Northbound					Allendale Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	236	4	147	0	387	104	266	4	0	374	14	4	0	0	18	5	308	289	0	602	1381
Percent	61.0	1.0	38.0	0.0		27.8	71.1	1.1	0.0		77.8	22.2	0.0	0.0		0.8	51.2	48.0	0.0		
05:00 Volume	48	0	35	0	83	40	81	0	0	121	2	1	0	0	3	3	83	77	0	163	370
Peak Factor																					0.933
High Int.	04:30 PM					05:00 PM					04:15 PM					05:00 PM					
Volume	65	2	44	0	111	40	81	0	0	121	5	1	0	0	6	3	83	77	0	163	
Peak Factor					0.872					0.773					0.750					0.923	



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Allendale Rd @ Geerdes Blv
Date: Tuesday, May 22, 2001
Counter: WC/LD

File Name : bs0522c
Site Code : 00000000
Start Date : 05/22/2001
Page No : 1

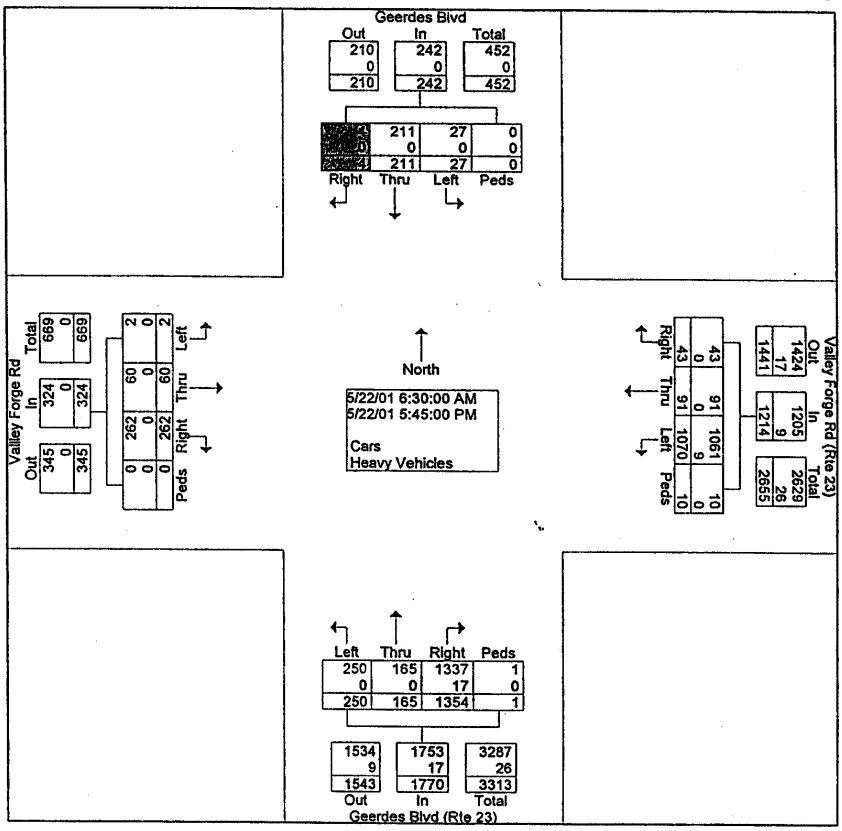
Groups Printed- Heavy Vehicles

	Geerdes Blvd Southbound					Allendale Rd Westbound					Geerdes Blvd Northbound					Allendale Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
06:45 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	3
Total	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	5
07:00 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	4
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
07:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	3
07:45 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	2	0	1	0	3	1	3	0	0	4	0	0	0	0	0	0	3	2	0	5	12
08:00 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	3
08:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	2	0	6	9
08:45 AM	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	2	1	0	3	7
Total	0	0	2	0	2	2	7	0	0	9	0	0	0	0	0	0	7	4	0	11	22
*** BREAK ***																					
04:00 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	6
04:15 PM	1	0	0	0	1	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	6
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	5
Total	3	0	1	0	4	2	3	0	0	5	0	0	0	0	0	0	4	6	0	10	19
05:00 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
05:15 PM	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	4
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	2	0	0	0	2	2	2	0	0	4	0	0	0	0	0	0	5	0	0	5	11
Grand Total	7	0	4	0	11	9	16	0	0	25	0	0	0	0	0	0	20	13	0	33	69
Apprch %	63.6	0.0	36.4	0.0		36.0	64.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	60.6	39.4	0.0		
Total %	10.1	0.0	5.8	0.0	15.9	13.0	23.2	0.0	0.0	36.2	0.0	0.0	0.0	0.0	0.0	0.0	29.0	18.8	0.0	47.8	

Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Geerdes Blvd @ Rte 23
Date: Tuesday: May 22, 2001
Counter: JI

File Name : bs0522d
Site Code : 00000000
Start Date : 05/22/2001
Page No : 2

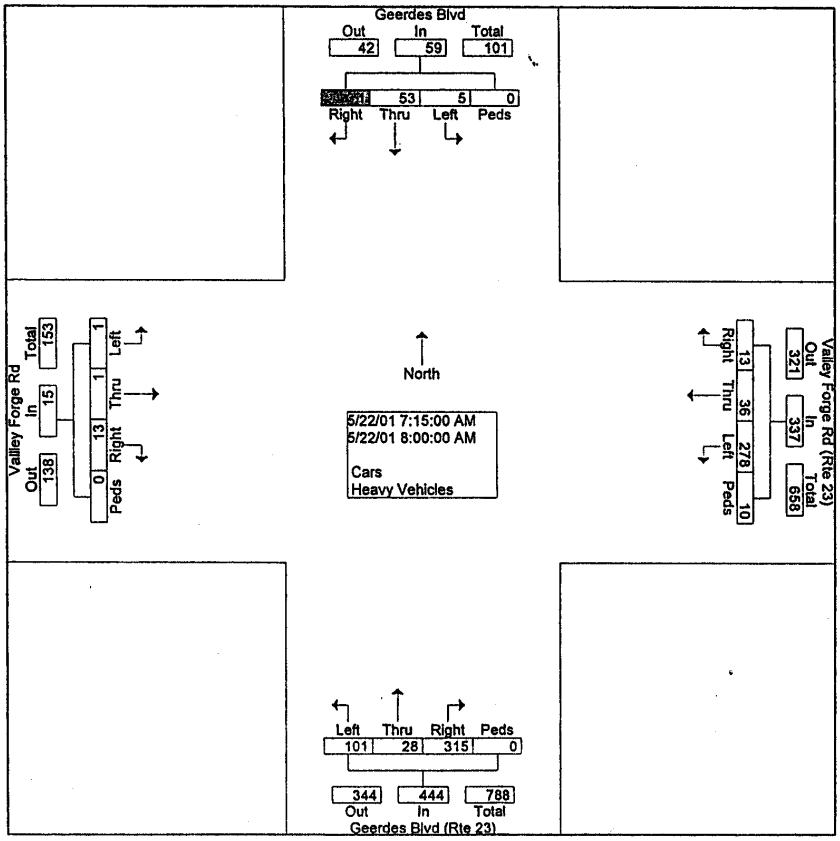


Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Geerdes Blvd @ Rte 23
Date: Tuesday: May 22, 2001
Counter: JI

File Name : bs0522d
Site Code : 00000000
Start Date : 05/22/2001
Page No : 3

	Geerdes Blvd Southbound					Valley Forge Rd (Rte 23) Westbound					Geerdes Blvd (Rte 23) Northbound					Valley Forge Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	1	53	5	0	59	13	36	278	10	337	315	28	101	0	444	13	1	1	0	15	855
Percent	1.7	89.8	8.5	0.0		3.9	10.7	82.5	3.0		70.9	6.3	22.7	0.0		86.7	6.7	6.7	0.0		
07:45 Volume	0	11	2	0	13	1	7	77	5	90	84	10	30	0	124	4	0	1	0	5	232
Peak Factor																					0.921
High Int.	07:30 AM					07:45 AM					07:45 AM					08:00 AM					
Volume	1	17	1	0	19	1	7	77	5	90	84	10	30	0	124	6	0	0	0	6	
Peak Factor					0.776					0.936					0.895					0.625	

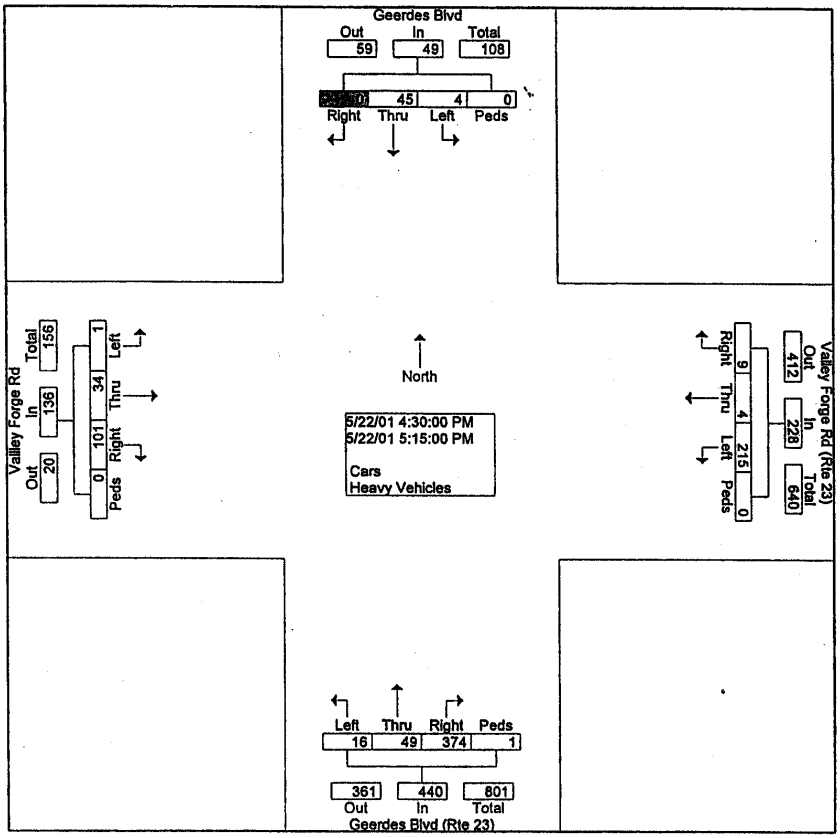


Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Geerdes Blvd @ Rte 23
Date: Tuesday: May 22, 2001
Counter: JI

File Name : bs0522d
Site Code : 00000000
Start Date : 05/22/2001
Page No : 4

	Geerdes Blvd Southbound					Valley Forge Rd (Rte 23) Westbound					Geerdes Blvd (Rte 23) Northbound					Valley Forge Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	0	45	4	0	49	9	4	215	0	228	374	49	16	1	440	101	34	1	0	136	853
Percent	0.0	91.8	8.2	0.0		3.9	1.8	94.3	0.0		85.0	11.1	3.6	0.2		74.3	25.0	0.7	0.0		
04:30 Volume	0	14	2	0	16	1	1	60	0	62	86	10	4	1	101	35	17	0	0	52	231
Peak Factor																					0.923
High Int.	04:30 PM					04:45 PM					05:15 PM					04:30 PM					
Volume	0	14	2	0	16	2	3	58	0	63	107	16	4	0	127	35	17	0	0	52	
Peak Factor					0.766					0.905					0.866					0.654	



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Geerdes Blvd @ Rte 23
Date: Tuesday: May 22, 2001
Counter: JI

File Name : bs0522d
Site Code : 00000000
Start Date : 05/22/2001
Page No : 1

Groups Printed- Heavy Vehicles

	Geerdes Blvd Southbound					Valley Forge Rd (Rte 23) Westbound					Geerdes Blvd (Rte 23) Northbound					Valley Forge Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
06:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	3
07:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	4
*** BREAK ***																					
08:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	1	0	1	5	0	0	0	5	0	0	0	0	0	6
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	1	0	1	3	0	0	0	3	0	0	0	0	0	4
Total	0	0	0	0	0	0	0	3	0	3	6	0	0	0	6	0	0	0	0	0	9
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
*** BREAK ***																					
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	4
Grand Total	0	0	0	0	0	0	0	9	0	9	17	0	0	0	17	0	0	0	0	0	26
Apprch %	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.6	0.0	34.6	65.4	0.0	0.0	0.0	65.4	0.0	0.0	0.0	0.0	0.0	

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Upper Merion Twp
Location: Valley Forge Rd & Keebler Rd

Counter/Board #: ED/McM-2215

Study Name: DVRPC5
Site Code : 80100205
Start Date: 08/30/01
Page : 1

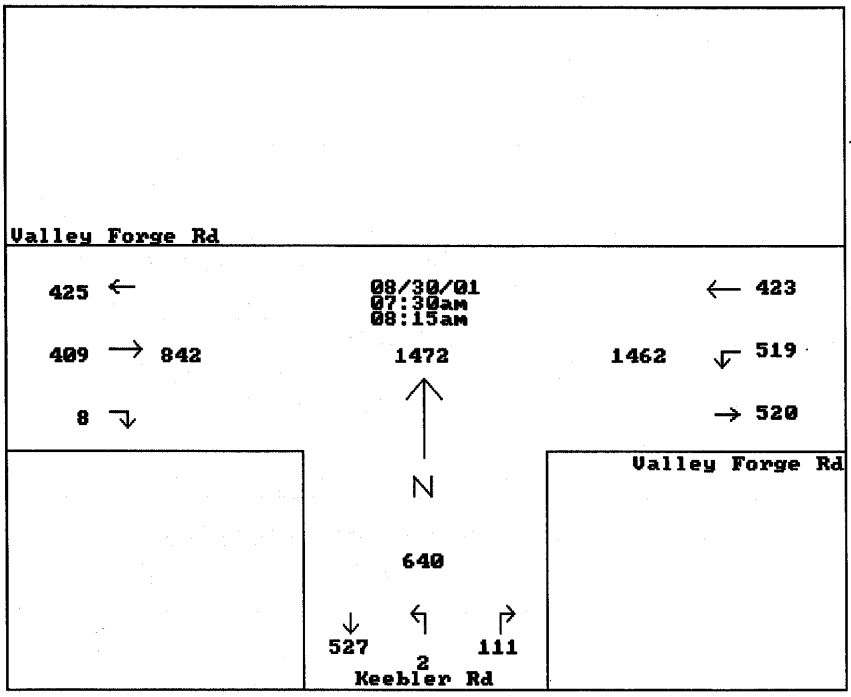
	Valley Forge Rd Westbound			Keebler Rd Northbound			Valley Forge Rd Eastbound					
Start Time	Left	Thru	HV	Left	Right	HV	Thru	Right	HV	Intrvl. Total	Exclude Total	Include Total
08/30/01												
07:00	62	74	3	1	16	0	89	0	0	245	3	242
07:15	88	100	7	0	26	0	99	4	1	325	8	317
07:30	121	103	9	1	28	0	96	1	3	362	12	350
07:45	155	122	9	0	25	0	117	2	7	437	16	421
Hour	426	399	28	2	95	0	401	7	11	1369	39	1330
08:00	120	103	7	0	27	0	86	1	2	346	9	337
08:15	123	95	7	1	31	0	110	4	2	373	9	364
08:30	97	83	6	0	31	1	83	3	6	310	13	297
08:45	70	62	3	1	31	1	88	0	16	272	20	252
Hour	410	343	23	2	120	2	367	8	26	1301	51	1250
[BREAK]												
16:00	46	96	5	1	75	1	95	1	5	325	11	314
16:15	45	107	6	2	84	1	94	2	3	344	10	334
16:30	49	87	2	0	93	0	104	3	1	339	3	336
16:45	62	78	6	1	94	2	119	4	6	372	14	358
Hour	202	368	19	4	346	4	412	10	15	1380	38	1342
17:00	57	77	5	4	156	1	100	6	1	407	7	400
17:15	41	128	2	3	100	1	131	1	3	410	6	404
17:30	45	106	2	4	96	1	105	3	4	366	7	359
17:45	47	112	2	4	75	0	105	5	2	352	4	348
Hour	190	423	11	15	427	3	441	15	10	1535	24	1511
Total	1228	1533	81	23	988	9	1621	40	62	5585	152	5433
% Apr.	43.2	53.9	2.8	2.2	96.8	0.8	94.0	2.3	3.5	-	-	-
% Int.	21.9	27.4	1.4	0.4	17.6	0.1	29.0	0.7	1.1	-	-	-

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Upper Merion Twp
Location: Valley Forge Rd & Keebler Rd
Counter/Board #: ED/McM-2215

Study Name: DVRPC5
Site Code : 80100205
Start Date: 08/30/01

Start Time	Valley Forge Rd Westbound Left	Thru	HV	Keebler Rd Northbound Left	Right	HV	Valley Forge Rd Eastbound Thru	Right	HV	Intrvl. Total	Exclude Total	Include Total
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 08/30/01 to 08:45 on 08/30/01												
Time	07:30			07:30			07:30					
Vol.	519	423	3% x	2	111	0% x	409	8	1% x			
Pct.	55.0	44.9	39% x	1.7	98.2	6% x	98.0	1.9	39% x			
Total	942			113			417					
High	07:45			08:15			07:45					
Vol.	155	122	x	1	31	x	117	2	x			
Total	277			32			119					
PHF	0.850			0.882			0.876					

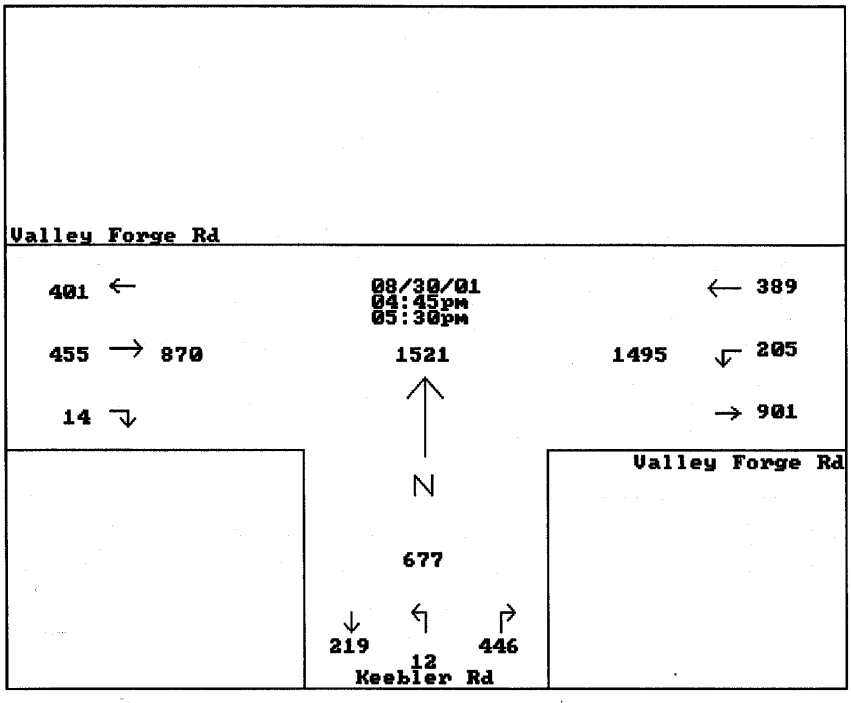


McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Upper Merion Twp
Location: Valley Forge Rd & Keebler Rd
Counter/Board #: ED/McM-2215

Study Name: DVRPC5
Site Code : 80100205
Start Date: 08/30/01
Page : 3

Start Time	Valley Forge Rd Westbound Left	Thru	HV	Keebler Rd Northbound Left	Right	HV	Valley Forge Rd Eastbound Thru	Right	HV	Intrvl. Total	Exclude Total	Include Total
Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 08/30/01 to 17:45 on 08/30/01												
Time	16:45			16:45			16:45					
Vol.	205	389	16 x	12	446	5 x	455	14	14 x			
Pct.	34.5	65.4	3% x	2.6	97.3	1% x	97.0	2.9	3% x			
Total	594			458			469					
High	17:15			17:00			17:15					
Vol.	41	128	x	4	156	x	131	1	x			
Total	169			160			132					
PHF	0.878			0.715			0.888					



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Upper Merion Twp., PA
Intersection: Rt. 23 / Henderson Rd.
Date: Tuesday, May 22, 2001
Counter: ET / JT

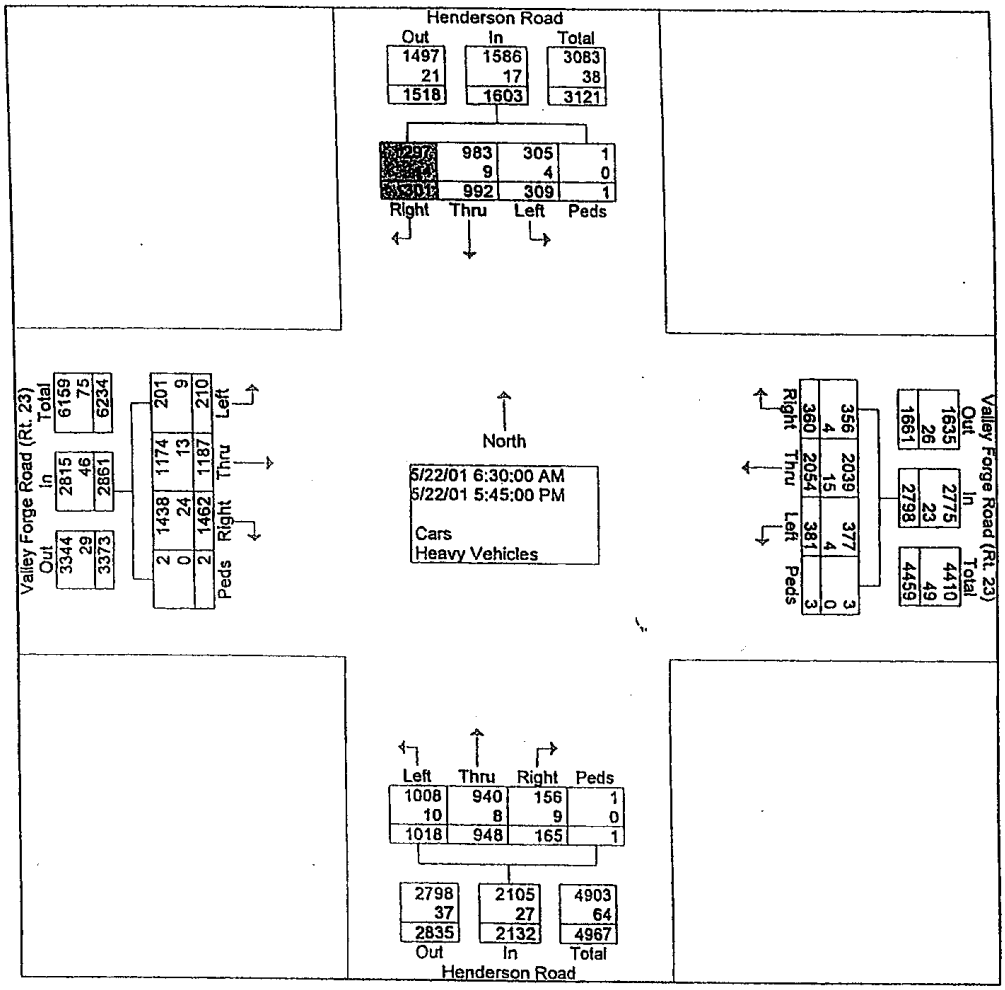
File Name : bs0522e
Site Code : 00000000
Start Date : 05/22/2001
Page No : 1

Groups Printed- Heavy Vehicles

	Henderson Road Southbound					Valley Forge Road (Rt. 23) Westbound					Henderson Road Northbound					Valley Forge Road (Rt. 23) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2	0	1	1	0	2	5
06:45 AM	0	0	1	0	1	0	0	1	0	1	0	3	1	0	4	1	1	0	0	2	8
Total	0	0	2	0	2	0	0	1	0	1	1	4	1	0	6	1	2	1	0	4	13
07:00 AM	1	1	0	0	2	1	3	0	0	4	1	1	2	0	4	0	0	1	0	1	11
07:15 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	5
07:30 AM	1	0	1	0	2	0	2	0	0	2	1	1	1	0	3	0	0	2	0	2	9
07:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	0	1	0	2	5
Total	2	1	2	0	5	1	9	0	0	10	2	2	3	0	7	1	2	5	0	8	30
08:00 AM	1	0	0	0	1	0	0	0	0	0	3	1	0	0	4	0	1	0	0	1	6
08:15 AM	0	1	0	0	1	1	0	2	0	3	0	0	0	0	0	1	2	3	0	6	10
08:30 AM	1	2	0	0	3	1	0	0	0	1	1	0	1	0	2	3	2	0	0	5	11
08:45 AM	0	2	0	0	2	0	2	0	0	2	1	0	2	0	3	4	0	0	0	4	11
Total	2	5	0	0	7	2	2	2	0	6	5	1	3	0	9	8	5	3	0	16	38
*** BREAK ***																					
04:00 PM	0	2	0	0	2	0	0	0	0	0	1	0	2	0	3	3	0	0	0	3	8
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	1	0	0	3	4
04:30 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	3	1	0	0	4	6
04:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	3	1	0	0	4	7
Total	0	2	0	0	2	1	2	1	0	4	1	1	3	0	5	11	3	0	0	14	25
05:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Total	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3	1	0	0	4	7
Grand Total	4	9	4	0	17	4	15	4	0	23	9	8	10	0	27	24	13	9	0	46	113
Apprch %	23.5	52.9	23.5	0.0		17.4	65.2	17.4	0.0		33.3	29.6	37.0	0.0		52.2	28.3	19.6	0.0		
Total %	3.5	8.0	3.5	0.0	15.0	3.5	13.3	3.5	0.0	20.4	8.0	7.1	8.8	0.0	23.9	21.2	11.5	8.0	0.0	40.7	

Tri-State Traffic Data, Inc.
(610) 444-8030

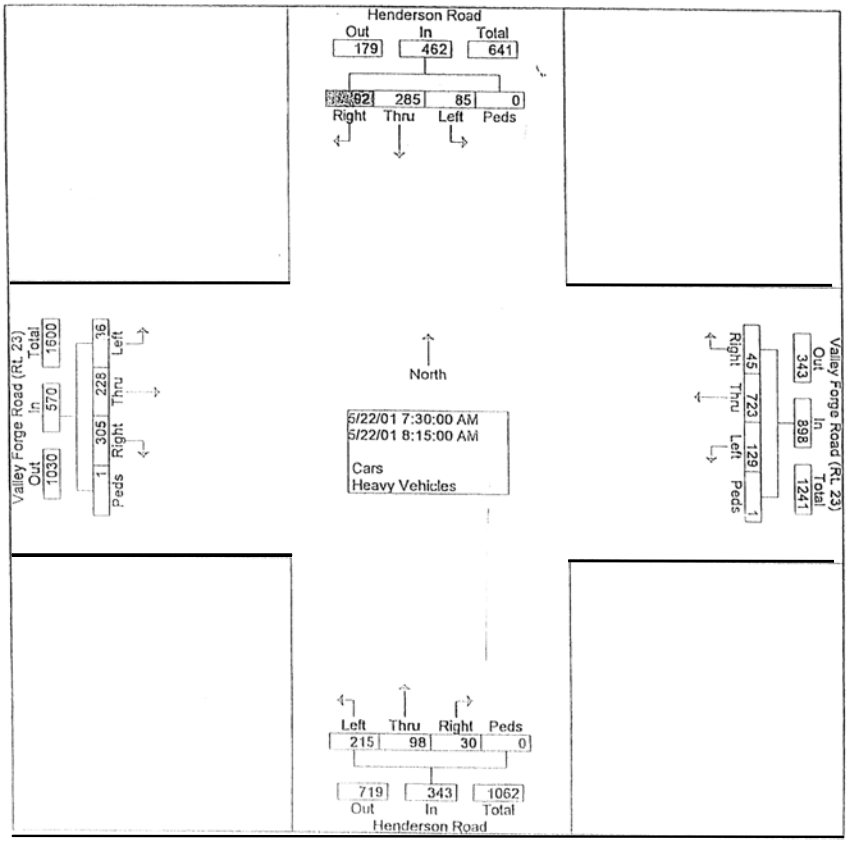
File Name : bs0522e
Site Code : 00000000
Start Date : 05/22/2001
Page No : 2



Tri-State Traffic Data, Inc.
(610) 444-8030

File Name : bs0522e
Site Code : 00000000
Start Date : 05/22/2001
Page No : 3

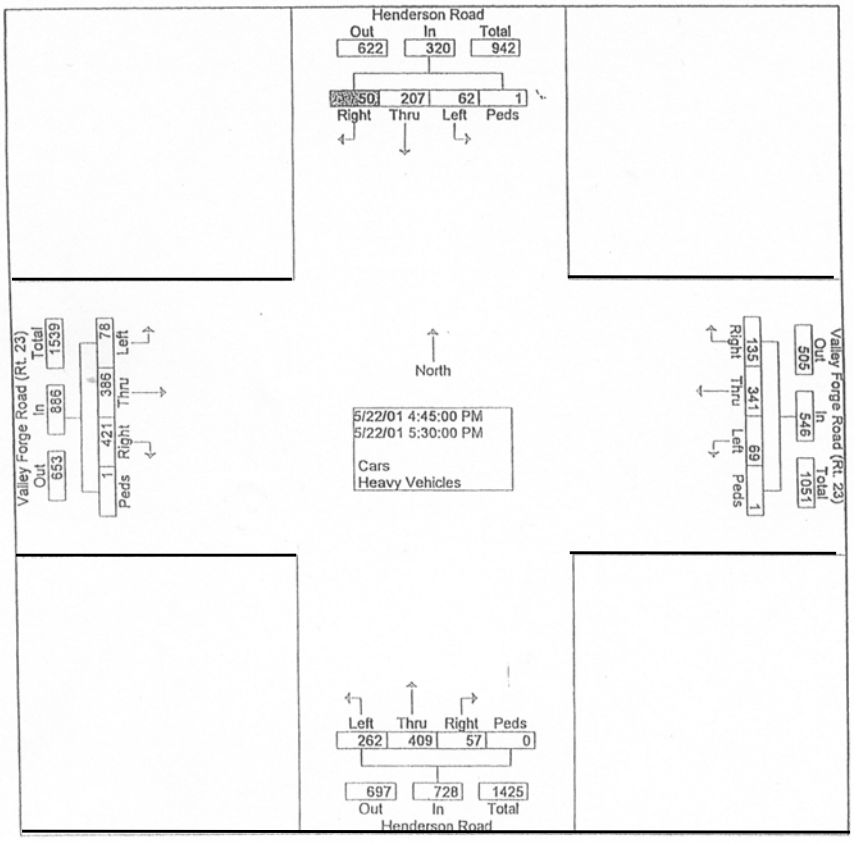
	Henderson Road Southbound					Valley Forge Road (Rt. 23) Westbound					Henderson Road Northbound					Valley Forge Road (Rt. 23) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	92	285	85	0	462	45	723	129	1	898	30	98	215	0	343	305	228	36	1	570	2273
Percent	19.9	61.7	18.4	0.0		5.0	80.5	14.4	0.1		8.7	28.6	62.7	0.0		53.5	40.0	6.3	0.2		
07:30 Volume	31	68	24	0	123	13	166	27	1	207	4	21	64	0	89	71	77	16	0	164	583
Peak Factor																					0.975
High Int.	07:30 AM					08:15 AM					07:30 AM					07:30 AM					
Volume	31	68	24	0	123	9	192	38	0	239	4	21	64	0	89	71	77	16	0	164	
Peak Factor					0.939					0.939					0.963					0.869	



Tri-State Traffic Data, Inc.
(610) 444-8030

File Name : bs0522e
Site Code : 00000000
Start Date : 05/22/2001
Page No : 4

	Henderson Road Southbound					Valley Forge Road (Rt. 23) Westbound					Henderson Road Northbound					Valley Forge Road (Rt. 23) Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	50	207	62	1	320	135	341	69	1	546	57	409	262	0	728	421	386	78	1	886	2480
Percent	15.6	64.7	19.4	0.3		24.7	62.5	12.6	0.2		7.8	56.2	36.0	0.0		47.5	43.6	8.8	0.1		
05:15 Volume	14	60	16	0	90	50	87	18	0	155	16	100	60	0	176	78	120	20	0	218	639
Peak Factor																					0.970
High Int.	05:15 PM					05:15 PM					05:00 PM					05:00 PM					
Volume	14	60	16	0	90	50	87	18	0	155	15	115	61	0	191	133	112	21	0	266	
Peak Factor					0.889					0.881					0.953					0.833	



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Bridgeport, PA
Intersection: Dekalb St @ 4th St
Date: Wednesday, May 23, 2001
Counter: MW/AW

File Name : bs0523f
Site Code : 00000000
Start Date : 05/23/2001
Page No : 1

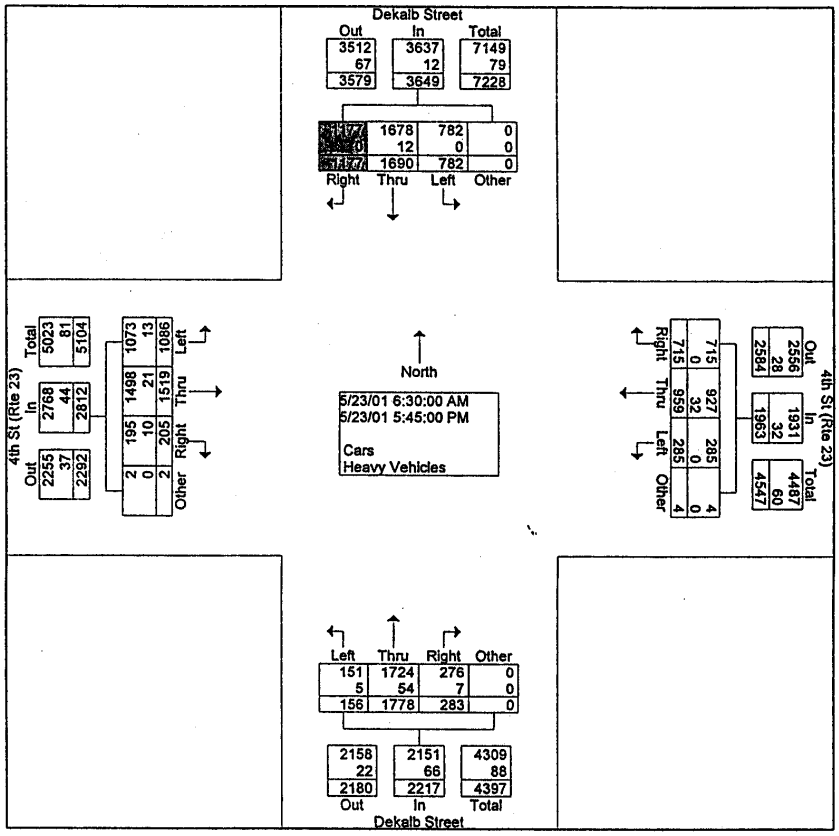
Groups Printed- Cars - Heavy Vehicles

	Dekalb Street Southbound					4th St (Rte 23) Westbound					Dekalb Street Northbound					4th St (Rte 23) Eastbound					
Start Time	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	30	53	32	0	115	20	38	9	0	67	7	48	1	0	56	3	90	38	0	131	369
06:45 AM	40	64	34	0	138	34	38	15	1	88	14	56	5	0	75	10	100	52	0	162	463
Total	70	117	66	0	253	54	76	24	1	155	21	104	6	0	131	13	190	90	0	293	832
07:00 AM	44	90	30	0	164	34	31	5	0	70	11	63	5	0	79	10	85	44	0	139	452
07:15 AM	90	114	46	0	250	25	50	11	0	86	12	76	5	0	93	12	94	59	0	165	594
07:30 AM	82	109	43	0	234	51	43	15	0	109	17	117	20	0	154	8	97	63	0	168	665
07:45 AM	116	108	63	0	287	40	55	14	0	109	17	90	4	0	111	18	91	60	0	169	676
Total	332	421	182	0	935	150	179	45	0	374	57	346	34	0	437	48	367	226	0	641	2387
08:00 AM	101	111	50	0	262	37	46	7	0	90	22	96	6	0	124	20	105	43	0	168	644
08:15 AM	92	113	46	0	251	47	55	13	0	115	13	110	16	0	139	10	101	29	0	140	645
08:30 AM	57	96	34	0	187	33	43	14	0	90	16	95	15	0	126	6	93	51	0	150	553
08:45 AM	45	92	39	0	176	32	41	19	0	92	22	62	2	0	86	11	91	56	0	158	512
Total	295	412	169	0	876	149	185	53	0	387	73	363	39	0	475	47	390	179	0	616	2354
*** BREAK ***																					
04:00 PM	45	94	33	0	172	55	54	27	1	137	11	126	12	0	149	8	56	70	0	134	592
04:15 PM	49	92	56	0	197	29	52	31	0	112	19	125	8	0	152	11	68	42	1	122	583
04:30 PM	63	91	37	0	191	33	69	14	0	116	20	113	8	0	141	10	81	66	0	157	605
04:45 PM	65	83	40	0	188	58	73	17	2	150	20	113	10	0	143	11	76	88	1	176	657
Total	222	360	166	0	748	175	248	89	3	515	70	477	38	0	585	40	281	266	2	589	2437
05:00 PM	56	94	61	0	211	56	68	22	0	146	20	130	17	0	167	11	69	74	0	154	678
05:15 PM	69	116	60	0	245	51	67	14	0	132	12	122	9	0	143	16	83	90	0	189	709
05:30 PM	71	88	40	0	199	40	78	14	0	132	14	119	5	0	138	19	85	94	0	198	667
05:45 PM	62	82	38	0	182	40	58	24	0	122	16	117	8	0	141	11	54	67	0	132	577
Total	258	380	199	0	837	187	271	74	0	532	62	488	39	0	589	57	291	325	0	673	2631
Grand Total	1177	1690	782	0	3649	715	959	285	4	1963	283	1778	156	0	2217	205	1519	1086	2	2812	10641
Apprch %	32.3	46.3	21.4	0.0		36.4	48.9	14.5	0.2		12.8	80.2	7.0	0.0		7.3	54.0	38.6	0.1		
Total %	11.1	15.9	7.3	0.0	34.3	6.7	9.0	2.7	0.0	18.4	2.7	16.7	1.5	0.0	20.8	1.9	14.3	10.2	0.0	26.4	

Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Bridgeport, PA
Intersection: Dekalb St @ 4th St
Date: Wednesday, May 23, 2001
Counter: MW/AW

File Name : bs0523f
Site Code : 00000000
Start Date : 05/23/2001
Page No : 2

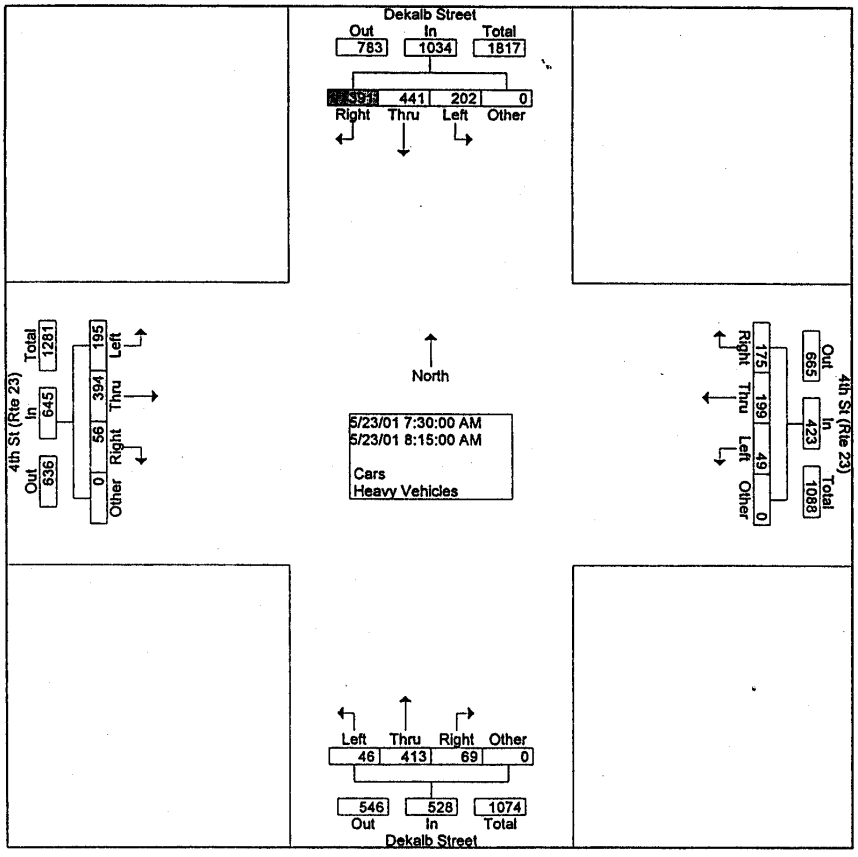


Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Bridgeport, PA
Intersection: Dekalb St @ 4th St
Date: Wednesday, May 23, 2001
Counter: MW/AW

File Name : bs0523f
Site Code : 00000000
Start Date : 05/23/2001
Page No : 3

	Dekalb Street Southbound					4th St (Rte 23) Westbound					Dekalb Street Northbound					4th St (Rte 23) Eastbound					
Start Time	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Int. Total
Peak Hour From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	391	441	202	0	1034	175	199	49	0	423	69	413	46	0	528	56	394	195	0	645	2630
Percent	37.8	42.6	19.5	0.0		41.4	47.0	11.6	0.0		13.1	78.2	8.7	0.0		8.7	61.1	30.2	0.0		
07:45 Volume	116	108	63	0	287	40	55	14	0	109	17	90	4	0	111	18	91	60	0	169	676
Peak Factor																					0.973
High Int.	07:45 AM					08:15 AM					07:30 AM					07:45 AM					
Volume	116	108	63	0	287	47	55	13	0	115	17	117	20	0	154	18	91	60	0	169	
Peak Factor					0.901					0.920					0.857					0.954	

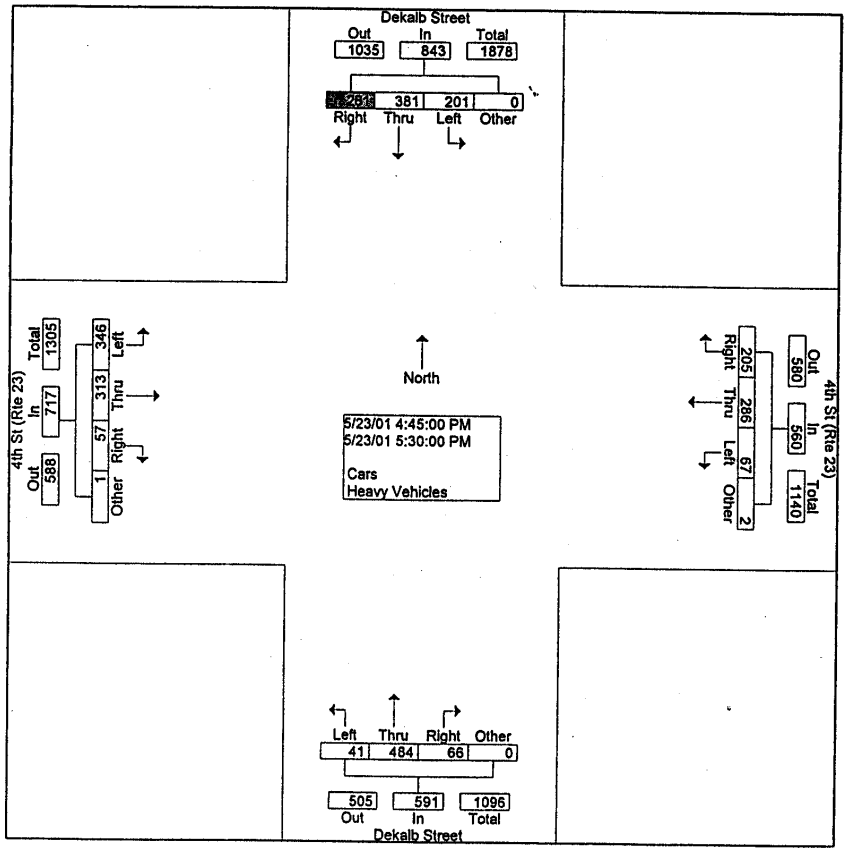


Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Bridgeport, PA
Intersection: Dekalb St @ 4th St
Date: Wednesday, May 23, 2001
Counter: MW/AW

File Name : bs0523f
Site Code : 00000000
Start Date : 05/23/2001
Page No : 4

	Dekalb Street Southbound					4th St (Rte 23) Westbound					Dekalb Street Northbound					4th St (Rte 23) Eastbound					
Start Time	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	261	381	201	0	843	205	286	67	2	560	66	484	41	0	591	57	313	346	1	717	2711
Percent	31.0	45.2	23.8	0.0		36.6	51.1	12.0	0.4		11.2	81.9	6.9	0.0		7.9	43.7	48.3	0.1		
05:15 Volume	69	116	60	0	245	51	67	14	0	132	12	122	9	0	143	16	83	90	0	189	709
Peak Factor																					0.956
High Int.	05:15 PM					04:45 PM					05:00 PM					05:30 PM					
Volume	69	116	60	0	245	58	73	17	2	150	20	130	17	0	167	19	85	94	0	198	
Peak Factor					0.860					0.933					0.885					0.905	



Tri-State Traffic Data, Inc.
(610) 444-8030

Location: Bridgeport, PA
Intersection: Dekalb St @ 4th St
Date: Wednesday, May 23, 2001
Counter: MW/AW

File Name : bs0523f
Site Code : 00000000
Start Date : 05/23/2001
Page No : 1

Groups Printed- Heavy Vehicles

	Dekalb Street Southbound					4th St (Rte 23) Westbound					Dekalb Street Northbound					4th St (Rte 23) Eastbound					
Start Time	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Right	Thru	Left	Other	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	2	0	0	2	0	3	0	0	3	1	7	0	0	8	0	5	0	0	5	18
06:45 AM	0	1	0	0	1	0	2	0	0	2	1	3	0	0	4	0	1	0	0	1	8
Total	0	3	0	0	3	0	5	0	0	5	2	10	0	0	12	0	6	0	0	6	26
07:00 AM	0	2	0	0	2	0	1	0	0	1	0	3	0	0	3	0	0	1	0	1	7
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	3	0	1	0	4	8
07:30 AM	0	1	0	0	1	0	3	0	0	3	0	3	0	0	3	1	2	1	0	4	11
07:45 AM	0	0	0	0	0	0	2	0	0	2	1	5	0	0	6	0	1	1	0	2	10
Total	0	3	0	0	3	0	8	0	0	8	1	13	0	0	14	4	3	4	0	11	36
08:00 AM	0	1	0	0	1	0	1	0	0	1	0	4	0	0	4	2	3	2	0	7	13
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	5	0	0	5	2	0	0	0	2	8
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	0	2	2	0	4	10
08:45 AM	0	0	0	0	0	0	2	0	0	2	4	5	0	0	9	0	2	2	0	4	15
Total	0	1	0	0	1	0	6	0	0	6	4	15	3	0	22	4	7	6	0	17	46
*** BREAK ***																					
04:00 PM	0	1	0	0	1	0	2	0	0	2	0	3	1	0	4	0	0	0	0	0	7
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	4	0	0	4	0	2	0	0	2	7
04:30 PM	0	1	0	0	1	0	2	0	0	2	0	0	1	0	1	1	0	2	0	3	7
04:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	6
Total	0	2	0	0	2	0	8	0	0	8	0	7	2	0	9	1	4	3	0	8	27
05:00 PM	0	1	0	0	1	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	6
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	6	0	0	6	1	0	0	0	1	8
05:30 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
05:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	0	3	0	5	0	0	5	0	9	0	0	9	1	1	0	0	2	19
Grand Total	0	12	0	0	12	0	32	0	0	32	7	54	5	0	66	10	21	13	0	44	154
Apprch %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		10.6	81.8	7.6	0.0		22.7	47.7	29.5	0.0		
Total %	0.0	7.8	0.0	0.0	7.8	0.0	20.8	0.0	0.0	20.8	4.5	35.1	3.2	0.0	42.9	6.5	13.6	8.4	0.0	28.6	

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Bridgeport
Location: Flint Hill Rd/Holstein St and Ford St
Counter/Board #: ED/McM-2285

Study Name: DVRPC97W
Site Code : 80100297
Start Date: 06/19/01
Page : 1

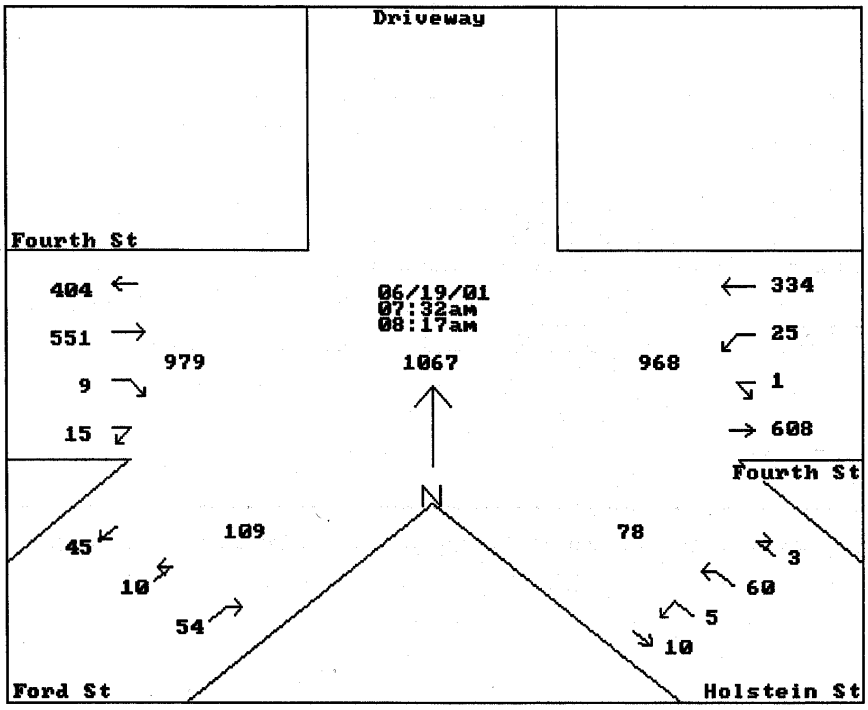
	Fourth St Westbound				Holstein St Northwestbound				Ford St Northeastbound				Fourth St Eastbound						
Start Time	Left	Bleft	Thru	HV	Left	BLeft	Right	HV	Left	BRght	HRght	HV	Thru	BRght	HRght	HV	Intvl Total	Exclu Total	Inclu Total
06/19/01																			
07:02	2	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	5	0	5
07:17	0	9	31	2	1	1	0	0	1	6	0	0	35	15	2	3	106	5	101
07:32	1	5	84	10	0	19	1	0	1	17	0	1	133	0	7	11	290	22	268
07:47	0	8	84	5	2	18	0	0	3	11	0	2	127	6	3	9	278	16	262
08:02	0	9	82	3	1	11	0	0	5	18	0	2	146	3	2	7	289	12	277
08:17	0	3	84	7	2	12	2	0	1	8	0	1	145	0	3	7	275	15	260
08:32	0	6	81	7	1	21	0	0	2	7	0	2	122	2	5	6	262	15	247
08:47	0	7	70	2	1	23	1	0	4	13	4	0	110	3	5	8	251	10	241
[BREAK]																			
16:02	0	20	97	6	4	35	4	1	3	16	0	0	87	4	2	9	288	16	272
16:17	0	20	117	2	6	13	0	1	3	11	1	1	81	5	3	2	266	6	260
16:32	0	23	124	5	3	39	1	1	1	20	0	2	76	10	3	4	312	12	300
16:47	0	23	110	2	4	26	1	0	8	10	2	0	73	9	6	3	277	5	272
17:02	0	26	166	2	5	47	0	1	3	11	4	1	97	9	5	1	378	5	373
17:17	0	27	145	9	0	31	0	0	4	17	1	0	97	10	11	4	356	13	343
17:32	0	15	98	1	1	37	2	0	2	15	5	0	83	8	9	1	277	2	275
17:47	0	16	105	6	1	32	3	1	1	19	1	2	81	15	2	1	286	10	276
Total	3	218	1478	69	32	365	15	5	42	199	18	14	1493	101	68	76	4196	164	4032
% Apr.	0.1	12.3	83.5	3.9	7.6	87.5	3.5	1.1	15.3	72.8	6.5	5.1	85.9	5.8	3.9	4.3	-	-	-
% Int.	-	5.1	35.2	1.6	0.7	8.6	0.3	0.1	1.0	4.7	0.4	0.3	35.5	2.4	1.6	1.8	-	-	-

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Bridgeport
Location: Flint Hill Rd/Holstein St and Ford St
Counter/Board #: ED/McM-2285

Study Name: DVRPC97W
Site Code : 80100297
Start Date: 06/19/01

	Fourth St Westbound				Holstein St Northwestbound				Ford St Northeastbound				Fourth St Eastbound				Intvl	Exclu	Inclu
Start Time	Left	Bleft	Thru	HV	Left	BLeft	Right	HV	Left	BRght	HRght	HV	Thru	BRght	HRght	HV	Total	Total	Total
Peak Hour Analysis By Entire Intersection for the Period: 07:02 on 06/19/01 to 08:47 on 06/19/01																			
Time	07:32				07:32				07:32				07:32						
Vol.	1	25	334	25 x	5	60	3	0 x	10	54	0	6 x	551	9	15	34 x			
Pct.	0.2	6.9	92.7	7% x	7.3	88.2	4.4	0% x	15.6	84.3	0.0	9% x	95.8	1.5	2.6	6% x			
Total	360				68				64				575						
High	07:47				07:47				08:02				08:02						
Vol.	0	8	84	x	2	18	0	x	5	18	0	x	146	3	2	x			
Total	92				20				23				151						
PHF	0.978				0.850				0.695				0.951						

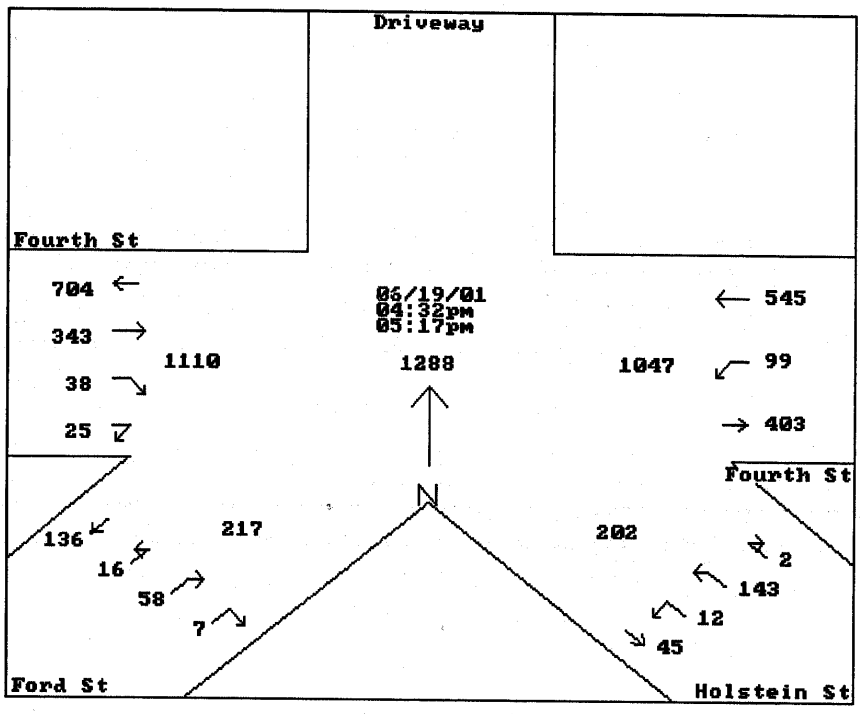


Municipality: Bridgeport
Location: Flint Hill Rd/Holstein St and Ford St
Counter/Board #: ED/McM-2285

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Study Name: DVRPC97W
Site Code : 80100297
Start Date: 06/19/01
Page : 3

	Fourth St Westbound				Holstein St Northwestbound				Ford St Northeastbound				Fourth St Eastbound						
Start Time	Left	Bleft	Thru	HV	Left	BLeft	Right	HV	Left	BRght	HRght	HV	Thru	BRght	HRght	HV	Intvl Total	Exclu Total	Inclu Total
Peak Hour Analysis By Entire Intersection for the Period: 16:02 on 06/19/01 to 17:47 on 06/19/01																			
Time	16:32				16:32				16:32				16:32						
Vol.	0	99	545	18% x	12	143	2	2% x	16	58	7	3% x	343	38	25	12% x			
Pct.	0.0	15.3	84.6	39% x	7.6	91.0	1.2	1% x	19.7	71.6	8.6	4% x	84.4	9.3	6.1	3% x			
Total	644				157				81				406						
High	17:02				17:02				17:17				17:17						
Vol.	0	26	166	x	5	47	0	x	4	17	1	x	97	10	11	x			
Total	192				52				22				118						
PHF	0.838				0.754				0.920				0.860						



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Upper Merion Twp
Location: Dekalb Pk (rt202) &
Henderson Rd
Counter/Board #: JB/MM McM-2283/2161

Study Name: DVRPC43W
Site Code : 80100242
Start Date: 06/05/01
Page : 1

	Henderson Rd Southbound					Dekalb Pk (rt202) Westbound					Henderson Rd Northbound					Dekalb Pk (rt202) Eastbound					Intvl	Exclu	Inclu
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	Right	RTOR	HV	Total	Total	Total
06/05/01																							
07:00	34	120	18	6	7	34	293	27	19	19	33	53	2	3	19	16	137	25	34	16	915	61	854
07:15	40	130	18	8	8	26	292	45	13	18	56	111	1	8	13	22	132	27	45	10	1023	49	974
07:30	46	144	31	5	13	18	280	18	14	22	58	52	7	12	16	13	160	30	52	12	1003	63	940
07:45	50	158	33	3	10	13	315	17	10	16	67	67	9	13	14	10	147	41	59	8	1060	48	1012
Hour	170	552	100	22	38	91	1180	107	56	75	214	283	19	36	62	61	576	123	190	46	4001	221	3780
08:00	40	119	32	5	8	27	272	31	14	16	53	62	4	13	9	25	160	48	49	17	1004	50	954
08:15	44	97	27	7	8	22	313	14	8	21	63	50	11	15	9	21	147	32	48	17	974	55	919
08:30	46	108	31	4	8	27	237	22	5	15	66	42	7	24	13	30	174	29	46	25	959	61	898
08:45	42	113	27	6	21	25	262	25	17	21	57	62	8	22	10	13	124	33	28	14	930	66	864
Hour	172	437	117	22	45	101	1084	92	44	73	239	216	30	74	41	89	605	142	171	73	3867	232	3635
[BREAK]																							
16:00	59	92	16	3	9	40	266	28	20	14	100	115	3	20	9	16	262	15	47	16	1150	48	1102
16:15	38	92	9	6	6	25	289	31	16	11	82	120	10	27	8	21	238	21	51	10	1111	35	1076
16:30	54	104	14	9	6	31	231	45	17	11	99	118	2	24	8	22	279	30	48	10	1162	35	1127
16:45	64	78	16	6	2	29	286	44	11	9	119	115	7	21	4	27	265	20	50	10	1183	25	1158
Hour	215	366	55	24	23	125	1072	148	64	45	400	468	22	92	29	86	1044	86	196	46	4606	143	4463
17:00	89	106	15	10	2	39	245	30	24	8	92	131	6	18	3	25	267	25	42	9	1186	22	1164
17:15	68	90	12	7	4	31	294	30	25	10	113	121	6	24	3	11	288	33	56	5	1231	22	1209
17:30	49	94	12	13	2	21	245	21	27	7	98	113	7	24	6	21	256	20	45	8	1089	23	1066
17:45	50	94	30	3	0	22	296	23	28	5	82	83	9	25	7	22	216	17	39	8	1059	20	1039
Hour	256	384	69	33	8	113	1080	104	104	30	385	448	28	91	19	79	1027	95	182	30	4565	87	4478
Total	813	1739	341	101	114	430	4416	451	268	223	1238	1415	99	293	151	315	3252	446	739	195	17039	683	16356
% Apr.	26.1	55.9	10.9	3.2	3.6	7.4	76.2	7.7	4.6	3.8	38.7	44.2	3.0	9.1	4.7	6.3	65.7	9.0	14.9	3.9	-	-	-
% Int.	4.7	10.2	2.0	0.5	0.6	2.5	25.9	2.6	1.5	1.3	7.2	8.3	0.5	1.7	0.8	1.8	19.0	2.6	4.3	1.1	-	-	-

Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 06/05/01 to 08:45 on 06/05/01

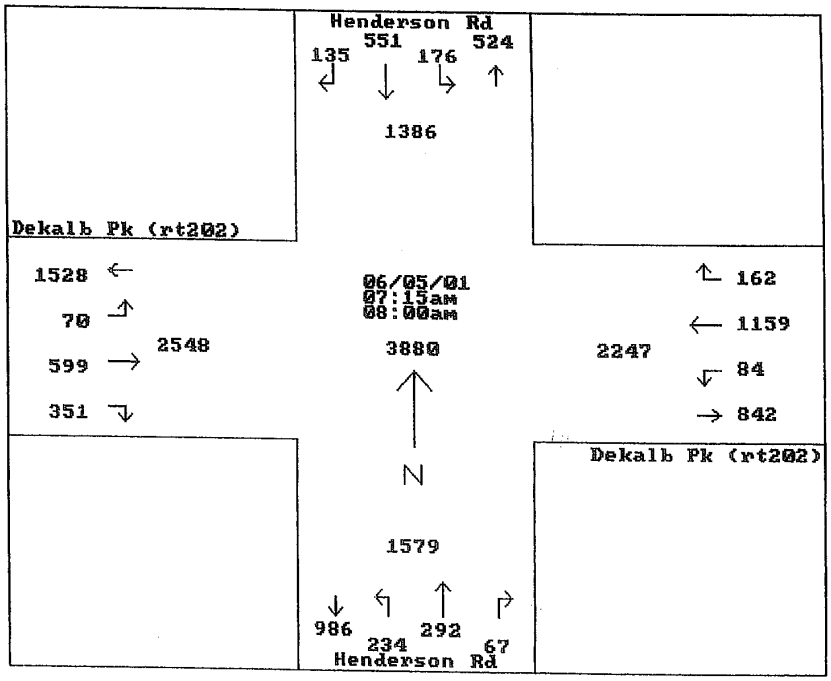
Time	07:15					07:15					07:15					07:15							
Vol.	176	551	114	21	x	84	1159	111	51	x	234	292	21	46	x	70	599	146	205	x			
Pct.	20.4	63.9	13.2	2.4	x	5.9	82.4	7.9	3.6	x	39.4	49.2	3.5	7.7	x	6.8	58.7	14.3	20.0	x			
Total	862					1405					593					1020							
High	07:45					07:15					07:15					08:00							
Vol.	50	158	33	3	x	26	292	45	13	x	56	111	1	8	x	25	160	48	49	x			
Total	244					376					176					282							
PHF	0.883					0.934					0.842					0.904							

Municipality: Upper Merion Twp
Location: Dekalb Pk (rt202) &
Henderson Rd
Counter/Board #: JB/MM McM-2283/2161

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Study Name: DVRPC43W
Site Code : 80100242
Start Date: 06/05/01

Start Time	Henderson Rd Southbound				Dekalb Pk (rt202) Westbound				Henderson Rd Northbound				Dekalb Pk (rt202) Eastbound				Intvl Total
	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	Right	RTOR	HV	

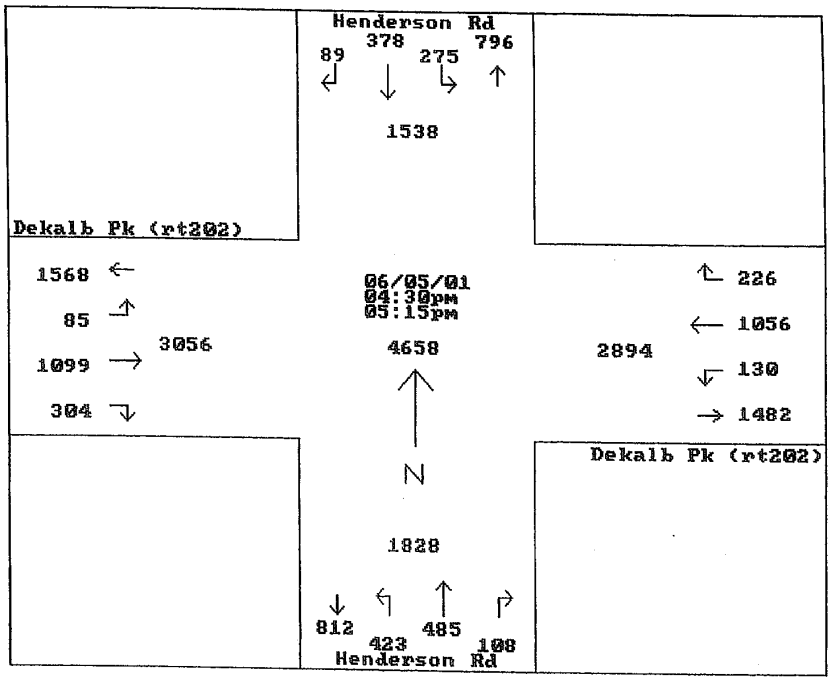


Municipality: Upper Merion Twp
Location: Dekalb Pk (rt202) &
Henderson Rd
Counter/Board #: JB/MM McM-2283/2161

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Study Name: DVRPC43W
Site Code : 80100242
Start Date: 06/05/01

Start Time	Henderson Rd Southbound					Dekalb Pk (rt202) Westbound					Henderson Rd Northbound					Dekalb Pk (rt202) Eastbound					Intvl Total
	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	Right	RTOR	HV	



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Upper Merion Twp
Location: Allendale Rd & Keebler Rd

Counter/Board #: WW/McM-2212

Study Name: DVRPC6
Site Code : 80100206
Start Date: 08/30/01
Page : 1

	Keebler Rd Southwestbound					Allendale Rd Northwestbound					Keebler Rd Northeastbound					Allendale Rd Southeastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Intvl Total
08/30/01																					
07:00	39	6	17	37	0	8	127	7	0	2	1	2	0	0	0	17	66	19	0	2	350
07:15	40	8	34	44	2	16	174	3	1	5	2	2	0	1	0	21	96	8	0	2	459
07:30	76	9	65	38	3	20	183	5	1	2	3	0	2	0	0	28	153	6	3	1	598
07:45	56	23	81	61	0	16	189	4	1	1	2	0	0	0	0	16	112	12	2	3	579
Hour	211	46	197	180	5	60	673	19	3	10	8	4	2	1	0	82	427	45	5	8	1986
08:00	57	16	76	45	2	23	170	10	1	5	4	2	1	1	1	21	115	12	0	3	565
08:15	44	20	73	57	0	33	180	19	0	2	1	2	5	2	0	27	95	28	1	4	593
08:30	35	22	66	30	1	21	151	22	0	6	3	4	0	2	0	23	111	16	0	3	516
08:45	34	17	57	31	0	31	188	10	0	3	6	4	2	4	0	25	149	12	2	18	593
Hour	170	75	272	163	3	108	689	61	1	16	14	12	8	9	1	96	470	68	3	28	2267
[BREAK]																					
16:00	36	5	16	18	1	5	102	39	2	2	15	13	6	2	2	56	206	8	0	3	537
16:15	41	5	19	28	2	8	122	34	4	2	15	14	8	2	0	79	178	6	0	2	569
16:30	27	8	12	22	0	12	142	40	3	5	16	11	7	1	0	102	239	10	0	0	657
16:45	43	3	30	15	3	12	105	52	7	1	25	17	9	5	2	66	189	7	0	2	593
Hour	147	21	77	83	6	37	471	165	16	10	71	55	30	10	4	303	812	31	0	7	2356
17:00	48	5	31	18	1	7	112	41	3	3	31	29	12	1	1	142	340	8	1	3	837
17:15	26	9	19	27	3	10	102	49	2	1	20	12	15	2	1	96	254	4	0	3	655
17:30	36	9	37	18	2	8	129	57	1	3	16	15	13	0	3	85	234	3	0	2	671
17:45	43	3	23	14	1	17	88	44	1	1	19	8	8	3	0	88	224	4	0	3	592
Hour	153	26	110	77	7	42	431	191	7	8	86	64	48	6	5	411	1052	19	1	11	2755
Total	681	168	656	503	21	247	2264	436	27	44	179	135	88	26	10	892	2761	163	9	54	9364
% Apr.	33.5	8.2	32.3	24.7	1.0	8.1	75.0	14.4	0.8	1.4	40.8	30.8	20.0	5.9	2.2	22.9	71.1	4.2	0.2	1.3	-
% Int.	7.2	1.7	7.0	5.3	0.2	2.6	24.1	4.6	0.2	0.4	1.9	1.4	0.9	0.2	0.1	9.5	29.4	1.7	-	0.5	-

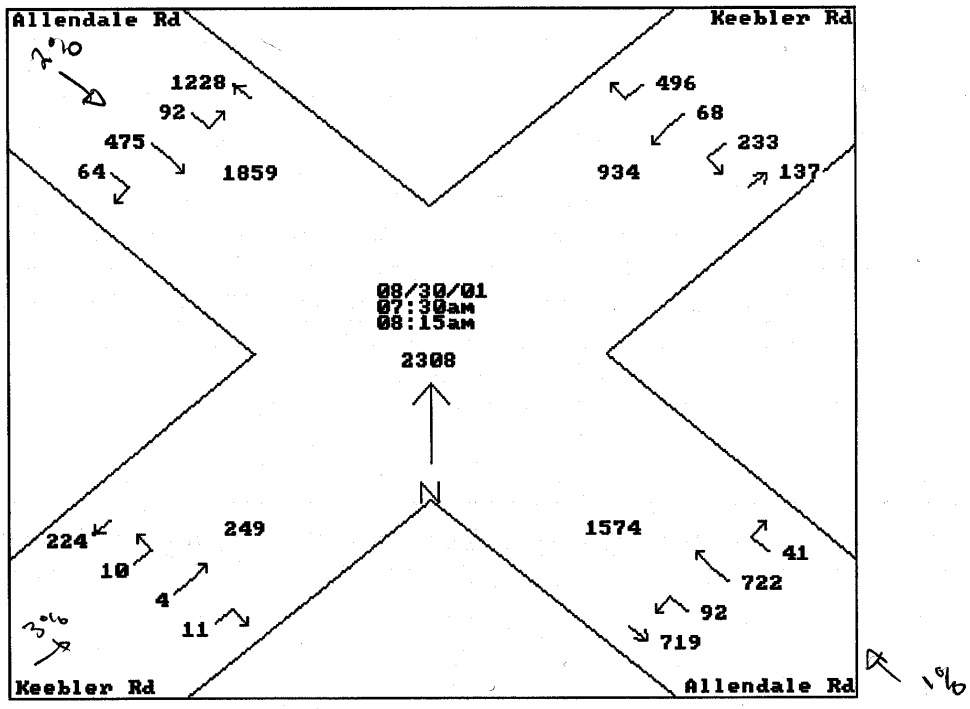
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Upper Merion Twp
Location: Allendale Rd & Keebler Rd

Counter/Board #: WW/McM-2212

Study Name: DVRPC6
Site Code : 8010020
Start Date: 08/30/0
Page : 2

	Keebler Rd Southwestbound					Allendale Rd Northwestbound					Keebler Rd Northeastbound					Allendale Rd Southeastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	In To
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 08/30/01 to 08:45 on 08/30/01																					
Time	07:30					07:30					07:30					07:30					
Vol.	233	68	295	201	x	92	722	38	3	x	10	4	8	3	x	92	475	58	6	x	
Pct.	29.2	8.5	37.0	25.2	x	10.7	84.4	4.4	0.3	x	40.0	16.0	32.0	12.0	x	14.5	75.2	9.1	0.9	x	
Total	797					855					25					631					
High	07:45					08:15					08:15					07:30					
Vol.	56	23	81	61	x	33	180	19	0	x	1	2	5	2	x	28	153	6	3	x	
Total	221					232					10					190					
PHF	0.901					0.921					0.625					0.830					



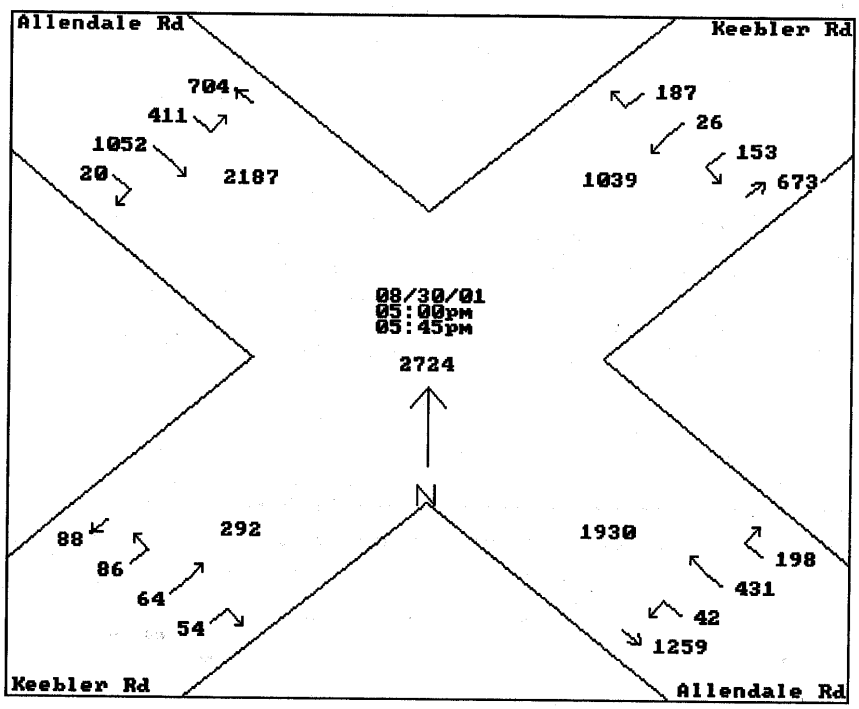
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Upper Merion Twp
Location: Allendale Rd & Keebler Rd

Counter/Board #: WW/McM-2212

Study Name: DVRPC6
Site Code : 80100206
Start Date: 08/30/01
Page : 3

	Keebler Rd Southwestbound					Allendale Rd Northwestbound					Keebler Rd Northeastbound					Allendale Rd Southeastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Intv Tota
Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 08/30/01 to 17:45 on 08/30/01																					
Time	17:00					17:00					17:00					17:00					
Vol.	153	26	110	77	7% x	42	431	191	7	8% x	86	64	48	6	5% x	411	1052	19	1	11% x	
Pct.	41.8	7.1	30.0	21.0	29% x	6.2	64.2	28.4	1.0	19% x	42.1	31.3	23.5	2.9	29% x	27.7	70.9	1.2	6.7	19% x	
Total	366					671					204					1483					
High	17:00					17:30					17:00					17:00					
Vol.	48	5	31	18	x	8	129	57	1	x	31	29	12	1	x	142	340	8	1	x	
Total	102					195					73					491					
PHF	0.897					0.860					0.698					0.755					



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:First Ave. & Allendale Rd.

Study Name: UMERI02X
Site Code : 80025702
Start Date: 06/21/00
Page : 1

Counter/Board #:DS/2285

	Allendale Rd. Southbound				Allendale Rd. Northbound			First Ave. Eastbound						
Start Time	Thru	Right	RTOR	HV	Left	Thru	HV	Left	Right	RTOR	HV	Intrvl. Total	Exclude Total	Include Total
06/21/00														
07:00	62	10	1	1	81	91	7	21	14	48	1	337	9	328
07:15	66	12	3	1	99	93	3	26	24	52	0	379	4	375
07:30	122	14	2	3	149	107	3	24	23	46	7	500	13	487
07:45	77	21	1	5	160	97	3	15	30	40	4	453	12	441
Hour	327	57	7	10	489	388	16	86	91	186	12	1669	38	1631
08:00	77	20	4	3	155	117	1	26	14	49	6	472	10	462
08:15	72	20	7	6	182	91	6	24	18	34	1	461	13	448
08:30	49	16	11	1	131	63	2	26	13	34	4	350	7	343
08:45	64	15	4	16	125	88	6	15	25	22	1	381	23	358
Hour	262	71	26	26	593	359	15	91	70	139	12	1664	53	1611
[BREAK]														
16:00	117	36	2	8	57	74	3	18	52	75	3	445	14	431
16:15	94	26	4	3	67	68	2	16	42	72	2	396	7	389
16:30	132	32	3	2	70	68	1	19	71	65	1	464	4	460
16:45	132	27	10	2	80	86	1	22	64	81	5	510	8	502
Hour	475	121	19	15	274	296	7	75	229	293	11	1815	33	1782
17:00	173	43	20	4	82	83	2	20	119	105	2	653	8	645
17:15	105	20	4	2	95	54	3	25	95	128	2	533	7	526
17:30	127	27	6	4	83	52	5	16	70	76	1	467	10	457
17:45	77	15	0	0	70	60	2	16	60	82	2	384	4	380
Hour	482	105	30	10	330	249	12	77	344	391	7	2037	29	2008
Total	1546	354	82	61	1686	1292	50	329	734	1009	42	7185	153	7032
% Apr.	75.6	17.3	4.0	2.9	55.6	42.6	1.6	15.5	34.7	47.7	1.9	-	-	-
% Int.	21.5	4.9	1.1	0.8	23.4	17.9	0.6	4.5	10.2	14.0	0.5	-	-	-

Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 06/21/00 to 08:45 on 06/21/00

Time	07:30				07:30			07:30						
Vol.	348	75	14	x	646	412	x	89	85	169	x			
Pct.	79.6	17.1	3.2	x	61.0	38.9	x	25.9	24.7	49.2	x			
Total	437				1058			343						
High	07:30				08:15			07:30						
Vol.	122	14	2	x	182	91	x	24	23	46	x			
Total	138				273			93						
PHF	0.791				0.968			0.922						

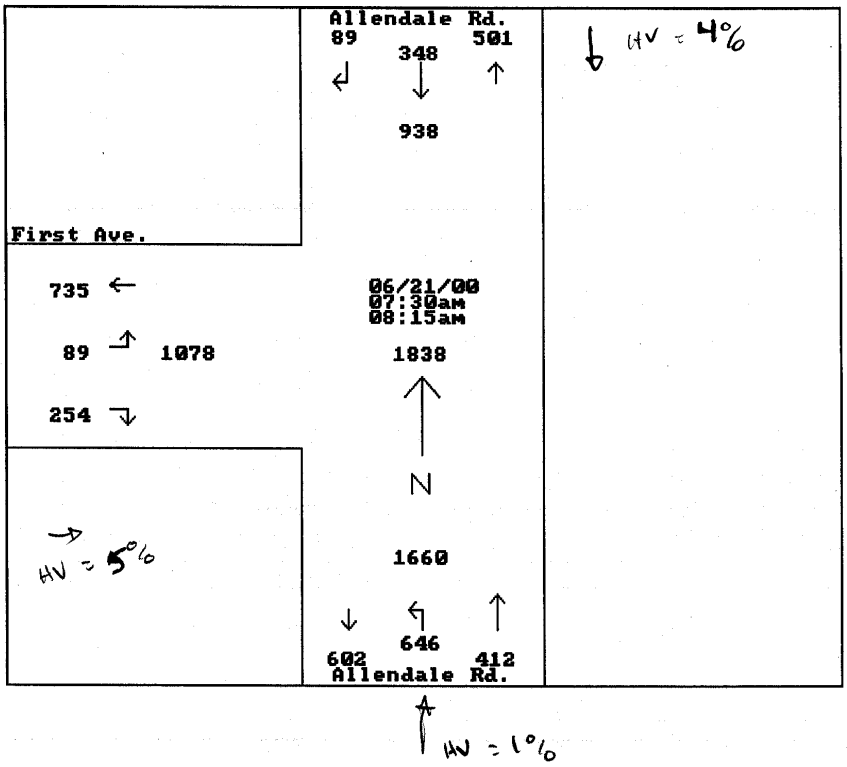
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:First Ave. & Allendale Rd.

Counter/Board #:DS/2285

Study Name: UMERI02X
Site Code : 80025702
Start Date: 06/21/00

Start Time	Allendale Rd. Southbound Thru	Right	RTOR	HV	Allendale Rd. Northbound Left	Thru	HV	First Ave. Eastbound Left	Right	RTOR	HV	Intrvl. Total	Exclude Total	Include Total



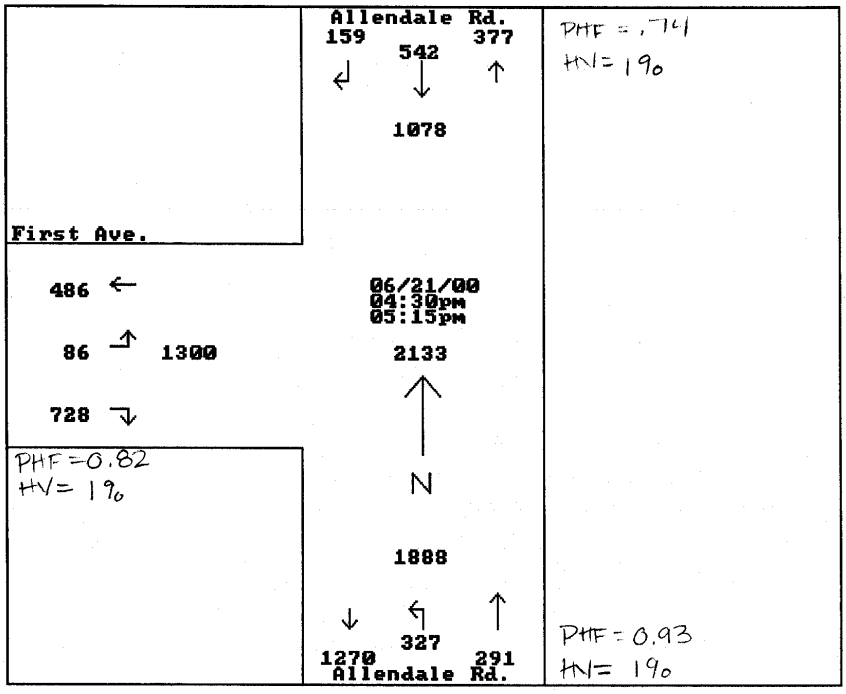
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:First Ave. & Allendale Rd.

Counter/Board #:DS/2285

Study Name: UMERI02X
Site Code : 80025702
Start Date: 06/21/00
Page : 3

Start Time	Allendale Rd. Southbound				Allendale Rd. Northbound			First Ave. Eastbound				Intrvl. Total	Exclude Total	Include Total
	Thru	Right	RTOR	HV	Left	Thru	HV	Left	Right	RTOR	HV			



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:First Ave. & N. Gulph Rd.

Counter/Board #:HR/D2212

Study Name: UMERI06W
Site Code : 80024606
Start Date: 06/15/00
Page : 1

	N. Gulph Rd. Southbound					First Ave. Westbound					N. Gulph Rd. Northbound					Rt. 422 Ramp Eastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Intvl Total
06/15/00																					
07:00	10	307	0	0	5	43	11	2	5	7	1	96	107	62	9	3	68	171	32	3	942
07:15	18	315	0	0	4	36	4	9	1	4	1	145	135	28	12	3	54	223	6	2	1000
07:30	30	254	1	0	7	54	10	13	0	9	0	146	139	0	18	4	87	225	0	4	1001
07:45	25	274	0	0	5	62	10	6	0	9	5	139	168	0	10	3	90	226	0	8	1040
Hour	83	1150	1	0	21	195	35	30	6	29	7	526	549	90	49	13	299	845	38	17	3983
08:00	22	237	2	0	11	66	11	15	0	8	1	144	226	0	12	2	76	196	0	2	1031
08:15	29	241	0	0	14	75	6	9	0	5	12	131	214	0	12	0	73	206	0	6	1033
08:30	18	258	0	0	9	73	12	8	0	9	2	130	222	0	8	0	71	181	0	6	1007
08:45	22	240	0	0	6	61	9	21	0	9	3	123	201	0	13	1	71	177	0	6	963
Hour	91	976	2	0	40	275	38	53	0	31	18	528	863	0	45	3	291	760	0	20	4034
[BREAK]																					
16:00	11	175	2	0	7	135	47	26	0	6	2	336	70	0	7	0	23	154	0	4	1005
16:15	7	145	3	0	1	142	48	31	0	6	2	298	71	0	4	0	19	183	0	5	965
16:30	17	183	1	0	201 1	153	63	28	0	244 10	18	337	61	0	416 6	1	17	162	0	180 2	1060
16:45	16	140	1	0	157 1	168	71	34	0	273 11	8	322	71	0	411 5	3	23	150	0	176 1	1025
Hour	51	643	7	0	10	598	229	119	0	33	30	1293	273	0	22	4	82	649	0	12	4055
17:00	27	148	1	0	176 6	177	64	58	0	299 5	6	291	56	0	353 12	2	22	165	0	189 1	1041
17:15	31	167	1	0	199 2	162	59	41	0	262 4	9	295	92	0	396 5	2	27	178	0	207 3	1078
17:30	17	160	0	0	4	141	47	26	0	4	7	307	64	0	9	1	18	142	0	4	951
17:45	33	147	0	0	2	148	46	20	0	1	5	288	78	0	13	0	24	146	0	2	953
Hour	108	622	2	0	14	628	216	145	0	14	27	1181	290	0	39	5	91	631	0	10	4023
Total	333	3391	12	0	85	1696	518	347	6	107	82	3528	1975	90	155	25	763	2885	38	59	16095
% Apr.	8.7	88.7	0.3	-	2.2	63.4	19.3	12.9	0.2	4.0	1.4	60.5	33.8	1.5	2.6	0.6	20.2	76.5	1.0	1.5	-
% Int.	2.0	21.0	-	-	0.5	10.5	3.2	2.1	-	0.6	0.5	21.9	12.2	0.5	0.9	0.1	4.7	17.9	0.2	0.3	-

Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 06/15/00 to 08:45 on 06/15/00

Time	07:45				39 x	07:45				31 x	07:45				42 x	07:45				22 x
Vol.	94	1010	2	0		276	39	38	0		20	544	830	0		5	310	809	0	
Pct.	8.4	91.3	0.1	0.0	49% x	78.1	11.0	10.7	0.0	99% x	1.4	39.0	59.5	0.0	3% x	0.4	27.5	71.9	0.0	2% x
Total	1106					353					1394					1124				
High	07:45					08:30					08:00					07:45				
Vol.	25	274	0	0	x	73	12	8	0	x	1	144	226	0	x	3	90	226	0	x
Total	299					93					371					319				
PHF	0.924					0.948					0.939					0.880				

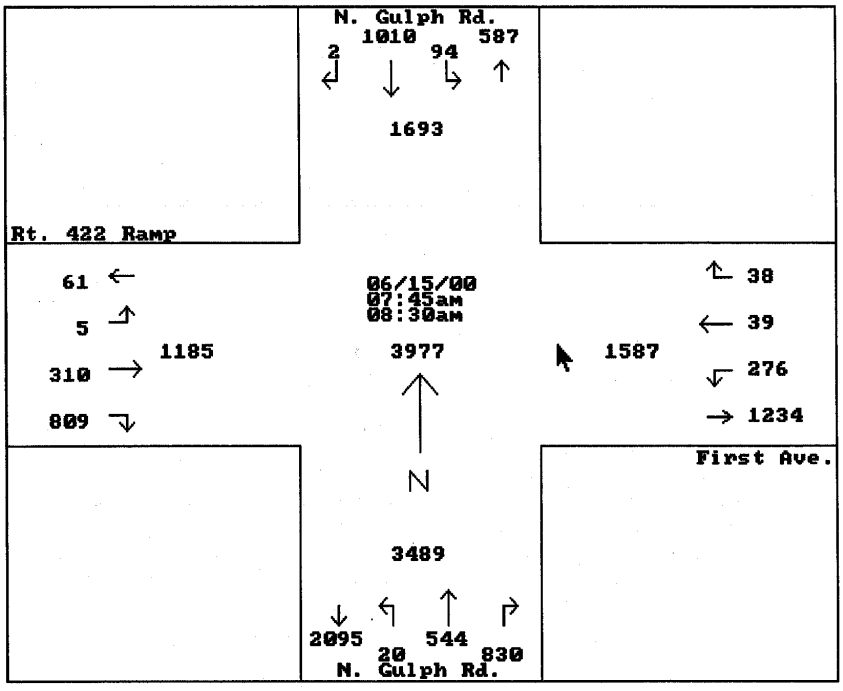
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:First Ave. & N. Gulph Rd.

Counter/Board #:HR/D2212

Study Name: UMERI06W
Site Code : 80024606
Start Date: 06/15/00

	N. Gulph Rd. Southbound				First Ave. Westbound				N. Gulph Rd. Northbound				Rt. 422 Ramp Eastbound				
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Intvl Total

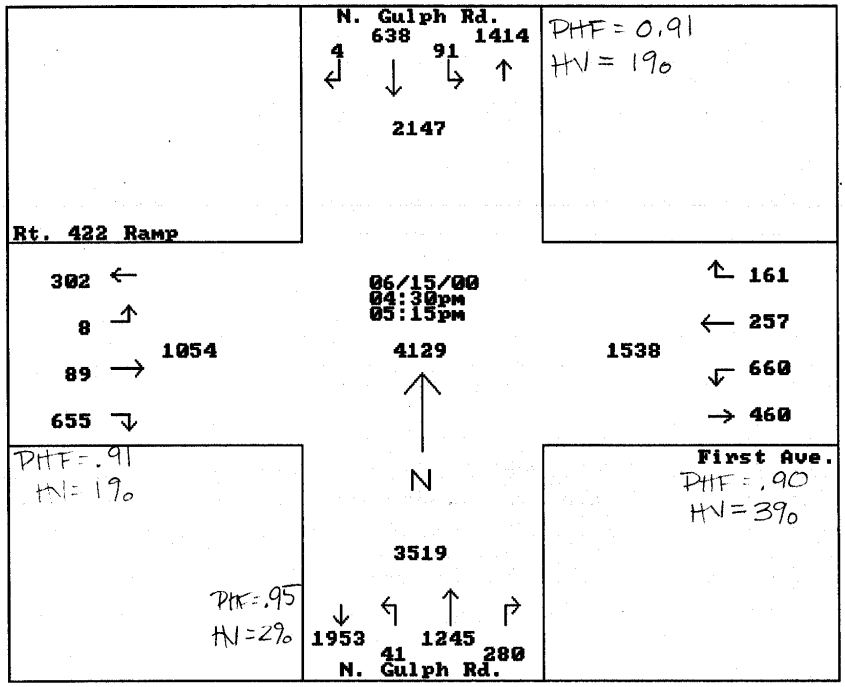


McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality:U. Merion Twp.
Location:First Ave. & N. Gulph Rd.
Counter/Board #:HR/D2212

Study Name: UMERI06W
Site Code : 80024606
Start Date: 06/15/00
Page : 3

Start Time	N. Gulph Rd. Southbound Left	Thru	Right	RTOR	HV	First Ave. Westbound Left	Thru	Right	RTOR	HV	N. Gulph Rd. Northbound Left	Thru	Right	RTOR	HV	Rt. 422 Ramp Eastbound Left	Thru	Right	RTOR	HV	Intvl Total



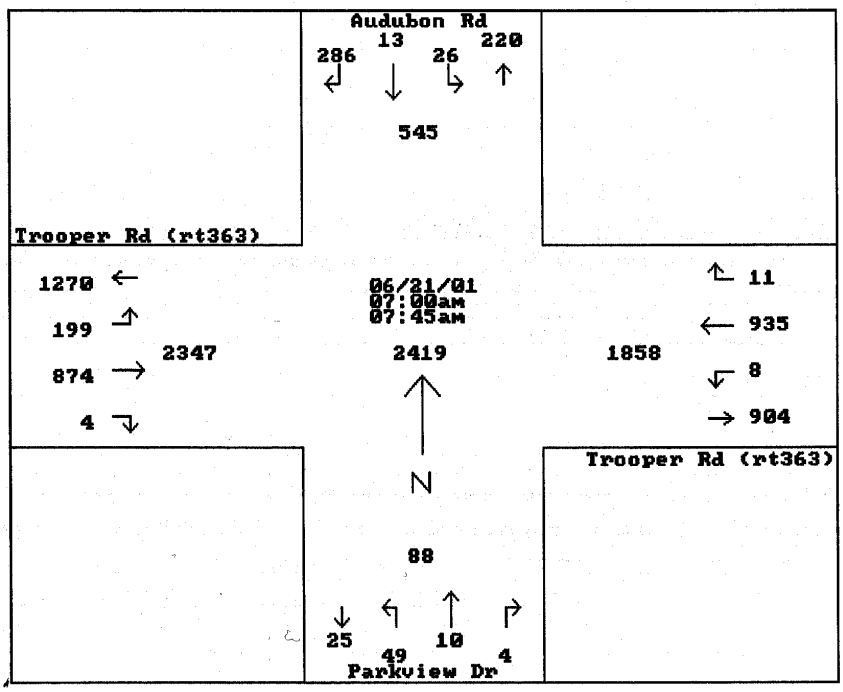
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Lower Providence Twp
Location: Trooper Rd (rt363) &
Audubon Rd/ Parkview Dr
Counter/Board #: CSM/McM-2212

Study Name: DVRPC06W
Site Code : 80100206
Start Date: 06/21/01
Page : 1

Start	Audubon Rd Southbound					Trooper Rd (rt363) Westbound					Parkview Dr Northbound					Trooper Rd (rt363) Eastbound					Intvl
Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Total
06/21/01																					
07:00	12	1	49	33	3	1	218	2	0	10	10	2	0	0	0	63	204	1	0	12	621
07:15	7	10	54	22	3	1	257	3	0	10	9	1	1	0	0	39	196	2	0	8	623
07:30	5	1	34	37	1	2	242	4	0	7	11	0	0	1	0	43	233	1	0	8	630
07:45	2	1	23	34	1	4	218	2	0	14	19	7	2	0	1	54	241	0	0	8	631
Hour	26	13	160	126	8	8	935	11	0	41	49	10	3	1	1	199	874	4	0	36	2505
08:00	6	2	29	28	1	1	235	7	0	11	12	4	3	0	0	43	202	2	0	7	593
08:15	7	3	32	31	7	2	211	5	0	5	10	4	0	0	0	55	196	0	0	11	579
08:30	7	3	36	18	0	2	232	5	0	9	9	1	2	0	0	45	198	0	0	14	581
08:45	7	2	30	29	1	2	215	6	0	10	8	2	2	1	0	48	202	3	0	26	594
Hour	27	10	127	106	9	7	893	23	0	35	39	11	7	1	0	191	798	5	0	58	2347

Start	Audubon Rd Southbound					Trooper Rd (rt363) Westbound					Parkview Dr Northbound					Trooper Rd (rt363) Eastbound					Intvl
Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Total
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 06/21/01 to 08:45 on 06/21/01																					
Time	07:00					07:00					07:00					07:00					
Vol.	26	13	160	126	8 x	8	935	11	0	41 x	49	10	3	1	1 x	199	874	4	0	36 x	
Pct.	8.0	4.0	49.2	38.7	29% x	0.8	98.0	1.1	0.0	47% x	77.7	15.8	4.7	1.5	2% x	18.4	81.1	0.3	0.0	3% x	
Total	325					954					63					1077					
High	07:00					07:15					07:45					07:45					
Vol.	12	1	49	33	x	1	257	3	0	x	19	7	2	0	x	54	241	0	0	x	
Total	95					261					28					295					
PHF	0.855					0.913					0.562					0.912					



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

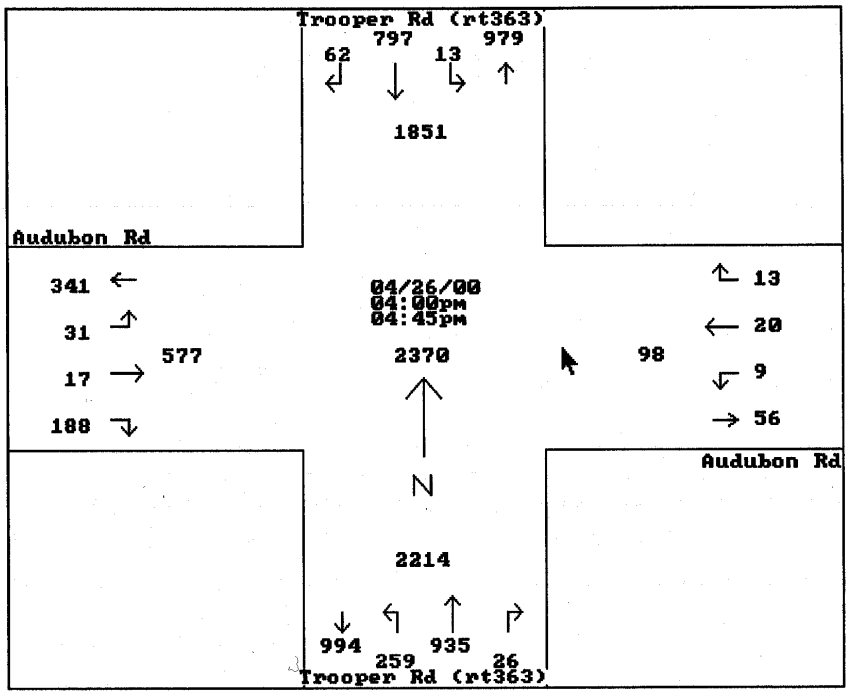
Municipality: Lower Providence Twp
Location: Trooper Rd (rt363) &
Audubon Rd
Counter/Board #: CA/McM-

Study Name: LPROV09P
Site Code : 89929009
Start Date: 04/26/00
Page : 1

Start	Trooper Rd (rt363) Southbound				Audubon Rd Westbound				Trooper Rd (rt363) Northbound				Audubon Rd Eastbound				Intvl	Exclu	Inclu
Time	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Total	Total	Total
04/26/00																			
16:00	2	209	14	12	5	6	1	0	59	222	9	10	8	7	47	2	613	24	589
16:15	3	182	9	12	0	6	2	1	69	269	5	17	6	1	56	4	642	34	608
16:30	3	233	24	11	3	2	5	0	71	247	7	6	9	4	49	0	674	17	657
16:45	5	173	15	7	1	6	5	0	60	197	5	8	8	5	36	0	531	15	516
Hour	13	797	62	42	9	20	13	1	259	935	26	41	31	17	188	6	2460	90	2370
17:00	5	181	9	4	4	10	4	1	58	180	5	7	12	11	35	1	527	13	514
17:15	3	196	12	7	2	3	5	0	67	232	5	10	23	6	50	3	624	20	604
17:30	4	174	10	5	3	8	3	0	79	262	7	7	17	5	45	1	630	13	617
17:45	6	168	7	3	6	7	1	0	73	233	6	9	11	9	47	1	587	13	574
Hour	18	719	38	19	15	28	13	1	277	907	23	33	63	31	177	6	2368	59	2309
Total	31	1516	100	61	24	48	26	2	536	1842	49	74	94	48	365	12	4828	149	4679
% Apr.	1.8	88.7	5.8	3.5	24.0	48.0	26.0	2.0	21.4	73.6	1.9	2.9	18.1	9.2	70.3	2.3	-	-	-
% Int.	0.6	31.4	2.0	1.2	0.4	0.9	0.5	-	11.1	38.1	1.0	1.5	1.9	0.9	7.5	0.2	-	-	-

Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 04/26/00 to 17:45 on 04/26/00

Time	16:00			42	16:00			1	16:00			41	16:00			6			
Vol.	13	797	62	x	9	20	13	x	259	935	26	x	31	17	188	x			
Pct.	1.4	91.3	7.1	5% x	21.4	47.6	30.9	2% x	21.2	76.6	2.1	3% x	13.1	7.2	79.6	3% x			
Total	872				42				1220				236						
High	16:30				16:00				16:15				16:15						
Vol.	3	233	24	x	5	6	1	x	69	269	5	x	6	1	56	x			
Total	260				12				343				63						
PHF	0.838				0.875				0.889				0.936						



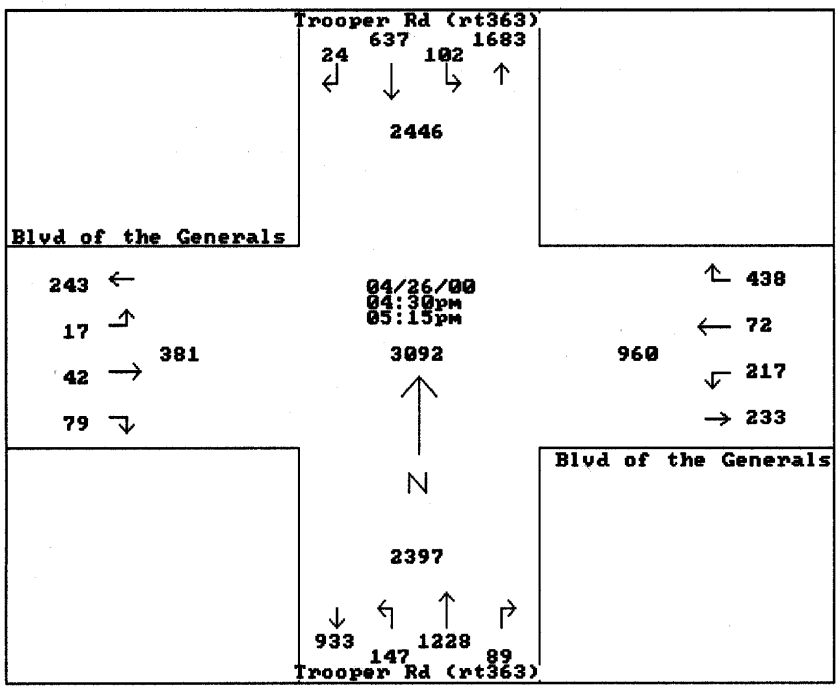
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Fort Washington, PA 19034

Municipality: Lower Providence Twp
Location: Trooper Rd (rt363) &
Boulevard of the Generals
Counter/Board #: WW/McM-1400

Study Name: LPROV07P
Site Code : 89929007
Start Date: 04/26/00
Page : 1

	Trooper Rd (rt363) Southbound					Blvd of the Generals Westbound					Trooper Rd (rt363) Northbound					Blvd of the Generals Eastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	RTOR	Right	HV	Intvl Total
04/26/00																					
16:00	19	161	2	1	12	49	9	68	17	5	30	266	1	21	17	3	12	9	7	1	710
16:15	14	154	2	0	12	33	14	46	16	7	27	285	4	17	13	3	4	13	3	0	667
16:30	23	183	5	0	12	56	17	89	24	5	46	305	7	22	16	4	8	15	3	3	843
16:45	26	167	5	2	14	50	11	64	33	3	39	279	0	15	9	6	10	19	9	1	762
Hour	82	665	14	3	50	188	51	267	90	20	142	1135	12	75	55	16	34	56	22	5	2982
17:00	21	141	4	2	9	62	26	123	23	5	25	357	3	23	20	5	9	16	0	0	874
17:15	32	146	2	4	10	49	18	60	22	5	37	287	3	16	15	2	15	12	5	5	745
17:30	22	140	7	2	7	34	24	71	24	3	37	285	1	26	11	6	14	10	2	3	729
17:45	22	145	1	1	9	31	12	40	26	0	32	260	0	36	9	6	7	7	6	2	652
Hour	97	572	14	9	35	176	80	294	95	13	131	1189	7	101	55	19	45	45	13	10	3000
Total	179	1237	28	12	85	364	131	561	185	33	273	2324	19	176	110	35	79	101	35	15	5982
% Apr.	11.6	80.2	1.8	0.7	5.5	28.5	10.2	44.0	14.5	2.5	9.4	80.0	0.6	6.0	3.7	13.2	29.8	38.1	13.2	5.6	-
% Int.	2.9	20.6	0.4	0.2	1.4	6.0	2.1	9.3	3.0	0.5	4.5	38.8	0.3	2.9	1.8	0.5	1.3	1.6	0.5	0.2	-

	Trooper Rd (rt363) Southbound					Blvd of the Generals Westbound					Trooper Rd (rt363) Northbound					Blvd of the Generals Eastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	RTOR	Right	HV	Intvl Total
Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 04/26/00 to 17:45 on 04/26/00																					
Time	16:30					16:30					16:30					16:30					
Vol.	102	637	16	8	x	217	72	336	102	x	147	1228	13	76	x	17	42	62	17	x	
Pct.	13.3	83.4	2.0	1.0	x	29.8	9.9	46.2	14.0	x	10.0	83.8	0.8	5.1	x	12.3	30.4	44.9	12.3	x	
Total	763					727					1464					138					
High	16:30					17:00					17:00					16:45					
Vol.	23	183	5	0	x	62	26	123	23	x	25	357	3	23	x	6	10	19	9	x	
Total	211					234					408					44					
PHF	0.904					0.776					0.897					0.784					



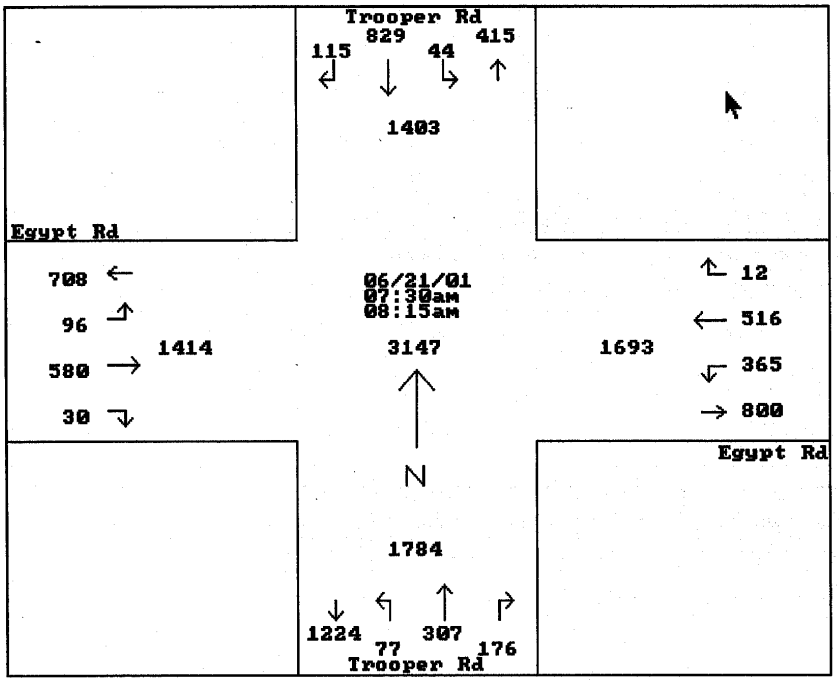
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Plymouth Twp
Location: Egypt Rd and Trooper Rd
Counter/Board #: JC/SK/McM-2213

Study Name: DVRPC05W
Site Code : 80100205
Start Date: 06/21/01
Page : 1

Start	Trooper Rd Southbound					Egypt Rd Westbound					Trooper Rd Northbound					Egypt Rd Eastbound					Intvl
Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	RTOR	Right	HV	Total
06/21/01																					
07:00	8	197	23	5	7	74	106	1	1	2	16	64	6	41	10	25	127	0	5	1	719
07:15	12	224	19	2	6	77	117	2	2	4	17	75	9	20	5	28	131	0	3	4	757
07:30	15	202	22	1	7	81	132	1	2	2	16	76	9	37	4	33	148	0	3	3	794
07:45	8	219	21	4	2	95	129	1	1	3	18	86	8	36	10	24	149	0	13	3	830
Hour	43	842	85	12	22	327	484	5	6	11	67	301	32	134	29	110	555	0	24	11	3100
08:00	7	192	30	5	2	101	125	2	1	2	23	77	14	40	7	24	133	0	2	4	791
08:15	14	216	31	1	4	88	130	2	2	2	20	68	11	21	5	15	150	0	12	3	795
08:30	12	189	25	2	5	73	88	4	1	2	26	79	8	28	9	20	117	0	11	5	704
08:45	16	179	14	2	7	79	85	0	1	2	15	99	12	30	4	30	107	0	14	5	701
Hour	49	776	100	10	18	341	428	8	5	8	84	323	45	119	25	89	507	0	39	17	2991
Total	92	1618	185	22	40	668	912	13	11	19	151	624	77	253	54	199	1062	0	63	28	6091
% Apr.	4.7	82.6	9.4	1.1	2.0	41.1	56.1	0.8	0.6	1.1	13.0	53.8	6.6	21.8	4.6	14.7	78.5	-	4.6	2.0	-
% Int.	1.5	26.5	3.0	0.3	0.6	10.9	14.9	0.2	0.1	0.3	2.4	10.2	1.2	4.1	0.8	3.2	17.4	-	1.0	0.4	-

Start	Trooper Rd Southbound					Egypt Rd Westbound					Trooper Rd Northbound					Egypt Rd Eastbound					Intvl
Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	RTOR	Right	HV	Total
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 06/21/01 to 08:45 on 06/21/01																					
Time	07:30					07:30					07:30					07:30					
Vol.	44	829	104	11	15 x	365	516	6	6	9 x	77	307	42	134	20 x	96	580	0	30	13 x	
Pct.	4.4	83.9	10.5	1.1	2% x	40.8	57.7	0.6	0.6	1% x	13.7	54.8	7.5	23.9	5% x	13.5	82.1	0.0	4.2	2% x	
Total	988					893					560					706					
High	08:15					08:00					08:00					07:45					
Vol.	14	216	31	1	x	101	125	2	1	x	23	77	14	40	x	24	149	0	13	x	
Total	262					229					154					186					
PHF	0.942					0.974					0.909					0.948					



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Lower Providence Twp
Location: Trooper Rd (rt363) & Egypt Rd

Counter/Board #: JB2/McM-2214

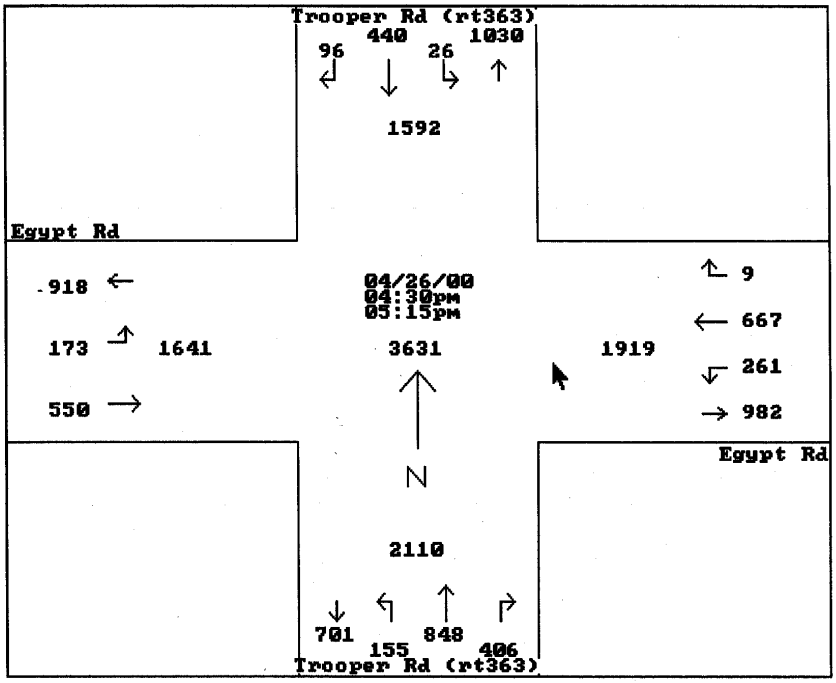
Study Name: LPROV06P
Site Code : 89929006
Start Date: 04/26/00
Page : 1

	Trooper Rd (rt363) Southbound					Egypt Rd Westbound					Trooper Rd (rt363) Northbound					Egypt Rd Eastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	RTOR	Right	HV	Intvl Total
04/26/00																					
16:00	2	99	19	4	9	70	171	10	0	5	45	186	17	67	9	33	100	0	0	2	848
16:15	6	97	22	0	11	56	164	0	0	6	34	172	17	69	6	34	121	0	2	1	818
16:30	8	103	17	0	5	92	135	0	0	2	36	218	15	101	6	45	125	0	0	6	914
16:45	4	125	20	1	9	61	182	0	0	5	42	182	15	75	4	37	149	0	0	1	912
Hour	20	424	78	5	34	279	652	10	0	18	157	758	64	312	25	149	495	0	2	10	3492
17:00	6	98	27	0	4	49	153	0	0	1	48	246	11	93	13	56	142	0	0	1	948
17:15	8	114	29	2	8	59	197	9	0	5	29	202	6	90	13	35	134	0	0	0	940
17:30	8	105	29	4	4	62	142	10	0	3	37	206	7	95	7	53	113	0	0	1	886
17:45	4	88	27	1	6	77	158	5	0	6	30	180	9	64	2	60	139	0	0	0	856
Hour	26	405	112	7	22	247	650	24	0	15	144	834	33	342	35	204	528	0	0	2	3630
Total	46	829	190	12	56	526	1302	34	0	33	301	1592	97	654	60	353	1023	0	2	12	7122
% Apr.	4.0	73.1	16.7	1.0	4.9	27.7	68.7	1.7	-	1.7	11.1	58.8	3.5	24.1	2.2	25.3	73.5	-	0.1	0.8	-
% Int.	0.6	11.6	2.6	0.1	0.7	7.3	18.2	0.4	-	0.4	4.2	22.3	1.3	9.1	0.8	4.9	14.3	-	-	0.1	-

Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 04/26/00 to 17:45 on 04/26/00

Time	16:30					16:30					16:30					16:30					
Vol.	26	440	93	3	x	261	667	9	0	x	155	848	47	359	x	173	550	0	0	x	
Pct.	4.6	78.2	16.5	0.5	5% x	27.8	71.1	0.9	0.0	1% x	11.0	60.1	3.3	25.4	3% x	23.9	76.0	0.0	0.0	1% x	
Total	562					937					1409					723					
High	17:15					17:15					17:00					17:00					
Vol.	8	114	29	2	x	59	197	9	0	x	48	246	11	93	x	56	142	0	0	x	
Total	153					265					398					198					
PHF	0.918					0.883					0.885					0.912					

	Trooper Rd (rt363) Southbound					Egypt Rd Westbound					Trooper Rd (rt363) Northbound					Egypt Rd Eastbound					
Start Time	Left	Thru	Right	RTOR	HV	Left	Thru	Right	RTOR	HV	Left	Thru	RTOR	Right	HV	Left	Thru	RTOR	Right	HV	Intvl Total



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Norristown
Location: W Main St and Egypt Rd

Counter/Board #: CM/McM-2285

Study Name: DVRPC09W
Site Code : 80100209
Start Date: 06/12/01
Page : 1

Vehicle group 1

	Jefferson Ave Southbound					W Main St Westbound				Egypt Rd Northbound				W Main St Eastbound							
Start Time	Left	BLeft	Thru	Right	HV	HLeft	Left	Thru	HV	Left	HRght	Right	HV	Thru	BRght	Right		HV	Intvl Total	Exclu Total	Inclu Total
06/12/01																					
06:59	8	0	54	7	3	3	85	69	9	7	0	177	2	150	0	3	0	0	577	14	563
07:14	4	0	55	12	2	0	107	99	4	13	0	205	5	166	3	4	0	3	682	14	668
07:29	4	0	89	10	2	1	126	113	9	15	0	209	5	159	1	6	0	10	759	26	733
07:44	6	1	75	10	1	0	126	121	9	12	0	185	4	166	0	5	0	6	727	20	707
07:59	7	1	62	10	0	0	109	76	7	8	0	205	7	166	5	7	0	4	674	18	656
08:14	11	0	70	11	5	2	106	104	10	14	1	195	2	134	4	4	0	4	677	21	656
08:29	15	0	54	10	5	1	107	101	10	13	0	172	11	141	1	9	0	4	654	30	624
08:44	3	0	47	11	1	1	103	90	6	11	1	158	6	166	3	5	0	5	617	18	599
[BREAK]																					
15:59	12	2	78	21	2	0	112	179	9	20	0	193	5	113	3	7	0	3	759	19	740
16:14	3	1	62	15	1	0	151	158	9	17	0	145	3	100	9	7	0	3	684	16	668
16:29	12	1	76	11	0	4	120	132	3	8	0	208	7	110	5	9	0	4	710	14	696
16:44	6	0	71	10	1	0	146	156	2	12	0	179	1	122	5	12	0	3	726	7	719
16:59	5	0	71	12	0	0	146	164	4	13	0	174	2	125	3	5	0	1	725	7	718
17:14	10	1	68	8	1	0	157	152	1	24	0	180	2	105	4	13	0	0	726	4	722
17:29	8	1	70	4	1	1	154	125	4	17	1	137	2	109	2	14	0	3	653	10	643
17:44	8	0	75	10	2	1	140	157	1	17	1	175	0	90	7	7	0	1	692	4	688
Total	122	8	1077	172	27	14	1995	1996	97	221	4	2897	64	2122	55	117	0	54	11042	242	10800
% Apr.	8.6	0.5	76.6	12.2	1.9	0.3	48.6	48.6	2.3	6.9	0.1	90.9	2.0	90.3	2.3	4.9	-	2.2	-	-	-
% Int.	1.1	-	9.7	1.5	0.2	0.1	18.0	18.0	0.8	2.0	-	26.2	0.5	19.2	0.4	1.0	-	0.4	-	-	-

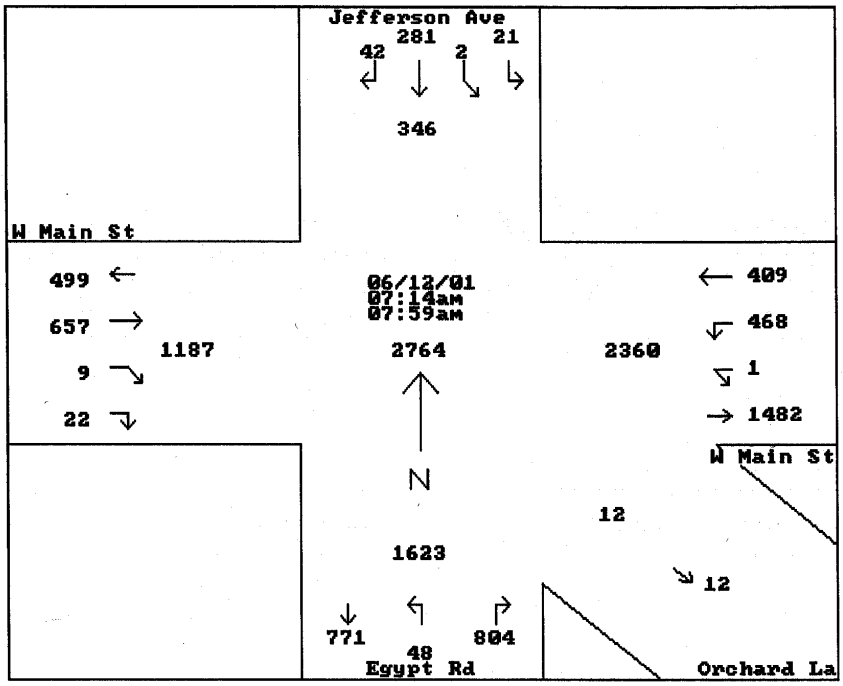
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Norristown
Location: W Main St and Egypt Rd
Counter/Board #: CM/McM-2285

Study Name: DVRPC09W
Site Code : 80100209
Start Date: 06/12/01
Page : 2

Vehicle group 1

	Jefferson Ave Southbound					W Main St Westbound				Egypt Rd Northbound				W Main St Eastbound							
Start Time	Left	BLeft	Thru	Right	HV	HLeft	Left	Thru	HV	Left	HRght	Right	HV	Thru	BRght	Right	HV	Intvl Total	Exclu Total	Inclu Total
Peak Hour Analysis By Entire Intersection for the Period: 06:59 on 06/12/01 to 08:44 on 06/12/01																				
Time	07:14					07:14				07:14				07:14						
Vol.	21	2	281	42	x	1	468	409	x	48	0	804	x	657	9	22	0	x		
Pct.	6.0	0.5	81.2	12.1	x	0.1	53.3	46.5	x	5.6	0.0	94.3	x	95.4	1.3	3.1	0.0	x		
Total	346					878				852				688						
High	07:29					07:44				07:29				07:59						
Vol.	4	0	89	10	x	0	126	121	x	15	0	209	x	166	5	7	0	x		
Total	103					247				224				178						
PHF	0.839					0.888				0.950				0.966						



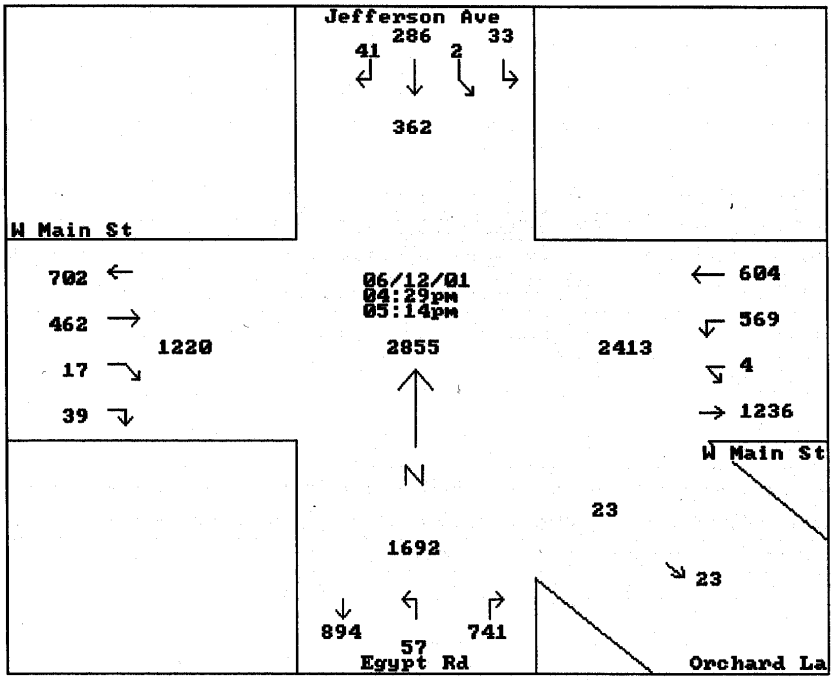
McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Drive, Suite 200
Fort Washington, PA 19034-2716

Municipality: Norristown
Location: W Main St and Egypt Rd
Counter/Board #: CM/McM-2285

Study Name: DVRPC09W
Site Code : 80100209
Start Date: 06/12/01
Page : 3

Vehicle group 1

	Jefferson Ave Southbound					W Main St Westbound				Egypt Rd Northbound				W Main St Eastbound					Intvl	Exclu	Inclu
Start Time	Left	BLeft	Thru	Right	HV	HLeft	Left	Thru	HV	Left	HRght	Right	HV	Thru	BRght	Right		HV	Total	Total	Total
Peak Hour Analysis By Entire Intersection for the Period: 15:59 on 06/12/01 to 17:44 on 06/12/01																					
Time	16:29					16:29				16:29				16:29							
Vol.	33	2	286	41	x	4	569	604	x	57	0	741	x	462	17	39	0	x			
Pct.	9.1	0.5	79.0	11.3	x	0.3	48.3	51.3	x	7.1	0.0	92.8	x	89.1	3.2	7.5	0.0	x			
Total	362					1177				798				518							
High	16:29					16:59				16:29				16:44							
Vol.	12	1	76	11	x	0	146	164	x	8	0	208	x	122	5	12	0	x			
Total	100					310				216				139							
PHF	0.905					0.949				0.923				0.931							



Edwards a[illegible]elcey, Inc.
1247 Wa[illegible] Avenue
West Chester, PA 19380
(610) 701-7000

CCIP - District 6-0
Ridge Pike & Schuylkill Avenue
Counted By: J Anthos & M Steigerwalt
Weather: Sunny

File Name : COMBIN~1
Site Code : 00016081
Start Date : 05/01/2002
Page No : 1

Groups Printed- 1 - Regular - 2 - Heavy Vehicles - 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	151	4	0	155	3	1	3	0	7	2	73	1	0	76	9	3	11	0	23	261
06:15 AM	4	184	4	0	192	2	2	4	0	8	4	127	3	1	135	10	6	9	0	25	360
06:30 AM	7	253	5	0	265	5	4	8	0	17	1	140	0	0	141	17	12	17	0	46	469
06:45 AM	9	254	5	1	269	7	6	2	0	15	5	177	3	0	185	13	9	16	0	38	507
Total	20	842	18	1	881	17	13	17	0	47	12	517	7	1	537	49	30	53	0	132	1597
07:00 AM	11	264	1	0	276	5	4	6	0	15	2	181	3	0	186	24	15	24	0	63	540
07:15 AM	11	328	2	0	341	9	10	13	0	32	2	190	2	0	194	27	15	25	4	71	638
07:30 AM	8	351	1	0	360	8	6	16	0	30	2	232	1	0	235	30	16	28	0	74	699
07:45 AM	8	341	2	1	352	6	23	15	0	44	6	209	2	0	217	33	7	24	1	65	678
Total	38	1284	6	1	1329	28	43	50	0	121	12	812	8	0	832	114	53	101	5	273	2555
08:00 AM	10	301	3	0	314	11	9	11	5	36	3	218	2	5	228	24	8	16	0	48	626
08:15 AM	12	323	14	1	350	11	5	14	0	30	5	182	2	0	189	21	6	16	1	44	613
08:30 AM	3	263	1	0	267	7	8	12	0	27	6	208	2	0	216	18	14	18	0	50	560
08:45 AM	6	219	1	1	227	6	9	9	0	24	3	173	1	0	177	15	12	9	0	36	464
Total	31	1106	19	2	1158	35	31	46	5	117	17	781	7	5	810	78	40	59	1	178	2263
11:00 AM	7	181	7	0	195	0	17	12	1	30	5	161	3	2	171	15	9	9	0	33	429
11:15 AM	6	186	9	0	201	1	12	5	0	18	13	180	2	0	195	18	10	10	0	38	452
11:30 AM	8	161	7	0	176	1	8	10	1	20	7	142	1	0	150	21	4	4	0	29	375
11:45 AM	4	159	7	0	170	1	15	13	0	29	4	180	4	0	188	11	14	12	1	38	425
Total	25	687	30	0	742	3	52	40	2	97	29	663	10	2	704	65	37	35	1	138	1681
12:00 PM	12	182	10	1	205	0	13	10	1	24	7	180	2	0	189	17	15	6	1	39	457
12:15 PM	11	176	14	0	201	3	12	5	0	20	9	173	1	0	183	14	12	9	0	35	439
12:30 PM	4	204	6	0	214	4	11	10	0	25	6	165	0	1	172	17	6	16	0	39	450
12:45 PM	15	174	8	2	199	2	8	3	0	13	7	174	1	0	182	24	9	18	0	51	445
Total	42	736	38	3	819	9	44	28	1	82	29	692	4	1	726	72	42	49	1	164	1791
03:00 PM	11	237	7	1	256	2	15	6	1	24	10	252	1	0	263	12	7	11	1	31	574
03:15 PM	5	210	4	0	219	2	13	11	1	27	11	271	1	1	284	15	10	9	1	35	565
03:30 PM	12	250	3	0	265	5	20	14	0	39	5	258	1	1	265	11	14	16	0	41	610
03:45 PM	10	238	0	0	248	3	23	8	0	34	7	262	4	0	273	20	17	9	0	46	601
Total	38	935	14	1	988	12	71	39	2	124	33	1043	7	2	1085	58	48	45	2	153	2350
04:00 PM	8	243	4	0	255	7	20	9	0	36	8	296	3	1	308	15	14	14	0	43	642
04:15 PM	11	279	3	0	293	2	18	14	0	34	5	296	1	0	302	16	13	7	0	36	665
04:30 PM	12	248	6	2	268	6	23	6	0	35	15	265	2	0	282	11	9	7	1	28	613
04:45 PM	16	273	3	0	292	8	18	18	0	44	9	308	2	0	319	23	17	11	0	51	706
Total	47	1043	16	2	1108	23	79	47	0	149	37	1165	8	1	1211	65	53	39	1	158	2626
05:00 PM	14	247	5	0	266	2	44	15	0	61	11	309	4	1	325	10	24	14	0	48	700
05:15 PM	9	285	3	0	297	3	17	12	1	33	8	317	0	0	325	17	18	11	0	46	701
05:30 PM	8	210	5	1	224	4	21	10	0	35	11	336	0	1	348	18	13	9	0	40	647
05:45 PM	15	222	6	0	243	3	24	13	1	41	20	273	1	0	294	23	16	8	0	47	625
Total	46	964	19	1	1030	12	106	50	2	170	50	1235	5	2	1292	68	71	42	0	181	2673
Grand Total	287	7597	160	11	8055	139	439	317	12	907	219	6908	56	14	7197	569	374	423	11	1377	17536
Apprch %	3.6	94.3	2.0	0.1		15.3	48.4	35.0	1.3		3.0	96.0	0.8	0.2		41.3	27.2	30.7	0.8		
Total %	1.6	43.3	0.9	0.1	45.9	0.8	2.5	1.8	0.1	5.2	1.2	39.4	0.3	0.1	41.0	3.2	2.1	2.4	0.1	7.9	

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CCIP - District 6-0
Ridge Pike & Schuylkill Avenue
Counted By: J Anthos & M Steigerwalt
Weather: Sunny

File Name : COMBIN~1
Site Code : 00016081
Start Date : 05/01/2002
Page No : 1

Groups Printed- 2 - Heavy Vehicles

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	9
06:15 AM	1	14	0	0	15	1	0	0	0	1	0	9	0	0	9	0	0	1	0	1	26
06:30 AM	1	10	0	0	11	2	0	0	0	2	0	12	0	0	12	1	0	0	0	1	26
06:45 AM	0	16	1	0	17	0	0	0	0	0	1	16	1	0	18	0	1	0	0	1	36
Total	2	42	1	0	45	3	0	0	0	3	1	44	1	0	46	1	1	1	0	3	97
07:00 AM	1	7	0	0	8	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	22
07:15 AM	0	18	0	0	18	2	0	0	0	2	0	10	0	0	10	0	0	1	0	1	31
07:30 AM	1	14	1	0	16	0	0	0	0	0	0	14	0	0	14	1	1	1	0	3	33
07:45 AM	0	11	0	0	11	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	20
Total	2	50	1	0	53	2	0	0	0	2	1	45	0	0	46	1	1	3	0	5	106
08:00 AM	0	13	0	0	13	0	0	1	0	1	0	15	0	0	15	0	0	1	0	1	30
08:15 AM	1	19	0	0	20	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	33
08:30 AM	1	13	0	0	14	0	0	0	0	0	1	17	0	0	18	0	0	0	0	0	32
08:45 AM	0	12	0	0	12	0	0	0	0	0	1	16	0	0	17	1	0	0	0	1	30
Total	2	57	0	0	59	0	0	1	0	1	2	60	0	0	62	2	0	1	0	3	125
11:00 AM	1	11	0	0	12	0	0	0	0	0	1	11	0	0	12	1	0	0	0	1	25
11:15 AM	0	14	1	0	15	0	0	0	0	0	2	16	1	0	19	1	0	2	0	3	37
11:30 AM	1	17	2	0	20	1	0	0	0	1	1	15	0	0	16	1	0	0	0	1	38
11:45 AM	0	13	0	0	13	0	0	2	0	2	0	18	1	0	19	0	1	0	0	1	35
Total	2	55	3	0	60	1	0	2	0	3	4	60	2	0	66	3	1	2	0	6	135
12:00 PM	0	14	0	0	14	0	1	0	0	1	0	15	0	0	15	1	1	0	0	2	32
12:15 PM	0	11	1	0	12	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	24
12:30 PM	1	13	1	0	15	0	0	1	0	1	1	15	0	0	16	1	0	0	0	1	33
12:45 PM	0	4	1	0	5	0	0	0	0	0	0	15	0	0	15	3	0	0	0	3	23
Total	1	42	3	0	46	0	1	2	0	3	2	55	0	0	57	5	1	0	0	6	112
03:00 PM	0	18	0	0	18	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	31
03:15 PM	0	8	0	0	8	0	0	1	0	1	0	12	0	0	12	0	0	0	0	0	21
03:30 PM	0	7	2	0	9	0	1	0	0	1	1	10	0	0	11	1	0	0	0	1	22
03:45 PM	0	12	0	0	12	0	1	0	0	1	1	6	0	0	7	1	0	0	0	1	21
Total	0	45	2	0	47	0	2	1	0	3	2	41	0	0	43	2	0	0	0	2	95
04:00 PM	1	7	0	0	8	1	0	1	0	2	0	10	0	0	10	1	0	0	0	1	21
04:15 PM	0	8	0	0	8	0	1	0	0	1	0	14	0	0	14	1	1	2	0	4	27
04:30 PM	1	3	0	0	4	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	10
04:45 PM	0	10	0	0	10	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	14
Total	2	28	0	0	30	2	1	2	0	5	0	32	0	0	32	2	1	2	0	5	72
05:00 PM	1	2	0	0	3	0	1	0	0	1	0	7	1	0	8	0	0	1	0	1	13
05:15 PM	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	9
05:30 PM	1	7	1	0	9	0	0	0	0	0	0	11	0	0	11	0	0	1	0	1	21
05:45 PM	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	11
Total	2	21	1	0	24	0	1	0	0	1	0	26	1	0	27	0	0	2	0	2	54
Grand Total	13	340	11	0	364	8	5	8	0	21	12	363	4	0	379	16	5	11	0	32	796
Apprch %	3.6	93.4	3.0	0.0		38.1	23.8	38.1	0.0		3.2	95.8	1.1	0.0		50.0	15.6	34.4	0.0		
Total %	1.6	42.7	1.4	0.0	45.7	1.0	0.6	1.0	0.0	2.6	1.5	45.6	0.5	0.0	47.6	2.0	0.6	1.4	0.0	4.0	

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Ridge Pike & Schuylkill Avenue
Counted By: J Anthos & M Steigerwalt
Weather: Sunny

File Name : COMBIN~1
Site Code : 00016081
Start Date : 05/01/2002
Page No : 1

Groups Printed- 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	7
06:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	5
06:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	7
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5
Total	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20	24
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	6
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	6
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	18	18
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	6
11:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	4	0	4	6
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	4	0	4	5
Total	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	0	0	11	0	11	14
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5
12:15 PM	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	10
Total	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	20
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	8
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Grand Total	0	0	8	0	8	0	0	1	0	1	0	0	1	0	1	0	0	87	1	88	98
Apprch %	0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	98.9	1.1		
Total %	0.0	0.0	8.2	0.0	8.2	0.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	88.8	1.0	89.8	

Edwards ar[illegible]elcey, Inc.
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File Name : COMBIN~1
Site Code : 00016081
Start Date : 05/01/2002
Page No : 2

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	37	1321	8	1	1367	34	48	55	5	142	13	849	7	5	874	114	46	93	5	258	2641
Percent	2.7	96.6	0.6	0.1		23.9	33.8	38.7	3.5		1.5	97.1	0.8	0.6		44.2	17.8	36.0	1.9		
07:30 Volume	8	351	1	0	360	8	6	16	0	30	2	232	1	0	235	30	16	28	0	74	699
Peak Factor																					0.945
High Int.	07:30 AM					07:45 AM					07:30 AM					07:30 AM					
Volume	8	351	1	0	360	6	23	15	0	44	2	232	1	0	235	30	16	28	0	74	
Peak Factor					0.949					0.807					0.930					0.872	
Peak Hour From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Intersection	12:00 PM																				
Volume	42	736	38	3	819	9	44	28	1	82	29	692	4	1	726	72	42	49	1	164	1791
Percent	5.1	89.9	4.6	0.4		11.0	53.7	34.1	1.2		4.0	95.3	0.6	0.1		43.9	25.6	29.9	0.6		
12:00 Volume	12	182	10	1	205	0	13	10	1	24	7	180	2	0	189	17	15	6	1	39	457
Peak Factor																					0.980
High Int.	12:30 PM					12:30 PM					12:00 PM					12:45 PM					
Volume	4	204	6	0	214	4	11	10	0	25	7	180	2	0	189	24	9	18	0	51	
Peak Factor					0.957					0.820					0.960					0.804	
Peak Hour From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	47	1015	16	1	1079	17	100	55	1	173	39	1270	6	2	1317	68	72	45	0	185	2754
Percent	4.4	94.1	1.5	0.1		9.8	57.8	31.8	0.6		3.0	96.4	0.5	0.2		36.8	38.9	24.3	0.0		
04:45 Volume	16	273	3	0	292	8	18	18	0	44	9	308	2	0	319	23	17	11	0	51	706
Peak Factor																					0.975
High Int.	05:15 PM					05:00 PM					05:30 PM					04:45 PM					
Volume	9	285	3	0	297	2	44	15	0	61	11	336	0	1	348	23	17	11	0	51	
Peak Factor					0.908					0.709					0.946					0.907	

Edwards AND Kelcey
1247 Ward Ave.
West Chester, PA 19380
610 - 701 - 7000

Peak Hour Report
AM, MD, PM

E / W Street: Ridge Pike
N / S Street: Schuylkill Ave
Remarks: 0

Count Date: 05/01/02
Weather: Sunny 60's

Project Name: CCIP District 6
Project No: 000015034
Control Type: Signalized

AM Peak

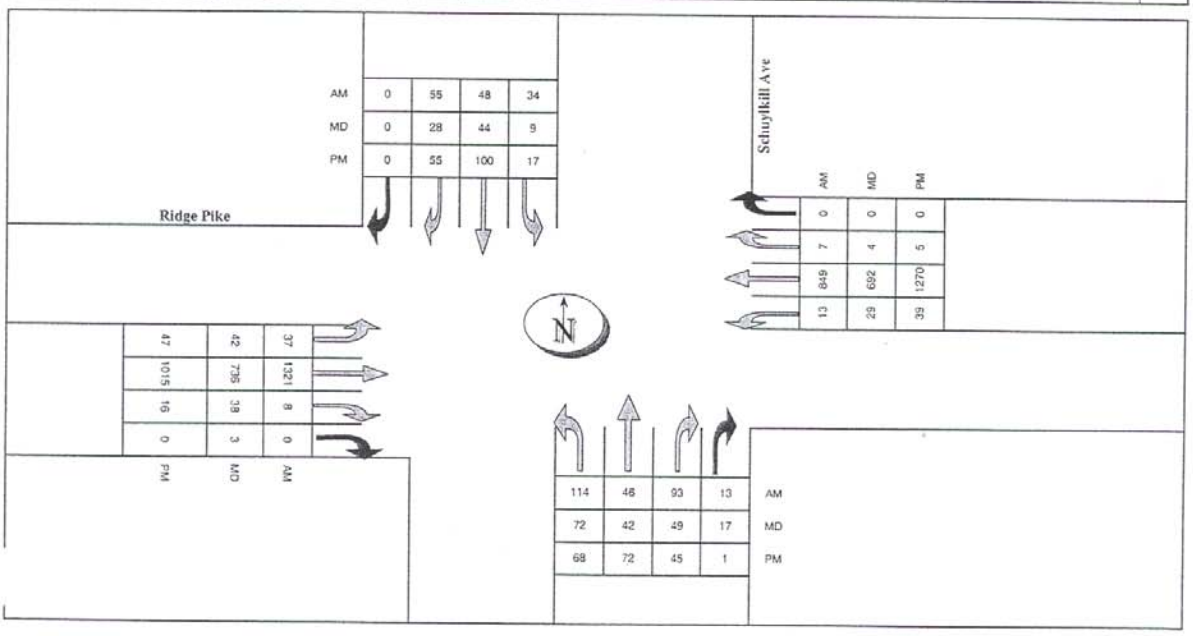
From - To 7:15 AM - 8:15 AM	Ridge Pike Eastbound					Schuylkill Ave Southbound					Ridge Pike Westbound					Schuylkill Ave Northbound				
	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	37	1321	8	0	1	34	48	55	0	5	13	849	7	0	5	114	46	93	13	5
Truck Volume	1	56	1			2	0	1			1	47	0			1	1	3		
Truck Percentage	2.7%	4.2%	12.5%			5.9%	0.0%	1.8%			7.7%	5.5%	0.0%			0.9%	2.2%	3.2%		
PHF	0.8	0.9	0.7			0.8	0.5	0.9			0.5	0.9	0.9			0.9	0.7	0.8		
Approach Volume	1366					137					869					253				

MD Peak

From - To 12:00 PM - 1:00 PM	Eastbound					Southbound					Westbound					Northbound				
	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	42	736	38	3	3	9	44	28	0	1	29	692	4	0	1	72	42	49	17	1
Truck Volume	1	42	3			0	1	2			2	55	0			5	1	0		
Truck Percentage	2.4%	5.7%	7.9%			0.0%	2.3%	7.1%			6.9%	7.9%	0.0%			6.9%	2.4%	0.0%		
PHF	0.7	0.9	0.7			0.6	0.8	0.7			0.8	1.0	0.5			0.8	0.7	0.7		
Approach Volume	816					81					725					163				

PM Peak

From - To 4:45 PM - 5:45 PM	Eastbound					Southbound					Westbound					Northbound				
	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	47	1015	16	0	1	17	100	55	0	1	39	1270	5	0	2	68	72	45	1	0
Truck Volume	2	25	1			0	1	1			0	24	1			0	0	2		
Truck Percentage	4.3%	2.5%	6.3%			0.0%	1.0%	1.8%			0.0%	1.9%	20.0%			0.0%	0.0%	4.4%		
PHF	0.7	0.9	0.8			0.5	0.6	0.8			0.9	0.9	0.3			0.7	0.8	0.8		
Approach Volume	1078					172					1314					185				



Edwards a[illegible]Kelcey, Inc.
1247 Wa[illegible] Avenue
West Chester, PA 19380
(610) 701-7000

CCIP - District 6-0
Ridge Pike & Whitehall Road
Counted By: B Barikian & T Walck
Weather: Sunny

File Name : COMBIN~1
Site Code : 00016091
Start Date : 05/01/2002
Page No : 1

Groups Printed- 1 - Regular - 2 - Heavy Trucks - 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	4	156	0	0	160	11	1	6	1	19	0	70	6	0	76	0	2	2	0	4	259
06:15 AM	13	188	2	0	203	15	1	10	0	26	0	118	10	0	128	0	4	2	0	6	363
06:30 AM	23	249	1	0	273	24	1	12	0	37	0	132	3	0	135	4	12	6	0	22	467
06:45 AM	27	238	2	0	267	28	4	22	1	55	1	155	5	0	161	4	14	8	0	26	509
Total	67	831	5	0	903	78	7	50	2	137	1	475	24	0	500	8	32	18	0	58	1598
07:00 AM	26	264	1	0	291	29	5	24	0	58	0	156	15	0	171	4	16	14	0	34	554
07:15 AM	38	309	2	0	349	30	4	19	0	53	0	172	13	0	185	6	22	15	0	43	630
07:30 AM	50	324	1	0	375	52	5	17	0	74	1	212	12	0	225	7	28	10	0	45	719
07:45 AM	45	326	1	0	372	41	6	27	0	74	0	209	13	0	222	4	24	12	0	40	708
Total	159	1223	5	0	1387	152	20	87	0	259	1	749	53	0	803	21	90	51	0	162	2611
08:00 AM	60	262	2	0	324	45	3	30	0	78	2	202	8	0	212	5	23	8	0	36	650
08:15 AM	35	305	1	0	341	48	8	20	0	76	2	168	13	0	183	5	21	11	0	37	637
08:30 AM	32	248	2	0	282	42	4	30	0	76	0	183	10	0	193	6	13	8	0	27	578
08:45 AM	34	210	3	0	247	28	7	21	3	59	2	155	20	0	177	4	7	7	0	18	501
Total	161	1025	8	0	1194	163	22	101	3	289	6	708	51	0	765	20	64	34	0	118	2366
11:00 AM	27	163	3	0	193	12	6	24	1	43	1	145	8	1	155	4	10	2	1	17	408
11:15 AM	28	167	0	0	195	14	7	22	0	43	2	181	9	0	192	3	5	4	0	12	442
11:30 AM	26	158	1	0	185	13	6	25	0	44	0	136	8	0	144	3	4	2	0	9	382
11:45 AM	31	145	2	0	178	14	10	38	0	62	3	162	17	0	182	1	5	4	0	10	432
Total	112	633	6	0	751	53	29	109	1	192	6	624	42	1	673	11	24	12	1	48	1664
12:00 PM	38	149	4	0	191	8	10	27	1	46	1	175	19	0	195	6	6	3	0	15	447
12:15 PM	24	166	1	0	191	14	4	22	2	42	5	179	9	0	193	2	8	3	0	13	439
12:30 PM	34	176	1	0	211	22	4	19	2	47	0	171	11	0	182	2	7	3	0	12	452
12:45 PM	27	169	0	2	198	19	6	20	1	46	0	174	6	0	180	1	2	2	0	5	429
Total	123	660	6	2	791	63	24	88	6	181	6	699	45	0	750	11	23	11	0	45	1767
03:00 PM	37	193	1	0	231	18	13	24	1	56	5	248	34	0	287	3	9	7	0	19	593
03:15 PM	40	175	0	1	216	19	15	30	0	64	1	262	18	0	281	3	8	6	0	17	578
03:30 PM	50	214	2	0	266	23	11	17	1	52	2	246	17	0	265	4	10	2	0	16	599
03:45 PM	40	200	0	0	240	24	5	18	1	48	3	266	19	0	288	2	5	3	0	10	586
Total	167	782	3	1	953	84	44	89	3	220	11	1022	88	0	1121	12	32	18	0	62	2356
04:00 PM	38	221	1	0	260	19	16	30	1	66	4	291	16	0	311	5	9	4	0	18	655
04:15 PM	45	226	3	0	274	23	16	30	1	70	0	322	22	1	345	3	15	2	1	21	710
04:30 PM	41	194	0	1	236	17	14	19	0	50	0	307	15	0	322	3	6	4	0	13	621
04:45 PM	41	208	3	2	254	24	13	39	1	77	0	279	16	0	295	5	16	1	0	22	648
Total	165	849	7	3	1024	83	59	118	3	263	4	1199	69	1	1273	16	46	11	1	74	2634
05:00 PM	53	204	2	1	260	22	8	24	0	54	1	309	21	1	332	8	13	6	1	28	674
05:15 PM	54	206	4	0	264	20	16	26	2	64	0	318	15	1	334	5	9	4	1	19	681
05:30 PM	45	184	4	0	233	24	19	29	1	73	0	313	21	0	334	6	14	3	0	23	663
05:45 PM	41	173	0	0	214	13	10	38	0	61	2	276	14	0	292	1	12	8	0	21	588
Total	193	767	10	1	971	79	53	117	3	252	3	1216	71	2	1292	20	48	21	2	91	2606
Grand Total	1147	6770	50	7	7974	755	258	759	21	1793	38	6692	443	4	7177	119	359	176	4	658	17602
Apprch %	14.4	84.9	0.6	0.1		42.1	14.4	42.3	1.2		0.5	93.2	6.2	0.1		18.1	54.6	26.7	0.6		
Total %	6.5	38.5	0.3	0.0	45.3	4.3	1.5	4.3	0.1	10.2	0.2	38.0	2.5	0.0	40.8	0.7	2.0	1.0	0.0	3.7	

Edwards a[illegible]elcey, Inc.
1247 Wa[illegible] Avenue
West Chester, PA 19380
(610) 701-7000

CCIP - District 6-0
Ridge Pike & Whitehall Road
Counted By: B Barikian & T Walck
Weather: Sunny

File Name : COMBIN~1
Site Code : 00016091
Start Date : 05/01/2002
Page No : 1

Groups Printed- 2 - Heavy Trucks

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	3	0	0	3	1	0	2	0	3	0	6	0	0	6	0	0	0	0	0	12
06:15 AM	1	16	0	0	17	0	0	1	0	1	0	8	1	0	9	0	1	0	0	1	28
06:30 AM	1	12	0	0	13	0	1	0	0	1	0	13	0	0	13	0	0	1	0	1	28
06:45 AM	2	12	0	0	14	1	0	3	0	4	0	14	1	0	15	1	2	1	0	4	37
Total	4	43	0	0	47	2	1	6	0	9	0	41	2	0	43	1	3	2	0	6	105
07:00 AM	1	8	0	0	9	1	1	3	0	5	0	14	2	0	16	0	1	0	0	1	31
07:15 AM	5	12	1	0	18	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	28
07:30 AM	4	10	0	0	14	4	0	2	0	6	0	13	1	0	14	0	1	0	0	1	35
07:45 AM	0	9	0	0	9	3	0	1	0	4	0	11	0	0	11	0	0	0	0	0	24
Total	10	39	1	0	50	8	1	7	0	16	0	47	3	0	50	0	2	0	0	2	118
08:00 AM	3	12	0	0	15	2	0	1	0	3	0	17	0	0	17	0	0	0	0	0	35
08:15 AM	1	17	0	0	18	2	0	0	0	2	0	12	0	0	12	0	0	0	0	0	32
08:30 AM	2	11	0	0	13	3	1	5	0	9	0	12	4	0	16	1	1	0	0	2	40
08:45 AM	4	10	0	0	14	2	0	2	0	4	0	13	1	0	14	0	0	0	0	0	32
Total	10	50	0	0	60	9	1	8	0	18	0	54	5	0	59	1	1	0	0	2	139
11:00 AM	1	11	1	0	13	0	0	2	0	2	0	10	0	0	10	1	0	0	0	1	26
11:15 AM	2	14	0	0	16	2	1	3	0	6	0	15	0	0	15	1	0	0	0	1	38
11:30 AM	0	17	0	0	17	0	0	4	0	4	0	14	2	0	16	0	0	0	0	0	37
11:45 AM	1	13	0	0	14	2	0	4	0	6	0	12	0	0	12	1	0	0	0	1	33
Total	4	55	1	0	60	4	1	13	0	18	0	51	2	0	53	3	0	0	0	3	134
12:00 PM	2	13	0	0	15	0	0	1	0	1	0	15	1	0	16	0	0	0	0	0	32
12:15 PM	1	12	0	0	13	1	0	2	0	3	0	9	0	0	9	1	0	0	0	1	26
12:30 PM	3	10	0	0	13	1	0	0	0	1	0	16	0	0	16	0	0	0	0	0	30
12:45 PM	0	5	0	0	5	4	0	1	0	5	0	12	0	0	12	0	0	0	0	0	22
Total	6	40	0	0	46	6	0	4	0	10	0	52	1	0	53	1	0	0	0	1	110
03:00 PM	3	13	1	0	17	3	0	1	0	4	0	11	1	0	12	0	0	0	0	0	33
03:15 PM	3	6	0	0	9	1	0	1	0	2	0	11	1	0	12	1	1	0	0	2	25
03:30 PM	0	3	0	0	3	2	0	1	0	3	0	9	0	0	9	0	1	0	0	1	16
03:45 PM	2	15	0	0	17	4	0	0	0	4	0	6	0	0	6	0	0	0	0	0	27
Total	8	37	1	0	46	10	0	3	0	13	0	37	2	0	39	1	2	0	0	3	101
04:00 PM	2	6	0	0	8	2	1	0	0	3	0	12	2	0	14	0	1	0	0	1	26
04:15 PM	2	8	0	0	10	1	0	3	0	4	0	11	0	0	11	0	0	0	0	0	25
04:30 PM	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	12
04:45 PM	0	7	0	0	7	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	11
Total	4	25	0	0	29	3	1	3	0	7	0	34	2	0	36	0	2	0	0	2	74
05:00 PM	0	5	0	0	5	0	0	1	0	1	0	8	0	0	8	0	1	0	0	1	15
05:15 PM	0	6	0	0	6	2	0	1	0	3	0	3	0	0	3	0	0	0	0	0	12
05:30 PM	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	19
05:45 PM	1	4	0	0	5	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	10
Total	1	24	0	0	25	2	0	3	0	5	0	25	0	0	25	0	1	0	0	1	56
Grand Total	47	313	3	0	363	44	5	47	0	96	0	341	17	0	358	7	11	2	0	20	837
Apprch %	12.9	86.2	0.8	0.0		45.8	5.2	49.0	0.0		0.0	95.3	4.7	0.0		35.0	55.0	10.0	0.0		
Total %	5.6	37.4	0.4	0.0	43.4	5.3	0.6	5.6	0.0	11.5	0.0	40.7	2.0	0.0	42.8	0.8	1.3	0.2	0.0	2.4	

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Weather: Sunny

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Groups Printed- 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	1	0	1	0	0	4	0	4	0	0	2	0	2	7
Apprch %	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	14.3	0.0	0.0	57.1	0.0	57.1	0.0	0.0	28.6	0.0	28.6	

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Start Date : 05/01/2002
Page No : 1

Groups Printed- 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	1	0	1	0	0	4	0	4	0	0	2	0	2	7
Apprch %	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	14.3	0.0	0.0	57.1	0.0	57.1	0.0	0.0	28.6	0.0	28.6	

Edwards AND Kelcey
1247 Ward Ave.
West Chester, PA 19380
610 - 701 - 7000

Peak Hour Report
AM, MD, PM

E / W Street: Ridge Pike
N / S Street: Whitehall Rd
Remarks: 0

Count Date: 05/01/02
Weather: Sunny 60's

Project Name: CCIP District 6
Project No: 000015034
Control Type: Signalized

AM Peak

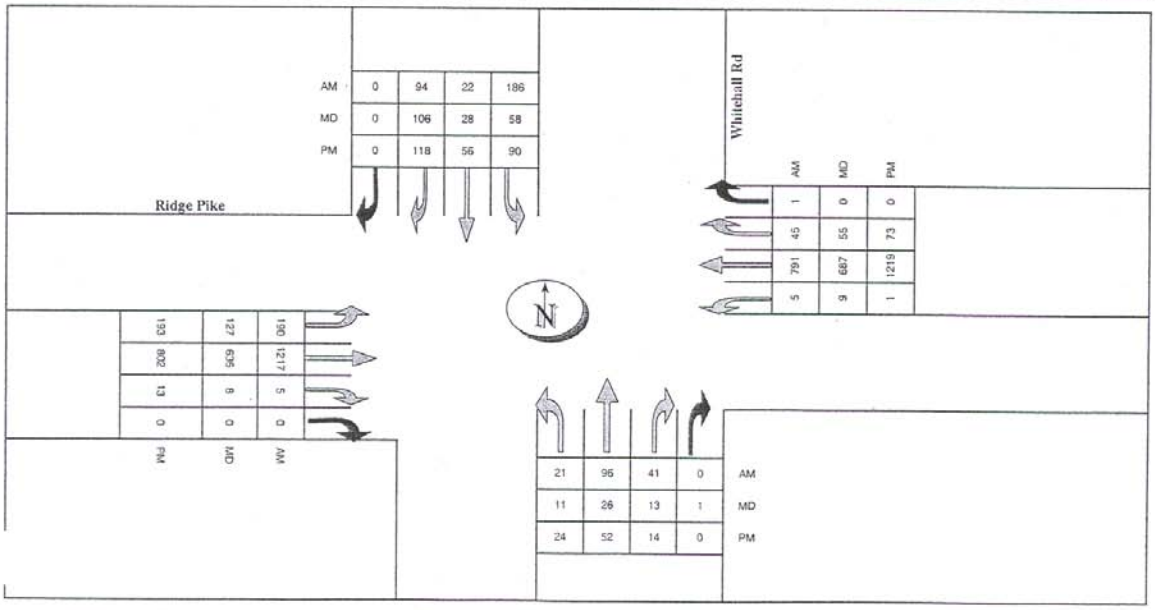
From - To: 7:30 AM - 8:30 AM	Ridge Pike Eastbound					Whitehall Rd Southbound					Ridge Pike Westbound					Whitehall Rd Northbound				
	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	190	1217	5	0	0	186	22	94	0	0	5	791	45	1	0	21	96	41	0	0
Truck Volume	8	48	0			11	0	4			0	53	1			0	1	0		
Truck Percentage	4.2%	3.9%	0.0%			5.9%	0.0%	4.3%			0.0%	6.7%	2.2%			0.0%	1.0%	0.0%		
PHF	0.8	0.9	0.6			0.9	0.7	0.8			0.6	0.9	0.9			0.8	0.9	0.9		
Approach Volume	1412					302					841					158				

MD Peak

From - To: 11:45 AM - 12:45 PM	Eastbound					Southbound					Westbound					Northbound				
	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	127	636	8	0	0	58	28	106	0	5	9	687	55	0	0	11	26	13	1	0
Truck Volume	7	48	0			4	0	7			0	52	1			2	0	0		
Truck Percentage	5.5%	7.5%	0.0%			6.9%	0.0%	6.6%			0.0%	7.6%	1.8%			18.2%	0.0%	0.0%		
PHF	0.8	0.9	0.5			0.7	0.7	0.7			0.5	1.0	0.7			0.5	0.8	0.8		
Approach Volume	771					192					751					50				

PM Peak

From - To: 4:45 PM - 5:45 PM	Eastbound					Southbound					Westbound					Northbound				
	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	193	802	13	0	3	90	56	118	0	4	1	1219	73	0	2	24	52	14	0	2
Truck Volume	0	27	0			2	0	2			0	24	0			0	2	0		
Truck Percentage	0.0%	3.4%	0.0%			2.2%	0.0%	1.7%			0.0%	2.0%	0.0%			0.0%	3.8%	0.0%		
PHF	0.9	1.0	0.8			0.9	0.7	0.8			0.3	1.0	0.9			0.8	0.8	0.6		
Approach Volume	1008					264					1293					90				



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034

Municipality: Norristown, PA
Location: Main St & Airy St/ Forrest Ave

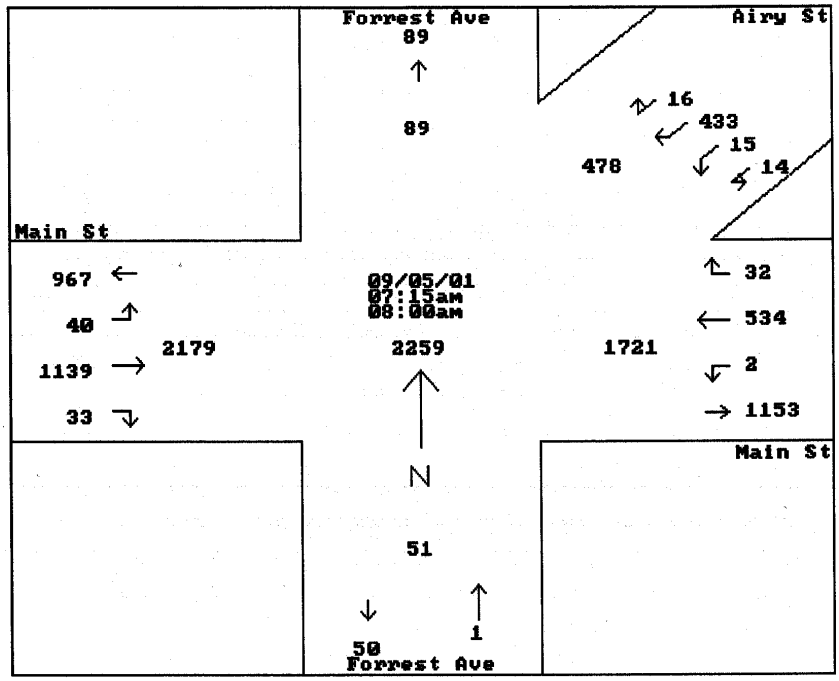
Counter/Board #: LB/MM McM-2283/2284

Study Name: DVRPC7
Site Code : 80100207
Start Date: 09/05/01
Page : 1

	Forrest Ave Southbound				Airy St Southwestbound					Main St Westbound				Forrest Ave Northbound				Main St Eastbound			
Start Time	Left	Thru	Right	HV	Hard Left	Bear Left	Bear Right	Hard Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV
09/05/01																					
07:00	0	0	0	0	5	7	43	4	2	0	114	7	6	0	0	0	0	8	277	1	9
07:15	0	0	0	0	1	0	75	6	3	1	126	7	9	0	0	0	0	5	296	4	1
07:30	0	0	0	0	6	5	115	5	5	0	147	8	10	0	0	0	0	10	284	14	6
07:45	0	0	0	0	2	7	131	4	5	0	141	9	5	0	1	0	0	14	290	9	6
Hour	0	0	0	0	14	19	364	19	15	1	528	31	30	0	1	0	0	37	1147	28	22
08:00	0	0	0	0	5	3	112	1	3	1	120	8	9	0	0	0	0	11	269	6	7
08:15	0	0	0	0	3	4	78	5	4	1	111	6	11	0	0	0	0	9	279	11	4
08:30	1	0	0	0	1	3	73	4	3	0	98	8	15	0	0	0	0	8	284	5	13
08:45	0	0	0	0	5	4	75	3	2	1	138	9	12	0	0	0	0	11	285	4	16
Hour	1	0	0	0	14	14	338	13	12	3	467	31	47	0	0	0	0	39	1117	26	40
[BREAK]																					
16:00	0	0	0	0	0	4	109	9	2	1	178	18	11	0	0	0	0	10	184	7	7
16:15	0	0	0	0	3	3	140	8	1	0	196	7	11	0	0	0	0	7	216	8	4
16:30	0	0	0	0	3	3	146	11	4	0	185	12	9	0	0	0	0	10	177	6	5
16:45	0	0	0	0	3	1	155	4	1	0	189	10	3	0	0	0	0	4	169	3	6
Hour	0	0	0	0	9	11	550	32	8	1	748	47	34	0	0	0	0	31	746	24	22
17:00	0	0	0	0	1	5	151	12	2	3	195	10	7	0	0	0	0	10	183	10	2
17:15	0	0	0	0	3	4	214	11	3	1	170	18	5	0	0	0	0	14	159	6	2
17:30	0	0	0	0	2	1	143	7	1	0	185	6	2	0	0	0	0	8	181	3	5
17:45	0	0	0	0	3	1	129	9	0	2	184	12	1	0	0	0	0	13	177	12	2
Hour	0	0	0	0	9	11	637	39	6	6	734	46	15	0	0	0	0	45	700	31	11
Total	1	0	0	0	46	55	1889	103	41	11	2477	155	126	0	1	0	0	152	3710	109	95
% Apr.	100.0	-	-	-	2.1	2.5	88.5	4.8	1.9	0.3	89.4	5.5	4.5	-	100.0	-	-	3.7	91.2	2.6	2.3
% Int.	-	-	-	-	0.5	0.6	21.0	1.1	0.4	0.1	27.6	1.7	1.4	-	-	-	-	1.6	41.3	1.2	1.0

McMahon Associates, Inc.
Municipality: Norristown, PA
Transportation Engineers & Planners
Location: Main St & Airy St/ Forrest Ave
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034
Study Name: DVRPC7
Site Code : 80100207
Start Date: 09/05/01
Counter/Board #: LB/MM McM-2283/2284
Page : 2

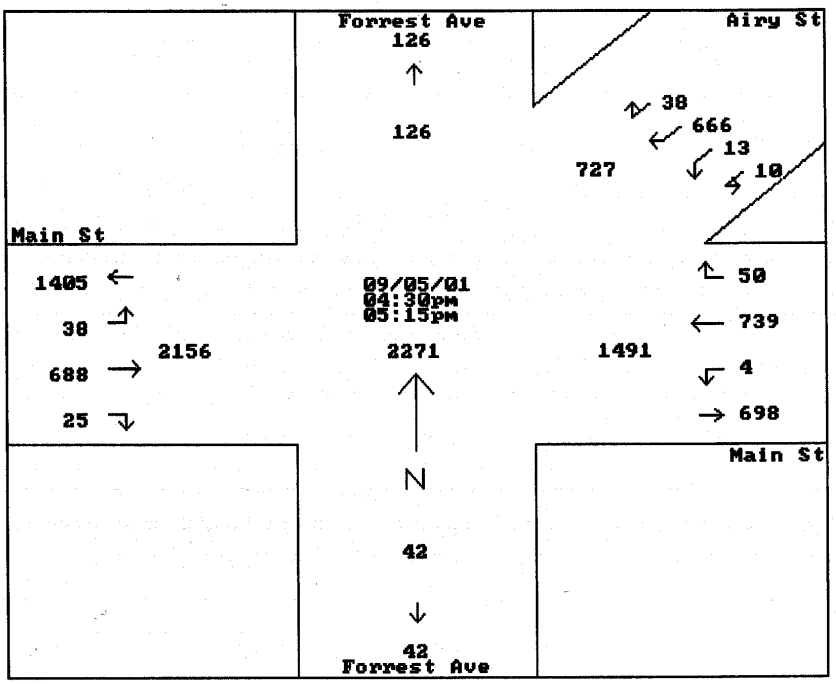
	Forrest Ave Southbound				Airy St Southwestbound					Main St Westbound				Forrest Ave Northbound				Main St Eastbound			
Start Time	Left	Thru	Right	HV	Hard Left	Bear Left	Bear Right	Hard Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 09/05/01 to 08:45 on 09/05/01																					
Time	07:15				07:15					07:15				07:15				07:15			
Vol.	0	0	0	x	14	15	433	x	x	2	534	32	x	0	1	0	x	40	1139	33	x
Pct.	0.0	0.0	0.0	x	2.9	3.1	90.5	x	x	0.3	94.0	5.6	x	0.0	100.0	0.0	x	3.3	93.9	2.7	x
Total	0				478					568				1				1212			
High	07:-1				07:45					07:30				07:45				07:45			
Vol.	0	0	0	x	2	7	131	x	x	0	147	8	x	0	1	0	x	14	290	9	x
Total	0				140					155				1				313			
PHF	0.000				0.853					0.916				0.250				0.968			



McMahon Associates, Inc.
Municipality: Norristown, PA
Transportation Engineers & Planners
Location: Main St & Airy St/ Forrest Ave
425 Commerce Dr, Suite 200
Ft. Washington, PA 19034
Counter/Board #: LB/MM McM-2283/2284

Study Name: DVRPC7
Site Code : 80100207
Start Date: 09/05/01
Page : 3

	Forrest Ave				Airy St					Main St				Forrest Ave				Main St			
	Southbound				Southwestbound					Westbound				Northbound				Eastbound			
Start Time	Left	Thru	Right	HV	Hard Left	Bear Left	Bear Right	Hard Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV
Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 09/05/01 to 17:45 on 09/05/01																					
Time	16:30				16:30					16:30				16:30				16:30			
Vol.	0	0	0	x	10	13	666	x	x	4	739	50	x	0	0	0	x	38	688	25	x
Pct.	0.0	0.0	0.0	x	1.3	1.7	91.6	x	x	0.5	93.1	6.3	x	0.0	0.0	0.0	x	5.0	91.6	3.3	x
Total	0				727					793				0				751			
High	07:45				17:15					17:00				17:00				17:00			
Vol.	0	0	0	x	3	4	214	x	x	3	195	10	x	0	0	0	x	10	183	10	x
Total	0				221					208				0				203			
PHF	0.000				0.822					0.953				0.000				0.924			



Edwards a 'Kelcey, Inc.
1247 W.. Avenue
West Chester, PA 19380
(610) 701-7000

CCIP - District 6-0
Ridge Pike & Stanbridge Street
Counted By: M Kelly & D Ziobro
Weather: Cloudy

File Name : COMBIN~1
Site Code : 00016131
Start Date : 04/30/2002
Page No : 1

Groups Printed- 1 - Regular - 2 - Heavy Vehicles - 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	2	163	0	0	165	3	4	0	0	7	2	54	0	1	57	2	0	4	1	7	236
06:15 AM	0	244	0	0	244	4	3	1	0	8	1	73	2	0	76	2	4	5	0	11	339
06:30 AM	1	297	1	0	299	6	3	0	1	10	3	74	3	0	80	0	4	4	5	13	402
06:45 AM	3	313	0	1	317	11	5	0	0	16	0	112	1	3	116	1	4	5	2	12	461
Total	6	1017	1	1	1025	24	15	1	1	41	6	313	6	4	329	5	12	18	8	43	1438
07:00 AM	1	287	3	2	293	6	9	1	0	16	3	125	3	1	132	5	4	4	0	13	454
07:15 AM	3	299	0	0	302	8	6	0	0	14	3	109	5	2	119	1	9	5	0	15	450
07:30 AM	3	262	0	0	265	18	8	1	0	27	4	145	2	0	151	6	15	7	2	30	473
07:45 AM	1	256	1	0	258	9	9	2	0	20	0	124	4	4	132	2	14	5	2	23	433
Total	8	1104	4	2	1118	41	32	4	0	77	10	503	14	7	534	14	42	21	4	81	1810
08:00 AM	6	272	0	0	278	7	7	1	0	15	1	119	4	0	124	2	14	10	1	27	444
08:15 AM	8	300	4	0	312	10	5	4	0	19	4	95	3	2	104	2	14	2	10	28	463
08:30 AM	10	300	4	4	318	9	6	2	1	18	3	120	2	1	126	2	5	3	9	19	481
08:45 AM	10	292	1	0	303	5	8	2	0	15	1	105	6	1	113	0	10	3	2	15	446
Total	34	1164	9	4	1211	31	26	9	1	67	9	439	15	4	467	6	43	18	22	89	1834
11:00 AM	1	167	1	0	169	1	5	1	0	7	1	127	4	0	132	3	0	0	0	3	311
11:15 AM	1	157	0	0	158	2	5	1	1	9	0	138	6	0	144	0	3	6	0	9	320
11:30 AM	2	160	3	0	165	6	4	4	0	14	0	110	6	2	118	3	5	5	0	13	310
11:45 AM	2	175	1	0	178	3	6	2	2	13	1	152	4	1	158	2	1	6	4	13	362
Total	6	659	5	0	670	12	20	8	3	43	2	527	20	3	552	8	9	17	4	38	1303
12:00 PM	4	192	5	0	201	7	9	3	4	23	8	130	7	1	146	1	4	4	0	9	379
12:15 PM	3	164	3	1	171	5	6	3	5	19	1	169	1	3	174	2	5	4	2	13	377
12:30 PM	1	182	2	1	186	4	5	7	0	16	2	126	5	1	134	7	3	2	0	12	348
12:45 PM	4	175	0	6	185	4	2	1	4	11	3	140	3	0	146	1	3	5	0	9	351
Total	12	713	10	8	743	20	22	14	13	69	14	565	16	5	600	11	15	15	2	43	1455
03:00 PM	4	250	4	0	258	9	12	1	1	23	4	156	4	0	164	3	4	4	1	12	457
03:15 PM	5	178	3	0	186	9	7	4	10	30	5	180	3	2	190	2	4	2	1	9	415
03:30 PM	2	212	1	2	217	8	11	6	4	29	4	158	2	0	164	2	4	5	1	12	422
03:45 PM	1	193	8	5	207	9	10	0	6	25	5	161	1	5	172	4	4	6	3	17	421
Total	12	833	16	7	868	35	40	11	21	107	18	655	10	7	690	11	16	17	6	50	1715
04:00 PM	5	268	3	0	276	10	13	3	2	28	2	197	4	2	205	3	2	1	1	7	516
04:15 PM	3	213	0	0	216	14	15	3	1	33	3	221	2	3	229	7	4	4	2	17	495
04:30 PM	1	203	1	3	208	14	14	5	1	34	2	172	1	7	182	6	6	8	1	21	445
04:45 PM	4	220	2	0	226	8	11	4	0	23	4	196	3	1	204	2	8	5	0	15	468
Total	13	904	6	3	926	46	53	15	4	118	11	786	10	13	820	18	20	18	4	60	1924
05:00 PM	8	213	4	1	226	9	9	5	7	30	4	180	1	3	188	2	8	8	1	19	463
05:15 PM	4	210	4	2	220	4	7	3	1	15	4	183	5	0	192	5	8	3	1	17	444
05:30 PM	6	197	3	0	206	7	15	5	0	27	3	180	4	0	187	1	7	2	0	10	430
05:45 PM	9	183	0	3	195	5	7	2	5	19	5	186	3	0	194	3	4	4	0	11	419
Total	27	803	11	6	847	25	38	15	13	91	16	729	13	3	761	11	27	17	2	57	1756
Grand Total	118	7197	62	31	7408	234	246	77	56	613	86	4517	104	46	4753	84	184	141	52	461	13235
Apprch %	1.6	97.2	0.8	0.4		38.2	40.1	12.6	9.1		1.8	95.0	2.2	1.0		18.2	39.9	30.6	11.3		
Total %	0.9	54.4	0.5	0.2	56.0	1.8	1.9	0.6	0.4	4.6	0.6	34.1	0.8	0.3	35.9	0.6	1.4	1.1	0.4	3.5	

Edwards a[illegible]elcey, Inc.
1247 W[illegible] Avenue
West Chester, PA 19380
(610) 701-7000

CCIP - District 6-0
Ridge Pike & Stanbridge Street
Counted By: M Kelly & D Ziobro
Weather: Cloudy

File Name : COMBIN~1
Site Code : 00016131
Start Date : 04/30/2002
Page No : 1

Groups Printed- 2 - Heavy Vehicles

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	11
06:15 AM	0	11	0	0	11	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	18
06:30 AM	0	10	0	0	10	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	18
06:45 AM	1	6	0	0	7	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	19
Total	1	32	0	0	33	0	0	0	0	0	0	32	1	0	33	0	0	0	0	0	66
07:00 AM	0	6	0	0	6	0	2	1	0	3	0	16	0	0	16	0	0	0	0	0	25
07:15 AM	1	8	0	0	9	1	0	0	0	1	0	11	1	0	12	0	0	0	0	0	22
07:30 AM	1	11	0	0	12	1	1	0	0	2	0	12	0	0	12	0	0	0	0	0	26
07:45 AM	0	13	0	0	13	0	0	0	0	0	0	8	0	0	8	0	1	0	0	1	22
Total	2	38	0	0	40	2	3	1	0	6	0	47	1	0	48	0	1	0	0	1	95
08:00 AM	0	8	0	0	8	0	0	0	0	0	0	17	0	0	17	0	1	0	0	1	26
08:15 AM	1	20	0	0	21	0	1	0	0	1	0	5	0	0	5	0	1	0	0	1	28
08:30 AM	1	16	0	0	17	1	2	0	0	3	0	12	0	0	12	0	0	0	0	0	32
08:45 AM	0	13	0	0	13	0	0	0	0	0	0	12	0	0	12	0	1	0	0	1	26
Total	2	57	0	0	59	1	3	0	0	4	0	46	0	0	46	0	3	0	0	3	112
11:00 AM	0	10	0	0	10	0	0	0	0	0	0	8	1	0	9	1	0	0	0	1	20
11:15 AM	0	15	0	0	15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	22
11:30 AM	0	15	0	0	15	0	1	0	0	1	0	11	0	0	11	1	0	1	0	2	29
11:45 AM	0	16	0	0	16	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	33
Total	0	56	0	0	56	0	1	0	0	1	0	43	1	0	44	2	0	1	0	3	104
12:00 PM	1	13	0	0	14	1	1	0	0	2	0	7	1	0	8	0	0	0	0	0	24
12:15 PM	0	9	0	0	9	2	0	1	0	3	0	12	0	0	12	0	0	1	0	1	25
12:30 PM	0	12	0	0	12	0	1	0	0	1	1	10	0	0	11	1	0	0	0	1	25
12:45 PM	0	16	0	0	16	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	23
Total	1	50	0	0	51	3	2	1	0	6	1	35	2	0	38	1	0	1	0	2	97
03:00 PM	2	16	0	0	18	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	26
03:15 PM	0	11	0	0	11	1	0	0	0	1	1	12	0	0	13	0	0	0	0	0	25
03:30 PM	0	12	0	0	12	1	0	0	0	1	0	11	0	0	11	0	0	0	0	0	24
03:45 PM	1	12	0	0	13	1	1	0	0	2	1	7	0	0	8	0	0	1	0	1	24
Total	3	51	0	0	54	3	1	0	0	4	2	37	1	0	40	0	0	1	0	1	99
04:00 PM	0	16	0	0	16	0	1	1	0	2	0	13	1	0	14	0	0	0	0	0	32
04:15 PM	0	12	0	0	12	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	21
04:30 PM	0	10	0	0	10	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	16
04:45 PM	0	10	1	0	11	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	19
Total	0	48	1	0	49	0	3	1	0	4	1	33	1	0	35	0	0	0	0	0	88
05:00 PM	0	12	0	0	12	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	19
05:15 PM	0	9	0	0	9	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	15
05:30 PM	0	4	0	0	4	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	10
05:45 PM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	7
Total	0	29	0	0	29	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	51
Grand Total	9	361	1	0	371	9	13	3	0	25	5	294	7	0	306	3	4	3	0	10	712
Apprch %	2.4	97.3	0.3	0.0		36.0	52.0	12.0	0.0		1.6	96.1	2.3	0.0		30.0	40.0	30.0	0.0		
Total %	1.3	50.7	0.1	0.0	52.1	1.3	1.8	0.4	0.0	3.5	0.7	41.3	1.0	0.0	43.0	0.4	0.6	0.4	0.0	1.4	

Edwards a[illegible]Kelcey, Inc.
1247 W[illegible] Avenue
West Chester, PA 19380
(610) 701-7000

CCIP - District 6-0
Ridge Pike & Stanbridge Street
Counted By: M Kelly & D Ziobro
Weather: Cloudy

File Name : COMBIN~1
Site Code : 00016131
Start Date : 04/30/2002
Page No : 1

Groups Printed- 3 - Turns on Red

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
06:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	0	3	4
Total	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	11	0	11	13
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	0	1	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	3
Total	0	0	0	0	0	0	0	2	0	2	0	0	2	0	2	0	0	4	0	4	8
08:15 AM	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	1	0	1	4
08:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
08:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
Total	0	0	2	0	2	0	0	4	0	4	0	0	0	0	0	0	0	3	0	3	9
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	3
11:30 AM	0	0	1	0	1	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	4
11:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	4
Total	0	0	2	0	2	0	0	6	0	6	0	0	0	0	0	0	0	4	0	4	12
12:00 PM	0	0	5	0	5	0	0	1	0	1	0	0	1	0	1	0	0	3	0	3	10
12:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
12:30 PM	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	2	0	2	7
12:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	3
Total	0	0	6	0	6	0	0	7	0	7	0	0	1	0	1	0	0	8	0	8	22
03:00 PM	0	0	1	0	1	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	4
03:15 PM	0	0	1	0	1	0	0	2	0	2	0	0	1	0	1	0	0	2	0	2	6
03:30 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
03:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
Total	0	0	4	0	4	0	0	5	0	5	0	0	3	0	3	0	0	4	0	4	16
04:00 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	3
04:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	3	0	3	0	0	0	0	0	0	0	1	0	1	0	0	6	0	6	10
05:00 PM	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	0	0	3	0	3	6
05:15 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	3
05:30 PM	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	3
Total	0	0	3	0	3	0	0	6	0	6	0	0	0	0	0	0	0	6	0	6	15
Grand Total	0	0	20	0	20	0	0	31	0	31	0	0	8	0	8	0	0	46	0	46	105
Apprch %	0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	19.0	0.0	19.0	0.0	0.0	29.5	0.0	29.5	0.0	0.0	7.6	0.0	7.6	0.0	0.0	43.8	0.0	43.8	

Edwards a Kelcey, Inc.
1247 W . Avenue
West Chester, PA 19380
(610) 701-7000

File Name : COMBIN~1
Site Code : 00016131
Start Date : 04/30/2002
Page No : 2

	Eastbound					Southbound					Westbound					Northbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	10	1161	3	3	1177	43	28	2	0	73	10	491	11	6	518	13	32	21	4	70	1838
Percent	0.8	98.6	0.3	0.3		58.9	38.4	2.7	0.0		1.9	94.8	2.1	1.2		18.6	45.7	30.0	5.7		
07:30 Volume	3	262	0	0	265	18	8	1	0	27	4	145	2	0	151	6	15	7	2	30	473
Peak Factor																					0.971
High Int.	06:45 AM					07:30 AM					07:30 AM					07:30 AM					
Volume	3	313	0	1	317	18	8	1	0	27	4	145	2	0	151	6	15	7	2	30	
Peak Factor					0.928					0.676					0.858					0.583	
Peak Hour From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Intersection	11:45 AM																				
Volume	10	713	11	2	736	19	26	15	11	71	12	577	17	6	612	12	13	16	6	47	1466
Percent	1.4	96.9	1.5	0.3		26.8	36.6	21.1	15.5		2.0	94.3	2.8	1.0		25.5	27.7	34.0	12.8		
12:00 Volume	4	192	5	0	201	7	9	3	4	23	8	130	7	1	146	1	4	4	0	9	379
Peak Factor																					0.967
High Int.	12:00 PM					12:00 PM					12:15 PM					11:45 AM					
Volume	4	192	5	0	201	7	9	3	4	23	1	169	1	3	174	2	1	6	4	13	
Peak Factor					0.915					0.772					0.879					0.904	
Peak Hour From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	13	904	6	3	926	46	53	15	4	118	11	786	10	13	820	18	20	18	4	60	1924
Percent	1.4	97.6	0.6	0.3		39.0	44.9	12.7	3.4		1.3	95.9	1.2	1.6		30.0	33.3	30.0	6.7		
04:00 Volume	5	268	3	0	276	10	13	3	2	28	2	197	4	2	205	3	2	1	1	7	516
Peak Factor																					0.932
High Int.	04:00 PM					04:30 PM					04:15 PM					04:30 PM					
Volume	5	268	3	0	276	14	14	5	1	34	3	221	2	3	229	6	6	8	1	21	
Peak Factor					0.839					0.868					0.895					0.714	

Edwards AND Kelcey
1247 Ward Ave.
West Chester, PA 19380
610 - 701 - 7000

Peak Hour Report
AM, MD, PM

E / W Street: Ridge Pike
N / S Street: Stanbridge St
Remarks: 0

Count Date: 04/30/02
Weather: Cloudy 60's

Project Name: CCIP District 6
Project No: 000015034
Control Type: Signalized

AM Peak

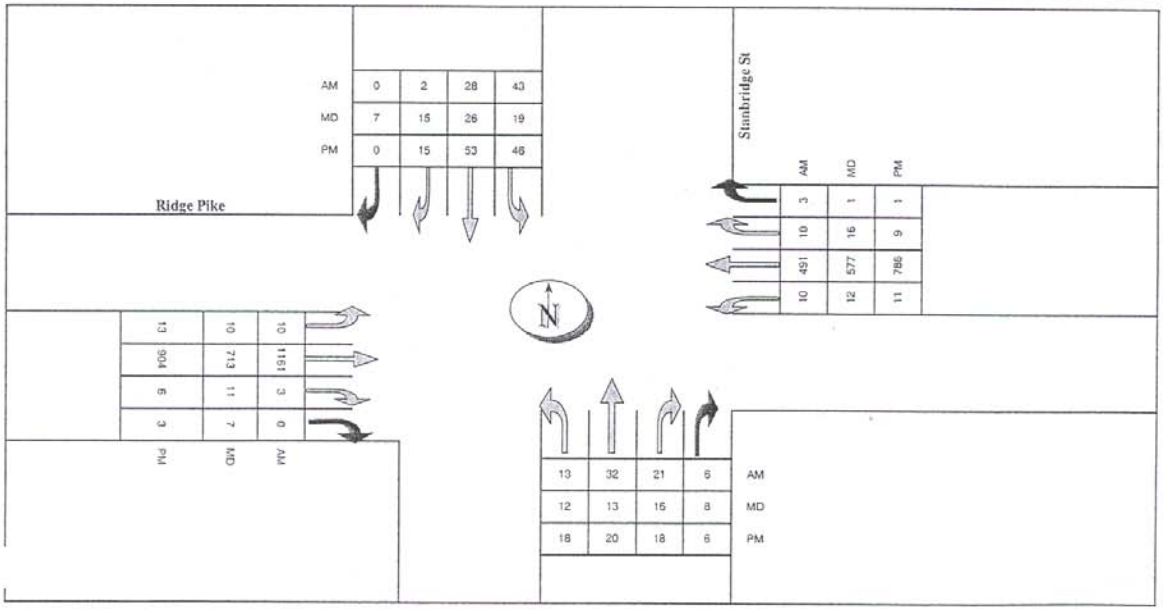
From - To	Ridge Pike Eastbound					Stanbridge St Southbound					Ridge Pike Westbound					Stanbridge St Northbound				
6:45 AM - 7:45 AM	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	10	1161	3	0	3	43	28	2	0	0	10	491	10	3	6	13	32	21	6	0
Truck Volume	3	31	0			2	3	1			0	51	1			0	0	0		
Truck Percentage	30.0%	2.7%	0.0%			4.7%	10.7%	50.0%			0.0%	10.4%	10.0%			0.0%	0.0%	0.0%		
PHF	0.8	0.9	0.3			0.6	0.8	0.5			0.6	0.8	0.5			0.5	0.5	0.8		
Approach Volume	1174					73					511					66				

MD Peak

From - To	Eastbound					Southbound					Westbound					Northbound				
11:45 AM - 12:45 PM	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	10	713	11	7	2	19	26	15	7	11	12	577	16	1	6	12	13	16	8	6
Truck Volume	1	50	0			3	2	1			1	46	1			1	0	1		
Truck Percentage	10.0%	7.0%	0.0%			15.8%	7.7%	6.7%			8.3%	8.0%	6.3%			8.3%	0.0%	6.3%		
PHF	0.6	0.9	0.6			0.7	0.7	0.5			0.4	0.9	0.6			0.4	0.7	0.7		
Approach Volume	734					60					605					41				

PM Peak

From - To	Eastbound					Southbound					Westbound					Northbound				
4:00 PM - 5:00 PM	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds	Left	Thru	Right	RTOR	Peds
Total Volume	13	904	6	3	3	46	53	15	0	4	11	786	9	1	13	18	20	18	6	4
Truck Volume	0	48	1			0	3	1			1	33	1			0	0	0		
Truck Percentage	0.0%	5.3%	16.7%			0.0%	5.7%	6.7%			9.1%	4.2%	11.1%			0.0%	0.0%	0.0%		
PHF	0.7	0.8	0.5			0.8	0.9	0.8			0.7	0.9	0.6			0.6	0.6	0.6		
Approach Volume	923					114					805					56				



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Fort Washington, PA 19034

Municipality: Norristown, PA
Location: Main St & Markley St (rt202)
Counter/Board #: CA/McM-2212

Study Name: LAFAY01W
Site Code : 80007101
Start Date: 04/12/00
Page : 1

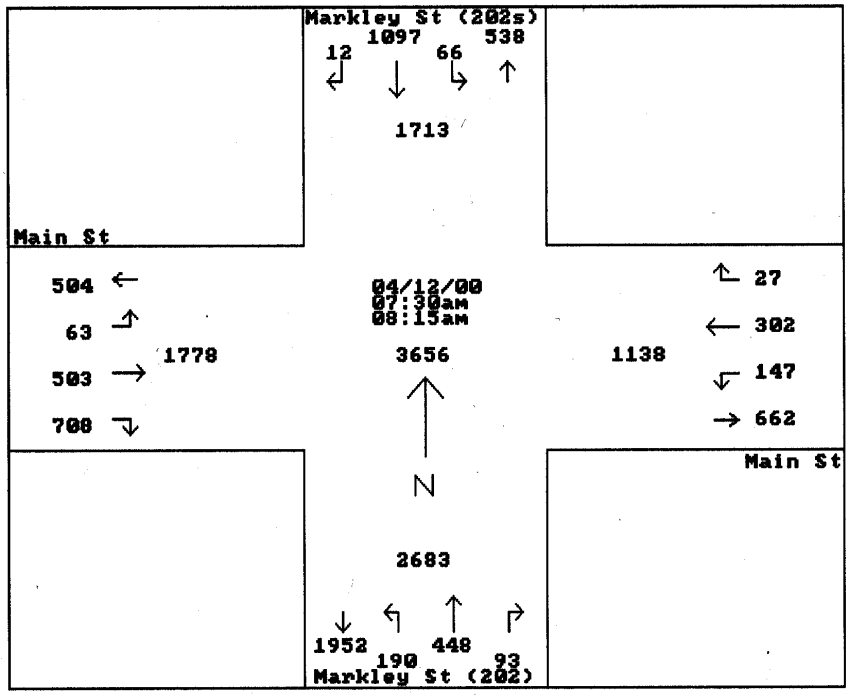
	Markley St (202s) Southbound				Main St Westbound				Markley St (202) Northbound				Main St Eastbound						
Start Time	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Intvl Total	Exclu Total	Inclu Total
04/12/00																			
07:00	7	271	3	0	16	98	1	7	15	170	0	0	25	88	76	4	781	11	770
07:15	13	268	7	9	42	62	4	3	28	102	17	6	10	106	151	11	839	29	810
07:30	14	287	2	5	35	74	5	6	43	118	28	10	8	136	196	12	979	33	946
07:45	15	276	4	11	42	96	9	4	55	119	25	12	18	134	197	21	1038	48	990
Hour	49	1102	16	25	135	330	19	20	141	509	70	28	61	464	620	48	3637	121	3516
08:00	14	279	3	7	30	53	5	7	43	110	20	9	13	104	152	18	867	41	826
08:15	23	255	3	17	40	79	8	14	49	101	20	9	24	129	163	10	944	50	894
08:30	20	203	2	10	21	82	5	7	40	101	17	7	16	139	137	18	825	42	783
08:45	5	133	3	6	24	66	4	3	35	70	12	2	19	116	92	12	602	23	579
Hour	62	870	11	40	115	280	22	31	167	382	69	27	72	488	544	58	3238	156	3082
[BREAK]																			
16:00	42	199	6	4	9	97	9	2	88	192	29	4	15	60	41	0	797	10	787
16:15	17	196	8	4	25	110	10	3	62	198	23	3	13	150	89	10	921	20	901
16:30	21	191	11	9	18	101	14	9	58	198	34	5	14	114	74	3	874	26	848
16:45	25	191	11	10	34	125	9	5	60	227	46	9	18	133	88	5	996	29	967
Hour	105	777	36	27	86	433	42	19	268	815	132	21	60	457	292	18	3588	85	3503
17:00	10	161	17	1	33	83	5	2	49	205	53	3	18	117	99	5	861	11	850
17:15	16	207	24	3	19	109	7	3	53	255	60	5	21	132	72	5	991	16	975
17:30	12	190	15	7	23	107	12	4	52	278	56	5	19	115	60	5	960	21	939
17:45	9	163	9	4	18	98	8	6	41	192	41	7	14	100	81	8	799	25	774
Hour	47	721	65	15	93	397	32	15	195	930	210	20	72	464	312	23	3611	73	3538
Total	263	3470	128	107	429	1440	115	85	771	2636	481	96	265	1873	1768	147	14074	435	13639
% Apr.	6.6	87.4	3.2	2.6	20.7	69.5	5.5	4.1	19.3	66.1	12.0	2.4	6.5	46.2	43.6	3.6	-	-	-
% Int.	1.8	24.6	0.9	0.7	3.0	10.2	0.8	0.6	5.4	18.7	3.4	0.6	1.8	13.3	12.5	1.0	-	-	-

McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Fort Washington, PA 19034

Municipality: Norristown, PA
Location: Main St & Markley St (rt202)
Counter/Board #: CA/McM-2212

Study Name: LAFAY01W
Site Code : 80007101
Start Date: 04/12/00
Page : 2

	Markley St (202s) Southbound				Main St Westbound				Markley St (202) Northbound				Main St Eastbound						
Start Time	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Intvl Total	Exclu Total	Inclu Total
Peak Hour Analysis By Entire Intersection for the Period: 07:00 on 04/12/00 to 08:45 on 04/12/00																			
Time	07:30				07:30				07:30				07:30						
Vol.	66	1097	12	x	147	302	27	x	190	448	93	x	63	503	708	x			
Pct.	5.6	93.3	1.0	x	30.8	63.4	5.6	x	25.9	61.2	12.7	x	4.9	39.4	55.5	x			
Total	1175				476				731				1274						
High	07:30				07:45				07:45				07:45						
Vol.	14	287	2	x	42	96	9	x	55	119	25	x	18	134	197	x			
Total	303				147				199				349						
PHF	0.969				0.809				0.918				0.912						



McMahon Associates, Inc.
Transportation Engineers & Planners
425 Commerce Dr, Suite 200
Fort Washington, PA 19034

Municipality: Norristown, PA
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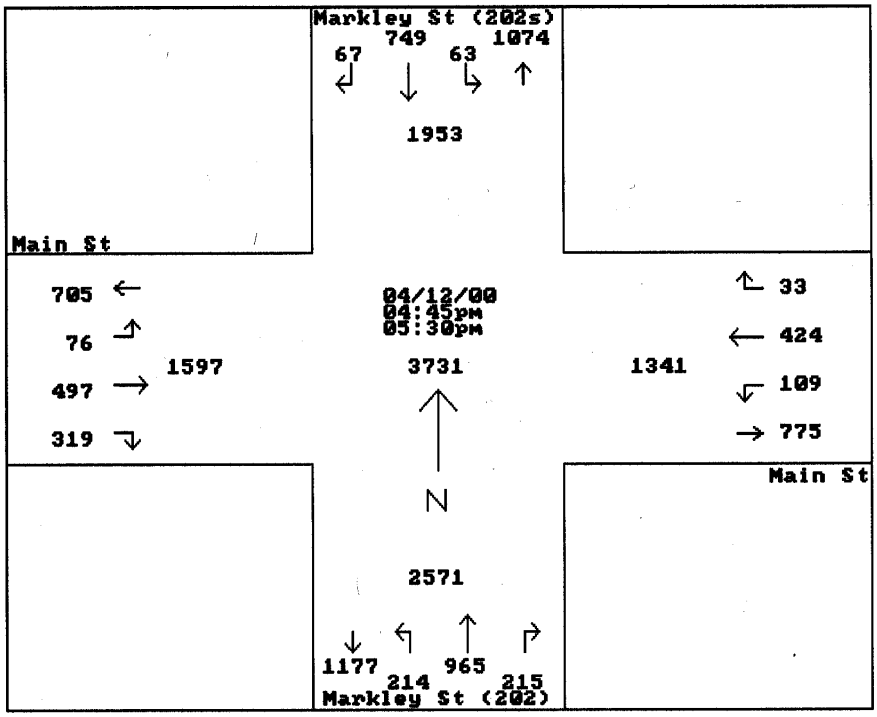
Study Name: LAFAY01W
Site Code : 80007101
Start Date: 04/12/00
Page : 3

Start	Markley St (202s) Southbound				Main St Westbound				Markley St (202) Northbound				Main St Eastbound				Intvl	Exclu	Inclu
Time	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Total	Total	Total
Peak Hour Analysis By Entire Intersection for the Period: 16:00 on 04/12/00 to 17:45 on 04/12/00																			
Time	16:45				16:45				16:45				16:45						
Vol.	63	749	67	x	109	424	33	x	214	965	215	x	76	497	319	x			
Pct.	7.1	85.2	7.6	x	19.2	74.9	5.8	x	15.3	69.2	15.4	x	8.5	55.7	35.7	x			
Total	879				566				1394				892						
High	17:15				16:45				17:30				16:45						
Vol.	16	207	24	x	34	125	9	x	52	278	56	x	18	133	88	x			
Total	247				168				386				239						
PHF	0.889				0.842				0.902				0.933						



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SR 23 Section UMT Improvement Study – Montgomery County, Pennsylvania

Publication No. : 04006

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Geographic Area Covered: Lower Providence Township, Plymouth Township, Upper Merion Township, West Norriton Township, Bridgeport Borough, Conshohocken Borough, Norristown Borough, West Conshohocken Borough, and King of Prussia in Montgomery County, and the municipalities of Schuylkill and Tredyffrin in Chester County

Key Words: Highway Network, Traffic Simulation, Traffic Demand Forecasting Analysis, Traffic Volumes, Peak Hour Turning Movements, Design Factors, SR 23, Schuylkill Parkway

ABSTRACT

This report presents 2010 and 2030 forecasts for the no-build and three build alternatives for the SR 23 Section UMT corridor in Upper Merion Township, Montgomery County, Pennsylvania. It was prepared at the request of the Pennsylvania Department of Transportation, which is conducting traffic alternatives analyses for the area. DVRPC's travel simulation model was utilized to estimate future traffic volumes for the no-build and build alternatives. The three build alternatives include 1) widening existing SR 23 from SR 23/US 422 Interchange to the Schuylkill Parkway to provide a 5-lane cross-section with upgraded signalized intersections, 2) providing a new alignment controlled access 5-lane facility from Allendale Road to the existing Schuylkill Parkway terminus along the south side of the Schuylkill River with at grade signalized intersections at Geerdes Boulevard and Henderson Road, and 3) providing a 5-lane cross-section relief route on the northern side of the Schuylkill River via Egypt Road and Ridge Pike/Main Street from the US 422/PA 363 Trooper Road Interchange to the Dannehower Bridge in Norristown.

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