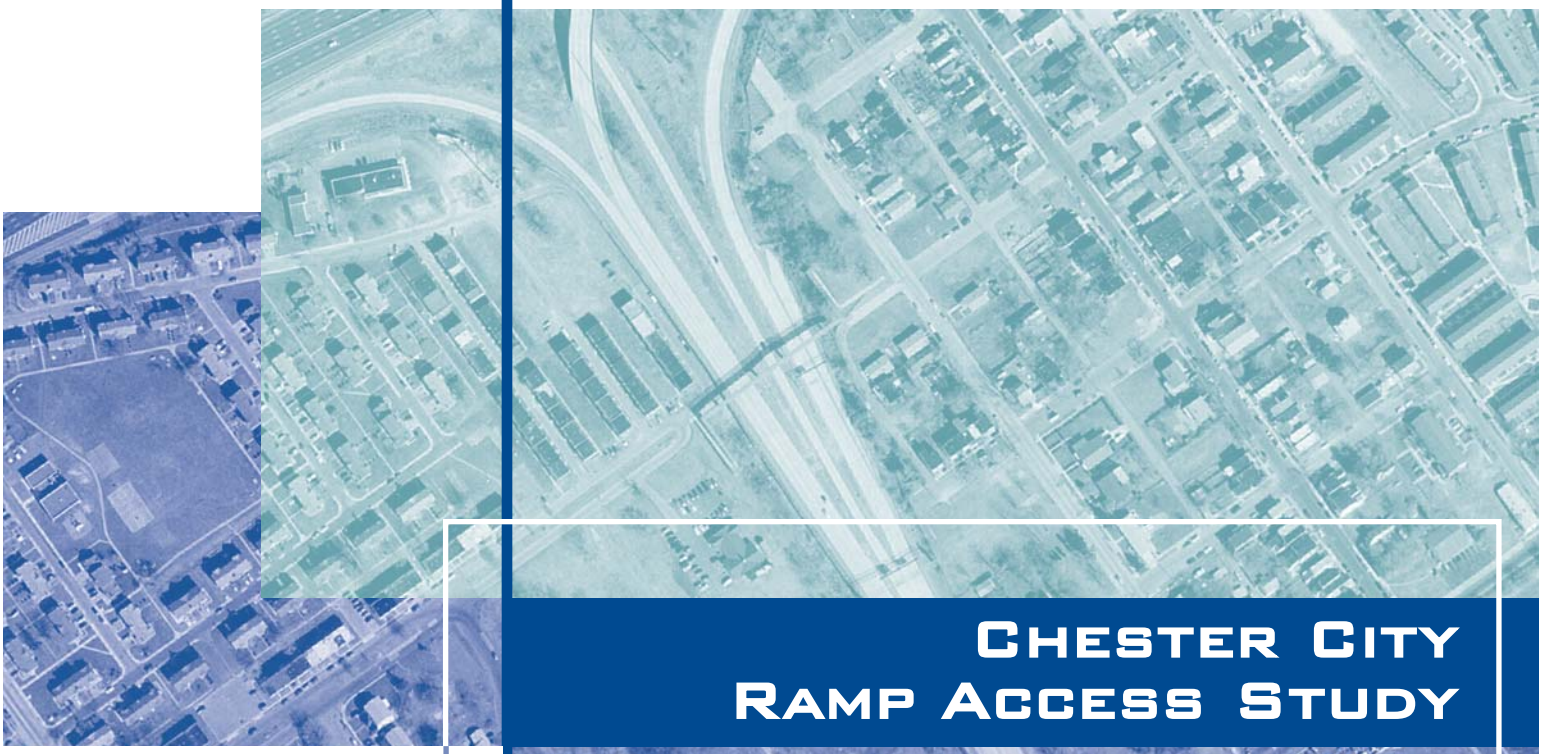
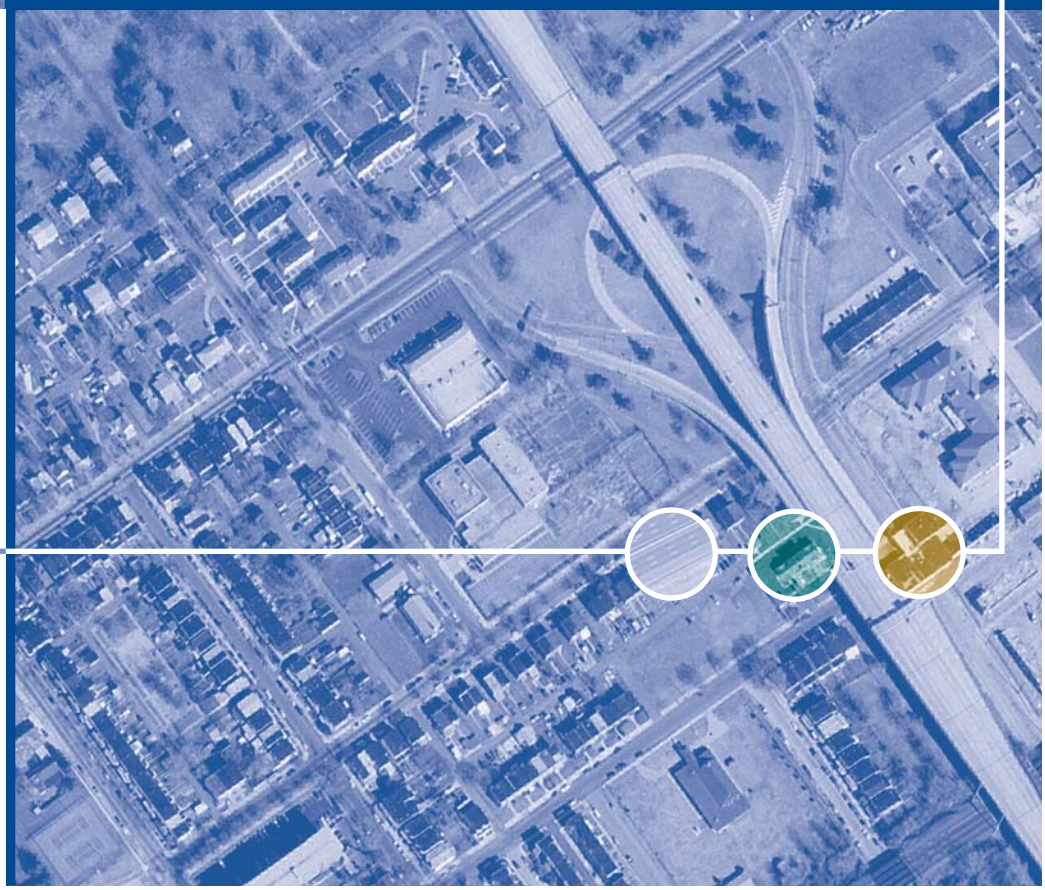
FEBRUARY 2003



Chester City Ramp Access Study



Delaware Valley Regional Planning Commission

Chester City Ramp Access Study

February 2003

DELAWARE VALLEY
REGIONAL PLANNING COMMISSION

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; and Burlington, Camden, Gloucester and Mercer counties in New Jersey. DVRPC provides technical assistance and services; conducts high priority studies that respond to the requests 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 funding sources including federal grants from the U.S. 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. The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

This report outlines an effort that developed 2027 traffic forecasts for the Chester City Ramp Access Study in Delaware County, Pennsylvania. The Pennsylvania Department of Transportation (PENNDOT) and the Delaware River Port Authority (DRPA) are conducting a study to develop ramps for access to the Chester City waterfront. Direct access from I-95 and US 322 is essential for the continued economic development of the Chester City waterfront area.

In preparation for projecting future traffic volumes, the Delaware Valley Regional Planning Commission (DVRPC) collected traffic counts throughout the Chester City area. A map of the Chester City area is shown in Figure 1. Municipal and county planners were contacted to identify significant proposed commercial and industrial development within the study area. DVRPC's regional traffic simulation model was used to prepare the 2027 traffic volume estimates for the study area's roadways under each alternative.

A focused travel simulation was conducted using DVRPC's regional travel forecasting models. The traffic zones in the study area were subdivided into smaller zones to better reflect the local highway network and land use characteristics. The model's highway network within the study area was reviewed and modified as needed to reflect the detailed nature of the traffic improvements.

Chapter II profiles the existing physical characteristics of the Chester City study area. A brief overview of existing land use and the surrounding highway network is included. A more detailed description of the principal arterials within the study area is presented.

Current traffic volumes in the Chester City study area are presented in Chapter III. These counts include daily, peak period, and intersection turning movement counts. The alternatives analyzed in this study are described in Chapter IV. Chapter V outlines the travel forecasting methodology, including a brief discussion of the focused traffic simulation model used to develop the traffic projections. The regional demographic and employment projections, which form the basis of the traffic forecasts, are also presented.

Finally, Chapter VI presents an analysis of the travel forecasts for the Chester City study area. These forecasts represent projected 2027 daily traffic volumes and AM and PM peak hour traffic volumes.

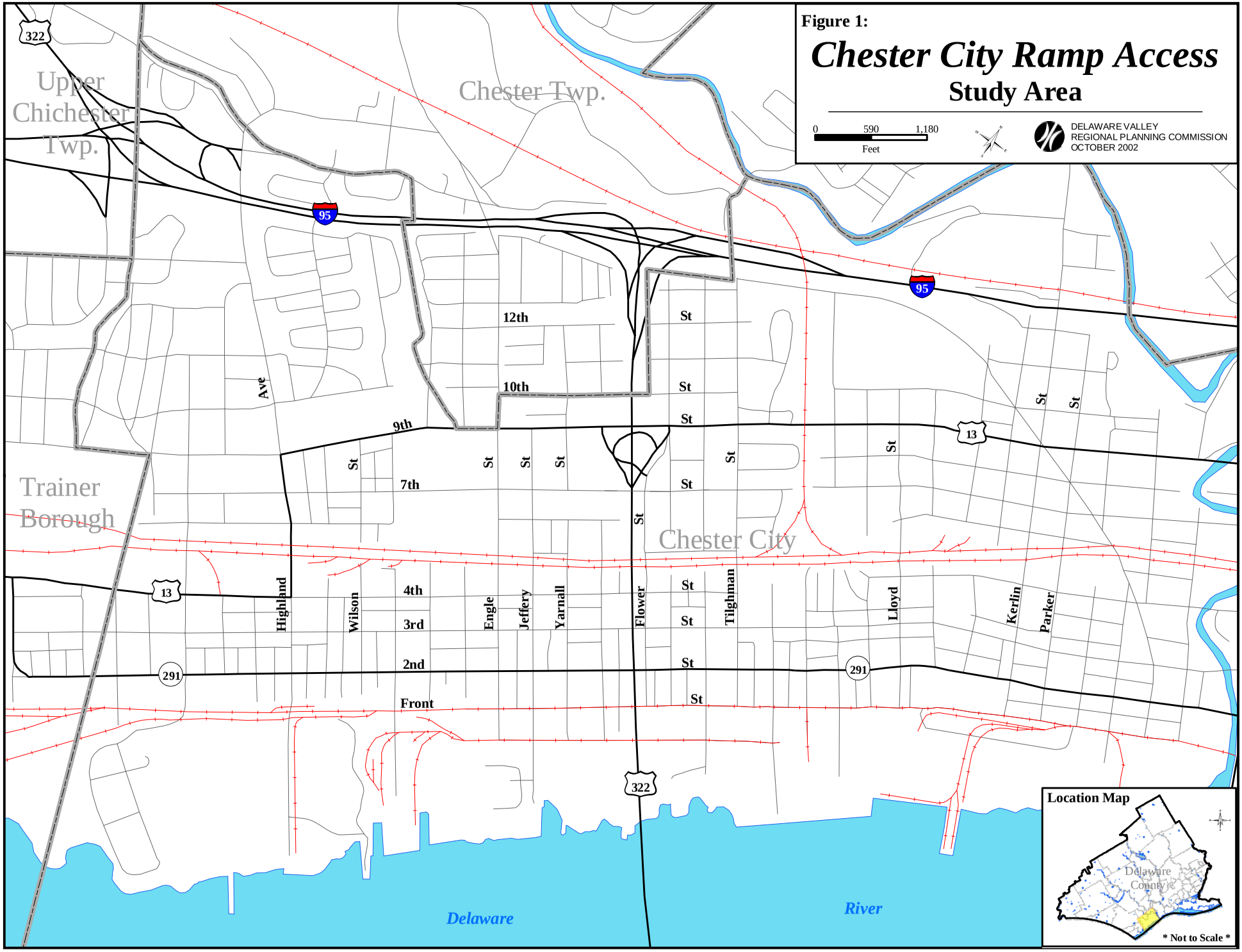


Figure 1:
Chester City Ramp Access
Study Area
0
590
1,180
Feet
DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
OCTOBER 2002
Upper
Chichester
Twp.
Chester Twp.
Trainer
Borough
Chester City
322
95
13
291
12th
10th
9th
7th
4th
3rd
2nd
Front
St
Ave
Highland
Wilson
Engle
Jeffery
Yarnall
Flower
Tilghman
Lloyd
Kerlin
Parker
Delaware
River
Location Map
Delaware
County
* Not to Scale *

II. EXISTING CONDITIONS

Chester City is located at the juncture of three important regional thoroughfares: I-95, I-476, and US 322. However, there is poor access from these highways into the city, impeding economic development. As the city plans to revive its central business district and waterfront areas, DVRPC was asked to study access to these areas. In a report titled *Conceptual Access Plan for the City of Chester*, dated October 2001, DVRPC studied vehicular and truck access routes to the waterfront and produced a city-wide circulation plan for both of these modes of travel. The plan identified short-term circulation routes until a long-term solution could be constructed. One of the major recommendations from that report is the need for a full highway interchange on US 322 at Ninth Street.

The following describes the general roadway network in the vicinity of the study area. The streets described below were identified in the short-term circulation plan.

I-95 is a multi-lane north-south interstate highway that extends regionally from Trenton, New Jersey to Wilmington, Delaware through Chester City. I-95 is vital to the transportation network of Chester, in that not only does it pass through the city, but it also intersects with two nearby regional highways, I-476 and US 322. Highway interchanges in the vicinity of the study area are as follows: Exit 2A (from northbound I-95), Highland Avenue; Exit 3 (from southbound I-95), US 322 West/ West Chester; Exit 4, US 322 East / Commodore Barry Bridge / New Jersey; Exit 5, Kerlin Street; Exit 6, PA 320 / PA 352 / Edgemont Avenue / Avenue of the States; and Exit 7, I-476 North / Plymouth Meeting. Kerlin Street (Exit 5) is a partial interchange serving I-95 to / from the south only. Edgemont Avenue (Exit 6) is also a partial interchange, missing a southbound on-ramp to I-95 which is programmed on the DVRPC Transportation Improvement Program (TIP) for construction in Fiscal Year 2003. There is also a collector-distributer road system in the southbound direction onto I-95, which serves the Kerlin Street on-ramp and US 322 / Commodore Barry Bridge off-ramp.

US 322 is an east-west highway that links Pennsylvania with New Jersey via the Commodore Barry Bridge. I-95 is concurrent with US 322 from Exit 3 (West Chester) to Exit 4 (Commodore Barry Bridge). In the study area, the US 322 / Commodore Barry Bridge segment passes through Chester Township and Chester City. There is a partial interchange at Ninth Street, providing movements to/from the bridge. US 322 in this segment is four lanes. The other segment of US 322 extends from the I-95 / Highland Avenue interchange and continues west towards US 1, passing through Upper Chichester Township, Bethel Township, and Concord Township. US 322 is a four-lane road to PA 452, where it narrows to a two-lane roadway. Plans to widen US 322 to four lanes are undergoing environmental study.

PA 291 / Industrial Highway is a north-south highway that parallels the Delaware River from the Philadelphia International Airport to US 13 at the Trainer / Chester City border. Within Chester City, PA 291 is locally known as Second Street. The primary purpose of this highway is to serve industrial uses that border the waterfront. Major industrial employers located along the waterfront in Chester include Kimberly Clark, Westinghouse Trash-to-Steam Plant, a state prison, and several Keystone Opportunity Zones, which offer the potential for long-term economic development. The redevelopment of an abandoned PECO industrial plant, located on the waterfront south of the Commodore Barry Bridge, is currently underway. PA 291 is generally a four lane undivided highway; it was recently widened from Ridley Creek to Franklin Street to four travel lanes with a center turn lane. Widening the remainder of PA 291 as a four lane highway with a center turn lane from Franklin Street to the Trainer / Chester City border is programmed under DVRPC Transportation Improvement Project 7051, with construction to begin in Fiscal Year 2003.

Ninth Street is a principal arterial traversing east-west through the city. It is designated US 13 east of Highland Avenue. There is a partial interchange with the Commodore Barry Bridge segment of US 322. Generally, Ninth Street is thirty-six feet wide in the study area, with parking available on either side of the street throughout the corridor. It passes through a residential area, a unit of Crozer Hospital at Willow Street, and Veterans Memorial Park just west of Engle Street.

Highland Avenue is functionally classified as a principal arterial south of Ninth Street, where it is designated a part of US 13, and a minor arterial north of Ninth Street. It is a north-south roadway through Chester City, linking I-95 to PA 291 / Industrial Highway. Largely serving residential uses, Highland Avenue also supports William Penn School at Township Line Road and a church at Ninth Street. There is a full highway interchange at Highland Avenue and Township Line Road, providing access to and from I-95 and US 322. South of Ninth Street, Highland Avenue is generally thirty-six feet wide. Between Township Line Road and Ninth Street, Highland Avenue is forty feet wide.

III. CURRENT TRAFFIC VOLUMES

Figure 2 shows current traffic volumes for the Chester City study area. The traffic counts within the Chester City study area were collected from a number of sources, including DRPA, Mobility Technology Inc., and counts taken in 1999 as part of DVRPC's *Conceptual Access Plan for the City of Chester* study.

DVRPC completed additional counts where the traffic data were not available. There were a total of 12 new counts taken on I-95 interchange ramps, and an additional 22 counts were taken on area arterial roadways. All of the counts were taken for a twenty-four hour period in December 2001. A seasonal variance was applied to the counts based on DVRPC's monthly factors to calculate the average annual daily traffic (AADT). Traffic counts collected by DVRPC are provided in the appendix of this report.

The AADT's on mainline I-95 were collected through Mobility Technology's traffic sensors. In a public-private partnership with the US DOT and PENNDOT, Mobility Technology has installed over 120 digital radar detectors on the expressway system in the Pennsylvania portion of DVRPC's region. These sensors record lane-by-lane speed and volumes of traffic at five minute intervals. As part of the partnership, DVRPC is able to access a database of archived traffic counts. The traffic count data obtained from the database were compared with I-95 volumes taken by DVRPC in 1999 at the Delaware State Line to verify consistency.

Inset A is an enlarged diagram of the I-95 / US 322 / Highland Avenue interchange. The arrows on the roadway indicate the direction of traffic. The AADT on the ramps varies by location due to multiple splits and merges. The entrance ramp from US 322 onto northbound I-95 experiences the highest volume of the interchange with 16,400 vehicles per day.

The I-95 / US 322 / Commodore Barry Bridge interchange is shown in Inset B. One-way westbound traffic counts on US 322 at the Commodore Barry Bridge were obtained from DRPA. The volumes provided by DRPA were used to interpolate two-way volumes for the Commodore Barry Bridge. The US 322 interchange with Flower Street is represented in Inset C.

Current volumes on the local roads within the study area vary considerably. Highland Avenue experiences the highest AADT within the study area. Between Township Line Road and Ninth Street, Highland Avenue currently has an AADT of 13,700. This volume drops significantly south of Ninth Street to just 6,200 vehicles per day. Ninth Street has fairly consistent daily traffic, ranging from 13,700 vehicles per day east of Highland Avenue to 10,000 vehicles per day east of Kerlin Street. In general, Second Street has relatively moderate levels of traffic, ranging from 4,400 to 7,400 vehicles. Edwards Street and Flower Street both have relatively low AADT, each experiencing less than 2,200 vehicles per day.

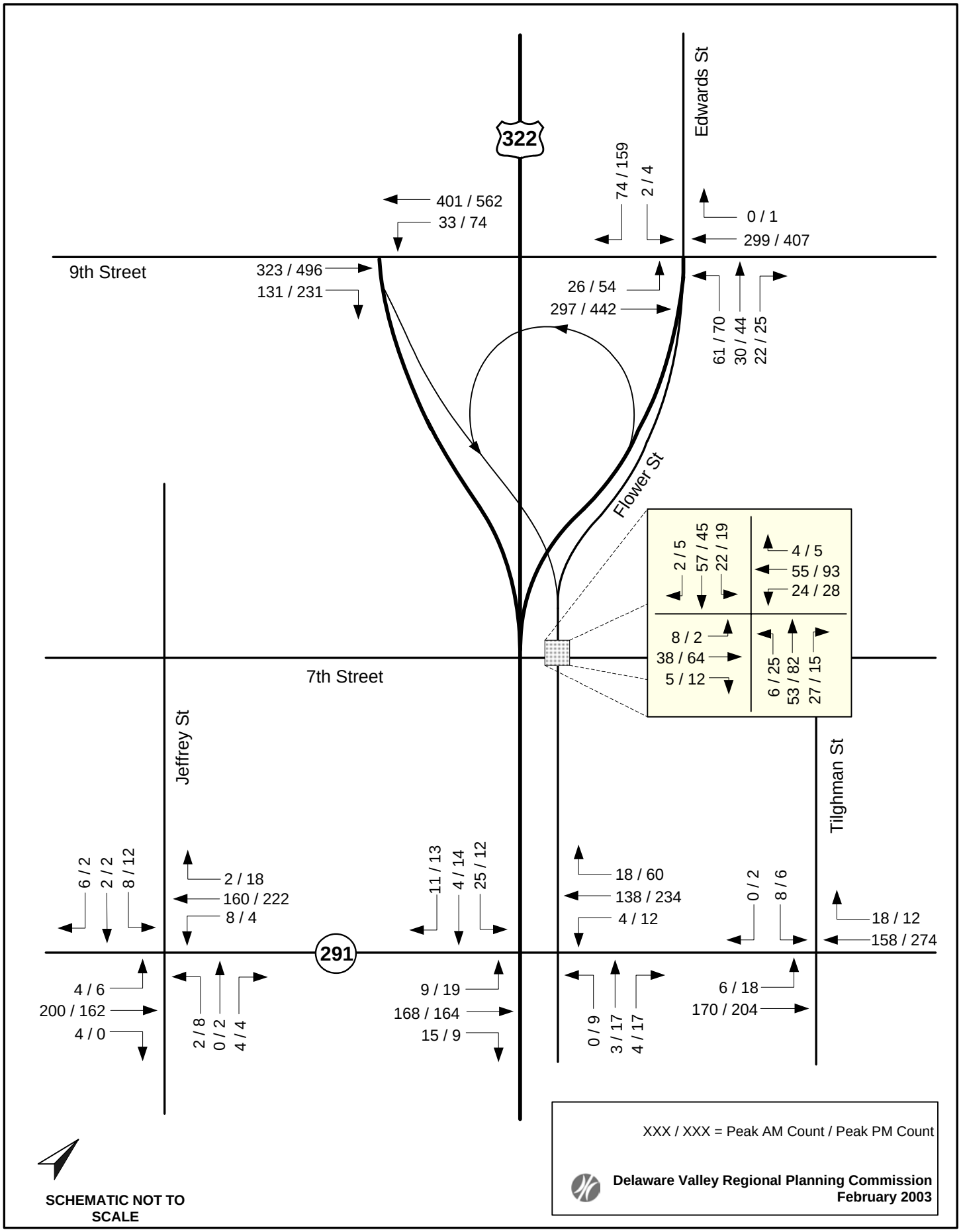
Figure 3 shows the Current AM / PM peak hour turning movement counts for the major intersections in the Chester City study area. All of the turning movements are represented by two numbers separated by a slash. Reading from left to right, the first number is the AM peak hour count, while the second number is the PM peak hour count. The arrows following the counts indicate the direction of the turning movement. In cases where the turning counts appear to be missing, the movement is either not permitted or does not exist.

Turning movement counts of the Chester City Ramp Access Study area were taken in December 2001 and January 2002. The data were collected from 7:00 am to 6:00 pm and recorded in fifteen minute intervals.

The peak hour counts at each of the key intersection were examined to find a common peak hour. For all of the counts, the AM peak hour was from 7:30 am to 8:30 am. The PM peak hour count was from 4:45 pm to 5:45 pm. There are pronounced directional variations between the AM and PM peak hour counts, which reflect an area-wide peak period travel pattern. Most turning movements show higher volumes for the PM peak as opposed to the AM peak.

I-95 / US 322 Chester City Ramp Access Study

Figure 3: Current AM / PM Peak Hour Traffic Volumes



IV. IMPROVEMENT ALTERNATIVES

For this study, three future alternatives were analyzed for the year 2027. These include a Base Case Alternative, a Ninth Street Alternative, and a PA 291 / Second Street Alternative. A more detailed description of the improvements contained in each alternative follows.

A. Base Case Alternative

In this alternative, no interchange additions to I-95 or US 322 are considered. The Base Case Alternative does, however, assume the implementation of various planned improvements to other regional facilities. Generally, facility improvements encompassed in the travel simulation model network are projects included in DVRPC's TIP. Three TIP Projects directly impact the study area. Project 7051 entails widening of PA 291 to five lanes from the Chester / Trainer border to Franklin Street. Project 7129 programs construction of a ramp at PA 352 (Edgemont Avenue) onto southbound I-95. Project 7666 consists of widening US 322 northwest of the city, between PA 452 and US 1.

In addition to the TIP Projects, the Base Case also assumes development of the waterfront site at the abandoned PECO facility (Rivertown), along with construction of Seaport Drive to service the location. Five Keystone Opportunity Zone developments along the waterfront were also included due to tax incentives and the completion of PA 291, which will expedite their development.

B. Ninth Street Alternative

This alternative includes the addition of single lane ramps to complete the partial highway interchange on US 322 at Ninth Street. Separate off-ramps from both northbound and southbound I-95 are to be constructed to connect with Ninth Street opposite the existing US 322 intersection. A new entrance to I-95 will also be constructed off Edwards Street near the intersection with Ninth Street, with single lane ramps connecting to both northbound and southbound I-95. All TIP projects and developments associated with the Base Case are also included in this alternative.

C. PA 291 / Second Street Alternative

This alternative consists of constructing two single lane ramps on US 322 near PA 291 / Second Street. The westbound US 322 ramp will begin on the east side of US 322 on Tilghman Street near the PA 291 / Second Street intersection. The eastbound US 322 exit ramp will begin at the Amtrak Line and terminate at Jeffery Street near PA 291 / Second Street. Unlike the Ninth Street Alternative, this alternative does not offer direct access with I-95. Again, all Base Case improvements are also included.

V. TRAVEL FORECASTING PROCEDURES

Regional travel simulation models are used to forecast future travel patterns. They utilize a system of traffic analysis zones that follow census boundaries. The travel modeling process requires input from demographic, employment, and land use data, in addition to transportation network characteristics, to simulate trip making patterns throughout the region.

A. Socio-Economic Projections

Travel forecasting models require that estimates of demographic and employment data be made from small areas or zones. This requirement derives from the need to assign trips, associated with household and businesses, to the streets and transit facilities serving them. DVRPC has prepared 2025 forecasts for the socio-demographic inputs to the travel simulation process for all traffic analysis zones in the nine-county region. DVRPC's *Year 2025 County & Municipal Population & Employment Forecasts* 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 judgement of predicted future conditions.

DVRPC uses a multi-step, multi-source methodology to produce its 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, wholesale, retail, finance/insurance, service, 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. Chester City Area 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 Chester City study was initiated, 2000 municipal-level Census population data were available. Census employment data for 2000 are scheduled for release in 2003.

As part of the Chester City traffic study, DVRPC reviewed its most recent population and employment estimates (1997), its long-range population and employment forecasts, the 2000 Census population estimates, and all proposed land-use developments in the study area known to the Delaware County Planning Commission and the Delaware River Port Authority. Based on this review, DVRPC developed revised 2025 municipal-level population and employment for use as inputs to the traffic simulation models.

Table 1: Chester City Area Population and Employment

	Population			Employment		
Municipality	**DVRPC 1997**	**Census 2000**	**DVRPC 2025**	**DVRPC 1997**	**DVRPC 2000**	**DVRPC 2025**
Chester City	40,289	36,854	34,590	12,951	12,110	17,209
Chester Township	5,305	4,604	4,134	1,904	2,140	3,739
Eddystone Borough	2,391	2,442	2,130	2,917	2,790	2,410
Lower Chichester Township	3,582	3,591	3,210	906	940	1,140
Marcus Hook Borough	2,482	2,314	2,160	3,191	3,040	2,200
Trainer Borough	2,275	1,901	2,200	1,117	1,170	1,250
Upland Borough	3,270	2,977	2,900	4,093	4,170	5,060
Upper Chichester Township	16,565	16,842	20,810	3,031	3,140	4,060
Study Area Totals:	**76,159**	**71,525**	**72,134**	**30,110**	**29,500**	**37,068**

Table 1 shows the current and future population and employment forecasts for the Chester City area. Chester City, Trainer Borough, and Upper Chichester Township are expected to show an overall gain in population. The remaining five municipalities will lose population. Overall, the Chester City area is expected to experience a minor gain in population. The employment growth rates vary widely for this part of the region. The area is expected to gain over 7,500 new jobs, a 25.7 percent increase from 2000 to 2025.

B. DVRPC's Travel Simulation Model

For the Chester City Ramp Access study, a focused simulation process was employed. A focused simulation process allows the use of DVRPC's regional simulation models, but includes a more detailed representation of the study area. Local streets not included in the regional network, but of interest in this study, are added to the highway network. Traffic zones inside the study area are subdivided so that traffic from existing and proposed land use developments may be loaded more precisely on the network. The focusing process increases the accuracy 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.

DVRPC's travel models follow the traditional steps of trip generation, trip distribution, modal split, and traffic assignment. However, an iterative feedback loop is employed from traffic assignment to the trip distribution step. The feedback loop ensures that the congestion levels used by the models when determining trip origins and destinations are equivalent to those that result from the traffic assignment step. Additionally, the iterative model structure allows trip making patterns to change in response to changes in traffic patterns, congestion levels, and improvements to the transportation system.

The DVRPC travel simulation process uses the Evans Algorithm to iterate the model. Evans 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 required for the process to converge to the equilibrium state for Chester City area 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.

1. Separate Peak, Midday, and Evening Models

The DVRPC travel simulation models are 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, midday, and evening travel. The enhanced process then utilizes completely separate model chains for peak, midday, and evening travel simulation runs. Time of day sensitive inputs to the model, such as highway capacities and transit service levels, are disaggregated to be reflective of time-period specific conditions. Capacity factors are used to allocate daily highway capacity to the peak, midday, and evening time periods. Separate transit networks were required to represent the difference in transit service.

The enhanced model is disaggregated into separate model chains for the peak (combined AM and PM), midday (the period between the AM and PM peaks), and evening (the remainder of the day) periods for the trip distribution, modal split, and travel assignment phases of the process. The peak period is defined as 7:00 AM to 9:00 AM and 3:00 PM to 6:00 PM. Peak period and midday travel are based on a series of factors which determine the percentage of daily trips that occur during those periods. Evening travel is then defined as the residual after peak and midday travel are removed from daily travel.

External-local productions at the nine-county cordon stations are disaggregated into peak, midday, and evening components using percentages derived from the temporal distribution of traffic counts taken at each cordon station.

2. The Model Chain

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.

a. 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. For the simulation of current and future travel demand, internal trip generation is based on zonal forecasts of population and employment, whereas external trips are extrapolated from cordon line traffic counts and other sources. 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.

b. Evans Iterations

The iterative portion of the Evans forecasting process involves updating the highway network restrained link travel speeds, rebuilding the minimum time paths through the network, and skimming the interzonal travel time for the minimum paths. Then the trip distribution, modal split, and highway assignment models in sequence for each pass through the model chain. 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. For each time period, seven iterations of the Evans process are performed to ensure that convergence on travel times is reached.

c. 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 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. These models follow the trip purpose and vehicle type stratifications established in trip generation.

d. 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 the highway side. 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.

e. Highway Assignment

For highway trips, the final step in the focused simulation process is the assignment of current or future vehicle trips to the highway network representative of the appropriate scenario. For peak, midday, and evening travel, the assignment model produces the future traffic volumes for individual highway links that are required for the evaluation of the alternatives. The regional nature of the highway network and trip table underlying the focused assignment process allow the diversion of travel into and through the study area to various points of entry and exit in response to the improvements made in the transportation system.

For each Evans iteration, highway trips are assigned to the network representative of a given alternative by determining the best (minimum time) route through the highway network for each zonal interchange and then allocating the interzonal 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 constraint. 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.

f. Transit Assignment

After equilibrium is achieved, the weighted average transit trip tables (using the λs 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.

VI. PROJECTED TRAFFIC VOLUMES

Projected average daily traffic volumes for the selected highway links within the Chester City study area are presented and analyzed in this part of the report. Forecasts for three alternatives are presented. The first is the 2027 Base Case scenario, the second is the Ninth Street alternative, and the third is the Second Street alternative.

Figure 4 shows the 2027 Base Case traffic forecasts for the Chester City area. The number underneath the line in black represents the current average daily traffic. The number above the line in red represents the 2027 Base Case average daily traffic. The Base Case is defined as the no-build scenario. This Base Case illustrates the 2027 average daily traffic as if no access ramps in Chester City are constructed.

Under this alternative, average daily traffic in Chester City increases at almost all locations, with the most significant increases taking place on Highland Avenue and Second Street. On Highland Avenue between Township Line Road and Ninth Street, the average daily traffic increases from 13,700 to 16,800. Between Ninth Street and Second Street on Highland Avenue, traffic increases from 6,200 to 9,100 vehicles per day, or 46.8 percent. This significant increase in traffic results from traffic from I-95 using Highland Avenue to access the waterfront development.

Second Street will also see an increase in traffic due to increased trips generated by the waterfront development. The largest increase occurs between Flower Street and Kerlin Street, where traffic will increase from 7,400 to 12,300 vehicles per day, a 66.2 percent increase. Second Street is scheduled to be widened from two to five lanes through the area, which will also contribute to increased traffic.

While Second Street and Highland Avenue show large increases in daily traffic, Engle Street, Ninth Street, and Kerlin Street expect to see more moderate growth. Ninth Street will generally see a growth of daily traffic between 2,000 and 3,000 vehicles per day. Engle Street will experience an increase of no more than 1,000 vehicles per day.

The major highways will also experience growth in daily traffic under this alternative. Mainline I-95 will increase from 156,500 to 183,100 vehicles per day between Highland Avenue and the Commodore Barry Bridge. US 322 increases from 35,200 to 47,000 vehicles per day in Upper Chichester Township, and from 37,000 to 49,800 on the Commodore Barry Bridge. A new entrance ramp onto I-95 at Edgemont Avenue will impact the Kerlin Street interchange. The I-95 southbound entrance ramp at Kerlin Street will decrease in average daily traffic from 9,700 to 7,700 vehicles per day as traffic is diverted to the new southbound on-ramp.

Average Daily Traffic Volumes for the Ninth Street Alternative and the Base Case are shown in Figure 5. The dashed lines extending from I-95 to Ninth Street represents the proposed on / off ramps. This alternative provides entry to the Chester City waterfront development by allowing traffic to exit into the heart of Chester City. Vehicles from I-95 are able to exit directly onto Ninth Street, without entering US 322 / Commodore Barry Bridge. Traffic would then utilize Flower Street and other adjacent north / south arterials to access the waterfront. The projected volume of the I-95 entrance ramp at Ninth Street is 8,400, while the I-95 exit ramp has 8,700 vehicles per day.

The Ninth Street Alternative has a significant effect on local traffic in Chester City. The most dramatic results are experienced on Ninth Street. Traffic increases substantially on this roadway throughout the Chester City area. Between Engle Street and the proposed I-95 ramps, average daily traffic increases from 13,100 in the Base Case to 16,800 vehicles per day in the build alternative. Between Edwards Street and Kerlin Street, traffic will increase from 12,900 to 15,400 vehicles per day, a 19.4 percent increase. The increase in traffic on Ninth Street is primarily due traffic exiting directly from I-95 onto Ninth Street. Ninth Street will then act as a distributor, serving the adjacent residential communities as well as different developments along the waterfront.

Traffic on Highland Avenue drops under this alternative. Traffic would be shifted away from the I-95 / US 322 / Highland Avenue interchange because the Ninth Street interchange is more centrally located in Chester City and would provide more direct access to waterfront development. Between Township Line Road and Ninth Street on Highland Avenue, the average daily traffic decreases from 16,800 to 12,800, which is lower than current traffic volumes. Traffic would also decrease on Township Line Road. Between Highland Avenue and the I-95 exit ramp, the daily traffic is reduced from 13,000 to 10,400.

Flower Street will experience an increase in traffic under this alternative compared to the Base Case. Flower Street would be the primary route to access the Chester City waterfront development, shifting traffic off Township Line Road and Highland Avenue. Between Fourth Street and Second Street, average daily traffic on Flower Street increases from 2,300 to 4,800 vehicles per day. Conversely, this alterative shows a decrease in traffic volume along Second Street and Kerlin Street. From Flower Street to Kerlin Street, volume on Second Street decreases from 12,300 to 11,900 vehicles per day. On Kerlin Street between Eleventh Street and Ninth Street, average daily traffic decreases from 9,500 to 7,300.

Traffic on mainline I-95, US 322 in Chichester Township and US 322 on the Commodore Barry Bridge are not significantly impacted by this alternative.

Average Daily Traffic Volumes for the Second Street Alternative and the Base Case are shown in Figure 6. The dashed lines extending from US 322 to Second Street represents the proposed ramps of the Second Street Alternative. The entrance and exit ramp volumes are shown, 3,400 and 3,500 respectively. This alternative provides direct access to the Chester City waterfront development by allowing eastbound traffic on US 322 to exit directly adjacent to the waterfront.

The Ninth Street ramps have considerably higher volumes than the Second Street Alternative. While the Second Street ramps maximize access to waterfront development, they decreases access to residential neighborhoods that represent a sizable component of the ramp traffic under the Ninth Street Alternative. In addition, the Second Street ramps involve circuitous routing (comprised of using the US 322 interchange at I-95 with a long acceleration or deceleration lane), which negates some of the advantages over other routes.

Under the Second Street Alternative, traffic volumes decrease slightly compared to the Base Case on Highland Avenue between Township Line Road and Second Street, but increase significantly on Second Street throughout the Chester City area. The average daily traffic on Highland Avenue between Township Line Road and Ninth Street decreases from 16,800 to 16,100. Between Ninth Street and Second Street, traffic drops from 9,100 to 8,800 vehicles per day. This slight decrease is a result of traffic being diverted from the Highland Avenue / I-95 Interchange to the Second Street Interchange.

The average daily traffic increases throughout the Second Street corridor. Traffic volumes increase from 8,600 to 10,200 vehicles per day between Highland Avenue and Engle Street. Between Flower Street and Kerlin Street, the volume rises from 12,300 to 14,300 vehicles per day. The significant increases in traffic volumes along Second Street are a combination of trips accessing the development area from US 322 / Second Street interchange and local traffic using the Second Street ramps to access I-95.

At the US 322 / I-95 / Township Line Road interchange, average ramp volumes remain relatively constant at both the Highland Avenue entrance ramps and the Township Line Road exit ramp. However, average daily traffic at the I-95 / US 322 / Commodore Barry Bridge interchange increases due to traffic passing through the interchange to reach the Second Street ramps. The volumes on US 322, both in Chichester Township and on the Commodore Barry Bridge, remain relatively constant.

Throughout the rest of the study area, the Second Street Alternative will have minimal effect on the average daily traffic. Compared to the Base Case, the traffic volumes on Ninth Street will decrease sightly or remain constant within the study area. For example, the average daily traffic volumes between Edwards Street and Kerlin Street along Ninth Street decrease from 12,900 to 12,400 under this alternative. In other sections of Ninth Street, traffic generally decreases less than 1,000 vehicles per day.

Table 2 summarizes the comparisons of current average daily traffic to the Base Case, Ninth Street, and Second Street Alternatives for selected roadway links in the study area. The first column of figures are the current traffic volumes. The percent growth under the Base Case Alternative is a growth from the current volume to the Base Case volume. The percent growth for the Ninth Street and Second Street Alternatives are based on the growth from the Base Case.

The Base Case Alternative shows general increases throughout most links. The Ninth Street Alternative shows more significant increased traffic along Ninth Street and decreased traffic volumes on Highland Avenue and Kerlin Street. Conversely, the Second Street Alternative has traffic decreasing on Ninth Street, while increasing on Second Street compared to current conditions.

The Base Case AM and PM peak hour traffic volumes are shown in Figure 7. The area extends along the Flower Street corridor, from Ninth Street to Second Street and includes the existing US 322 / Ninth Street Interchange. Under the Base Case scenario, traffic increases by approximately 100 vehicles on Ninth Street during the AM peak hour. Volumes along Flower Street increase by roughly 50 vehicles in the PM peak.

PENNDOT also requested turning movements for the Second Street Alternative, which are shown in Figure 8. Traffic volumes along Ninth Street remain consistent with the Base Case Alternative. Generally, traffic volumes on Flower Street increase from current volumes, but are slightly less than the Base Case numbers.

Table 2: Comparison of 2027 Average Daily Traffic Volumes

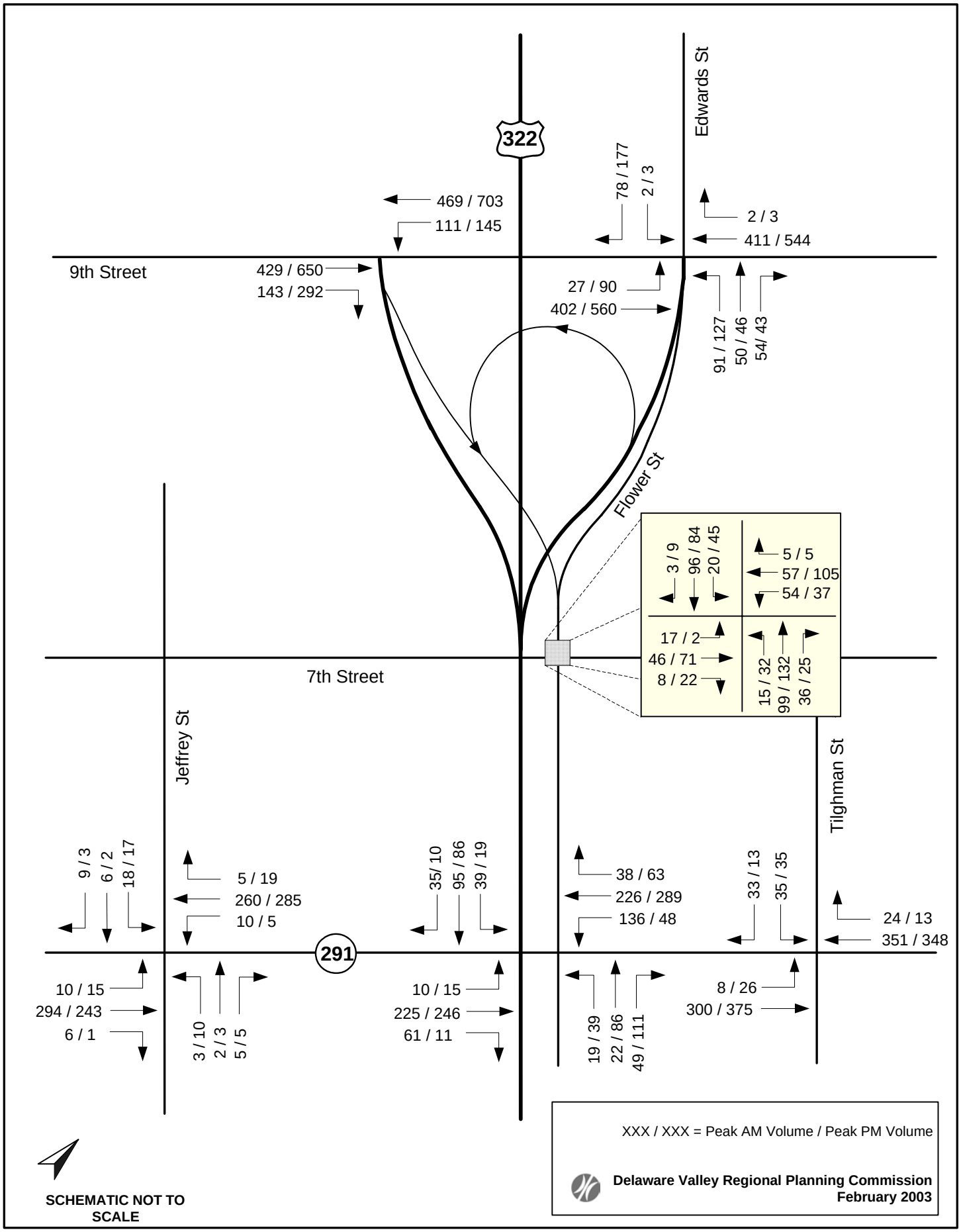
Location		Current Volume	Base Case Forecast AADT	Base Case Percent Growth	Ninth Street Forecast AADT	Ninth Street Percent Growth	Second Street Forecast AADT	Second Street Percent Growth
I-95 Mainline								
Highland Ave to Comm. Barry Bridge	Northbound	79,900	92,400	15.6%	92,200	-0.2%	93,600	1.3%
	Southbound	76,600	90,700	18.4%	91,000	0.3%	91,900	1.3%
I-95 Ramps								
Comm. Barry Bridge Interchange	NB off-ramp to Comm. Barry Bridge	8,100	10,700	32.1%	10,400	-2.8%	12,200	14.0%
	NB on-ramp from Comm. Barry Bridge	9,400	12,000	27.7%	15,200	26.7%	13,100	9.2%
	SB off-ramp to Bridge from C-D road	8,200	11,700	42.7%	11,200	-4.3%	12,900	10.3%
	SB on-ramp to I-95/Concord Rd from Bridge	8,500	10,700	25.9%	14,100	31.8%	11,800	10.3%
	SB on-ramp to I-95 from I-95 C-D road	8,900	7,300	-18.0%	6,800	-6.8%	7,600	4.1%
Proposed 9th Street Interchange	I-95 off-ramp to 9th St	0	0	0.0%	8,700	0.0%	0	0.0%
	I-95 on-ramp to 9th St	0	0	0.0%	8,400	0.0%	0	0.0%
US 322								
West of I-95	Eastbound	18,200	24,300	33.5%	23,900	-1.6%	24,700	1.6%
	Westbound	17,000	22,700	33.5%	22,400	-1.3%	23,200	2.2%
Commodore Barry Bridge	Eastbound	18,100	25,200	39.2%	25,100	-0.4%	24,800	-1.6%
	Westbound	18,900	24,600	30.2%	24,800	0.8%	24,800	0.8%
US 322 Ramps								
Existing 9th St Interchange	EB on-ramp from 9th St	1,800	2,800	55.6%	3,500	25.0%	3,200	14.3%
	WB off-ramp to 9th St	600	900	50.0%	1,900	111.1%	1,300	44.4%
	WB off-ramp to Flower St	400	1,000	150.0%	2,000	100.0%	2,000	100.0%
Proposed 2nd Street Interchange	EB US 322 off-ramp to 2nd St	0	0	0.0%	0	0.0%	3,500	0.0%
	WB US 322 on-ramp from 2nd St	0	0	0.0%	0	0.0%	3,400	0.0%

Table 2: Comparison of 2027 Average Daily Traffic Volumes (Cont.)

Location		Current Volume	Base Case Forecast AADT	Base Case Percent Growth	Ninth Street Forecast AADT	Ninth Street Percent Growth	Second Street Forecast AADT	Second Street Percent Growth
East-West Streets								
Township Line Rd - I-95 ramps to Highland Ave	Two-way	9,800	13,000	32.7%	10,400	-20.0%	11,000	-15.4%
9th St - Highland Ave to Engle St	Two-way	13,700	16,900	23.4%	18,400	8.9%	15,600	-7.7%
9th St - Engle St to Bridge on-ramp	Two-way	11,200	13,100	17.0%	16,800	28.2%	12,200	-6.9%
9th St - Bridge off-ramp to Kerlin St	Two-way	10,800	12,900	19.4%	15,400	19.4%	12,400	-3.9%
9th St - Kerlin St to Edgmont Ave	Two-way	10,000	12,000	20.0%	12,300	2.5%	11,500	-4.2%
2nd St - Highland Ave to Engle St	Two-way	5,700	8,600	50.9%	8,900	3.5%	10,200	18.6%
2nd St - Flower St to Kerlin St	Two-way	7,400	12,300	66.2%	11,900	-3.3%	14,300	16.3%
2nd St - Kerlin St to Concord Rd	Two-way	5,300	8,800	66.0%	8,700	-1.1%	9,300	5.7%
Seaport Drive - Highland Ave to Flower St	Two-way	0	6,200	0.0%	6,200	0.0%	6,200	0.0%
North-South Streets								
Highland Ave - I-95 SB on-ramp to NB on-ramp	Two-way	6,500	9,400	44.6%	9,200	-2.1%	8,900	-5.3%
Highland Ave - Township Line Road to 9th St	Two-way	13,700	16,800	22.6%	12,800	-23.8%	16,100	-4.2%
Highland Ave - 9th St to 2nd St	Two-way	6,200	9,100	46.8%	7,600	-16.5%	8,800	-3.3%
Flower St - 7th St to 2nd St	Two-way	1,100	2,300	109.1%	4,800	108.7%	1,100	-52.2%
Kerlin St - I-95 to 9th St	Two-way	9,500	9,500	0.0%	7,300	-23.2%	9,800	3.2%
Kerlin St - 9th St to 2nd St	Two-way	5,500	7,400	34.5%	5,600	-24.3%	7,700	4.1%
Local Roads								
Engle St - North of 9th St	Two-way	3,000	3,900	30.0%	3,700	-5.4%	3,900	0.0%
Engle St - South of 9th St	Two-way	4,200	5,200	23.8%	5,300	1.9%	5,100	-1.9%
Edwards St - North of 9th St	Two-way [one-way in 9th St Alt.]	2,200	2,600	18.2%	1,600	-38.5%	2,500	-3.8%

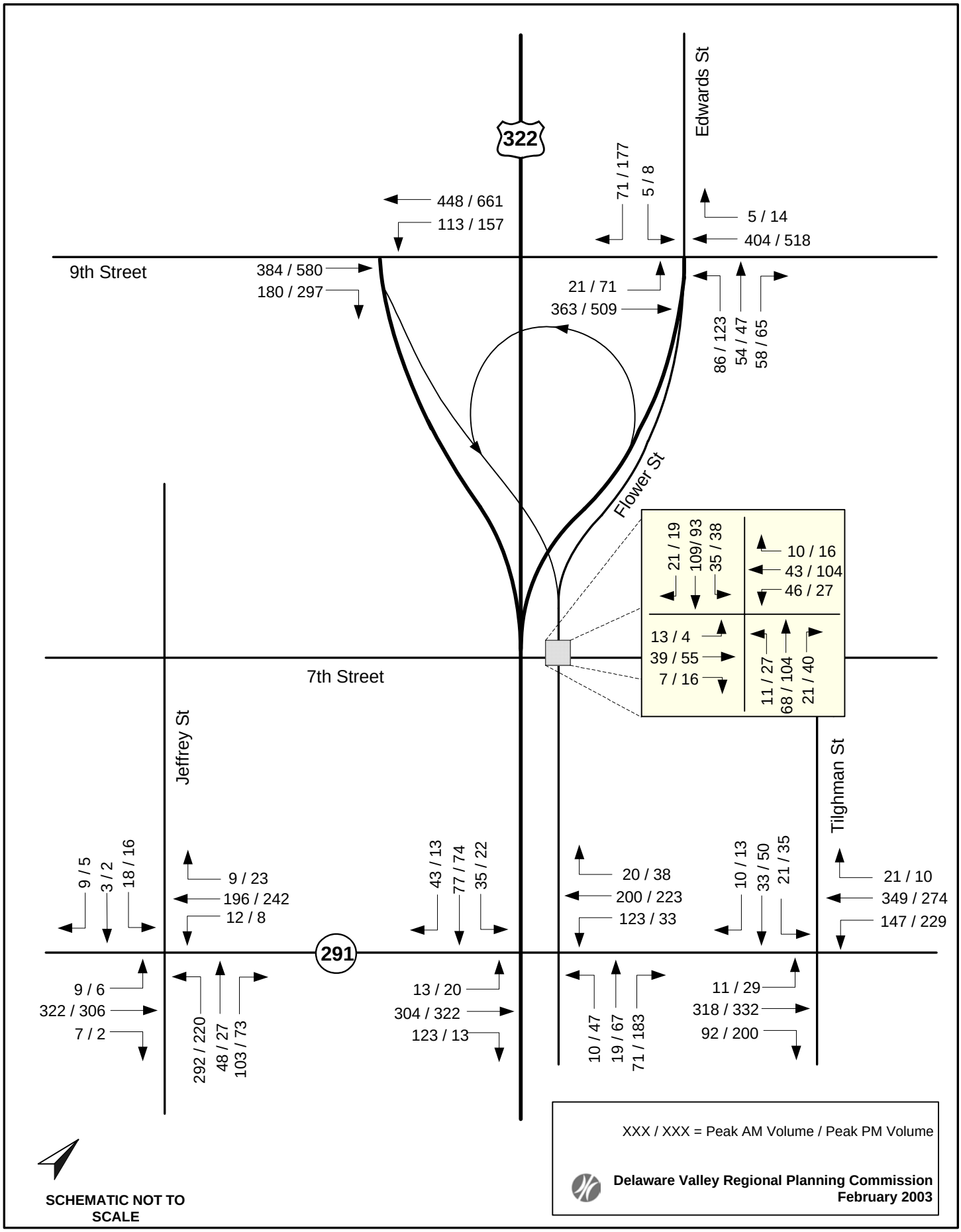
I-95 / US 322 Chester City Ramp Access Study

Figure 7: 2027 Base Case AM / PM Peak Hour Traffic Volumes



I-95 / US 322 Chester City Ramp Access Study

Figure 8: 2027 Second Street Alternative AM / PM Peak Hour Traffic Volumes



APPENDIX A
MACHINE TRAFFIC COUNTS

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont.)

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 NB ON RAMP **FROM:** HIGHLAND AVE **TO:** TR 95 NB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-3 **COUNT DIR:** NORTH **TRAFFIC DIR:** NORTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 3 **DVRPC FILE #:** 31234 **COUNTER:** 9954 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		108	92		
2 AM		53	70		
3 AM		43	50		
4 AM		34	34		
5 AM		44	42		
6 AM		125	118		
7 AM		266			
8 AM		424			
9 AM		432			
10 AM		346			
11 AM	336	320			
12 PM	382	366			
1 PM	334	368			
2 PM	352	362			
3 PM	434	415			
4 PM	542	560			
5 PM	525	546			
6 PM	491	595			
7 PM	402	452			
8 PM	296	320			
9 PM	232	250			
10 PM	214	244			
11 PM	188	196			
12 AM	141	170			
		7,039			

SEASONAL FACTOR:	.94	AADT: **6,253**	AM PEAK %:	6.1	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	8.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 SB OFF RAMP **FROM:** TR 95 SB **TO:** HIGHLAND AVE

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-4 **COUNT DIR:** SOUTH **TRAFFIC DIR:** SOUTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 4 **DVRPC FILE #:** 31235 **COUNTER:** 9786 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		78	142		
2 AM		64	89		
3 AM		24	56		
4 AM		18	39		
5 AM		24	46		
6 AM		35	72		
7 AM		157	147		
8 AM		460			
9 AM		460			
10 AM		412			
11 AM		318			
12 PM	358	311			
1 PM	326	304			
2 PM	354	367			
3 PM	350	384			
4 PM	442	444			
5 PM	433	428			
6 PM	387	329			
7 PM	375	351			
8 PM	318	328			
9 PM	230	254			
10 PM	212	220			
11 PM	206	210			
12 AM	133	202			
		6,182			

SEASONAL FACTOR:	.94	AADT: **5,491**	AM PEAK %:	7.4	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.2	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: TR 322 WB ON RAMP **FROM:** TR 95 SB **TO:** TR 322 WB ON RAMP

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-7 **COUNT DIR:** WEST **TRAFFIC DIR:** WEST **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31238 **COUNTER:** 9784 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thurdsday 01/10/02	Friday 01/11/02
1 AM		123	178		
2 AM		102	92		
3 AM		62	54		
4 AM		85	98		
5 AM		103	135		
6 AM		350	358		
7 AM		790	877		
8 AM		1,005	1,084		
9 AM		990	1,048		
10 AM		774	725		
11 AM		668	708		
12 PM		758	767		
1 PM	695	789			
2 PM	684	688			
3 PM	914	982			
4 PM	1,162	1,238			
5 PM	1,074	1,058			
6 PM	1,190	1,252			
7 PM	994	1,090			
8 PM	676	752			
9 PM	510	597			
10 PM	614	664			
11 PM	536	632			
12 AM	272	285			
		15,855			

SEASONAL FACTOR:	1.023	AADT: **15,246**	AM PEAK %:	6.3	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.94		PM PEAK %:	7.9	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 322 WB ON RAMP **FROM:** TR 95 SB ON RAMP **TO:** TR322 WB ON RAMP

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-06 **COUNT DIR:** WEST **TRAFFIC DIR:** WEST **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31236 **COUNTER:** 9789 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		17	18		
2 AM		21	22		
3 AM		24	6		
4 AM		8	4		
5 AM		34	20		
6 AM		94	84		
7 AM		120			
8 AM		139			
9 AM		103			
10 AM		106			
11 AM		138			
12 PM	101	98			
1 PM	120	108			
2 PM	104	107			
3 PM	130	128			
4 PM	119	123			
5 PM	108	124			
6 PM	98	106			
7 PM	91	83			
8 PM	61	64			
9 PM	45	60			
10 PM	42	54			
11 PM	46	40			
12 AM	48	13			
		1,912			

SEASONAL FACTOR:	.94	AADT: **1,698**	AM PEAK %:	7.3	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	6.7	HOUR ENDING:	3:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 SB ON RAMP **FROM:** TR 322 WB ON RAMP **TO:** HIGHLAND AVE

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-05 **COUNT DIR:** SOUTH **TRAFFIC DIR:** SOUTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31237 **COUNTER:** 9789 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		74	62		
2 AM		36	27		
3 AM		52	25		
4 AM		60	26		
5 AM		35	18		
6 AM		64	44		
7 AM		112			
8 AM		180			
9 AM		174			
10 AM		136			
11 AM		156			
12 PM	181	184			
1 PM	178	210			
2 PM	198	192			
3 PM	216	224			
4 PM	230	238			
5 PM	268	308			
6 PM	260	300			
7 PM	215	194			
8 PM	169	175			
9 PM	114	168			
10 PM	136	126			
11 PM	154	94			
12 AM	158	90			
		3,582			

SEASONAL FACTOR:	.94	AADT: **3,182**	AM PEAK %:	5.1	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.945		PM PEAK %:	8.6	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 NB ON RAMP **FROM:** TR 322 EB OFF RAMP **TO:** TR 95 NB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-8 **COUNT DIR:** NORTH **TRAFFIC DIR:** NORTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: ? **DVRPC FILE #:** 31239 **COUNTER:** 9952 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		194	280		
2 AM		120	136		
3 AM		101	108		
4 AM		104	144		
5 AM		237	272		
6 AM		740	744		
7 AM		1,405			
8 AM		1,532			
9 AM		1,367			
10 AM		1,092			
11 AM		864			
12 PM	882	866			
1 PM	792	902			
2 PM	810	926			
3 PM	940	955			
4 PM	1,060	1,060			
5 PM	1,176	1,174			
6 PM	1,228	1,244			
7 PM	1,100	1,044			
8 PM	650	682			
9 PM	514	590			
10 PM	474	548			
11 PM	426	440			
12 AM	297	266			
		18,453			

SEASONAL FACTOR:	.94	AADT: **16,392**	AM PEAK %:	8.3	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	6.7	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 322 EB OFF RAMP **FROM:** TR 322 EB **TO:** HIGHLAND AVE

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-09 **COUNT DIR:** EAST **TRAFFIC DIR:** EAST **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31240 **COUNTER:** **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		34	30		
2 AM		12	10		
3 AM		8	7		
4 AM		8	4		
5 AM		10	10		
6 AM		33	52		
7 AM		70	60		
8 AM		110			
9 AM		102			
10 AM		129			
11 AM		111			
12 PM	114	105			
1 PM	96	108			
2 PM	112	112			
3 PM	129	102			
4 PM	156	148			
5 PM	164	194			
6 PM	138	162			
7 PM	92	146			
8 PM	76	96			
9 PM	66	74			
10 PM	52	86			
11 PM	50	60			
12 AM	48	44			
		2,064			

SEASONAL FACTOR:	.94	AADT: **1,833**	AM PEAK %:	6.3	HOUR ENDING:	10:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	9.4	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 NB OFF RAMP **FROM:** TR 95 NB **TO:** TR 322 EB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-10 **COUNT DIR:** NORTH **TRAFFIC DIR:** NORTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID:10 **DVRPC FILE #:** 31241 **COUNTER:** **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		38	48		
2 AM		22	32		
3 AM		20	20		
4 AM		10	14		
5 AM		48	32		
6 AM		60	82		
7 AM		156	141		
8 AM		164			
9 AM		146			
10 AM		106			
11 AM		141			
12 PM	123	138			
1 PM	162	154			
2 PM	183	140			
3 PM	190	186			
4 PM	184	214			
5 PM	170	276			
6 PM	212	152			
7 PM	179	181			
8 PM	141	159			
9 PM	120	123			
10 PM	125	124			
11 PM	98	100			
12 AM	62	77			
		2,935			

SEASONAL FACTOR:	.94	AADT: **2,607**	AM PEAK %:	5.6	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	9.4	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TOWNSHIP LINE RD **FROM:** REINSHAW RD **TO:** HIGHLAND AVE

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 3008/0020/3141 **FC:** 17

PROJECT: 242-170-14 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 30 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31246 **COUNTER:** 9893 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		116	134		
2 AM		75	88		
3 AM		68	68		
4 AM		40	56		
5 AM		92	80		
6 AM		220	218		
7 AM		446	440		
8 AM		626			
9 AM		625			
10 AM		460			
11 AM		483			
12 PM		484			
1 PM	546	502			
2 PM	548	538			
3 PM	599	600			
4 PM	715	689			
5 PM	742	822			
6 PM	781	844			
7 PM	542	702			
8 PM	386	470			
9 PM	332	338			
10 PM	308	347			
11 PM	280	286			
12 AM	215	218			
		10,091			

SEASONAL FACTOR:	.978	AADT: **9,751**	AM PEAK %:	6.2	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.988		PM PEAK %:	8.5	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: HIGHLAND AVE **FROM:** TR 95 NB **TO:** BETHEL RD

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 3035/0010/1278 **FC:** 17

PROJECT: 242-170-15 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 30 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31248 **COUNTER:** 9326 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		76	130		
2 AM		40	64		
3 AM		28	38		
4 AM		33	38		
5 AM		38	54		
6 AM		106	95		
7 AM		346			
8 AM		444			
9 AM		439			
10 AM		348			
11 AM		312			
12 PM		318			
1 PM	390	400			
2 PM	336	387			
3 PM	440	466			
4 PM	508	498			
5 PM	470	410			
6 PM	432	440			
7 PM	328	384			
8 PM	266	300			
9 PM	236	256			
10 PM	235	242			
11 PM	176	225			
12 AM	129	179			
		6,715			

SEASONAL FACTOR:	.978	AADT: **6,488**	AM PEAK %:	6.6	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.988		PM PEAK %:	7.4	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: HIGHLAND AVE NB **FROM:** 11TH ST **TO:** TOWNSHIP LINE RD

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** LOC **FC:** 16

PROJECT: 242-170-16 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31251 **COUNTER:** 9628 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thursday 01/10/02	Friday 01/11/02
1 AM		67	125		
2 AM		40	66		
3 AM		40	45		
4 AM		28	30		
5 AM		36	76		
6 AM		114	144		
7 AM		276	311		
8 AM		442	527		
9 AM		444	523		
10 AM		320	399		
11 AM		326	406		
12 PM		360	426		
1 PM		403	460		
2 PM	452	527			
3 PM	558	612			
4 PM	729	809			
5 PM	741	784			
6 PM	629	646			
7 PM	390	467			
8 PM	281	322			
9 PM	223	288			
10 PM	280	318			
11 PM	186	254			
12 AM	104	145			
		8,068			

SEASONAL FACTOR:	1.050	AADT: **8,276**	AM PEAK %:	5.5	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.977		PM PEAK %:	10.0	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: HIGHLAND AVE SB **FROM:** 11TH ST **TO:** TOWNSHIP LINE RD

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** LOC **FC:** 16

PROJECT: 242-170-16 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31250 **COUNTER:** 9925 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thursday 01/10/02	Friday 01/11/02
1 AM		62	68		
2 AM		31	39		
3 AM		34	26		
4 AM		21	15		
5 AM		25	26		
6 AM		81	84		
7 AM		324	356		
8 AM		352	379		
9 AM		362	388		
10 AM		302	284		
11 AM		258	264		
12 PM		270	265		
1 PM		282	322		
2 PM	282	296			
3 PM	340	384			
4 PM	356	366			
5 PM	320	350			
6 PM	326	342			
7 PM	232	314			
8 PM	181	225			
9 PM	170	174			
10 PM	126	147			
11 PM	129	155			
12 AM	114	112			
		5,269			

SEASONAL FACTOR:	1.050	AADT: **5,405**	AM PEAK %:	6.9	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.977		PM PEAK %:	7.3	HOUR ENDING:	3:00 PM

DVRPC – Travel Monitoring

DATE: 11/01/2000

ROAD: 9TH ST EB **FROM:** VETERANS DR **TO:** CHESTNUT ST

COUNTY: DELAWARE **MCD:** 171 - TRAINER BOROUGH **SR/SEG/OFF:** 3006/0050/1500 **FC:** 16

PROJECT: PAD00 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 19897 **DVRPC FILE #:** 27127 **COUNTER:** 9869 **WEATHER:** F

Hour Ending	Wednesday 11/01/00	Thursday 11/02/00	Friday 11/03/00	Saturday 11/04/00	Sunday 11/05/00
1 AM		18	23		
2 AM		12	13		
3 AM		12	6		
4 AM		7	16		
5 AM		17	17		
6 AM		46	49		
7 AM		110	138		
8 AM		179	173		
9 AM	139	130			
10 AM	155	124			
11 AM	151	138			
12 PM	174	194			
1 PM	186	168			
2 PM	172	194			
3 PM	189	216			
4 PM	247	279			
5 PM	231	256			
6 PM	224	232			
7 PM	160	184			
8 PM	132	122			
9 PM	89	104			
10 PM	60	53			
11 PM	48	42			
12 AM	20	31			
		2,868			

SEASONAL FACTOR:	.965	AADT: **2,679**	AM PEAK %:	6.8	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.968		PM PEAK %:	9.7	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 11/01/2000

ROAD: 9TH ST WB **FROM:** VETERANS DR **TO:** CHESTNUT ST

COUNTY: DELAWARE **MCD:** 171 - TRAINER BOROUGH **SR/SEG/OFF:** 3006/0050/1500 **FC:** 16

PROJECT: PAD00 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 19897 **DVRPC FILE #:** 27128 **COUNTER:** 9873 **WEATHER:** F

Hour Ending	Wednesday 11/01/00	Thursday 11/02/00	Friday 11/03/00	Saturday 11/04/00	Sunday 11/05/00
1 AM		17	18		
2 AM		12	12		
3 AM		9	8		
4 AM		18	20		
5 AM		26	20		
6 AM		70	72		
7 AM		168	165		
8 AM		135	124		
9 AM	164	176			
10 AM	172	151			
11 AM	168	185			
12 PM	197	212			
1 PM	180	192			
2 PM	187	194			
3 PM	213	184			
4 PM	240	275			
5 PM	268	258			
6 PM	188	221			
7 PM	151	161			
8 PM	112	131			
9 PM	100	94			
10 PM	74	58			
11 PM	57	46			
12 AM	22	28			
		3,021			

SEASONAL FACTOR:	.965	AADT: **2,822**	AM PEAK %:	7.0	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.968		PM PEAK %:	9.1	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/26/2001

ROAD: HIGHLAND AVE NB **FROM:** 4TH ST **TO:** 6TH ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** LOC **FC:** 16

PROJECT: 242-170-18 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31254 **COUNTER:** 9491 **WEATHER:** F

Hour Ending	Wednesday 12/26/01	Thursday 12/27/01	Friday 12/28/01	Saturday 12/29/01	Sunday 12/30/01
1 AM		106	94		
2 AM		62	71		
3 AM		58	54		
4 AM		37	41		
5 AM		19	21		
6 AM		25	23		
7 AM		35	31		
8 AM		82	179		
9 AM		168	158		
10 AM		139			
11 AM		110			
12 PM	138	127			
1 PM	161	163			
2 PM	167	174			
3 PM	186	219			
4 PM	162	195			
5 PM	250	254			
6 PM	237	267			
7 PM	213	270			
8 PM	180	198			
9 PM	152	177			
10 PM	120	166			
11 PM	111	142			
12 AM	90	127			
		3,320			

SEASONAL FACTOR:	.971	AADT: **3,143**	AM PEAK %:	5.1	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.975		PM PEAK %:	8.1	HOUR ENDING:	7:00 PM

DVRPC – Travel Monitoring

DATE: 12/26/2001

ROAD: HIGHLAND AVE SB **FROM:** 4TH ST **TO:** 6TH ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** LOC **FC:** 16

PROJECT: 242-170-18 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31255 **COUNTER:** 9491 **WEATHER:** F

Hour Ending	Wednesday 12/26/01	Thursday 12/27/01	Friday 12/28/01	Saturday 12/29/01	Sunday 12/30/01
1 AM		93	79		
2 AM		73	80		
3 AM		57	45		
4 AM		42	38		
5 AM		37	31		
6 AM		19	18		
7 AM		59	59		
8 AM		360			
9 AM		109			
10 AM		137			
11 AM		158			
12 PM	155	192			
1 PM	197	130			
2 PM	267	216			
3 PM	151	188			
4 PM	345	187			
5 PM	187	227			
6 PM	195	106			
7 PM	139	173			
8 PM	185	219			
9 PM	160	166			
10 PM	168	182			
11 PM	126	60			
12 AM	133	90			
		3,280			

SEASONAL FACTOR:	.971	AADT: **3,105**	AM PEAK %:	11.0	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.975		PM PEAK %:	6.9	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 11/30/1998

ROAD: TR 291 2ND ST **FROM:** IRVING ST **TO:** HAYES ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0291/0020/0500 **FC:** 14

PROJECT: PAD98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: 1768 **DVRPC FILE #:** 4196 **COUNTER:** 9329 **WEATHER:** F

Hour Ending	Monday 11/30/98	Tuesday 12/01/98	Wednesday 12/02/98	Thursday 12/03/98	Friday 12/04/98
1 AM		42	58		
2 AM		44	42		
3 AM		38	26		
4 AM		40	34		
5 AM		43	44		
6 AM		118	107		
7 AM		285	310		
8 AM		340	356		
9 AM		256	316		
10 AM		309	352		
11 AM		358	342		
12 PM		348	349		
1 PM		375			
2 PM	52	368			
3 PM	380	348			
4 PM	355	386			
5 PM	334	304			
6 PM	240	223			
7 PM	136	168			
8 PM	116	130			
9 PM	98	129			
10 PM	106	94			
11 PM	93	88			
12 AM	77	95			
		4,929			

SEASONAL FACTOR:	.937	AADT: **4,434**	AM PEAK %:	7.3	HOUR ENDING:	11:00 AM
AXLE CORR. FACTOR:	.96		PM PEAK %:	7.8	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/26/2001

ROAD: TR 291 EB 2ND ST **FROM:** ENGLE ST **TO:** WARD ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0291/0030/1444 **FC:** 14

PROJECT: 242-170-23 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31272 **COUNTER:** 8802 **WEATHER:** F

Hour Ending	Wednesday 12/26/01	Thursday 12/27/01	Friday 12/28/01	Saturday 12/29/01	Sunday 12/30/01
1 AM		36	50		
2 AM		26	38		
3 AM		24	31		
4 AM		24	18		
5 AM		11	10		
6 AM		21	25		
7 AM		49	55		
8 AM		163	152		
9 AM		236	262		
10 AM		221			
11 AM		159			
12 PM	172	169			
1 PM	191	186			
2 PM	227	219			
3 PM	225	197			
4 PM	202	204			
5 PM	238	227			
6 PM	178	198			
7 PM	119	146			
8 PM	100	108			
9 PM	67	81			
10 PM	60	68			
11 PM	50	65			
12 AM	51	51			
		2,889			

SEASONAL FACTOR:	.94	AADT: **2,566**	AM PEAK %:	8.2	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.9	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/26/2001

ROAD: TR 291 WB 2ND ST **FROM:** ENGLE ST **TO:** WARD ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0291/0030/1444 **FC:** 14

PROJECT: 242-170-23 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31273 **COUNTER:** 8802 **WEATHER:** F

Hour Ending	Wednesday 12/26/01	Thursday 12/27/01	Friday 12/28/01	Saturday 12/29/01	Sunday 12/30/01
1 AM		51	67		
2 AM		34	48		
3 AM		31	41		
4 AM		29	26		
5 AM		21	17		
6 AM		68	69		
7 AM		71	75		
8 AM		160	194		
9 AM		196	207		
10 AM		221			
11 AM		187			
12 PM	201	219			
1 PM	225	195			
2 PM	249	233			
3 PM	203	239			
4 PM	225	246			
5 PM	238	304			
6 PM	241	288			
7 PM	202	216			
8 PM	222	201			
9 PM	91	88			
10 PM	75	85			
11 PM	58	61			
12 AM	53	66			
		3,510			

SEASONAL FACTOR:	.94	AADT: **3,118**	AM PEAK %:	6.3	HOUR ENDING:	10:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	8.7	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/26/2001

ROAD: ENGLE ST NB **FROM:** 8TH ST **TO:** TOLSTON ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 3033/0010/1329 **FC:** 17

PROJECT: 242-170-21 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31260 **COUNTER:** 9764 **WEATHER:** F

Hour Ending	Wednesday 12/26/01	Thursday 12/27/01	Friday 12/28/01	Saturday 12/29/01	Sunday 12/30/01
1 AM		14	21		
2 AM		10	14		
3 AM		8	22		
4 AM		4	10		
5 AM		6	10		
6 AM		26	30		
7 AM		30	45		
8 AM		47	55		
9 AM		51			
10 AM		70			
11 AM		80			
12 PM	84	90			
1 PM	76	102			
2 PM	53	99			
3 PM	101	100			
4 PM	106	103			
5 PM	139	131			
6 PM	119	108			
7 PM	88	79			
8 PM	47	46			
9 PM	44	46			
10 PM	36	54			
11 PM	20	49			
12 AM	24	36			
		1,389			

SEASONAL FACTOR:	.978	AADT: **1,342**	AM PEAK %:	6.5	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.988		PM PEAK %:	9.4	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/26/2001

ROAD: ENGLE ST SB **FROM:** 8TH ST **TO:** TOLSTON ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 3033/0010/1329 **FC:** 17

PROJECT: 242-170-21 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31270 **COUNTER:** 9862 **WEATHER:** F

Hour Ending	Wednesday 12/26/01	Thursday 12/27/01	Friday 12/28/01	Saturday 12/29/01	Sunday 12/30/01
1 AM		15	14		
2 AM		14	21		
3 AM		9	17		
4 AM		8	11		
5 AM		15	8		
6 AM		25	33		
7 AM		49	54		
8 AM		71	92		
9 AM		72			
10 AM		92			
11 AM		102			
12 PM	78	94			
1 PM	119	133			
2 PM	114	148			
3 PM	131	138			
4 PM	122	129			
5 PM	111	138			
6 PM	108	98			
7 PM	64	108			
8 PM	52	80			
9 PM	48	64			
10 PM	52	60			
11 PM	50	52			
12 AM	38	36			
		1,750			

SEASONAL FACTOR:	.978	AADT: **1,691**	AM PEAK %:	5.8	HOUR ENDING:	11:00 AM
AXLE CORR. FACTOR:	.988		PM PEAK %:	8.5	HOUR ENDING:	2:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: ENGLE ST NB **FROM:** 4TH ST **TO:** 6TH ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** LOC **FC:** 17

PROJECT: 242-170-22 **COUNT DIR:** NORTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31262 **COUNTER:** 160 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thursday 01/10/02	Friday 01/11/02
1 AM		16	14		
2 AM		11	18		
3 AM		2	11		
4 AM		6	4		
5 AM		8	10		
6 AM		25	24		
7 AM		71	66		
8 AM		111	122		
9 AM		102	130		
10 AM		103	104		
11 AM		122	96		
12 PM		111	95		
1 PM		124	118		
2 PM	113	126			
3 PM	126	144			
4 PM	142	168			
5 PM	161	196			
6 PM	120	128			
7 PM	98	88			
8 PM	56	84			
9 PM	48	60			
10 PM	56	56			
11 PM	42	38			
12 AM	24	48			
		1,948			

SEASONAL FACTOR:	1.051	AADT: **2,023**	AM PEAK %:	6.3	HOUR ENDING:	11:00 AM
AXLE CORR. FACTOR:	.988		PM PEAK %:	10.1	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: ENGLE ST SB **FROM:** 4TH ST **TO:** 6TH ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** LOC **FC:** 17

PROJECT: 242-170-22 **COUNT DIR:** SOUTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31271 **COUNTER:** 162 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thursday 01/10/02	Friday 01/11/02
1 AM		10	22		
2 AM		6	16		
3 AM		7	16		
4 AM		7	6		
5 AM		9	14		
6 AM		20	27		
7 AM		91	77		
8 AM		112	119		
9 AM		135	152		
10 AM		118	92		
11 AM		121	96		
12 PM		118	100		
1 PM		108	133		
2 PM	113	137			
3 PM	123	159			
4 PM	142	195			
5 PM	170	204			
6 PM	132	130			
7 PM	100	98			
8 PM	68	114			
9 PM	43	72			
10 PM	62	56			
11 PM	40	48			
12 AM	21	34			
		2,100			

SEASONAL FACTOR:	1.051	AADT: **2181**	AM PEAK %:	6.4	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.988		PM PEAK %:	9.7	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: TR 13 EB 9TH ST **FROM:** ENGLE ST **TO:** YARNALL ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0013/0070/0374 **FC:** 14

PROJECT: 242-170-24 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31274 **COUNTER:** 9956 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		30	41		
2 AM		38	33		
3 AM		16	26		
4 AM		29	33		
5 AM		88	66		
6 AM		184	172		
7 AM		359	366		
8 AM	368	426	376		
9 AM	301	296	330		
10 AM	351	368	358		
11 AM	330	352	378		
12 PM	373	414	391		
1 PM	366	414	398		
2 PM	427	454	496		
3 PM	540	557	513		
4 PM	586	614	640		
5 PM	586	562	687		
6 PM	387	408	462		
7 PM	277	332	330		
8 PM	181	208	268		
9 PM	164	200			
10 PM	168	148			
11 PM	126	122			
12 AM	56	70			
		6,689			

SEASONAL FACTOR:	.94	AADT: **5,942**	AM PEAK %:	6.4	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	9.2	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: TR 13 WB 9TH ST **FROM:** ENGLE ST **TO:** YARNALL ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0013/0071/0374 **FC:** 14

PROJECT: 242-170-24 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31275 **COUNTER:** 9957 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		58	148		
2 AM		49	68		
3 AM		19	110		
4 AM		20	47		
5 AM		29	52		
6 AM		68	80		
7 AM		160	152		
8 AM		272	255		
9 AM	296	360	334		
10 AM	265	290	300		
11 AM	290	332	303		
12 PM	346	370	342		
1 PM	318	333	365		
2 PM	362	360	340		
3 PM	410	409	399		
4 PM	464	430	433		
5 PM	456	422	453		
6 PM	390	418	448		
7 PM	315	365	344		
8 PM	228	277	262		
9 PM	176	228			
10 PM	193	173			
11 PM	146	272			
12 AM	102	245			
		5,959			

SEASONAL FACTOR:	.94	AADT: **5,293**	AM PEAK %:	6.2	HOUR ENDING:	12:00 PM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.2	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: TR 13 EB 9TH ST **FROM:** TILGHMAN ST **TO:** LAMOKIN ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0013/0080/1046 **FC:** 14

PROJECT: 242-170-26 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31278 **COUNTER:** 9869 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		44	48		
2 AM		26	36		
3 AM		12	18		
4 AM		21	24		
5 AM		60	56		
6 AM		164	166		
7 AM		331	332		
8 AM		375	363		
9 AM	296	276	302		
10 AM	342	340	315		
11 AM	338	363	356		
12 PM	338	374	381		
1 PM	396	411	386		
2 PM	431	484	490		
3 PM	466	468	472		
4 PM	460	497	536		
5 PM	476	438	504		
6 PM	346	358	388		
7 PM	252	296	295		
8 PM	189	262	263		
9 PM	164	235			
10 PM	169	172			
11 PM	142	156			
12 AM	60	63			
		6,226			

SEASONAL FACTOR:	.94	AADT: **5,531**	AM PEAK %:	6.0	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	8.0	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: TR 13 WB 9TH ST **FROM:** TILGHMAN ST **TO:** LAMOKIN ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0013/0080/1046 **FC:** 14

PROJECT: 242-170-26 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31279 **COUNTER:** 9872 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		50	68		
2 AM		27	124		
3 AM		17	44		
4 AM		21	46		
5 AM		48	62		
6 AM		119	128		
7 AM		274	268		
8 AM		330	303		
9 AM	275	270	262		
10 AM	296	320	288		
11 AM	320	357	346		
12 PM	320	297	358		
1 PM	349	368	336		
2 PM	426	428	428		
3 PM	460	448	452		
4 PM	442	459	456		
5 PM	412	433	454		
6 PM	328	339	358		
7 PM	244	287	277		
8 PM	191	247	250		
9 PM	182	195			
10 PM	152	276			
11 PM	129	250			
12 AM	82	126			
		5,986			

SEASONAL FACTOR: .94 AADT: **5,317** AM PEAK %: 6.0 HOUR ENDING: 11:00 AM

AXLE CORR. FACTOR: .945 PM PEAK %: 7.7 HOUR ENDING: 4:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: EDWARDS ST **FROM:** 9TH ST **TO:** 11TH ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 3005/0020/0372 **FC:** 19

PROJECT: 242-170-25 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31276 **COUNTER:** 159 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thursday 01/10/02	Friday 01/11/02
1 AM		23	19		
2 AM		13	19		
3 AM		7	4		
4 AM		3	6		
5 AM		4	8		
6 AM		31	26		
7 AM		39	60		
8 AM		102	112		
9 AM		118	124		
10 AM		106	93		
11 AM		103	118		
12 PM		92	106		
1 PM		110	144		
2 PM	160	124			
3 PM	147	154			
4 PM	194	200			
5 PM	168	185			
6 PM	154	196			
7 PM	129	136			
8 PM	99	110			
9 PM	81	74			
10 PM	66	70			
11 PM	60	48			
12 AM	46	28			
		2,076			

SEASONAL FACTOR:	1.098	AADT: **2,250**	AM PEAK %:	5.7	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.987		PM PEAK %:	9.6	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 11/23/1998

ROAD: KERLIN ST **FROM:** NINTH ST **TO:** TR 95 RAMPS

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 3001/0010/1500 **FC:** 16

PROJECT: PAD98 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 19464 **DVRPC FILE #:** 4288 **COUNTER:** 9832 **WEATHER:** F

Hour Ending	Monday 11/23/98	Tuesday 11/24/98	Wednesday 11/25/98	Thursday 11/26/98	Friday 11/27/98
1 AM		192	238		
2 AM		114	114		
3 AM		72	92		
4 AM		58	60		
5 AM		39	50		
6 AM		47	46		
7 AM		136	108		
8 AM		322	321		
9 AM		548	540		
10 AM		572	587		
11 AM		524			
12 PM		558			
1 PM	668	644			
2 PM	661	651			
3 PM	593	614			
4 PM	623	638			
5 PM	732	692			
6 PM	738	768			
7 PM	698	706			
8 PM	648	641			
9 PM	522	712			
10 PM	400	425			
11 PM	294	360			
12 AM	270	303			
		10,336			

SEASONAL FACTOR:	.946	AADT: **9,524**	AM PEAK %:	5.5	HOUR ENDING:	10:00 AM
AXLE CORR. FACTOR:	.974		PM PEAK %:	7.4	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 05/22/2001

ROAD: KERLIN ST **FROM:** 2ND ST **TO:** 9TH ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** G438/0010/1240 **FC:** 16

PROJECT: PAD01 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 28551 **DVRPC FILE #:** 30380 **COUNTER:** 9866 **WEATHER:** F

Hour Ending	Tuesday 05/22/01	Wednesday 05/23/01	Thursday 05/24/01	Friday 05/25/01	Saturday 05/26/01
1 AM		74	86		
2 AM		56	62		
3 AM		32	31		
4 AM		19	25		
5 AM		45	38		
6 AM		142	154		
7 AM		239	254		
8 AM		352	322		
9 AM		262	286		
10 AM		282	272		
11 AM		306	308		
12 PM		315	334		
1 PM	286	274			
2 PM	363	326			
3 PM	429	440			
4 PM	435	488			
5 PM	460	506			
6 PM	400	368			
7 PM	376	406			
8 PM	272	285			
9 PM	198	317			
10 PM	153	234			
11 PM	154	164			
12 AM	91	124			
		6,056			

SEASONAL FACTOR:	.931	AADT: **5,497**	AM PEAK %:	5.8	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.975		PM PEAK %:	8.4	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: 9TH ST **FROM:** KERLIN ST **TO:** BARCLAY ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0013/0090/1288 **FC:** 14

PROJECT: 242-170-31 **COUNT DIR:** BOTH **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31288 **COUNTER:** 9994 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		239	546		
2 AM		136	316		
3 AM		86	189		
4 AM		43	341		
5 AM		28	86		
6 AM		41	125		
7 AM		108	154		
8 AM		260	299		
9 AM		675	733		
10 AM		639	656		
11 AM	259	556	576		
12 PM	288	603	612		
1 PM	338	656	606		
2 PM	419	638	632		
3 PM	524	660	651		
4 PM	775	868	910		
5 PM	863	864	883		
6 PM	791	813	852		
7 PM	726	812	891		
8 PM	556	628	583		
9 PM	445	504			
10 PM	363	455			
11 PM	329	379			
12 AM	282	612			
		11,303			

SEASONAL FACTOR:	.94	AADT: **10,040**	AM PEAK %:	6.0	HOUR ENDING:	9:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.7	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: TR 291 EB 2ND ST **FROM:** KERLIN ST **TO:** FRANKLIN ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0291/0060/0359 **FC:** 14

PROJECT: 242-170-28 **COUNT DIR:** EAST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31282 **COUNTER:** 9774 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		15	30		
2 AM		28	28		
3 AM		18	28		
4 AM		33	34		
5 AM		86	97		
6 AM		206	216		
7 AM		253	216		
8 AM		244	250		
9 AM		204	219		
10 AM		225	208		
11 AM	258	232	261		
12 PM	262	232	225		
1 PM	264	244	194		
2 PM	258	232	230		
3 PM	257	234	246		
4 PM	252	265	238		
5 PM	176	210	214		
6 PM	145	146	172		
7 PM	99	118	106		
8 PM	74	82	86		
9 PM	84	67			
10 PM	80	70			
11 PM	83	54			
12 AM	39	40			
		3,538			

SEASONAL FACTOR:	.94	AADT: **3,143**	AM PEAK %:	7.2	HOUR ENDING:	7:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.5	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/17/2001

ROAD: TR 291 WB 2ND ST **FROM:** KERLIN ST **TO:** FRANKLIN ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 0291/0060/0359 **FC:** 14

PROJECT: 242-170-28 **COUNT DIR:** WEST **TRAFFIC DIR:** BOTH **SPEED LIMIT:** 35 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31283 **COUNTER:** 9774 **WEATHER:** F

Hour Ending	Monday 12/17/01	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01
1 AM		5	13		
2 AM		10	10		
3 AM		10	17		
4 AM		13	13		
5 AM		56	65		
6 AM		148	152		
7 AM		195	160		
8 AM		200	191		
9 AM		154	174		
10 AM		169	148		
11 AM	188	173	196		
12 PM	198	163	148		
1 PM	208	182	124		
2 PM	182	160	158		
3 PM	180	148	174		
4 PM	176	181	149		
5 PM	103	131	130		
6 PM	82	80	102		
7 PM	52	63	50		
8 PM	36	45	50		
9 PM	50	42			
10 PM	48	36			
11 PM	52	21			
12 AM	21	20			
		2,405			

SEASONAL FACTOR:	.94	AADT: **2,136**	AM PEAK %:	8.3	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.6	HOUR ENDING:	1:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 NB OFF RAMP **FROM:** TR 95 NB **TO:** KERLIN ST

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-12 **COUNT DIR:** NORTH **TRAFFIC DIR:** NORTH **SPEED LIMIT:** 30 **LOOP OR CLASS:**

STATION ID: 12 **DVRPC FILE #:** 31243 **COUNTER:** 9628 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		66	75		
2 AM		40	50		
3 AM		64	34		
4 AM		23	20		
5 AM		20	22		
6 AM		78	86		
7 AM		278			
8 AM		490			
9 AM		446			
10 AM		343			
11 AM	292	336			
12 PM	300	307			
1 PM	374	324			
2 PM	374	354			
3 PM	382	394			
4 PM	494	478			
5 PM	473	422			
6 PM	388	402			
7 PM	367	318			
8 PM	265	300			
9 PM	220	243			
10 PM	232	250			
11 PM	192	215			
12 AM	108	139			
		6,330			

SEASONAL FACTOR:	.94	AADT: **5,623**	AM PEAK %:	7.7	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	7.6	HOUR ENDING:	4:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 SB ON RAMP **FROM:** KERLIN ST **TO:** TR 95 SB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-11 **COUNT DIR:** SOUTH **TRAFFIC DIR:** SOUTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 11 **DVRPC FILE #:** 31242 **COUNTER:** 9784 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		121	123		
2 AM		62	66		
3 AM		51	52		
4 AM		40	44		
5 AM		50	62		
6 AM		128	170		
7 AM		440			
8 AM		646			
9 AM		625			
10 AM		519			
11 AM	514	560			
12 PM	586	536			
1 PM	557	574			
2 PM	577	564			
3 PM	660	708			
4 PM	871	903			
5 PM	894	1,002			
6 PM	835	880			
7 PM	647	633			
8 PM	536	576			
9 PM	441	435			
10 PM	368	337			
11 PM	252	286			
12 AM	224	254			
		10,930			

SEASONAL FACTOR:	.94	AADT: **9,709**	AM PEAK %:	5.9	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	9.2	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 01/07/2002

ROAD: TR 95 SB **FROM:** BRIDGE CONNECTOR **TO:** TR 95 SB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-01 **COUNT DIR:** SOUTH **TRAFFIC DIR:** SOUTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 31232 **COUNTER:** 9789 **WEATHER:** F

Hour Ending	Monday 01/07/02	Tuesday 01/08/02	Wednesday 01/09/02	Thursday 01/10/02	Friday 01/11/02
1 AM		72	95		
2 AM		46	56		
3 AM		35	46		
4 AM		30	42		
5 AM		40	52		
6 AM		134	145		
7 AM		412	380		
8 AM		562	579		
9 AM		512	526		
10 AM		422	408		
11 AM		402	422		
12 PM		448	445		
1 PM	470	538			
2 PM	490	480			
3 PM	558	637			
4 PM	722	779			
5 PM	784	836			
6 PM	661	720			
7 PM	538	580			
8 PM	376	451			
9 PM	278	345			
10 PM	254	314			
11 PM	224	247			
12 AM	187	176			
		9,218			

SEASONAL FACTOR:	1.023	AADT: **8,864**	AM PEAK %:	6.1	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.94		PM PEAK %:	9.1	HOUR ENDING:	5:00 PM

DVRPC – Travel Monitoring

DATE: 09/27/1999

ROAD: TR 322 EB ON RAMP **FROM:** TR 95 SB **TO:** TR 322 EB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 8017/0510/2500 **FC:** 14

PROJECT: I-95 C **COUNT DIR:** EAST **TRAFFIC DIR:** EAST **SPEED LIMIT:** **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 9483 **COUNTER:** 9951 **WEATHER:** F

Hour Ending	Monday 09/27/99	Tuesday 09/28/99	Wednesday 09/29/99	Thursday 09/30/99	Friday 10/01/99
1 AM		90	78		
2 AM		50	84		
3 AM		62	82		
4 AM		96	61		
5 AM		88	102		
6 AM		197	176		
7 AM		466	466		
8 AM		711	564		
9 AM		580	632		
10 AM		464	416		
11 AM		436			
12 PM		386			
1 PM		342			
2 PM		390			
3 PM		523			
4 PM	650	759			
5 PM	829	840			
6 PM	1,006	1,033			
7 PM	589	670			
8 PM	350	349			
9 PM	219	219			
10 PM	220	238			
11 PM	193	198			
12 AM	116	122			
		9,309			

SEASONAL FACTOR:	.914	AADT: **8,151**	AM PEAK %:	7.6	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	11.1	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/29/1999

ROAD: TR 322 EB ON RAMP **FROM:** TR 95 NB **TO:** TR 322 EB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 8017/0010/0500 **FC:** 14

PROJECT: I-95 C **COUNT DIR:** EAST **TRAFFIC DIR:** EAST **SPEED LIMIT:** **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 9481 **COUNTER:** 9952 **WEATHER:** F

Hour Ending	Wednesday 09/29/99	Thursday 09/30/99	Friday 10/01/99	Saturday 10/02/99	Sunday 10/03/99
1 AM		78	88		
2 AM		63	92		
3 AM		52	54		
4 AM		53	88		
5 AM		64	118		
6 AM		206	190		
7 AM		441	472		
8 AM		686	632		
9 AM		539	530		
10 AM		424	450		
11 AM		380	476		
12 PM		366	546		
1 PM		368	430		
2 PM		419	500		
3 PM	500	488			
4 PM	699	692			
5 PM	833	844			
6 PM	1,054	1,040			
7 PM	652	720			
8 PM	354	415			
9 PM	257	296			
10 PM	239	296			
11 PM	222	222			
12 AM	114	146			
		9,298			

SEASONAL FACTOR:	.914	AADT: **8,141**	AM PEAK %:	7.4	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	11.2	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/27/1999

ROAD: TR 322 WB ON RAMP **FROM:** TR 322 WB **TO:** TR 95 SB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 8017/0750/1000 **FC:** 14

PROJECT: I-95 C **COUNT DIR:** WEST **TRAFFIC DIR:** WEST **SPEED LIMIT:** **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 9484 **COUNTER:** 9789 **WEATHER:** F

Hour Ending	Monday 09/27/99	Tuesday 09/28/99	Wednesday 09/29/99	Thursday 09/30/99	Friday 10/01/99
1 AM		59	84		
2 AM		44	52		
3 AM		64	58		
4 AM		66	58		
5 AM		116	88		
6 AM		260	260		
7 AM		756	748		
8 AM		1,268	1,231		
9 AM		1,044	1,068		
10 AM		569	572		
11 AM		442			
12 PM		434			
1 PM		462			
2 PM		388			
3 PM		430			
4 PM	574	488			
5 PM	598	596			
6 PM	692	712			
7 PM	536	532			
8 PM	320	296			
9 PM	198	254			
10 PM	194	207			
11 PM	164	160			
12 AM	108	108			
		9,755			

SEASONAL FACTOR:	.914	AADT: **8,542**	AM PEAK %:	13.0	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	7.3	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/27/1999

ROAD: TR 322 WB OFF RAMP **FROM:** TR 322 WB **TO:** TR 95 NB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 8017/0760/1000 **FC:** 14

PROJECT: I-95 C **COUNT DIR:** WEST **TRAFFIC DIR:** WEST **SPEED LIMIT:** **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 9482 **COUNTER:** 9622 **WEATHER:** F

Hour Ending	Monday 09/27/99	Tuesday 09/28/99	Wednesday 09/29/99	Thursday 09/30/99	Friday 10/01/99
1 AM		104	104		
2 AM		74	60		
3 AM		96	80		
4 AM		98	122		
5 AM		172	178		
6 AM		441	434		
7 AM		1,098	1,082		
8 AM		1,254	1,266		
9 AM		970	1,005		
10 AM		632	610		
11 AM		513			
12 PM		463			
1 PM		501			
2 PM		497			
3 PM		518			
4 PM	684	572			
5 PM	724	648			
6 PM	730	652			
7 PM	486	464			
8 PM	327	335			
9 PM	242	226			
10 PM	196	190			
11 PM	138	153			
12 AM	106	110			
		10,781			

SEASONAL FACTOR:	.914	AADT: **9,440**	AM PEAK %:	11.6	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	6.0	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 12/18/2001

ROAD: TR 95 SB ON RAMP **FROM:** BRIDGE WB **TO:** TR 95 SB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** // **FC:** 14

PROJECT: 242-170-2 **COUNT DIR:** SOUTH **TRAFFIC DIR:** SOUTH **SPEED LIMIT:** 25 **LOOP OR CLASS:**

STATION ID: 2 **DVRPC FILE #:** 31233 **COUNTER:** 9943 **WEATHER:** F

Hour Ending	Tuesday 12/18/01	Wednesday 12/19/01	Thursday 12/20/01	Friday 12/21/01	Saturday 12/22/01
1 AM		63	62		
2 AM		69	71		
3 AM		40	31		
4 AM		43	43		
5 AM		84	74		
6 AM		270	228		
7 AM		647			
8 AM		968			
9 AM		908			
10 AM		569			
11 AM	408	373			
12 PM	362	354			
1 PM	353	346			
2 PM	328	352			
3 PM	361	343			
4 PM	435	410			
5 PM	506	530			
6 PM	500	560			
7 PM	432	447			
8 PM	256	286			
9 PM	164	162			
10 PM	146	160			
11 PM	105	140			
12 AM	70	64			
		8,188			

SEASONAL FACTOR:	.94	AADT: **7,273**	AM PEAK %:	11.8	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.945		PM PEAK %:	6.8	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/27/1999

ROAD: TR 322 EB ON RAMP **FROM:** 9'TH ST **TO:** TR 322 EB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 8017// **FC:** 14

PROJECT: I-95 C **COUNT DIR:** EAST **TRAFFIC DIR:** EAST **SPEED LIMIT:** **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 9485 **COUNTER:** 9837 **WEATHER:** F

Hour Ending	Monday 09/27/99	Tuesday 09/28/99	Wednesday 09/29/99	Thursday 09/30/99	Friday 10/01/99
1 AM		9	10		
2 AM		6	2		
3 AM		10	8		
4 AM		20	6		
5 AM		24	11		
6 AM		40	36		
7 AM		112	104		
8 AM		166	180		
9 AM		128	166		
10 AM		108			
11 AM		86			
12 PM		100			
1 PM		70			
2 PM		82			
3 PM		111			
4 PM		185			
5 PM	230	239			
6 PM	253	245			
7 PM	94	134			
8 PM	56	62			
9 PM	36	32			
10 PM	18	28			
11 PM	23	32			
12 AM	28	18			
		2,047			

SEASONAL FACTOR:	.914	AADT: **1,792**	AM PEAK %:	8.1	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	12.0	HOUR ENDING:	6:00 PM

DVRPC – Travel Monitoring

DATE: 09/27/1999

ROAD: TR 322 WB OFF RAMP **FROM:** TR 322 WB **TO:** FLOWER ST WB

COUNTY: DELAWARE **MCD:** 133 - CHESTER CITY **SR/SEG/OFF:** 8017// **FC:** 14

PROJECT: I-95 C **COUNT DIR:** WEST **TRAFFIC DIR:** WEST **SPEED LIMIT:** **LOOP OR CLASS:**

STATION ID: **DVRPC FILE #:** 9487 **COUNTER:** 9954 **WEATHER:** F

Hour Ending	Monday 09/27/99	Tuesday 09/28/99	Wednesday 09/29/99	Thursday 09/30/99	Friday 10/01/99
1 AM		3	6		
2 AM		4	2		
3 AM		1	2		
4 AM		4	2		
5 AM		8	8		
6 AM		23	21		
7 AM		45	63		
8 AM		94	67		
9 AM		67	88		
10 AM		40	36		
11 AM		51			
12 PM		34			
1 PM		40			
2 PM		35			
3 PM		38			
4 PM		46			
5 PM	27	38			
6 PM	31	31			
7 PM	21	22			
8 PM	18	17			
9 PM	8	8			
10 PM	11	8			
11 PM	9	10			
12 AM	10	2			
		669			

SEASONAL FACTOR:	.914	AADT: **586**	AM PEAK %:	14.1	HOUR ENDING:	8:00 AM
AXLE CORR. FACTOR:	.958		PM PEAK %:	6.9	HOUR ENDING:	4:00 PM

APPENDIX B
INTERSECTION TURNING MOVEMENTS

TABLE OF CONTENTS

PAGE

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY:	CHESTER	
MUNICIPALITY:	CHESTER CITY	
INTERSECTION:	North-South Street	East-West Street
STREETS:	FLOWER ST	2ND ST
DATE:	12/14/01	
DAY:	FRIDAY	
WEATHER:	FAIR	
FILE NUMBER:	08AM	

AM INTERVAL COUNTS

	FLOWER ST								2ND ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 7:15	1	1	0	2	5	0	2	7	7	34	0	41	3	39	0	42	9	83	92
7:15 7:30	0	0	0	0	3	1	3	7	3	47	3	53	0	37	7	44	7	97	104
7:30 7:45	0	1	0	1	2	4	4	10	5	46	0	51	1	35	6	42	11	93	104
7:45 8:00	0	0	1	1	4	0	2	6	2	45	3	50	0	36	1	37	7	87	94
8:00 8:15	0	0	2	2	6	0	3	9	1	40	7	48	1	34	6	41	11	89	100
8:15 8:30	0	2	1	3	13	0	2	15	1	37	5	43	2	33	5	40	18	83	101
8:30 8:45	0	0	1	1	3	4	4	11	0	77	3	80	2	43	4	49	12	129	141
8:45 9:00	1	1	1	3	2	0	5	7	0	79	1	80	1	49	2	52	10	132	142
9:00 9:30	1	3	0	3	11	7	4	22	4	121	0	125	1	73	6	80	25	205	230
9:30 10:00	1	2	1	3	5	5	5	15	1	75	4	80	4	85	8	97	18	177	195
10:00 10:30	1	2	2	4	6	2	2	10	1	67	5	73	4	68	5	77	14	150	164
10:30 11:00	1	1	5	7	3	3	2	8	2	61	4	67	4	79	8	91	15	158	173
11:00 11:30	3	3	5	8	8	7	5	20	1	60	4	65	4	100	14	118	28	183	211
11:30 12:00	1	4	7	12	1	2	5	8	2	90	7	99	2	113	11	126	20	225	245
TOTALS	4	20	26	50	72	35	48	155	30	879	46	955	29	824	83	936	205	1891	2096

HOURLY VOLUMES

	FLOWER ST								2ND ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 8:00	1	2	1	4	14	5	11	30	17	172	6	195	4	147	14	165	34	360	394
8:00 9:00	1	3	5	9	24	4	14	42	2	233	16	251	6	159	17	182	51	433	484
9:00 10:00	0	5	1	6	16	12	9	37	5	196	4	205	5	158	14	177	43	382	425
10:00 11:00	1	3	7	11	9	5	4	18	3	128	9	140	8	147	13	168	29	308	337
11:00 12:00	1	7	12	20	9	9	10	28	3	150	11	164	6	213	25	244	48	408	456
TOTALS	4	20	26	50	72	35	48	155	30	879	46	955	29	824	83	936	205	1891	2096

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY:	CHESTER	
MUNICIPALITY:	CHESTER CITY	
INTERSECTION:	North-South Street	East-West Street
STREETS:	FLOWER ST	2ND ST
DATE:	12/3/01	
DAY:	MONDAY	
WEATHER:	FAIR	
FILE NUMBER:	08PM	

PM INTERVAL COUNTS

	FLOWER ST								2ND ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 12:30	2	4	2	8	3	12	3	18	5	54	2	61	3	81	2	86	26	147	173
12:30 1:00	5	9	4	13	6	8	4	18	10	68	0	78	12	72	4	88	31	166	197
1:00 1:30	1	8	2	11	9	10	4	23	6	70	3	79	7	72	11	90	34	169	203
1:30 2:00	2	8	4	12	4	6	8	18	9	77	2	88	8	80	8	96	30	184	214
2:00 2:30	1	3	12	16	2	3	3	8	2	79	3	84	3	73	11	87	24	171	195
2:30 3:00	2	7	3	12	10	16	8	34	10	77	2	89	3	84	13	100	46	189	235
3:00 3:30	2	8	7	17	8	12	6	26	12	72	3	87	4	118	17	139	43	226	269
3:30 4:00	3	9	8	20	7	13	5	25	9	78	5	92	6	129	14	149	45	241	286
4:00 4:15	1	4	5	10	4	11	3	18	13	85	2	100	2	69	9	80	28	180	208
4:15 4:30	3	5	3	11	2	5	2	9	6	44	1	51	3	84	10	97	20	148	168
4:30 4:45	4	8	6	18	4	4	4	12	2	48	4	54	2	74	11	87	30	141	171
4:45 5:00	2	4	8	14	7	7	3	17	3	42	2	47	3	57	12	72	31	119	150
5:00 5:15	3	4	3	10	1	3	3	7	8	44	1	53	2	63	19	84	17	137	154
5:15 5:30	1	5	5	11	1	1	2	4	4	38	3	45	5	59	16	80	15	125	140
5:30 5:45	3	4	1	8	3	3	5	11	4	40	3	47	2	55	13	70	19	117	136
5:45 6:00	1	4	2	7	2	2	2	6	3	32	3	38	1	52	8	61	13	99	112
TOTALS	29	94	75	198	73	116	65	254	106	948	39	1093	66	1222	178	1466	452	2559	3011

HOURLY VOLUMES

	FLOWER ST								2ND ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 1:00	2	13	6	21	9	20	7	36	15	122	2	139	15	153	6	174	57	313	370
1:00 2:00	1	16	6	23	13	16	12	41	15	147	5	167	15	152	19	186	64	353	417
2:00 3:00	3	10	15	28	12	19	11	42	12	156	5	173	6	157	24	187	70	360	430
3:00 4:00	5	17	15	37	15	25	11	51	21	150	8	179	10	247	31	288	88	467	555
4:00 5:00	10	21	22	53	17	27	12	56	24	219	9	252	10	284	42	336	109	588	697
5:00 6:00	8	17	11	36	7	9	12	28	19	154	10	183	10	229	56	295	64	478	542
TOTALS	29	94	75	198	73	116	65	254	106	948	39	1093	66	1222	178	1466	452	2559	3011

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY:	CHESTER	
MUNICIPALITY:	CHESTER CITY	
INTERSECTION:	North-South Street	East-West Street
STREETS:	FLOWER ST RAMP	9TH ST
DATE:	12/13/01	
DAY:	THURSDAY	
WEATHER:	FAIR	
FILE NUMBER:	06AM	

AM INTERVAL COUNTS

	FLOWER ST RAMP									9TH ST									
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 7:15	0	0	0	0	0	0	0	0	0	51	36	87	8	57	0	65	0	152	152
7:15 7:30	0	0	0	0	0	0	0	0	0	72	35	107	14	80	0	94	0	201	201
7:30 7:45	0	0	0	0	0	0	0	0	0	74	34	108	3	91	0	94	0	202	202
7:45 8:00	0	0	0	0	0	0	0	0	0	89	38	127	8	84	0	92	0	219	219
8:00 8:15	0	0	0	0	0	0	0	0	0	82	32	114	9	88	0	97	0	211	211
8:15 8:30	0	0	0	0	0	0	0	0	0	90	27	117	13	138	0	151	0	268	268
8:30 8:45	0	0	0	0	0	0	0	0	0	97	19	116	7	92	0	99	0	215	215
8:45 9:00	0	0	0	0	0	0	0	0	0	78	17	95	6	90	0	96	0	191	191
9:00 9:30	0	0	0	0	0	0	0	0	0	138	33	171	15	158	0	173	0	344	344
9:30 10:00	0	0	0	0	0	0	0	0	0	127	29	156	20	136	0	156	0	312	312
10:00 10:30	0	0	0	0	0	0	0	0	0	129	40	169	14	136	0	183	0	352	352
10:30 11:00	0	0	0	0	0	0	0	0	0	159	28	187	15	157	0	172	0	359	359
11:00 11:30	0	0	0	0	0	0	0	0	0	157	43	200	23	175	0	198	0	398	398
11:30 12:00	0	0	0	0	0	0	0	0	0	119	41	160	19	179	0	198	0	358	358
TOTALS	0	0	0	0	0	0	0	0	0	1462	452	1914	174	1694	0	1868	0	3782	3782

HOURLY VOLUMES

	FLOWER ST RAMP									9TH ST									
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 8:00	0	0	0	0	0	0	0	0	0	286	143	492	33	312	0	345	0	774	774
8:00 9:00	0	0	0	0	0	0	0	0	0	347	95	442	35	408	0	443	0	885	885
9:00 10:00	0	0	0	0	0	0	0	0	0	265	62	327	35	294	0	329	0	656	565
10:00 11:00	0	0	0	0	0	0	0	0	0	288	68	356	29	326	0	355	0	711	711
11:00 12:00	0	0	0	0	0	0	0	0	0	276	84	360	42	354	0	396	0	756	756
TOTALS	0	0	0	0	0	0	0	0	0	1462	452	1914	174	1694	0	1868	0	3782	3782

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY:	CHESTER	
MUNICIPALITY:	CHESTER CITY	
INTERSECTION:	North-South Street	East-West Street
STREETS:	FLOWER ST RAMP	9TH ST
DATE:	12/13/01	
DAY:	THURSDAY	
WEATHER:	FAIR	
FILE NUMBER:	06PM	

PM INTERVAL COUNTS

	FLOWER ST RAMP									9TH ST									
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 12:30	0	0	0	0	0	0	0	0	0	139	37	176	18	167	0	185	0	361	361
12:30 1:00	0	0	0	0	0	0	0	0	0	157	35	192	14	199	0	213	0	405	405
1:00 1:30	0	0	0	0	0	0	0	0	0	157	34	191	25	192	0	217	0	408	408
1:30 2:00	0	0	0	0	0	0	0	0	0	152	46	198	9	203	0	212	0	410	410
2:00 2:30	0	0	0	0	0	0	0	0	0	196	25	221	15	230	0	245	0	466	466
2:30 3:00	0	0	0	0	0	0	0	0	0	200	38	238	27	233	0	260	0	498	498
3:00 3:30	0	0	0	0	0	0	0	0	0	215	52	267	39	239	0	278	0	545	545
3:30 4:00	0	0	0	0	0	0	0	0	0	209	87	296	50	256	0	306	0	602	602
4:00 4:15	0	0	0	0	0	0	0	0	0	87	62	149	15	126	0	141	0	290	290
4:15 4:30	0	0	0	0	0	0	0	0	0	106	42	148	19	132	0	151	0	299	299
4:30 4:45	0	0	0	0	0	0	0	0	0	130	39	169	26	104	0	166	0	335	335
4:45 5:00	0	0	0	0	0	0	0	0	0	107	45	152	17	133	0	150	0	302	302
5:00 5:15	0	0	0	0	0	0	0	0	0	141	64	205	23	150	0	173	0	378	378
5:15 5:30	0	0	0	0	0	0	0	0	0	125	59	184	25	139	0	164	0	348	348
5:30 5:45	0	0	0	0	0	0	0	0	0	123	60	183	9	140	0	149	0	332	332
5:45 6:00	0	0	0	0	0	0	0	0	0	115	37	152	21	119	0	140	0	292	292
TOTALS	0	0	0	0	0	0	0	0	0	2359	762	3121	352	2798	0	3150	0	6271	6271

HOURLY VOLUMES

	FLOWER ST RAMP									9TH ST									
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 1:00	0	0	0	0	0	0	0	0	0	296	72	368	32	366	0	398	0	766	766
1:00 2:00	0	0	0	0	0	0	0	0	0	309	80	389	34	395	0	429	0	818	818
2:00 3:00	0	0	0	0	0	0	0	0	0	396	63	459	42	463	0	505	0	964	964
3:00 4:00	0	0	0	0	0	0	0	0	0	424	139	563	89	495	0	584	0	1147	1147
4:00 5:00	0	0	0	0	0	0	0	0	0	430	188	618	77	531	0	608	0	1226	1226
5:00 6:00	0	0	0	0	0	0	0	0	0	504	220	724	78	548	0	626	0	1350	1350
TOTALS	0	0	0	0	0	0	0	0	0	2359	762	3121	352	2798	0	3150	0	6271	6271

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY: CHESTER

MUNICIPALITY: CHESTER CITY

INTERSECTION: North-South Street East-West Street

STREETS: EDWARDS ST 9TH ST

DATE: 12/12/01

DAY: TUESDAY

WEATHER: FAIR

FILE NUMBER: 07AM

AM INTERVAL COUNTS

	EDWARDS								9TH ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 7:15	9	2	5	16	0	0	11	11	8	43	0	51	0	45	2	47	98	27	125
7:15 7:30	13	4	4	21	0	0	16	16	4	68	0	72	0	65	2	67	139	37	176
7:30 7:45	13	9	6	28	1	0	16	17	9	65	0	74	0	65	0	65	139	45	184
7:45 8:00	13	6	4	23	0	0	16	16	12	77	0	89	0	63	0	63	152	39	191
8:00 8:15	14	9	2	25	1	0	16	17	8	74	0	82	0	67	0	67	149	42	191
8:15 8:30	21	6	10	37	0	0	26	26	9	81	0	90	0	104	0	104	194	63	257
8:30 8:45	14	2	9	25	2	0	17	19	13	84	0	97	0	68	1	69	166	44	210
8:45 9:00	13	10	9	32	1	0	16	17	12	66	0	78	0	66	0	66	144	50	194
9:00 9:30	24	4	25	53	0	0	29	29	24	114	0	138	0	119	0	119	257	83	340
9:30 10:00	22	18	13	53	1	0	27	28	16	111	0	127	0	108	1	109	236	80	316
10:00 10:30	26	17	8	51	0	0	31	31	23	106	0	129	0	126	0	126	255	82	337
10:30 11:00	24	2	5	31	1	0	29	30	17	142	0	159	0	119	2	121	280	61	341
11:00 11:30	28	12	11	51	0	0	34	34	25	132	0	157	0	137	0	137	294	84	378
11:30 12:00	28	13	11	52	2	0	34	36	21	98	0	119	0	137	1	138	257	87	344
TOTALS	262	114	122	498	9	0	318	327	189	1261	0	1462	0	1289	9	1298	2760	824	3584

HOURLY VOLUMES

	EDWARDS								9TH ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 8:00	48	21	19	88	1	0	59	60	33	253	0	286	0	238	4	242	528	148	676
8:00 9:00	62	27	30	119	4	0	75	79	42	305	0	347	0	306	1	307	654	198	852
9:00 10:00	46	22	38	106	1	0	56	57	40	225	0	265	0	227	1	228	493	163	656
10:00 11:00	50	19	13	82	1	0	60	61	40	248	0	288	0	245	2	247	535	143	678
11:00 12:00	55	25	22	102	2	0	67	69	46	230	0	276	0	273	1	274	550	172	722
TOTALS	262	114	122	498	9	0	318	327	189	1261	0	1462	0	1289	9	1298	2760	824	3584

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY: CHESTER

MUNICIPALITY: CHESTER CITY

INTERSECTION: North-South Street East-West Street

STREETS: EDWARDS ST 9TH ST

DATE: 12/10/01

DAY: MONDAY

WEATHER: FAIR

FILE NUMBER: 07PM

PM INTERVAL COUNTS

	9TH ST								EDWARDS ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 12:30	20	8	11	39	1	0	46	47	32	107	0	139	0	118	2	120	259	87	346
12:30 1:00	23	6	10	39	2	0	53	55	31	126	0	157	0	136	2	138	295	95	390
1:00 1:30	24	6	12	42	1	0	54	55	39	118	0	157	0	139	3	142	299	97	396
1:30 2:00	23	8	14	45	2	0	53	55	33	119	0	152	0	136	3	139	291	100	391
2:00 2:30	27	8	13	48	1	0	61	62	39	157	0	196	0	157	4	161	357	110	467
2:30 3:00	29	10	12	51	2	0	65	67	40	160	0	200	0	166	4	170	370	118	488
3:00 3:30	31	15	16	61	1	0	70	71	35	180	0	215	0	178	1	179	394	132	562
3:30 4:00	34	16	12	61	1	0	77	78	36	173	0	209	0	196	2	198	407	139	546
4:00 4:15	16	8	6	30	0	0	35	35	16	71	0	87	0	90	1	91	178	65	243
4:15 4:30	17	10	7	34	0	0	38	38	17	89	0	106	0	97	0	97	203	71	274
4:30 4:45	18	12	7	37	0	0	42	42	16	114	0	130	0	106	0	106	236	79	315
4:45 5:00	17	14	9	40	2	0	38	40	12	95	0	107	0	96	0	96	203	79	282
5:00 5:15	19	11	5	35	1	0	43	44	14	127	0	141	0	111	0	111	252	79	331
5:15 5:30	18	10	7	35	1	0	41	42	13	112	0	125	0	105	0	105	230	77	307
5:30 5:45	16	9	4	29	0	0	37	37	15	108	0	123	0	95	1	96	219	67	286
5:45 6:00	15	11	6	32	0	0	35	35	12	103	0	115	0	90	0	90	205	67	272
TOTALS	347	162	151	660	15	0	788	803	369	1959	0	2359	0	2016	23	2039	4398	1462	5860

HOURLY VOLUMES

	9TH ST								EDWARDS ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 1:00	44	14	21	79	3	0	100	103	63	233	0	296	0	255	4	259	555	181	736
1:00 2:00	47	14	26	87	3	0	107	110	72	237	0	309	0	275	6	281	590	197	787
2:00 3:00	56	18	25	99	3	0	126	129	79	317	0	396	0	323	8	331	727	228	955
3:00 4:00	64	31	28	123	2	0	146	148	71	353	0	424	0	374	3	377	801	271	1072
4:00 5:00	67	44	29	140	2	0	152	154	61	369	0	430	0	389	1	390	820	294	1114
5:00 6:00	69	41	22	132	2	0	157	159	54	450	0	504	0	401	1	402	906	290	1196
TOTALS	347	162	151	660	15	0	788	803	400	1959	0	2359	0	2016	23	2039	4398	1462	5860

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY:	CHESTER	
MUNICIPALITY:	CHESTER CITY	
INTERSECTION:	North-South Street	East-West Street
STREETS:	FLOWER ST	7TH ST
DATE:	01/23/02	
DAY:	WEDNESDAY	
WEATHER:	DRIZZLE	
FILE NUMBER:	08AM	

AM INTERVAL COUNTS

	FLOWER ST								7TH STREET										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 7:15	3	10	5	18	2	28	0	30	2	4	0	6	3	10	0	13	48	19	67
7:15 7:30	1	10	5	16	3	22	0	25	4	9	2	15	2	7	0	9	41	24	65
7:30 7:45	2	18	3	23	4	17	2	23	0	7	0	7	5	14	1	20	46	27	73
7:45 8:00	1	13	7	21	5	19	0	24	3	11	4	18	4	10	1	15	45	33	78
8:00 8:15	1	9	10	20	4	10	0	14	2	7	3	12	8	13	2	23	34	35	69
8:15 8:30	2	13	7	22	9	11	0	20	0	13	1	14	7	18	0	25	42	39	81
8:30 8:45	0	5	6	11	5	9	1	15	1	19	1	21	6	23	1	30	26	51	77
8:45 9:00	5	11	3	19	4	19	0	23	2	8	5	15	5	16	2	23	42	38	80
9:00 9:30	7	21	11	39	5	13	0	18	5	14	2	21	9	29	2	40	57	61	118
9:30 10:00	7	18	8	33	4	21	0	25	3	14	2	19	15	16	0	31	58	50	108
10:00 10:30	5	21	12	38	2	16	0	18	0	12	3	15	15	24	1	40	56	55	111
10:30 11:00	2	25	14	41	4	17	0	21	3	10	2	15	9	23	0	32	62	47	109
11:00 11:30	6	21	6	33	7	18	2	27	2	20	3	25	9	33	1	43	60	68	128
11:30 12:00	7	23	8	38	5	23	0	28	0	24	3	27	12	27	2	41	66	68	134
TOTALS	49	218	105	372	63	243	5	311	27	172	31	230	109	263	13	385	683	615	1298

HOURLY VOLUMES

	FLOWER ST								7TH STREET										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
7:00 8:00	7	51	20	78	14	86	2	102	9	31	6	46	14	41	2	57	180	103	283
8:00 9:00	8	38	26	72	22	49	1	72	5	47	10	62	26	70	5	101	144	163	307
9:00 10:00	14	39	19	72	9	34	0	43	8	28	4	40	24	45	2	71	115	111	226
10:00 11:00	7	46	26	79	6	33	0	39	3	22	5	30	24	47	1	72	118	102	220
11:00 12:00	13	44	14	71	12	41	2	55	2	44	6	52	21	60	3	84	126	136	262
TOTALS	49	218	105	372	63	243	5	311	27	172	31	230	109	263	13	385	683	615	1298

DELAWARE VALLEY REGIONAL PLANNING COMMISSION
OFFICE OF TRAVEL MONITORING

COUNTY:	CHESTER	
MUNICIPALITY:	CHESTER CITY	
INTERSECTION:	North-South Street	East-West Street
STREETS:	FLOWER ST	7TH ST
DATE:	01/23/02	
DAY:	WEDNESDAY	
WEATHER:	RAIN	
FILE NUMBER:	08PM	

PM INTERVAL COUNTS

	FLOWER ST								2ND ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 12:30	7	22	13	42	3	11	8	22	2	17	5	24	10	27	5	42	64	66	130
12:30 1:00	1	21	12	34	5	15	3	23	1	19	2	22	13	35	0	48	57	70	127
1:00 1:30	7	18	15	40	7	20	2	29	2	22	3	27	19	26	1	46	69	73	142
1:30 2:00	4	23	11	38	4	12	1	17	1	16	3	20	7	33	0	40	55	60	115
2:00 2:30	8	26	13	47	5	23	0	28	7	24	2	33	9	34	0	43	75	76	151
2:30 3:00	8	35	19	62	5	23	0	28	4	27	4	35	13	28	3	44	90	79	169
3:00 3:30	1	41	11	53	8	21	0	29	3	25	5	33	14	40	2	56	82	89	171
3:30 4:00	11	35	13	59	14	23	1	38	5	37	10	52	17	52	0	69	97	121	218
4:00 4:15	3	22	6	31	1	12	0	13	1	12	3	16	9	21	2	32	44	48	92
4:15 4:30	9	21	16	46	7	14	1	22	1	13	1	15	9	17	0	26	68	41	109
4:30 4:45	5	20	9	34	2	11	0	13	1	14	5	20	6	27	0	33	47	53	100
4:45 5:00	7	18	3	28	7	11	0	18	1	19	2	22	10	28	1	39	46	61	107
5:00 5:15	5	14	4	23	2	11	2	15	0	16	2	18	5	23	2	30	38	48	86
5:15 5:30	6	25	3	34	6	15	3	24	0	14	5	19	7	20	1	28	58	47	105
5:30 5:45	7	25	5	37	4	8	0	12	1	15	3	19	6	22	1	29	49	48	97
5:45 6:00	3	14	4	21	5	9	0	14	2	10	4	16	6	19	0	25	35	41	76
TOTALS	92	380	157	629	85	239	21	345	32	300	59	391	160	452	18	630	974	1021	1995

HOURLY VOLUMES

	FLOWER ST								2ND ST										
STARTING	1-NORTHBOUND				2-SOUTHBOUND				3-EASTBOUND				4-WESTBOUND				N-S	E-W	
TIME	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	L	S	R	TOTAL	TOTAL	TOTAL	TOTAL
12:00 1:00	8	43	25	76	8	26	11	45	3	36	7	46	23	62	5	90	121	136	257
1:00 2:00	11	41	26	78	11	32	3	46	3	38	6	47	26	59	1	86	124	133	257
2:00 3:00	16	61	32	109	10	46	0	56	11	51	6	68	22	62	3	87	165	155	320
3:00 4:00	12	76	24	112	22	44	1	67	8	62	15	85	31	92	2	125	179	210	389
4:00 5:00	24	81	34	139	17	48	1	66	4	58	11	73	34	93	3	130	205	203	408
5:00 6:00	21	78	16	115	17	43	5	65	3	55	14	72	24	84	4	112	180	184	364
TOTALS	92	380	157	629	85	239	21	345	32	300	59	391	160	452	18	630	974	1021	1995

Title of Report: *Chester City Ramp Access Study*

Publication No.: 03003

Date Published: February 2003

Geographic Area Covered:

The study area consists of an area of Delaware County in the vicinity of Chester City. It includes or is adjacent to the following Delaware County municipalities: Chester City, Chester Township, Eddystone Borough, Lower Chichester Township, Marcus Hook Borough, Trainer Borough, Upland Borough, and Upper Chichester Township.

Key Words:

US 322, Commodore Barry Bridge, existing traffic volumes, proposed development, improvement alternatives, projected traffic volumes, travel forecast procedures, intersection turning movements, average daily traffic, development surcharge.

ABSTRACT:

This report documents a traffic analysis and 2027 traffic volume forecast for an area of Chester City in Delaware County as part of a regional effort to develop ramps for access to the Chester City waterfront. Updated traffic counts and socio-economic data necessary to prepare 2027 forecasts for the no-build and two build alternatives for the study area are presented. DVRPC's regional travel simulation model was used to estimate future traffic volumes for the alternatives. An analysis of the existing conditions, an review of the alternatives, and a brief discussion of the focused traffic simulation model used to develop the traffic projections are also included.

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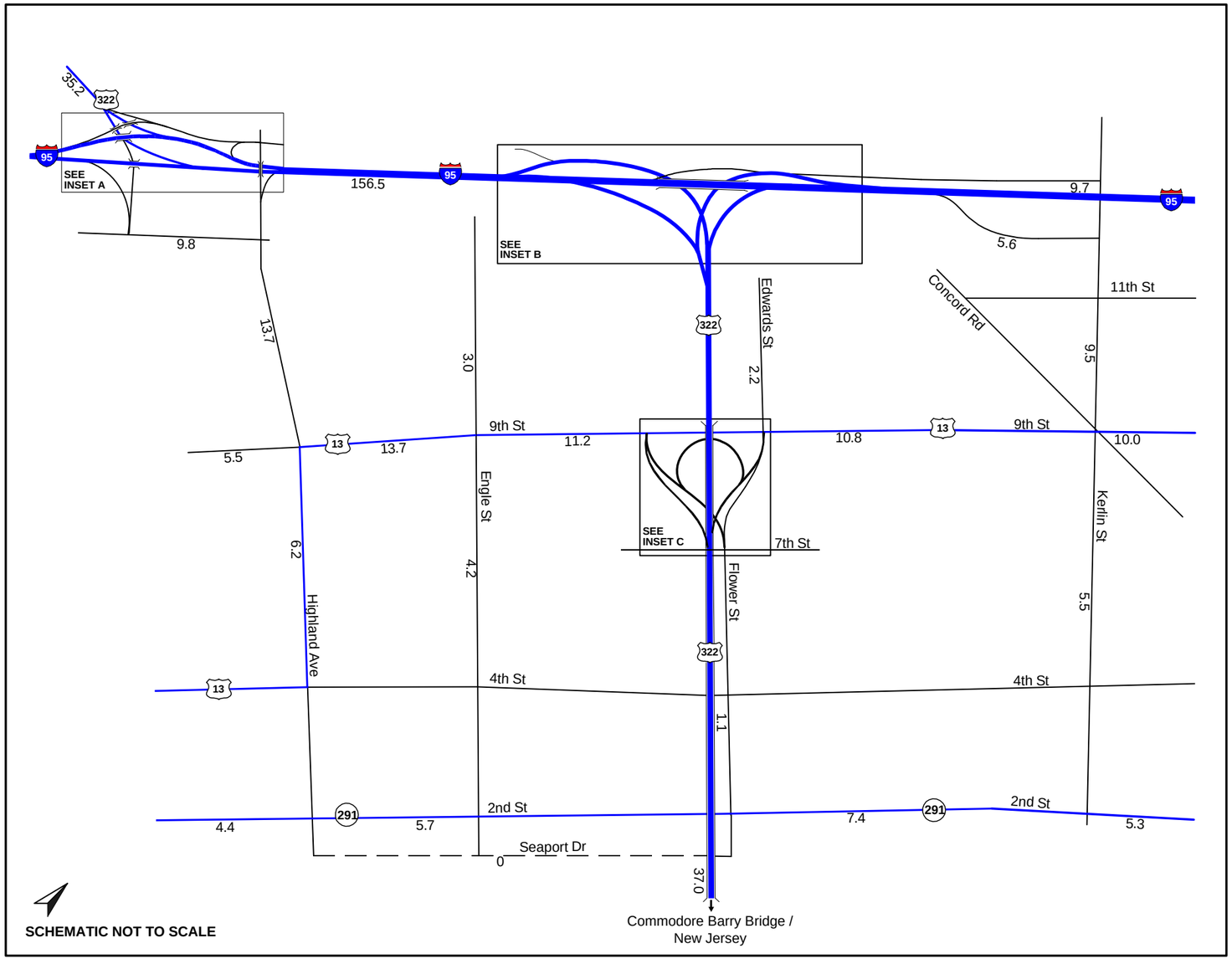
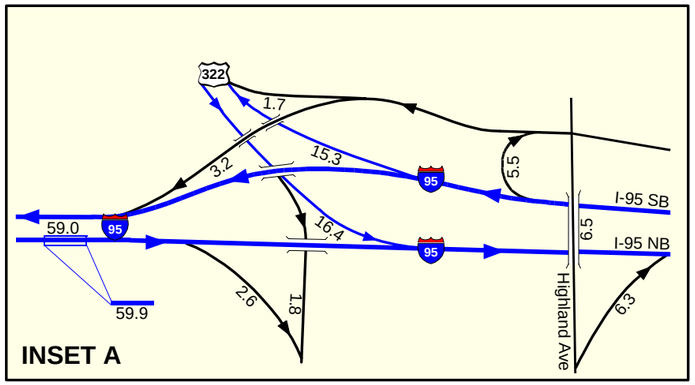
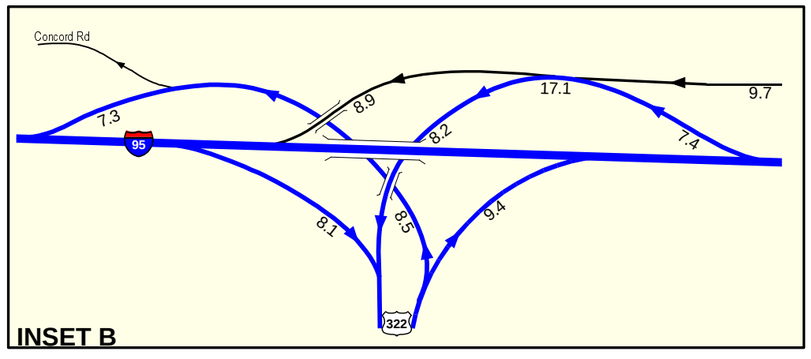
Keith Hartington, Transportation Planner	215-238-2852	Khartington@dvrpc.org

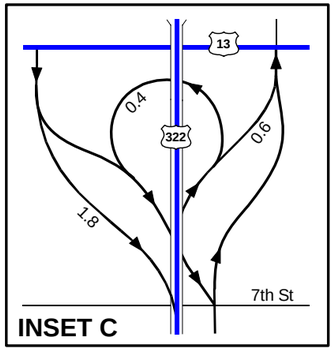
I-95 / US 322 Chester City Ramp Access Study

Figure 2: Current Average Daily Traffic Volumes







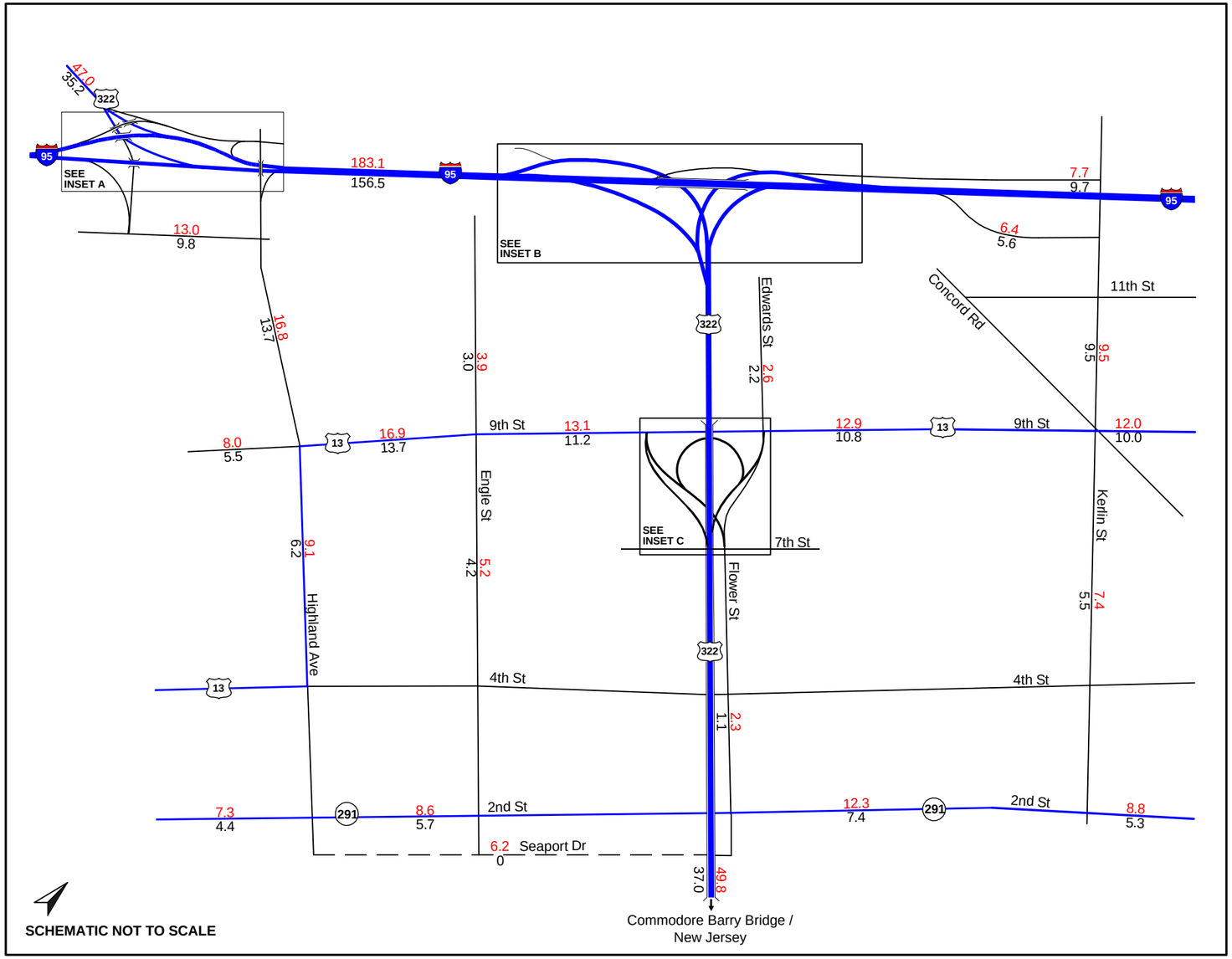


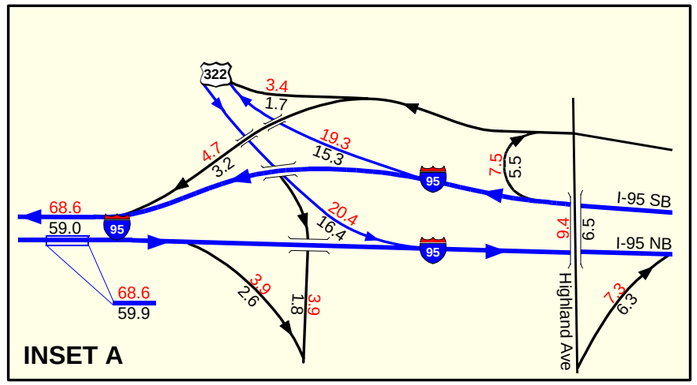
CURRENT AADT (000's)

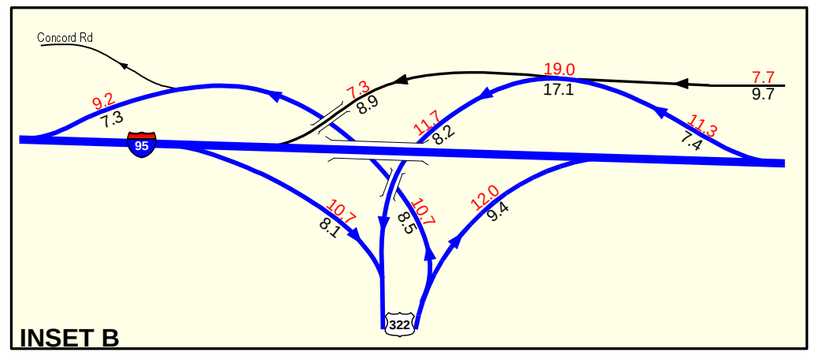
Delaware Valley Regional Planning Commission
February 2003

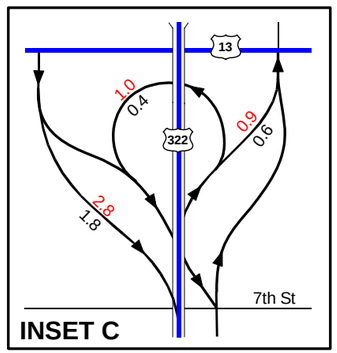
I-95 / US 322 Chester City Ramp Access Study

Figure 4: Base Case Alternative Average Daily Traffic Volumes









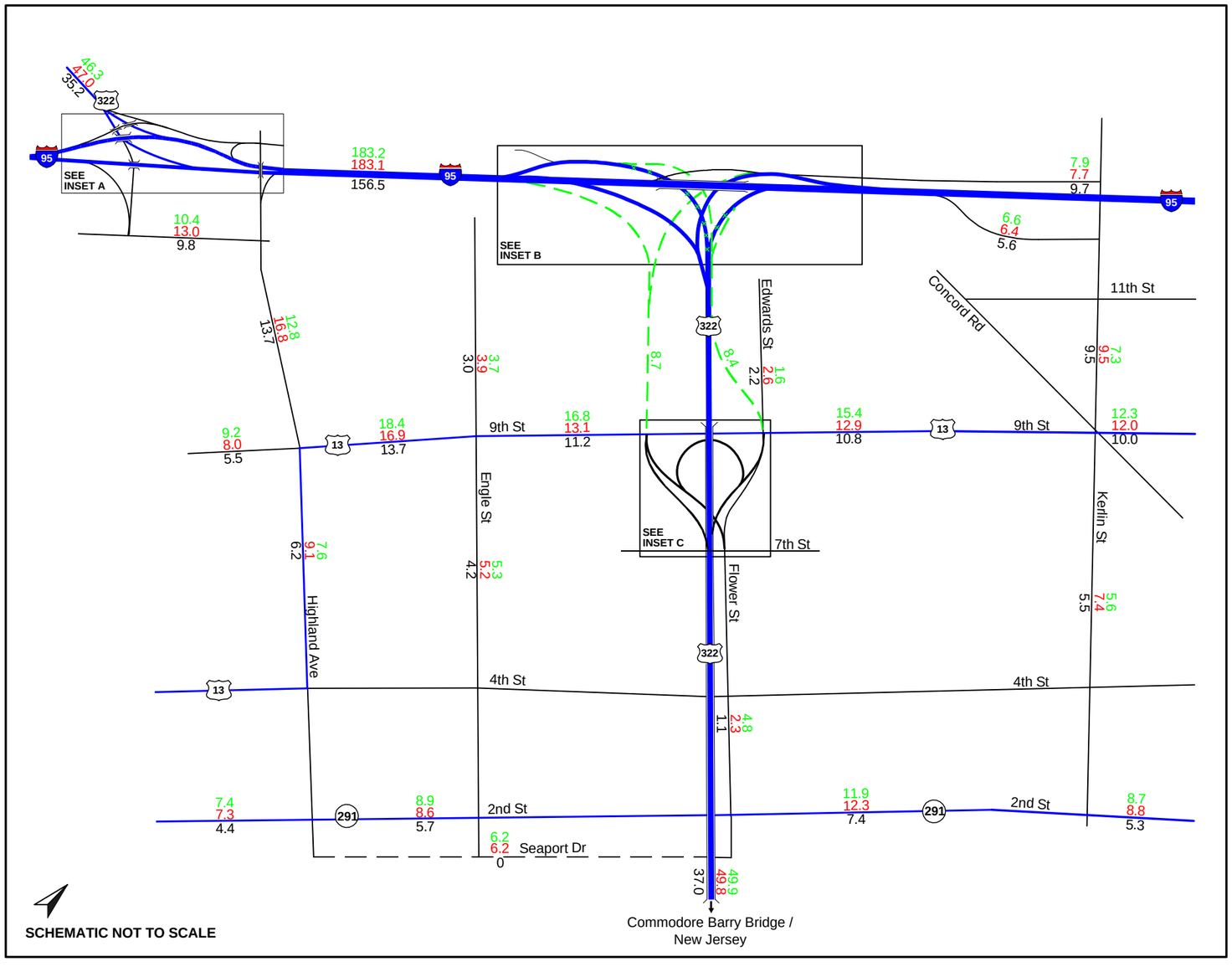
2027 BASE CASE AADT (000's)

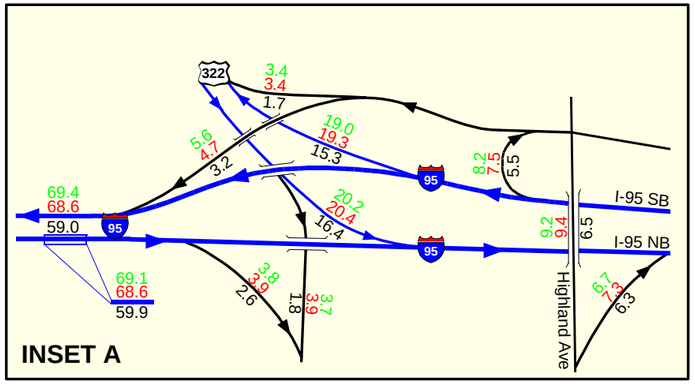
CURRENT AADT (000's)

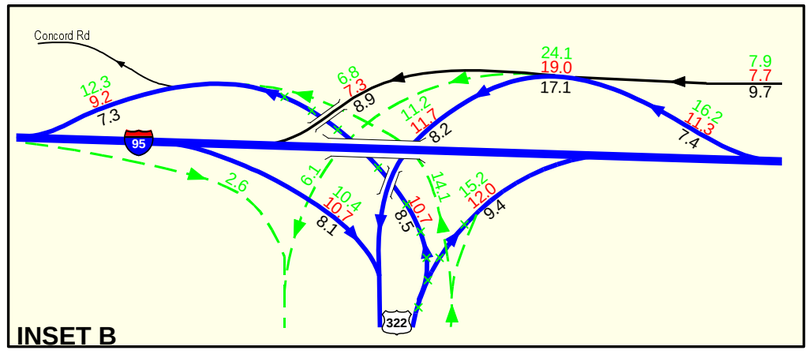
Delaware Valley Regional Planning Commission
February 2003

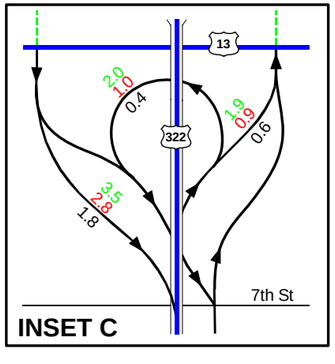
I-95 / US 322 Chester City Ramp Access Study

Figure 5: Ninth Street Alternative Average Daily Traffic Volumes









2027 NINTH STREET BUILD ALTERNATIVE AADT (000's)

2027 BASE CASE AADT (000's)

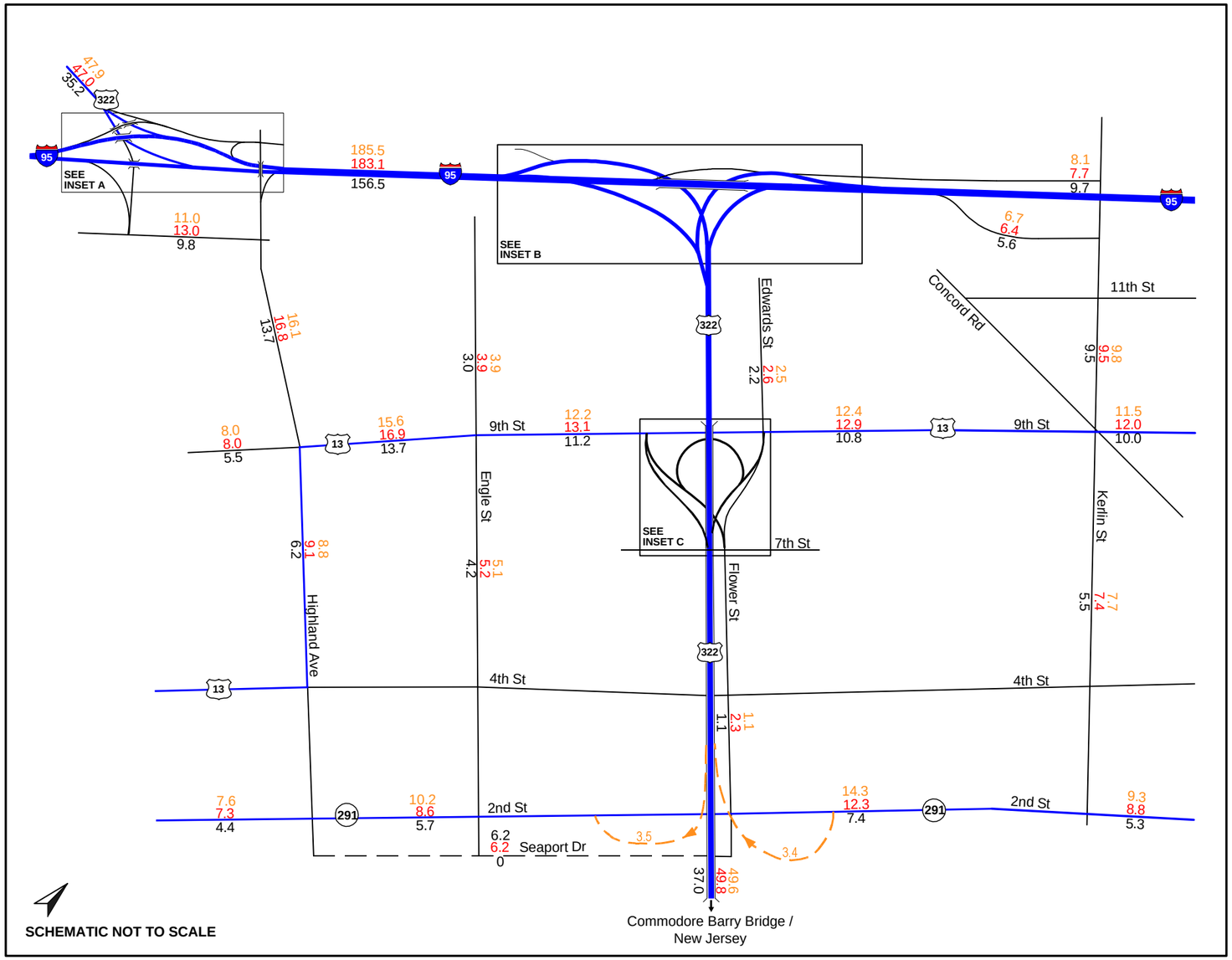
CURRENT AADT (000's)

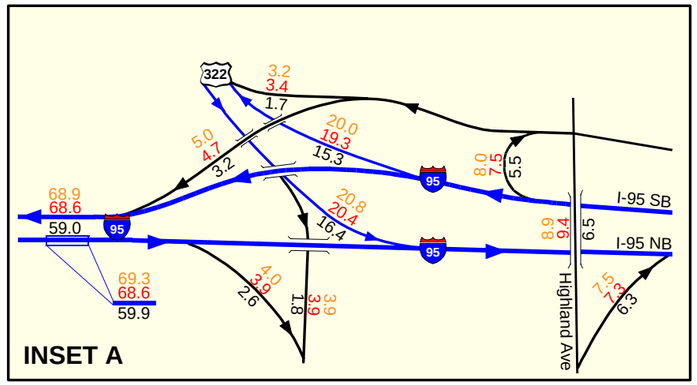
PROPOSED RAMPS

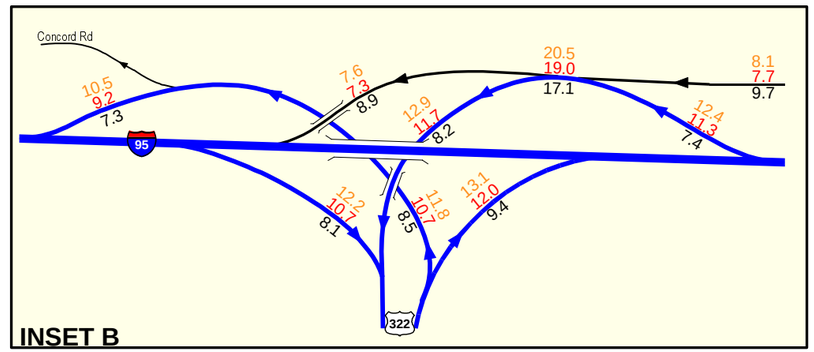
Delaware Valley Regional Planning Commission
February 2003

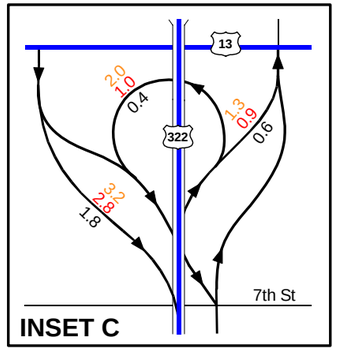
I-95 / US 322 Chester City Ramp Access Study

Figure 6: Second Street Alternative Average Daily Traffic Volumes









2027 SECOND STREET BUILD ALTERNATIVE AADT (000's)

2027 BASE CASE AADT (000's)

CURRENT AADT (000's)

PROPOSED RAMPS

Delaware Valley Regional Planning Commission
February 2003