April 2013

DVRPC 2012 Congestion Management Process

Limiting Traffic Congestion and Achieving Regional Goals

CMP CONGESTION MANAGEMENT PROCESS

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.

The symbol in 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 the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

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CHAPTER 1

Introduction

Welcome to the process of reducing congestion, advancing toward achieving regional goals, and enhancing the ability of people and goods in the Delaware Valley to reach their destinations. The Congestion Management Process (CMP) is a systematic process to manage congestion, which identifies specific multimodal strategies for all locations in the region. This document fulfills DVRPC's requirement to address congestion through the development of a CMP, as per SAFETEA-LU and MAP-21 regulations. While this report contains all the technical details of the CMP, the *Overview of the 2011 CMP Report* is also available as a separate brief executive summary document (DVRPC Publication #11042A).

The CMP does the following, with guidance from federal transportation regulations:

- It identifies congested corridors with strategies to minimize congestion.
- It helps identify where multimodal investments are needed for the whole region to prosper.
- It improves connections between transportation, land use, economic development, and environmental planning.
- It is a rational consideration in selecting projects to include for funding in the Transportation Improvement Program (TIP).
- It provides useful data and analysis for people working on transportation projects.
- It makes transportation investments as effective and long lasting as possible.
- It encourages a wide range of stakeholders to participate and collaborate.

Highlights of this cycle of the CMP include:

- Further refinements to the set of analysis criteria were prepared with input from the CMP Advisory Committee.
- The most important refinement to the criteria was in measuring reliability. For the first time, it became possible to use archived operations data for the CMP. This allowed development of a much richer and more accurate approach than what had been possible using previous data sources. Archived operations data was used to measure duration of congestion, based on a shared definition developed with NJDOT staff.
- Criteria were also developed to account for transportation security, as recommended in the *Fitting the Pieces Together: Improving Transportation Security Planning in the Delaware Valley* report (DVRPC Publication #09018).
- Strategies were revised and grouped into generalized "families" in order to provide more flexibility to project managers and stakeholders developing transportation solutions.
- The *CMP Procedures* document (DVRPC Publication #TM09029) was updated with a more streamlined format and made available on the CMP web pages.
- Relationships with a wide range of stakeholders were strengthened, with emphasis on working with project managers on supplemental strategies for projects that add road capacity.

Each chapter of this report is designed with an introduction followed by the discrete sections. Feel free to pull items out[1] for use or download them from the DVRPC website. Expect updates, and please communicate ideas to DVRPC CMP staff that would help your governmental body or organization minimize regional congestion.

[1]The CMP report is distributed to members of the CMP Advisory Committee and select others as a binder with the report clipped inside. This allows for sections to be removed and viewed separately. For those who do not receive the report in binder form, the report may be printed in its entirety, or as individual sections. See www.dvrpc.org/reports/11042.pdf to download the report.

DVRPC's Perspective on Transportation Planning

Philosophy

DVRPC plans for the orderly growth and development of the bistate region. Transportation planning supports the region's land use, environmental, and economic development policies. In this context, DVRPC is committed to the regionwide promotion and implementation of a safe, convenient, and seamless passenger and freight multimodal transportation system supportive of road, rail, bus, bicyclist, and pedestrian networks of mobility. This level of coordination requires collaboration with a wide range of stakeholders and strong technical analysis, guided by smart transportation and land-use policies.

Principles

1. Transportation investments will support the land-use goals and policies of the DVRPC Long-Range Plan.

2. The priorities for transportation projects and programs are as follows:
   a. Maintain, optimize, and modernize the existing transportation system and rights-of-way. This includes optimizing the services delivered by the system, such as options for and convenience of transfers among modes.
   b. Manage demand for transportation by fostering land-use patterns and other strategies that reduce the need for and length of trips.
   c. Increase capacity of the existing multimodal transportation system, limiting the addition of through travel lanes.
   d. Add new capacity where necessary, limiting the addition of new roads.

3. The transportation planning process will be comprehensive, cooperative, continuing, compatible, and coordinated ("3C+2," for short). The first three are the basis of the federally required "3C" process. This process will be:
   a. Comprehensive – All modes and their implications will be considered and evaluated. All transportation solutions will consider more than one mode to get the most from investments.
   b. Cooperative – We will work together productively, seeking consensus and enhancing participation across the whole region.
   c. Continuing – New endeavors need to incorporate maintenance, consider prior efforts, and fit with adopted ongoing system planning efforts.
   d. Coordinated – This complex region requires a focus on fitting pieces and projects together across agencies, organizations, and boundaries.
   e. Compatible – Every effort should be made to ensure that land uses and infrastructure (transportation, water/sewer, and technologies) work efficiently together.

4. Investment benefits and costs will be strategically distributed across the region, with careful consideration of environmental and social impacts. Investments will be affordable and consider appropriate economic development factors.

5. The region will be innovative at incorporating policy approaches, Intelligent Transportation Systems (ITS) applications, and emerging technologies. DVRPC will be bold in supporting projects that continue to transform the region into a better place to live, visit, and work.

Note: These approaches are in keeping with relevant regulations and memoranda of understanding between DVRPC and the following agencies: NJ Transit, PennDOT, NJDOT, SEPTA, and PATCO.

DVRPC's Perspective on Transportation Planning: Congestion Management Process

Philosophy

The CMP advances the goals of the DVRPC Long-Range Plan ("the Plan") and strengthens the connection between the Plan and the TIP. The CMP is a systematic process that performs analyses of the regional transportation network, identifies congested corridors and multimodal strategies to mitigate the congestion, and evaluates the effectiveness of implemented strategies. Where more single-occupancy vehicle (SOV) road capacity is appropriate, the CMP includes potential supplemental strategies to reduce travel demand, improve operations, and get the most long-term value from the investment. The CMP also identifies emerging/regionally significant corridors, where proactive steps are especially important to prevent congestion, and inexpensive strategies that are appropriate everywhere.

Principles

1. The CMP is regionwide. It uses the following approach:
    a. Identify congested corridors and segment them into subcorridors within which, at a regional planning scale, similar sets of strategies are appropriate. Next, develop sets of Very Appropriate and Secondary strategies for each subcorridor. This effort uses analysis of the performance of the regional transportation system, land-use data, recommendations from corridor studies, and input from the CMP Advisory Committee.
    b. Identify corridors of regional significance that are not currently congested, but seem likely to become so in the future. Then recommend proactive and inexpensive strategies applicable everywhere to help prevent these corridors from becoming congested.
    c. Define procedures for federally funded major capacity-adding road projects not in corridors, or in corridors where major SOV capacity is not listed as a CMP strategy. Such projects may be appropriate, but start with a higher burden of proof, given the limits on funding.

2. The CMP will provide information on transportation system performance and identify strategies to minimize congestion and enhance the mobility of people and goods. The strategies will include (but will not be limited to):
    a. Improvements to the management and operation of the transportation system, including the implementation of Intelligent Transportation Systems (ITS).
    b. Transportation demand management (TDM), including growth management.
    c. Smart transportation policies that promote alternate modes of transportation to automobile travel and assist in the development of more livable communities.
    d. Addition of road and transit capacity.
    e. Improvements to transit, pedestrian, and bicyclist facilities.
    f. The CMP will list specific strategies for each subcorridor based on analysis, recommendations from studies, and stakeholder review.

3. Building new road capacity may be appropriate when other strategies do not reasonably reduce congestion, but it must be developed in a thoughtful way. These projects must include multimodal supplemental strategies to get the most long-term value from the investment. This begins with the strategies listed in the CMP for the subcorridor, which are then refined through meetings with stakeholders and in preliminary engineering. They must be funded at the same time as the main project. Their implementation will be monitored by DVRPC staff and reported to state and federal agencies.

4. Regulations require projects that add SOV capacity be consistent with the CMP to be eligible for federal funding. Otherwise, further analysis is required and the results will be the basis of

DVPRC Board discussion to either amend the CMP or find other funding for the project. Final engineering for major SOV capacity-adding projects will not be funded in the TIP without a table of supplemental strategies that has been approved by the DVRPC Board. The Plan will determine which congested highway facilities and corridors of regional travel will receive major additional SOV capacity. This determination must balance CMP findings with transportation priorities, land-use/smart growth policies, and financial constraints.

a. If adding SOV capacity is not listed as a strategy for that subcorridor, the proposed project faces a higher burden of proof and must undergo quantitative analysis, including the listed strategies and comparison of the results for the region, as well as for the project area. For more information, see CMP Procedures (DVRPC Publication #TM09029).
b. Capacity-adding projects outside of corridors must demonstrate consistency with the Plan, follow CMP procedures, and compare well in terms of benefit/cost analysis with projects located in corridors.

5.The CMP will be updated on a regular basis.

Applicable Regulations

Following are the federal SAFETEA-LU regulations that guided the update of the CMP. The bolding was added by DVRPC to increase clarity for application in this region.

STATEWIDE TRANSPORTATION PLANNING; METROPOLITAN TRANSPORTATION PLANNING FINAL RULE ON CONGESTION MANAGEMENT PROCESS February 14, 2007	23 CFR Parts 450 and 500

PART 450 – PLANNING ASSISTANCE AND STANDARDS

Subpart C – Metropolitan Transportation Planning and Programming

Sec. 450.320 Congestion management process in transportation management areas. (p. 7274)
(a) The transportation planning process in a TMA shall address congestion management through a process that provides for **safe and effective integrated management and operation of the multimodal transportation system**, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53 through the use of travel demand reduction and operational management strategies.
(b) The development of a congestion management process should result in **multimodal system performance measures and strategies** that can be reflected in the metropolitan transportation plan and the TIP. The level of system performance deemed acceptable by State and local transportation officials may vary by type of transportation facility, geographic location (metropolitan area or subarea), and/or time of day. In addition, consideration should be given to strategies **that manage demand, reduce single-occupant vehicle (SOV) travel, and improve transportation system management and operations**. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity and safety of those lanes.
(c) The congestion management process shall be developed, established, and implemented as part of the metropolitan transportation planning process that includes coordination with transportation system management and operations activities. The congestion management process shall include:

(1) **Methods to monitor and evaluate the performance** of the multimodal transportation system, **identify the causes of recurring and nonrecurring congestion**, identify and **evaluate alternative strategies**, **provide information supporting the implementation of actions**, and **evaluate the effectiveness of implemented actions**;

(2) **Definition of congestion management objectives and appropriate performance measures to assess** the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods. Since levels of acceptable system performance may vary among local communities, performance measures should be tailored to the specific needs of the area and established cooperatively by the State(s), affected MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area;

(3) Establishment of a coordinated program for **data collection and system performance monitoring** to define the extent and duration of congestion, to contribute in determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions. To the extent possible, this data collection program should be coordinated with existing data sources (including archived operational/ITS data) and coordinated with operations managers in the metropolitan area;

(4) **Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies** that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures. The following categories of strategies, or combinations of strategies, are some examples of what should be appropriately considered for each area: (i) Demand management measures, including growth management and congestion pricing; (ii) Traffic operational improvements; (iii) Public transportation improvements; (iv) ITS technologies as related to the regional ITS architecture; and (v) Where necessary, additional system capacity;

(5) **Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy** (or combination of strategies) proposed for implementation; and

(6) Implementation of a process for periodic **assessment of the effectiveness of implemented strategies**, in terms of the area's established performance measures. The results of this evaluation shall be provided to decision-makers and the public to provide guidance on selection of effective strategies for future implementation.

(d) In a TMA designated as a nonattainment area for ozone or carbon monoxide pursuant to the Clean Air Act, **federal funds may not be programmed for any project that will result in a significant increase in the carrying capacity for SOVs** (i.e., a new general purpose highway on a new location or adding general purpose lanes, with the exception of safety improvements or the elimination of bottlenecks), **unless the project is addressed through a congestion management process** meeting the requirements of this section.

(e) In TMAs designated as nonattainment areas for ozone or carbon monoxide, the congestion management process shall provide **an appropriate analysis** of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will result in a significant increase in capacity for SOVs (as described in paragraph (d) of this section) is proposed to be advanced with federal funds. If the analysis demonstrates that travel demand reduction and operational management strategies cannot fully satisfy the need for additional capacity in the corridor and additional SOV capacity is warranted, **then the congestion management process shall identify all reasonable strategies to manage the SOV facility safely and effectively (or to facilitate its management in the future)**. Other travel demand reduction and operational management strategies appropriate for the corridor, but not appropriate for incorporation into the SOV facility itself, shall also be identified through the congestion management process. **All identified reasonable travel demand reduction and operational management strategies shall be incorporated into the SOV project or committed to by the State and MPO for implementation.**

(f) State laws, rules, or regulations pertaining to congestion management systems or programs may constitute the congestion management process, if the FHWA and the FTA find that the State laws, rules, or regulations are consistent with, and fulfill the intent of, the purposes of 23 U.S.C. 134 and 49 U.S.C. 5303.

PART 500 – MANAGEMENT AND MONITORING SYSTEMS

Subpart A – Management Systems

Sec. 500.109 CMS (p. 7274)
(a) For purposes of this part, congestion means the level at which transportation system performance is unacceptable due to excessive travel times and delays. Congestion management means the application of strategies to improve system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods in a region. A congestion management system or process is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system operations and performance and assesses alternative strategies for congestion management that meet State and local needs.
(b) The development of a congestion management system or process should result in performance measures and strategies that can be integrated into transportation plans and programs. The level of system performance deemed acceptable by State and local officials may vary by type of transportation facility, geographic location (metropolitan area or subarea and/or nonmetropolitan area), and/or time of day. **In both metropolitan and nonmetropolitan areas, consideration needs to be given to strategies that manage demand, reduce single-occupant vehicle (SOV) travel, and improve transportation system management and operations**. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity of those lanes.

Source:
Federal Register/Vol. 72, No. 30/Wednesday, February 14, 2007/Rules and Regulations
http://edocket.access.gpo.gov/2007/pdf/07-493.pdf, as of 5/31/07

CHAPTER 2

Cooperation and Coordination

The CMP Advisory Committee

The update of the CMP was vastly enriched by the ongoing participation of members of the CMP Advisory Committee. The committee met four times in person and exchanged many emails to reach consensus on the 2012 update. It will continue meeting to address ongoing matters, more frequently during focused update periods. Participating agencies and organizations are listed below.

Table 1: CMP Advisory Committee

CMP Advisory Committee Members	
Counties and Cities	■ New Jersey: Burlington, Camden, Gloucester, Mercer; City of Camden, City of Trenton ■ Pennsylvania: Bucks, Chester, Delaware, Montgomery, Philadelphia; City of Chester, City of Philadelphia
DOTs	■ NJDOT ■ PennDOT
Transit Authorities	■ Southeastern Pennsylvania Transportation Authority (SEPTA) ■ New Jersey Transit (NJ Transit) ■ Port Authority Transit Corporation (PATCO) ■ Delaware Transit Corporation
Federal Partners	■ FHWA, New Jersey and Pennsylvania regions; FHWA Philadelphia ■ FTA Region III
Transportation Management Associations (TMAs)	■ All eight TMAs in the Delaware Valley region
Other DVRPC Committees	■ Regional Citizens Committee[2] ■ Goods Movement Task Force
Other MPOs[3]	■ New Jersey: North Jersey Transportation Planning Authority (NJTPA) and South Jersey Transportation Planning Organization (SJTPO) ■ Pennsylvania: Lancaster County Transportation Coordinating Committee, Lehigh Valley Planning Commission, Reading Area Transportation Study, Southwestern Pennsylvania Commission, Tri-County Regional Planning Commission ■ Delaware/Maryland: Wilmington Area Planning Council (WILMAPCO)

[2] As this report was being drafted, the Regional Citizens Committee was replaced by the Public Participation Task Force.

[3] All surrounding MPOs are invited to be on the CMP Advisory Committee email list and to participate in or observe the discussion for the sake of coordination. Additional MPOs are added by request or for doing similar work.

Table 1: CMP Advisory Committee (continued)

CMP Advisory Committee Members	
Other participants (as invited or who asked to join)	■ Delaware River Joint Toll Bridge Commission (DRJTBC) ■ Delaware River Port Authority (DRPA) ■ New Jersey Turnpike Authority ■ Pennsylvania Turnpike Authority ■ Traffic.com (NAVTEQ Traffic) ■ Others

Source: DVRPC, 2012

Coordination within DVRPC

The update of the CMP involved the interdisciplinary input of an internal DVRPC work group. This group included staff from the Planning and Technical Services divisions. On the planning side, this included the offices of Long-Range Planning and Economic Coordination, Transportation and Corridor Studies, Transportation Studies, Freight and Aviation Planning, Transportation Operations Management, and Transit, Bicycle, and Pedestrian Planning. On the Technical Services side, this included the offices of Capital Programs, Project Implementation, and Modeling and Analysis.

These meetings have resulted in greater coordination within DVRPC, which is expected to increase effectiveness. Some areas of enhanced coordination include:

- **TIP** – The process by which projects are considered for addition to the TIP incorporates the CMP and the Plan in selecting and prioritizing projects for funding.
- **Long-Range Plan** – The Plan guided the CMP, and the CMP was used as one of several criteria for evaluating projects to consider in the update of the Plan. This cycle will continue with future updates.
- **Corridor Studies/Planning Work Program Tasks** – In a large, complex region like the Delaware Valley, the CMP contributes to the selection of corridor studies and other follow-up tasks that result in projects. In a smaller region, the CMP can more readily jump to specific projects. DVRPC conducts various studies that consider the CMP and result in project recommendations. The CMP remains engaged in how to effectively advance high-priority projects into TIPs. In addition, the CMP provides information for various other planning efforts, and those results feed back into the CMP.

Public Participation

The CMP was updated in an open and participatory process. Clear information for the CMP is maintained on the DVRPC website. Representatives from the Regional Citizens Committee were included in the Advisory Committee. Outreach meetings are held annually at NJDOT and PennDOT, as well as at other locations upon request. Two newsletters are prepared to complement DVRPC corridor studies each year. Usually, these are prepared for the kick-off meetings of corridor or area studies to familiarize a diverse group of participants about the wide range of transportation strategies that they may wish to consider.

Environmental Justice

The CMP and its related projects must not result in direct or disparate negative impacts on low-income and minority groups. This is not only important to the Delaware Valley region, it is also a requirement for tasks funded with federal dollars. Therefore, the potential impacts of the CMP are considered in relation to DVRPC's environmental justice (EJ) evaluation method, established in a 2001 report, "*...and Justice for All: DVRPC's Strategy for Fair Treatment and Meaningful*

Involvement of All People" (Publication #01022). Initially used to evaluate the TIP, DVRPC's EJ "degrees of disadvantage" (DOD) methodology has been included in many projects, programs, and studies.

Broadly speaking, DVRPC's EJ methodology identifies groups that may be negatively impacted and identifies where there are high proportions of these groups. This allows a people- and place-based approach to consider the impact of the regional transportation system and DVRPC's programs, policies, and investments. DVRPC currently assesses where there are high proportions of the following population groups:

1. Non-Hispanic minorities;
2. Hispanic persons;
3. Persons with physical disabilities;
4. Persons with limited English proficiency;
5. Female heads of household with child;
6. Carless households;
7. Households in poverty; and
8. Elderly persons.

DVRPC's EJ analysis is based on the number of DODs that each tract has (i.e., a census tract that meets or exceeds the regional average for Hispanics and carless households is considered to have two DODs). Tracts with five or more DODs were considered to have significance for the CMP. Any tract having a specific demographic group with a concentration two or more times the regional average also has significance for the CMP. Approximately 20 percent of the DVRPC population lives in tracts where five or more DODs are an issue.

The DVRPC EJ analysis was used in several ways in the CMP. These included:

- Review of corridors – The locations with high (five or more) DODs were used both as a proxy for contiguous neighborhoods, and also for areas to further review for full coverage by a corridor. For example, if a congested corridor covered most of a tract with many DODs, it was further checked to determine if the boundary should be extended to cover that whole tract.
- Criteria analysis – As part of the objective to invest where transit is needed and reward development that makes transit more feasible, the transit score analysis was used, as described in "*Creating a Regional Transit Score Protocol*" (Publication #07005). The inputs for that analysis have some relationship with the DOD in that people in these disadvantaged groups are more likely than the average population to have zero cars or one car per several-person household.
- Strategy input – In coordination with DVRPC EJ staff, transportation strategies were identified that are appropriate for each disadvantaged group. Analysis was done to establish in what tracts there were disadvantaged populations at densities of two or more times the regional average. Appropriate strategies were incorporated in the subcorridors containing these tracts. This work was reviewed by the CMP Advisory Committee.
- Subcorridor documentation – If the analysis determined that a subcorridor contained disadvantaged populations at densities of two or more times the regional average, this information was included in the subcorridor notes. (See Chapter 4)
- Evaluation – When the congested corridors were close to final, they were mapped with the high EJ tracts. The purpose was to be sure that the CMP is encouraging appropriate investment in all of those locations with especially high levels of need for transportation options.

Strategies to Improve Transportation for EJ Populations

This section of the CMP Report considers groups of transportation strategies with relationship to EJ populations that may be helped by them. The disadvantaged groups that may benefit are

listed with each group of strategies. The strategies are meant to be a starting point, and they are in no particular order. Due to the various combinations of DODs that may be present in a subcorridor, it is expected that each corridor study or project will detail recommendations that are pertinent to its own unique combination of disadvantaged groups. These strategies are from the "Range of Strategies to Reduce Congestion." See that section of the CMP Report for definitions of the strategies listed below, as well as other relevant strategies (Chapter 3, p.19).

Enhance Outreach for EJ

These strategies include conducting outreach in locations and at times that allow the greatest opportunities to reach groups that have been marginalized in the past. Broader inclusion will ensure a sound and effective study of a congestion issue or project. Strategies may also include providing information in the languages spoken by the various population groups in a community, particularly those affected by a proposed study or project. Approximately three percent of all people who live in the DVRPC region do not speak English or have limited proficiency with it, and that percent is many times higher in some communities. Executive Order 13166 compels federally funded agencies to make services more accessible to persons who are not proficient in the English language. The disadvantaged groups to which these strategies may apply include Non-Hispanic Minority, Hispanic, Poverty, Limited English Proficiency, or Female Head of Household with Child.

- ➔ Environmental Justice Outreach for Decision-Making.
- ➔ Multilingual Communication.

Improve Existing Transit Services

This set of strategies deals with ways to make existing transit services more convenient and useful. It includes expanding the hours and frequency of operation for regular, fixed-route bus and rail services, as well as other types of transit. Extended service hours and frequency for nights and weekends benefit workers in the service sector or nontraditional hour employment and those with limited driving ability due to disability or age. This benefits not only the disadvantaged groups, but also the public in general. The disadvantaged groups to which these strategies may apply include Carless, Elderly, Disabled, and Poverty.

- ➔ More Frequent Transit or More Hours of Service.
- ➔ Extensions or Changes in Bus Routes.
- ➔ Also, see other transit-related strategies.

Create New Transit Services

These strategies focus on providing new transit services. The more extensive and convenient transit is for people, the more it will be used. Special consideration should be given to enhancing connections to and between existing transit services. This benefits not only the disadvantaged groups, but also the public in general. The disadvantaged groups to which these strategies may apply include Carless, Elderly, Disabled, or Poverty.

- ➔ (New) Bus Route.
- ➔ Fixed-Guideway Service (new, extensions, or added stations).

Make Bicycling and Walking More Feasible as Transportation Modes

People unable to obtain a driver's license because of immigration status or English language skill levels may favor bicycling or walking as transportation. Elderly people who ride bicycles or parents with young children often feel safer on off-road bicycle facilities than on shared traffic facilities. Improving the ease and safety of using bicycles or walking for transportation is a low-cost transportation alternative for EJ disadvantaged groups and the public in general. Many Smart Transportation or policy approaches make it more feasible to walk or bicycle to get places; just a few are listed below. The disadvantaged groups to which these strategies may apply include Carless, Poverty, Limited English Proficiency, or Elderly.

- ➔ Improvements for Bicycling.
- ➔ Improvements for Walking.
- ➔ Complete Streets Policies.

Reduce Commuting Costs

These strategies include promoting and implementing solutions to congestion that are affordable or provide a lower-cost alternative to populations that may have limited income. The disadvantaged groups to which these strategies may apply include Poverty, Carless, Elderly, Female Head of Household with Child, or Disabled.

- ➔ Carpool/Vanpool Programs.
- ➔ Emergency Ride Home.
- ➔ Ride-Matching.

Communicate Eligibility

Marketing who can use special transit services that may mistakenly be considered to serve a smaller segment of the population than is really eligible promotes a wider range of transit options. It may also help to reduce vehicular use if the other choices attract people who may otherwise drive alone in their cars. In addition, by creating a larger base of ridership, services that may have been in jeopardy of termination may be allowed to continue and generate greater revenue. The potential disadvantaged groups to which these strategies may apply include Disabled, Elderly, Female Head of Household with Child, Non-Hispanic Minority, Hispanic, or Limited English Proficiency.

- ➔ Marketing/Outreach for Transit and TDM Services.
- ➔ Promotion of a Regional Commuter Benefit.

Enhance Nontraditional Transit and Human Service Transportation

These strategies address the forms of transportation that may be relied upon by certain demographic groups. This includes providing service to communities that do not have the density to support regular transit service through small buses or other methods. This allows connections to employment, shopping, and personal services that may otherwise be unattainable or difficult to reach for those without, or with limited, personal vehicle access. The disadvantaged groups to which these strategies may apply include Non-Hispanic Minority, Hispanic, Limited English Proficiency, Carless, Poverty, Elderly, Disabled, or Female Head of Household with Child.

- ➔ Flexible Routing/Route Deviation Service.
- ➔ Shuttle Service to Stations.

Encourage Full Use of Job Access Reverse Commute Route (JARC) and New Freedoms Initiative Programs

The JARC program strives to eliminate transportation barriers that make it difficult for welfare recipients and other transit-dependent individuals to enter the workforce. This includes individuals who live in an inner city or low-income community in the suburbs, but need to commute to outlying suburbs for employment. The New Freedoms program strives to eliminate transportation barriers that make it difficult for persons with disabilities to enter the workforce. It provides funding for projects aimed at increasing the use primarily of transit and transit facilities for disabled individuals. The disadvantaged groups to which this strategy may apply include Poverty, Carless, Female Head of Household with Child, Elderly, or Disabled.

- ➔ Transportation Services for Specific Populations.

Improve Transportation Safety and Security

It is important that those who use public transit are provided with a safe and secure experience. Women and elderly people are particularly likely to have safety concerns when traveling late at night or alone. Better lighted stops, security cameras, and emergency phones are a few examples of extra safety measures that may be provided. The disadvantaged groups to which these strategies may apply include Female Head of Household with Child, Elderly, or Carless.

- ➔ Enhanced Transit Amenities and Safety.
- ➔ Making Transfers Easier for Passengers (Bottleneck Improvements).

Encourage Services That Make it Easier to Function with Fewer or No Personal Vehicles

This strategy involves encouraging services that make it possible to meet basic needs with limited or no access to a personal vehicle. An example is businesses that provide free delivery of goods from stores, especially within a local range, to encourage transit and nonmotorized access for shopping trips. This benefits not only the disadvantaged groups, but also the public in general. The disadvantaged groups to which these strategies may apply include Carless, Elderly, Disabled, Poverty, or Female Head of Household with Child.

- Local Delivery Service.
- Car Sharing.

CHAPTER 3

Evaluation

The CMP was designed to be thorough but manageable, to fully meet applicable regulations, to be relatively easy to update, and to be useful for a variety of users. While there is always more that can be done (and always a list of refinements for next time), the DVRPC CMP is an exciting advance in its field and has been recognized by FHWA repeatedly over the years as an example of a best practice. The first CMP Report was published in 2006. The 2009 and 2012 work has built upon and continued to develop the original approach. Following is an overview of the methodology, highlighting changes for the 2012 effort.

An area that received attention in the 2012 update was the criteria. The 2009 CMP criteria were modified and refined based on available data and input from the CMP Advisory Committee. In general, selecting criteria involves consideration of what conceptually is most helpful to measure, as well as what reliable data is readily available in all locations for the region. An inherent related consideration is what data will be updated on a regular basis. Extensive policy discussion, sharing of local experience, and verification of data went into the criteria used for the 2012 CMP analysis. The culmination of these efforts is presented in the pages that follow as Regional Analysis. Their use is covered in Updating Corridors. More detail is provided in Appendix A.

The CMP analysis relies on the capabilities of Geographic Information System (GIS) software. GIS allows for spatial analysis and establishes the capacity for relatively easy and efficient updates.

The evaluation and analysis was completed with the understanding that it is not by itself a complete answer; rather, it assists in better-informed decisions. The analysis was shaped by and extensively discussed by the CMP Advisory Committee. The results of the analysis underlie the conclusions that are the focus of this report.

The methodology was updated and adopted at the start of the update. It outlined a way to develop strategies by subcorridor. Very briefly, analysis provided a starting point to update corridors. These corridors were divided into subcorridors, where, at a regional planning scale, similar sets of strategies are applicable. A series of steps was used to prepare a set of strategies unique to each subcorridor.

A secondary goal was to provide toolbox or educational items for use beyond the CMP. A piece that has proven especially relevant for other studies is the Range of Strategies to Reduce Congestion. This has over 100 strategies, with a brief definition of each one.

Goals and Objectives

A basic tenet of the DVRPC philosophy for the CMP is that it advances the goals of the Long-Range Plan ("the Plan," or "the *Connections* plan"). At the time the 2012 CMP was prepared, the current Plan was *Connections: The Regional Plan for a Sustainable Future* (Publication #09047). The *Connections* plan is organized around four key principles: Create Livable Communities; Manage Growth and Protect Resources; Build an Energy-Efficient Economy; and Establish a Modern, Multimodal Transportation System. The CMP objectives focus the *Connections* plan's transportation goals to measurable objectives for congestion management. Objectives provide CMP-related detail to the goal and aid in consideration of the feasible analysis. The CMP objectives are influenced by what data is available.

Table 2: Transportation Goals and CMP Objectives from the Long-Range Plan

LRP Transportation Goal	CMP Objective
Reduce Congestion	Minimize growth in recurring congestion
Increase Mobility and Accessibility	Improve the reliability of the transportation system as an efficient, effective way to improve mobility
	Provide transit where it is most needed for accessibility
Rebuild and Maintain the Region's Transportation Infrastructure	Maintain existing core transportation network
Create a Safer, More Secure Transportation System	Improve safety and reduce nonrecurring congestion by reducing crashes
	Maintain transportation preparedness for major events, especially ones that call for interregional movements far beyond normal; this also serves routine needs
Ensure that Transportation Investments Support Long-Range Plan Principles: ■ Manage growth and protect resources ■ Create livable communities ■ Build an energy-efficient economy ■ Establish a modern, multimodal transportation system	■ Support centers ■ Provide transit where it is needed ■ Reinforce transit where it has proven efficient ■ All CMP objectives work toward a modern, multimodal transportation system
Limit Transportation Impacts on the Natural Environment	Limit the physical impacts of transportation projects on sensitive environmental areas

Source: DVRPC, 2012

Regional Analysis

Criteria to evaluate the regional transportation system were developed in an iterative process. A basic question is how to measure the performance of the transportation system in a way that is manageable and repeatable as the system moves toward achieving regional goals. This update started with the extensive work done for both the 2006 and 2009 CMP. An evaluation was conducted to assess whether data used previously had been kept current and whether useful new sources had emerged. Generally, data is only used that is available for the whole region, that will be updated regularly, and that is available for free.

The 2012 CMP update, for the first time, was able to use archived operations data available through the I-95 Corridor Coalition Vehicle Probe Project. This new data source made it possible to develop a criterion that measured duration of congestion on all freeways and select arterials in the region. The duration of congestion criterion identified road segments during the 5:00 to 6:00 PM peak hour, when travel speeds dropped below 70 percent of the posted speed limit, as well as the duration of the speed drop. The measure was based on and coordinated with a similar one used by NJDOT in its *Centerline* report. CMP staff plans to coordinate with PennDOT to develop another reliability measure using archived operations data for the next CMP update. Much more detail about DVRPC's investigation and use of archived operations data is available in "*Using Operations Data for Planning in the Delaware Valley: First Steps*" (Publication #11049).

Use of archived operations data has evolved considerably since the duration of congestion measure was selected for the 2012 CMP update. Work done as part of the follow-up to the duration of congestion analysis has resulted in DVRPC convening a Regional Users of Archived

Operations Data group, which includes MPOs and DOTs from Connecticut to South Carolina. This group is working to develop a small set of shared performance measures. As a result, the next CMP report may include different or additional measures. The next report will specifically measure both average congestion and level of variability/reliability of roadways for which data is available.

Another consideration in developing criteria is looking ahead at the ability of the resulting analysis to suggest strategies and specific projects as a means of implementing the region's goals. This step was implemented with the 2009 CMP and was further refined with the current update. A table was developed that lists:

- Each goal;
- Its objectives;
- The criteria used to measure the objectives; and
- A guide to advance from objectives and criteria to strategies.

Note that the guide to advance from objectives and criteria to strategies is only one of several steps used to develop strategies for each subcorridor. More information about that process is included under Advancing from Objectives and Criteria to Strategies. The table described above was used throughout the development of the CMP. It is included as Appendix A.

CMP Analysis Criteria

A natural and required step in updating the CMP is analysis of the performance of the regional transportation system. The goals and objectives flow into specific criteria used for this analysis in an iterative process with evaluating available data sources. The CMP analysis criteria were revised, with significant input from the CMP Advisory Committee. The following table is a general description of the criteria that were analyzed in the 2012 update. They help answer the question, "Where should we invest in appropriate multimodal strategies to achieve regional goals?" For the actual criteria, see Appendix A.

Table 3: CMP Objectives and Criteria

CMP Objective	Criteria (short version)
Minimize growth in recurring congestion	■ High current peak-hour volume/capacity (V/C) ratios ■ High anticipated growth in V/C in the peak-period travel model, reflecting forecasts of population and employment
■ Improve the reliability of the transportation system as an efficient, effective way to improve mobility ■ Provide transit where it is most needed for accessibility	■ Duration of congestion on as many major roads as possible given data limitations ■ Need for transit—high transit score and train stations, as they concentrate people for efficient transit and carpooling
Maintain existing core transportation network	■ National Highway System (NHS) ■ Existing passenger transit ■ Existing freight rail ■ Major freight facilities
Improve safety and reduce nonrecurring congestion by reducing crashes	High crash rate compared to the rate for that functional class of road in the counties of that state in the region

Table 3: CMP Objectives and Criteria (continued)

CMP Objective	Criteria (short version)
Maintain transportation preparedness for major events, especially ones that call for interregional movements far beyond normal; this also serves routine needs	■ NHS and passenger rail ■ Areas where the density of people makes evacuation a regional concern ■ Most heavily used bridges and passenger transit stations ■ Nuclear power plant evacuation zones ■ General location of largest military bases in the region
■ Support centers ■ Provide transit where it is needed ■ Reinforce transit where it has proven efficient ■ All CMP objectives work toward a modern, multimodal transportation system	Dense, mixed-use land development is supportive of all four principles ■ LRP Centers ■ Existing and future centers
Limit the physical impacts of transportation projects on sensitive environmental areas	Low environmental index scores (less harm to environment)

Source: DVRPC, 2012

There is a certain amount of natural change in criteria from one update to the next as best practices or data sources evolve. Beyond that, there were three larger changes between the 2009 and 2012 criteria. These changes were:

- Reliability – Archived operations data available through the I-95 Corridor Coalition Vehicle Probe Project was used to develop a criterion that measured reliability. The specific measure analyzed was duration of congestion on all freeways and select arterials in the region. The criterion identified road segments during the 5:00 to 6:00 PM peak hour, when travel speeds dropped below 70 percent of the posted speed limit, as well as the duration of the speed drop. This analysis produced a more robust measure of reliability than what was possible in past iterations of the CMP. For example, the 2009 CMP analyzed rapid growth in traffic counts in already congested locations as a proxy for reliability.
- Transportation Security – The recommendations of "*Fitting the Pieces Together: Improving Transportation Security Planning in the Delaware Valley,"* (Publication #09018) included planning for a resilient, well-maintained transportation network to increase security, and more closely linking security planning and long-term transportation planning. As a medium-term planning effort that helps to link the goals of the *Connections* plan with the TIP, the CMP can help advance these recommendations. A security criterion was developed in consultation with regional security agencies for the 2012 CMP update.
- Environmental Screening – The most recent update of the Plan, "*Connections: The Regional Plan for a Sustainable Future,"* (Publication #09047) developed an environmental screening tool to analyze the environmental impact of transportation projects. This tool incorporated a wide range of environmental factors and was a significant improvement over resources available for the 2009 CMP. In addition, the tool provides useful information to link planning efforts with the federal NEPA process.

Summarizing Results of Criteria Analysis

The transportation system of the Delaware Valley was evaluated using the CMP criteria. The criteria analysis was performed with GIS software. A file structure was set up to allow consideration of any one criterion or multiple criteria together. One can view multiple layers of analysis at the same time, but after a few layers, it becomes confusing to understand what is going on. As a result, a system was developed that summarizes how many criteria are in effect. This system allows clicking on any one road section in GIS to know what criteria relate to it and also to map how many criteria are in effect. While the evaluation is multimodal, a representation

of the road network was used to gather and summarize the data for drafting and revising corridors.

A system was developed to summarize how many criteria relate to any location. It uses points (or portions of points) for criteria that relate to a location represented by a road segment. In this multimodal analysis, buffers were used to incorporate criteria, such as where there is a parallel train line. A road segment may have a maximum of eight points. This was kept consistent with the 2006 and 2009 analyses. For more detail, see Appendix A. Swaths of segments with many points indicate corridors where investment in appropriate strategies would likely be especially beneficial to reducing congestion and moving toward the region's goals.

Updating Corridors

The 2009 CMP included especially thorough development of the congested corridors to check for sensitivity to changes in criteria. It turned out that the corridors came out virtually the same as in 2006, reinforcing the idea that the corridors are reasonably defined. As a result, the CMP Advisory Committee recommended using the 2012 analysis to just refine the 2009 corridors. In each iteration of the CMP, the intent has been to keep the number of corridors manageable for regional analysis, while covering key movements. The 2012 CMP revised the 2009 corridors based on the following considerations:

- **CMP Analysis Points:** Patterns where there are many criteria in effect have proven reliable representations of major movements of people and goods. Corridors were reviewed for correspondence to links with greater than four criteria in effect, as well as the other considerations in this list.
- **Transportation Refinement Layers:** Review of highway interchanges, rail stations, emergency detour routes, ITS infrastructure, and previously adopted TIP and Plan projects.
- **Community Refinement Layers:** Concentrations of transportation-disadvantaged populations, brownfield properties where redevelopment opportunities could require transportation improvements, merged parcels of permanently protected open space totaling 20 or more acres, and existing and proposed bicycle and pedestrian multiuse trails.

The draft corridors were then further refined based on documented input from the CMP Advisory Committee. The results were again similar to previous iterations of the CMP. Of the 30 congested corridors, one subcorridor was broken out into a new corridor, one large corridor was divided into two subcorridors, and a group of related subcorridors was combined to create a more logical, simplified flow of people and goods.

Advancing from Objectives and Criteria to Strategies

A new step was incorporated in the 2009 update regarding how strategies are selected for further discussion for each congested subcorridor. The change was to more fully incorporate the criteria analysis in developing draft sets of strategies. This added analysis was further refined and developed in the 2012 update.

A final column in the criteria spreadsheet provides guidelines for how analysis of the specific criteria identifies potentially appropriate strategies. Where a criterion was extremely significant (for example, V/C ratios that imply not just congestion but gridlock during peak hours), strategies widely recommended to address that type of situation were considered in prioritized order reflecting the adopted approach described under "Principles" on page two of this report. Levels were set high, in part to keep this exercise manageable and meaningful. In general, the level was adjusted to not apply to more than about twenty percent of subcorridors. The strategies can also

be considered when conditions are less extreme, but more careful analysis and discussion is needed.

For example, subcorridors with high existing transit use (bus and/or rail) would suggest strategies including enhancing safe access to stops for transit riders, improvements to transit amenities, ITS improvements for transit, and additional shuttle service, among other strategies for that subcorridor. Improving on this approach, the 2012 update was modified to also suggest consideration of certain strategies where two or more related criteria were extremely significant. For example, where current peak-hour congestion and existing transit use were both high, the final column in the criteria spreadsheet suggests reviewing the appropriateness of strategies to add transit capacity or new intermodal facilities.

The table below summarizes how the criteria lead to analysis-based strategy guidance. This is a simplified version; for the complete table, see Appendix A.

Table 4: Sample of Analysis-based Strategy Guidance

Sample of Criteria*	Sample of Guidance on Advancing to Strategies†
High V/C ratio at peak hour	Review of operations strategies for road and transit, including turning-movement enhancements, signal improvements, ITS improvements for road and transit, and modifications to existing transit services
High anticipated growth in V/C ratio in peak period of future year model simulation	Where there are both high current and future congestion, start looking at strategies such as new bus route or general purpose lanes in addition to strategies listed above
High existing transit use, defined as three or more runs of bus routes in urban areas or two or more runs in suburban areas during peak periods, or train stations with 500 or more daily boardings	Review transit infrastructure improvements, ITS improvements for transit, transit signal priority, and transit-oriented development (TOD)
High crash rate compared to that functional class of road	Emphasize safety improvements and programs, and incident management for interstate routes
LRP Centers, existing and future development areas	Planning and design for nonmotorized transportation, improved circulation, and context-sensitive design

* Note that there are several criteria for each objective. These are simplifications; see Appendix A for more detail.
† Where criteria are strongly present, the listed strategies are reviewed (note that just a few examples are listed here).
Source: DVRPC, 2012

Steps to Advance Toward Strategies

The steps used in drafting strategies for the 2012 CMP are as follows:

1. Strategies developed in previous iterations of the CMP provided a starting point, as they had been heavily informed by analysis and input from the CMP Advisory Committee;
2. Criteria analysis was used to tailor strategies to local conditions for each subcorridor;
3. Dozens of corridor and CMS studies[4] were used to revise strategies and were included as references;

[4] Only those corridor studies performed or commissioned by DVRPC or its member agencies were considered. Recommendations from corridor studies must be consistent with the DVRPC Long-Range Plan to be included in the CMP.

4. Existing major SOV capacity-adding TIP projects and the *Connections* plan's Major Regional Projects were reviewed to be sure that they remained consistent; and
5. Input from the CMP Advisory Committee was incorporated throughout strategy development.

Range of Strategies to Reduce Congestion

There are many strategies that can assist in addressing traffic congestion in the Delaware Valley and help with the flow of people and goods in a way that also advances toward Plan goals. Following are approximately 100 potential strategies. Every subcorridor in the region presents its own unique mobility challenges, so care should be taken to select the strategies that best fit with the conditions, goals, and character of the specific area under consideration.

The wide range of strategies that has been identified in this chapter serves two purposes. It was developed as a step in the CMP update cycle. However, it is also an educational resource for planners, engineers, and others thinking about ways to address congestion problems across multiple modes of transportation in a way that will prove effective, while respecting budgetary constraints.

The range of strategies is summarized into the five categories listed below. Strategies from several categories should be considered in virtually all situations, and adding new road capacity is a last resort, as adopted in the principles cited previously in this report.

- **Operational Improvements, Transportation System Management (TSM), and Intelligent Transportation Systems (ITS)** – Projects that maintain, optimize, and modernize the existing transportation system (roads, transit, other), including maintaining and improving safety.
- **Transportation Demand Management (TDM), Policy Approaches, and Smart Transportation** – Programs and projects that encourage the use of alternative modes of transportation other than driving alone and that otherwise focus on the demand side of trip-making through physical or policy approaches, often also advancing other quality-of-life, environmental, and economic development goals.
- **Public Transit Improvements and New Investments** – Programs and projects to increase the capacity of **existing** services and facilities first, but to add capacity if necessary.
- **Road Improvements and New Roads** – Projects that increase the capacity of **existing** roads, but as a last resort to build new capacity on new right-of-way.
- **Goods Movement** – Policies, strategies, and projects to maintain and optimize the safe and efficient movement of freight.

New to this update of the CMP, similar strategies have been grouped together into families of related improvements. For example, the family of Turning-Movement Enhancements includes Channelization, Left-Turn Lanes, Center-Turn Lanes, and Jughandles. At a regional level of analysis, it may only be possible to identify that addressing turn movements is likely to improve the operation and safety of a subcorridor, leaving it for further study and local input to determine which specific strategy(ies) to employ. In some cases, specific strategies from a family may be listed for a subcorridor based on input from the CMP Advisory Committee or existing studies.

As in previous cycles of the CMP, a limited set of strategies widely appropriate throughout the region is included. These are mostly low-cost, proactive strategies. They are suitable to use along with Very Appropriate and Secondary strategies in congested subcorridors. They are generally appropriate strategies to aid in keeping Emerging/Regionally Significant Corridors from becoming congested. They are also the appropriate strategies for currently uncongested parts of the region to consider. In this update, **the strategies appropriate everywhere are highlighted in red** and listed at the beginning of the next chapter.

Operational Improvements, Transportation System Management (TSM), and Intelligent Transportation Systems (ITS)

Strategies in this category address traffic congestion problems through the improved management of existing roads and transportation facilities. Operational improvements may address such issues as better coordinating traffic signals or more safely managing combinations of through and local vehicles, primarily through engineering-based approaches. TSM is an even broader range of ways to maximize the use of the entire transportation system while minimizing the expense and impacts of building major new capacity. While ITS addresses many of the same goals, it focuses on integrating new technologies and better coordination of data for these purposes. Brief references for the following strategy definitions are shown after the text in italics and enclosed in parentheses. Full references are provided in Table 6.

1. **Signage** – Improvements to clearly communicate location and direction information, including adding or removing signs (to reduce clutter), redesigned signs, "trailblazing" to key locations, maintenance of signs and line of sight to them, and pavement markers to provide information.
2. **Intersection Improvements of a Limited Scale** – Minor isolated intersection widening and lane restriping to increase intersection capacity and safety. This may include auxiliary turn lanes (right or left) and widened shoulders. Intersection design should be context sensitive. Truck routes may need special geometries.
3. **Turning-Movement Enhancements** – Strategies to make turning movements cause less congestion and fewer crashes.
    a. **Channelization** – Strategy used in optimizing the flow of traffic for making right turns, usually using concrete islands or pavement markings.
    b. **Left-Turn Lanes** – This strategy installs left-turn lanes to decrease left-turning traffic causing friction with through traffic.
        i. Left-turn lanes should be considered when more than 100 vehicles turn left at an intersection per hour (*Transportation Research Board*, p. 95).
        ii. Effectiveness: For all road classes, the removal of left-turns from through lanes reduces the crash rate by roughly 50 percent (*Transportation Research Board*, p. 88).
        iii. Cost: There may be significant costs associated with building left-turn lanes if additional right-of-way is needed (*DVRPC Staff*).[5]
    c. **Center-Turn Lanes** – This strategy is used in conditions where there are many vehicles turning left midblock to reduce the amount that through traffic is slowed. See effectiveness and cost information for Left-Turn Lanes (above).
    d. **Jughandles** – These are at-grade ramps provided at or between intersections to permit motorists to make indirect left turns and/or U-turns. (*Signalized Intersections: Informational Guide*, p. 232).
4. **Signal Improvements** – The range of strategies, from basic to sophisticated, that improve the efficiency of signals individually and in systems. This includes specific applications, such as for preemption for emergency vehicles or buses.
    a. **Basic Upgrading of Traffic Signals** – Adjustments and maintenance of signal timing and phasing, including installation of new signals as warranted, to improve flow and reduce congestion. This also includes equipment update, traffic signal removal, and pretimed signal plans. (*Pennsylvania Congestion Management System*, p. 19). See also Closed Loop Computerized Traffic Signals (4b).
    b. **Closed Loop Computerized Traffic Signals** – Linked traffic signal coordination responsive to traffic conditions. Using detectors, a centralized computer will

[5] These subbullets represent an effort to test the idea of inserting information about frequently used strategies, including practicality/ease of implementation, effectiveness, and cost. The intention is to conduct research and develop this more in the next iteration of the CMP. Suggestions are welcome.

periodically sample traffic flow and determine the most appropriate timing plan and signal phasing. This may be employed for corridors or interconnected areas (*Pennsylvania Congestion Management System*, p. 19).

i. Effectiveness: PennDOT has implemented projects in 35 corridors, which have generated delay savings of 15 to 20 percent on average (*Pennsylvania State Advisory Committee*, p. viii).

ii. Cost: The average installation cost per intersection of an Adaptive Traffic Control System is $65,000 (USDOT Research and Innovative Technology Administration (RITA), ITS Costs Database, www.benefitcost.its.dot.gov, accessed April 2012).

c. **Signal Prioritization for Emergency Vehicles** – Use of technology on board vehicles and within signal infrastructure to preempt the signal timing to create green signals for ambulances and other high-priority response vehicles through the existing road system.

d. **Transit Signal Priority (TSP)** – Use of technology on-board vehicles and/or at signalized intersections to temporarily extend green time or otherwise expedite buses, light rail, or trolleys through the existing road system.

5. **Intelligent Transportation Systems (ITS)** – Encompasses a broad range of technologies that can relieve congestion, improve safety, and disseminate real-time travel information to the public when integrated into the transportation system's infrastructure.

a. **Traveler Information Services** – Provision of pretrip and en-route information to travelers on current traffic and other conditions and real-time guidance on route information. This includes advisory services to warn of traffic or transit delays. It is especially relevant to special-event generators and roadways with significant concentrations of travelers unfamiliar with the transportation system (*Pennsylvania Congestion Management System*, pp. 21-22).

b. **Ramp Metering** – Time-differentiated metering that acts as a traffic signal for vehicles entering freeways in order to control access to the highway and assist in maintaining vehicle flow (*Pennsylvania Congestion Management System*, p. 18).

c. **Automated Toll Collection Improvements** – This includes various existing and developing strategies that reduce congestion and delays at tollbooths, including by shifting to all-electronic tolls.

d. **Commercial Vehicle Operations (CVO)** – Utilization of ITS technologies to improve efficiency and effectiveness of commercial vehicles. This includes weigh station preclearance, automated safety inspections, and onboard safety monitoring (*Pennsylvania Congestion Management System*, p. 22).

6. **Integrated Corridor Management (ICM)** – Building upon ITS technologies, ICM is the coordination of the individual network operations between parallel facilities that creates an interconnected system. A corridor is defined as a combination of parallel surface transportation networks (e.g., freeway, arterial, transit networks) that link the same major origins and destinations. A coordinated effort between networks along a corridor can effectively manage the total capacity in a way that will result in reduced congestion. ICM uses many other strategies in this list, such as Closed Loop Computerized Traffic Signals, TSP, Incident Management, and Traveller Information Services. Often, these efforts are done from a Transportation Management Center.

7. **Improve Circulation** – The range of strategies designed to move more vehicles through the existing road system, often using engineering approaches.

a. **Street Circulation Patterns** – Changing and/or restricting the direction of travel or separating two-way traffic on roadways. This can involve changing the designation of roadways from two-way travel to one-way, or vice-verse.

b. **Vehicle Use Limitations and Restrictions** – The outright or time-of-day restrictions of vehicles, usually limited to trucks, to increase roadway capacity. This also includes turn restrictions during peak hours to eliminate conflicting movements (*Pennsylvania Congestion Management System*, p. 18). Scheduling truck deliveries can result in more efficient use of loading facilities (*Integrating Freight Facilities*, p. 22) and can be used to reduce congestion impacts where trucks park on the street.

c. **Access Management Projects** – This refers to the engineering side of controlling access to and from mainly arterial roadways. Access is controlled through the number and design of driveways, medians, and median lanes. See also Access Management Policies (20a).
d. **Parking Operations** – Changes to parking intended to improve the operation of roadways, such as relocating parking spaces nearest to dangerous intersections if line of sight is a problem, incentives to keep short-term parking used as such, and time-of-day limitations on parking.
e. **County and Local Road Connectivity** – This is a range of ways to encourage local traffic to use the more local road network in order to maximize use of highways for through traffic. It can be encouraged through enhanced signage, additional connections within the local road network, and state policies such as those being used by NJDOT.
f. **Bottleneck Removal of a Limited Scale for Cars and Trucks** – Removal or correction of short isolated and temporary lane reductions, substandard design elements, and other physical limitations that form a capacity constraint (*Pennsylvania Congestion Management System*, p. 19). See also Bottleneck Removals for Passenger Rail (31c) and for Freight Rail (37c), Making Transfers Easier for Passengers (Bottleneck Improvements) (26e), and Improvements for Bicycling (21b) and Walking (21a).
g. **Roundabouts** – These are circular intersections with specific design and traffic-control features. Key features include yield control of entering traffic, channelized approaches, and appropriate geometric curvature to slow speeds. Roundabouts provide substantially better operational and safety characteristics than older traffic circles and rotaries and are safer than comparable signalized intersections (*Roundabouts*, pp. 2, 5).

8. **Safety Improvements and Programs** – A significant component of frustration with congestion is from unexpected delays, such as those caused by crashes. This item's strategies cover the range of generally low-cost improvements to improve safety in areas with high rates of crashes by evaluating deficiencies and addressing them by use of improved guard or guide rails, lane dividers, signage, line-of-sight clearances, lighting, and if necessary, minor engineering projects, enhanced enforcement of speed limits, and educational programs.
9. **Incident Management** – These are programs to effectively manage incidents by reducing the time for incident detection/verification, response, and clearance. They usually include improved institutional coordination.
10. **Transportation Security** – Improvements and programs specifically designed to reduce negative transportation impacts of major events of all types. An all-hazards approach prepares the transportation system for events, including severe weather, major crashes, terrorist or criminal activities, or very large-scale events; any of these can create massive congestion.
    a. **Coordinate with Military Bases** – Coordinate transportation planning in the vicinity of military bases with their security and access needs.
    b. **Coordinate with Nuclear Emergency Evacuation Zone (EMZ) Planning** – Coordinate transportation planning in EMZs with nuclear plant plans.
    c. **Freight Rail Bridge Security** – Enhance security on and around the limited number of key freight rail bridges, in particular the three crossing the Schuylkill or Delaware rivers.
    d. **Passenger Rail Bridge Security** – Enhance security on and around the limited number of key bridges that carry passengers by rail. There are four major rail river crossings, two of which are part of the Northeast Corridor Amtrak Line.
    e. **Road System Bridge Security** – Enhance security on and around road system bridges. This is especially important for the eight interstate system bridges in the region that each carry over 100,000 vehicles per average day.

f. **Transit Station Security** – Enhance security at and around transit stations, with particular attention to the most heavily used ones in each county that could become a focus in an evacuation situation.
g. **Evacuation Planning** – Coordinate with and enhance how transportation would serve dense and at-risk populations if they needed to leave the area, such as people without access to a private vehicle.

11. **Making Intermodal Transfers Easier for Freight** – Improvements to make it more possible and convenient to fully use all available modes of transportation for their best purposes. Examples might include minor improvements to roads needed for truck access to rail sidings or improved communications/ITS approaches. See also Freight Intermodal Center/Yard or Freight Village (38c) in the Goods Movement section and Making Transfers Easier for Passengers (26e) in the Transit Improvements section.
12. **Maintenance Management** (Maintenance and Work Zones) – Employment of strategies to minimize the congestion caused by maintenance and construction activities. ITS is often used to alert drivers or to manage the work area. This is already part of the planning done by the implementing agency for all federal-aid highway projects as part of their Traffic Management Plan (TMP).

Transportation Demand Management, Policy Approaches, and Smart Transportation

These are a wide range of policy and planning strategies that serve to get people and goods to their desired locations, while minimizing congestion and also advancing other quality-of-life, environmental, and economic development goals. They generally make the transportation system more efficient and sustainable, often at less cost than building new capacity, though often requiring education and outreach efforts. By improving the quality of life and sustainability of communities, they make it possible for more people to have a range of nonauto transportation options, and by reducing the length and number of car trips, they reduce congestion. These approaches reflect goals of the DVRPC Plan, and of partner states, counties, and many municipalities.

This category serves to “level the playing field” by creating the conditions whereby alternative transportation can thrive. Walking, bicycling, and other related modes are significant ways to make at least some short trips. In the United States, 55 percent of all person trips were five miles or shorter in 2009, according to the National Household Travel Survey. Trips of one mile or shorter accounted for 17 percent of all person trips, and in the more developed parts of the Delaware Valley, it stands to reason that these short trips would represent a substantial number. Improvements for people using wheelchairs and other mobility assistance products, such as walkers, are included in this category. These improvements may also improve recreational opportunities and safety, address quality-of-life goals, and enhance the livability of neighborhoods.

13. **Park-and-Ride Lots** – These are facilities that serve as a transfer terminal between modes. They may be served by public transportation or can be used for transferring to carpools and vanpools. This strategy may cover agreements for use of existing spaces, adding additional spaces to existing facilities, or building new lots that do not primarily serve transit (see also Expanded Parking/Improved Access to Stations (27b) in the Transit Improvements section).
14. **Encourage Use of Fewer Cars** – This group of strategies encourages fewer cars on the road by reducing the number of SOVs, providing options for commuters, and promoting the use of transit and other modes rather than driving alone. Outreach and marketing are important to the success of these strategies and is included in the strategy by that name.
    a. **Carpool/Vanpool Programs** – Carpooling is sharing a ride with one or more other people for at least most of a trip on a regular basis. Vanpooling is sharing a ride with a larger group of riders going to the same destination. These alternative forms of transportation save time and money, and are beneficial for the environment.

b. **Car Sharing** – This is an organized program that facilitates sharing automobiles among multiple users without each incurring the fixed cost of owning a car. A charge is associated with each trip. Examples include the PhillyCarShare and Zipcar programs. This concept is expanding to bike-sharing programs with a similar concept. Some communities are also experimenting with shared Neighborhood Electric Vehicles (NEVs) for short trips.
c. **Emergency Ride Home** – Serves as a safety net for employees who car/vanpool or use transit service by providing a reliable backup ride to get them to their destination if they have to work unusual hours or if an emergency arises.
d. **Ride-Matching** – Any of a range of ways to help match people willing to coordinate their trip-making. This is most often done with regard to work commutes. There are both public services available and services provided by specific employers. DVRPC has a program called Share-A-Ride. It is a free service that matches commuters with transit services, carpools, vanpools, and walking/bicycling opportunities in the five-county southeastern Pennsylvania region. The Share-A-Ride program also partners with local employers to provide these services for employees (*Share-a-Ride*). Transportation Management Associations (TMAs) also provide related programs.
e. **Local Delivery Service** – Encouraging businesses to deliver their products to customers can reduce SOV trips and provide goods, especially in communities where car ownership is low.
f. **Bicycle to Work**– Programs to encourage employees to commute to work by bicycle. For example, the Greater Valley Forge TMA's annual Bike to Work Challenge recorded 40,000 miles by bicycle commuters in 2010, resulting in fewer VMT on the road network. [GVFTMA, 2011.]

15. **Shift Peak Travel** – Strategies that encourage employers to allow employees to work from home or shift their schedules to reduce the number of travelers during peak hours.
    a. **Telecommute** – This involves the elimination of a commute, either partially or completely, to a conventional office through the use of computers and telecommunication technologies (phone, personal computer, modem, fax, e-mail, etc.). It can involve either working at home or at a satellite work center that is closer to an employee's home than the conventional office (*Pennsylvania Congestion Management System*, p. 17).
    b. **Alternative Work Hours** – These are strategies that reduce vehicle trip demand on highway facilities by shifting it to less congested time periods. This may include work schedules that spread the hours in which trips to and from the workplace occur or the complete elimination of trips to the workplace on some days, such as through compressed work weeks.
16. **Outreach and Marketing** – These strategies promote existing services to encourage increased participation and/or use generally of transit and TDM strategies. These strategies include carpool, vanpool, and ridesharing programs, alternate work hours, telecommuting, emergency ride home, promotion of a regional commuter benefit, and carsharing programs. Also included are strategies for effectively communicating with transportation-disadvantaged populations.
    a. **Marketing/Outreach for Transit and TDM Services** – This covers outreach, education, planning, and other ways of encouraging use of transit services and Transportation Demand Management (TDM) programs. This is applicable to employers, public entities, and the general public. This includes Carpool, Vanpool, and Ridesharing programs, Alternate Work Hours, Emergency Ride Home, Promotion of a Regional Commuter Benefit, Car Sharing, and other TDM strategies.
    b. **Environmental Justice Outreach for Decision-Making** – While general outreach includes the range of groups that have a history and/or likelihood of being adversely affected or not adequately involved in decisions about transportation services, it has tended not to be effective with these populations. Focused outreach may include meetings in different locations, times, or formats than are often used in the process of preparing recommendations or making decisions, and offering translated materials or translators as needed for people to participate.

c. **Multilingual Communication** – As part of environmental justice approaches, provide basic information in language-neutral signs where reasonable or in the languages used in communities with significant populations that speak English as a second language. This includes bus schedules and wayfinding signs. In addition to increasing access, this reduces the number of travelers confused for a range of reasons, including speed of reading and vision.
d. **Promotion of a Regional Commuter Benefit** – DVRPC's commuter benefit program allows employers to offer their employees a cost-saving way to help pay for commuting on transit or vanpools. It saves employers and commuters money because the program takes advantage of federal legislation that allows tax-free dollars to pay for transit fares.

17. **Comprehensive Policy Approaches** – There are a wide range of policy approaches that reduce congestion and help get people and goods where they need to go.
    a. **Growth Management and Smart Growth** – These are ways to encourage the use of land in a manner that reduces overall congestion and transportation costs. These approaches recognize that transportation and land-use decisions form a cycle, with many implications for communities. Managed and balanced development can reduce trip length by creating a greater job/housing balance and by making it more feasible to get to places by means other than driving alone. This range of ideas includes locating neighborhood schools where students can walk to them and regional schools on transit lines to reduce the duplicative need for buses and congestion from drivers turning into the driveway.
    b. **Complete Streets** – Policies that require streets to be designed for all users. The design standards for such streets would serve bicyclists, pedestrians, disabled people, transit users, and drivers. A municipality may be able to adopt such standards for future roads and roads under rehabilitation (*Corridor Planning Guide*, p. 29-30). **Note that this is an adopted policy of NJDOT but is not appropriate everywhere in Pennsylvania.**
    c. **Transit-First Policy** – Implementation and enforcement of policies that give preferential treatment to transit, thereby increasing its attractiveness in comparison to SOV travel and effectiveness as a mobility option (*Pennsylvania Congestion Management System*, p. 14). See also Transit-Oriented Development (19b) and other Planning and Policy Approaches, and Transit Signal Priority (4d) in Operations. [Separated Transit-First Policy and Transit-Oriented Development per discussion with DVRPC transit planning staff, 2008.]
18. **Financial Incentives** – These are market-based solutions to reduce congestion, often targeting a specific time and location known to experience severe congestion. They can also help raise funds for transportation improvement projects.
    a. **Pricing Policies** – Various policies that use pricing to shape transportation include gas taxes, insurance structures, VMT taxes, or other approaches. These approaches may be used to shape transportation behavior or raise funds. The funds may be used for transportation in general, or for paying for a specific project. See also the specific application, as Tolls/Congestion Pricing (18b), and Parking Supply-and-Demand Management (18c).
    b. **Tolls/Congestion Pricing** – This is a method of reducing congestion by charging for roadway use based on time and/or location of travel. This strategy may encourage travelers to shift to alternative times, routes, or modes during peak-traffic periods, or may help offset costs of maintaining the roadway. Higher fees apply during the periods of greatest demand. This also covers changes to the toll structure for different types of trucks and how this compares to tolls for cars.
    c. **Parking Supply-and-Demand Management** – These are actions taken to alter the supply and/or demand of a parking system to further the attainment of transportation objectives (*Pennsylvania Congestion Management System*, p. 15). They can include parking cash-out/transportation allowances, preferred parking areas for carpools or for people who only drive a few times a week, or changes in pricing.

19. **Land Use/Transportation Policies** – These strategies reduce congestion by changing land use and development patterns to encourage mobility options and limit new trip generation.
    a. **Revisions to Existing Land Use/Transportation Regulations** – Revise and better coordinate existing regulations, such as zoning, to reduce future traffic congestion. This can be done by using GIS or travel simulation modeling, programs such as UPlan, or buildout analysis. It is desirable that zoning ordinances, subdivision regulations, and other rules reflect master plans and other community goals, such as maintaining reasonable accessibility and quality of life. They can also incorporate access management (see Access Management Projects (7c) in the Operational Improvements section and Access Management Policies (20a) in the Transportation Demand Management section).
    b. **Transit-Oriented Development (TOD)** – This includes pedestrian-friendly, mixed-use development focused around transit stations. TOD encourages residents and workers to rely on modes other than the automobile. See also Transit-First Policy (17c) and other policies.
    c. **Trip Reduction Ordinances (TRO)** – These are ordinances that use a municipality's regulatory authority to limit trip generation from development sites. They usually cover an entire local political subdivision rather than just an individual project; they spread the burden more equitably between existing and future development; and they may be less vulnerable to legal challenges than conditions imposed on development approvals (*A Toolbox for Alleviating Traffic Congestion*, p. 247). Also known as Employee Trip Reduction (ETR), such approaches may be voluntary or mandatory.
20. **Engineering for Smart Growth** – Strategies to promote and enable smart growth using engineering solutions.
    a. **Access Management Policies** – Adoption of the right to share access, provide cross access, regulate driveways, or other regulatory authority. This can also include the development of model ordinances and adoption of an access code by itself or as part of other regulations. Access management codes may cover corner-lot requirements, continuity of sidewalk/bike networks and pedestrian/transit rider access, and land use (trip making) intensity controls in specific areas. Refer to Access Management Projects (7c) in the Operational Improvements section.
    b. **Context-Sensitive Design** – Engaging local stakeholders early in the process to ensure that projects reflect community goals. CSD also encourages designers to consider nontraditional approaches to designing projects for the community context, while maintaining basic design standards. This is also known as context-sensitive solutions.
    c. **Road Diets** – Road diets involve a reduction in the number of through lanes, typically reducing a four-lane undivided road to three lanes, to encourage alternate modes of transportation, calm traffic, reduce crashes for all road users, and, in some cases, increase on-street parking. Studies indicate that in conditions where the average daily traffic is under 20,000 vehicles, there is minimal effect on road capacity or travel time (*Corridor Planning Guide*, p.29).
    d. **Traffic Calming** – Specific actions intended to slow vehicular traffic to improve safety or meet other community goals. These goals can include improving pedestrian safety, making roads and streets more hospitable for bicycling and walking, and enhancing the livability of a neighborhood. In a commercial setting, traffic calming can be part of a set of strategies to encourage a more walkable commercial district and to encourage investment. In a residential area, traffic calming strategies such as speed tables are sometimes used to reduce the speed and amount of through traffic cutting across local streets. This can be paired with improvements on larger roads to better manage the flow of traffic.
    e. **Railroad/Linear Right-of-Way Preservation** – Preservation of abandoned railroad rights-of-way for potential future rail service or other transportation uses before other development occurs. In addition, other linear rights-of-way should be preserved, such as those for utilities.

21. **Walking and Bicycling Improvements** – These strategies reduce congestion and promote livability by making it safer and more convenient to travel by walking and bicycling.
    a. **Improvements for Walking** – Improve safety and convenience for pedestrians of all types (such as able-bodied or handicapped, young or old people), but especially for people who need to walk to get places. These improvements should be selected to fit the level of development and population. Examples include sidewalk improvements, signals, and markings giving pedestrians the right-of-way. This can include pedestrian countdown type signals.
    b. **Improvements for Bicycling** – Improve safety and convenience for bicyclists, especially for people using bicycles for transportation. Examples include provision of bike lanes, bike paths, and bicycle storage facilities to promote bicycles as an alternative to automobiles.
    c. **Planning and Design for Nonmotorized Transportation** – This covers the general work to make an area more conducive overall for consideration of any mode other than driving alone. This includes landscaping, streetscaping, and development of regional bicycling and walking plans and maps.
22. **Economic-Development-Oriented Transportation Policies** – These are transportation strategies that serve the goals of redevelopment, revitalization, renewal, and recentralization of the region in keeping with adopted plans and programs. Such approaches are generally more efficient ways for a region to manage congestion, while retaining or increasing employment, than developing new rural areas. Examples may include actively redeveloping brownfields in CMP subcorridors as appropriate for investment of federal transportation funds. Brownfields are often sited near rail or other major transportation facilities and may be ideal for mixed-use, transit-oriented development or freight intermodal centers.
23. **Environmentally Friendly Transportation Policies** – These are transportation strategies that seek to minimize the impacts of transportation on the natural environment in keeping with adopted plans and programs. Included are approaches to minimize stormwater run-off, conserve fuel, improve air quality, and preserve farmland, natural features, and open spaces. These strategies often shorten trip lengths, which helps manage congestion. They may include “Green Streets” programs or projects that help reduce flooding to prevent roads from closing or becoming unsafe during rain storms or other weather events.
24. **Interregional Transportation Coordination** – While part of many other strategies, this is explicit recognition that people and goods travel across regional boundaries and congestion management is made more effective by addressing the need to coordinate and communicate beyond strict geographic lines. This includes coordination of MPOs, transit authorities, and departments of transportation, as well as outreach to key stakeholders, such as the freight community. The strategies include continued strengthening of the transportation planning process.

Transit Improvements

This group of strategies deals with ways to make existing transit services more convenient. This may include transportation by bus, rail, or other conveyance—either publicly or privately owned—providing general or special service (but not including school buses or charter or sightseeing services) on a regular and continuing basis. See www.apta.com/resources/statistics/Pages/default.aspx for more background on transit. Also, see some of the more intermodal strategies in the Operational Improvements, Transportation System Management (TSM), and Intelligent Transportation Systems (ITS) category.

25. **ITS Improvements for Transit** – These strategies make existing transit services more convenient and reliable through implementation of ITS technologies.
    a. **Electronic Fare Payment Improvements** – This involves automatic trip payment through the use of noncash media, such as magnetically encoded fare cards (*A Toolbox for Alleviating Traffic Congestion*, p. 286). Increasingly, this method is coordinated with other systems so that one media works across various transit systems, or even for both transit and toll roads.

b. **Advanced Transit System Management** – Use of Automatic Vehicle Locator (AVL) systems on buses to communicate with people riding transit (such as information about transfers) or considering riding it (such as when the next vehicle is expected at a stop). This is sometimes called Intelligent Transit Stops. Advanced Transit System Management may be coordinated through transit centers able to make real-time adjustments to schedules. Additionally, it may include the use of ITS technologies for bus, train, and coordinated transit management, including train signals and power grids. See also Transit Signal Priority (4d).

26. **Modifications to Existing Transit Routes or Services** – Making the existing transit system serve people better is often a more efficient and cost-effective approach than new projects.
    a. **Express Transit Routes** – This involves having some or all service on a route stop only at major stops in order to transport people more rapidly. It can be done by dropping less heavily used stops from peak-hour scheduled runs or by adding additional express service.
    b. **Extensions or Changes in Bus Routes** – This includes review of where bus service is provided, seeking ways to provide better or more efficient service using existing resources. For bus or other services, it may include minor extensions in existing routes to provide service to a broader area.
    c. **More Frequent Transit or More Hours of Service** – This involves providing additional service on an existing transit route. It can be done for increased peak service, increased service throughout the day, or to provide earlier or later service.
    d. **Flexible Routing/Route Deviation Service** – This is an approach that increases passenger convenience for fixed-route bus riders by building in ability for buses to deviate within a defined distance, such as a quarter-mile from a fixed route. This may require advance arrangement and is generally used more in rural areas.
    e. **Making Transfers Easier for Passengers** (Bottleneck Improvements) – Focused improvements to make it more possible and convenient to fully use all available modes of transportation for their best purposes. Examples might include minor changes in schedules to better mesh bus and train schedules, or improved information and amenities at intermodal centers. These improvements may also be between two providers of one mode, such as convenient walking connections between different train lines or coordination of schedules. For new intermodal centers, see Passenger Intermodal Center or Garage for Transit Riders (32).
27. **Transit Infrastructure Improvements** – Strategies that make it more convenient, safe, and desirable to use transit services.
    a. **Enhanced Transit Amenities and Safety** – This is the broad range of ways to make it more comfortable, safe, and convenient to use transit. It includes, but is not limited to, onboard features and improvements at transit stops. Improvements at transit stops may include lighting, bus pull-off areas, shelters for passengers, and making it safer for passengers walking to and from stops. Safety may be addressed for the people traveling, and also for the vehicles and bicycles left at stations. See also Advanced Transit System Management (25b).
    b. **Expanded Parking/Improved Access to Stations (all modes)** – Access to stations can be a limiting factor for use of the services that stop at them. There is a range of ways that access can be improved (see also Transit-Oriented Development (19b), Shuttle Service to Stations (30b), and Passenger Intermodal Center or Garage for Transit Riders (32)). Other strategies include improvements for walking and bicycling to transit access points and increasing parking capacity. Within the category of adding to existing facilities, this may be done through added surface lot capacity or agreements with nearby sources of parking. An inexpensive example is assessing whether existing parking lots can be restriped in part or whole with smaller stalls to fit more vehicles in the same space. This could also be assessed in parking requirement regulations.
    c. **At-Grade Rail Crossing Safety Improvements** – Improvements to the rail system and/or the crossing road or trail system to increase safety and acceptable speeds, while reducing delays and other impacts. This may include improved coordination

and warning systems. A related strategy is to equip a priority set of vehicles (such as school buses, hazardous material haulers, and emergency vehicles) with in-vehicle devices warning of approaching trains, potentially with real-time information on train position (*A Toolbox for Alleviating Traffic Congestion*, pp. 289-290).

28. **Bus Route** – New regular bus service in an area not served by existing routes.
29. **Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes** – At the heart of such strategies is making bus service more competitive with private automobiles. Both of these approaches allow buses to bypass road congestion so they can reach destinations faster. BRT systems may also include enhanced use of ITS and traveler communication services, high-end vehicles, and distinctive marketing. Exclusive bus lanes may be part of existing roads or on new rights-of-way.
30. **New Bus Services** – These are strategies that provide new bus or shuttle routes or services.
    a. **Demand Response Transit Services** – Transit set up by appointment, available to the general public using smaller vehicles (i.e., vans, 30-foot buses, or sometimes taxis). This may be most applicable in areas where transit demand is low or development is very dispersed.
    b. **Shuttle Service to Stations** – Shuttle services may be added to make existing services more accessible or to efficiently expand their reach in less dense areas. Smaller vehicles can provide loops or demand-responsive services to train stations, bus stops, or other multimodal transportation transfer centers. This is sometimes referred to as shuttle bus to line-haul transit or last-mile service.
    c. **Transportation Services for Special Events** – Shuttle services and other approaches can be provided to get people to and from sporting events, concerts, or other major gatherings. This can be an efficient way to reduce what is generally referred to as nonrecurring congestion, as well as reducing need for expensive investments in infrastructure. These services usually serve outlying parking lots and/or transit stops.
    d. **Transportation Services for Specific Populations** – This is the provision of services that address specific needs or specific populations. This includes employer-supported shuttles for its employees. It also includes services oriented toward senior citizens, handicapped people, and Job Access and Reverse Commute (JARC) target populations.
31. **New Passenger Rail Investments** – These are strategies that provide new passenger rail routes, stops, stations, or services.
    a. **Intercity Rail Service** – This is longer-distance new rail service connecting to cities outside the region on new track or track previously not used for this specific service. Such service may be fueled and operated in a variety of ways, including electric or diesel power.
    b. **Fixed Guideway Service (new, extensions, or added stations)** – This is generally, though not always, oriented to commuter rail movement within one region, often with linkages to intercity transportation. It can be provided in many ways, including trolley, subway, elevated rail, light-rail, or other approaches. This may mean enhancements of existing services or new services.
    c. **Bottleneck Removal for Passenger Rail** – Investing in new bridges, tunnels, switch, or other communication systems significantly increases the capacity of the rail system with limited need for right-of-way. This is also related to Bottleneck Removal for Freight Rail (37c) and Making Transfers Easier for Passengers (Bottleneck Improvements) (26e).
32. **Passenger Intermodal Center or Garage for Transit Riders** – This can range from extensive new facilities such as a landmark building, with a range of services and structured parking, to parking decks for transit stations, to major new surface lots. For a smaller scale, see Park-and-Ride Lots (13) and Expanded Parking/Improved Access to Transit Stations/Stops (27b).
33. **Ferry Services** – Passenger or passenger/vehicle services conveying people across major water bodies. Water taxis are closely related.

Road Improvements

These strategies address the area between minor operational improvements and building major new road facilities on new alignments.

34. **Minor Road Expansions** – While such strategies add some capacity, they are intended to address a variety of goals; they should be carefully coordinated with other appropriate strategies and will be reviewed for whether they change travel patterns in the corridor.
    a. **Frontage or Service Roads** – Road strategies that maintain access to local land uses, while generally increasing the throughput of regional roads. This relates to and would be done with other access management strategies included in this document.
    b. **Major Reconstruction with Minor Capacity Additions** – Major reconstruction focuses on the basic use of a roadway, but may increase capacity, safety, and access for other modes. For example, reconstructing a facility so that it meets current design standards may include wider lanes and shoulders, which result in higher actual safe operating speeds. Major new bridge or bridge replacement projects and interchange reconfigurations may fit into this category.
    c. **High-Occupancy Vehicle (HOV) Treatments** – Improvements that reduce congestion by increasing the person throughput capacity of critically congested corridors. This also includes supporting policies and constructing facilities to encourage the use of HOV (*Pennsylvania Congestion Management System*, p. 15). An assumption is that such a project will inherently include a range of TDM and safety improvements and be coordinated with community needs.
35. **Adding Capacity to Existing Roads** – These are strategies that add capacity to make the existing transportation system function better. They should be carefully coordinated with appropriate supplemental strategies to get the most long-term value from the investment.
    a. **General Purpose Lanes** – The addition of one or more through lanes to an existing road.
    b. **Interchange with Related Road Segments** – These are projects at a scale that is expected to change regional transportation patterns. They increase the capacity of the existing road network by increasing interconnection opportunities, capacity, and safety. Large intersection projects with related roads that will add major capacity would be included in this strategy.
    c. **Hard Shoulder Running** – Temporary use of the shoulder as an additional traffic lane during peak and congested periods. This is implemented in conjunction with complementary ITS strategies to indicate when the shoulder may legally be used for travel. In some instances, only transit buses are allowed to use the shoulder lane.
36. **New Roads** – These are strategies that build new SOV capacity on new alignments. These strategies may be appropriate when major problems cannot be adequately addressed by sets of other strategies, but should then be used in combination with appropriate supplemental strategies to get the most long-term value from the investment and to meet regional goals.
    a. **Arterial or Collector Road** – New road or substantial extension of an existing road (usually over a mile), generally built with many access points and designed to fit with local conditions.
    b. **Bypass** – A bypass of a downtown or city adds new capacity on a new alignment. Such roads may tend to be short to medium in length and address a variety of transportation and other issues.
    c. **Limited-Access Highway** – The addition of a new facility or extension of existing facilities with accompanying ramps, tolls if included, signage, and other related improvements.

Goods Movement

Managing congestion on roads generally helps trucks move freight. Beyond that, there are additional strategies that can increase the efficient and safe movement of goods by various modes (and the points of intermodal transfers). See also strategies in the Operational Improvements, TSM, and ITS category.

37. **Freight Operations Improvements** – Strategies to make the truck, freight rail, and other means of moving goods function more efficiently by themselves or in combination with each other.
    a. **Truck Parking (short term)** – The provision of short-term truck parking for various types of deliveries is essential in active locations, such as central business districts or urban areas. Having adequate, designated parking locations prevents unwanted violations and contributes to improved general traffic flows.
    b. **Truck Parking (overnight)** – With trucking remaining the predominant mode of domestic freight transportation, the supply of overnight truck parking has emerged as an important consideration in the supply chain. Recent changes to driver hours-of-service regulations have highlighted the need for full-service truck-parking facilities.
    c. **Bottleneck Removal for Freight Rail** – Investing in needed new bridges, tunnels, switches, or other communication systems significantly increases the capacity of the rail system with limited need for new right-of-way. See also Bottleneck Removal for Passenger Rail (31c) and Freight Intermodal Center/Yard or Freight Village (38c).
    d. **Freight Rail (rehabilitation or reconstruction)** – Existing rail infrastructure requires routine maintenance and periodic upgrades. Both Pennsylvania and New Jersey have statewide, competitive programs that fund rail freight maintenance projects, with short line railroads often being the beneficiaries.
38. **Freight Capacity Investments** – These are strategies that add capacity to goods movement systems through significant investment in infrastructure.
    a. **Grade-Crossing Separations** – Highway-railroad crossings that are at-grade create delay for both freight rail operations and the driving public. In instances of high usage, it may be desirable to grade separate the crossing and to create free-flow conditions for both the rail and vehicular traffic.
    b. **Freight Rail (new or expanded)** – New rail lines or extensions of existing facilities built to meet the needs of moving freight, including in terms of weight, clearance, and access.
    c. **Freight Intermodal Center/Yard or Freight Village** – This can range from major reinvestment making an existing intermodal center more functional to new facilities. It can focus on transfer between modes, such as rail to truck, or transfer within a mode, such as from truckload to less-than-truckload/local delivery vehicles. A freight village is a cluster of freight-related activities within a specific area that may be served by multiple modes. Benefits include improved traffic management, lower transport costs, value-added activities, and increased reliability.
    d. **Port Facility Expansion** – The expansion of existing marine terminals and the creation of new ones helps maximize the use of the region's waterways for freight transportation purposes. At present, there are several major proposed expansions of port facilities along the Delaware and Schuylkill rivers.
39. **Short Sea Shipping** – Now also referred to as the Marine Highway, Short Sea Shipping connotes the use of inland and coastal waterways to move commercial freight from major domestic ports to its destination. With container ships growing larger and calling on fewer ports, Short Sea Shipping is an emerging strategy that makes further use of water transportation.

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Truck Parking (short term)	31
Vehicle Use Limitations and Restrictions	21
Walking and Bicycling Improvements [Family]	27

Source: DVRPC, 2012

Table 6: References for Full Range of CMP Strategies

References
A Toolbox for Alleviating Traffic Congestion and Enhancing Mobility. Institute of Transportation Engineers. Washington, DC. 1997.
Pennsylvania Congestion Management System: Phase 2 Report. (Publication No. #98013) Delaware Valley Regional Planning Commission, Philadelphia, PA. 1998.
Share-a-Ride. 2012. Retrieved April 26, 2012, from the Delaware Valley Regional Planning Commission Website: http://www.dvrpc.org/SAR
Integrating Freight Facilities and Operations with Community Goals (National Cooperative Highway Research Program Syntheses 320). Transportation Research Board. Washington, D.C. 2003.
Signalized Intersections: Informational Guide (Publication No. #FHWA-HRT-04-091) Federal Highway Administration. Washington, D.C. 2004.
Roundabouts: An Informational Guide: (Publication No. #FHWA-RD-00-067) Federal Highway Administration. Washington, D.C. 2000.
Corridor Planning Guide: Towards a more meaningful integration of transportation and land use. (Publication No. #07028) Delaware Valley Regional Planning Commission, Philadelphia, PA. 2007.

Source: DVRPC, 2012

Congested Corridors and Strategies

The extensive analysis and evaluation described in previous sections brought the CMP to a point where everyone was comfortable with the congested corridors and emerging/regionally significant ones. Throughout that process, there was concern that the CMP stay feasible, for example, by not having too many corridors. As a result, there are a relatively manageable 30 congested corridors in the region, with 14 in New Jersey and 16 in Pennsylvania. Those corridors were divided into sections where, at a regional planning level, generally similar strategies seemed applicable, yielding just over 100 subcorridors for which to agree on strategies. Where possible, efforts were made to consolidate subcorridors in comparison to the 2009 CMP in order to simplify future planning efforts and best capture flows of goods and people. The corridors, subcorridors, and strategies were developed in a solid quantitative and qualitative regional planning effort.

The first item in this chapter is DVRPC Congested Corridors, a list of all the corridors. The next item is Overview Maps by state. The third general item is the set of Strategies Appropriate Everywhere. These low-cost, proactive strategies should be a normal consideration in transportation planning.

The lengthy section, Very Appropriate Strategies by Subcorridor, follows with a map for each congested corridor, including its subcorridors. Each map is followed by a summary of key information and Very Appropriate strategies for each subcorridor. The longer sets of Secondary strategies for each subcorridor can be found in Appendix B, where they were placed in an effort to improve the readability of this chapter. The Very Appropriate strategies are a starting point for developing transportation improvements, while the Secondary strategies provide important further suggestions for consideration by project managers and stakeholders. All this information is available through the CMP Interactive Web Mapping Application at: www.dvrpc.org/webmaps/CMP/.

In addition to the congested corridors, the maps show emerging/regionally significant corridors. These are more loosely defined corridors where proactive strategies (such as those applicable everywhere) are an especially good investment in the future of the region.

More guidance about how to use the information that follows is provided in the *CMP Procedures* memorandum (Publication #TM09029), which is available on the DVRPC website. DVRPC staff is always available to assist in using these CMP materials. In addition, annual outreach meetings are held at PennDOT and NJDOT, given the number of people at each of those agencies with whom interacting with the CMP is required or useful.

The order of strategies reflects the priorities in DVRPC's Perspective on Transportation Planning, first adopted in the 2006 report and readopted in this report.

DVRPC Congested Corridors

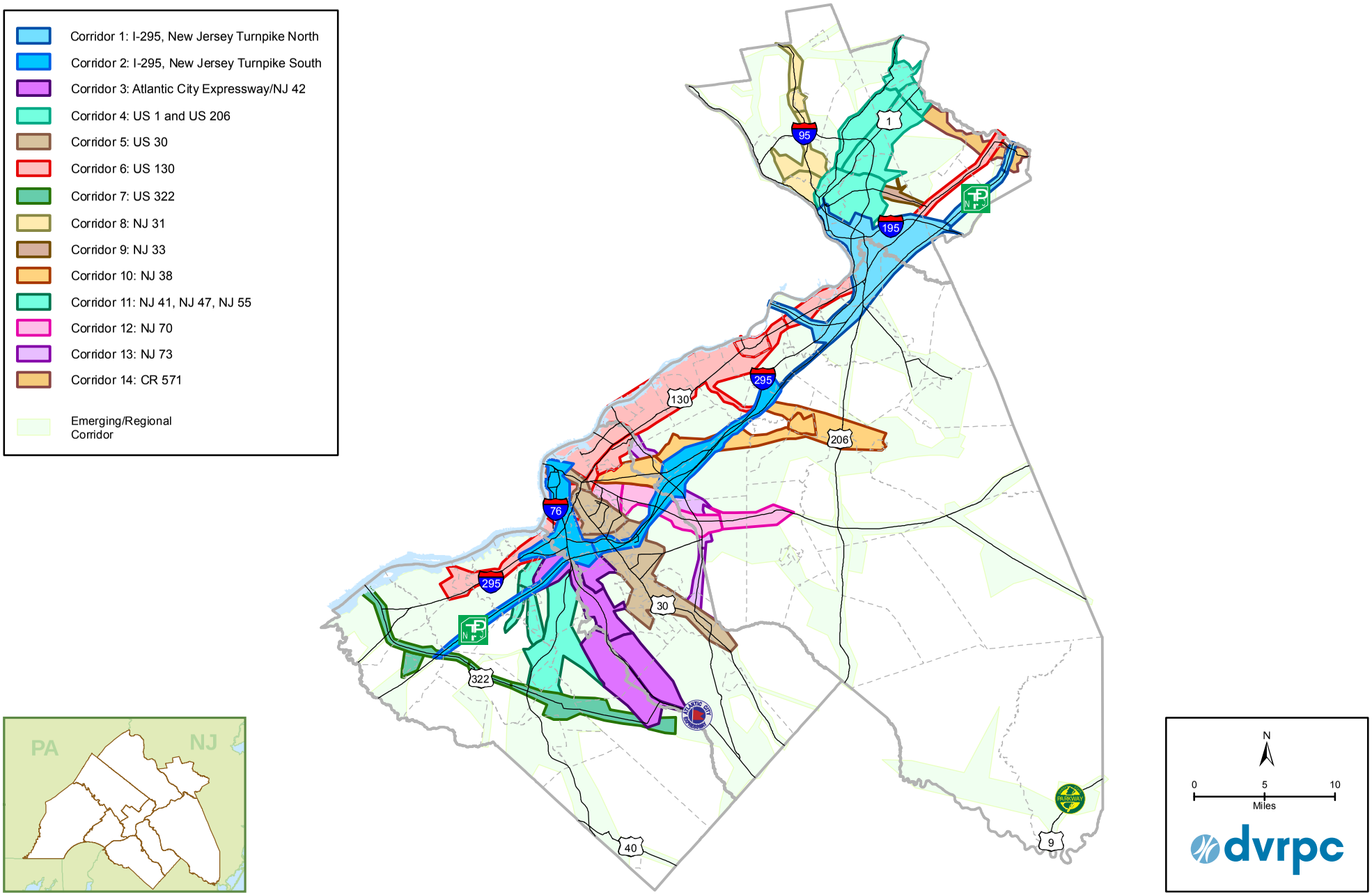
Table 7: DVRPC Congested Corridors by State and ID Number

State	Corridor ID	Focus of Corridor
NJ	1	I – 295, New Jersey Turnpike (N)
NJ	2	I – 295, New Jersey Turnpike (S)
NJ	3	Atlantic City Expressway/NJ 42
NJ	4	US 1and US 206
NJ	5	US 30
NJ	6	US 130
NJ	7	US 322
NJ	8	NJ 31
NJ	9	NJ 33
NJ	10	NJ 38
NJ	11	NJ 41, NJ 47,NJ 55
NJ	12	NJ 70
NJ	13	NJ 73
NJ	14	CR 571
PA	1	I – 76/I – 276 (Pennsylvania Turnpike)
PA	2	I – 476
PA	3	I – 76 and I – 676
PA	4	I – 95
PA	5	US 1
PA	6	US 13/MacDade Boulevard/PA 291
PA	7	US 30 to Philadelphia
PA	8	US 202, US 322
PA	9	US 422
PA	10	PA 3 and Center City
PA	11	PA 113 Area
PA	12	PA 132, PA 63, and County Line Roads
PA	13	PA 332 (Newtown Bypass) Area
PA	14	PA 611 and PA 309
PA	15	Ridge-Lincoln-Cheltenham Area
PA	16	PA 100

Source: DVRPC, 2012

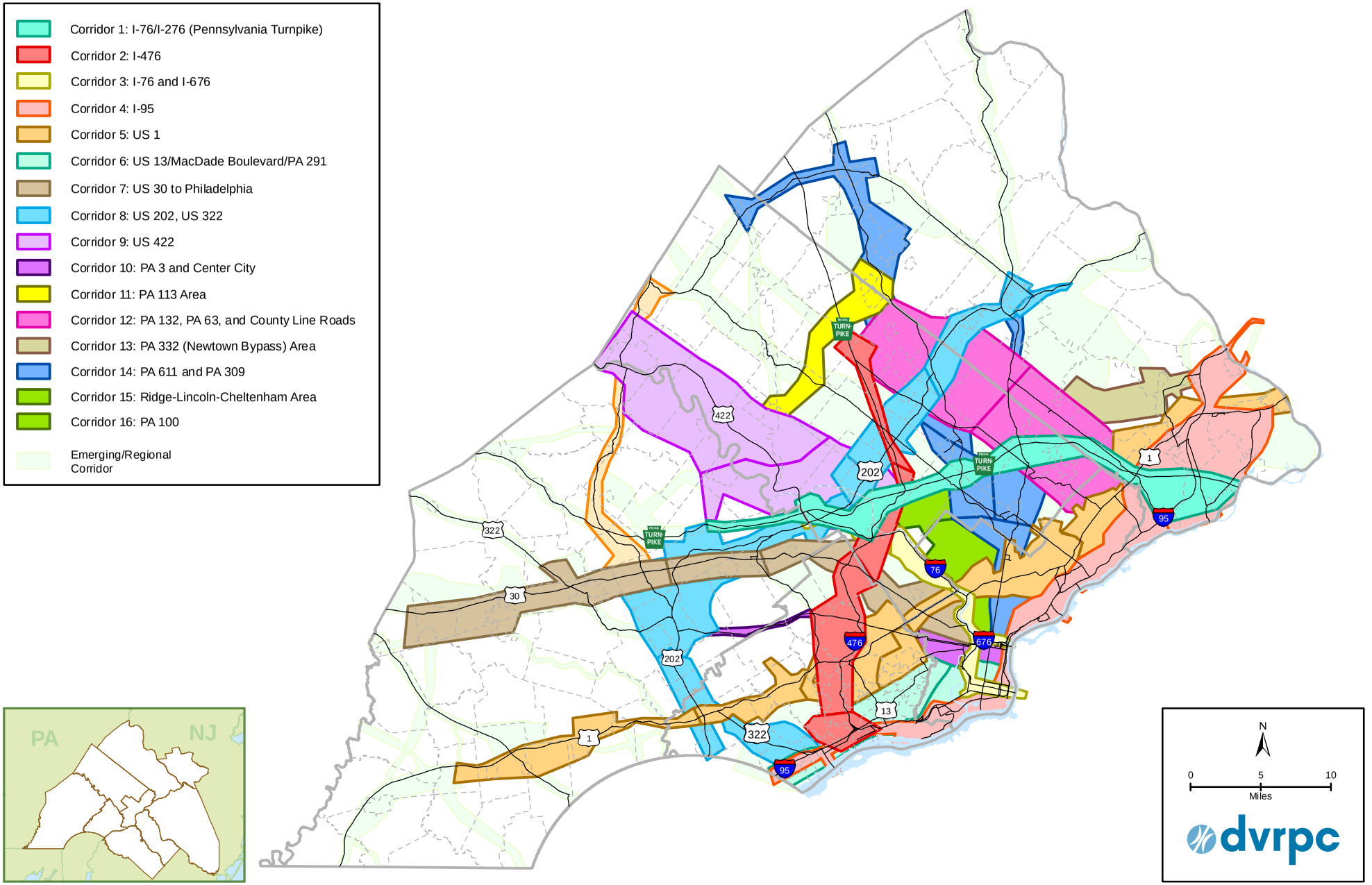
Overview of New Jersey Corridors

Figure 1



Overview of Pennsylvania Corridors

Figure 2



Strategies Appropriate Everywhere

For each of the subcorridors on the following pages, the following low-cost, proactive strategies should be considered in addition to the Very Appropriate and Secondary strategies listed for the subcorridor. These strategies are appropriate for emerging/regionally significant corridors to help prevent them from becoming congested. They are generally appropriate to consider anywhere in the Delaware Valley.

Table 8: CMP Strategies Appropriate Everywhere

Strategies Appropriate Everywhere
Safety Improvements and Programs
Signage
Context-Sensitive Design
Improvements for Walking and Bicycling as appropriate
Basic Upgrading of Traffic Signals
Signal Prioritization for Emergency Vehicles where needed
Making Transfers Easier for Passengers (Bottleneck Improvements)
Intersection Improvements of a Limited Scale
Bottleneck Removal of a Limited Scale, Vehicle or Rail
Environmental Justice Outreach for Decision-Making
Access Management (both engineering and policy strategies)
Marketing/Outreach for Transit and TDM Services where applicable (including carpool, vanpool, and ride-matching programs; alternate work hours, telecommuting, emergency ride home, promotion of a regional commuter benefit, and carsharing)
Revisions to Existing Land Use/Transportation Regulations
Growth Management and Smart Growth
Complete Streets (this is an adopted policy of NJDOT but is not appropriate everywhere in Pennsylvania)

Source: DVRPC, 2012

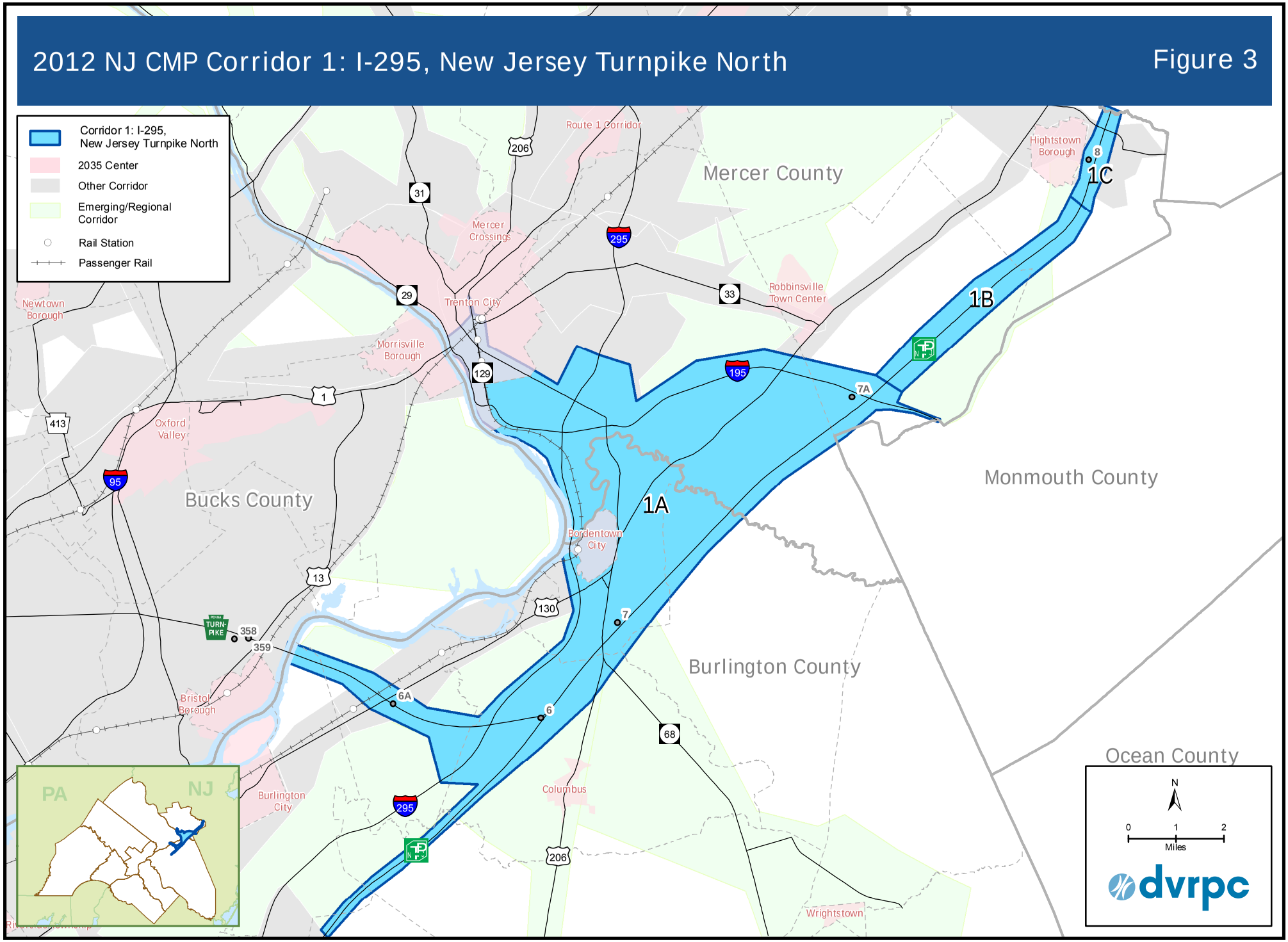
Very Appropriate Strategies by Subcorridor

The following lengthy section includes a map for each congested corridor with its subcorridors, followed by specific Very Appropriate strategies and other pertinent information for each subcorridor. For definitions of strategies, see the Range of Strategies to Reduce Congestion.

Note that the CMP respects permanently protected open space and other policy commitments of the Long-Range Plan and in no way replaces the EIS or other planning processes. Due to the size of subcorridors, capacity additions may be appropriate for a subcorridor, but not appropriate everywhere in them. Widenings are assumed to be considered on the most major facility first.

2012 NJ CMP Corridor 1: I-295, New Jersey Turnpike North

Figure 3



Corridor ID	Corridor Name	Corridor Notes
1	I-295, NJ Turnpike (N)	New Jersey Turnpike from I-276 merge (Exit 6) northeast to Middlesex County (north of Exit 8). This corridor also includes I-295 between I-276 and the I-195 area, and the movement from the US 1 bridge. It spans the developed area between I-195 and its intersection with the turnpike.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	I-195; I-295; Turnpike	Interstate highways and nearby related transportation facilities and land uses. This subcorridor includes the I-295 Bridge over Pennsauken Creek, one of the eight bridges in the region carrying over 100,000 vehicles per day. It also includes the Amtrak/Northeast Corridor Rail Bridge, a key rail connection. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: transit need, contains links with high crash rate, high value for evacuation planning, road system bridge security, and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Express Transit Routes; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

Coordinate with Burlington County Incident Management Task Force.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the Long-Range Plan ("the *Connections* plan"). A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The New Jersey Turnpike Widening from Exit 6 to Exit 9 (MRP ID: 71) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	NJ Turnpike	Narrow, straight NJ Turnpike corridor. This subcorridor contains areas of high environmental importance.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Park-and-Ride Lots; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

The number of lanes drop in this section, so any incidents become a bigger problem; Safety Improvements and Programs seem especially important.

Signage is recommended in the Exit 8A Study. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

The New Jersey Turnpike Widening from Exit 6 to Exit 9 (MRP ID: 71) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), The New Jersey Turnpike Exit 8A Area Transportation and Land Use Study (College of NJ, 2007).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Exit 8 and further north	Major truck activity area in the vicinity of Exit 8A. This subcorridor contains segments with high crash rates.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Express Transit Routes; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

Signage is recommended in the Exit 8A Study.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

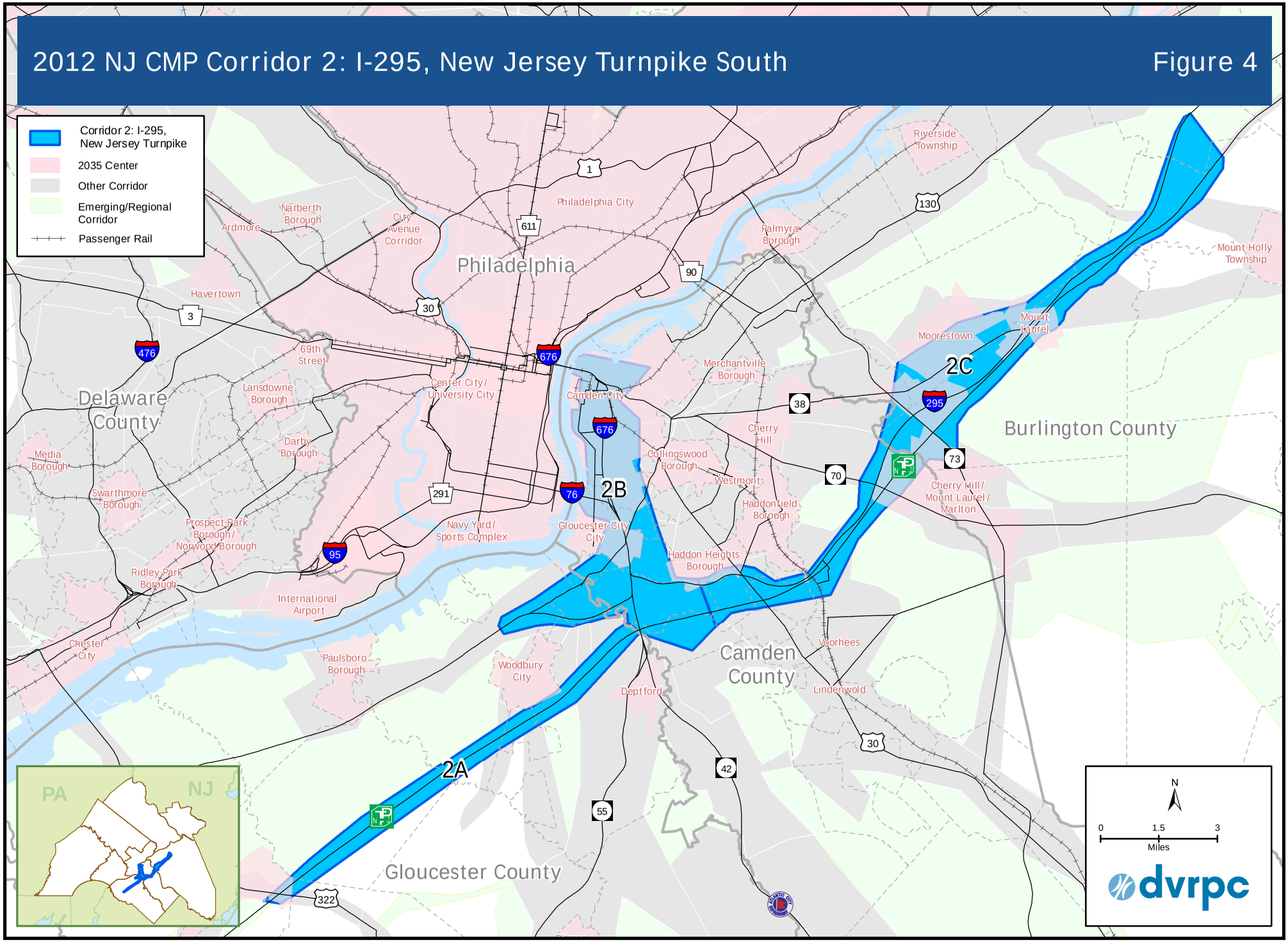
The New Jersey Turnpike Widening from Exit 6 to Exit 9 (MRP ID: 71) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), The New Jersey Turnpike Exit 8A Area Transportation and Land Use Study (College of NJ, 2007).

2012 NJ CMP Corridor 2: I-295, New Jersey Turnpike South

Figure 4



Corridor ID	Corridor Name	Corridor Notes
2	I-295, NJ Turnpike (S)	NJ Turnpike from south of Exit 5 (vicinity of Rancocas Creek) south to US 322. This corridor includes I-295 from northern Camden County to the Salem County Line. It includes I-76/676. The shape was extended to reflect CPA major trip flows.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	NJ Turnpike in Gloucester County.	The turnpike in this subcorridor has few exits.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Park-and-Ride Lots; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study.

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

The New Jersey Turnpike Widening from Exit 4 to the Delaware Memorial Bridge (MRP ID: 70) and Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Gloucester County Transportation Needs Study (DVRPC #09059, 2011), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	I-295, NJ Turnpike, I-76/676	Southern Camden County and the northern edge of Gloucester County. This subcorridor includes the Walt Whitman Bridge and the Benjamin Franklin Bridge. Both of these bridges are among the eight in the region that carry over 100,000 vehicles per day. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, high transit need, high concentration of heavily used transit, segments with high crash rates, high value for evacuation planning, and high concentrations of six of the seven transportation-disadvantaged populations analyzed. It is the only New Jersey subcorridor with high current V/C and high future growth in V/C, high duration of congestion, and high existing transit use.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Access Management Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with NJ Southern Area First Responders (SAFR) Incident Management Task Force.

Basic Upgrading of Traffic Signals is recommended by the Central Gateway Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity. DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T), the South Jersey Bus Rapid Transit System (MRP ID: X), Adding Missing Movements to the I-295 Interchange at I-76/NJ 42 (MRP ID: 75), Reconstructing the NJ 42 Freeway from I-295 to the AC Expressway with a New Interchange at College Drive (MRP ID: 76), Direct Connection of I-295 Through an Interchange at I-76/NJ 42 (MRP ID: 77), and the New Jersey Turnpike Widening from Exit 4 to the Delaware Memorial Bridge (MRP ID: 70) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
355	Route 295/42/I-76, Direct Connection, Camden County
355A	Route 295/42, Missing Moves, Bellmawr

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Transportation Systems Management and Operations for Select Corridors (DVRPC #08085, 2009), Central Gateway Traffic Circulation Improvement Project, City of Camden (McCormick & Taylor, 2007), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	NJ Turnpike and I-295 in Camden and Burlington counties	This subcorridor includes the two interstates and the related development around their entrance/exit ramps from just south of US 30 to just north of the Mount Holly exits. Parts of this subcorridor are in the top 20

		percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, high concentration of heavily used transit, and high value for evacuation planning.

Very Appropriate Strategies

- ITS;
- Incident Management;
- Access Management Policies;
- Park-and-Ride Lots; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

Coordinate with Burlington County Incident Management Task Force.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion.

Adding Missing Movements to the I-295 Interchange at NJ 38 (MRP ID: 72) and the New Jersey Turnpike Widening from Exit 4 to the Delaware Memorial Bridge (MRP ID: 70) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

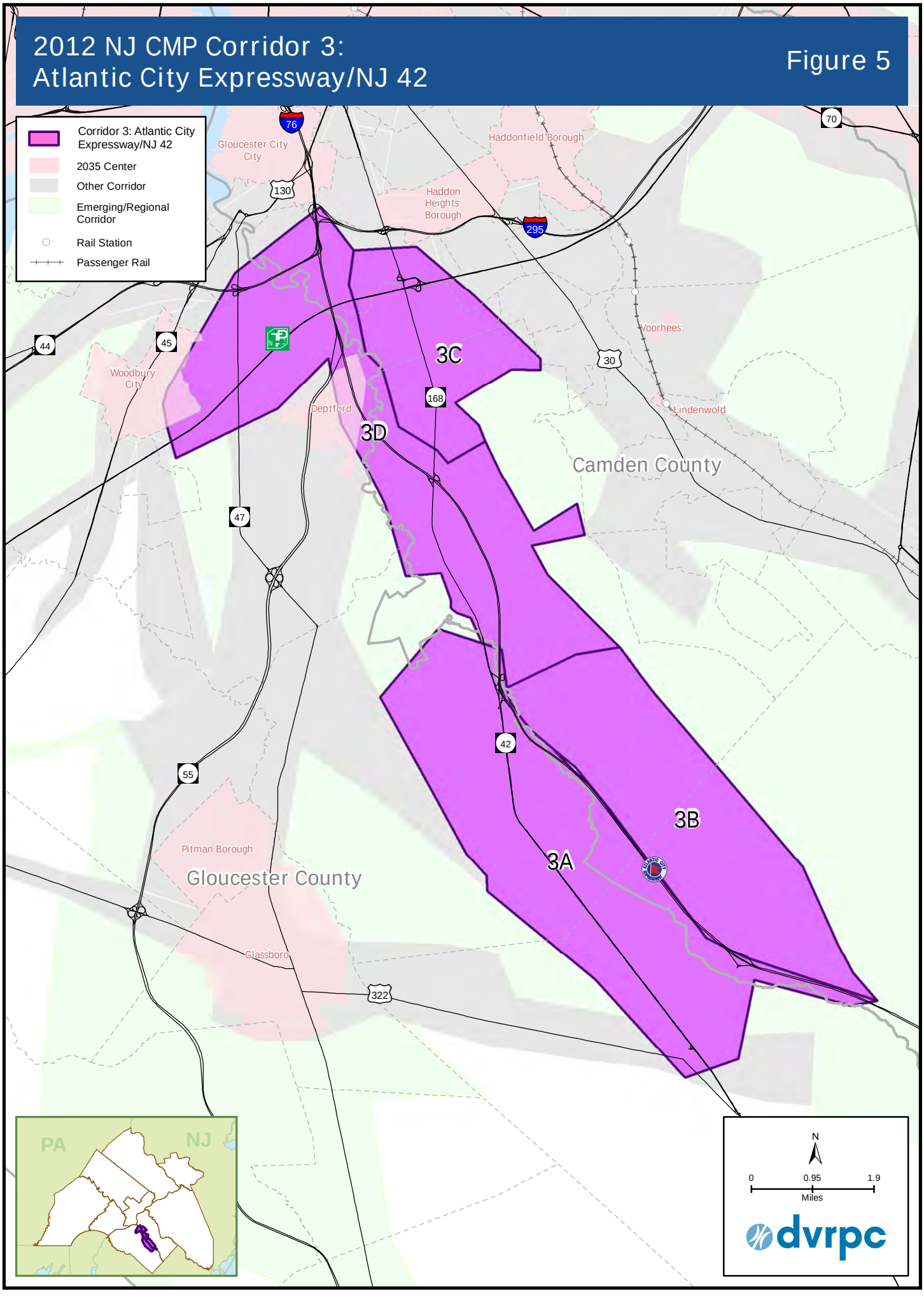
TIP DBNUM	Project Name
191A	Route 295/38, Missing Moves, Mount Laurel

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Transportation Systems Management and Operations for Select Corridors (DVRPC #08085, 2009).

2012 NJ CMP Corridor 3: Atlantic City Expressway/NJ 42

Figure 5



Corridor ID	Corridor Name	Corridor Notes
3	AC Expressway/NJ 42	This broad corridor encompasses NJ 42 from I-295 to the AC Expressway and south of the CR 536 Spur (Sicklerville Road). It includes the large suburban area surrounding this travel corridor, including part of NJ 47 and NJ 168.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Atlantic City (AC) Expressway	AC Expressway and west of it, including NJ 42.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Park-and-Ride Lots; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

Coordinate with NJ SAFR Incident Management Task Force.

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Complete Streets and Access Management (both engineering and policy strategies) are recommended in the NJ 42 Corridor Study.

Reconstructing the NJ 42 Freeway from I-295 to the AC Expressway (MRP ID: 76) and the South Jersey Bus Rapid Transit System (MRP ID: X) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), NJ 42 Corridor Study: A Plan of Action (DVRPC #08046, 2008).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	East of AC Expressway	Development up to near the AC Expressway. This subcorridor includes areas with two or more times the regional average of non-Hispanic minorities.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Signage and Basic Upgrading of Traffic Signals are recommended in the Winslow Township Congestion and Crash Study.

The South Jersey Bus Rapid Transit System (MRP ID: X) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Winslow Township, Camden County Congestion and Crash Site Analysis Program (DVRPC #08041, 2008).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	NJ 41 and NJ 168 (Black Horse Pike)	Developed area in the vicinity of and south of turnpike.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Context-Sensitive Design;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Access Management (both engineering and policy strategies) and Improvements for Walking and Bicycling are recommended in the Black Horse Pike Study. Access Management (both engineering and policy strategies) are also recommended in the NJ 42 Corridor Study and the Route 168 Study.

Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Corridor Studies Include (also see Bibliography)

NJ 42 Corridor Study: A Plan of Action (DVRPC #08046, 2008), Black Horse Pike: Making It Work (DVRPC #06039, 2006), Route 168 Corridor Study (DVRPC, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Northern developed part of corridor	Includes access to I-295. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, and areas of high environmental importance. The northern part of NJ 42 had high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Coordinate with NJ SAFR Incident Management Task Force.

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. General Purpose Lanes and

Interchange with Related Road Segments were appropriate strategies in the 2006 CMP. DBNUM 355 and 355A remain consistent with the CMP for continuity.

Adding Missing Movements to the I-295 Interchange at I-76/NJ 42 (MRP ID: 75) and Reconstructing the NJ 42 Freeway from I-295 to the AC Expressway, with a New Interchange at College Drive (MRP ID: 76), the South Jersey Bus Rapid Transit System (MRP ID: X), and Direct Connection of I-295 Through an Interchange at I-76/NJ 42 (MRP ID: 77) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

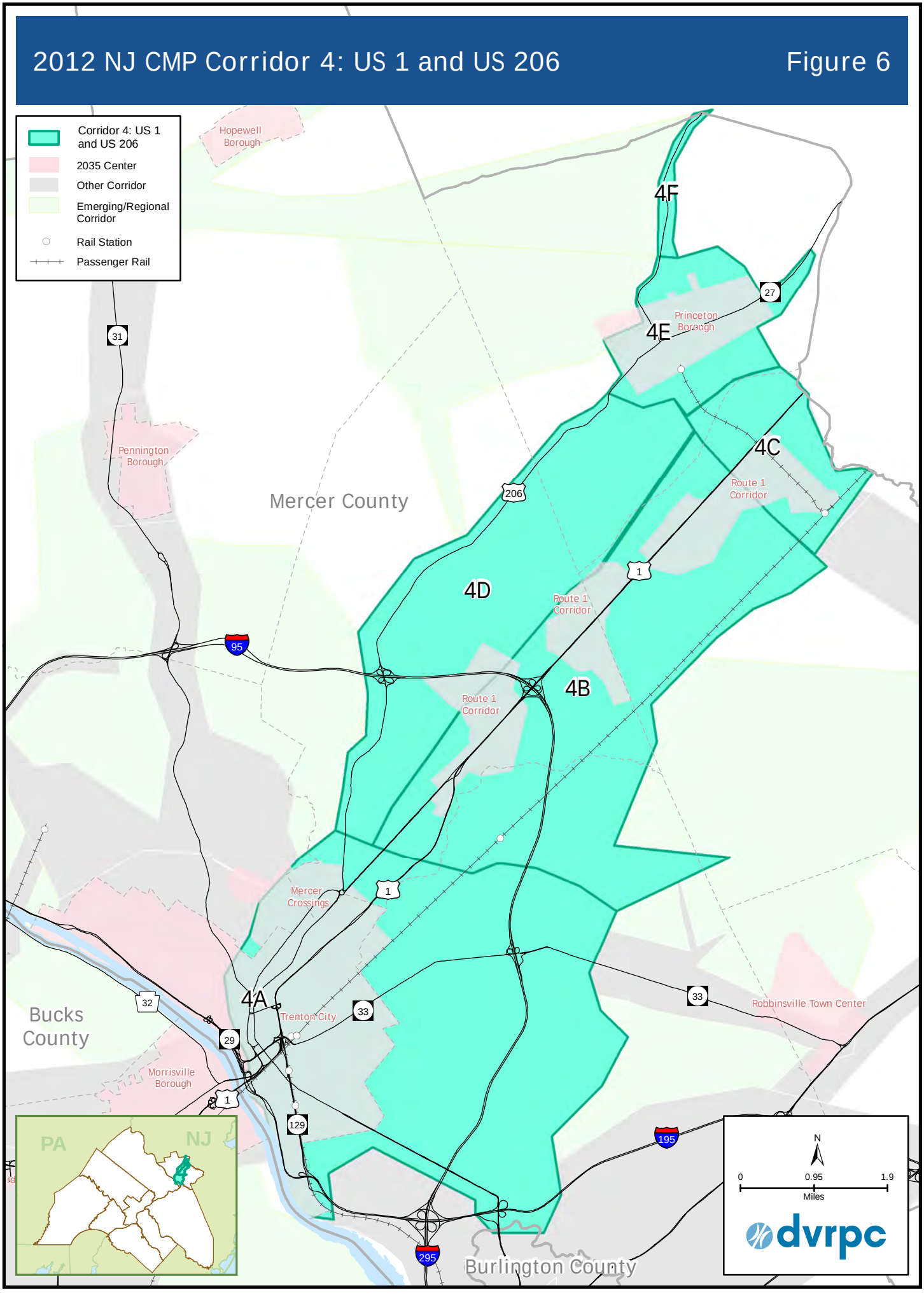
TIP DBNUM	Project Name
355	Route 295/42/I-76, Direct Connection, Camden County

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Route 55 - Deptford Traffic Study (DVRPC #06027, 2006)

2012 NJ CMP Corridor 4: US 1 and US 206

Figure 6



Corridor ID	Corridor Name	Corridor Notes
4	US 1 and US 206	This corridor is the broad area relating to US 1 and US 206 in Mercer County. It Includes the Trenton and Princeton areas.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Trenton area	Congested area in and around Trenton, where travel may be faster on urban streets than on the I-95/295 Ring Road. This subcorridor includes the Amtrak-Northeast Corridor (NEC) rail bridge, which serves important passenger and some freight rail traffic in the region. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, transit need, high concentration of heavily used transit, segments with high crash rates, and areas of environmental importance. All seven of the transportation-disadvantaged populations analyzed live in this subcorridor at two or more times the density of the rest of the region. This subcorridor is an important place for security planning, including evacuation planning, transit station security, and passenger rail bridge security.

Very Appropriate Strategies

- Signal Improvements;
- Improve Circulation;
- Economic-Development-Oriented Transportation Policies;
- Park-and-Ride Lots; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Safety Improvements and Programs and Basic Upgrading of Traffic Signals are recommended in the Mercer Crossings Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this part of the state's capital city is especially important, as it has high concentrations of population, employment, and existing congestion. It also has a key train station and one of the few major passenger rail bridges across the Delaware. Security planning of various types should be integrated in many projects here. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Converting NJ 29 to an Urban Boulevard from US 1 to Sullivan Way (MRP ID: 31) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

NJ 29 Waterfront Boulevard Study (NJDOT, Ongoing), Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), Mercer Crossings Transportation Study:

Building a Foundation for Redevelopment (DVRPC #07039, 2008), US 206 Corridor Study (DVRPC #06031, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	US 1 area	Between Trenton and Princeton. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C, high concentration of heavily used transit, and areas where residents have limited English proficiency. It also includes areas of high environmental importance. US 1 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Park-and-Ride Lots;
- TOD;
- Walking and Bicycling Improvements; and
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes.

Strategy Notes

Access Management approaches are important for this subcorridor based on studies and current TIP project work.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. However, given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The CR 533 Grade Separated Interchange over CR 638 (MRP ID: 99) and the US 1 BRT (MRP ID: S) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
01330	Route 1, Mercer County Congestion Management and Concept Development Study

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), US 206 Corridor Study (DVRPC #06031, 2006), Route 1 BRT Alternatives Analysis (NJ Transit, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	US 1/Penns Neck area	Alexander Road to Mercer/Middlesex County Line, Princeton Junction Rail Station on the NEC. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C and areas where densities of residents

		who have limited English proficiency are two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Park-and-Ride Lots;
- TOD;
- Walking and Bicycling Improvements; and
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes.

Strategy Notes

The Penns Neck EIS and resulting projects include various capacity-adding elements, which remain consistent with the CMP.

The US 1-Penns Neck Area New Connector Road, Interchanges, and Widening in the Vicinity of Penns Neck (MRP ID: 84) and the US 1 BRT (MRP ID: S) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), Route 1 BRT Alternatives Analysis (NJ Transit, 2006), West Windsor Princeton Junction Redevelopment Study (West Windsor Township, 2005/7), Penn's Neck FEIS (NJDOT, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	US 206 area	US 206 between Trenton and Princeton. This subcorridor contains areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Parking Supply-and-Demand Management; and
- Shuttle Service to Stations.

Strategy Notes

Safety Improvements and Programs and Basic Upgrading of Traffic Signals are recommended in the Mercer Crossings Study. Improvements for Walking and Intersection Improvements of a Limited Scale are recommended in the US 206 Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), Mercer Crossings Transportation Study: Building a Foundation for Redevelopment (DVRPC #07039, 2008), US 206 Corridor Study (DVRPC #06031, 2006)

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	Princeton area	Borough plus related part of township; Princeton Train Station on the NEC, DINKY train line. Parts of this subcorridor have densities of residents at two times the regional average who identify themselves as Hispanic or have limited English proficiency.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Park-and-Ride Lots; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Access Management (both engineering and policy strategies) and Basic Upgrading of Traffic Signals are recommended in the Renaissance 2000 Study. Improvements for Walking and Marketing/Outreach for Transit and TDM Services are recommended in the US 206 Study.

Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion.

The US 1 BRT (MRP ID: S) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

US 206 Corridor Study (DVRPC #06031, 2006), Route 1 BRT Alternatives Analysis (NJ Transit, 2006), Route 27/Renaissance 2000 Corridor Study (Orth-Rogers, 1999).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
F	US 206 to Mercer/Somerset County Line	Princeton to Somerset County Line.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Parking Supply-and-Demand Management; and
- Shuttle Service to Stations.

Strategy Notes

Marketing/Outreach for Transit and TDM Services is recommended in the US 206 Study.

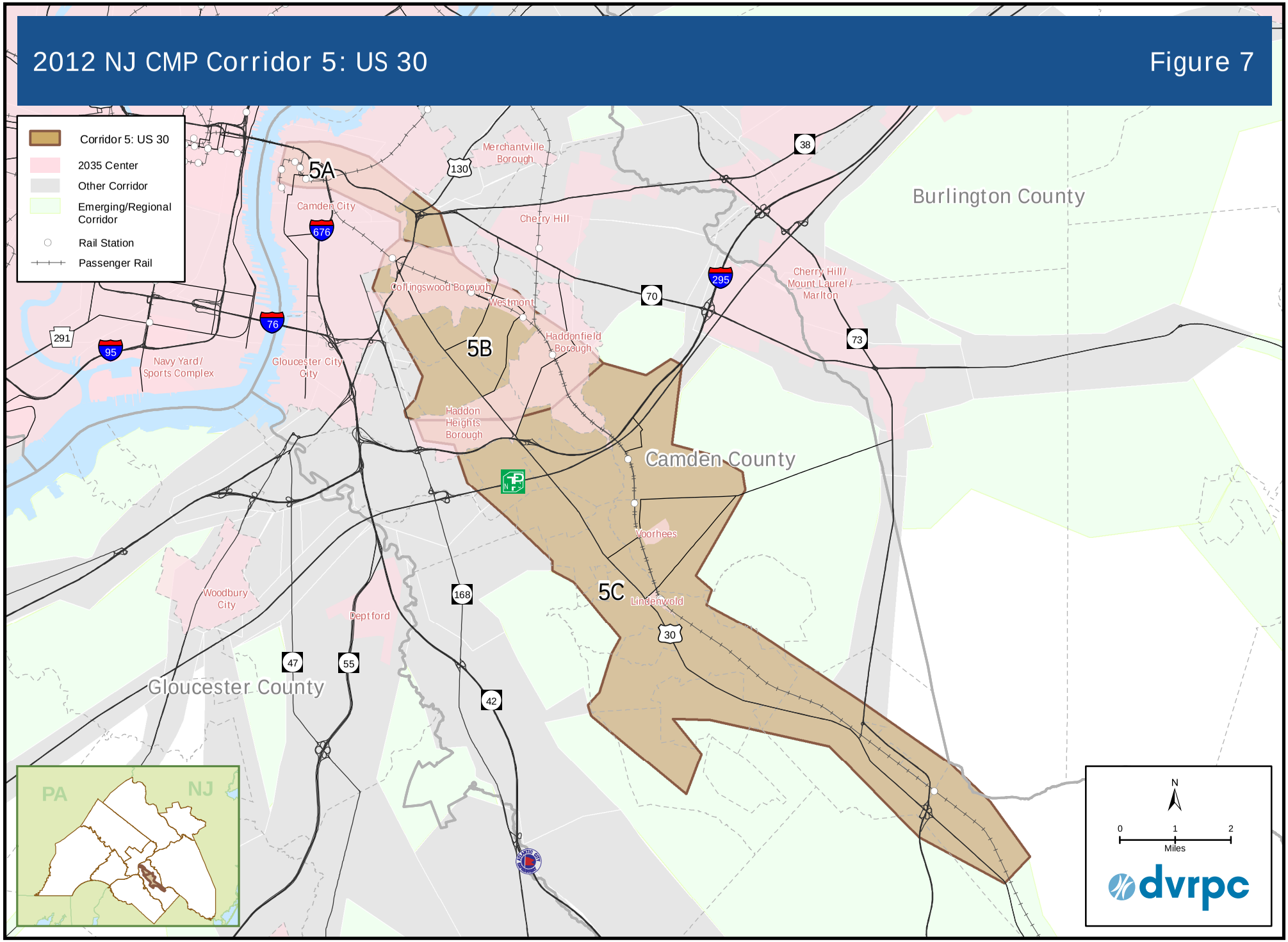
Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the LRP.

Corridor Studies Include (also see Bibliography)

US 206 Corridor Study (DVRPC #06031, 2006).

2012 NJ CMP Corridor 5: US 30

Figure 7



Corridor ID	Corridor Name	Corridor Notes
5	US 30	This corridor extends from Camden to Berlin. It includes Haddon Avenue, Lindenwold, and the PATCO Corridor connecting to the NJ Transit Atlantic City train line.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	US 30 in Camden	Admiral Wilson Boulevard is an expressway, but the surrounding area is densely developed. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, high transit need, and high value for enhanced evacuation planning.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with NJ SAFR Incident Management Task Force.

Revisions to Existing Land Use/Transportation Regulations and Improvements for Walking and Bicycling are recommended by the Finding Space Study. Basic Upgrading of Traffic Signals is recommended by the Central Gateway Study. Improvements for Walking and Bicycling, Bottleneck Improvements of a Limited Scale, and Access Management (both engineering and policy strategies) are recommended by the US 30 Study.

Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity. DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

Corridor Studies Include (also see Bibliography)

Finding Space: Balancing Parking Needs and Urban Vitality in the City of Camden (DVRPC #11030, 2011), Central Gateway Traffic Circulation Improvement Project, City of Camden (McCormick & Taylor, 2007), Camden Hub Study, Cramer Hill Redevelopment Project materials (working papers, 2005), Inter-Municipal Cooperation: White Horse Pike Study (DVRPC et al, 2003), US 30 Corridor Study (DVRPC #02028, 2002).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	Camden - I-295 area	Collingswood and Haddonfield area. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high transit need, high concentration of heavily used transit, and high value for enhanced evacuation planning.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Transit Infrastructure Improvements; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Improvements for Walking and Bicycling, Bottleneck Improvements of a Limited Scale, and Access Management (both engineering and policy strategies) are recommended by the US 30 Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion.

Corridor Studies Include (also see Bibliography)

White Horse Pike Economic Development and Land Use Assessment (DVRPC, 2003), US 30 Corridor Study (DVRPC #02028, 2002), Camden Hub Study.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	I-295 to Berlin	Inner ring suburban communities. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, high concentration of heavily used transit, two or more times the regional average of non-Hispanic minorities, and areas of high environmental importance. The Lindenwold PATCO and NJ Transit station is the most heavily used in Camden County. Enhancing security planning for this station seems appropriate.

Very Appropriate Strategies

- Transit Infrastructure Improvements;
- Telecommute;
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Improvements for Walking and Bicycling are recommended in the Lindenwold Station Study. Improvements for Walking and Bicycling and Signage are recommended in the Central Camden Trails Master Plan. Improvements for Walking and Bicycling, Access Management (both engineering and policy strategies), and Revisions to Existing Land Use/Transportation Regulations are recommended by the US 30 Study (2006). Improvements for Walking and Bicycling are also recommended in the White Horse Pike Study.

Growth Management and Smart Growth, Access Management, Bottleneck Improvements of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in this subcorridor, as it is likely to experience high growth in V/C ratios in the future based on regional travel modeling. Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. DRPA has proposed studying the development of a transfer station with NJ Transit's Atlantic City train line at the PATCO Woodcrest station.

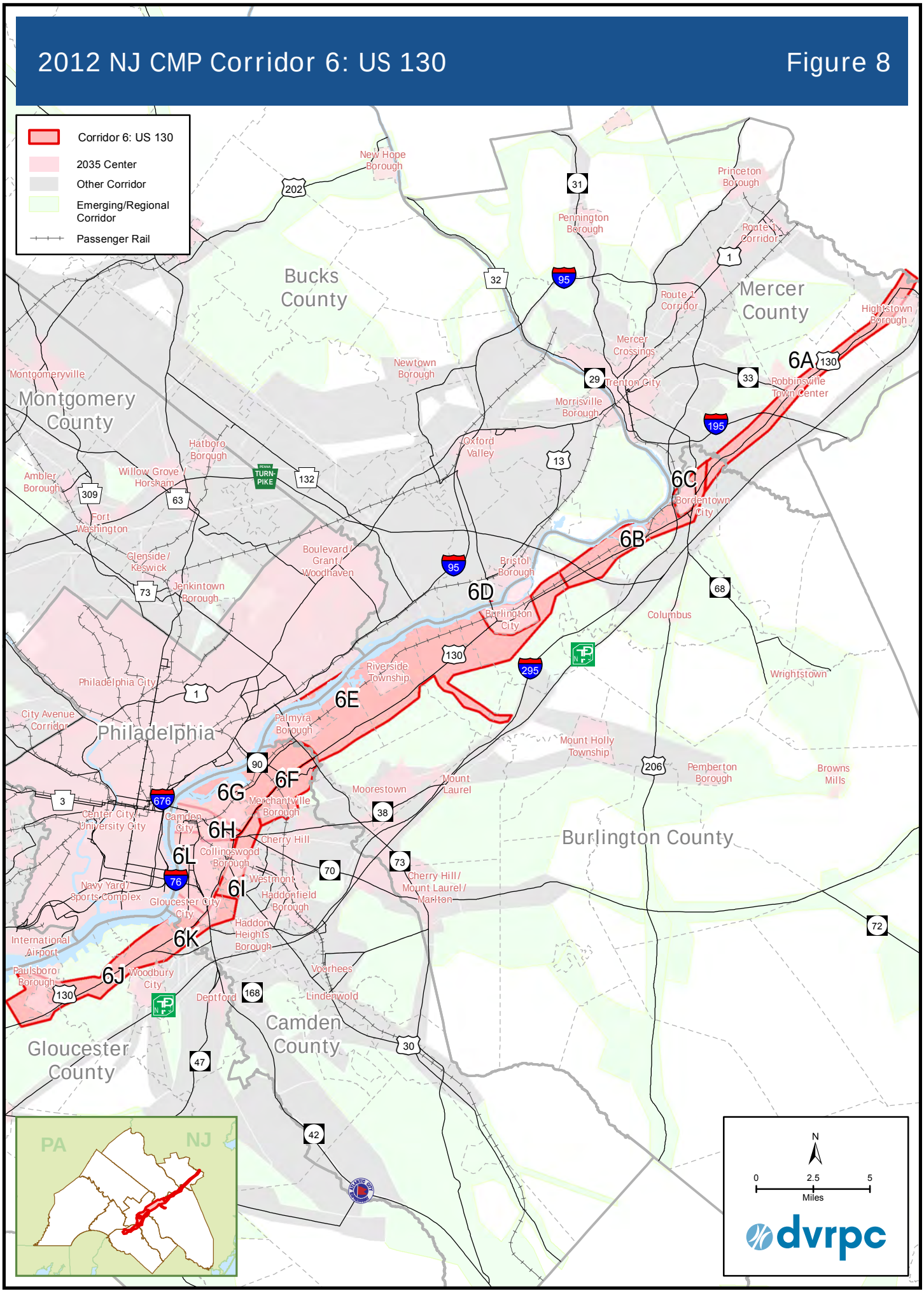
Corridor Studies Include (also see Bibliography)

Lindenwold Station Transit Hub Study (DVRPC #09068, 2009), The Central Camden County Bicycling and Multiuse Trails Master Plan (DVRPC #08073, 2009), US 30 Corridor Study (DVRPC #06036, 2006), Congestion and Accident Mitigation (CAMP) Program Report (DVRPC,

2005), White Horse Pike Economic Development and Land Use Assessment (DVRPC, 2003), US 30 Corridor Study (DVRPC #02028, 2002), Camden Hub Study.

2012 NJ CMP Corridor 6: US 130

Figure 8



Corridor ID	Corridor Name	Corridor Notes
6	US 130	This long corridor encompasses US 130 between the northern boundary of Mercer County and northern Gloucester County. It is broken into many subcorridors.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Robbinsville Township – Hightstown Borough	Lightly developed but said to be growing quickly. This subcorridor contains links with high crash rates. Robbinsville was formerly Washington Township.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
99368A	Route 33, Washington Township Bypass

Corridor Studies Include (also see Bibliography)

Washington Township Town Center Plan (Washington Township).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	North of City of Burlington	From vicinity of Pennsylvania Turnpike-New Jersey Extension to and around Bordentown City, but not including it. This subcorridor contains areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with Burlington County Incident Management Task Force.

Safety Improvements and Programs, Signage, Basic Upgrading of Traffic Signals, and Bottleneck Improvements of a Limited Scale are recommended in the 130/206 Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

Corridor Studies Include (also see Bibliography)

Context Sensitive Vision Plan for Rt 130 (PB, Nelesson, CDM, 2003), Route 130/Delaware River Corridor Extension; Route 206/Farmbelt Corridor Transportation and Circulation Study (DVRPC #03021, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	City of Bordentown	This subcorridor contains areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Transit Infrastructure Improvements; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with Burlington County Incident Management Task Force.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	City of Burlington	City of Burlington; RiverLine. Burlington Town Centre Station has the highest ridership in the county. It may be useful to enhance security planning at it.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Transit Infrastructure Improvements;
- Improve Circulation; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with Burlington County Incident Management Task Force.

The Seamless Regional Transit Access Study recommends establishing Shuttle Service between Burlington and Bristol, Pennsylvania.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one.

Corridor Studies Include (also see Bibliography)

Seamless Regional Transit Access (DVRPC #08069, 2008), Increasing Intermodal Access to Transit, Phase III (DVRPC, 2006), Congestion and Accident Mitigation (CAMP) Program Report (DVRPC, 2005), Route 130 Visioning Study Transportation Planning Deficiency Analysis (Parsons Brinckerhoff, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	Pennsauken - Burlington	Developed areas of Palmyra and Riverside, going to and around the City of Burlington. Includes RiverLine and Tacony-Palmyra Bridge. This subcorridor has two or more times the regional densities of households

		without cars, female-headed households with child, limited English proficiency, and non-Hispanic minority.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with Burlington County Incident Management Task Force.

The Seamless Regional Transit Access study recommends connecting Palmyra Station with the Frankford, Pennsylvania, Transportation Center via extensions or changes in bus routes.

A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

Seamless Regional Transit Access (DVRPC #08069, 2008), Increasing Intermodal Access to Transit, Phase III (DVRPC, 2006), Context-Sensitive Vision Plan for Route 130 (PB, Nelesson, CDM, 2003), Route 130 Visioning Study Transportation Planning Deficiency Analysis (Parsons Brinckerhoff, 2003), NJ 73 Corridor Study (DVRPC #00023, 2000).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
F	Pennsauken and Merchantville	US 130 northeast of the central part of Camden.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Corridor Studies Include (also see Bibliography)

NJ 73 Corridor Study (DVRPC #00023, 2000).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
G	North Camden/Pennsauken	North part of the city to NJ 73, including Cramer Hill area; RiverLine, Betsy Ross Bridge. This subcorridor includes the Delair Rail Bridge, which serves important passenger and freight rail traffic in the region. It also includes the Pavonia Rail Yard (Conrail). Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, high transit need, segments with high crash rates, and areas of high environmental importance. In addition, the presence of one of the few key rail bridges across the Delaware River calls for rail bridge security planning. This subcorridor has densities twice the regional

		average for six of the seven transportation-disadvantaged population groups analyzed. This subcorridor has a relatively high number of brownfield sites compared to other subcorridors, though not as many as are in the City of Camden.

Very Appropriate Strategies

- ITS;
- Incident Management;
- Making Intermodal Transfers Easier for Freight;
- Interregional Transportation Coordination; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors likely to experience high growth in V/C ratios in the future based on regional travel modeling. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Work is underway to construct a transfer station in Pennsauken connecting the RiverLine with the Philadelphia-Atlantic City line.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
H	City of Camden	Grid-type dense development. This subcorridor includes the Camden waterfront entertainment area. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, high transit need, and high concentration of heavily used transit. There are multiple transportation-disadvantaged populations in densities two or more times the regional average. Given the high density of residents, workers, and people at special events on the waterfront, enhancing evacuation planning may be useful. The Ben Franklin Bridge is located in this subcorridor. It may have more relevance to the I-676 and US 30 corridors, but it still impacts this area. This subcorridor appears to have the highest density and number of brownfield sites of the New Jersey subcorridors.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Transit Infrastructure Improvements;
- Enhanced Transit Amenities and Safety; and
- Economic-Development-Oriented Transportation Policies.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations and Improvements for Walking and Bicycling are recommended in the Camden County Transit Expansion and Finding Space Studies. Basic Upgrading of Traffic Signals is recommended in the Central Gateway Study. Access Management and Improvements for Walking and Bicycling are recommended in the Black Horse Pike Study. Signage and Intersection Improvements (of a limited scale) are recommended in the Camden Truck Route Optimization Project.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T), the South Jersey Bus Rapid Transit System (MRP ID: X), and the Delaware River Tram (MRP ID: M) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Finding Space: Balancing Parking Needs and Urban Vitality in the City of Camden (DVRPC #11030, 2011), Central Gateway Traffic Circulation Improvement Project, City of Camden (McCormick & Taylor, 2007), Black Horse Pike: Making It Work (DVRPC #06039, 2006), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), Camden Truck Route Optimization Project.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
I	East of US 130 toward the south side of Camden	This is the eastern side of the US 130 corridor. It includes the southern part of Pennsauken, western part of Collingswood Borough, and Oaklyn Borough; Southern Camden County.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Access Management (both engineering and policy strategies) and Improvements for Walking and Bicycling are recommended in the Black Horse Pike Study.

Corridor Studies Include (also see Bibliography)

Black Horse Pike: Making It Work (DVRPC #06039, 2006)

Subcorridor ID	Subcorridor Name	Subcorridor Notes
J	US 130 in	North Gloucester County to Camden County, including

	Gloucester County	most of Paulsboro. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, and segments with high crash rates.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, and Improvements for Walking and Bicycling, are recommended in the Camden County Transit Expansion Study. Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Access Management (both engineering and policy strategies), Context-Sensitive Design, and Improvements for Walking and Bicycling are recommended in the Black Horse Pike Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

The Paulsboro Bridge New Bridge and Roadway Improvements from I-295 to the Paulsboro BP Site (MRP ID: 80), Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T), and the South Jersey Bus Rapid Transit System (MRP ID: X) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Black Horse Pike: Making It Work (DVRPC #06039, 2006), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
K	West of Jersey Avenue	Southern half of Gloucester City, including Southport and Gloucester Point redevelopment area. There are populations at two or more times the regional densities of carless households, elderly people, and people with physical disabilities.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, and Improvements for Walking and Bicycling, are recommended in the Camden County Transit Expansion Study.

A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including EJ Outreach for Decision-Making.

DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
L	Camden-Gloucester industrial area	Northern City of Gloucester and southern City of Camden industrial area. This subcorridor starts just south of the interchange of US 130, US 30, and US 70, and continues south to the interchange with I-76. It also includes the Broadway Terminal, Gloucester Marine Terminal, and part of the Beckett Street Terminal freight facilities. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high anticipated growth in V/C, high transit need, and high concentration of heavily used transit. Based on the densities, it may be useful to enhance evacuation planning. This subcorridor has high levels of six of the seven transit-dependent populations analyzed. It also has a relatively high number of brownfield sites relative to other subcorridors.

Very Appropriate Strategies

- ITS;
- Making Intermodal Transfers Easier for Freight;
- Improve Circulation;
- Interregional Transportation Coordination; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, and Improvements for Walking and Bicycling, are recommended in the Camden County Transit Expansion Study. Basic Upgrading of Traffic Signals is recommended by the Central Gateway Study. Access Management (both engineering and policy strategies) and Improvements for Walking and Bicycling are recommended in the Black Horse Pike Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

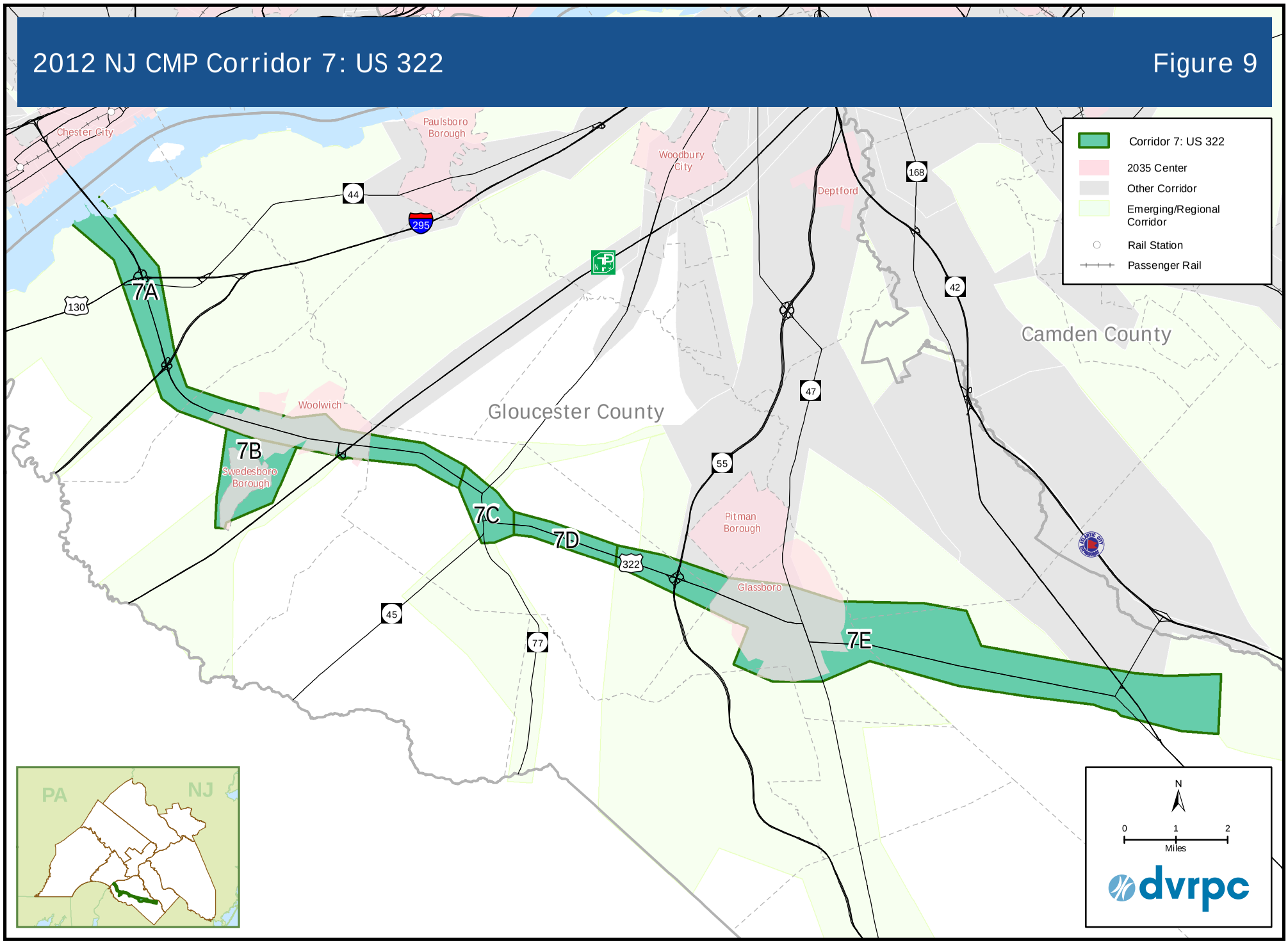
Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) and the South Jersey Bus Rapid Transit System (MRP ID: X) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Central Gateway Traffic Circulation Improvement Project, City of Camden (McCormick & Taylor, 2007), Black Horse Pike: Making It Work (DVRPC #06039, 2006), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), Camden Truck Route Optimization Project.

2012 NJ CMP Corridor 7: US 322

Figure 9



Corridor ID	Corridor Name	Corridor Notes
7	US 322	This corridor includes the Commodore Barry Bridge access through the Cross Keys area. It Includes CR 651, NJ 47, CR 634, and CR 689. It broadens toward the east to include the related developed areas of Berlin and Gloucester Township.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Commodore Barry Bridge-Mullica Hill	This subcorridor contains both areas that are growing quickly (and designated as Growth Areas in the *Connections* plan) and also areas designated by the jointly developed Plan to remain Rural Areas. There are also areas of high environmental importance.

Very Appropriate Strategies

- Turning-Movement Enhancements;
- Improve Circulation;
- Park-and-Ride Lots;
- Demand Response Transit Services; and
- Transportation Services for Specific Populations.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Bottleneck Improvements of a Limited Scale and Access Management (both engineering and policy strategies) are recommended in the DVRPC US 322 Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

The US 322 Widening from US 130 to the New Jersey Turnpike (MRP ID: 79) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Seamless Regional Transit Access (DVRPC #08069, 2008), Managing Change Along the US 322 Corridor: Land Use and Transportation Issues, Policies, and Recommendations (DVRPC #06023, 2006), Route 322 M.P. 4.80-14.90 Logan, Woolwich and Harrison Townships, Gloucester County, NJ: Tier 2 Report (Urban Engineers, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	Swedesboro	The Borough of Swedesboro is more densely developed than the US 322 corridor immediately north of it, but relates to it. This subcorridor includes areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Improve Circulation;
- TOD; and

- Transportation Services for Specific Populations.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Improvements for Walking and Bicycling are recommended in the DVRPC US 322 Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Managing Change Along the US 322 Corridor: Land Use and Transportation Issues, Policies, and Recommendations (DVRPC #06023, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Mullica Hill	Until 2012, US 322 made a sharp turn south and was congested going through Mullica Hill before turning east again. In 2012, the Mullica Hill Bypass was completed. Eight NJ Transit bus routes travel north and south through the business district. Trucks are reported to be a problem.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Improve Circulation;
- TOD; and
- Transportation Services for Specific Populations.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Improvements for Walking and Bicycling are recommended in the DVRPC US 322 Study.

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. Bypass was an appropriate strategy in the 2006 CMP. DBNUM 07369 remains consistent with the CMP for continuity.

The New Bypass in the Vicinity of US 322 and NJ 45 (MRP ID: 94) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
07369	Route 322, Corridor Congestion Relief Project

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Managing Change Along the US 322 Corridor: Land Use and Transportation Issues, Policies, and Recommendations (DVRPC #06023, 2006), Route 322 M.P. 4.80-14.90 Logan, Woolwich and Harrison Townships, Gloucester County, NJ: Tier 2 Report (Urban Engineers, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Glassboro and Richwood area	Between two settled areas.

Very Appropriate Strategies

- Turning-Movement Enhancements;
- Improve Circulation;
- Park-and-Ride Lots;
- Demand Response Transit Services; and
- Transportation Services for Specific Populations.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Bottleneck Improvements of a Limited Scale and Access Management (both engineering and policy strategies) are recommended in the DVRPC US 322 Study.

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

The New Bypass in the Vicinity of US 322 and NJ 45 (MRP ID: 94) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Managing Change Along the US 322 Corridor: Land Use and Transportation Issues, Policies, and Recommendations (DVRPC #06023, 2006), Route 322 M.P. 4.80-14.90 Logan, Woolwich and Harrison Townships, Gloucester County, NJ: Tier 2 Report (Urban Engineers, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	US 322 vicinity of and east of NJ 55	This subcorridor focuses on Glassboro. While this subcorridor contains some areas of environmental importance, it is also designated as a Growth Area in the *Connections* plan. Includes Rowan University and its rapidly expanding campus.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Improve Circulation; and
- Parking Supply-and-Demand Management.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, and Improvements for Walking and Bicycling, are recommended in the Camden County Transit Expansion Study. Revisions to

Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Improvements for Walking and Bicycling, Bottleneck Improvements of a Limited Scale, and Access Management (both engineering and policy strategies) are recommended in the DVRPC US 322 Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

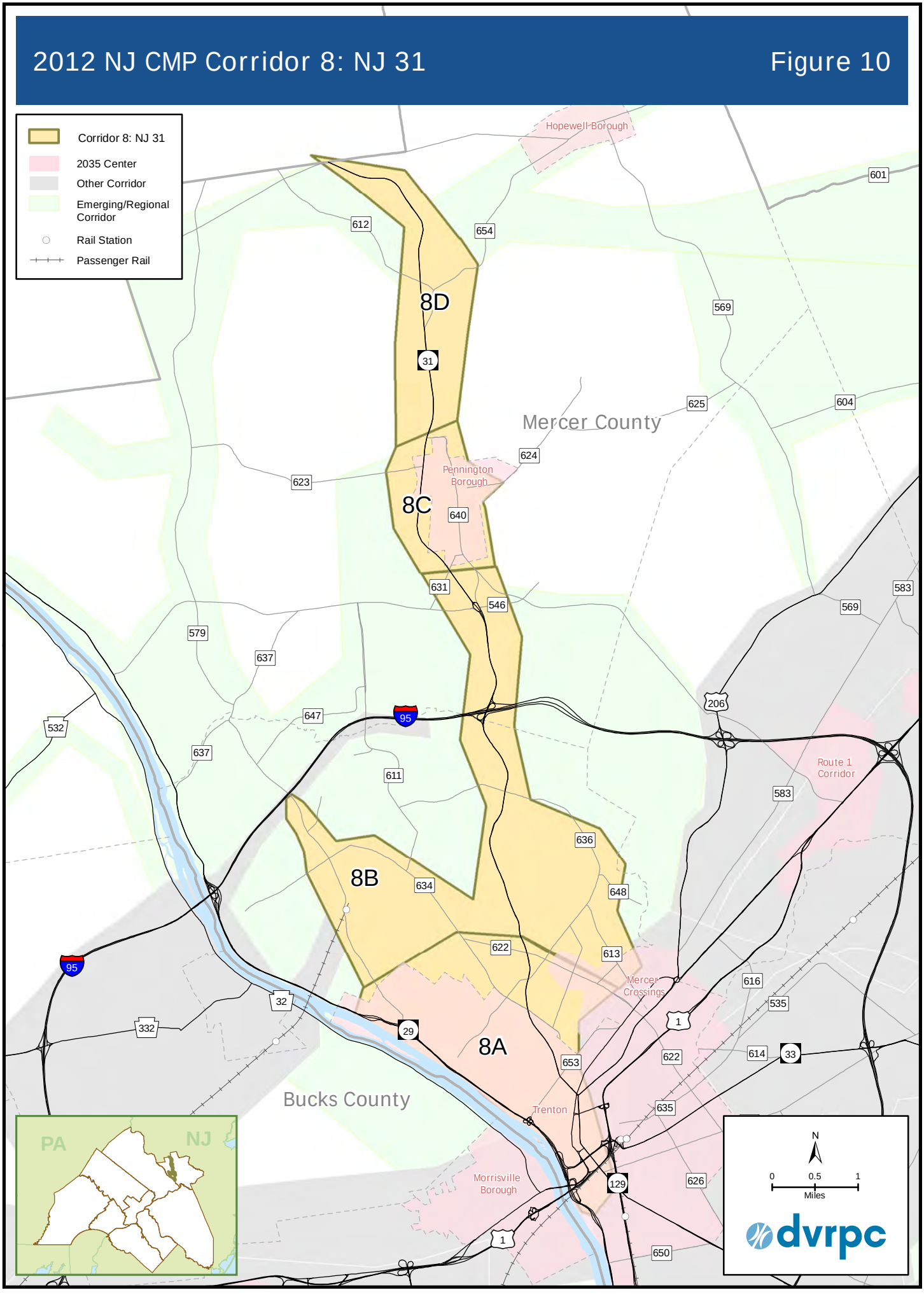
Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Managing Change Along the US 322 Corridor: Land Use and Transportation Issues, Policies, and Recommendations (DVRPC #06023, 2006), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), Route 322 M.P. 4.80-14.90 Logan, Woolwich and Harrison Townships, Gloucester County, NJ: Tier 2 Report (Urban Engineers, 2003).

2012 NJ CMP Corridor 8: NJ 31

Figure 10



Corridor ID	Corridor Name	Corridor Notes
8	NJ 31	This corridor started out focused on NJ 31 between Trenton and CR 518, and the CR 518 corridor extending to Hopewell Borough. The north-south movement evaluation led to adding CR 579. CR 636 was also added upon reviews.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	NJ 31, NJ 29 in Trenton	The Trenton area is densely developed along and around these roads. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, high transit need, and contains segments with high crash rates. This subcorridor has high densities of multiple transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Safety Improvements and Programs and Basic Upgrading of Traffic Signals are recommended in the Mercer Crossings Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Converting NJ 29 to an Urban Boulevard from US 1 to Sullivan Way (MRP ID: 31) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), Mercer Crossings Transportation Study: Building a Foundation for Redevelopment (DVRPC #07039, 2008), Route 31 Study (NJDOT, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	NJ 31 south of Pennington, CR 579 south of CR 546	West Trenton/Ewing area; heavy cut-through and truck traffic, and crashes. This subcorridor includes the West Trenton/Trenton SEPTA rail bridge, which serves important passenger and freight rail traffic in the region. Parts of this subcorridor are in the top 20

		percent of New Jersey subcorridors for the following criterion: contains segments with high crash rates.

Very Appropriate Strategies

- Signal Improvements;
- Road Diets;
- Turning-Movement Enhancements;
- Improve Circulation;
- Parking Supply-and-Demand Management; and
- Shuttle Service to Stations.

Strategy Notes

Improvements for Walking, Basic Upgrading of Traffic Signals, and Intersection Improvements of a Limited Scale are recommended by the Ewing Township Congestion and Crash Study. Safety Improvements and Programs and Basic Upgrading of Traffic Signals are recommended in the Mercer Crossings Study.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates.

The I-95 at Scudder Falls Bridge Widening, Bridge Replacement, and Interchange Reconfiguration (MRP ID: 36) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), Ewing Township, Mercer County Congestion and Crash Site Analysis Program (DVRPC #08053, 2008), Mercer Crossings Transportation Study: Building a Foundation for Redevelopment (DVRPC #07039, 2008), Route 31 Study (NJDOT, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Pennington Borough	Pennington has a mix of main street and strip development patterns. It is impacted by through truck traffic on NJ 31.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Improve Circulation;
- Land Use/Transportation Policies; and
- Transportation Services for Specific Populations.

Strategy Notes

The levels of current and future congestion in this subcorridor are just over the threshold where Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	NJ 31 north of Pennington; CR 579 north of CR 546	Mostly rural and designated to stay rural in the *Connections* plan. CR 579 used for north-south travel as alternate to NJ 31.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Improve Circulation; and
- Parking Supply-and-Demand Management.

Strategy Notes

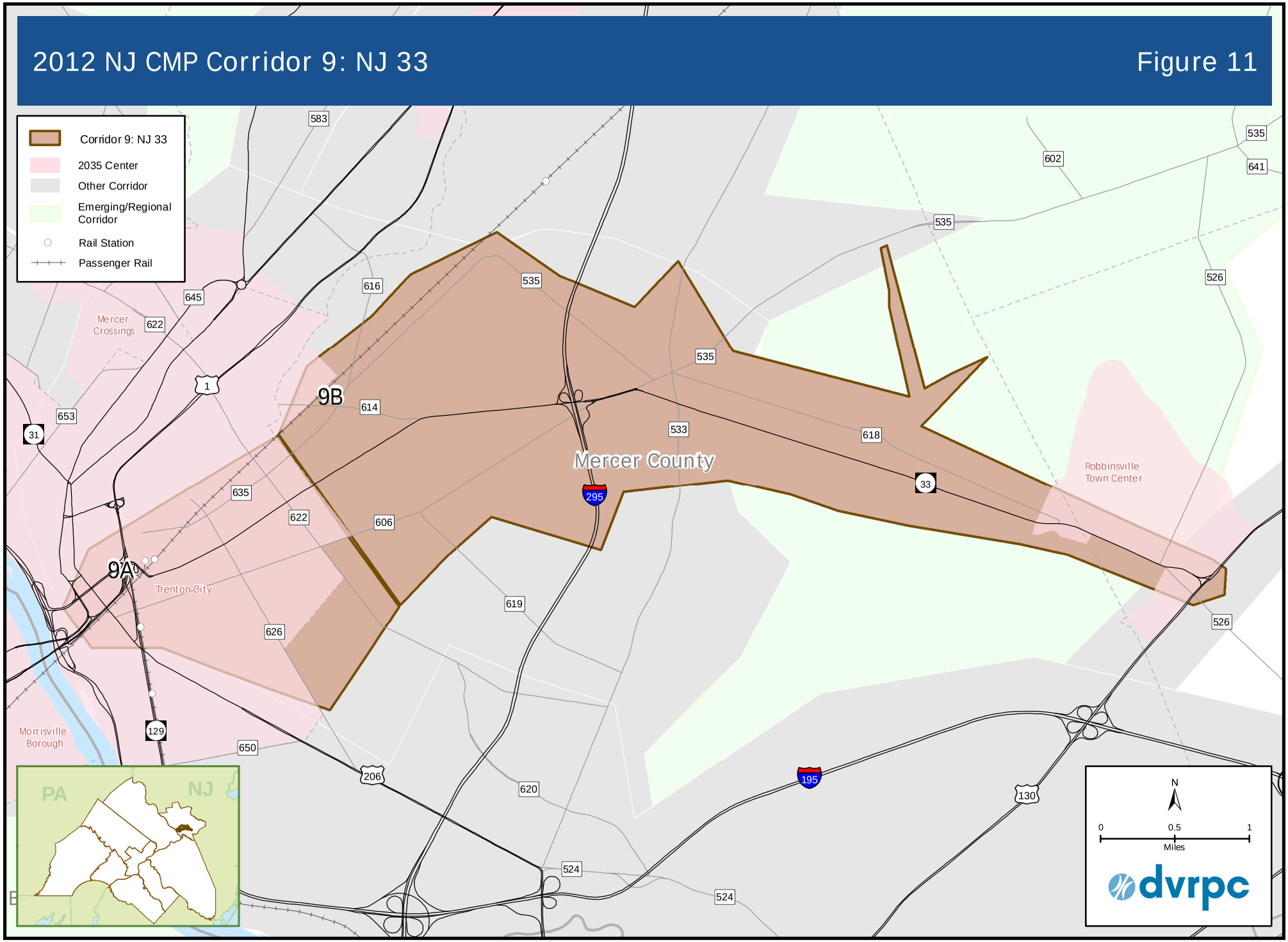
Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009).

2012 NJ CMP Corridor 9: NJ 33

Figure 11



Corridor ID	Corridor Name	Corridor Notes
9	NJ 33	General NJ 33 east-west corridor
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	NJ 33 in Trenton area	Urban area. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high transit need and high concentration of heavily used transit. Five of the seven transportation-disadvantaged populations analyzed are at two or more times the densities of the region.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	NJ 33 east of Trenton to US 130	Mostly single-family home development; Washington Township Center proposal. Two or more times the regional average of elderly people (over age 75).

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Improvements for Walking and Bicycling, Basic Upgrading of Traffic Signals, Access Management (both engineering and policy strategies), and Revisions to Existing Land Use/Transportation Regulations are recommended in the NJ 33 study.

DBNUM 99368A is a long-standing smart-growth project and is included by reference.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

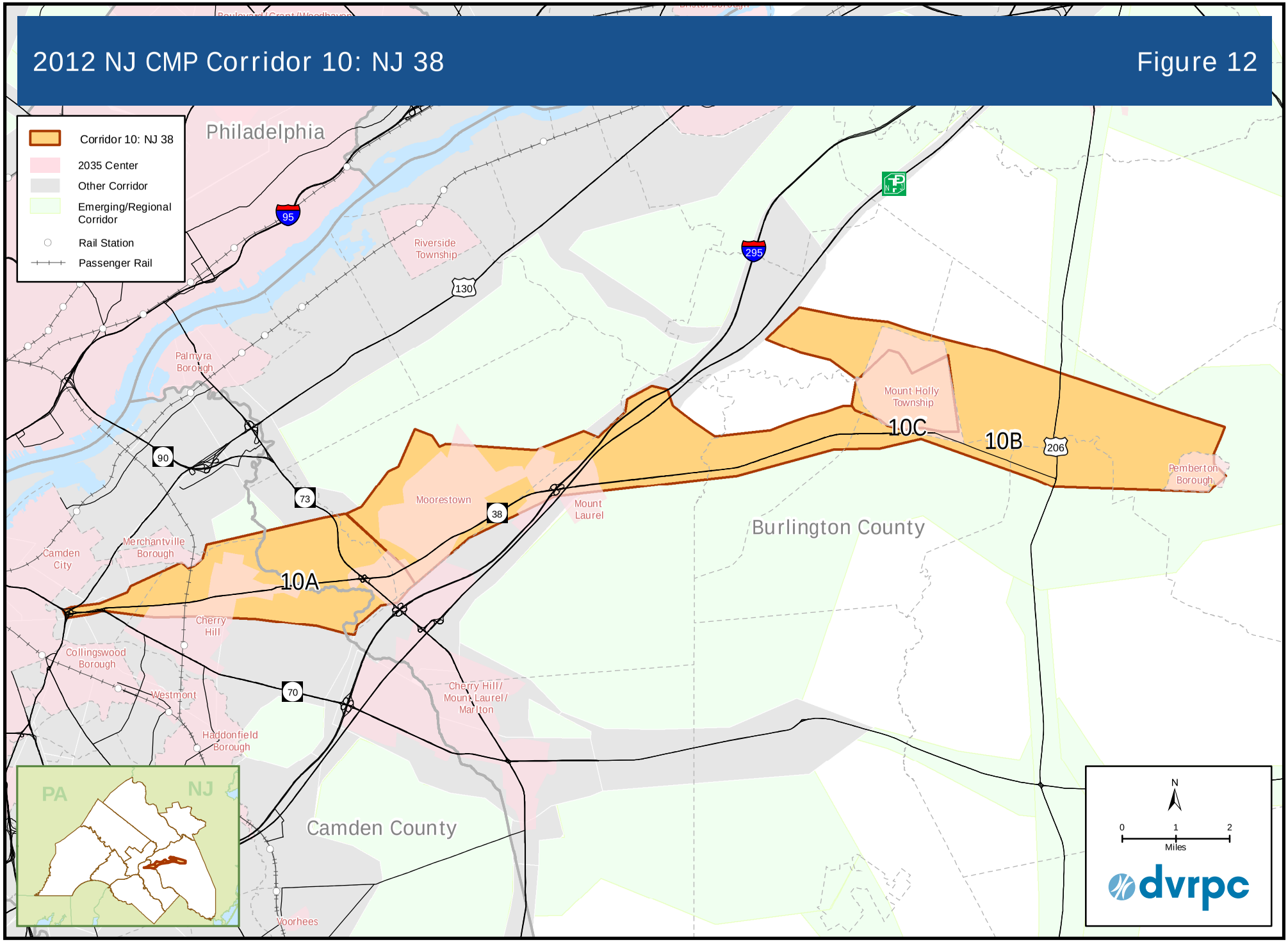
TIP DBNUM	Project Name
99368A	Route 33, Robbinsville Township Bypass

Corridor Studies Include (also see Bibliography)

Washington Township Center Plan (Washington Township), NJ 33 Corridor Study (DVRPC #06025, June 2006).

2012 NJ CMP Corridor 10: NJ 38

Figure 12



Corridor ID	Corridor Name	Corridor Notes
10	NJ 38	Developed corridor between Camden and Pemberton, including Moorestown and Mount Holly.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Camden area	Developed area. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C, segments with high crash rates, and two or more times the regional average for elderly people.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Improvements for Walking and Bicycling, Access Management (both engineering and policy strategies), Marketing/Outreach for Transit and TDM Services, and Growth Management and Smart Growth are recommended in the NJ 38 Study.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
94068	Route 73, Fox Meadow Road/Fellowship Road

Corridor Studies Include (also see Bibliography)

NJ 38 Corridor Study (DVRPC #01023, 2001).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	Maple Shade to Borough of Pemberton	Includes parts of Moorestown and Mount Laurel, and extends east to include Pemberton Borough. This subcorridor has been described as a dense suburban network, almost having an urban grid-type pattern. It includes the interchange with I-295. It does not include Mount Holly. It does include some areas with high environmental importance and areas designated as Rural in the *Connections* plan. It has two or more times the regional average of female-headed household with child.

Very Appropriate Strategies

- Signal Improvements;
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Basic Upgrading of Traffic Signals, Access Management (both engineering and policy strategies), Marketing/Outreach for Transit and TDM Services, and Growth Management and Smart Growth are recommended in the NJ 38 Study. Safety Improvements and Programs, Signage, and Basic Upgrading of Traffic Signals are recommended in the US 130/206 Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. General Purpose Lanes and Interchange with Related Road Segments were appropriate strategies in the 2006 CMP; DBNUM 191A remains consistent with the CMP for continuity.

Adding Missing Movements to the I-295 Interchange at NJ 38 (MRP ID: 72) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
191A	Route 295/38, Missing Moves, Mount Laurel

Corridor Studies Include (also see Bibliography)

Hartford Road Traffic Assessment Study (DVRPC #04013, 2004), Route 206/Farmbelt Corridor Transportation and Circulation Study (DVRPC #03021, 2003), NJ 38 Corridor Study (DVRPC #01023, 2001), Route 130/Delaware River Corridor Extension.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Mount Holly	This municipality is separated because its characteristics are different from the surrounding subcorridor. It has a more substantial central core.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Basic Upgrading of Traffic Signals and Smart Growth are recommended in the NJ 38 Study.

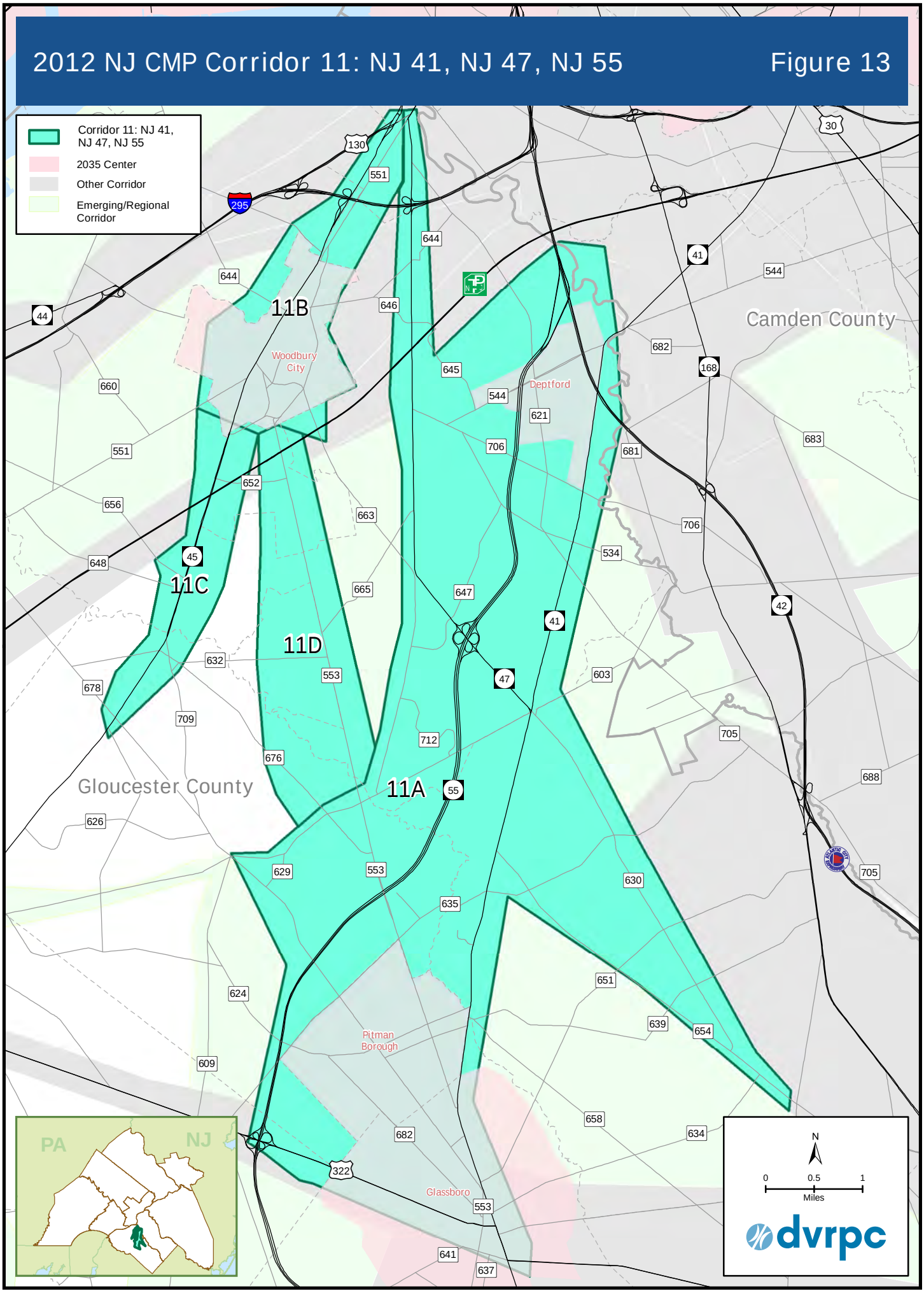
Improvements for Walking and Bicycling are especially important in high densities of residences and employment as can be found in this subcorridor.

Corridor Studies Include (also see Bibliography)

NJ 38 Corridor Study (DVRPC #01023, 2001).

2012 NJ CMP Corridor 11: NJ 41, NJ 47, NJ 55

Figure 13



Corridor ID	Corridor Name	Corridor Notes
11	NJ 41, NJ 47, and NJ 55	NJ 41, NJ 47, and NJ 55 serve basically parallel north-south movement between the NJ 42/NJ Turnpike area and US 322.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	NJ 41, NJ 47, NJ 55 between NJ 42 and US 322	This subcorridor contains north-south movement of generally parallel facilities. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for high current V/C. This subcorridor contains areas where the population of elderly people is two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with NJ SAFR Incident Management Task Force.

Revisions to Existing Land Use/Transportation Regulations, Improvements for Walking and Bicycling are recommended in the Camden County Transit Expansion Study. Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Growth Management and Smart Growth, Improvements for Walking and Bicycling, and Access Management (both engineering and policy strategies) are recommended in the NJ 47 Study.

Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity. DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) and the South Jersey Bus Rapid Transit System (MRP ID: X) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
D0503	Egg Harbor Road, Hurffville-Cross Keys Road to Hurffville-Grenloch Road, CR 630

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Gloucester County Transportation Needs Study (DVRPC #09059, 2011), NJ 47 Corridor Study (DVRPC #09024, 2010), Route 55 - Deptford Traffic Study (DVRPC #06027, 2006), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	City of Woodbury	This is the main area of congestion in this corridor.

	and Borough of Westville	Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C and segments with high crash rates. This subcorridor contains areas where the density of populations of people in poverty and female-headed household with child are two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Economic-Development-Oriented Transportation Policies;
- TOD; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, and Improvements for Walking and Bicycling, are recommended in the Camden County Transit Expansion Study. Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study. Woodbury is recommended for TOD in the Implementing TOD Study, and several sites for a potential bus terminal are considered. Signage, Improvements for Walking and Bicycling, and Revisions to Existing Land Use/Transportation Regulations, are also recommended in the Implementing TOD Study. Safety Improvements and Programs, Basic Upgrading of Traffic Signals, Intersection Improvements of a Limited Scale, and Access Management (both engineering and policy strategies) are recommended in the Route 45 Corridor Study.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Route 45 Corridor Study (DVRPC #05013, 2005), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), Implementing Transit-Oriented Development (DVRPC #04044, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Mantua-Woodbury area	The southern part is developing; the northern part is older and already developed.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in

the Gloucester County Transportation Needs Study. Safety Improvements and Programs, Basic Upgrading of Traffic Signals, Intersection Improvements of a Limited Scale, and Access Management (both engineering and policy strategies) are recommended in the Route 45 Study.

Corridor Studies Include (also see Bibliography)

Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Route 45 Corridor Study (DVRPC #05013, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Vineland Secondary Railroad and Glassboro Road	Rail line that is being studied as part of possible PATCO/NJ Transit extension and congested parallel road. This is a new subcorridor for the 2012 CMP.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Regulations, and Improvements for Walking and Bicycling, are recommended in the Camden County Transit Expansion Study. Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, and Access Management (both engineering and policy strategies) are recommended in the Gloucester County Transportation Needs Study.

DRPA and PATCO are currently planning the addition of new light rail service in this subcorridor.

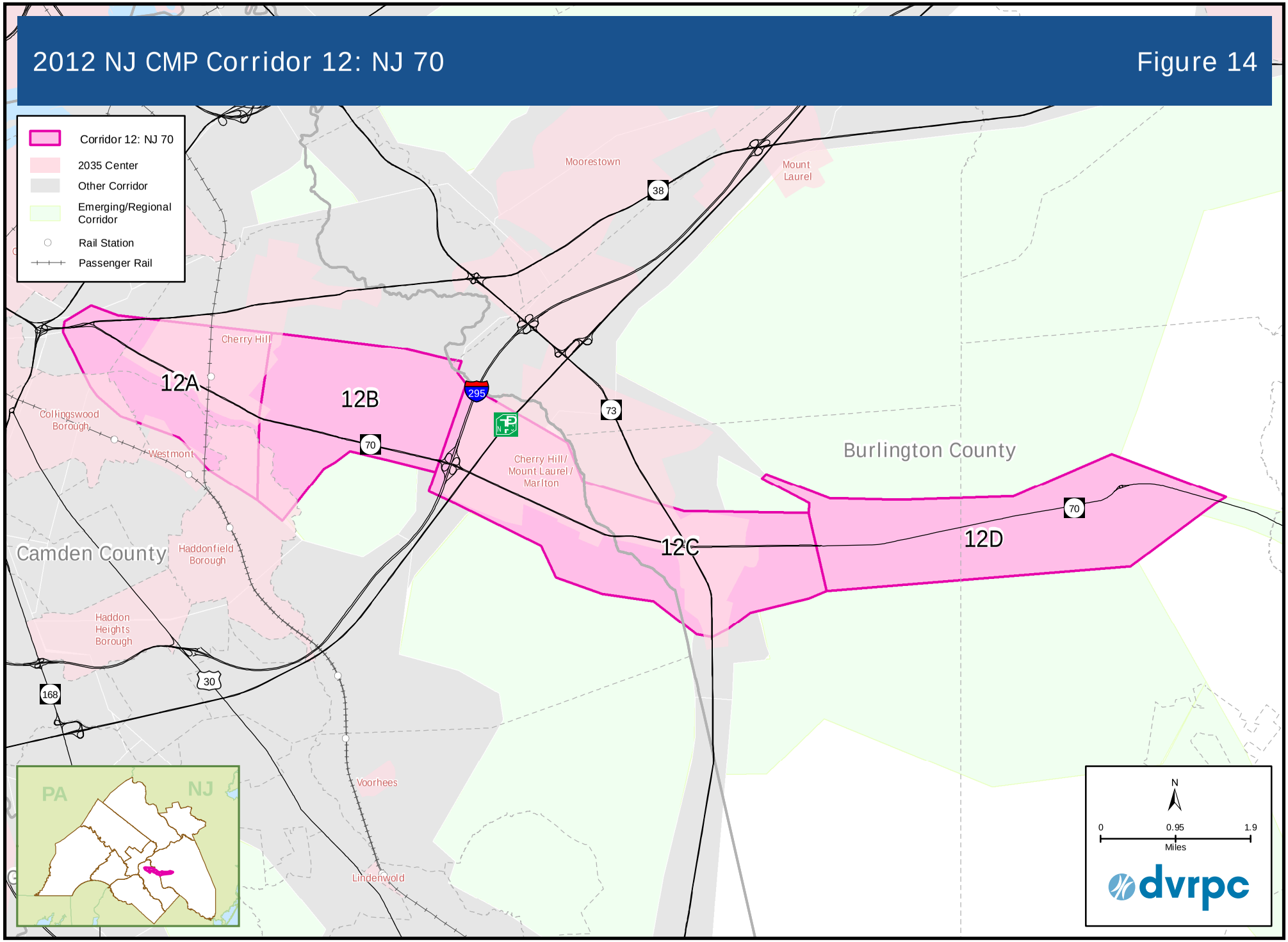
Constructing a New Transit Line from Camden to Gloucester County (MRP ID: T) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Camden County Transit Expansion Framework Study (DVRPC #12004, 2012), Gloucester County Transportation Needs Study (DVRPC #09059, 2011), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005).

2012 NJ CMP Corridor 12: NJ 70

Figure 14



Corridor ID	Corridor Name	Corridor Notes
12	NJ 70	Extended eastward to reflect traffic model major flow.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Airport Circle to Curtis Avenue/Erlton	Densely developed western part of NJ 70, starting from where it separates from US 30, US 130, and NJ 38. This subcorridor has areas where the density of elderly people is two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Corridor Studies Include (also see Bibliography)

NJ 70 Corridor Study (DVRPC #06003, 2005), Final Concept Development Report for Route 70 (Baker, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	Curtis Avenue/Erlton to I-295	Mostly a four-lane cross-section, predominantly with retail/offices along NJ 70 and neighborhoods further back. The primary need is to address mobility and safety issues, while retaining quality of life for residents, including improvements for bicyclists and pedestrians (NJ 70 Study). Parts of this subcorridor have densities of elderly people and people with physical disabilities two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Safety Improvements and Programs and Improvements for Walking and Bicycling are recommended in the NJ 70 Corridor Study.

Corridor Studies Include (also see Bibliography)

NJ 70 Corridor Study (DVRPC #06003, 2005), Final Concept Development Report for Route 70 (Baker, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	I-295 to east of Radnor Boulevard	The number of lanes in this section changes from six to eight to four from west to east. It includes intersections with I-295 and NJ 73. Land uses vary from homes to industrial uses, including a mall and big-box retail toward the eastern end. Parts of this subcorridor are in the top 20 percent of New Jersey

		subcorridors for high current V/C. There are areas where the population density of elderly people is two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Safety Improvements and Programs, Improvements for Walking and Bicycling, Access Management (both engineering and policy strategies), and Growth Management and Smart Growth are recommended in the NJ 70 Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now.

Corridor Studies Include (also see Bibliography)

NJ 70 Corridor Study (DVRPC #06003, 2005), Final Concept Development Report for Route 70 (Baker, 2004), NJ 73 Corridor Study (DVRPC #00023, 2000).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Between west of North Elmwood Road to east end of congested corridor	Two-lane cross-section; eastern Evesham Township through much of Medford Township.

Very Appropriate Strategies

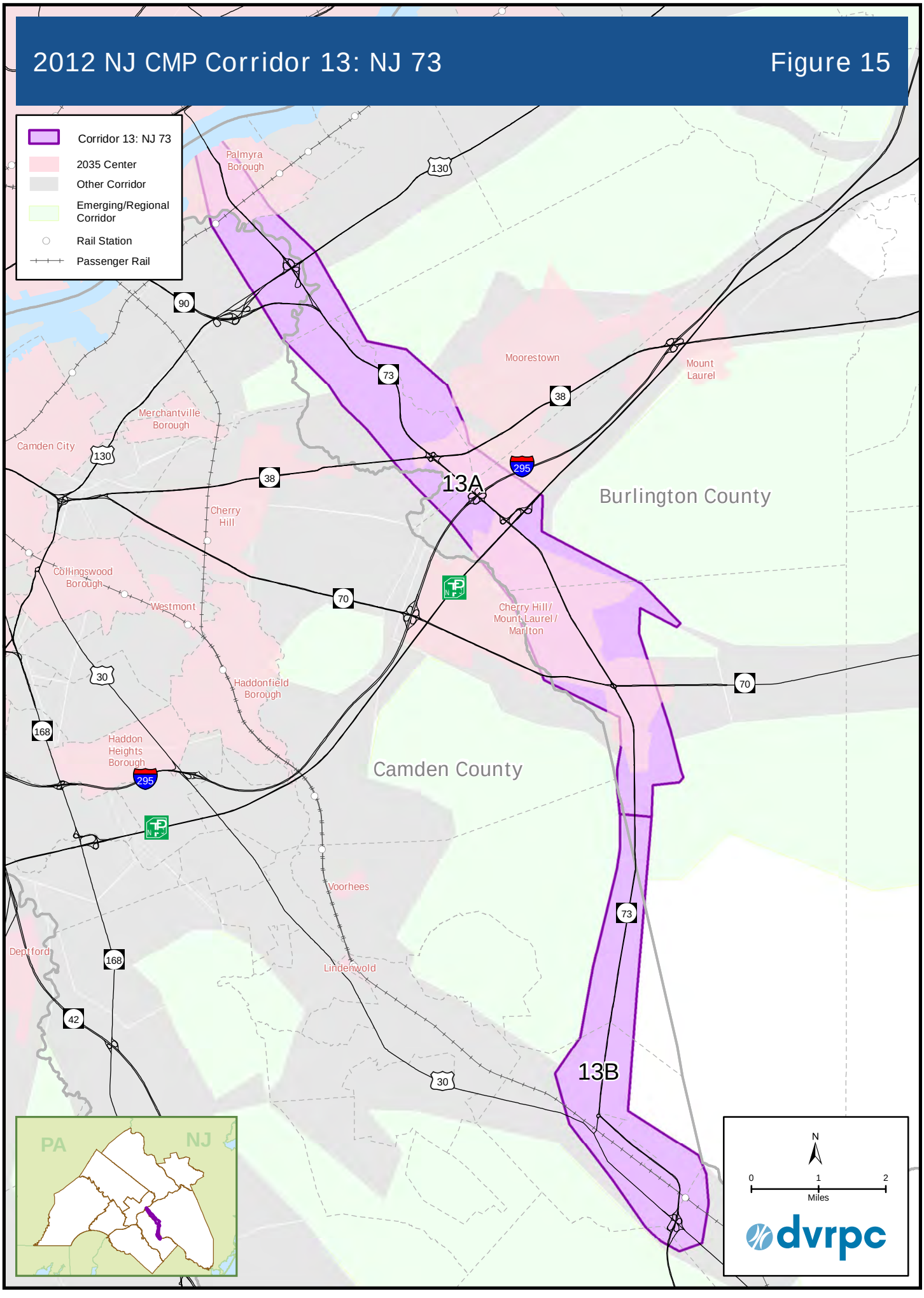
- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

2012 NJ CMP Corridor 13: NJ 73

Figure 15



Corridor ID	Corridor Name	Corridor Notes
13	NJ 73	This corridor provides north-south access in the vicinity of the Burlington/Camden County Line connecting several of the corridors that radiate out from Camden.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Tacony Palmyra Bridge-CR 544	More urban and more intersections than subcorridor 13B; intersects I-295, NJ 70, and NJ 38. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criteria: high current V/C and high anticipated growth in V/C. Between NJ 38 and NJ 70, there is high duration of congestion on NJ 73.

Very Appropriate Strategies

- Signal Improvements;
- Comprehensive Policy Approaches;
- Parking Supply-and-Demand Management; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Revisions to Existing Land Use/Transportation Policies, Improvements for Walking and Bicycling, and Access Management Policies and Projects are recommended in the NJ 73 Burlington County Study (2011). Growth Management and Smart Growth, Context-Sensitive Design, Improvements for Walking and Bicycling, and Revisions to Existing Land Use/Transportation Regulations are recommended in the NJ 73 Study (2010). Basic Upgrading of Traffic Signals, Intersection Improvements of a Limited Scale, and Marketing/Outreach for Transit and TDM Services are recommended in the NJ 73 Study (2000).

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Walking and Bicycling are appropriate everywhere and should be incorporated in this densely developed subcorridor. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The Widening and Intersection Improvements on NJ 73 in the Vicinity of Fox Meadow Road (MRP ID: 73) is listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP DBNUM	Project Name
567	Route 73/70, Marlton Circle Elimination
94068	Route 73, Fox Meadow Road/Fellowship Road

Corridor Studies Include (also see Bibliography)

NJ 73 Corridor Study Burlington County (DVRPC #10004, 2011), NJ 73 Corridor Study (DVRPC #09070, 2010), NJ 73 Corridor Study (DVRPC #00023, 2000).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	South of CR 544 to US 30	Less developed than Subcorridor 13A, includes Atco Station. This subcorridor contains land that should remain rural per the *Connections* plan.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Parking Supply-and-Demand Management; and
- Shuttle Service to Stations.

Strategy Notes

Growth Management and Smart Growth, Context-Sensitive Design, Improvements for Walking and Bicycling, and Revisions to Existing Land Use/Transportation Regulations are recommended in the NJ 73 Study (2010). The Atco Station is recommended for TOD in the NJ 73 Study (2010). Improvements for Walking and Bicycling and Signage are recommended in the Central Camden Trails Master Plan. Growth Management and Smart Growth, Basic Upgrading of Traffic Signals, Intersection Improvements of a Limited Scale, and Marketing/Outreach for Transit and TDM Services are recommended in the NJ 73 Study (2000).

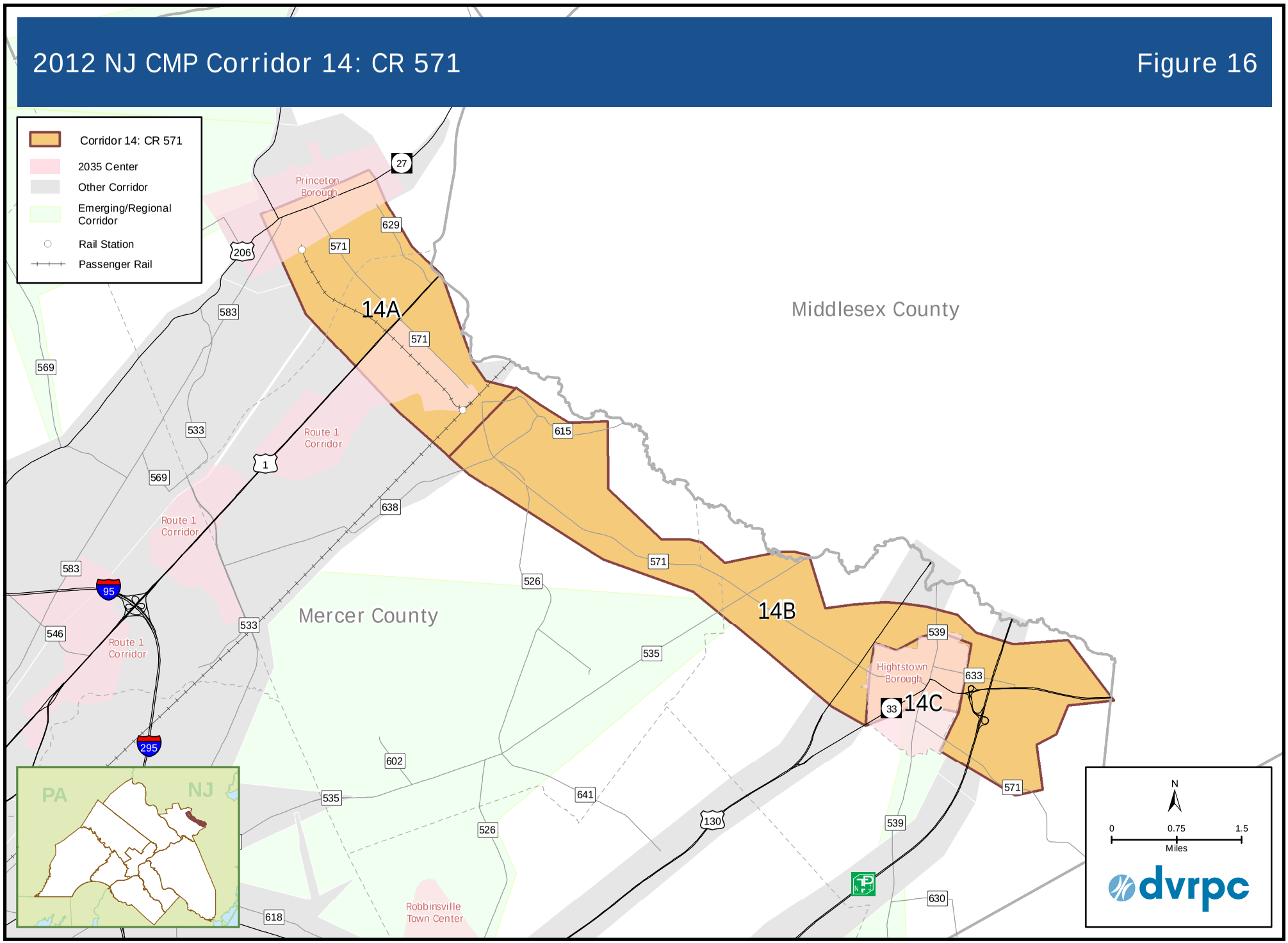
Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

NJ 73 Corridor Study (DVRPC #09070, 2010), The Central Camden County Bicycling and Multiuse Trails Master Plan (DVRPC #08073, 2009), NJ 73 Corridor Study (DVRPC #00023, 2000).

2012 NJ CMP Corridor 14: CR 571

Figure 16



Corridor ID	Corridor Name	Corridor Notes
14	CR 571	Princeton-Hightstown area, to US 130 and NJ Turnpike.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Princeton area of CR 571 and part of West Windsor	Includes Princeton Borough and the Princeton Junction Rail Station on the NEC. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for high current V/C. Some parts of this subcorridor include areas with densities of population that have limited English proficiency at two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Expanded Parking/Improved Access to Stations (all modes); and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Also see Subcorridors 4C and 4E of the US 1 and US 206 Corridor.

Improvements for Walking and Bicycling, Signage, and Access Management (both engineering and policy strategies) are recommended by the CR 571 Corridor Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now.

The US 1-Penns Neck Area New Connector Road, Interchanges, and Widening in the Vicinity of Penns Neck (MRP ID: 84) and the US 1 BRT (MRP ID: S) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

CR 571 Corridor Study (DVRPC #07037, 2007), Route 1 BRT Study (NJ Transit, 2006), West Windsor Princeton Junction Redevelopment Study and CR 571 project (West Windsor Township, 2005), Penns Neck Area FEIS (NJDOT, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	CR 571 mid-section between Princeton and Hightstown	CR 571 varies considerably in character in this section. Parts of this subcorridor are in the top 20 percent of New Jersey subcorridors for the following criterion: segments with high crash rates. There are parts of this subcorridor with densities of Hispanic populations two or more times the regional average.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Expanded Parking/Improved Access to Stations (all modes);
- Parking Supply-and-Demand Management; and
- Shuttle Service to Stations.

Strategy Notes

West Windsor CR 571 project and Princeton Junction Redevelopment Study, CR 571 Work Group (Central Jersey Transportation Forum).

Improvements for Walking and Bicycling, Signage, and Access Management (both engineering and policy strategies) are recommended by the CR 571 Corridor Study.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

CR 571 Corridor Study (DVRPC #07037, 2007), West Windsor Princeton Junction Redevelopment Study (West Windsor Township, 2005/7), Penns Neck Area FEIS (NJDOT, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Hightstown Borough	Densely developed area. This subcorridor is adjacent to NJ Turnpike Exit 8; traffic to and from there is an issue. This subcorridor has sections where the density of people who identify themselves as Hispanic or as having limited English proficiency or are elderly is two or more times the regional average.

Very Appropriate Strategies

- ➔ Signal Improvements;
- ➔ Parking Operations;
- ➔ Improve Circulation; and
- ➔ Modifications to Existing Transit Routes or Services.

Strategy Notes

Improvements for Walking and Bicycling, Signage, and Access Management (both engineering and policy strategies) are recommended by the CR 571 Corridor Study.

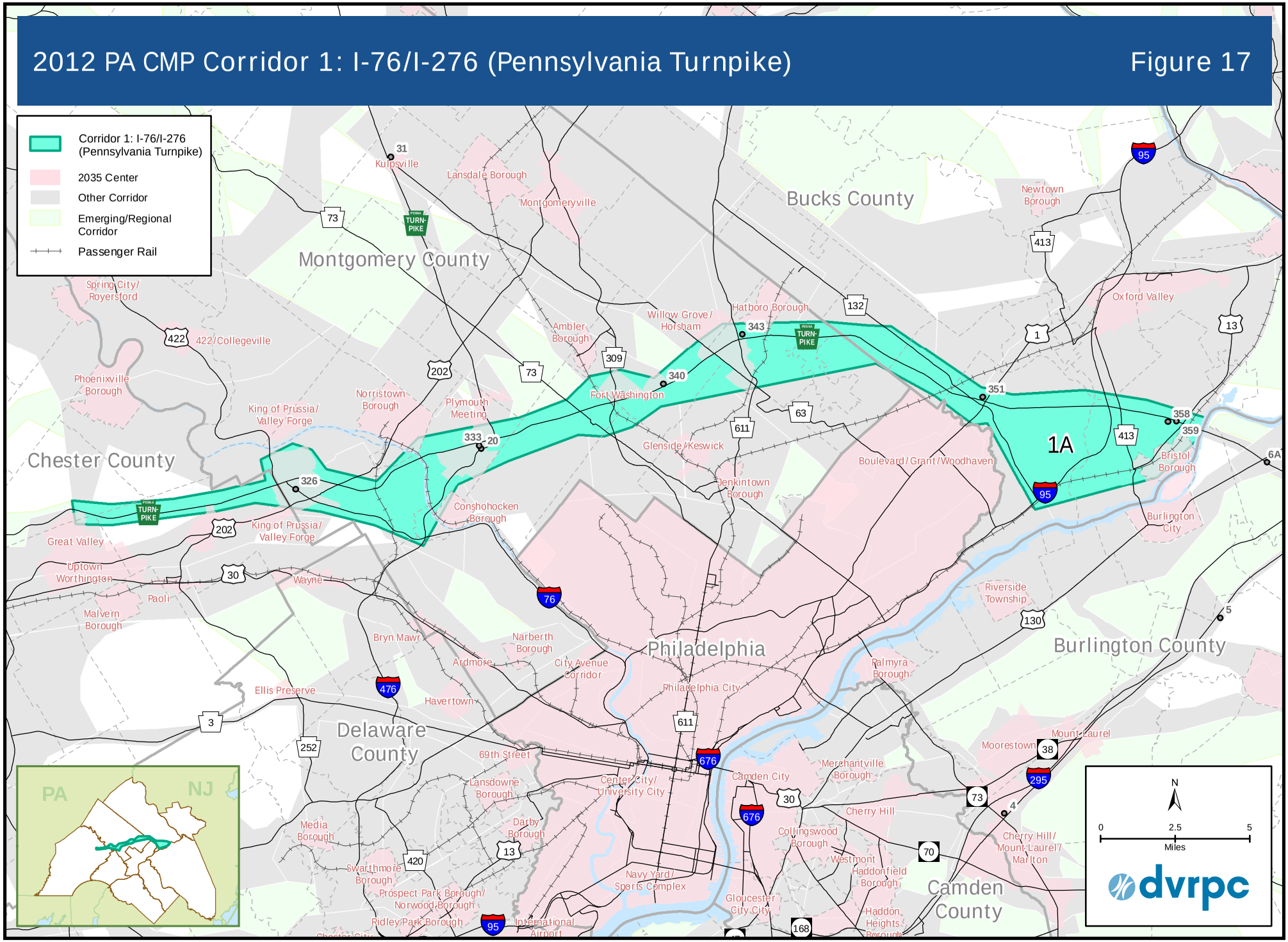
A variety of strategies should be used in order to meet the needs of the people in the high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

CR 571 Corridor Study (DVRPC #07037, 2007).

2012 PA CMP Corridor 1: I-76/I-276 (Pennsylvania Turnpike)

Figure 17



Corridor ID	Corridor Name	Corridor Notes
1	I-76/I-276(Pennsylvania Turnpike)	Narrowly drawn with bump-out areas of influence around interchanges.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	I-76/I-276 corridor from PA 29 to NJ border	This corridor was left as one subcorridor because generally the same strategies are appropriate for its whole length. This subcorridor is in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, contains segments with high crash rates, and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- ITS;
- Incident Management;
- Freight Operations Improvements;
- Park-and-Ride Lots; and
- Freight Capacity Investments.

Strategy Notes

Coordinate with I-76/I-476 Crossroads Incident Management Task Force.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Future consideration of adding road capacity should be carefully examined as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The Norristown High Speed Line extension from Hughes Park to the King of Prussia Mall (MRP ID:Q), US 422 Bridge and PA 23 Interchange (River Crossing) Bridge Replacement/Widening and Intersection/Interchange Improvements (MRP ID: 96), I-76 (PA Turnpike) Widening from Downingtown to Valley Forge (MRP ID: 40), I-76 (PA Turnpike) Electronic Interchange at PA 29 (MRP ID: 47), and Widening and Reconstructing Henderson Road/South Gulph Road from Monroe Boulevard to the I-76 Gulph Mills Interchange; Constructing New Ramps to I-76 (MRP ID: 54) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
13347	I-95/PA Turnpike Interchange—Stage 1
57858	Lafayette St. Extension (MG1)
64796	US 422/PA 363 Interchange Reconstruction—Part 2 of River Crossing Complex
70197	US 422 (New) Expressway Bridge Over Schuylkill River—Part 3 of River Crossing Complex
79863	Lafayette Street, Ford Street to Conshohocken Road Extension (MGP)

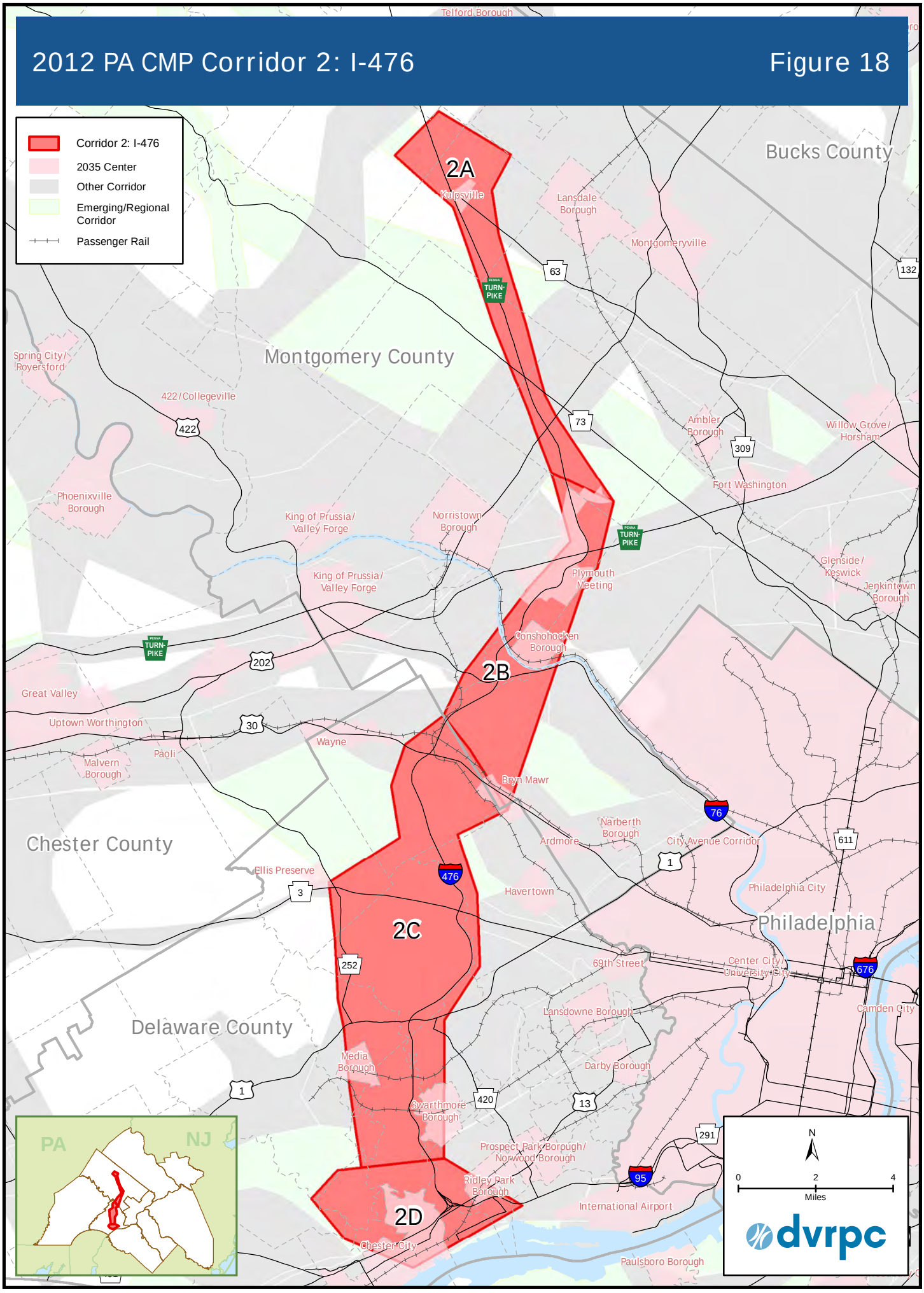
79864	Lafayette Street, Barbados Street to Ford Street Widening (MGN)
80021	US 202, Markley Street Improvements (Section 510)
80022	US 202, Markley Street Improvements (Section 520)
87392	Lafayette Street Extension (MGL)

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Schuylkill Crossings Traffic Study (DVRPC #07040, 2008), Area Revitalization, Mobility, and Industrial Corridor Reuse Study: Norristown, Plymouth and Conshohocken (DVRPC #05006, 2005).

2012 PA CMP Corridor 2: I-476

Figure 18



Corridor ID	Corridor Name	Corridor Notes
2	I-476	This corridor contains I-476 and the highway-related area around it. It consists of the Blue Route or Mid-County Expressway between the City of Chester and the PA Turnpike, as well as the Northeast Extension going north from the Turnpike.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	I-476 North of Plymouth Meeting	The northern end of this congested subcorridor is the intersection area with Sumneytown Pike (PA 63) and the growing center of Kulpsville.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Park-and-Ride Lots; and
- Minor Road Expansions.

Strategy Notes

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

The I-476 (PA Turnpike Northeast Extension) Widening from Lansdale to Quakertown (MRP ID:32), and the I-476 (PA Turnpike Northeast Extension) Widening from Mid-County to Lansdale Interchanges (MRP ID: 52) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
63490	US 202, Township Line Road to Morris Road (Section 61N)

Corridor Studies Include (also see Bibliography)

Schuylkill Crossings Traffic Study (DVRPC #07040, 2008), I-476 Express Bus Feasibility Study (DVRPC #03008, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	I-476 from I-76 to I-276	Includes Conshohocken; complex weaves. This subcorridor includes the I-476 Mid-County Expressway Bridge, one of the eight in the region that carry over 100,000 vehicles per day. This subcorridor is in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C and road system bridge security.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Express Transit Routes; and
- Minor Road Expansions.

Strategy Notes

Coordinate with I-76/I-476 Crossroads Incident Management Task Force.

Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The I-476 (PA Turnpike Northeast Extension) Widening from Mid-County to Landsdale Interchanges (MRP ID: 52) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

I-76/I-476 Interchange Area Traffic and Conceptual Engineering Study (DVRPC #08074, 2009), Schuylkill Crossings Traffic Study (DVRPC #07040, 2008), Area Revitalization, Mobility, and Industrial Corridor Reuse Study: Norristown, Plymouth and Conshohocken (DVRPC #05006, 2005), I-476 Express Bus Feasibility Study (DVRPC #03008, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	I-476 north of vicinity of PA 320 intersection	North to Delaware/Montgomery County Line. This subcorridor extends out to include areas of related land uses. This subcorridor is in the top 20 percent of Pennsylvania subcorridors for the following criteria: contains segments with transit need, high crash rates, and high concentrations of elderly populations.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Park-and-Ride Lots; and
- Minor Road Expansions.

Strategy Notes

Coordinate with Delaware County Incident Management Task Force.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates.

Corridor Studies Include (also see Bibliography)

Delaware County Highway-Railroad Grade Crossing Study (DVRPC #06007, 2006), I-476 Express Bus Feasibility Study (DVRPC #03008, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Chester and I-95 area	This subcorridor focuses on the freeway interactions. See Subcorridor 6A for more about Chester. This subcorridor contains the Chester Bulk Terminal freight facility. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: contains segments with high crash rates and high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- ITS Improvements for Transit;
- Express Transit Routes; and
- Minor Road Expansions.

Strategy Notes

Coordinate with Delaware County Incident Management Task Force.

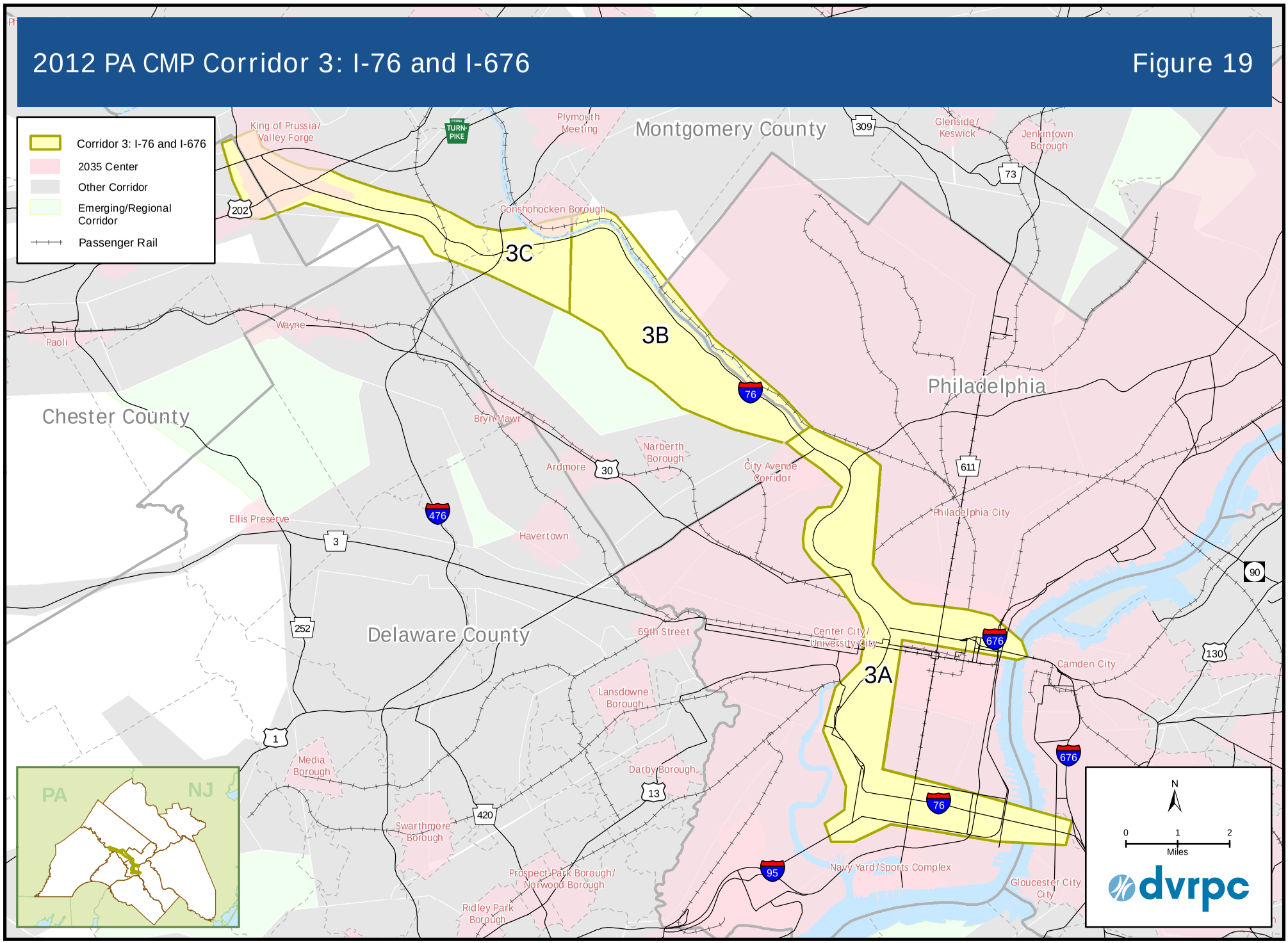
Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

Revitalization Plan Area 2 (Delaware County Planning Department, Update Underway), Revitalization Plan New Area Corridors (Delaware County Planning Department, Currently Underway), Highland Avenue TOD or Relocation (DVRPC/CH Planning, Currently Underway), I-95/I-476 Interchange Feasibility Study (DVRPC #11026, 2012), Chester City Amtrak Service (DVRPC, 2008), Delaware County Highway-Railroad Grade Crossing Study (DVRPC #06007, 2006), I-476 Express Bus Feasibility Study (DVRPC #03008, 2003), Conceptual Access Plan for the City of Chester (DVRPC #01025, 2001), Brookhaven, Parkside, and Upland Borough Multimunicipal Comprehensive Plan.

2012 PA CMP Corridor 3: I-76 and I-676

Figure 19



Corridor ID	Corridor Name	Corridor Notes
3	I-76 and I-676	I-76 from the Walt Whitman Bridge and I-676 from the Ben Franklin Bridge to just past their juncture with the PA Turnpike.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	I-676/76 to City Avenue	Walt Whitman and Ben Franklin bridges through the I-676/76 merge to the vicinity of US 1 interchanges. This subcorridor includes the I-676 Vine Street Expressway Bridge and part of the Philadelphia Sports Complex. It also contains the East Side Rail Yard, Packer Avenue Marine Terminal, and West Falls Rail Yard freight facilities. This subcorridor also includes the following rail bridges: City Avenue/Control Point River, Girard Avenue/Northeast Corridor, Highline-30th Street Across Market, and 25th Street Viaduct, all of which serve important passenger and freight rail traffic in the region. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, transit need, high concentration of heavily used transit, contains segments with high crash rates, high value for evacuation planning, road system bridge security, and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations. It is one of only two Pennsylvania subcorridors with high current V/C and high future growth in V/C, high duration of congestion, and high existing transit use.

Very Appropriate Strategies

- Signal Improvements;
- ITS;
- ICM;
- Incident Management;
- Expanded Parking/Improved Access to Stations (all modes); and
- Minor Road Expansions.

Strategy Notes

Coordinate with Philadelphia Incident Management Task Force.

Many parallel local streets do not have electronic controllers with fiber optic interconnect and are not compatible to ITS (Denny, 10/17/08). Coordinate with broader scale incident management/ITS program.

Traffic signal improvements are cited in the CAMP study of 34th and Grays Ferry Road area. Improvements for Walking and Bicycling and Signage are recommended in the Martin Luther King Drive Study (for MLK Drive). Improvements for Walking and Bicycling are recommended in the Benjamin Franklin Parkway Study (for the Parkway). Signage and Marketing/Outreach for Transit and TDM Services are recommended in the Stadium Area Study (for the stadium area).

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel

model. Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The I-95 Philadelphia (North) Reconstruction from I-676 to Cottman Avenue and Interchange Improvements at I-676, Girard Avenue, Allegheny Avenue, Betsy Ross Bridge, Bridge Street, and Cottman Avenue Interchanges (MRP ID: 65) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Improving Safety for All Users on Martin Luther King Drive (DVRPC #11021, 2012), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Benjamin Franklin Parkway Circulation, Parking and Transit Study (Nelson/Nygaard Consulting Associates, 2007), Congestion and Accident Mitigation (CAMP) Program Report (DVRPC, 2005), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), Stadium Area Transit Study (Kise Straw & Kolodner, 2004).
Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	US 1 to Conshohocken Curve/PA 23	West of Lincoln Drive intersection of US 1 (City Avenue) and east of PA 23 intersection. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: contains segments with high crash rates and areas of high environmental importance.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Expanded Parking/Improved Access to Stations (all modes); and
- Park-and-Ride Lots.

Strategy Notes

Coordinate with I-76/I-476 Crossroads Incident Management Task Force.

Many parallel local streets do not have electronic controllers with fiber optic interconnect and are not compatible to ITS (Denny, 10/17/08). Coordinate with broader-scale incident management/ITS program.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Schuylkill Crossings Traffic Study (DVRPC #07040, 2008).
Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	I-76 from I-476 to Turnpike	Vicinity of PA 23 interchange (Conshohocken area) through the interchange area of the PA Turnpike, US 202, and I-476 (Valley Forge area). Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C and contains segments with high crash rates.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- Modifications to Existing Transit Routes or Services; and
- Minor Road Expansions.

Strategy Notes

Coordinate with I-76/I-476 Crossroads Incident Management Task Force. Coordinate with broader scale ITS and ICM programs.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates.

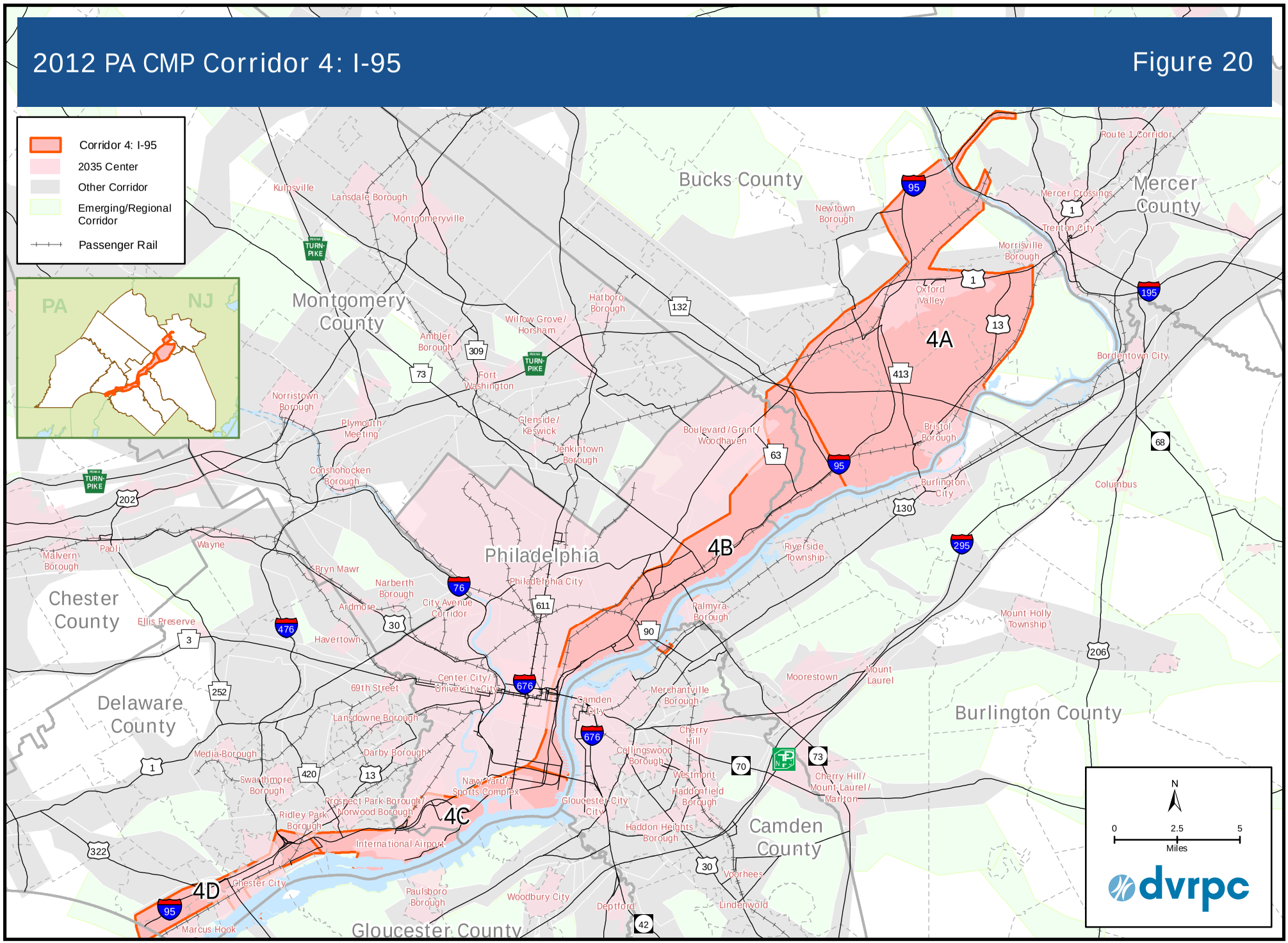
The Norristown High Speed Line extension from Hughes Park to the King of Prussia Mall (MRP ID:Q), Widening and Reconstructing Henderson Road/South Gulph Road from Monroe Boulevard to the I-76 Gulph Mills Interchange; Constructing New Ramps to I-76 (MRP ID: 54), and I-76 Widening from Downingtown to Valley Forge (MRP ID: 40) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), I-76/I-476 Interchange Area Traffic and Conceptual Engineering Study (DVRPC #08074, 2009), Schuylkill Crossings Traffic Study (DVRPC #07040, 2008), Henderson Road/I-76 Westbound Ramps Traffic Study (DVRPC #03006, 2003).

2012 PA CMP Corridor 4: I-95

Figure 20



Corridor ID	Corridor Name	Corridor Notes
4	I-95	Pennsylvania portion of I-95 and related development areas
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	I-95 corridor north of Street Road	Less developed than further south; extended for I-276/US 13 movement; includes PA 413, US 13, Burlington-Bristol Bridge approaches. This subcorridor includes the West Trenton/Trenton SEPTA rail bridge, which serves important passenger and freight rail traffic in the region. It also includes the Morrisville Intermodal freight rail facility. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high value for evacuation planning and areas of high environmental importance. It has high concentrations of limited English proficiency populations.

Very Appropriate Strategies

- ITS;
- ICM;
- Incident Management;
- ITS Improvements for Transit; and
- Park-and-Ride Lots.

Strategy Notes

Coordinate with I-95 Corridor Coalition and I-95/US 1 Bucks County Incident Management Task Force.

The Seamless Regional Transit Access study recommends establishing shuttle service between Bristol and Burlington, New Jersey.

Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The I-95 at Scudder Falls Bridge Widening, Bridge Replacement, and Interchange Reconfiguration (MRP ID: 36), I-95 New Interchange at I-276 (PA Turnpike), and Widening PA Turnpike from US 1 to New Jersey (MRP ID: 35) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
13347	I-95/PA Turnpike Interchange

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), US 1 Widening and Reconstruction Traffic Study (DVRPC #08089, 2008), Seamless Regional

Transit Access (DVRPC #08069, 2008), Bucks County Regional Traffic Study (DVRPC #07026, 2007), PA CMS PA 413 Corridor - Top 10 Worst Performing Arterial Sections #4 (DVRPC, 2003).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	I-95 corridor-Philadelphia	Includes urban areas relating to I-95. This section of I-95 is anticipated to have significant construction projects for as much as the next 10 years. This subcorridor includes the Benjamin Franklin Bridge as well as the Delair rail bridge, which serve important passenger and freight rail in the region. It contains the Tioga Marine Terminal freight facility. It also includes the Cornwells Heights Train Station, the most used in Bucks County, which is also a major park-and-ride lot of close to 2,000 parking spaces. It also includes Penns Landing, an area of special evacuation concern. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high anticipated growth in V/C, transit need, high concentration of heavily used transit, contains segments with high crash rates, high value for evacuation planning, road system bridge security, and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- ITS;
- Incident Management;
- ITS Improvements for Transit;
- Expanded Parking/Improved Access to Stations (all modes);
- Modifications to Existing Transit Routes or Services; and
- Minor Road Expansions.

Strategy Notes

Coordinate with I-95 Corridor Coalition and Philadelphia Incident Management Task Force.

Many parallel local streets do not have electronic controllers with fiber optic interconnect and are not compatible to ITS (Denny, 10/17/08).

DRPA and PATCO are evaluating alternatives to expand transit services along Philadelphia's waterfront. Improvements for Walking and Bicycling are recommended in the North Delaware Riverfront Rail Stations Study. The Seamless Regional Transit Access study recommends connecting the Frankford Transportation Center with Palmyra Station (NJ) via extensions of existing bus routes.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to

Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The North Delaware Avenue Arterial Roadway Extension from Lewis Street to Bridge Street (MRPID: 66), Adams Avenue Connector Roadway Extension to the New Ramps at I-95 and Aramingo Avenue (MRP ID: 68), I-95 Philadelphia (North) Reconstruction from I-676 to Cottman Avenue and Interchange Improvements at I-676, Girard Avenue, Allegheny Avenue, Betsy Ross Bridge, Bridge Street, and Cottman Avenue Interchanges (MRP ID: 65), I-95 Philadelphia (South) Reconstruction of Viaducts from Queen Street to Washington Avenue (MRP ID: 100), and the Delaware River Tram (MRP ID: M) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
17782	I-95 and Aramingo Avenue, Adams Avenue Connector
17821	I-95 Shackamaxon Street to Ann Street (GIR) – Design
46956	North Delaware Avenue Extension

Corridor Studies Include (also see Bibliography)

I-95 Interchange Enhancement and Reconstruction: I-95 Expressway Interchanges, Sections GIR/VINE and AFC Traffic Study - Supplement Number 3 (DVRPC #10066, 2011), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), US 1 Widening and Reconstruction Traffic Study (DVRPC #08089, 2008), Seamless Regional Transit Access (DVRPC #08069, 2008), North Delaware Riverfront Rail Stations Urban Design Study (Philadelphia City Planning Commission, 2008), I-95 Interchange Enhancement and Reconstruction Section AFC Interchange Traffic Study (DVRPC #06010, 2005), I-95 Interchange Enhancement and Reconstruction Section GIR Traffic Study (DVRPC #05003, 2005), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), I-95 Interchange Enhancement and Reconstruction Cottman/Princeton Interchange Traffic Study (DVRPC #02025, 2002). Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	I-95 corridor by airport	Includes Philadelphia Airport, Philadelphia Sports Complex, Boeing in Delaware County and intersection with PA 420. This subcorridor includes the I-95 Girard Point Bridge and the following freight rail facilities: Airport Facility (North), NS Mustin Field Rail Yard, Packer Avenue Marine Terminal, and Greenwich Rail Yard. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high anticipated growth in V/C, high value for evacuation planning, road system bridge security, and areas of high environmental importance. At the northeastern end of the subcorridor, there are Limited English Proficiency populations at two or more times the regional average density.

Very Appropriate Strategies

- CVO;
- Incident Management;
- Making Intermodal Transfers Easier for Freight;
- ITS Improvements for Transit; and

➔ Expanded Parking/Improved Access to Stations (all modes).

Strategy Notes

Coordinate with I-95 Corridor Coalition, Philadelphia and Delaware County Incident Management Task Forces.

Many parallel local streets do not have electronic controllers with fiber optic interconnect and are not compatible to ITS (Denny, 10/17/08).

Basic Upgrading of Traffic Signals, Signage, and Improvements for Walking are recommended in the Tinicum CCSAP Study. The Seamless Regional Transit Access Study recommends a JARC Shuttle between Philadelphia and the Pureland Industrial Center (NJ) via Chester City.

Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The Penrose Avenue/26th Street New Access Road to the Navy Yard Business Center (MRP ID:67) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Revitalization Plan Areas 3 and 4 (Delaware County Planning Department, Update Underway), Philadelphia International Airport Transit Access Analysis (DVRPC #08079, 2011), Congestion and Crash Site Analysis Program - Tinicum Township, Delaware County (DVRPC #09017, 2010), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Transportation Systems Management and Operations for Select Corridors (DVRPC #08085, 2009), Seamless Regional Transit Access (DVRPC #08069, 2008), Stadium Area Transit Study (Kise Straw & Kolodner, 2004).
Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	I-95 corridor to Delaware State Line	Includes I-476 interchange and Commodore Barry Bridge area. Contains Twin Oaks Auto Terminal and Chester Bulk Terminal freight facilities. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high anticipated growth in V/C and contains segments with high crash rates. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

➔ ITS;
➔ ICM;
➔ Incident Management;
➔ ITS Improvements for Transit;
➔ Park-and-Ride Lots; and
➔ Minor Road Expansions.

Strategy Notes

Coordinate with I-95 Corridor Coalition and Delaware County Incident Management Task Force.

The Seamless Regional Transit Access study recommends a JARC Shuttle between Philadelphia and the Pureland Industrial Center (NJ) via Chester City.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

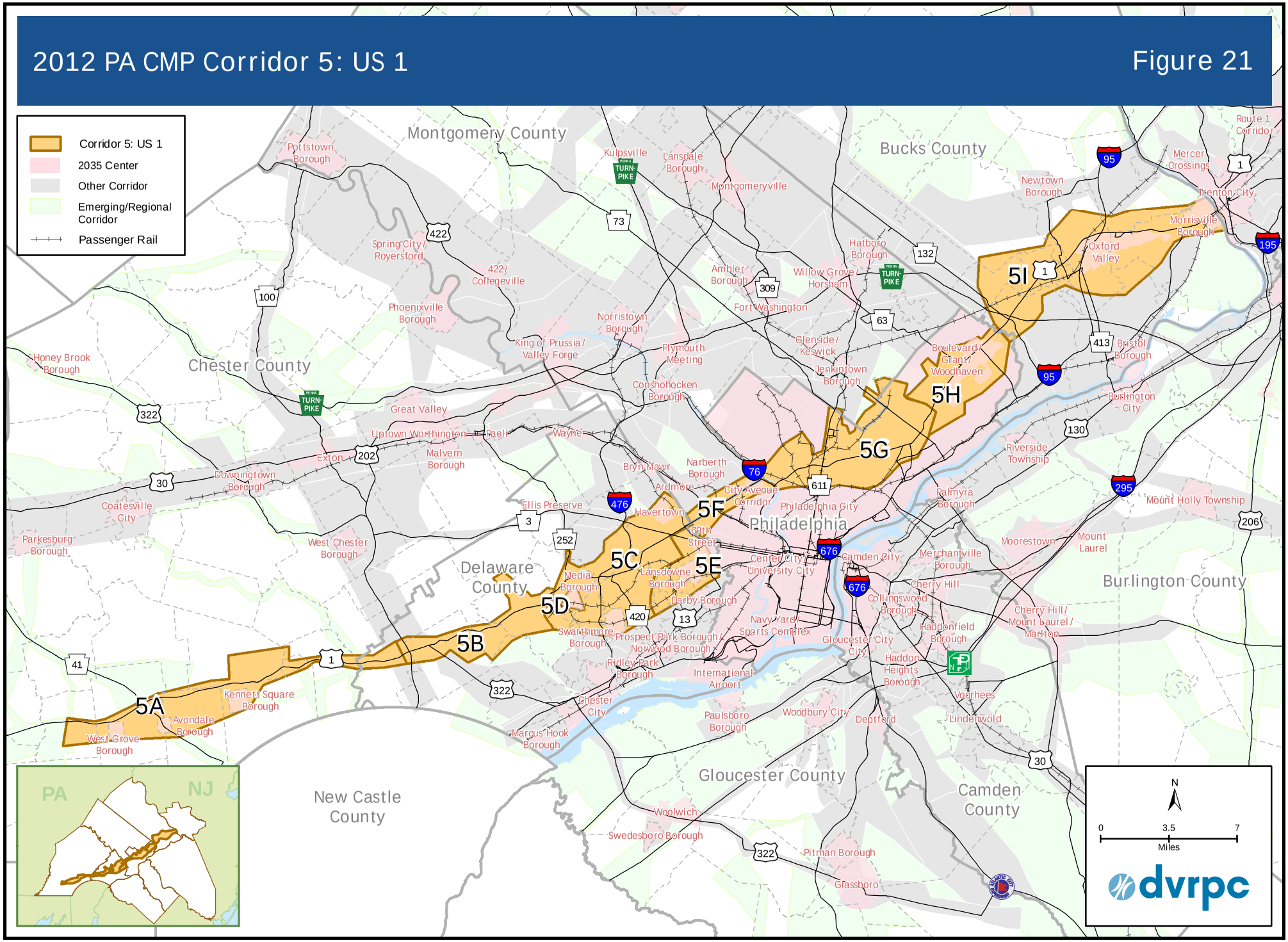
TIP MPMS	Project Name
57780	US 322/Commodore Barry Bridge/I-95 2nd Street Interchange

Corridor Studies Include (also see Bibliography)

Revitalization Plan Areas I, 2, 3, and 4; New Area Corridors (Delaware County Planning Department, Update Underway), Highland Avenue TOD or Relocation (DVRPC/CH Planning, Currently Underway), I-95/I-476 Interchange Feasibility Study (DVRPC #11026, 2012), DVRPC Long-Range Vision for Freight (DVRPC #09058, 2010), Transportation Systems Management and Operations for Select Corridors (DVRPC #08085, 2009), I-95/US 322 Interchange Traffic Study (DVRPC #08024, 2008), Seamless Regional Transit Access (DVRPC #08069, 2008), Chester City Amtrak Service (DVRPC, 2008), Marcus Hook TOD Master Plan (KSK, 2003), Conceptual Access Plan for the City of Chester (DVRPC #01025, 2001), Brookhaven, Parkside, and Upland Borough Multimunicipal Comprehensive Plan.

2012 PA CMP Corridor 5: US 1

Figure 21



Corridor ID	Corridor Name	Corridor Notes
5	US 1	Broadly defined corridor with surrounding development.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	US 1 West of US 202	Less developed than further east on US 1. Chester County Planning Commission staff says that the area has become suburban development, with movement primarily south to jobs in New Castle County. A community college and other major land developments have also occurred there. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: areas of high environmental importance. It has high concentrations of limited English proficiency and Hispanic populations.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Park-and-Ride Lots; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Based on discussion with Chester County Planning Commission and follow-up reviews, Arterial or Collector Road was added to the Secondary Strategies for this subcorridor, though this strategy should remain a last resort and be carefully paired with supplemental strategies to not encourage further sprawl, such as Revisions to Existing Land Use/Transportation Regulations. CCPC feels the Arterial or Collector Road strategy is an appropriate way to address the relatively sparse road network density/connectivity to help keep local traffic on the local road network and permit the US 1 Expressway to serve a more regional function.

Future consideration of adding road capacity should be carefully examined as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

MPMS 14541: US 1, Baltimore Pike was previously included and remains consistent.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
14484	PA 41 Study
14541	US 1, Baltimore Pike Widening

Corridor Studies Include (also see Bibliography)

Summary from CMP meeting at Chester County of 10/21/08 available upon request.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	US 1 West of PA 252	Media Bypass area and west, not Media. Subcorridor characteristics include: parts of this subcorridor are in

		the top 20 percent of Pennsylvania subcorridors for the following criterion: areas of high environmental importance. US 1 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Engineering for Smart Growth; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

The Media/Elwyn Regional Rail Line Extension from Elwyn to Wawa (MRP ID: P), and the US 322 Widening and Reconstruction from US 1 to I-95 (MRP ID: 50), are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
95429	US 202 and US 1 Loop Roads

Corridor Studies Include (also see Bibliography)

Wawa to West Chester Regional Rail Extension Ridership Forecast (DVRPC #10036, 2011), Route 3 West Chester Pike Land Use and Access Management Strategies, Phase 1 (DVRPC #05029, 2006), Route 322 Land Use Study (DVRPC #02022, 2002), U.S. Route 202 Section 100: Land Use Implementation and Coordination.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Havertown to near Media	Developed communities west of Baltimore Pike. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: transit need and areas of high environmental importance. It has high concentrations of elderly populations. US 1 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Planning and Design for Nonmotorized Transportation;
- Expanded Parking/Improved Access to Stations (all modes);
- Park-and-Ride Lots; and
- TOD.

Strategy Notes

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

General Purpose Lanes were an appropriate strategy in the 2006 CMP. MPMS 15345 remains consistent with the CMP for continuity.

The Media/Elwyn Regional Rail Line Extension from Elwyn to Wawa (MRP ID: P) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
15345	PA 252, Providence Road Widening

Corridor Studies Include (also see Bibliography)

Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway), Revitalization Plan Areas 3, 4, and 5 (Delaware County Planning Department, Update Underway), SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Baltimore Avenue Corridor Revitalization Plan (McCormick Taylor, March 2007), Pennsylvania Congestion Management System - US 1/Baltimore Pike Corridor (DVRPC #00009, 2000), Lansdowne Avenue CCIP (PennDOT - Jacobs, Edwards, & Kelcey).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Media Borough	Separated as different strategies are more appropriate than in surrounding areas.

Very Appropriate Strategies

- Signal Improvements;
- TSP;
- Transit Infrastructure Improvements;
- Improve Circulation; and
- More Frequent Transit or More Hours of Service.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	Baltimore Avenue Corridor	69th Street Terminal and Lansdowne, Clifton Heights, Yeadon, and East Upper Darby Township. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: high concentration of heavily used transit. It has high concentrations of non-Hispanic minority populations. On the eastern side of the subcorridor, there are additional Environmental Justice populations at two or more times regional average densities.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Improve Circulation;
- TOD; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Lansdowne station is recommended for TOD in the Baltimore Avenue Study. Improvements for Pedestrians and Bicyclists, Basic Upgrading of Traffic Signals, and Access Management (both engineering and policy strategies) are recommended in the Baltimore Avenue study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. A variety of

strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

Revitalization Plan Areas 3, 4, and 5 (Delaware County Planning Department, Update Underway), Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway), SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Baltimore Avenue Corridor Revitalization Plan (DVRPC #07051B, 2007), Baltimore Avenue Corridor Revitalization Plan (McCormick Taylor, March 2007), West Chester Pike Land Use and Access Management Strategies, Phase I (DVRPC #05029, 2006), Delaware County Renaissance Program plans, Pennsylvania Congestion Management System - US 1/Baltimore Pike Corridor (DVRPC #00009, 2000), Lansdowne Avenue CCIP (PennDOT - Jacobs, Edwards, & Kelcey).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
F	City Avenue area	Office parks, nursing homes, shopping; interchange with I-76, traffic going from US 1 to US 13. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: contains segments with high crash rates. It has high concentrations of poverty. US 1 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Enhanced Transit Amenities and Safety;
- Turning-Movement Enhancements;
- More Frequent Transit or More Hours of Service; and
- Frontage or Service Roads.

Strategy Notes

Coordinate with Philadelphia Incident Management Task Force.

Notes from Philadelphia Streets Department: City Avenue west of PA 23 (Conshohocken Avenue) does not have electronic controllers with fiber optic interconnect and is not compatible with ITS. Electronic controllers would also allow the system to be responsive to traffic volumes on City Avenue. Pedestrian countdown signals could be added to this corridor. Many bus routes use City Avenue and electronic controllers can provide transit priority. Sixty-third and City Avenue is a choke point on the corridor and causes backups to the US 30 corridor (Denny, 10/17/08).

Added IAT Report re: enhancing nonmotorized access to Cynwyd Station. Access Management (both engineering and policy strategies) and Intersection Improvements of a Limited Scale are recommended in the US 1 Study.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates.

Corridor Studies Include (also see Bibliography)

Increasing Intermodal Access to Transit, Phase III (DVRPC, 2006), Access Management Along City Avenue/US 1 Corridor (DVRPC #05019, 2005).
Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
G	Dense area north of US 1/I-76 interchange	Urban area north of Center City; US 1 is an expressway now but the area developed focused on it. This subcorridor includes the US 1 Roosevelt Expressway Bridge. It also includes the City Avenue/Control Point River rail bridge, which serves important passenger and freight rail traffic in the region. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, transit need, high concentration of heavily used transit, contains segments with high crash rates, road system bridge security, and areas of high environmental importance. It also has high concentrations of numerous transportation-disadvantaged populations. US 1 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Safety Improvements and Programs;
- Improve Circulation;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

The Philadelphia Streets Department states: "Many of the parallel local streets do not have electronic controllers with fiber optic interconnect and are not compatible to ITS" (Denny, 10/17/08).

Basic Upgrading of Traffic Signals, Signage, Safety Improvements and Programs, and Improvements for Walking and Bicycling are recommended in the Roosevelt Boulevard Study. The Seamless Regional Transit Access study recommends connecting the Frankford Transportation Center with Palmyra Station (NJ) via extensions of existing bus routes.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Seamless Regional Transit Access (DVRPC #08069, 2008), US 1 -Roosevelt Boulevard Corridor Study (DVRPC #07032, 2007), I-95 Interchange Enhancement and Reconstruction Cottman/Princeton Interchange Traffic Study (DVRPC #02025, 2002). Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
H	US 1 Far Northeast Philadelphia	North of Pennypack Creek to Bucks County. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: high current V/C. It has high concentrations of numerous transportation-disadvantaged populations. US 1 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Planning and Design for Nonmotorized Transportation;
- ITS Improvements for Transit;
- Park-and-Ride Lots;
- Modifications to Existing Transit Routes or Services; and
- New Bus Services.

Strategy Notes

The Philadelphia Streets Department states: "Many of the parallel local streets do not have electronic controllers with fiber optic interconnect and are not compatible to ITS" (Denny, 10/17/08). Basic Upgrading of Traffic Signals, Signage, and Improvements for Walking and Bicycling are recommended in the Roosevelt Boulevard Study.

A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

US 1 Widening and Reconstruction Traffic Study (DVRPC #08089, 2008), US 1 - Roosevelt Boulevard Corridor Study (DVRPC #07032, 2007).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
I	US 1 in Bucks County	Oxford Valley, interchange with PA Turnpike and I-95, Philadelphia Park Race Track, Langhorne Manor Borough, also US 1 Business, PA 413. This subcorridor includes the Amtrak-Northeast Corridor rail bridge, which serves important passenger and freight rail traffic in the region. It also contains the Morrisville Intermodal freight rail facility. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: high value for evacuation planning. It has high concentrations of elderly populations. US 1 has significant areas of high duration of congestion. At the southwestern end of the subcorridor, there are additional Environmental Justice populations at two or more times regional average densities.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Contains nine of the 10 worst performing arterial sections of the PA 413 corridor (PA 413 CMS Report), recommendation areas 1 and 2 of PA 413/513 corridor study. Coordinate with TMA Bucks' SAFE Route 1 Task Force and I-95/US 1 Bucks County Incident Management Task Force.

Signage, Basic Upgrading of Traffic Signals, and Access Management Projects are recommended in the Northampton Township CCSAP study.

Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

General Purpose lanes were an appropriate strategy in the 2006 CMP. MPMS 13549 remains consistent with the CMP for continuity.

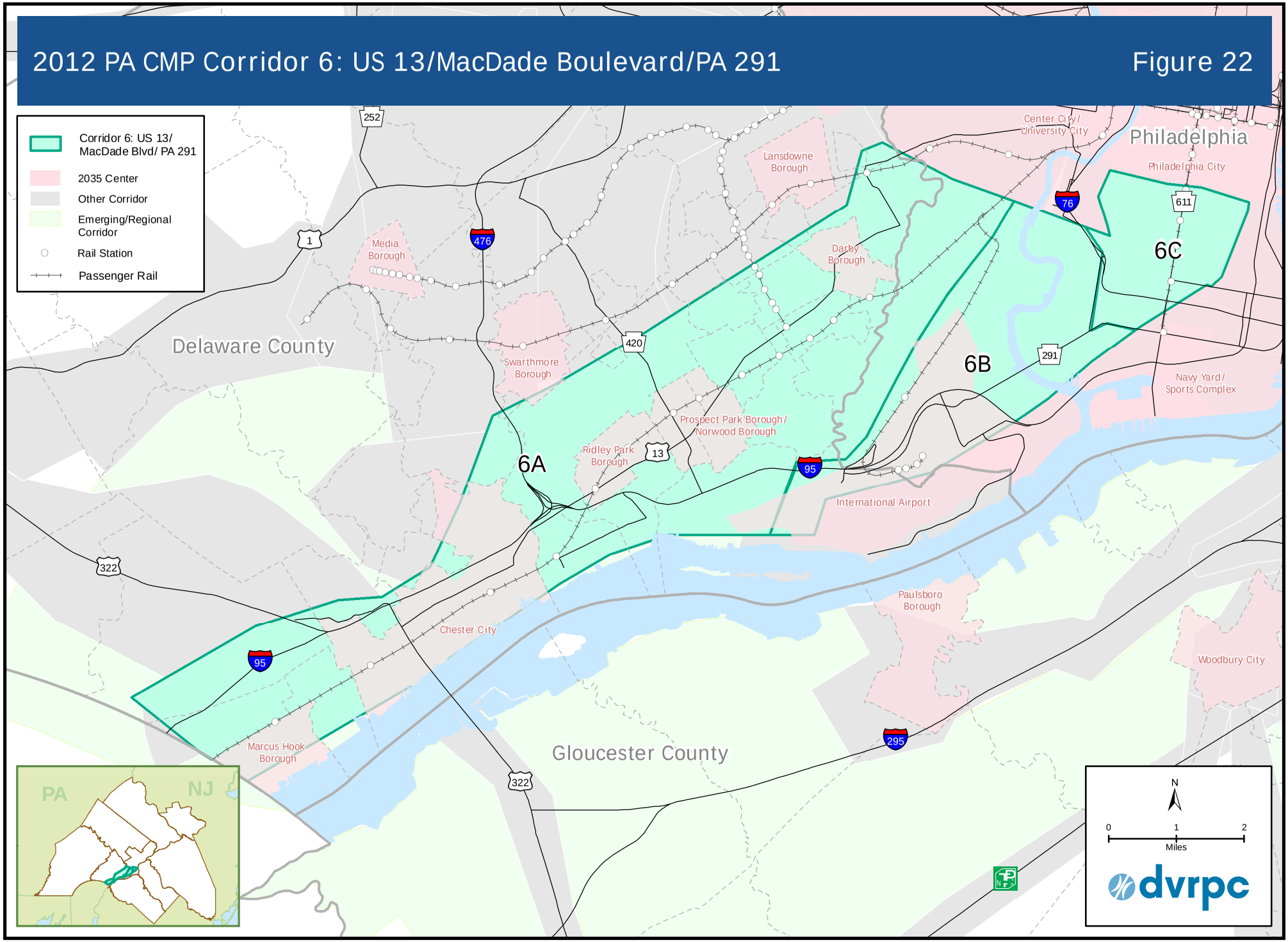
Reconstructing US 1 from I-276 (PA Turnpike) to the New Jersey State Line; Widening US 1 from the PA Turnpike to PA 413; Interchange Improvements (MRP ID: 37) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Bucks-Mercer Transit Needs Assessment and Concept Development (DVRPC #09042, 2009), Northampton Township, Bucks County Congestion and Crash Site Analysis Program (DVRPC #09014, 2009), US 1 Widening and Reconstruction Traffic Study (DVRPC #08089, 2008), Assessment of Land Use and Transportation for PA 413/513 Corridor (DVRPC, 2004), Pennsylvania CMS PA 413 Report (DVRPC, 2003).

2012 PA CMP Corridor 6: US 13/MacDade Boulevard/PA 291

Figure 22



Corridor ID	Corridor Name	Corridor Notes
6	US 13/MacDade Boulevard/PA 291	Southern Delaware County riverfront communities, also SEPTA Wilmington/Newark rail line.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	City of Chester area, US 13 between Chester and Philadelphia, US 13 - Cobbs Creek area	Residential and commercial development of the City of Chester and SEPTA Wilmington/Newark Line, commercial area between the I-476 interchange and PA 420, and southwest Philadelphia-Colwyn, Elmwood communities. This subcorridor contains the Twin Oaks Auto Terminal, Chester Bulk Terminal, and Penn Terminals freight facilities. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high anticipated growth in V/C, transit need, and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Improve Circulation;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

The Philadelphia Streets Department states: "63rd/Cobbs Creek Parkway does not have electronic controllers with fiber optic interconnect and are not compatible to ITS. Electronic controllers would allow the system to be responsive to traffic volumes on 63rd/Cobbs Creek Parkway" (Denny,10/17/08)

Basic Upgrading of Traffic Signals, Signage, and Improvements for Walking are recommended in the Tinicum CCSAP Study. Improvements for Walking and Bicycling are recommended in the Parkway Plan. Computerized Traffic Signals are recommended in CAMP 2005 for specific locations.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
57780	US 322/Commodore Barry Bridge/I-95 2nd Street Interchange

Corridor Studies Include (also see Bibliography)

Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway), Highland Avenue TOD or Relocation (DVRPC/CH Planning, Currently Underway), Revitalization Plan Areas I, 2, 3, 4, and 5 (Delaware County Planning Department, Update Underway), Congestion and Crash Site Analysis Program - Tinicum Township, Delaware County (DVRPC

#09017, 2010), Chester City Amtrak Service (DVRPC, 2008), Congestion and Accident Mitigation (CAMP) Report (DVRPC, 2005), Marcus Hook TOD Master Plan (KSK, 2003), Conceptual Access Plan for the City of Chester (DVRPC #01025, 2001), Baltimore Pike Corridor Revitalization Assessment (DVRPC #01037, 2001), 420 CCIP (PennDOT - Jacobs, Edwards, & Kelcey), Brookhaven, Parkside, and Upland Borough Multimunicipal Comprehensive Plan, PA 291 Industrial Heritage Corridor Parkway Plan (Delaware County Planning Department). Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	PA 291/Airport area	Airport industrial area and developed mixed-use area around it. This subcorridor contains the Airport Facility (North) freight rail facility. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high anticipated growth in V/C and contains segments with high crash rates. At the eastern end of the subcorridor, there are EJ populations at two or more times regional average densities, including carless households and limited English proficiency.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Much of the area adjoins and mixes with dense residential development.

Added IAT report re: enhancing nonmotorized access around Eastwick Station. Signage and Marketing/Outreach for Transit and TDM Services are recommended in the Stadium Area Study. Improvements for Walking and Bicycling are recommended in the Parkway Plan.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. A variety of strategies should be used in order to meet the needs of the people in the high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The Penrose Avenue/26th Street New Access Road to the Navy Yard Business Center (MRP ID: 67) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Revitalization Plan Area 3 (Delaware County Planning Department, Update Underway), Philadelphia International Airport Transit Access Analysis (DVRPC #08079, 2011), Increasing Intermodal Access to Transit, Phase III (DVRPC, 2006), Stadium Area Transit Study (Kise Straw & Kolodner, 2004), 420CCIP (PennDOT - Jacobs, Edwards, & Kelcey), PA 291 Industrial Heritage Corridor Parkway Plan (Delaware County Planning Department).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Penrose Avenue–Broad Street	South Philadelphia residential area with some commercial/industrial development. Parts of this subcorridor are in the top 20 percent of Pennsylvania

		subcorridors for the following criterion: transit need. It has high concentrations of numerous transportation-disadvantaged populations. Broad Street has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Improve Circulation;
- Economic-Development-Oriented Transportation Policies;
- TOD; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Recommended for TOD in the Developing Around Transit Study. Signage and Marketing/Outreach for Transit and TDM Services are recommended in the Stadium Area Study. Improvements for Walking and Bicycling, and Revisions to Existing Land Use/Transportation Regulations, are recommended in the Developing Around Transit Study.

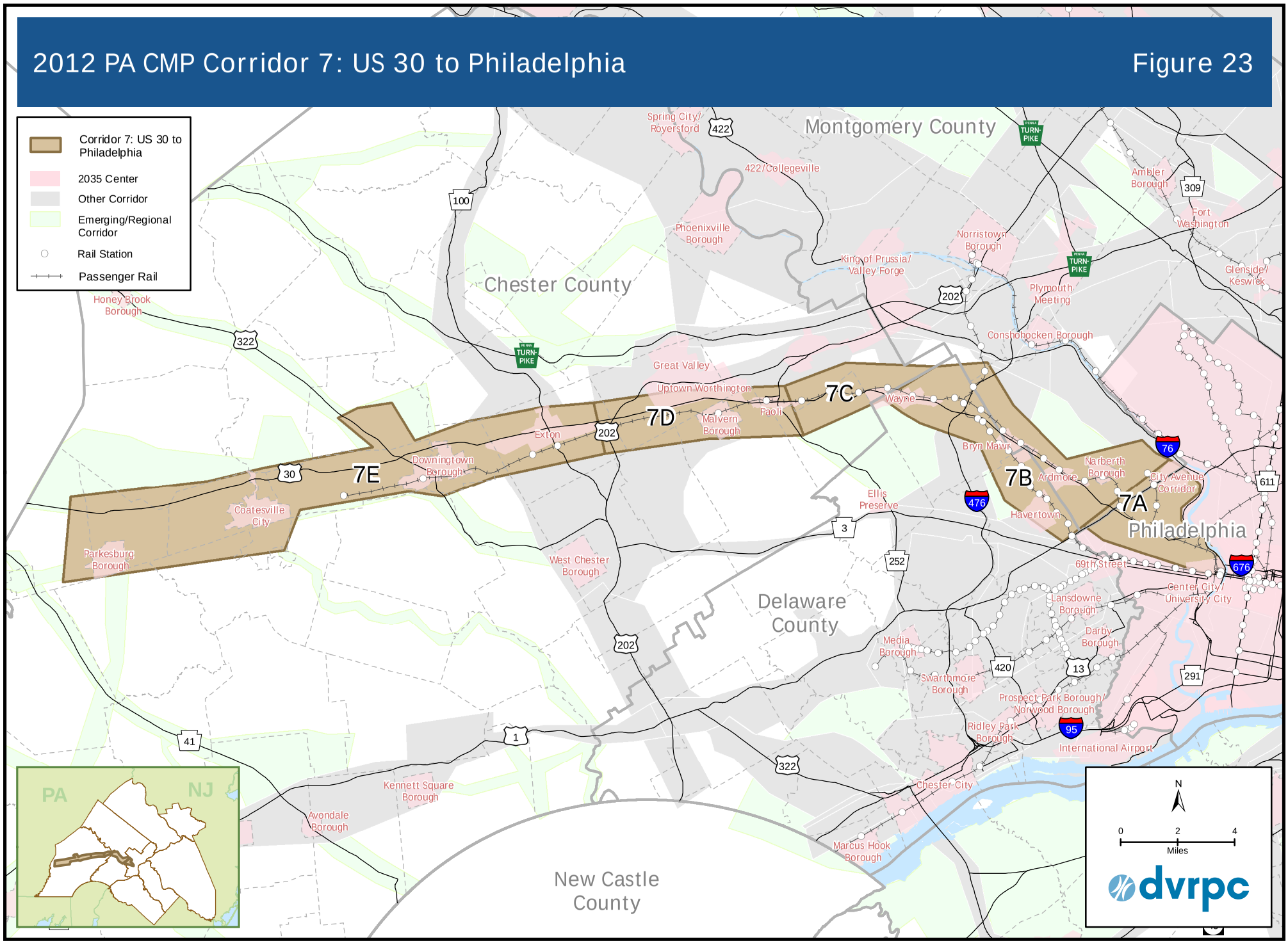
A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

Developing Around Transit (DVRPC #06034, 2006), Stadium Area Transit Study (Kise Straw & Kolodner, 2004).

2012 PA CMP Corridor 7: US 30 to Philadelphia

Figure 23



Corridor ID	Corridor Name	Corridor Notes
7	US 30 to Philadelphia	Eastern part of US 30, from the vicinity of I-76 and 30th Street Station in Philadelphia west to Parksburg Borough and Coatesville.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	US 30/Lancaster Avenue east of US 1 (City Avenue)	US 30 between 30th Street Station/Schuylkill Expressway area and US 1 (City Avenue). This subcorridor includes the Highline-30th Street Across Market and the Girard Avenue/Northeast Corridor rail bridges, as well as the Zoo Interlocking facility, which serve important passenger and freight rail traffic in the region. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, transit need, high concentration of heavily used transit, and contains segments with high crash rates. US 1 (City Avenue) has significant areas of high duration of congestion. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Improve Circulation;
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Sixty-third and City Avenue is a choke point on the US 1 corridor (see Subcorridor 5F) and causes backups to the US 30 corridor. Bottleneck Improvements of a Limited Scale are recommended (Denny, 10/17/08).

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	US 30 Main Line west of US 1 (City Avenue)	Ardmore, Radnor; west of US 1. This subcorridor includes many rail stations along the SEPTA Paoli/Thorndale Line and Norristown HSL. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, contains segments with high crash rates, and high value for evacuation planning.

Very Appropriate Strategies

- Signal Improvements;
- Planning and Design for Nonmotorized Transportation;
- Transit Infrastructure Improvements;
- Transit-First Policy; and
- TOD.

Strategy Notes

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion.

Corridor Studies Include (also see Bibliography)

Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	Berwyn, small community centers on US 30	Centers around US 30 west of Radnor, east of Malvern.

Very Appropriate Strategies

- Signal Improvements;
- Improve Circulation;
- Passenger Intermodal Center or Garage for Transit Riders;
- TOD; and
- Transportation Services for Specific Populations.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Paoli and Malvern area around US 30	Centers around US 30 Malvern and west, including Paoli. Paoli Station is the highest ridership station in Chester County. The proposed Paoli Transportation Center project is primarily in this subcorridor. See also Subcorridor 8C. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: high concentration of heavily used transit. At the eastern end of the subcorridor, there are elderly populations at two or more times regional average density.

Very Appropriate Strategies

- Signal Improvements;
- Improve Circulation;
- Passenger Intermodal Center or Garage for Transit Riders;
- TOD; and
- Transportation Services for Specific Populations.

Strategy Notes

Improvements for Walking and Bicycling and Safety Improvements and Programs are recommended in the Paoli Station Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one.

The US 30 Business Widening from US 202 to the Exton Mall (MRP ID: 46) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Paoli Station Intermodal Access and Parking Study (DVRPC #09078, 2009).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	US 30 communities west of PA 100. This was subcorridor 8J in the 2009 CMP.	Downingtown, Coatesville; area west of intersection of PA 100, US 30, and US 30 Business. This subcorridor was changed from 8J to 7E in 2012 to fit with the other US 30 subcorridors. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations. US 30 and PA 100 have significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Improve Circulation;
- Park-and-Ride Lots;
- TOD; and
- Transportation Services for Specific Populations.

Strategy Notes

Coordinate with US 30 Chester County Incident Management Task Force.

Access Management (both engineering and policy strategies), Improvements for Walking and Bicycling, and Revisions to Existing Land Use/Transportation Regulations are recommended in the Managing Access Study. Revisions to Existing Land Use/Transportation Regulations and Improvements for Walking and Bicycling are recommended in the Guiding Transportation Investments Study. Revision of Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, Improvements for Pedestrians and Bicyclists, Signage, Access Management (both engineering and policy strategies), and Basic Upgrading of Traffic Signals are recommended for the Thorndale Station in the Implementing TOD Study. Bottleneck Removal of a Limited Scale is recommended in the PA 100 CMS. Revisions to Existing Land Use/Transportation Regulations are recommended in the West of Thorndale Study.

Future consideration of adding road capacity should be carefully examined as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor since it includes areas agreed upon as Rural Land Use in the *Connections* plan. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The US 30 Business Widening from US 202 to the Exton Mall (MRP ID: 46), the US 30/Coatesville-Downingtown Bypass (MRP ID: 48), and the Paoli/Thorndale Line Regional Rail Extension from Thorndale to Atglen (MRP ID: W) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

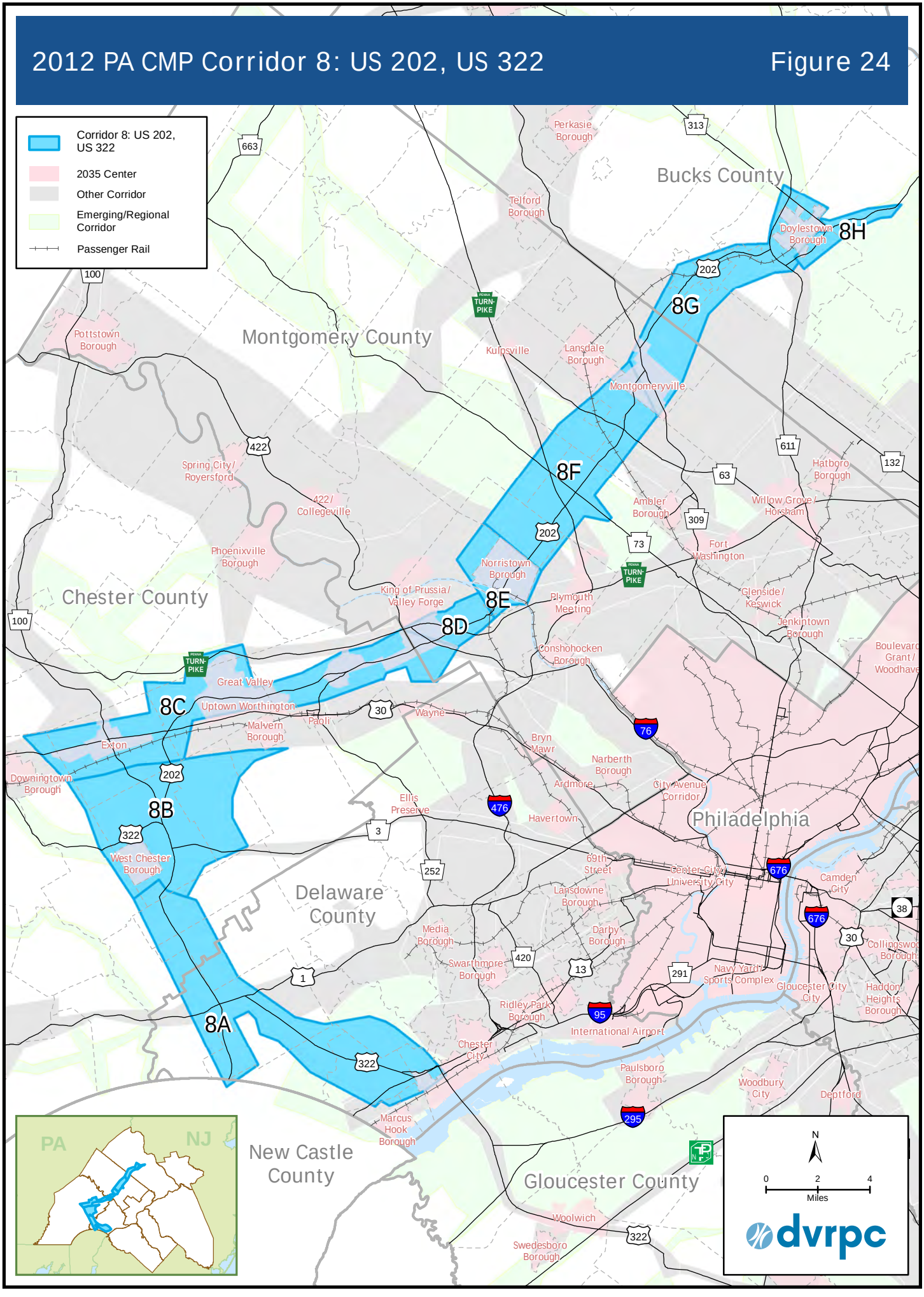
TIP MPMS	Project Name
83710	Boot Road Extension Bridge Over Brandywine Creek

Corridor Studies Include (also see Bibliography)

Closed Loop Traffic Signal Systems Analysis: US 30 Business in Chester County, Pennsylvania (DVRPC #10038, scheduled for release in 2012), Managing Access Along US 30 in Western Chester County (DVRPC #10026, 2010), Guiding Transportation Investments and Land Use Decisions Along US 322 - Chester County (DVRPC #09063, 2010), US 30 Coatesville-Downingtown Bypass Traffic Study (DVRPC #08099, 2008), Needs and Opportunities Study for the R5 Extension West of Thorndale (DVRPC #07021, 2007), Implementing Transit-Oriented Development (DVRPC #04044, 2004), Pennsylvania Congestion Management System: PA 100 Corridor Study (DVRPC Publication #02009, 2002), PA 100 Corridor Study (DVRPC #98002, 1998).

2012 PA CMP Corridor 8: US 202, US 322

Figure 24



Corridor ID	Corridor Name	Corridor Notes
8	US 202, US 322	The focus is US 202. Other related, generally similar corridors extending from it were included, such as US 322.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	US 202 Section 100 (Delaware to Matlack Street) and US 322 broad corridor	From the State of Delaware through Delaware County to Matlock Street in the vicinity of West Chester (Chester County), US 202 is generally four lanes, signalized, with uncontrolled access (US202.com). This subcorridor also includes the intersection with US 1, and US 322 between US 1 and the interchange with I-95. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: high anticipated growth in V/C. This subcorridor contains the Twin Oaks Auto Terminal freight rail yard.

Very Appropriate Strategies

- Signal Improvements;
- ITS;
- Planning and Design for Nonmotorized Transportation;
- Turning-Movement Enhancements; and
- County and Local Road Connectivity.

Strategy Notes

Access Management (both engineering and policy strategies) and Improvements for Walking and Bicycling are recommended in the US 202 Section 100 Land Use Implementation Study.

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the LRP. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The US 322 Widening and Reconstruction from US 1 to I-95 (MRP ID: 50), and the US 202 (Section100) Widening from West Chester to the Delaware State Line (MRP ID: 39), are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
57780	US 322/Commodore Barry Bridge/I-95 2nd Street Interchange
69816	US 322, US 1 to Featherbed Lane (Section 101)
69817	US 322, Featherbed Lane to I-95 (Section 102)
95429	US 202 and US 1 Loop Roads

Corridor Studies Include (also see Bibliography)

Revitalization Plan Area I (Delaware County Planning Department, Update Underway), Revitalization Plan Area 2 (Delaware County Planning Department, Update Underway), I-95/US 322 Interchange Traffic Study (DVRPC #08024, 2008), US Route 202 Section 100 Land Use Implementation and Coordination (DVRPC #08004, 2008), Marcus Hook TOD Master Plan (KSK, 2003), Route 322 Land Use Strategies Study (DVRPC #02022, 2002), Route 202 Section 100 Land Use Strategies Study (DVRPC #01024, 2001), PA 100 Corridor Study (DVRPC #98002, 1998).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	US 202 Section 200 (Matlack Street-US 30) and West Chester area	US 202 is generally a four-lane, limited-access expressway with close interchanges in this section (us202.com). This subcorridor includes the broad developed area including West Chester, PA 3, PA 352, and US 322 areas. Centers along US 30, including Malvern and SEPTA Paoli/Thorndale Line stations, formerly included in this subcorridor, are now included in Subcorridor 7D. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: transit need and high value for evacuation planning. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- ITS;
- ICM;
- Incident Management; and
- Planning and Design for Nonmotorized Transportation.

Strategy Notes

Enhancing the ability to evacuate people from this subcorridor may be useful as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

US 202 Section 200 Chester County Transportation Operations Audit (DVRPC #10041, 2012), Wawa to West Chester Regional Rail Extension Ridership Forecast (DVRPC #10036, 2011), US 322/202 Interchange Completion Study (DVRPC #08009, 2008).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	US 202 Section 300 (US 30 to North Valley Road) area north to turnpike, and US 202 Section 400 (King of Prussia/Valley Forge area) except Paoli	US 202 is generally a four-lane, limited-access expressway (us202.com) with extensive development. This subcorridor includes the area north of US 202, including PA 29 up to the PA Turnpike, the Great Valley area. It also includes the section between North Valley Road and Gulph Road with the I-76 and US 422 interchanges, which is the highest volume section of US 202 (us202.com). The proposed Paoli Transportation Center would be in this subcorridor, as well as in Subcorridor 7D. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, and contains segments with high crash rates.

Very Appropriate Strategies

- ITS;
- Incident Management;
- Planning and Design for Nonmotorized Transportation;
- Passenger Intermodal Center or Garage for Transit Riders;
- Modifications to Existing Transit Routes or Services; and
- Major Reconstruction with Minor Capacity Additions.

Strategy Notes

Includes strategies from Section 300 CMS Coordination Project and PA CMS: PA 100 Study segment 1. Coordinate with PA 309, US 422, US 202 Incident Management Task Force.

Marketing/Outreach for Transit and TDM Services and Improvements for Bicycling are recommended in the Phoenixville Intermodal Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates.

The US 202 (Section 300) Widening and Reconstruction from PA 252 to US 30 (MRP ID: 43) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
64494	US 202, Swedesford Road to PA 29 (Section 320)
64498	US 202, Exton Bypass to PA 29 (Section 330)

Corridor Studies Include (also see Bibliography)

US 202 Section 400 documents (PennDOT), Schuylkill Crossing Traffic Study (DVRPC #07040, 2008), Phoenixville Area Intermodal Transportation Study (DVRPC #03001, 2003), US 202 Section 300 CMS Coordination Project (PennDOT, Chester County, 1999), PA 100 Corridor Study (DVRPC #98002, 1998).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	US 202 Section 500-Highway (Gulph Road-PA 23) except Norristown area	In this section, US 202 is primarily a four-lane arterial highway (us202.com). PennDOT's section 500 is broken in two parts for the CMP. Section 500 continues past PA 23 through Norristown to Johnson Highway.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Transit-First Policy; and
- More Frequent Transit or More Hours of Service.

Strategy Notes

Coordinate with PA 309, US 422, US 202 Incident Management Task Force.

Corridor Studies Include (also see Bibliography)

Schuylkill Crossings Traffic Study (DVRPC #07040, 2008).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	Norristown part of US 202 Section 500	US 202 in the Borough is Dekalb Street (US 202 N) and Markley St (US 202 S). This subcorridor includes the local street grid of Norristown. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high concentration of heavily used transit. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Improve Circulation;
- TOD;
- Modifications to Existing Transit Routes or Services; and
- Transportation Services for Specific Populations.

Strategy Notes

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. There are currently more than five capacity-adding projects planned for this subcorridor. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The Manayunk/Norristown Regional Rail Extension from Norristown to Wyomissing, Berks County (MRP ID: O) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
16665	US 202, Markley Street Southbound (Section 500)
57858	Lafayette Street Extension (MG1)
79863	Lafayette Street, Ford Street to Conshohocken Road Extension (MGP)
79864	Lafayette Street, Barbados Street to Ford Street Widening (MGN)
80021	US 202, Markley Street Improvements (Section 510)
80022	US 202, Markley Street Improvements (Section 520)
87392	Lafayette Street Extension (MGL)

Corridor Studies Include (also see Bibliography)

US202.com, Schuylkill Crossings Traffic Study (DVRPC #07040, 2008).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
F	US 202 Section 600 (Johnson Highway-Hancock Road) area	US 202 in this subcorridor is largely two lanes medium/high density with commercial uses (US202.com). The subcorridor extends slightly east to PA 63. PA 73, Sumneytown Pike, and the SEPTA

		Lansdale/Doylestown rail line cross US 202 in this subcorridor. It includes surrounding developed areas. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: areas of high environmental importance. It has high concentrations of elderly populations.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- County and Local Road Connectivity;
- TOD; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Additional capacity is recommended in US 202 Section 600 CMS report. Improvements for Walking and Bicycling and Revisions to Existing Land Use/Transportation Regulations are recommended in the Developing Around Transit Study.

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The US 202 (Section 600) Widening and Reconstruction from Johnson Highway to PA 309 (MRPID: 56) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
63486	US 202, Johnson Highway to Township Line Road (61S)
63490	US 202, Township Line Road to Morris Road (61N)
63491	US 202, Morris Road to Swedesford Road (65S)

Corridor Studies Include (also see Bibliography)

Schuylkill Crossings Traffic Study (DVRPC #07040, 2008), Developing Around Transit (DVRPC #06034, 2006), US 202 Section 600 Congestion Management System Program (DVRPC, 1995).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
G	US 202 Section 700 area (PA 63 to PA 611)	US 202 from Hancock Road and PA 63 to PA 611 is generally two lanes wide, with medium density development. It connects Montgomeryville and Doylestown (Bucks County) (us202.com). This subcorridor has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- County and Local Road Connectivity;
- Modifications to Existing Transit Routes or Services; and

➔ Transportation Services for Specific Populations.

Strategy Notes

Additional capacity is recommended in US 202 Section 700 CMS report. Improvements for Walking and Bicycling, Growth Management and Smart Growth, Access Management Policies and Projects, and Context-Sensitive Design are recommended in the Butler Avenue study.

A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the CMS Study and number of projects approved, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Widening and reconstruction of County Line Road from PA 309 to PA 611 (MRP ID: 34), US 202 (Section 600) Widening and Reconstruction from Johnson Highway to PA 309 (MRP ID: 56), and US 202 (Section 700) New 2-Lane Parkway and Intersection Improvements from Montgomeryville to Doylestown (MRP ID: 33), are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
64779	County Line Road Widening

Corridor Studies Include (also see Bibliography)

Butler Avenue Revitalization Strategies (DVRPC #08060, 2009), Bristol Road Extension Traffic Study (DVRPC #08032, 2008), US 202 Section 700 Traffic Study (DVRPC #07009, 2007), US 202 Section 700 Community Task Force Report (September, 2005), US 202 Section 700 Congestion Management System Program (DVRPC, 1995).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
H	US 202 north of Section 700 (PA 611-PA 413) area	This subcorridor is crossed by PA 313 and PA 413. East of PA 413, it becomes an emerging/regionally significant corridor. It is the section closest to the New Jersey border.

Very Appropriate Strategies

➔ Signal Improvements;
➔ Planning and Design for Nonmotorized Transportation;
➔ Turning-Movement Enhancements; and
➔ Improve Circulation.

Strategy Notes

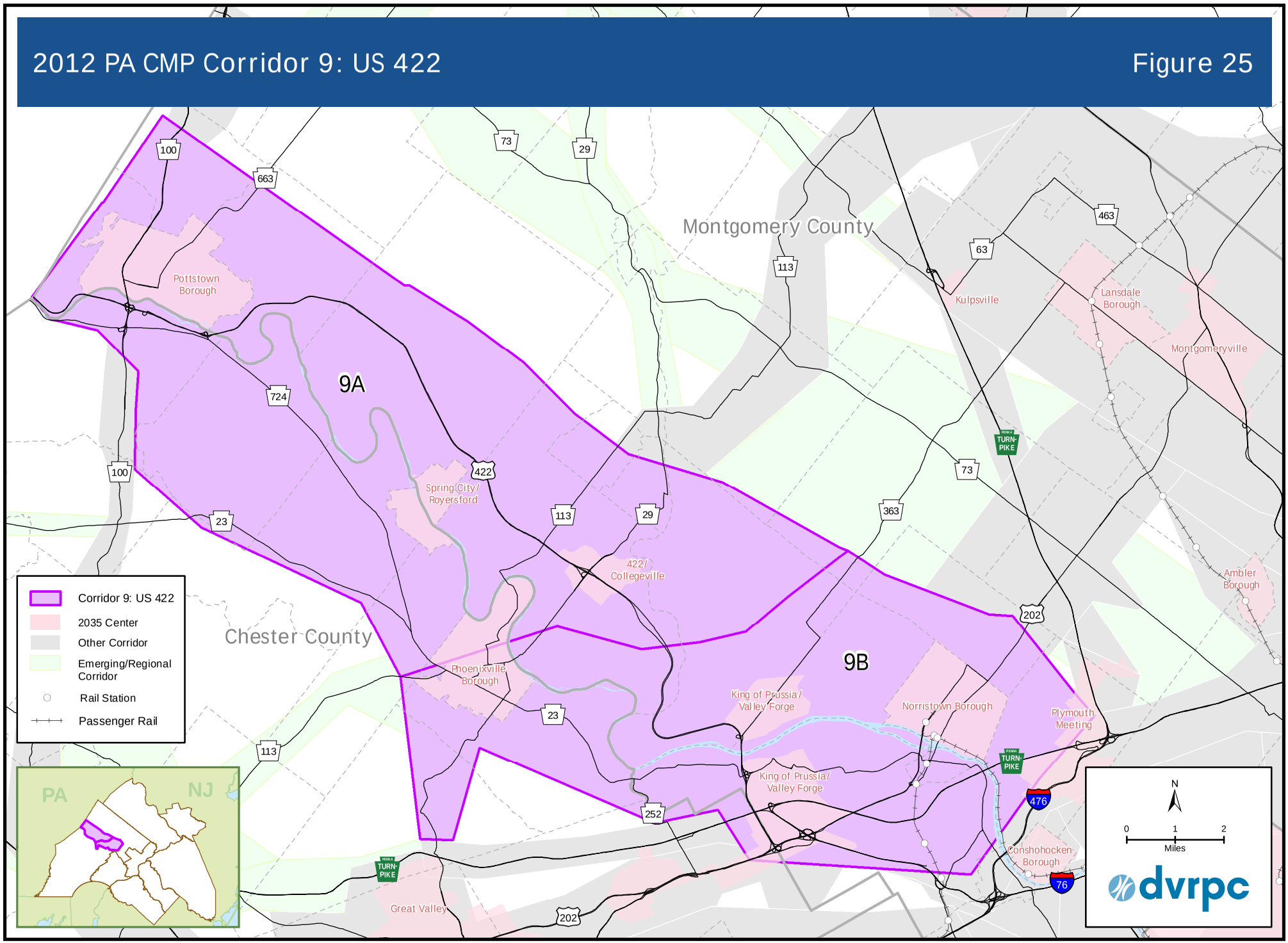
Safety Improvements and Programs, Signage, Intersection Improvements of a Limited Scale, and Improvements for Walking and Bicycling are recommended in the US 202/PA 179 Study.

Corridor Studies Include (also see Bibliography)

US 202/PA 179 Corridor Study (DVRPC #07033, 2007), Pennsylvania Congestion Management System - PA 413 Corridor (DVRPC #03016, 2003).

2012 PA CMP Corridor 9: US 422

Figure 25



Corridor ID	Corridor Name	Corridor Notes
9	US 422	North-South broader corridor to King of Prussia and turnpike.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Oaks - Pottstown area	This subcorridor starts just north of Egypt Road. US 422 itself is a freeway, but the predominant character of this subcorridor is people driving to each destination, often on roads designed for through traffic that have experienced extensive commercial development, and this is reflected in the strategies. This subcorridor includes roads within the Limerick Nuclear Power Plant EMZ (Emergency Management Zone). Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high value for evacuation planning and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- County and Local Road Connectivity;
- Transit-First Policy;
- Walking and Bicycling Improvements;
- Modifications to Existing Transit Routes or Services; and
- New Passenger Rail Investments.

Strategy Notes

Coordinate with PA 309, US 422, US 202 Incident Management Task Force.

Context-Sensitive Design is recommended in the Intercounty Relief Study. Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, Improvements for Walking and Bicycling, Complete Streets, and Access Management Policies and Projects are recommended in the US 422 Corridor Master Plan. Access Management Projects, Signage, Safety Improvements and Programs, and Intersection Improvements of a Limited Scale are recommended in the PA 724 Study.

Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

The Manayunk/Norristown Regional Rail Extension from Norristown to Wyomissing, Berks County (MRP ID: O) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Pottstown Bypass (US 422) Reconstruction Traffic Study Supplement Number 1 - Chester and Montgomery Counties, Pennsylvania (DVRPC #11047, 2011), US 422 River Crossing Traffic Study (DVRPC #TR10069, 2011), US 422 Corridor Master Plan (DVRPC #09035, 2009), R6

Norristown Line Service Extension Study (DMJM Harris/AECOM, 2009), Intercounty Relief Route: Schuylkill, East Pikeland, Phoenixville, Upper Providence (DVRPC #06024, 2006), PA 724 Corridor Study (DVRPC #04021, 2004), Phoenixville Area Intermodal Transportation Study (DVRPC #03001, 2003), Pottstown Bypass (US 422) Reconstruction Traffic Study (DVRPC #02043, 2002).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	US 202-Oaks	This subcorridor includes part of Lower Merion Township, US 202, and the Schuylkill River crossings. The northern boundary is the Egypt Road/Oaks area. US 422 itself is a freeway, but the predominant character of this subcorridor is people driving to each destination, often on roads designed for through traffic that have experienced extensive commercial development, and this is reflected in the strategies. This subcorridor includes the US 422 Betzwood/Pottstown Bridge. It also contains the Abrams Rail Yard freight facility. The Norristown Transportation Center is the highest ridership station in Montgomery County. It is located in the county seat and served by regional rail and high speed line (trolley). This subcorridor also includes roads within the Limerick Nuclear Power Plant EMZ (Emergency Management Zone). Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, high concentration of heavily used transit, contains segments with high crash rates, high value for evacuation planning, road system bridge security, and areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Turning-Movement Enhancements;
- Modifications to Existing Transit Routes or Services; and
- New Passenger Rail Investments.

Strategy Notes

Coordinate with PA 309, US 422, US 202 Incident Management Task Force.

Safety Improvements and Programs, Access Management Projects, and Improvements for Walking are recommended in the Phoenixville CCSAP study. Context-Sensitive Design is recommended in the Intercounty Relief study. Revisions to Existing Land Use/Transportation Regulations, Growth Management and Smart Growth, Improvements for Walking and Bicycling, Complete Streets, and Access Management Policies and Projects are recommended in the US 422 Corridor Master Plan. Access Management Policies and Improvements for Bicycling are recommended in the Phoenixville Intermodal Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this

subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. There are currently greater than five capacity-adding projects planned for this subcorridor. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

The Norristown High Speed Line extension from Hughes Park to the King of Prussia Mall (MRP ID:Q), Manayunk/Norristown Regional Rail Extension from Norristown to Wyomissing, Berks County (MRP ID: O), US 422 Mainline Widening (River Crossing) from US 202 to PA 363 (MRP ID: 98), and US 422 Bridge and PA 23 Interchange (River Crossing) Bridge Replacement/Widening and Intersection/Interchange Improvements (MRP ID: 96) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

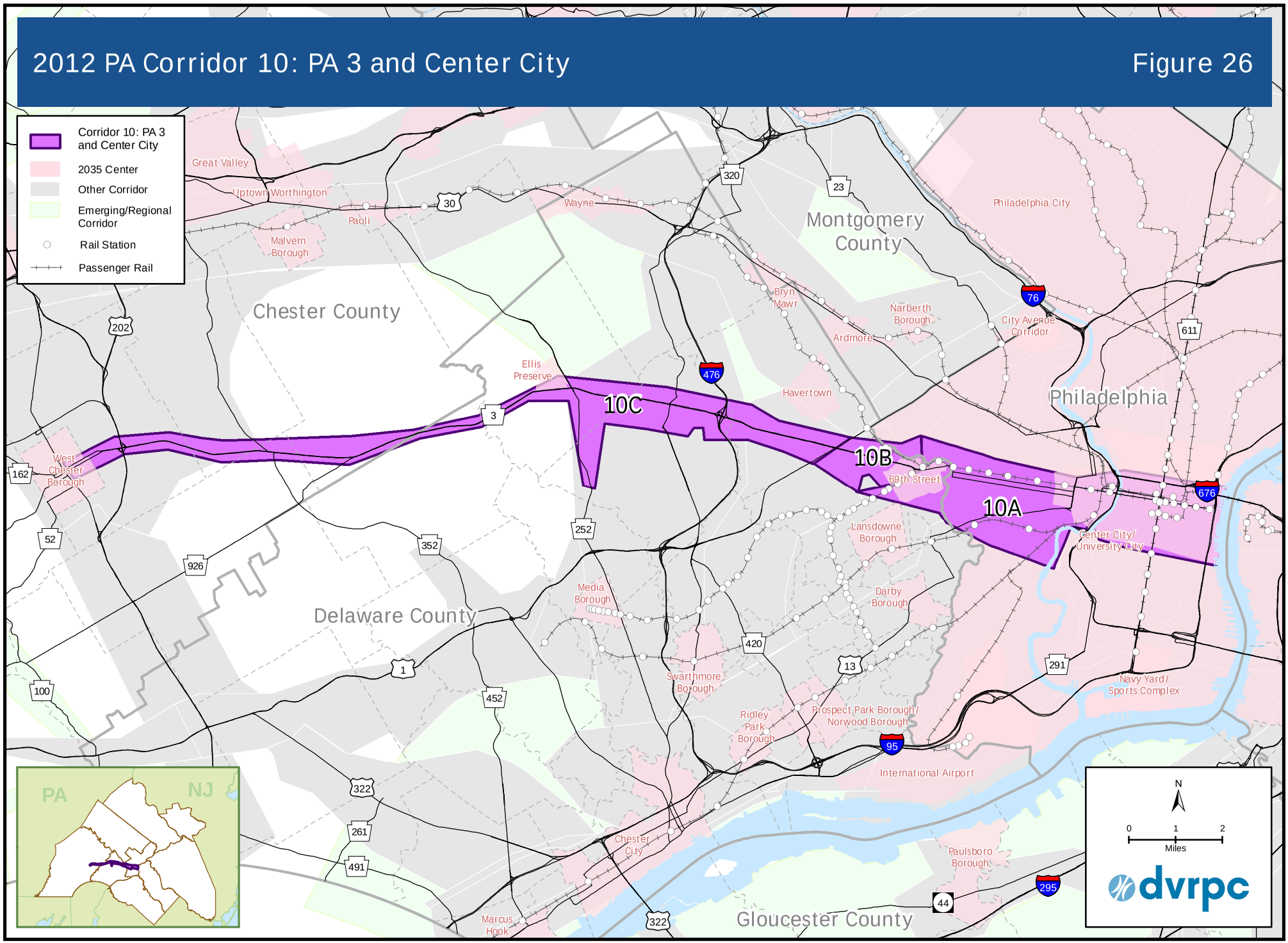
TIP MPMS	Project Name
16665	US 202, Markley Street Southbound (Section 500)
57659	French Creek Parkway – Phase 1
57858	Lafayette Street Extension (MG1)
63486	US 202, Johnson Highway to Township Line Road (61S)
64796	US 422/PA 363 Interchange Reconstruction (4TR) – Part 2 of River Crossing Complex
70197	US 422 (New) Expressway Bridge Over Schuylkill River (SRB) – Part 3 of River Crossing Complex
79863	Lafayette Street, Ford Street to Conshohocken Road Extension (MGP)
79864	Lafayette Street, Barbados Street to Ford Street Widening (MGN)
80021	US 202, Markley Street Improvements (Section 510)
80022	US 202, Markley Street Improvements (Section 520)
87392	Lafayette Street Extension (MGL)

Corridor Studies Include (also see Bibliography)

US 422 River Crossing Traffic Study (DVRPC #TR10069, 2011), Phoenixville Borough, Chester County Congestion and Crash Site Analysis Program (DVRPC #09016, 2010), US 422 Corridor Master Plan (DVRPC #09035, 2009), R6 Norristown Line Service Extension Study (DMJM Harris/AECOM, 2009), Schuylkill Crossings Traffic Study (DVRPC #07040, 2008), Intercounty Relief Route: Schuylkill, East Pikeland, Phoenixville, Upper Providence (DVRPC #06024, 2006), Interim Improvements to Help Relieve US 422 Westbound Evening Traffic Problems (2005), Montgomery County Transportation Plan (2005), Phoenixville Area Intermodal Transportation Study (DVRPC #03001, 2003).

2012 PA Corridor 10: PA 3 and Center City

Figure 26



Corridor ID	Corridor Name	Corridor Notes
10	PA 3 and Center City	PA 3 from Penns Landing to the west through Center City, south of I-676, to West Chester.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Center City, University City	Penns Landing west to Cobbs Creek Expressway; from Callowhill Street south including large, densely developed part of south Philadelphia to the vicinity of Woodland Avenue and 58th Street. This subcorridor includes the Market East Station, 30th Street Station, Suburban Station, and 69th Street Terminal, all among the most highly used transit facilities in the region. It also includes Penns Landing, an area of special evacuation concern. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, transit need, high concentration of heavily used transit, contains segments with high crash rates, and high value for evacuation planning. It has high concentrations of numerous transportation-disadvantaged populations. Broad Street (PA 611) has significant areas of high duration of congestion. This subcorridor is one of only two Pennsylvania subcorridors with high current V/C and high future growth in V/C, high duration of congestion, and high existing transit use.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Economic-Development-Oriented Transportation Policies;
- More Frequent Transit or More Hours of Service; and
- Transportation Services for Specific Populations.

Strategy Notes

The Philadelphia Streets Department states: "There is a need for parking areas on the parallel rail lines (trolley and El). People are parking in neighborhoods and using trains" (Denny, 10/17/08).

Includes 2005 CAMP focus area at 34th Street and Grays Ferry Road, and the East Coast Greenway. Improvements for Walking and Bicycling are recommended in the Benjamin Franklin Parkway Study (for the Parkway). Improvements for Walking and Bicycling, Basic Upgrading of Traffic Signals, and Access Management (both engineering and policy strategies) are recommended in the Baltimore Avenue Study. Bottleneck Removal for Passenger Rail has been discussed as a significant issue for the region in this area. The Seamless Regional Transit Access Study recommends extending some NJ Transit bus lines to 30th Street Station.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the

people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Corridor Studies Include (also see Bibliography)

Revitalization Plan Area 5 (Delaware County Planning Department, Update Underway), Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway), SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Seamless Regional Transit Access (DVRPC #08069, 2008), Baltimore Avenue Corridor Revitalization Plan (DVRPC #07051B, 2007), Benjamin Franklin Parkway Circulation, Parking and Transit Study (Nelson/Nygaard Consulting Associates, 2007), Congestion and Accident Mitigation (CAMP) Program Report (DVRPC, 2005), Southern New Jersey to Philadelphia Transit Study (STV Inc. for DRPA, 2005), PA CMS US 1/Baltimore Pike (DVRPC, 2000).
Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	PA 3 from Cobbs Creek to US 1	Includes the area just west of 69th Street Boulevard and the western portion of the 69th Street Terminal, one of the most heavily used transit facilities in Philadelphia, which serves the Norristown High Speed Line and Route 101 and 102 Trolley Lines. This subcorridor is mostly in Delaware County.

Very Appropriate Strategies

- Closed Loop Computerized Traffic Signals;
- TSP;
- Improve Circulation;
- County and Local Road Connectivity;
- TOD; and
- Transportation Services for Specific Populations.

Strategy Notes

Improvements for Walking and Bicycling and Access Management (both engineering and policy strategies) are recommended in the Boosting the Bus study. Improvements for Walking and Bicycling, Access Management (both engineering and policy strategies), and Revisions to Existing Land Use/Transportation Regulations are recommended in the Transit Advantage Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one.

Corridor Studies Include (also see Bibliography)

Revitalization Plan Area 5 (Delaware County Planning Department, Update Underway), Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway), Boosting the Bus: Better Transit Integration Along West Chester Pike (DVRPC #10033, 2011), Feasibility Analysis of West Chester Busway 69th Street Terminal to I-476 (DVRPC #07001, 2007), Transit Advantage: Transit Signal Priority on PA Route 3 (Chester County TMA, 2007), Pennsylvania Congestion Management System - US 1/Baltimore Pike Corridor (DVRPC #00009, 2000).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	PA 3 (PA 476 to US 202)	US 1 to just west of PA 252 (Newtown Road). Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: areas of high environmental importance.

Very Appropriate Strategies

- Closed Loop Computerized Traffic Signals;
- TSP;
- Enhanced Transit Amenities and Safety;
- Turning-Movement Enhancements;
- Improve Circulation; and
- County and Local Road Connectivity.

Strategy Notes

Improvements for Walking and Bicycling and Access Management (both engineering and policy strategies) are recommended in the Boosting the Bus Study. Access Management Projects and Policies and Revisions to Existing Land Use/Transportation Regulations are recommended in the Managing Access Study. Access Management (both engineering and policy strategies) and Growth Management and Smart Growth are recommended in the Route 3 Study. Improvements for Walking and Bicycling, Access Management (both engineering and policy strategies), and Revisions to Existing Land Use/Transportation Regulations are recommended in the Transit Advantage Study.

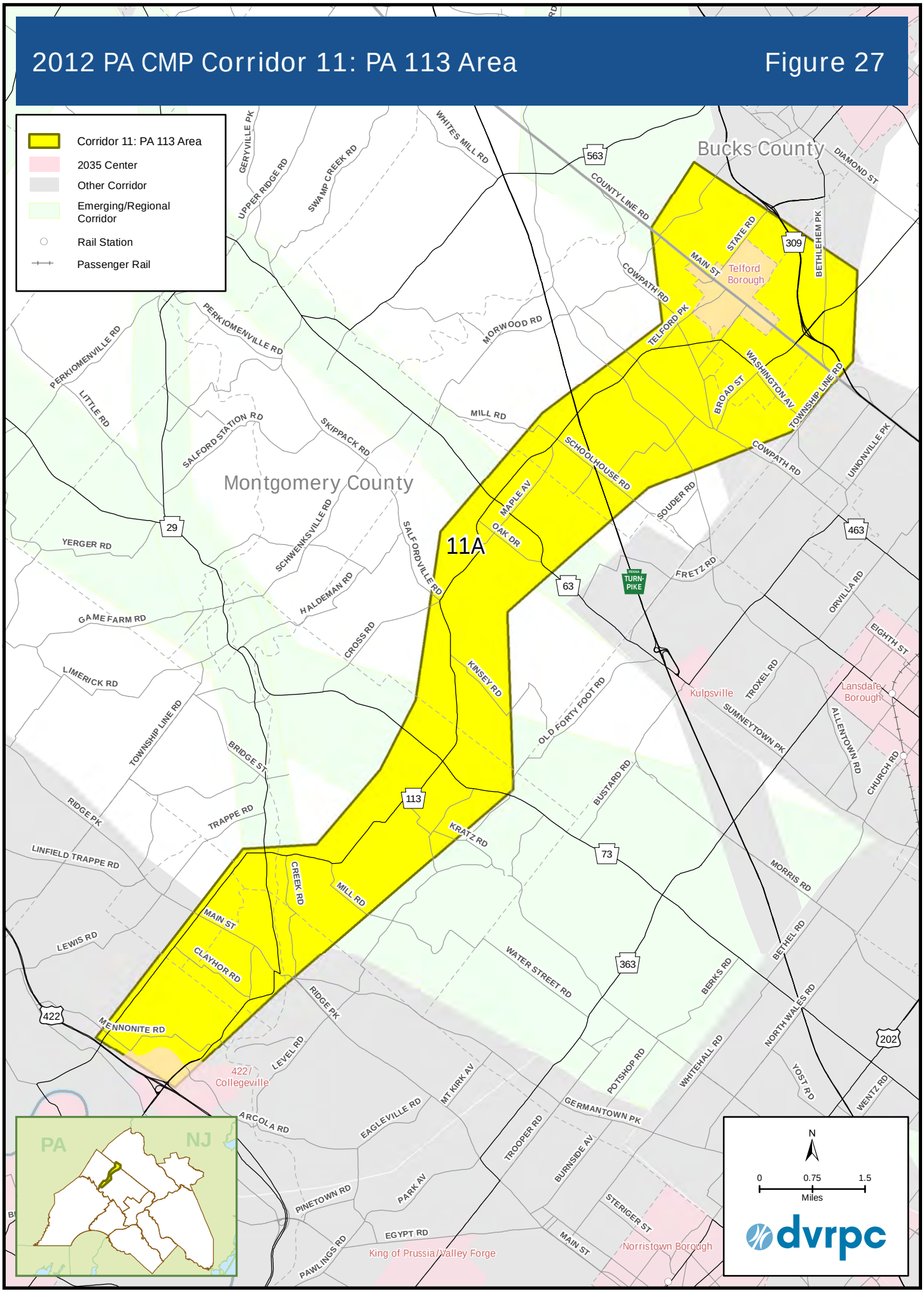
Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Darby Creek Greenway Study (Delaware County Planning Department, Currently Underway), Boosting the Bus: Better Transit Integration Along West Chester Pike (DVRPC #10033, 2011), Managing Access in Newtown Square: PA 3 and PA 252 in Newtown Township, Delaware County, Pennsylvania (DVRPC #10027, 2010), Feasibility Analysis of West Chester Busway 69th Street Terminal to I-476 (DVRPC #07001, 2007), Transit Advantage: Transit Signal Priority on PA Route 3 (Chester County TMA, 2007), Route 3 West Chester Pike Land Use and Access Management Strategies, Phase 1 (DVRPC #05029, 2006), Pennsylvania Congestion Management System – US 1/Baltimore Pike Corridor (DVRPC #00009, 2000).

2012 PA CMP Corridor 11: PA 113 Area

Figure 27



Corridor ID	Corridor Name	Corridor Notes
11	PA 113 area	PA 113 between US 422 and PA 309. This narrow east-west corridor was developed based primarily on TIP projects, and secondarily on analysis indicating east-west congestion.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	PA 113 (Souderton-Harleysville Pike) area, between US 422 and PA 309/vicinity of Montgomery/Bucks County Line	Focus of transportation issues seems to be commuters. Hatfield Meat Packing plant generates a lot of truck traffic, and commuters cut through going between PA 309 and the NE Extension. This area includes intersections with PA 29, PA 73, and PA 63, the intersection of Sumneytown Pike (PA 63) and I-476, PA 463, and County Line Road. Subcorridor characteristics include: parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criterion: areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Turning-Movement Enhancements;
- County and Local Road Connectivity;
- Comprehensive Policy Approaches;
- Park-and-Ride Lots; and
- Transportation Services for Specific Populations.

Strategy Notes

Growth Management and Smart Growth and Intersection Improvements of a Limited Scale are recommended in the PA 113 Study.

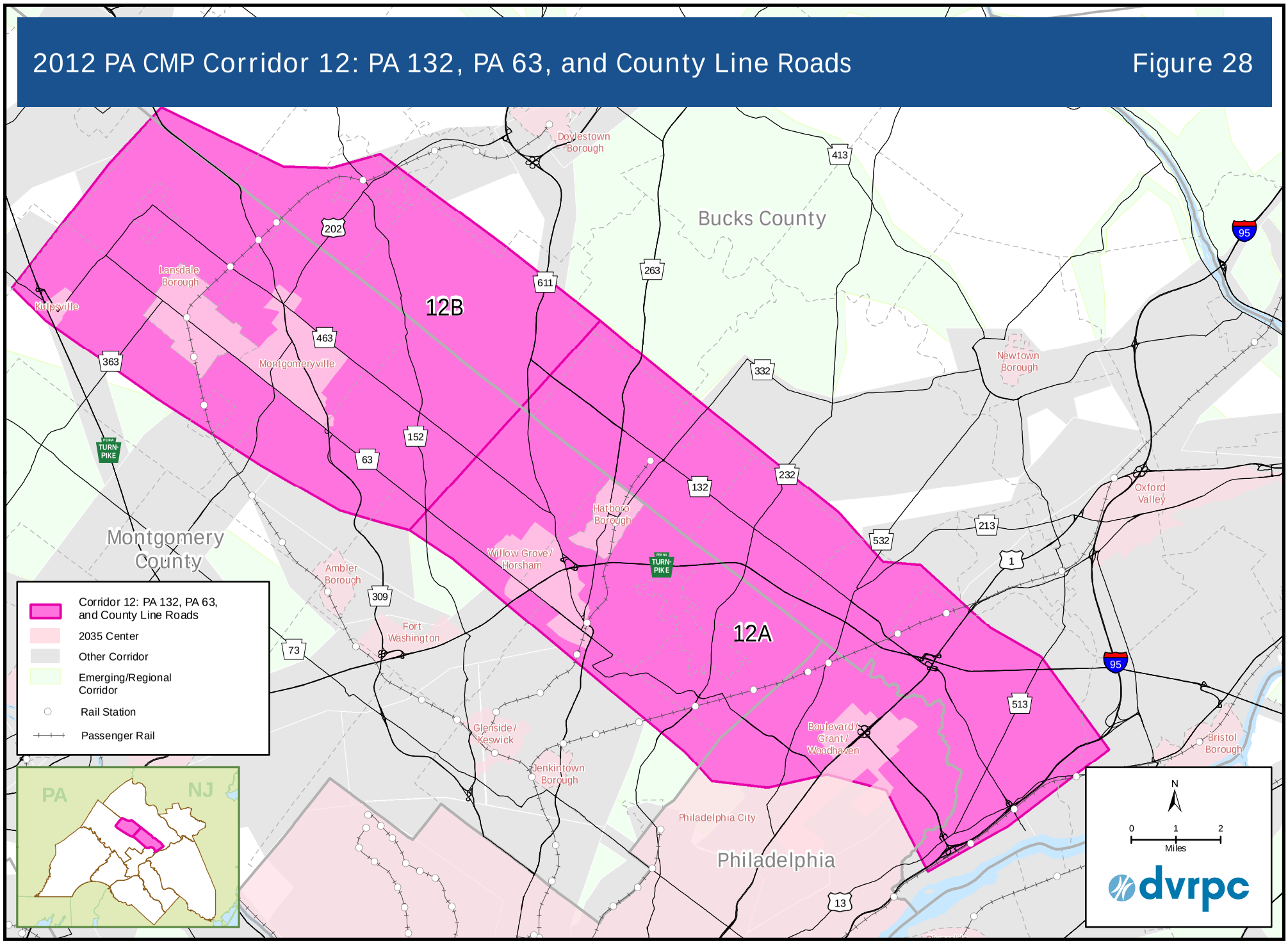
Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

PA 113 Heritage Corridor Transportation and Land Use Study (McMahon Associates, 2005).

2012 PA CMP Corridor 12: PA 132, PA 63, and County Line Roads

Figure 28



Corridor ID	Corridor Name	Corridor Notes
12	PA 132, PA 63, and County Line Roads	This corridor is centered around three parallel arterials that facilitate movements between Montgomery/Bucks Counties and northeast Philadelphia, while connecting several major north/south arterials (US 202, PA 309, and PA 611) to each other. PA 132 (Street Road) and PA 63 (Woodhaven Road) also connect to I-95.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	PA 611 to I-95; Lower Bucks County/Eastern Montgomery County/Northeast Philadelphia	This subcorridor includes Warminster and Horsham. It connects major office parks, a former air base, and bedroom (commuter) development to US 1 and I-95. It also includes 10 stations combined along SEPTA's Warminster and West Trenton regional rail lines. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high concentration of heavily used transit, high value for evacuation planning, areas of high environmental importance. It has high concentrations of numerous transportation-disadvantaged populations. PA 611 and US 1 have significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- County and Local Road Connectivity;
- Parking Supply-and-Demand Management; and
- Shuttle Service to Stations.

Strategy Notes

Safety Improvements and Programs, Signal Improvements, and Improvements for Walking are recommended in the Abington and Upper Moreland CCSAP Study. Improvements for Walking and Bicycling and Access Management (both engineering and policy strategies) are recommended in the Developing Around Transit Study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Widening and reconstruction of County Line Road from PA 309 to PA 611 (MRP ID: 34) is listed as a Major Regional Project in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
13347	I-95, PA Turnpike Interchange (TPK) – Stage 1

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Abington and Upper Moreland Townships, Montgomery County Congestion and Crash Site Analysis Program (DVRPC #09015, 2010), Routes 611 and 263 Corridor Study - Phase 2 Report (DVRPC #08045C, 2009), Developing Around Transit (DVRPC #06034, 2006), Assessment of Land Use and Transportation Solutions for the Route 413/513 Corridor (DVRPC Publication #04014, 2004), Pennsylvania Congestion Management System - PA 413 Corridor (DVRPC #03016, 2003), Congestion Management System Analysis: The Woodhaven Road Project (McCormick, Taylor & Assoc., 1997).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	PA 309 to PA 611	This subcorridor includes Kulpsville, Lansdale, Montgomeryville, and Warrington. It contains major industrial parks, a shopping mall/retail center, and growing bedroom (commuter) development. It facilitates local and intercounty movements by connecting north/south principal arterials, such as US 202, PA 309, and PA 152. It also includes seven stations along SEPTA's Lansdale/Doylestown regional rail line. This subcorridor includes the Lansdale Yard freight facility. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high concentration of heavily used transit and high value for evacuation planning. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Improve Circulation;
- Comprehensive Policy Approaches; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

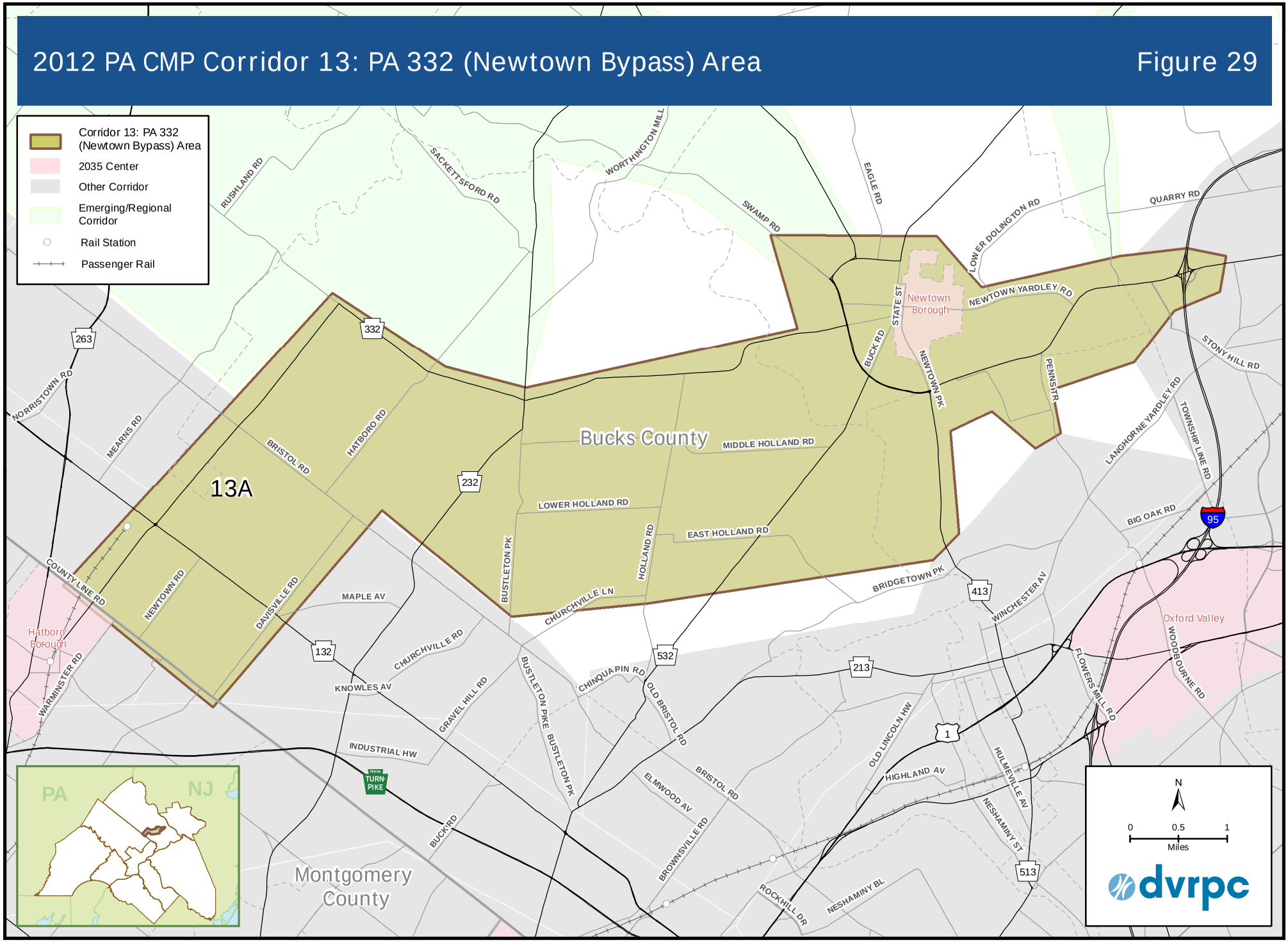
Widening and reconstruction of County Line Road from PA 309 to PA 611 (MRP ID: 34),Constructing a New Road from PA 309 to Sumneytown Pike; Phase II of Upgrades and Reconstruction (MRP ID: 57), and the Quakertown Line, New Passenger Rail Line from Landsdale to Shelly (MRP ID: N) are listed as Major Regional Projects in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Developing Around Transit (DVRPC #06034, 2006), Assessment of Land Use and Transportation Solutions for the Route 413/513 Corridor (DVRPC Publication #04014, 2004), Pennsylvania Congestion Management System - PA 413 Corridor (DVRPC #03016, 2003), Congestion Management System Analysis: The Woodhaven Road Project (McCormick, Taylor & Assoc., 1997).

2012 PA CMP Corridor 13: PA 332 (Newtown Bypass) Area

Figure 29



Corridor ID	Corridor Name	Corridor Notes
13	PA 332 (Newtown Bypass) Area	I-95 to Newtown and Warminster east-west corridor. It includes movement to and from I-95; may be less important when the I-276 and I-95 interchange opens.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	PA 332 area between Bucks/Montgomery County Line and the I-95 interchange	This subcorridor includes Newtown Borough and several big office parks. It has high concentrations of numerous transportation-disadvantaged populations.

Very Appropriate Strategies

- Signal Improvements;
- Intersection Improvements of a Limited Scale;
- Turning-Movement Enhancements; and
- County and Local Road Connectivity.

Strategy Notes

In the Route 413/513 Study, recommendation area 9 focused on where PA 413 connects to the Newtown Bypass. The PA 413 Access Management Case Study reviews the intersection of PA 413 and 332. Improvements for Walking and Bicycling and Access Management (both engineering and policy strategies) are recommended in the Developing Around Transit Study. Access Management (both engineering and policy strategies) is also recommended in the PA 413 Access Management Case Study. Signal Improvements, Signage, and Safety Improvements and Programs are recommended in the Bucks County Study.

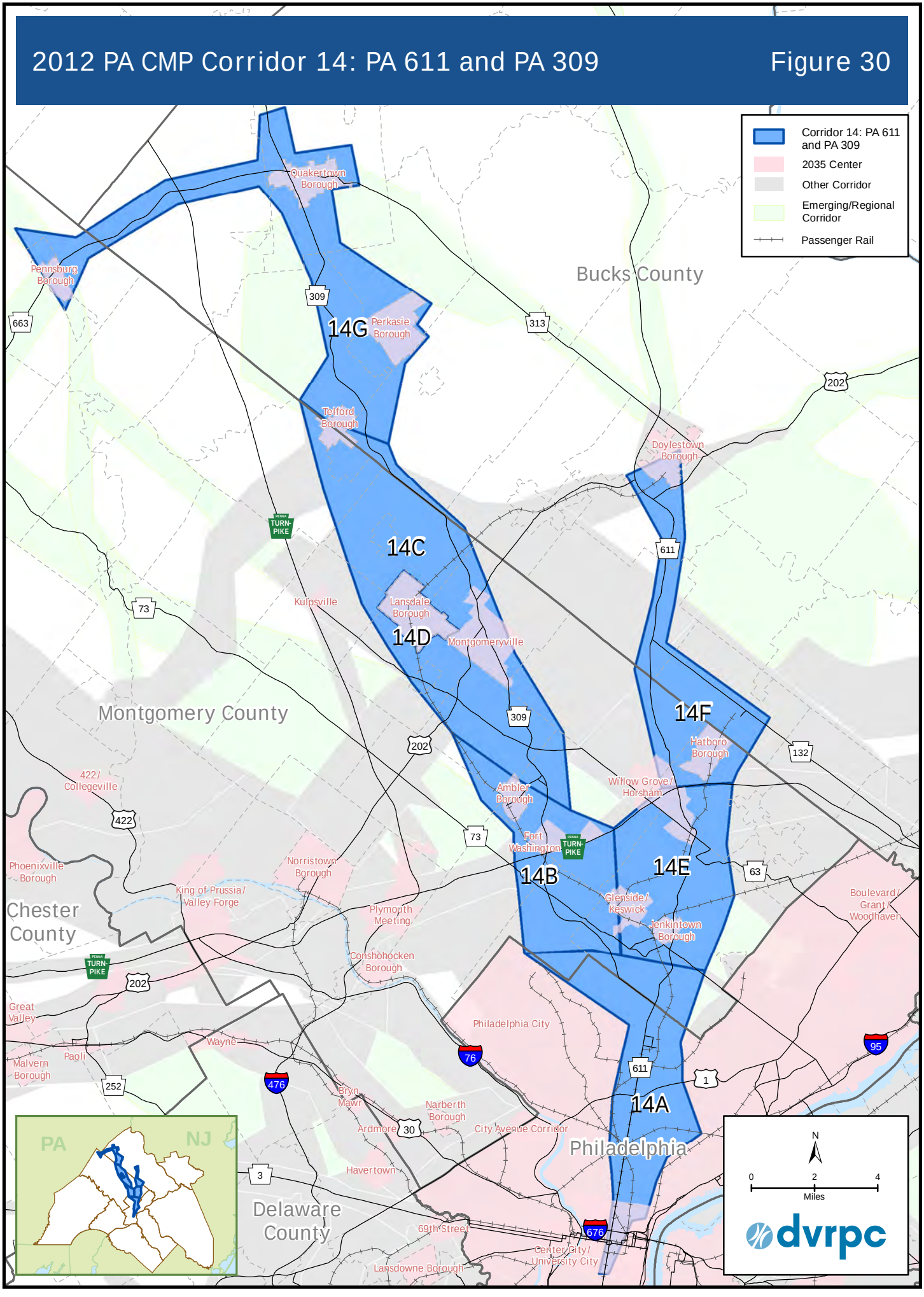
A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Highway Access Management Case Study Corridor: Durham Road PA413 (DVRPC #08098, 2008), Bucks County Regional Traffic Study (DVPRC #07026, 2007), Developing Around Transit (DVRPC #06034, 2006), Assessment of Land Use and Transportation Solutions for the Route 413/513 Corridor (DVRPC #04014, 2004), Pennsylvania Congestion Management System – PA 413 Corridor (DVRPC #03016, 2003).

2012 PA CMP Corridor 14: PA 611 and PA 309

Figure 30



Corridor ID	Corridor Name	Corridor Notes
14	PA 611 and PA 309	Broad Street in Center City extending north to follow PA 309 to Quakertown Borough and PA 611 to Doylestown.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	PA 611/309 from Center City to vicinity of Philadelphia/Mont-gomery County Line	Washington Avenue (south Philadelphia) to where PA 309 splits from being Cheltenham Avenue just north of the Philadelphia/Montgomery line. This corridor includes the Market East Train Station, one of the busiest in Philadelphia. It includes the Broad Street Line and stations for SEPTA regional rail, Market Street Line, and PATCO. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: transit need and high concentration of heavily used transit. All seven transportation-disadvantaged populations analyzed have densities in this subcorridor at two or more times those of the region. With Market East Station being one of the most heavily used in the region, it may be useful to enhance transit security planning. Broad Street (PA 611) has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Expanded Parking/Improved Access to Stations (all modes);
- Economic-Development-Oriented Transportation Policies; and
- TOD.

Strategy Notes

The Philadelphia Streets Departments states: "Broad Street north of Grange and Old York Road does not have electronic controllers with fiber optic interconnect and are not compatible to ITS. Electronic controllers would allow the system to be responsive to traffic volumes. Cheltenham Avenue has some electronic controllers but does not have fiber optic interconnect and therefore cannot be responsive to changes in traffic volumes. Many bus routes use Cheltenham Avenue, Broad Street, and Old York Road. Electronic controllers can provide transit priority. Broad and Olney is a major transfer point from bus routes to the subway system. Parallel regional rail lines to both PA 611 and PA 309 need more parking to allow diversion onto rails. The Fern Rock subway station needs additional parking for diversion onto the Subway" (Denny, 10/17/08).

Improvements for Walking and Bicycling are recommended in the North Broad Study. Signage and Marketing/Outreach for Transit and TDM Services are recommended in the Implementing TOD Study. Improvements for Walking and Bicycling, Signage, and Revisions to Existing Land Use/Transportation Regulations are recommended in the 611 and 263 Corridor Phase 1 and Phase 2 Studies.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. Enhancing the ability to evacuate people from this subcorridor may be useful, as it has high concentrations of population or employment and existing congestion. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Routes 611 and 263 Corridor Study - Phase 2 Report (DVRPC #08045C, 2009), Routes 611 and 263 Corridor Study - Phase 1 Report (DVRPC #08045B, 2008), North Broad Street Transportation and Access Study (Orth-Rodgers and Associates, Inc. for the Philadelphia City Planning Commission, 2007), Implementing Transit-Oriented Development (DVRPC #04044, 2004).
Reference for note: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	PA 309 north of turn from Cheltenham Avenue, including Fort Washington, Ambler area	This subcorridor includes six stations on SEPTA's Lansdale/Doylestown regional rail line. The east-west Norfolk Southern Morrisville freight line crosses the subcorridor. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high anticipated growth in V/C, segments with high crash rates, and contains areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Expanded Parking/Improved Access to Stations (all modes);
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Coordinate with PA 309, US 422, US 202 Incident Management Task Force.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios in the 2035 travel model. Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

Corridor Studies Include (also see Bibliography)

Routes 611 and 263 Corridor Study - Phase 2 Report (DVRPC #08045C, 2009), Increasing Intermodal Access to Transit, Phase III (DVRPC, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
C	PA 309 northern suburbs of Montgomery County north to vicinity of Telford Borough at the border of Montgomery and Bucks counties	This subcorridor extends from Lower Gwynedd to the Montgomery/Bucks county line. It includes Montgomeryville. This subcorridor does not include Lansdale Borough (see 14D). Areas of this subcorridor have two or more times the regional density of people with limited English proficiency.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- TOD; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Coordinate with PA 309, US 422, US 202 Incident Management Task Force.

Recommended for TOD in the Developing Around Transit Study (North Wales Station on SEPTA's Lansdale/Doylestown Line). Revisions to Existing Land Use/Transportation Regulations are also recommended in the Developing Around Transit Study. Intersection Improvements of a Limited Scale are recommended in the Route 3 Study.

Improvements for Walking and Bicycling and Marketing/Outreach for Transit and TDM strategies can build upon existing successes in high transit use (especially at rail stations) in subcorridors like this one. General Purpose Lanes were an appropriate strategy in the 2006 and 2009 CMP. MPMS 63491 remains consistent with the CMP for continuity.

The Quakertown Line, New Passenger Rail Line from Landsdale to Shelly (MRP ID: N), Constructing a New Road from PA 309 to Sumneytown Pike; Phase II of Upgrades and Reconstruction (MRP ID: 57), and Widening and Reconstruction of County Line Road from PA 309 to PA 611 (MRP ID: 34) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
63491	US 202, Morris Road to Swedesford Road (65S)

Corridor Studies Include (also see Bibliography)

Developing Around Transit (DVRPC #06034, 2006), Access Management Along County Line Road/PA 309 (DVRPC #05020, 2005).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
D	Lansdale Borough	Lansdale is separated out, as appropriate strategies are different than for the surrounding area. This subcorridor includes the Lansdale Yard freight facility. There are areas in this subcorridor where the densities of elderly people and people with limited English proficiency are two or more times that of the region.

Very Appropriate Strategies

- Signal Improvements;
- Parking Operations;
- Improve Circulation;
- TOD; and
- Transportation Services for Specific Populations.

Strategy Notes

Recommended for TOD in the Implementing TOD study. Revisions to Existing Land Use/Transportation Guidelines are also recommended in the Implementing TOD study.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use (especially rail) subcorridors like this one.

The Quakertown Line, New Passenger Rail Line from Landsdale to Shelly (MRP ID: N), is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Implementing Transit-Oriented Development (DVRPC #04044, 2004).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
E	PA 611 north of turn from Cheltenham Avenue to PA Turnpike	Jenkintown, Abington, Upper Moreland area. This subcorridor has extensive SEPTA commuter rail service including its Main Line, West Trenton Line, and Warminster Line. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for: high concentration of heavily used transit and contains areas of high environmental importance. Parts of this subcorridor have densities of elderly people at two or more times the regional average. PA 611 has significant areas of high duration of congestion.

Very Appropriate Strategies

- Signal Improvements;
- Expanded Parking/Improved Access to Stations (all modes);
- Park-and-Ride Lots;
- TOD; and
- Walking and Bicycling Improvements.

Strategy Notes

Improvements for Walking and Bicycling, Signage, and Revisions to Existing Land Use/Transportation Regulations are recommended in the 611 and 263 Corridor Phase 1 and Phase 2 Studies. The Noble and Willow Grove station areas are recommended for TOD in the 611 and 263 Corridor Phase 1 and Phase 2 Studies.

Marketing/Outreach for Transit and TDM strategies can build upon existing successes in high transit use subcorridors like this one. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance.

Corridor Studies Include (also see Bibliography)

SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines (DVRPC #10025, 2010), Routes 611 and 263 Corridor Study - Phase 2 Report (DVRPC #08045C, 2009), Routes 611 and 263 Corridor Study - Phase 1 Report (DVRPC #08045B, 2008).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
F	PA 611 north of I-276 to Doylestown	The southern part of this subcorridor extends to include PA 132 and Warminster, then narrows going north to Doylestown. Parts of this subcorridor have densities twice that of the regional average of people with limited English proficiency, who identify themselves as Hispanic, or female head of household with child.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- TOD; and
- Extensions or Changes in Bus Routes.

Strategy Notes

Recommended for TOD in the Developing Around Transit Study (Warminster Station on SEPTA's Warminster line). Improvements for Walking and Bicycling, Access Management (both engineering and policy strategies), and Context-Sensitive Design are recommended in the Developing Around Transit Study. Improvements for Walking and Bicycling, Signage, and Revisions to Existing Land Use/Transportation Regulations are recommended in the 611 and 263 Corridor Phase 1 and Phase 2 Studies.

Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making.

Widening and Reconstruction of County Line Road from PA 309 to PA 611 (MRP ID: 34) is listed as a Major Regional Project in the *Connections* plan.

Corridor Studies Include (also see Bibliography)

Routes 611 and 263 Corridor Study - Phase 2 Report (DVRPC #08045C, 2009), Routes 611 and 263 Corridor Study - Phase 1 Report (DVRPC #08045B, 2008), Developing Around Transit (DVRPC #06034, 2006).

Subcorridor ID	Subcorridor Name	Subcorridor Notes
G	PA 309 north of the Montgomery/Bucks County Line to Quakertown	The character of the PA 309 corridor changes north of the Montgomery/Bucks line. PA 309 becomes a divided limited-access highway. As PA 309 enters Quakertown, it is a busy commercial area. This subcorridor also contains PA 313 (Broad Street) and PA 663 following the transportation corridor to the boroughs of Pennsburg and East Greenville. This subcorridor contains areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Land Use/Transportation Policies; and
- Extensions or Changes in Bus Routes.

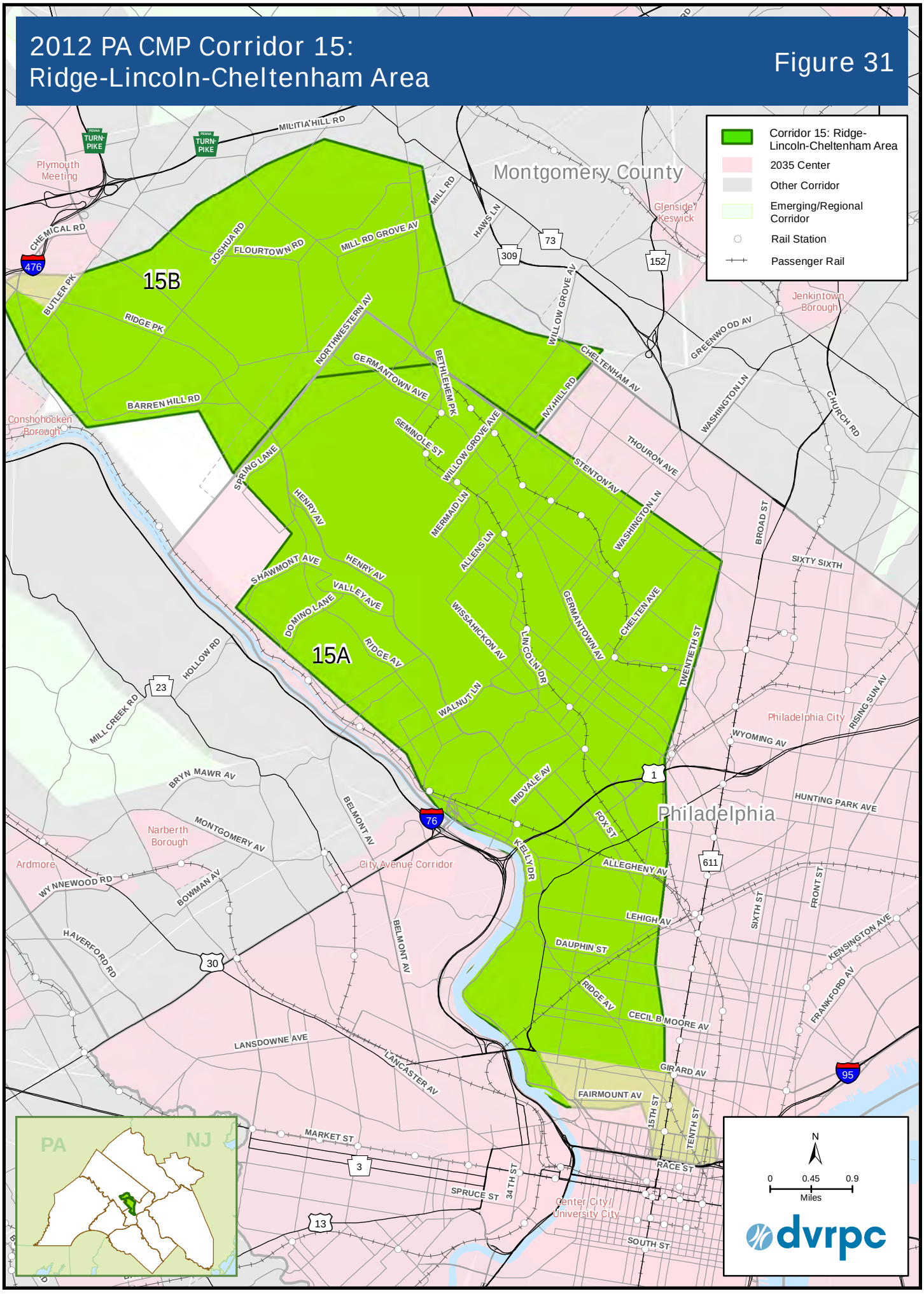
Strategy Notes

Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

The Quakertown Line, New Passenger Rail Line from Lansdale to Shelly (MRP ID: N), is listed as a Major Regional Project in the *Connections* plan.

2012 PA CMP Corridor 15: Ridge-Lincoln-Cheltenham Area

Figure 31



Corridor ID	Corridor Name	Corridor Notes
15	Ridge-Lincoln-Cheltenham area	Pie-shaped area of generally similar land use from Ridge Avenue, across Lincoln Drive, Cheltenham Avenue, up toward I-276.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	Philadelphia residential communities around Ridge Road, Lincoln Drive, and Cheltenham area	This subcorridor includes the East Falls, Manayunk, Roxborough, Germantown, Mount Airy, and Chestnut Hill communities. These are dense, older communities with extensive transit service, including 22 train stations. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: high current V/C, high anticipated growth in V/C, and high transit need. Portions of this subcorridor have densities at two times the regional average of the following transportation-disadvantaged populations: people with physical disabilities and non-Hispanic minorities.

Very Appropriate Strategies

- Signal Improvements;
- Transit Infrastructure Improvements;
- Expanded Parking/Improved Access to Stations (all modes);
- Economic-Development-Oriented Transportation Policies; and
- Modifications to Existing Transit Routes or Services;

Strategy Notes

The Philadelphia Streets Department states: "Many of the parallel streets in this area do not have electronic controllers with fiber optic interconnect and are not compatible to ITS. Regional rail stations in this area need more parking to allow diversion from roads to rails" (Denny,10/15/08). The Philadelphia City Planning Commission also addressed safety of vehicles left when people take trains; this emphasizes an element of Enhanced Transit Amenities and Safety (Schaaf,10/20/08).

Improvements for Walking and Bicycling are recommended in the Germantown and Nicetown Study.

Growth Management and Smart Growth strategies, Access Management, Bottleneck Removal of a Limited Scale, Complete Streets, and Revisions to Existing Land Use/Transportation Regulations are especially important in corridors with high V/C ratios now and in the 2035 travel model. Marketing/Outreach for Transit and TDM strategies, and Improvements for Walking and Bicycling, can build upon existing successes in high transit use subcorridors like this one. A variety of strategies should be used in order to meet the needs of the people in the many high concentrations of transportation-disadvantaged populations, including Multilingual Communication and EJ Outreach for Decision-Making. Given the levels of current and future congestion, Adding Capacity to Existing Roads and Transit Capacity-Adding strategies are appropriate in this subcorridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Corridor Studies Include (also see Bibliography)

Germantown and Nicetown Transit-Oriented Plan (Philadelphia City Planning Commission, 2009). References for notes: e-mail from Charles Denny, Assistant Chief Traffic Engineer, Philadelphia Streets Department, 10/17/08; email from Debbie Schaaf, Senior Transportation Planner, Philadelphia City Planning Commission, 10/20/08.

Subcorridor ID	Subcorridor Name	Subcorridor Notes
B	Montgomery County side of Ridge Road, Lincoln Drive, and Cheltenham Avenue, including Springfield and Whitemarsh townships	Less dense but developing; through traffic is reported to be an issue. This area includes Ridge Pike, Stenton Avenue, and Willow Grove Avenue. This subcorridor contains areas where the density of elderly people is two or more times the regional average.

Very Appropriate Strategies

- ➔ Signal Improvements;
- ➔ Comprehensive Policy Approaches; and
- ➔ Walking and Bicycling Improvements.

Strategy Notes

Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan.

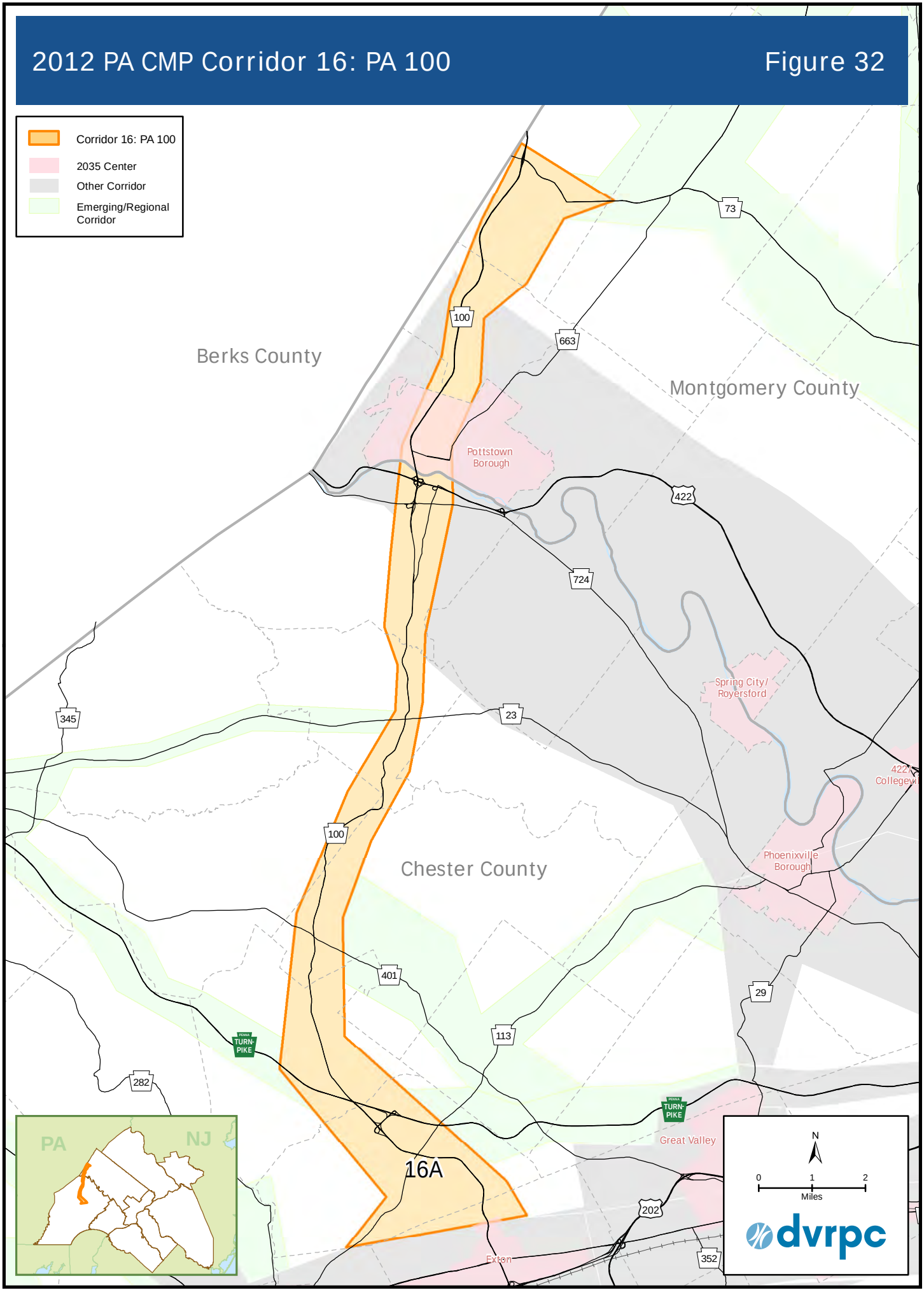
MPMS 16577 remains consistent with the CMP by specific reference.

Corridor Studies Include (also see Bibliography)

Schuylkill Crossings Traffic Study (DVRPC #07040, 2008).

2012 PA CMP Corridor 16: PA 100

Figure 32



Corridor ID	Corridor Name	Corridor Notes
16	PA 100	North-South corridor focused on PA 100 from Exton to PA 73.
Subcorridor ID	**Subcorridor Name**	**Subcorridor Notes**
A	PA 100 north of US 30 area. This was formerly subcorridor 8I	Intersection of US 202 and PA 100, north past Pottstown to PA 73. This subcorridor includes roads within the Limerick Nuclear Power Plant EMZ (Emergency Management Zone). In an effort to simplify, this subcorridor was broken out from the US 202 corridor (where it was formerly 8I) to a separate corridor in 2012. Parts of this subcorridor are in the top 20 percent of Pennsylvania subcorridors for the following criteria: contains segments with high crash rates and areas of high environmental importance.

Very Appropriate Strategies

- Signal Improvements;
- Turning-Movement Enhancements;
- Improve Circulation;
- Comprehensive Policy Approaches;
- Walking and Bicycling Improvements; and
- Modifications to Existing Transit Routes or Services.

Strategy Notes

Context-Sensitive Design is recommended in the PMRPC report. Safety Improvements and Programs, Improvements for Walking and Bicycling, Revisions to Existing Land Use/Transportation Regulations, Context-Sensitive Design, and Access Management Policies and Projects are recommended in the Tri-County Transportation Study. PA CMS: PA 100 Corridor Study segments 3,4,5,6,8,10. PA 100 CMS Study recommends capacity additions in the area of MPMS 14515.

Safety Improvements and Programs are especially important in subcorridors such as this one, with segments that have very high crash rates. Future consideration of adding road capacity should be carefully examined, as this subcorridor contains areas of high environmental importance. Comprehensive Policy Approaches and Land Use/Transportation Policies should be considered for this subcorridor, since it includes areas agreed upon as Rural Land Use in the *Connections* plan. General Purpose Lanes were an appropriate strategy in the 2006 CMP. MPMS 14515 remains consistent with the CMP for continuity.

I-76 (PA Turnpike) Widening from Downingtown to Valley Forge (MRP ID: 40) and PA 100 Widening from Shoen Road to Gordon Road (MRP ID: 42) are listed as Major Regional Projects in the *Connections* plan.

Major Single-Occupancy Vehicles Capacity-Adding TIP Projects as of June 2012

See the TIP for more current and complete information at www.dvrpc.org/transportation/capital/tip.htm.

TIP MPMS	Project Name
14515	PA 100, Shoen Road to Gordon Drive (02L)

Corridor Studies Include (also see Bibliography)

Tri-County Transportation Study: A Vision for PA Route 100 (DVRPC Publication #08092, 2010), Northern Chester County Gateway Master Plan (North Coventry Township, 2008), Pottstown Metropolitan Regional Planning Commission Regional Comprehensive Plan (Montgomery County Planning Commission, 2005), Pennsylvania Congestion Management System: PA 100 Corridor

Study (DVRPC Publication #02009, 2002), PA 100 Corridor Study (DVRPC Publication #98002, 1998).

CHAPTER 5

Next Steps

Completing a CMP report is just one step in an ongoing cycle. Some of the significant steps that follow completing the 2012 report include strengthening how the CMP is used to manage congestion and continuing to improve communication. Specific next steps include:

- Strengthening how the CMP results in actual improvements or ideas for projects in the pipeline, working with state DOTs and others beyond the several ways it has been used for years. This includes participation in a new way for MPOs to participate in the NJDOT project development process and the PennDOT Linking Planning and NEPA process;
- Continuing to explore how to use archived operations data for planning, including before-and-after studies, and building cooperation with people involved in transportation operations;
- Developing an improved version of the interactive online CMP mapping application and otherwise continuing to enhance communication for a variety of audiences;
- Continuing to review submitted TIP projects for consistency with the CMP and reaching out to managers of projects that will likely add major SOV capacity. This includes continuing to prepare the *Supplemental Projects Status Memorandum*; and
- Starting to evaluate what is working well in the CMP itself and what to strengthen or change for the next update cycle, which will start in Fiscal Year (FY) 2014.

The pieces in this chapter are:

- How DVRPC continues to incorporate the CMP internally and in its work with others is outlined in DVRPC CMP Tasks, Table 9;
- What other governmental bodies are asked and/or required to do to implement the CMP is included as the brief Table 10: CMP Responsibilities of Governmental Bodies;
- An overview of Potential Funding Sources is included in Table 11. It is intended as a starting point when thinking about implementing strategies and to provide a sense of the wide range of ways to go about funding projects; and
- Initial reflections on how this cycle worked and notes for the next cycle are gathered in the last section, Conclusions and Potential Future Refinements.

Table 9: DVRPC CMP Tasks

Task	Lead Section of DVRPC
Improve how the CMP results in actual improvements or ideas for projects working with state DOTs and others. Use priority subcorridors, along with other management systems, and work with counties and others to develop a set of priority additions to the TIP or for other funding sources. Prepare the annual New Jersey Project Identification and Prioritization (PIP) letter. Continue to coordinate with PennDOT efforts to use management system data in project development.	Congestion Management and Capital Programs
Continue to use the CMP and Long-Range Plan in the TIP project evaluation process; prioritize funding of projects that advance regional goals.	Capital Programs, Long-Range Planning
Continue to work with DOT, county, and authority staff on projects and studies likely to result in major SOV capacity-adding projects. Provide analysis of reasonable strategies to address problems and, if additional capacity is warranted, help develop supplemental strategies scaled to the project to get the most long-term value from the investment. Track the status of the commitments in the Status of Supplemental Projects Report.	Congestion Management with others
Provide data to a wide range of corridor and other studies, plans, and projects.	Congestion Management, Transportation and Corridor Studies, others
Participate in regional efforts. This includes efforts led by DVRPC, such as the regional performance measures. It also includes efforts run by other agencies, such as the PennDOT Planning and NEPA effort, NJDOT CMS-21, and coordination with other MPOs.	Congestion Management with others
Consider the CMP congested corridors, and particularly the priority subcorridors, when selecting corridor study locations; include the CMP strategies and provide the resulting prioritized list of actions to the CMP	Transportation and Corridor Studies
Do outreach and education efforts, including: ■ Website postings of CMP materials, including online mapping and work on an interactive "congestion dashboard" for a few priority subcorridors; ■ Include specific outreach to DOT project managers, including through meetings at DOTs. On-site meetings will be held elsewhere as requested; and ■ Work from the bottom up as well as the top down, including through a newsletter series focusing on one priority	Congestion Management, Corridor Planning, Transportation and Corridor Studies

Table 9: DVRPC CMP Tasks (continued)

Task	Lead Section of DVRPC
subcorridor per year in Pennsylvania and New Jersey oriented to and distributed to community groups and local officials in that area. Usually, this will be coordinated with ongoing corridor or regional transportation studies.	
Advance the relationships and methodologies to use archived operations data for planning in coordination with a range of offices within DVRPC and of other partners.	Congestion Management
Continue incorporating major corridor studies and plans into the CMP for strategy refinement to encourage coordinated efforts, and to help implementing the plans. A requirement for plans prepared by other agencies to be incorporated in the CMP is that they are consistent with the Long-Range Plan.	Congestion Management
Evaluate what is working well in the CMP itself and what to strengthen or change for the next update cycle, which will start in FY 2014.	Congestion Management
Continue efforts to evaluate anticipated effects of multimodal strategies at a sketch planning level.	Congestion Management, Modeling and Analysis
Refine understanding of experienced effects of projects (post-implementation evaluation), including by gathering and encouraging before-and-after studies and using the previously developed multiple regression methodology with archived operations data.	Congestion Management
Monitor changes to federal CMP regulations. Provide input to rulemaking, as useful. Modify CMP to reflect any new requirements.	Congestion Management

Source: DVRPC, 2012

Table 10: CMP Responsibilities of Governmental Bodies

Task	Leadership
It is important that managers of TIP projects keep descriptions current as projects develop. Failing to do so can result in a rush of required CMP or air-quality conformity activity that can delay projects, or even the whole TIP.	Project Managers at DOTs and Counties
Any entity proposing TIP projects or other projects that add major SOV capacity is to provide a CMP contact person at its agency. Large agencies should provide a main contact and a list of other people for e-mails.	RTC members, TIP committees, Capital Programming and Congestion Management staff
Project managers should contact DVRPC early in the process—at a point when the project is still flexible—for CMP consultation. Waiting until late in the process could lead to a requirement for additional analysis. DVRPC will work with managers of studies and projects that may add SOV capacity on considering a range of appropriate strategies. As a policy, major SOV capacity-adding projects will not be funded in the TIP past the Preliminary Engineering phase without a table of supplemental strategies that has been approved by DVRPC.	Project managers, such as those at DOTs
NJDOT has requested specific prioritized input regarding congestion management. Currently, this is done through the NJ Problem Identification and Prioritization (PIP) process. NJDOT has agreed to respond in writing to such submittals.	NJDOT Systems Planning and NJDOT Project Planning
Agencies and governmental bodies should participate in CMP updates to share their knowledge and to be informed so they can take advantage of the benefits of the CMP.	Members of DVRPC and others, as appropriate

Source: DVRPC, 2012

Table 11: Potential Funding Sources

Funding Programs with Citations	Uses	Contacts for Information
Regionwide		
Community Development Block Grant (CDBG) Program, 42 USC Sections 5301-5320	Grants and technical assistance for designated municipalities for many types of community development.	HUD, DVRPC, County Planning Commissions/Divisions
Congestion Mitigation and Air Quality Improvement Program (CMAQ) 23 USC Section 149	These funds may be used on a variety of projects that reduce emissions from highway sources and/or relieve congestion without adding new highway capacity, including bicyclist/pedestrian facilities, traffic flow improvements, and demand management programs.	DVRPC, PennDOT, NJDOT, FHWA
Demonstration Funds (DEMO)	Special federal funding from congressional earmarks provided under ISTEA, TEA-21, and SAFETEA-LU.	DVRPC, PennDOT, NJDOT, FHWA
Elderly Individuals and Individuals with Disabilities Program 49 USC Section 5310 & New Freedom Program[6] 49 USC Section 5317	Funds are used to provide transportation services to meet the special needs of elderly individuals and individuals with disabilities. The New Freedom Program provides funds for programs that go beyond Americans with Disabilities Act requirements.	DVRPC, NJ Transit, SEPTA, FTA
Enterprise Zone Program 42 USC Section 11501	Grants to financially disadvantaged communities for preparing and implementing business development strategies within zones.	HUD, DVRPC, County Planning Commissions/Divisions
Federal Bridge Program[7]	These funds are for highway bridges on or off of the federal aid network. Work may include bicyclist/pedestrian treatments for the bridge.	DVRPC, PennDOT, NJDOT, FHWA
Highway Safety Improvement Program (HSIP)	Federal funding for projects or strategies included in a state Strategic Highway Safety Plan that corrects or improves a hazardous road location or features or addresses a highway safety problem; includes local roads.	DVRPC, PennDOT, NJDOT, FHWA

[6] The new MAP-21 legislation incorporates the New Freedom Program into the 5310 Program.
[7] The new MAP-21 legislation combines some Federal Bridge Program funds into a new funding category called the National Highway Performance Program.

Table 11: Potential Funding Sources (continued)

Funding Programs with Citations	Uses	Contacts for Information
Job Access and Reverse Commute Grants (JARC)[8] 49 USC Section 5316	These funds can be used for a range of services, usually transit related, that either increase job accessibility for the most disadvantaged members of the population or facilitate reverse commute movements.	DVRPC, NJ Transit, SEPTA, FTA
Metropolitan Planning (often abbreviated as Planning or PL) 23 USC Section 1107, 49 USC Section 5303	Planning studies in the DVRPC Work Program.	DVRPC, PennDOT, NJDOT, FHWA, County Planning Commissions/Divisions
National Highway System (NHS) 23 USC Section 1408	Federal funding for projects that improve and support the interstate highway system and other key highway links. Acceptable uses include construction of carpool, related transit, bicycle and pedestrian walkways, ridesharing, and other demand management strategies in NHS corridors.	DVRPC, PennDOT, NJDOT, FHWA
Rail Highway Grade Crossing	Provides federal funding for safety improvement projects to reduce the number and severity of crashes at public highway-rail grade crossings.	DVRPC, PennDOT, NJDOT, FHWA, FTA
Ride-sharing and other transportation management activities	Transportation Management Associations (TMAs) coordinate an array of programs. Part of the funding is from 49 USC Section 3049.	TMAs, USDOT
Safe Routes to School[9]	This program works with school districts and pedestrian/bicyclist safety advocates to make physical improvements that promote safe walking and biking passages to schools.	DVRPC, NJDOT, PennDOT, FHWA
State and Community Highway Safety Grants 23 USC Section 1402	Pedestrian and bicyclist safety improvements are eligible.	DVRPC, PennDOT, NJDOT, FHWA
Surface Transportation Program (STP) 23 USC Section 1108	Flexible funding that may be used on any federal aid highway, bridge project, public road, transit capital project, and intra-city and inter-city bus terminals and facilities. They may be used for capital or planning projects, including roads, transit projects, construction of	DVRPC, PennDOT, NJDOT, FHWA

[8] The new MAP-21 legislation consolidates the JARC program into the 5307 Program.
[9] The new MAP-21 legislation incorporates this program into "Transportation Alternatives."

Table 11: Potential Funding Sources (continued)

Funding Programs with Citations	Uses	Contacts for Information
	bicyclist/pedestrian facilities, or nonconstruction projects, such as maps.	
Transit Capital Assistance Program 49 USC Section 5309	This includes the New Starts program, funding for alternatives analysis, and earmarks.	DVRPC, NJ Transit, SEPTA, FTA
Transit Urbanized Area Formula Grants 49 USC Section 5307	These funds can be used for improving bicyclist/pedestrian access to transit and capital expenses of providing transit service.	DVRPC, NJ Transit, SEPTA, FTA
Transportation and Community Development Initiative (TCDI)	This program funds planning activities to enhance redevelopment and improve the efficiency of the regional transportation system in older developed communities.	DVRPC
Transportation, Community, and System Preservation (TCSP) Program 23 USC Section 1117	Transit and highway projects that enhance transit-oriented development are eligible, along with other projects that improve the efficiency of the transportation system and reduce its impacts on the environment.	DVRPC, PennDOT, NJDOT, FTA, FHWA
Transportation Enhancement (TE) Program[10] 23 USC Section 1202, Paragraph 35	These funds are used for enhancements to the transportation system, including bicyclist and pedestrian facilities, preservation of rail corridors, and mitigation of transportation impacts on communities and the environment.	DVRPC, PennDOT, NJDOT, FHWA
Pennsylvania		
Pennsylvania Infrastructure Bank (PIB)	Provides low-interest loans to leverage state and federal funds, accelerate priority transportation projects, spur economic development, and assist local governments with their transportation needs.	PennDOT
Transit Research & Demonstration Program	Provides financial assistance for innovative projects that enhance the attractiveness of public transportation.	PennDOT Bureau of Public Transportation
Transportation Projects/Land Use Initiative	Competitive funding program for studies that coordinate transportation and land use.	PennDOT Center for Program Development and Management

[10] The new MAP-21 legislation incorporates this program into “Transportation Alternatives.”

Table 11: Potential Funding Sources (continued)

Funding Programs with Citations	Uses	Contacts for Information
New Jersey		
Local Aid for Municipalities and Counties	Funding from the State Transportation Trust Fund for local governments to do road, bridge, and other transportation projects, such as Transit-Oriented Design/Transit Village projects.	NJDOT
Smart Growth Grants	Grants for Design Guidelines for Creating Places, Transfer of Development Rights (TDR), Greyfield Redevelopment, and other programs.	NJ Department of Community Affairs
Smart Moves for Business Challenge Grant Program	Awards grants to New Jersey employers to develop innovative commuter assistance services.	NJ Department of Community Affairs

Source: DVRPC, 2012

Sources of Funding for Transportation Projects

All cited reports are available from www.dvrpc.org/asp/publicationsearch

- DVRPC TIPs (see www.dvrpc.org/transportation/capital/tip.htm);
- Funding Transportation Safety Improvements in the Delaware Valley (DVRPC Publication #10018);
- Options for Filling the Region's Transportation Funding Gap (DVRPC Publication #07045);
- Municipal Resource Guide and other funding information available at www.dvrpc.org/Funding
- Small Starts Feasibility – Regional Projects with Federal Small Starts Funding Potential" (DVRPC Publication #07016);
- Financing Mixed-Use Development in the Delaware Valley Region (DVRPC Publication #08037);
- Brownfield Resource Guide: Funding and Technical Assistance for Remediation and Reuse (DVRPC Publication #07052);
- NJ Department of Community Affairs: www.state.nj.us/dca;
- NJ Office of Local Aid and Economic Development: www.nj.gov/transportation/business/localaid;
- PennDOT (see Bureau of Planning and Research): www.dot.state.pa.us/Internet/Bureaus/pdPlanRes.nsf/PlanningAndResearchHomePage?OpenFrameset;
- Pennsylvania Infrastructure Bank: www.dot.state.pa.us/penndot/bureaus/PIB.nsf/HomePagePIB;
- Federal Transit Authority: www.fta.dot.gov;
- Federal Highway Administration: www.fhwa.dot.gov/discretionary and www.fhwa.dot.gov/safetealu/factsheets.htm; and
- US Housing and Urban Development: www.hud.gov/offices/cpd/communitydevelopment/programs.

Conclusions and Ideas for the Future

The CMP manages congestion in a manner that helps integrate transportation and land-use planning, a basic tenet of DVRPC's work. It helps coordinate the Long-Range Plan and the short-range TIP. The CMP is a consideration in the selection of corridor studies and contributes to other efforts that result in specific projects to address congestion.

The CMP has strengthened existing relationships and built new ones with a wide range of partners. It has been especially valuable to work more closely with DOT project managers to help coordinate across modes and enhance projects with supplemental commitments to get the most long-term value from transportation investments. All nine county partners are involved in the CMP Advisory Committee. County staff members seem to have especially complicated roles, trying to bring together the region's Long-Range Plan goals that they helped develop, their own county's goals, immediate transportation congestion, political pressures, and financial constraint. It is both a challenge to keep everyone relatively comfortable with the CMP and an accomplishment to have gotten this far.

Communicating with a variety of audiences is essential for the CMP. Efforts include appropriate outreach to audiences ranging from interested members of the public and municipal staff, to our partners in the region, to other MPOs figuring out how to manage congestion across the nation. Even among our partners, different materials are useful to DOT project managers than to elected officials. As part of our role in sharing successes and asking for advice, DVRPC's CMP is a case study in the national Congestion Management Process: A Guidebook (FHWA Publication FHWA-HEP-11-011). In addition to written material, use of websites (especially through interactive tools) continues to become more important. However, the value of face-to-face communication should not be underestimated. The annual outreach meetings at DOTs have been helpful and productive. Still, there is always room to continue improving communication and to learn from each other.

The first cycle of the CMP in 2006 was a period of figuring out how to do the basics. Two areas that received extra attention were the policy goals of the CMP, resulting in the Board-approved "DVRPC Perspectives" pages, and the corridors. The second cycle of the CMP in 2009 included extra examination of the criteria, especially to make them better represent growing suburban areas. The revised criteria analysis was used to update the corridors. The corridors developed with the refined criteria ended up extremely similar, which essentially validated the corridors. The 2012 third cycle of the CMP was the start of using archived operations data to measure reliability and was structured with more time to focus on the selection of strategies for each congested subcorridor.

A new step in the selection of strategies was to map the limited number of subcorridors (approximately one-third of them) that include adding road capacity as an appropriate strategy in time to help the CMP Advisory Committee discuss where these strategies made the most sense for the region. This was done as a final step in the 2009 CMP. A meaningful CMP cannot list adding road capacity for all subcorridors. However, it must recognize that various types of capacity are an appropriate last resort in some places. It must also start the process of considering what is needed—for example, reconstruction with minor new capacity, new lanes, or new sections of road. This discussion is closely coordinated with the Long-Range Plan. It provides medium-term planning that will influence the TIP, but it is not a discussion about funding or relative priority.

Another new step, developed based on advice from the CMP Advisory Committee, was to group similar strategies into families. For example, at the level of a regional CMP, it is difficult to say whether the need in a subcorridor is for left-turn lanes, channelized right-turn lanes, center-turn lanes, or jughandles. Each is a unique strategy explained in the Range of Strategies to Reduce

Congestion. As a result, the 2012 CMP groups related strategies such as these operational improvements into families. In the example used here, those four strategies were grouped together in a family called Turning-Movement Enhancements.

The CMP Advisory Committee and staff both found grouping of related strategies into families helpful in developing the strategies for each subcorridor. (See the Range of Strategies to Reduce Congestion for more about the strategy families.) Strategies that add road capacity were naturally also grouped into families: Minor Road Expansions, Adding Capacity to Existing Roads, and New Roads. An unexpected consequence was that it became more difficult to tell what was being discussed in the maps showing where new road capacity was an appropriate strategy than it had been in 2009. In the next update, the grouping of road capacity-adding strategies will be revised, with consideration of aiding the late step of mapping, as well as the earlier step of defining strategies by subcorridor.

From the beginning of CMP work, there has been interest and effort to understand the effectiveness of strategies. Different efforts have been undertaken in each update cycle. The 2012 CMP Report includes the start of a new effort that would include brief information about the effectiveness of frequently used strategies in the Range of Strategies. The vision is to move toward an online version that would include more data and, ideally, pictures of the strategy as used in the Delaware Valley. Advice is welcome as to how much detail to include in the next update of the CMP.

Some additional areas to explore and advance in the next cycle of the CMP are:

- Evaluating the anticipated effects of sets of strategies – This has been pursued in various ways over the years, with the goal of being able to encourage complimentary rather than competing sets of supplemental strategies and understand how much effect they would have. Recent work has explored use of a sketch-planning software tool called Cal B/C, as well as a few other software packages. This work will continue.
- Using archived operations data to analyze reliability – This is a promising, growing approach that will help analyze reliability of at least part of the road network. It will also make it much easier to evaluate the effectiveness of completed projects to improve understanding of the effectiveness of strategies.
- Being effective – In a small MPO, the CMP can do analysis of the few congested roads and delve into recommending projects. It is much more complex in the nine-county, bistate Delaware Valley. Nonetheless, the vision is to refine the CMP to be as effective as possible in managing congestion and advancing regional goals for the Delaware Valley.

Appendix A

CMP Criteria

Table 12: Criteria and Analysis-Based Strategy Guidance

These criteria flow from the goals of the 2035 Long-Range Plan, *Connections*, in the context of congestion management. The final column is one step of the development of strategies by subcorridor. For approximately the top 20 percent of subcorridors where the criterion is highest, these strategies will be reviewed. There are additional steps and reviews to developing strategies by subcorridor.

LRP Goal	CMP Objective	Criteria (short version)	Detailed Criteria	Guide to Advancing from Objectives and Criteria to Strategies*
Reduce Congestion	Minimize growth in recurring congestion.	1. High current peak-hour volume/capacity (V/C) ratios; and 2. High anticipated growth in V/C in the peak-period travel model, reflecting forecasts of population and employment.	V/C>=.85 used as a generalized LOS E across functional classes. 1. Calculate from traffic counts and capacities developed from the model; and 2. Links with 60 percent or greater increase in V/C between base year and future year peak period models – Existing analysis until new model available.	■ High V/C – Review of strategies for operations (road and transit), Turning-Movement Enhancements, and Signal Improvements. Where transit exists: TSP (under Signal Improvements family), ITS Improvements for Transit, Modifications to Existing Transit Routes or Services, and Transit Infrastructure Improvements; ■ High V/C on highways – ITS; ■ High Future V/C – Improve Circulation, Comprehensive Policy Approaches (especially Transit-First Policy). Add note emphasizing Comprehensive Policy Approaches (especially Growth Management and Smart Growth and Complete Streets), Revisions to Existing Land Use/Transportation Regulations (under Land Use/Transportation Policies family), Access Management policies and projects; and ■ Where both are in effect, consider all strategies above plus New Bus Services, Minor Road Expansions (such as Frontage or Service Roads and Major Reconstruction with Minor Capacity Additions).
Increase Mobility and Accessibility	Improve the reliability of the transportation system as an efficient, effective way to improve mobility; provide transit where it is most needed for accessibility.	1. Duration of congestion on as many major roads as data is available; and 2. Need for transit – High transit score and train stations, as they concentrate people for efficient transit and carpooling.	1. Analysis of 2009 archived operations data available through the I-95 Corridor Coalition Vehicle Probe Project for all available roads in the region for 5:00 to 6:00 PM (generalized peak hour), when travel speed is below 70 percent of posted speed; and 2. High or medium-high transit score by Traffic Analysis Zone – Use existing until 2012 (Census); all rail stations (including Amtrak).	■ Where duration of congestion is high and congestion measures above are high, review all strategies above, plus Interregional Transportation Coordination if appropriate. Integrated Corridor Management (ICM), New Bus Services (especially Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes), New Passenger Rail Investments, Adding Capacity to Existing Roads (especially Interchange with Related Road Segments, and General Purpose Lanes); ■ High Transit Score – Review which EJ Degrees of Disadvantage are two or more times the regional average and include strategies to help with the transportation needs of these disadvantaged populations. Local Delivery Service (under Encourage Use of Fewer Cars family), Walking and Bicycling Improvements, Modifications to Existing Transit Routes or Services, New Bus Services (especially Shuttle Service to Stations and Transportation Services for Specific Populations). Consider Economic-Development-Oriented Transportation Strategies where poverty is a major issue; and ■ In Notes, emphasize Multilingual Communication and Environmental Justice Outreach for Decision-Making (under Outreach and Marketing family), using a variety of EJ-oriented strategies.

Table 12: Criteria and Analysis-Based Strategy Guidance (continued)

LRP Goal	CMP Objective	Criteria (short version)	Detailed Criteria	Guide to Advancing from Objectives and Criteria to Strategies*
Rebuild and Maintain the Region's Transportation Infrastructure	Maintain existing core transportation network.	1. National Highway System (NHS); 2. Existing passenger transit; 3. Existing freight rail; and 4. Major freight facilities.	1. NHS, NHS connectors; 2. Existing passenger rail (including Amtrak), trolleys, buses, and shuttles with open door service (available to the public); 3. Existing freight rail lines; 4. Freight facilities – major rail yards, rail-truck intermodal yards, and ports (one-mile buffer); and 5. Philadelphia International Airport (one-mile buffer).	■ Road system – Review existing consistent Major SOV capacity-adding TIP projects with draft strategies (after doing top two boxes) and Notes. If any may not be consistent, review with corridor or CMS studies. If a project has been found consistent in the past but is no longer fitting with strategies, explain grandfathering in Notes. If any subcorridors with five or more existing Major SOV projects do not have capacity strategies, consider adding road and transit capacity; ■ NHS freight connectors and freight facilities – Review Goods Movement strategies; ■ Existing transit – where three or more runs of bus routes in urban areas or two or more runs in suburban areas during peak periods, or train stations with 500 or more daily boardings, review Transit Infrastructure Improvements, TSP (under Signal Improvements family), ITS Improvements for Transit, Shuttle to Station (under New Bus Transit family), TOD (under Land Use/Transportation Policies family), and Modifications to Existing Transit Routes or Services; ■ Where congestion (top box) is high and transit high, review if appropriate: Passenger Intermodal Center or Garage for Transit Riders, BRT (under New Bus Services family), and New Passenger Rail Investments.
Create a Safer Transportation System	Improve safety and reduce nonrecurring congestion by reducing crashes.	High crash rate compared to the rate for that functional class of road in the counties of that state in the region.	Segments where the crash rate for 2009 is two or more times the rate and V/C ratio >=.5 to focus on where crashes are likely to cause congestion problems. On interstates, all high crash rate segments are included, as crashes there cause such significant congestion.	■ Subcorridors with crashes two standard deviations above average: emphasize Safety Improvements and Programs; and ■ Where one point occurs on an interstate, Incident Management.
Create a More Secure Transportation System	Maintain transportation preparedness for major events, especially ones that call for interregional movements far beyond normal; this also serves routine needs.	1. NHS and passenger rail; 2. Areas where the density of people makes evacuation a regional concern; 3. Most heavily used bridges and passenger transit stations; 4. Nuclear power plant evacuation zones; and 5. General location of largest military bases in the region. These criteria were developed with regional security agencies.	1. NHS and passenger rail; 2. Areas where the density of households or employment is eight times or more the regional averages. Also, Stadium Complex, Penns Landing, and Camden waterfront; 3. The most heavily used transit station in each county (except Philadelphia has three) – Roads within a one-mile buffer; 4. Nuclear power plant Emergency Planning Zones (EMZ) – NHS roads in these 10-mile zones; 5. The most-heavily used bridges in the region – bridges that carry over 100,000 trips per average day, and key rail bridges; and 6. Military Facilities – General location of USCG-Sector Delaware Bay and Fort Dix/McGuire Air Force Base (one-mile buffer).	■ High densities – new strategy about evacuation planning; ■ Most heavily used transit stations – subcorridors should each be reviewed for security strategies and identified in Note; ■ Nuclear power plant EMZ – Add Evacuation Planning strategy and Note; ■ Most heavily used bridges – Add Security strategies and Note; and ■ Military facilities – Add Security strategies per agencies and Note.

Table 12: Criteria and Analysis-Based Strategy Guidance (continued)

LRP Goal	CMP Objective	Criteria (short version)	Detailed Criteria	Guide to Advancing from Objectives and Criteria to Strategies*
Ensure that Transportation Investments Support Long-Range Plan Principles: 1. Managing growth and protecting resources; 2. Creating livable communities; 3. Building an energy-efficient economy; and 4. Establishing a modern, multimodal transportation system.	1. Support centers; 2. Provide transit where it is needed; 3. Reinforce transit where it has proven efficient; and 4. All CMP objectives work toward a modern, multimodal transportation system.	Dense mixed-use land development is supportive of all four principles. 1. LRP Centers; and 2. Existing and future development.	1. LRP Land Use Centers; and 2. Existing Development and Future Growth Land Use Categories.	■ LRP centers – Review for strategies such as Improve Circulation, Planning and Design for Nonmotorized Transportation (under Walking and Bicycling Improvements family), and Context-Sensitive Design; ■ LRP center with transit – Shuttle Service to Stations (under New Bus Services family) and TOD (under Land Use/Transportation Policies family); and ■ Review Existing Development and Future Growth areas with congestion and high growth in V/C ratios (box 1). Where they coincide, reinforce Turning-Movement Enhancements, Signal Improvements, and Improve Circulation. Where transit exists: TSP (under Signal Improvements family), ITS Improvements for Transit, Modifications to Existing Transit Routes or Services, and Transit Infrastructure Improvements.
Limit Transportation Impacts on the Natural Environment	Limit the physical impacts of transportation projects on sensitive environmental areas.	Low environmental index scores (less harm to environment).	Use lowest impact range of 0 to two with LRP Environmental Screening Tool. This further links planning and NEPA.	■ Where Environmental Index is highest, add Environmentally Friendly Transportation Strategies. Consider Engineering for Smart Growth (especially Traffic Calming and Context-Sensitive Design), and Complete Streets (under Comprehensive Policy Approaches family); ■ Add note emphasizing Growth Management and Smart Growth and explaining that if road capacity is being considered, it should be done with careful evaluation of environmental factors and potential impacts; and ■ Add note recommending further review of environmental issues early in the project development process. DVRPC can assist.

Source: DVRPC, 2012.

Additional Transportation Goal from LRP:

Ensure Adequate Funding - This goal cannot be directly addressed by CMP criteria for evaluating the existing transportation system.

General CMP Objectives for this goal:

➔ Limit need for funding by considering costs in selection of strategies; also effectiveness in the short and long term; and
➔ Keep costs down by encouraging use of low-cost strategies first, better connecting existing transportation modes, and coordinating transportation and land use to keep length of trips down.

Notes for Table:

*Remember strategies appropriate almost everywhere, as they are not generally specifically noted in the spreadsheet.

➔ Interstate corridors – consider Maintenance (and Work Zone) Management and Interregional Transportation Coordination, and, where the crash rate is high, Incident Management;
➔ Where five or more major SOV capacity-adding projects are in the TIP, consider adding Maintenance (and Work Zone) Management;
➔ Review for subcorridors wholly or mainly in rural areas based on LRP and consider note emphasizing Comprehensive Policy Approaches and Land Use/Transportation Policies; and
➔ Security Planning is appropriate for the NHS and passenger rail. This would cover most subcorridors. Add selectively.

Appendix B

Secondary Strategies by Subcorridor

For each of the subcorridors on the following pages, the Strategies Appropriate Everywhere (see page 40) may be considered in addition to the Very Appropriate and Secondary strategies listed for the subcorridor.

NJ 1A Secondary Strategies

- Signal Improvements
- Incident Management
- Transportation Security
- Passenger Rail Bridge Security
- Road System Bridge Security
- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Transit Infrastructure Improvements
- Improve Circulation
- Encourage Use of Fewer Cars
- Outreach and Marketing
- Tolls/Congestion Pricing
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Park-and-Ride Lots
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 1B Secondary Strategies

- Signal Improvements
- Transportation Security
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Freight Operations Improvements
- Improve Circulation
- Encourage Use of Fewer Cars
- Outreach and Marketing
- Tolls/Congestion Pricing
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 1C Secondary Strategies

- Signal Improvements
- Automated Toll Collection Improvements
- Transportation Security
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Freight Operations Improvements
- Improve Circulation
- Encourage Use of Fewer Cars
- Outreach and Marketing
- Tolls/Congestion Pricing
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Park-and-Ride Lots
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 2A Secondary Strategies

- Signal Improvements
- Automated Toll Collection Improvements
- Transportation Security
- Maintenance Management
- Improve Circulation
- Encourage Use of Fewer Cars
- Tolls/Congestion Pricing
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Express Transit Routes
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads

- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 2B Secondary Strategies

- Signal Improvements
- Automated Toll Collection Improvements
- Incident Management
- Transportation Security
- Road System Bridge Security
- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Transit Infrastructure Improvements
- Improve Circulation
- Local Delivery Service
- Outreach and Marketing
- Tolls/Congestion Pricing
- Economic-Development-Oriented Transportation Policies
- Interregional Transportation Coordination
- Park-and-Ride Lots
- Transit-Oriented Development (TOD)
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- New Roads

NJ 2C Secondary Strategies

- Signal Improvements
- Automated Toll Collection Improvements
- Transportation Security
- Evacuation Planning
- Maintenance Management
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Improve Circulation
- Comprehensive Policy Approaches
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 3A Secondary Strategies

- Signal Improvements
- Automated Toll Collection Improvements
- Transportation Security
- Maintenance Management
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Tolls/Congestion Pricing
- Context-Sensitive Design
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 3B Secondary Strategies

- Road Diets
- Transit Infrastructure Improvements
- Land Use/Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 3C Secondary Strategies

- Incident Management
- Transit Infrastructure Improvements
- Improve Circulation

- Passenger Intermodal Center or Garage for Transit Riders
- Park-and-Ride Lots
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 3D Secondary Strategies

- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Comprehensive Policy Approaches
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Roads

NJ 4A Secondary Strategies

- Traveler Information Services
- Incident Management
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Road Diets
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Adding Capacity to Existing Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 4B Secondary Strategies

- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- General Purpose Lanes
- New Bus Services
- New Passenger Rail Investments
- Arterial or Collector Road

NJ 4C Secondary Strategies

- Multilingual Communication
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- New Bus Services

NJ 4D Secondary Strategies

- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- New Bus Services

NJ 4E Secondary Strategies

- Traveler Information Services
- Vehicle Use Limitations and Restrictions
- Evacuation Planning
- Maintenance Management
- Multilingual Communication
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation

- Roundabouts
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Shuttle Service to Stations
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 4F Secondary Strategies

- Traffic Calming
- Roundabouts
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Demand Response Transit Services
- Transportation Services for Specific Populations

NJ 5A Secondary Strategies

- Traveler Information Services
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Traffic Calming
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Adding Capacity to Existing Roads
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- New Passenger Rail Investments

NJ 5B Secondary Strategies

- Traveler Information Services
- Evacuation Planning
- Maintenance Management
- Traffic Calming
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- New Bus Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- New Passenger Rail Investments

NJ 5C Secondary Strategies

- Transit Station Security
- Traffic Calming
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Outreach and Marketing
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- New Bus Services

NJ 6A Secondary Strategies

- Incident Management
- Traffic Calming
- Transit Infrastructure Improvements
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services

- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6B Secondary Strategies

- Transit Infrastructure Improvements
- Land Use/Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6C Secondary Strategies

- Traveler Information Services
- Maintenance Management
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Shuttle Service to Stations
- New Passenger Rail Investments

NJ 6D Secondary Strategies

- Traveler Information Services
- Transit Station Security
- Maintenance Management
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6E Secondary Strategies

- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Improve Circulation
- Local Delivery Service
- Economic-Development-Oriented Transportation Policies
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Frontage or Service Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6F Secondary Strategies

- Improve Circulation
- Engineering for Smart Growth
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6G Secondary Strategies

- Signal Improvements
- Integrated Corridor Management (ICM)
- Freight Rail Bridge Security
- Passenger Rail Bridge Security
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Traffic Calming
- Transit Infrastructure Improvements
- Freight Operations Improvements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Context-Sensitive Design
- Economic-Development-Oriented Transportation Policies
- Environmentally Friendly Transportation Policies
- Walking and Bicycling Improvements
- Freight Capacity Investments
- Minor Road Expansions

- Major Reconstruction with Minor Capacity Additions
- Adding Capacity to Existing Roads
- New Bus Services
- Transportation Services for Specific Populations
- Limited Access Highway

NJ 6H Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Passenger Rail Bridge Security
- Road System Bridge Security
- Evacuation Planning
- Maintenance Management
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Outreach and Marketing
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6I Secondary Strategies

- Improve Circulation
- Comprehensive Policy Approaches
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes

NJ 6J Secondary Strategies

- Incident Management
- Improve Circulation
- Engineering for Smart Growth
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6K Secondary Strategies

- Traveler Information Services
- Maintenance Management
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 6L Secondary Strategies

- Signal Improvements
- Integrated Corridor Management (ICM)
- Incident Management
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Transit Infrastructure Improvements
- Freight Operations Improvements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Outreach and Marketing
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Walking and Bicycling Improvements
- Freight Capacity Investments
- Minor Road Expansions
- Major Reconstruction with Minor Capacity Additions
- Adding Capacity to Existing Roads
- New Bus Services
- Transportation Services for Specific Populations

- New Passenger Rail Investments

NJ 7A Secondary Strategies

- Transit Infrastructure Improvements
- Roundabouts
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Walking and Bicycling Improvements
- Flexible Routing/Route Deviation Service

NJ 7B Secondary Strategies

- Maintenance Management
- Transit Infrastructure Improvements
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Flexible Routing/Route Deviation Service
- Major Reconstruction with Minor Capacity Additions
- New Bus Services

NJ 7C Secondary Strategies

- Transit Infrastructure Improvements
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Flexible Routing/Route Deviation Service
- Major Reconstruction with Minor Capacity Additions
- New Bus Services

NJ 7D Secondary Strategies

- Transit Infrastructure Improvements
- Roundabouts
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Walking and Bicycling Improvements
- Flexible Routing/Route Deviation Service

NJ 7E Secondary Strategies

- Traffic Calming
- Roundabouts
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 8A Secondary Strategies

- Traveler Information Services
- Incident Management
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Road Diets
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 8B Secondary Strategies

- Incident Management
- Passenger Rail Bridge Security
- Traffic Calming
- Transit Infrastructure Improvements
- Roundabouts
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Demand Response Transit Services
- Transportation Services for Specific Populations

NJ 8C Secondary Strategies

- Maintenance Management
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Park-and-Ride Lots
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services

NJ 8D Secondary Strategies

- Roundabouts
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Demand Response Transit Services
- Transportation Services for Specific Populations

NJ 9A Secondary Strategies

- Traveler Information Services
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- New Bus Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 9B Secondary Strategies

- Turning-Movement Enhancements
- Improve Circulation
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- New Bus Services
- Demand Response Transit Services

NJ 10A Secondary Strategies

- Evacuation Planning
- Improve Circulation
- Engineering for Smart Growth
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Frontage or Service Roads
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 10B Secondary Strategies

- Traffic Calming
- Turning-Movement Enhancements
- Improve Circulation
- Comprehensive Policy Approaches
- Land Use/Transportation Policies

- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes

NJ 10C Secondary Strategies

- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- Major Reconstruction with Minor Capacity Additions
- New Bus Services

NJ 11A Secondary Strategies

- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Flexible Routing/Route Deviation Service
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Demand Response Transit Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 11B Secondary Strategies

- Traveler Information Services
- Maintenance Management
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Engineering for Smart Growth
- Transit-First Policy
- Walking and Bicycling Improvements
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 11C Secondary Strategies

- Parking Operations
- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Frontage or Service Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 11D Secondary Strategies

- Improve Circulation
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Frontage or Service Roads
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 12A Secondary Strategies

- Turning-Movement Enhancements
- Improve Circulation
- Local Delivery Service
- Outreach and Marketing
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 12B Secondary Strategies

- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- Demand Response Transit Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations

NJ 12C Secondary Strategies

- Improve Circulation
- Comprehensive Policy Approaches
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 12D Secondary Strategies

- Improve Circulation
- Land Use/Transportation Policies
- Walking and Bicycling Improvements
- Frontage or Service Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 13A Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Integrated Corridor Management (ICM)
- Incident Management
- Evacuation Planning
- Maintenance Management
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Encourage Use of Fewer Cars
- Shift Peak Travel
- Outreach and Marketing
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Walking and Bicycling Improvements
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 13B Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Integrated Corridor Management (ICM)
- Roundabouts
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- New Bus Services

NJ 14A Secondary Strategies

- Traveler Information Services
- Maintenance Management
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Encourage Use of Fewer Cars
- Outreach and Marketing
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Transit-First Policy
- Walking and Bicycling Improvements
- New Bus Services
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

NJ 14B Secondary Strategies

- Multilingual Communication
- Transit Infrastructure Improvements
- Roundabouts
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Walking and Bicycling Improvements

- Modifications to Existing Transit Routes or Services
- New Bus Services

NJ 14C Secondary Strategies

- Traveler Information Services
- Maintenance Management
- Multilingual Communication
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Outreach and Marketing
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Park-and-Ride Lots
- Walking and Bicycling Improvements
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes

PA 1A Secondary Strategies

- Closed Loop Computerized Traffic Signals
- Integrated Corridor Management (ICM)
- Transportation Security
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Encourage Use of Fewer Cars
- Tolls/Congestion Pricing
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 2A Secondary Strategies

- Signal Improvements
- Transportation Security
- Maintenance Management
- Advanced Transit System Management
- Enhanced Transit Amenities and Safety
- County and Local Road Connectivity
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Modifications to Existing Transit Routes or Services
- Adding Capacity to Existing Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Freight Rail (new or expanded)

PA 2B Secondary Strategies

- Closed Loop Computerized Traffic Signals
- Transportation Security
- Road System Bridge Security
- Maintenance Management
- County and Local Road Connectivity
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Modifications to Existing Transit Routes or Services
- Adding Capacity to Existing Roads
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Freight Rail (new or expanded)

PA 2C Secondary Strategies

- Closed Loop Computerized Traffic Signals
- Safety Improvements and Programs
- Transportation Security
- Maintenance Management
- County and Local Road Connectivity
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Modifications to Existing Transit Routes or Services
- Adding Capacity to Existing Roads
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Freight Rail (new or expanded)

PA 2D Secondary Strategies

- Signal Improvements
- Transportation Security
- Making Intermodal Transfers Easier for Freight
- Maintenance Management

- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Freight Operations Improvements
- Roundabouts
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Financial Incentives
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Interregional Transportation Coordination
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Adding Capacity to Existing Roads
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 3A Secondary Strategies

- Transportation Security
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Freight Operations Improvements
- County and Local Road Connectivity
- Local Delivery Service
- Outreach and Marketing
- Comprehensive Policy Approaches
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Adding Capacity to Existing Roads
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 3B Secondary Strategies

- Signal Improvements
- Transportation Security
- Maintenance Management
- County and Local Road Connectivity
- Encourage Use of Fewer Cars
- Tolls/Congestion Pricing
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Freight Rail (new or expanded)

PA 3C Secondary Strategies

- Signal Improvements
- Transportation Security
- Maintenance Management
- Transit Infrastructure Improvements
- County and Local Road Connectivity
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Park-and-Ride Lots
- Adding Capacity to Existing Roads
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Freight Rail (new or expanded)

PA 4A Secondary Strategies

- Signal Improvements
- Transportation Security
- Freight Rail Bridge Security
- Passenger Rail Bridge Security
- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Multilingual Communication
- Transit Infrastructure Improvements
- Freight Operations Improvements
- County and Local Road Connectivity

- Encourage Use of Fewer Cars
- Tolls/Congestion Pricing
- Interregional Transportation Coordination
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 4B Secondary Strategies

- Signal Improvements
- Transportation Security
- Coordinate with Military Bases
- Freight Rail Bridge Security
- Transit Station Security
- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Enhanced Transit Amenities and Safety
- Freight Operations Improvements
- Improve Circulation
- Local Delivery Service
- Comprehensive Policy Approaches
- Tolls/Congestion Pricing
- Economic-Development-Oriented Transportation Policies
- Interregional Transportation Coordination
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Freight Capacity Investments
- Adding Capacity to Existing Roads
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 4C Secondary Strategies

- Signal Improvements
- Intelligent Transportation Systems (ITS)
- Integrated Corridor Management (ICM)
- Road System Bridge Security
- Evacuation Planning
- Maintenance Management
- Enhanced Transit Amenities and Safety
- Freight Operations Improvements
- County and Local Road Connectivity
- Passenger Intermodal Center or Garage for Transit Riders
- Outreach and Marketing
- Financial Incentives
- Interregional Transportation Coordination
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Minor Road Expansions
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Ferry Services

PA 4D Secondary Strategies

- Signal Improvements
- Transportation Security
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Freight Operations Improvements
- County and Local Road Connectivity
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Tolls/Congestion Pricing
- Context-Sensitive Design
- Economic-Development-Oriented Transportation Policies
- Interregional Transportation Coordination
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Adding Capacity to Existing Roads
- Transportation Services for Special Events
- Transportation Services for Specific Populations

- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Ferry Services

PA 5A Secondary Strategies

- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Enhanced Transit Amenities and Safety
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Arterial or Collector Road

PA 5B Secondary Strategies

- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Roundabouts
- Encourage Use of Fewer Cars
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- New Passenger Rail Investments
- Interchange with Related Road Segments

PA 5C Secondary Strategies

- Advanced Transit System Management
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Encourage Use of Fewer Cars
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- Demand Response Transit Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- Fixed-Rail Service (new, extensions, or added stations)

PA 5D Secondary Strategies

- Traveler Information Services
- Maintenance Management
- Planning and Design for Nonmotorized Transportation
- Advanced Transit System Management
- Turning-Movement Enhancements
- Local Delivery Service
- Parking Supply-and-Demand Management
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Shuttle Service to Stations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 5E Secondary Strategies

- Traveler Information Services
- Safety Improvements and Programs
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Traffic Calming
- Planning and Design for Nonmotorized Transportation
- Advanced Transit System Management
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Parking Supply-and-Demand Management
- Economic-Development-Oriented Transportation Policies
- Transit-First Policy
- Shuttle Service to Stations
- New Passenger Rail Investments

PA 5F Secondary Strategies

- Safety Improvements and Programs
- Environmental Justice Outreach for Decision-Making

- Planning and Design for Nonmotorized Transportation
- County and Local Road Connectivity
- Expanded Parking/Improved Access to Stations (all modes)
- Encourage Use of Fewer Cars
- Economic-Development-Oriented Transportation Policies
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 5G Secondary Strategies

- Transportation Security
- Freight Rail Bridge Security
- Road System Bridge Security
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Encourage Use of Fewer Cars
- Local Delivery Service
- Complete Streets
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Major Reconstruction with Minor Capacity Additions
- General Purpose Lanes
- New Bus Services
- Transportation Services for Specific Populations
- New Passenger Rail Investments

PA 5H Secondary Strategies

- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- County and Local Road Connectivity
- Encourage Use of Fewer Cars
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Walking and Bicycling Improvements
- Minor Road Expansions
- Transportation Services for Specific Populations

PA 5I Secondary Strategies

- Commercial Vehicle Operations (CVO)
- Transportation Security
- Passenger Rail Bridge Security
- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Improve Circulation
- Encourage Use of Fewer Cars
- Outreach and Marketing
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Frontage or Service Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 6A Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- ITS Improvements for Transit
- Freight Operations Improvements
- Turning-Movement Enhancements
- Local Delivery Service
- Complete Streets
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Freight Capacity Investments
- Frontage or Service Roads
- New Bus Services

- Transportation Services for Specific Populations
- New Passenger Rail Investments

PA 6B Secondary Strategies

- Safety Improvements and Programs
- Making Intermodal Transfers Easier for Freight
- Traffic Calming
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Freight Operations Improvements
- Improve Circulation
- County and Local Road Connectivity
- Passenger Intermodal Center or Garage for Transit Riders
- Outreach and Marketing
- Engineering for Smart Growth
- Transit-Oriented Development (TOD)
- Freight Capacity Investments
- Frontage or Service Roads
- New Bus Services
- Transportation Services for Specific Populations
- New Passenger Rail Investments
- Ferry Services

PA 6C Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Encourage Use of Fewer Cars
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Shuttle Service to Stations
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- New Passenger Rail Investments

PA 7A Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Passenger Intermodal Center or Garage for Transit Riders
- Encourage Use of Fewer Cars
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- New Passenger Rail Investments

PA 7B Secondary Strategies

- Safety Improvements and Programs
- Evacuation Planning
- Traffic Calming
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Local Delivery Service
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- New Bus Services

PA 7C Secondary Strategies

- Maintenance Management
- Traffic Calming
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Engineering for Smart Growth
- Park-and-Ride Lots
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services

PA 7D Secondary Strategies

- Transit Station Security

- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Intersection Improvements of a Limited Scale
- Turning-Movement Enhancements
- Comprehensive Policy Approaches
- Engineering for Smart Growth
- Park-and-Ride Lots
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- New Passenger Rail Investments

PA 7E Secondary Strategies

- Incident Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Encourage Use of Fewer Cars
- Local Delivery Service
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Fixed-Rail Service (new, extensions, or added stations)
- Arterial or Collector Road

PA 8A Secondary Strategies

- Integrated Corridor Management (ICM)
- Safety Improvements and Programs
- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Transit Infrastructure Improvements
- Freight Operations Improvements
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Interregional Transportation Coordination
- Park-and-Ride Lots
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Freight Capacity Investments
- Major Reconstruction with Minor Capacity Additions
- Adding Capacity to Existing Roads
- New Bus Services
- Fixed-Rail Service (new, extensions, or added stations)
- Arterial or Collector Road

PA 8B Secondary Strategies

- Transit Signal Prioritization (TSP)
- Safety Improvements and Programs
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- Fixed-Rail Service (new, extensions, or added stations)

PA 8C Secondary Strategies

- Signal Improvements
- Integrated Corridor Management (ICM)
- Maintenance Management
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- County and Local Road Connectivity
- Encourage Use of Fewer Cars
- Comprehensive Policy Approaches
- Tolls/Congestion Pricing
- Interregional Transportation Coordination

- Park-and-Ride Lots
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments
- Freight Rail (new or expanded)

PA 8D Secondary Strategies

- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- County and Local Road Connectivity
- Transit-Oriented Development (TOD)
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 8E Secondary Strategies

- Transit Signal Prioritization (TSP)
- Street Circulation Patterns
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Local Delivery Service
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Walking and Bicycling Improvements
- Major Reconstruction with Minor Capacity Additions
- Adding Capacity to Existing Roads
- Bus Route
- Shuttle Service to Stations

PA 8F Secondary Strategies

- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Comprehensive Policy Approaches
- Revisions to Existing Land Use/Transportation Regulations
- Trip Reduction Ordinances (TRO)
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Major Reconstruction with Minor Capacity Additions
- Adding Capacity to Existing Roads
- Bus Route
- Shuttle Service to Stations
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 8G Secondary Strategies

- Environmental Justice Outreach for Decision-Making
- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Local Delivery Service
- Land Use/Transportation Policies
- Park-and-Ride Lots
- Major Reconstruction with Minor Capacity Additions
- Adding Capacity to Existing Roads
- New Bus Services
- New Passenger Rail Investments
- Arterial or Collector Road

PA 8H Secondary Strategies

- Transit Infrastructure Improvements
- Roundabouts
- Comprehensive Policy Approaches
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- New Passenger Rail Investments

PA 9A Secondary Strategies

- Transit Signal Prioritization (TSP)

- Automated Toll Collection Improvements
- Coordinate with Nuclear Emergency Evacuation Zone Planning
- Evacuation Planning
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Transit Infrastructure Improvements
- Local Delivery Service
- Complete Streets
- Tolls/Congestion Pricing
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- Interchange with Related Road Segments
- Arterial or Collector Road

PA 9B Secondary Strategies

- Automated Toll Collection Improvements
- Coordinate with Nuclear Emergency Evacuation Zone Planning
- Road System Bridge Security
- Transit Station Security
- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Freight Operations Improvements
- County and Local Road Connectivity
- Local Delivery Service
- Complete Streets
- Tolls/Congestion Pricing
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Freight Capacity Investments
- Minor Road Expansions
- Adding Capacity to Existing Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes

PA 10A Secondary Strategies

- Intelligent Transportation Systems (ITS)
- Safety Improvements and Programs
- Transit Station Security
- Evacuation Planning
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Traffic Calming
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Encourage Use of Fewer Cars
- Local Delivery Service
- Parking Supply-and-Demand Management
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- General Purpose Lanes
- New Bus Services
- Transportation Services for Special Events
- New Passenger Rail Investments

PA 10B Secondary Strategies

- Safety Improvements and Programs
- Transit Station Security
- Traffic Calming
- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Passenger Intermodal Center or Garage for Transit Riders
- Local Delivery Service
- Parking Supply-and-Demand Management
- Engineering for Smart Growth

- Park-and-Ride Lots
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes

PA 10C Secondary Strategies

- Planning and Design for Nonmotorized Transportation
- ITS Improvements for Transit
- Expanded Parking/Improved Access to Stations (all modes)
- Local Delivery Service
- Comprehensive Policy Approaches
- Parking Supply-and-Demand Management
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- More Frequent Transit or More Hours of Service
- Frontage or Service Roads
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 11A Secondary Strategies

- Signal Improvements
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Enhanced Transit Amenities and Safety
- Roundabouts
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Flexible Routing/Route Deviation Service
- Demand Response Transit Services

PA 12A Secondary Strategies

- Passenger Rail Bridge Security
- Transit Station Security
- Evacuation Planning
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Planning and Design for Nonmotorized Transportation
- Turning-Movement Enhancements
- Roundabouts
- Passenger Intermodal Center or Garage for Transit Riders
- Encourage Use of Fewer Cars
- Local Delivery Service
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Transportation Services for Specific Populations
- Fixed-Rail Service (new, extensions, or added stations)

PA 12B Secondary Strategies

- Evacuation Planning
- Making Intermodal Transfers Easier for Freight
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Freight Operations Improvements
- Turning-Movement Enhancements
- Local Delivery Service
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Walking and Bicycling Improvements
- General Purpose Lanes
- New Bus Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations

PA 13A Secondary Strategies

- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Traffic Calming
- Planning and Design for Nonmotorized Transportation

- Transit Infrastructure Improvements
- Roundabouts
- Local Delivery Service
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Park-and-Ride Lots
- Modifications to Existing Transit Routes or Services
- Demand Response Transit Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations

PA 14A Secondary Strategies

- Traveler Information Services
- Parking Operations
- Transit Station Security
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- ITS Improvements for Transit
- Transit Infrastructure Improvements
- Enhanced Transit Amenities and Safety
- Turning-Movement Enhancements
- Improve Circulation
- Passenger Intermodal Center or Garage for Transit Riders
- Encourage Use of Fewer Cars
- Local Delivery Service
- Engineering for Smart Growth
- Transit-First Policy
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- New Bus Services
- Transportation Services for Specific Populations
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 14B Secondary Strategies

- Incident Management
- Enhanced Transit Amenities and Safety
- Turning-Movement Enhancements
- Improve Circulation
- Comprehensive Policy Approaches
- Revisions to Existing Land Use/Transportation Regulations
- Trip Reduction Ordinances (TRO)
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Transit-First Policy
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- New Bus Services
- Bus Rapid Transit (BRT) or Exclusive Right-of-Way Bus Lanes
- New Passenger Rail Investments

PA 14C Secondary Strategies

- Multilingual Communication
- Transit Infrastructure Improvements
- Revisions to Existing Land Use/Transportation Regulations
- Trip Reduction Ordinances (TRO)
- Economic-Development-Oriented Transportation Policies
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Walking and Bicycling Improvements
- Frontage or Service Roads
- New Bus Services
- Bus Route
- New Passenger Rail Investments

PA 14D Secondary Strategies

- Making Intermodal Transfers Easier for Freight
- Maintenance Management
- Multilingual Communication
- Traffic Calming
- Transit Infrastructure Improvements
- Freight Operations Improvements
- Turning-Movement Enhancements
- Engineering for Smart Growth
- Economic-Development-Oriented Transportation Policies
- Park-and-Ride Lots
- Transit-First Policy
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services

PA 14E Secondary Strategies

- Transit Infrastructure Improvements

- Turning-Movement Enhancements
- Improve Circulation
- Encourage Use of Fewer Cars
- Comprehensive Policy Approaches
- Parking Supply-and-Demand Management
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- New Bus Services
- Demand Response Transit Services
- Shuttle Service to Stations
- Transportation Services for Specific Populations

PA 14F Secondary Strategies

- Environmental Justice Outreach for Decision-Making
- Multilingual Communication
- Transit Infrastructure Improvements
- Local Delivery Service
- Comprehensive Policy Approaches
- Parking Supply-and-Demand Management
- Land Use/Transportation Policies
- Revisions to Existing Land Use/Transportation Regulations
- Trip Reduction Ordinances (TRO)
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Minor Road Expansions
- General Purpose Lanes
- New Bus Services
- New Passenger Rail Investments

PA 14G Secondary Strategies

- Transit Infrastructure Improvements
- Comprehensive Policy Approaches
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Walking and Bicycling Improvements
- Modifications to Existing Transit Routes or Services
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- New Passenger Rail Investments

PA 15A Secondary Strategies

- Traveler Information Services
- Parking Operations
- Maintenance Management
- Environmental Justice Outreach for Decision-Making
- ITS Improvements for Transit
- Turning-Movement Enhancements
- Improve Circulation
- Encourage Use of Fewer Cars
- Local Delivery Service
- Outreach and Marketing
- Engineering for Smart Growth
- Transit-First Policy
- Transit-Oriented Development (TOD)
- Walking and Bicycling Improvements
- Minor Road Expansions
- Adding Capacity to Existing Roads
- New Bus Services
- Shuttle Service to Stations
- Transportation Services for Special Events
- Transportation Services for Specific Populations
- New Passenger Rail Investments

PA 15B Secondary Strategies

- Transit Infrastructure Improvements
- Turning-Movement Enhancements
- Improve Circulation
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Modifications to Existing Transit Routes or Services
- Frontage or Service Roads
- Major Reconstruction with Minor Capacity Additions
- New Bus Services
- Transportation Services for Specific Populations

PA 16A Secondary Strategies

- Transit Infrastructure Improvements
- Outreach and Marketing
- Land Use/Transportation Policies
- Engineering for Smart Growth
- Environmentally Friendly Transportation Policies
- Park-and-Ride Lots
- Minor Road Expansions

- Adding Capacity to Existing Roads
- New Bus Services

Appendix C

CMP Bibliography

The following list of corridor studies includes all those that were used to help refine the sets of CMP Strategies for each subcorridor.

Table 13: Referenced Corridor Studies

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
Both	Various	Various	Coordinated Human Services Transportation Plan Summary	DVRPC Publication #10009, December 2010	Enacted in August 2005, SAFETEA-LU—the Safe, Accountable, Flexible, and Efficient Transportation Equity Act a Legacy for all Users—authorized $45.3 billion in transportation funding over a four-year period (2005 to 2009). Under these regulations, the Job Access and Reverse Commute (JARC) and New Freedom programs are now a component of a Coordinated Human Services Transportation Plan (CHSTP). This document provides a summary of the May 2007 regional CHSTP for policy makers and transportation providers, to serve as guidance until new federal programs are authorized.
Both	Varous	Various	Increasing Intermodal Access to Transit: Phase I	DVRPC Publication #04029, August 2004	This report examines the surrounding context of transit stations to determine pedestrian and bicycle access to the facility. Analysis of one mile and one quarter mile land use boundaries and comparisons between Year 2000 and Year 2025 forecast demographics suggest a complex mobility environment beyond the standard quarter mile walking boundaries. This analysis yielded three stations recommendations: Ardmore Junction, Lindenwold Station, and Trenton Station. These three stations have the potential for generating non-motorized access and opportunities to enhance future mobility options. The next step is the further gathering of data in support of Bicycle Level of Service (BLOS) software and the assessment of specific non-motorized mobility enhancements supporting station access.
Both	Various	Various	Increasing Intermodal Access to Transit: Phase II	DVRPC Publication #05022, January 2005	Phase II of the two part study assesses pedestrian and bicycle accessibility in the areas surrounding Ardmore Junction, Avondale park and Ride, and Lindenwold Station using Pedestrian Level of Service (PLOS) and BLOS software. Field views were conducted to collect data and assess non-motorized mobility enhancements supporting station access. The analysis revealed that even where pedestrian access within a quarter mile radius was acceptable, bicycle access within a mile radius may be unacceptable. The absence of road buffers along sidewalks, visible striping at intersections, and appropriate bicycle racks at stations all degrade the non-motorized travel environment. Improvements in the buffering, striping, and bicycle racks at stations and their surrounding areas would do a lot to improve the non-motorized access and use of transit stations.
Both	Various	Various	Increasing Intermodal Access to Transit: Phase III	DVRPC Publication #06011, August 2006	Phase III of this continuing project assessed nonmotorized (pedestrian and bicycle) accessibility to six rail stations in the region. Three Burlington County RiverLINE stations (Beverly/Edgewater Park, Burlington Town Center, and Riverton) and three SEPTA rail stations (Cynwyd, Eastwick, and Oreland) were analyzed using PLOS and BLOS model software. Field measurements and observations provided data for this analysis, which was supplemented by a qualitative examination of access conditions in the immediate vicinity of each station. A summary of recommended enhancements was prepared for each station, noting strategies that would address specific problem areas. Generally, Phase III analysis found that PLOS scores tended to be somewhat higher for the New Jersey station areas studied than the Pennsylvania stations, and that PLOS scores were higher overall than BLOS scores. In many cases, comparatively minor investments in station sites and their immediate vicinity (such as bicycle racks, painted crosswalks, and signage) have the ability to markedly improve and encourage nonmotorized station access.
Both	Various	Various	Increasing Intermodal Access to Transit: Phase IV	DVRPC Publication #07017, January 2007	Phase IV of this continuing project assessed non-motorized (pedestrian and bicycle) accessibility to five rail stations in the region. Three SEPTA Regional Rail stations (Bryn Mawr, Fox Chase, and Glenside), one SEPTA Broad Street Subway station (Erie), and one New Jersey Transit Atlantic City Line station (Atco) were analyzed using PLOS and BLOS model software. Field measurements and observations provided data for this analysis, which was supplemented by a qualitative examination of access conditions in the immediate vicinity of each station. A summary of recommended enhancements was prepared for each station, noting strategies that would address specific problem areas.
Both	Various	Various	DVRPC Long-Range Vision for Transit	DVRPC Publication #08068, October 2008	This Long-Range Vision for Transit highlights the potential benefits of an improved transit network to the DVRPC region in the coming decades. The region's current transit assets already represent a significant competitive advantage amid rising energy costs and concerns about climate change. That said, the region is not yet one in which transit can be taken for granted by passengers throughout the region as a fact of life, where riding is easy, seamless, and accessible. The purpose of this Transit Vision report is to highlight the long-term benefits of a modernized, integrated transit network that is coordinated with land development.
Both	Various	Various	Fitting the Pieces Together: Improving Transportation Security Planning in the Delaware Valley	DVRPC Publication #09018, April 2010	Transportation security planning is essential for the Delaware Valley to prevent, prepare for, expedite response to, and aid in the recovery from major events. The all-hazards approach prepares for any of a range of major natural or manmade events. This report provides an overview of transportation security planning in the region to facilitate communication and coordination across disciplines. It is relevant for a wide range of professionals in transportation security, operations, and planning; emergency management; emergency response; land use planning and development, and other fields at a variety of geographic levels. This report focuses on how different disciplines can better cooperate, and on the role of DVRPC in this field. Appendices include a summary of grants available and reference list.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
Both	Various	Various	Transportation Operations Master Plan	DVRPC Publication #09049, July 2009	This document outlines a long-range vision of transportation operations for the DVRPC region. It presents transportation operations goals, objectives, and operational strategies to achieve them. An operations vision establishes a plan of where ITS infrastructure, emergency service patrols, and incident management task forces should be deployed in the region. A series of plans and programs are identified to accomplish the regional goals and vision. Lastly, a financial analysis was conducted to estimate the costs to construct, operate, and maintain these projects.
Both	Various	Various	The Automobile at Rest - Toward Better Parking Policies in the Delaware Valley	DVRPC Publication #08081A, September 2008	*The Automobile at Rest: Toward Better Parking Policies in the Delaware Valley* presents an overview of parking policies and requirements in the Delaware Valley region, along with strategies for managing and designing parking better. Each of the region's 353 municipalities set their own parking requirements within their municipal zoning ordinance, usually based on national standards from the Institute of Transportation Engineers and/or the Urban Land Institute. These requirements are detailed in a separately published Appendix titled Municipal Parking Standards Inventory. These standards often assume that all trips will be made by car and that destination will be isolated and single use in character. The standards fail to recognize the different types of parking provisions that may be desirable or cost appropriate for different contexts, such as downtowns, suburban shopping districts, or rural areas. Municipal parking ordinances therefore often result in too much parking or requirements that are not flexible for mixed-use settings. These requirements have a strong influence on the built and natural environment and how the community grows or redevelops. The report also examines ways to reduce parking demand and improve parking supply where appropriate or necessary through parking management strategies, such as pricing, car-sharing, and shared parking, among others. Different types of parking are examined, from surface parking to underground parking to bicycle parking, along with innovative design treatments. The report also examines the environmental impacts of parking with a focus on the critical issue of stormwater. Lastly, the relationship between parking and transit is considered, particularly park-and-rides and transit-oriented development. This report provides planners, local leadership, and citizens with information about best practices for designing, managing, and regulating parking.
Both	Various	Various	Regional Truck Parking Study	DVRPC Publication #09057, April 2011	The trucking industry plays an increasing role in the movement of goods for the DVRPC region. Truck drivers often need safe and secure locations at which to park their trucks overnight. This study identifies the capacity of truck parking in the DVRPC region, provides an estimate of the current and future demand, presents the observations of overnight truck parking inventories, and offers recommendations to ensure a sufficient network of truck parking facilities. DVRPC's work in this area follows in the footsteps of work at MPO's in New York, North Jersey, and Baltimore, as well as a statewide Pennsylvania Study.
Both	Various	NJ 6D, 6E, 7A;PA 4A, 4B, 4C, 4D, 5G, 10A	Seamless Regional Transit Access: an Evaluation of New Interstate Links and Connections	DVRPC Publication #08069, September 2008	This report explores the feasibility of several specific transit connections proposed by DVRPC's Regional Citizens Committee (RCC) to improve interstate service and enhance system connectivity. Six potential services were examined: extending New Jersey Transit buses that currently terminate in Center City to 30th Street Station; connecting the PATCO terminus at 15th/16th and Locust streets to 30th Street Station; providing service from Frankford Transportation Center in Philadelphia to Palmyra Station on the RiverLINE via an extension of SEPTA Route 8; extending New Jersey Transit Route 413 from its current terminus at Burlington Station (RiverLINE) to Bristol Station on SEPTA's R7 Trenton line; providing the Trenton - New Hope corridor with service; and establishing a shuttle between Philadelphia and the Pureland Industrial Complex in Logan Township, Gloucester County (via Chester). Each project was analyzed by estimating the costs and benefits for the proposed service.
Both	Various	NJ 8A, 8B, 8C, 8D, 4A, 4B, 4C, 4D; PA 4A, 5I	Bucks-Mercer Transit Needs Assessment and Concept Development	DVRPC Publication #09042, September 2009	This project explores work commute trip patterns across the Delaware River from Bucks County to Mercer County, and presents concepts to better serve these trip patterns with public transit. This project specifically focuses on trips from Bucks County to downtown Trenton and to major employers along the Route 1 corridor in Mercer County, as well as off Interstate 95 in Hopewell and Lawrence townships, and relates closely to NJ Transit's near-term incremental implementation strategy for the Route 1 Bus Rapid Transit project in Central New Jersey.
Both	Various	NJ 12A; PA 8M, 14A, 14D	Implementing Transit-Oriented Development: Four TOD Plans for Girard, Lansdale, Thorndale, and Woodbury	DVRPC Publication #04044, December 2004	This document, Implementing Transit-Oriented Development: Four TOD Plans, grew out of the multiyear study, Linking Transit, Communities, and Development: Regional Inventory of Transit-Oriented Development Sites. Volume One: Executive Summary (August 2003) details the study process, inventory selection criteria, TOD benefits and barriers, and recommendations for funding and implementation. Volume Two: Station Area Profiles (December 2003) presents profiles of 45 transit stations in the nine-county region. Implementing Transit-Oriented Development: Four TOD Plans offers in-depth station area plans for four of the inventoried stations. These include the Girard Station along SEPTA's Broad Street Subway, Broad-Ridge Spur, and Route 15 light rail in Philadelphia; Lansdale Station, along SEPTA's Regional Rail R5 to Doylestown, in Lansdale, Montgomery County, Pennsylvania; Thorndale Station, along SEPTA's Regional Rail R5 to Thorndale/Paoli, in Caln Township, Chester County, Pennsylvania; and Woodbury, home to six NJ Transit bus routes, in Woodbury, Gloucester County, New Jersey. These four case studies represent multiple transit modes (subway, light rail, heavy regional rail, and busy), the states of New Jersey and Pennsylvania, and a variety of community types, including urban, suburban, small town, and exurban.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
Both	Various (Transit)	NJ 2A, 2B, 6H, 6J, 6K, 6L, 7E, 11A, 11B, 11D; PA 3A, 4B, 10A	Southern New Jersey to Philadelphia Transit Study	STV Incorporated for Delaware River Port Authority, October 2005	The Southern New Jersey to Philadelphia Transit Study is sponsored by the Delaware River Port Authority (DRPA) and the Port Authority Transit Corporation (PATCO). DRPA manages and provides transportation services and facilities across the Delaware River and invests in the economic growth of Southeastern Pennsylvania and Southern New Jersey. PATCO operates a 14.2-mile heavy rail line between Lindenwold, New Jersey, and Center City Philadelphia. The study area is an approximately 700-square-mile area, 46 miles long, and 20 miles wide, extending from Millville, New Jersey, to Center City Philadelphia. The study area includes Cumberland, Gloucester, Salem, Atlantic, and Camden counties in New Jersey and Philadelphia County in Pennsylvania. This study represents the initial phase of the planning development process for major transit investments that intend to seek federal funds for design and construction.
Both	Various (I-95, I-295, NJ Turnpike, I-76, I-276, PA Turnpike)	NJ 1A, 1B, 1C, 2A, 2B, 2C; PA 1A, 3A, 3B, 3C, 4A, 4B, 4C, 4D, 6B	DVRPC Long-Range Vision for Freight	DVRPC Publication #09058, April 2010	The region has a vast array of freight facilities that benefit the regional quality of life. DVRPC has projected an 82 percent growth in the value of cargo shipments by 2035, so increased capacity and efficiency to carry goods is important for the region. The purpose of this report is to present a list of policies and projects that have the capability of increasing the positive impact of goods movement in the region. The project lists represent just over $14 billion in identified project needs, not including the expansion of the Philadelphia International Airport. The report also presents studies to improve freight movements and activities.
Both	CR 638 (NJ); SR 3017 (PA)	NJ 14B; PA 7A	Taming Traffic: Context-Sensitive Solutions in the DVRPC Region	DVRPC Publication #07054, October 2007	This report focuses on the application of context-sensitive solutions (CSS) principles and best practices, including traffic calming, focusing on two case study sites within the DVRPC region--Clarksville Road, West Windsor Township, Mercer County, New Jersey, and Parkside Avenue, Philadelphia, Pennsylvania. CSS is a means to link land use and transportation planning and implementation. Pennsylvania and New Jersey case studies are included, with recommendations and before and after photo simulations. The study includes an explanation of traffic calming and related terms and a discussion of policy at the state level and in the Delaware Valley region.
Both	I-295 (NJ); I-95 (PA)	NJ 2B, 2C; PA 4C, 4D	Transportation Systems Management and Operations for Select Corridors	DVRPC Publication #08085, September 2009	This document examines Transportation Systems Management and Operations (TSM&O) in two corridors. The purpose of this project is to provide stakeholders with tools to define the framework for implementing improvement strategies and tackling institutional issues in the selected corridors. The corridor selected from the New Jersey side of DVRPC's region is NJ Turnpike/I-295 between NJ 73 and NJ 168; and the corridor from the Pennsylvania side is I-95 in Delaware County. Since both corridors span multiple municipalities and cover various modes of transportation, there was opportunity to gain consensus on common goals, and identify transportation systems management and operations opportunities.
NJ	CR 561, CR 603	NJ 5C; NJ 6D	2005 Regional Congestion and Accident Mitigation Program	DVRPC Publication #05035, September 2005	This report represents a planning effort to support the local counties and municipalities in both New Jersey and Pennsylvania in addressing the safety and mobility issues along their arterial road network. This network can typically experience congested conditions due to high traffic volumes and/or limited capacity. Accidents occurring along these congested facilities not only result in injuries, but also add to the congestion. The goal is to identify potential cost-effective improvement strategies, which will reduce congestion and accidents and improve the safety and mobility of goods and people. Working with the local county planning commissions, DVRPC selected six locations to study. For each of these locations, field views to review transportation problem locations were undertaken, and consequently technical analysis to quantify the identified transportation problem areas and document practical solutions. Level-of-service analyses and accident analyses were conducted for each selected area.
NJ	CR 571	15A, 15B, 15C	County Route 571 Corridor Study	DVRPC Publication #07037, July 2007	This study was based on priority areas identified by the Central Jersey communities within the corridor. Detailed field views and technical analyses were conducted to identify and quantify the transportation constraints and document practical solutions. A detailed write-up of the existing conditions and recommended improvement scenarios is presented. Improvements such as roadway realignment, signal timing, improved directional and regulatory signage, better pedestrian facilities and amenities, and transit improvements have been identified and documented.
NJ	CR 622, CR 636	8B	Ewing Township, Mercer County Congestion & Crash Site Analysis Program	DVRPC Publication #08053, June 2008	This document represents the findings and recommendations for the Mercer County Congestion and Crash Site Analysis project. This project represents an effort to improve the mobility and safety of the roadways in the DVRPC region. The goal of the program is to identify cost-effective improvement strategies that will reduce congestion and crashes and improve the mobility and safety of all road users. Working with the Mercer County Planning and Engineering Departments, the intersection of North Olden Avenue (CR 622) and Parkside Avenue (CR 636) was chosen for analysis. This intersection was identified as having congestion and safety issues. An in-depth crash and level-of-service analysis was performed to quantify and gain an understanding of the issues. With input from local stakeholders, improvement strategies were identified to address the issues. These strategies vary from signal timing adjustments, intersection geometry, and circulation changes, to a road diet application. As appropriate, proposed improvement strategies were tested for level of effectiveness.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
NJ	CR 706	3B	Winslow Township, Camden County Congestion & Crash Site Analysis Program	DVRPC Publication #08041, May 2008	This document is the result an effort to improve the mobility and safety of the roadways in the DVRPC region. The goal of the program is to identify cost-effective improvements strategies that will reduce congestion and crashes and improve mobility and safety of all road users. Working with the Camden County Engineering Department, the section of Erial Road between the intersections of Duke and Duchess drives and Wiltons Landing Road was chosen for analysis. This section of Camden County has seen rapid residential growth over the last decade. The area was identified as experiencing a large number of crashes. An in-depth crash and level-of-service analysis was performed to quantify and gain an understanding of the issues. With input from local stakeholders, improvement strategies were identified to address the issues. These vary from employing select traffic-calming measures to a road diet application. As appropriate, proposed improvement strategies were tested for level of effectiveness.
NJ	Hartford Rd	10B	Hartford Road Traffic Assessment Study	DVRPC Publication #04013, April 2004	This is a traffic assessment study for the section of Hartford Road in Moorestown and Mount Laurel townships in Burlington County, New Jersey. As development increases, there has been a corresponding increase in traffic volumes. This has led to congestion at several major intersections and arterial sections along Hartford Road. Three intersections, Hartford Road at Elbo Lane, Union Mill Road, and Borton Landing Road, were analyzed to determine their operational conditions within the traffic stream by using level-of-service analysis. Arterial segments between Elbo Lane and Garwood Road were also studied and levels of service analyzed. A signal warrant analysis was conducted at the intersection of Hartford Road and Salem Road to determine whether peak volumes warrant the construction of a traffic signal. An improvement plan was developed, which identifies necessary improvements to the highway infrastructure that would improve mobility and reduce congestion.
NJ	I-295, US 130	2A, 2B, 6J	I-295/US 130 Riverfront Transportation Corridor Study	DVRPC Publication #02037, October 2002	This is a transportation corridor study, which provides an analysis of the I-295/US 130 corridor in Gloucester County. Undertaken at the request of Gloucester County Planning Department, the study identifies and addresses the transportation needs facing the riverfront communities. At the request of the county, priority is given to identifying the transit needs and potential service enhancements in the corridor. The study also takes a look at localized problem areas in the highway network and provides recommendations that address these needs.
NJ	I-676, US 30	2C, 5A, 6H, 6L	Central Gateway Traffic Circulation Improvement Project, City of Camden	McCormick and Taylor for NJDOT, February 2007	Not available.
NJ	NJ 168	3D	NJ 168 Corridor Study	DVRPC Publication #04042, September 2004	This document presents a transportation improvement plan for the NJ 168 Corridor in Camden and Gloucester counties. The corridor planning effort undertakes the traditional examinations of an existing transportation/circulation system, in this case NJ 168 and surrounding facilities, identifying safety and functional or operational problems and recommending potential solutions, as appropriate. This plan takes a comprehensive look at the transportation needs of the corridor and identifies which project locations are in need of immediate attention, and identifies who is responsible for advancing these projects to the next step.
NJ	NJ 168, NJ 42, US 322	3D, 6H, 6I, 6J, 6L	Black Horse Pike: Making It work	DVRPC Publication #06039, October 2006	The Black Horse Pike Study was undertaken as part of the Delaware Valley Regional Planning Commission's Strategies for Older Suburbs initiative, which examines the potential for City/Suburban collaboration between the Cities of Philadelphia and Camden and their surrounding neighborhoods. The Black Horse Pike Collaboration Study is one of three areas where the Delaware Valley Regional Planning Commission directed this initiative, with financial assistance from the William Penn Foundation. DVRPC would like to acknowledge and thank the many public officials and private citizens who contributed to this plan.
NJ	NJ 27	4E	Route 27/Renaissance 2000 Corridor Study	Orth-Rodgers & Associates, May 1999	Not available.
NJ	NJ 29	4A	NJ 29 Waterfront Boulevard Study	NJDOT (ongoing as of publication)	Not available.
NJ	NJ 33	9B	NJ 33 Corridor Study	DVRPC Publication #06025, June 2006	This study was developed using a consensus-based approach with input from the corridor communities, as well as state, county, and regional agencies in the identification of transportation problems. Detailed field views and technical analysis were conducted to identify and quantify the transportation problem areas and document practical solutions. A detailed write-up of the existing conditions, identified problems, and potential improvement scenarios is presented. Crash clusters were identified and analyzed, bicycle and pedestrian improvements recommended, and land use policy improvements suggested. The present and future traffic conditions on selected arterials were analyzed using the DVRPC regional simulation model. 2025 traffic volumes on arterial segments in the corridor were developed using different road network scenarios.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
NJ	NJ 38	10A, 10B, 10C	NJ 38 Corridor Study	DVRPC Publication #01023, August 2001	This document presents a transportation improvement plan for the NJ 38 Corridor in Burlington County and Camden County. The corridor planning effort undertakes the traditional examinations of an existing transportation/circulation system, in this case NJ 38 and surrounding facilities, identifying safety and functional or operational problems and recommending potential solutions, as appropriate. This plan takes a comprehensive look at the transportation needs of the corridor and identifies which project locations are in need of immediate attention and who is responsible to get these projects moving to the next step.
NJ	NJ 42	3D	NJ 42 & College Drive Land Use and Transportation Study	McCormick Taylor and Glatting Jackson , 2007	Not available.
NJ	NJ 42	3A, 3D	NJ 42 Corridor Study: A Plan of Action	DVRPC Publication #08046, August 2008	This study addresses the problem of congested roadways largely caused by rapid suburban development and a lack of alternatives to the single-occupant vehicle within the NJ 42 corridor. Land use policies that encourage sprawl are evident in this corridor and this has impacted the environmental stability of the area. This study attempts to address these needs by identifying immediate as well as long-term context-sensitive solutions that can improve traffic mobility, circulation, and safety, while protecting the integrity of the environment. A detailed write-up of the existing conditions and recommended improvement scenarios is presented. Improvements such as access management, improvement to the road network, signal timing, better pedestrian facilities and amenities, and transit improvements have been identified and documented.
NJ	NJ 45	12A, 12B	Route 45 Corridor Study	DVRPC Publication #05013, March 2005	This document presents a planning effort that links transportation and land use planning by managing growth appropriate to infrastructure capacity and consistent with county, state, and regional plans to foster economic development. This study provides a set of suitable transportation improvements, land use, and economic development strategies that address the needs of corridor residents and employers for Route 45 in Gloucester County. This study focuses on a transitional area at a stage of growth between first generation suburbs and a new regionalism community type, promoting economic development and transportation improvement strategies. The goal of the study is to enhance this region as a major transportation artery and economic center in the county, thereby encouraging urban redevelopment and infill development, and discouraging the continuing trend of sprawl.
NJ	NJ 47	11A	NJ 47 Corridor Study	DVRPC Publication #09024, May 2010	This document presents an evaluation of NJ 47 considering transportation and related factors that influence mobility in the corridor. The study area is a 10-mile section of NJ 47 that includes Westville Borough and Deptford and Washington townships in Gloucester County, New Jersey. This document includes an overview of safety issues, congestion management considerations, and travel patterns in the study area served by NJ 47. Corridor-wide and localized issues examined during the study process are discussed and improvement strategies considered.
NJ	NJ 55	3C, 3E	Route 55 - Deptford Traffic Study	DVRPC Publication #06027, December 2006	This is a traffic study of the retail area of Deptford Township in Gloucester County. It includes an origin-destination survey to determine travel characteristics at and around the regional retail center in the Deptford Mall area. It also includes future year analysis of the proposed Route 55 directly with Clements Bridge Road via Greenbriar Court. Short-term improvements to the highway infrastructure that could alleviate congestion at key locations were also identified.
NJ	NJ 70	13A, 13B, 13C	Final Concept Development Report for Route 70 (M.P. 0.00 to 8.33)	Baker, October 2004	Not available.
NJ	NJ 70	13A, 13B, 13C	NJ 70 Corridor Study	DVRPC Publication #06003, November 2005	This document presents a transportation improvement plan for the NJ 70 Corridor in Camden and Burlington counties. The corridor planning effort undertakes the traditional examinations of an existing transportation/circulation system, in this case NJ 70 and surrounding facilities, identifying safety and functional or operational problems, and recommending potential solutions, as appropriate. This plan takes a comprehensive look at the transportation needs of the corridor and identifies which project locations are in need of immediate attention, and identifies who is responsible for advancing these projects to the next step.
NJ	NJ 73	5C, 6F, 6G, 6E, 14A, 14B, 13C	NJ 73 Corridor Study - Year 2020 Planning Corridors - Report 4	DVRPC Publication #00023, August 2000	This document presents a transportation improvement plan for the NJ 73 Corridor in Burlington County and Camden County. The corridor planning effort undertakes the traditional examinations of an existing transportation/circulation system, in this case NJ 73 and surrounding facilities, identifying safety and functional or operational problems and recommending potential solutions, as appropriate. This plan takes a comprehensive look at the transportation needs of the corridor and identifies which project locations are in need of immediate attention, and identifies who is responsible to get these projects moving to the next step.
NJ	NJ 73	13A, 13B	NJ 73 Corridor Study	DVRPC Publication #09070, May 2010	The Delaware Valley Regional Planning Commission worked with study area municipalities and pertinent state agencies to assess current transportation facilities and land use practices in order to promote solutions to help alleviate current and forecasted travel growth, further the goals of coordinated land use, and determine and provide policy rationale for future transportation improvements. This report documents transportation and land use recommendations for reducing congestion and improving mobility and safety in the corridor, with potential breakout projects for the NJDOT pipeline.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
NJ	NJ 73	13A	NJ 73 Corridor Study Burlington County	DVRPC Publication #10004, March 2011	This is a multimodal study that integrates transportation and land use, and is responsive to emerging lifestyle patterns. In an effort to preserve and improve the operating performance of the highway facility and enhance the character of the adjacent land uses, a comprehensive approach is taken where innovative land use and transportation improvements were identified, while being sensitive to the natural environment. The corridor land use principles are aimed at achieving the desired goal of creating a vibrant, attractive, and economically stable commercial corridor along NJ 73, while still maintaining a high level of mobility and safety for both regional and local travelers using all modes of transportation.
NJ	NJ Turnpike	1B, 1C	The New Jersey Turnpike Exit 8A Area Transportation & Land Use Study	The Municipal Land Use Center at The College of New Jersey, Spring 2007	Not available.
NJ	Transit (Glassboro-Camden Line)	2A, 2B, 6H, 6J, 6K, 6L, 7E, 11A, 11B, 11D	Camden County Transit Expansion Framework Study	DVRPC Publication #12004, January 2012	This study was conducted by DVRPC's Office of Smart Growth to document the existing conditions of proposed station areas for the Camden County portion of the Glassboro-Camden Line. The Glassboro-Camden Line is an 18-mile transit route proposed to link Camden and Gloucester counties to the existing Port Authority Transit Corporation (PATCO) high speed line running between Philadelphia and Camden County, as well as to New Jersey Transit's RiverLINE, which connects Camden and Trenton. In addition to describing the existing conditions of each proposed station area, the study evaluates the potential for transit-oriented development along the transit line.
NJ	Transit (Lindenwold Station)	5C	Lindenwold Station Transit Hub Study	DVRPC Publication #09068, October 2009	Lindenwold Station is the junction of two rail lines: the NJ Transit Atlantic City line and the Port Authority Transit Corporation (PATCO) High Speed Line, which terminates at Lindenwold. The Lindenwold Station has the highest number of boards for PATCO service in New Jersey. NJ Transit ridership between Philadelphia and Atlantic City has been growing steadily over recent years. Recommendations are made by the study team to enhance the existing services at the station and to support Lindenwold as a hub for transit service. These include improving pedestrian and bicycle access to the station, creating an integrated multimodal transportation network, and evaluating the existing bottlenecks and complex intersections along CR 673 near the station.
NJ	US 1, US 206, North Olden Ave.	4A, 4D, 8A, 8B	Mercer Crossings Transportation Study: Building a Foundation for Redevelopment	DVRPC Publication #07039, April 2008	This report documents a transportation study of Mercer Crossings, an economically depressed area located at the intersection of Trenton City, Ewing, and Lawrence. Transportation improvements that would support redevelopment of Mercer Crossings have been identified and analyzed. The study topics derive, in part, from the recommendations of a previous Urban Land Institute study, *Mercer County New Jersey: A Strategy for Redevelopment*, and have been formulated in close consultation with the Mercer County Planning Division, which chairs the study advisory committee. The transportation improvements considered reflect both a traditional focus on efficient traffic movement and a nontraditional concern with transformation of streetscapes. On N. Olden Avenue, intersection improvements to increase the performance and safety of the roadway have been proposed. On Spruce Street, a four-lane to three-lane conversion, i.e., road diet, has been evaluated. A proposed new facility, the Calhoun Street Extension (CSE), which is designed to improve the connectivity of the local street network, has also been analyzed. Travel demand on the CSE is modeled using manual traffic assignment. Its other impacts are delineated. Finally, large truck traffic in Mercer Crossings residential neighborhoods is investigated. Data on traffic volume and temporal distribution of trips have been collected at two major trip generators in the study area and several alternate routes are researched.
NJ	US 130	6E, 6B	Context Sensitive Vision Plan – Route 130 Corridor, Burlington County, New Jersey	Parsons Brinckerhoff, Anton Nelessen and Associates, CDM, May 2003	Not available.
NJ	US 130	6B, 6C, 6D	New Jersey Needs and Strategy Development Corridor - US 130 Corridor –Burlington County	DVRPC Publication #00011, June 2000	This is a systems level study, which provides a corridor-wide analysis of the US 130 corridor in Burlington County. Undertaken at the request of New Jersey Department of Transportation, the study was conducted to determine the adaptability of the transportation management systems of the New Jersey Department of Transportation and the Delaware Valley Regional Planning Commission to the corridor planning process. The study identifies the transportation needs and deficiencies of the corridor and provides recommendations that address these needs.
NJ	US 130	6D, 6E	Route 130 Visioning Study Transportation Planning Deficiency Analysis	Parsons Brinckerhoff, August 2003	*The Route 130 Visioning Study* is a joint planning effort led by the Delaware Valley Regional Planning Commission, the New Jersey Department of Transportation, and Burlington County. The study is focused on Route 130 from Wood Street in Burlington City to the Pennsauken Creek in Cinnaminson Township and includes Kiem Boulevard between Route 130 and the Delaware River. The corridor passes through seven municipalities, including Burlington City, Burlington Township, Willingboro, Edgewater Park, Delanco, Delran, and Cinnaminson, all within Burlington County.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
NJ	US 130, US 206	6B, 10B	Route 130/Delaware River Corridor Extension; Route 206/Farmbelt Corridor Transportation and Circulation Study	DVRPC Publication #03021, June 2003	This is the transportation and circulation element of a strategic plan for the northeastern region of Burlington County along the US 206 and US 130 corridors. This study was developed using a consensus-based approach with input from the corridor communities, as well as state, county, and regional agencies in the identification of transportation problems. Detailed field views and technical analysis were conducted to identify and quantify the transportation problem areas and document practical solutions. A detailed write-up of the existing conditions, identified problems, and potential improvement scenarios is presented. The present and future traffic conditions on selected arterials were analyzed using the DVRPC regional simulation model. 2025 traffic volumes on 41 arterial segments in the corridor were developed using different land use scenarios. An agricultural route network was identified that represents the preferred transportation network by farmers in the area to facilitate mobility of farm equipment between farms, as well as goods movement to and from farms. Current constraints and deficiencies to this route have been documented and necessary improvements identified. A strategic implementation plan was developed to be used as a dynamic long range tool for the systematic selection of projects to create a significantly improved transportation system within the study area.
NJ	US 30	5C, 5B	Inter-Municipal Cooperation: White Horse Pike Economic Development and Land Use Assessment	DVRPC Publication #03022, August 2003	As part of a continual project to foster intermunicipal cooperation, the Delaware Valley Regional Planning Commission (DVRPC), with the support of the Camden County Planning Department and White Horse Pike Redevelopment Coalition, conducted an economic development and land use assessment of the White Horse Pike from Barrington Borough to Clementon Borough. The purpose of this assessment is to examine the White Horse Pike in terms of economic redevelopment potential and to address issues such as aesthetics, traffic, and commercial revitalization strategies. This assessment will act as the first phase of the revitalization of the White Horse Pike, and the coalition will continue to work together to implement the recommended strategies within this report.
NJ	US 30	5A, 5B, 5C	US 30 Corridor Study	DVRPC Publication #02028, July 2002	This document presents a transportation improvement plan for the US 30 Corridor in Camden County. The corridor planning effort undertakes the traditional examinations of an existing transportation/circulation system, in this case US 30 and surrounding facilities, identifying safety and functional or operational problems and recommending potential solutions, as appropriate. This plan takes a comprehensive look at the transportation needs of the corridor and identifies which project locations are in need of immediate attention and who is responsible to get these projects moving to the next step.
NJ	US 30	5C	US 30 Corridor Study	DVRPC Publication #06036, September 2006	This document presents an analysis of the transportation issues of the US 30 Corridor in the eastern most portion of Camden County. The corridor planning effort undertakes the traditional examinations of an existing transportation/circulation system, in this case US 30 and surrounding facilities, identifying safety and functional or operational problems and recommending potential solutions, as appropriate.
NJ	US 206	4D, 4E, 4F	US 206 Corridor Study	DVRPC Publication #06031, June 2006	This study was developed using a consensus-based approach with input from the corridor communities, as well as state, county, and regional agencies in the identification of transportation problems. Detailed field views and technical analysis were conducted to identify and quantify the transportation problem areas and document practical solutions. A detailed write-up of the existing conditions, identified problems, and potential improvement scenarios is presented. Current constraints and deficiencies to this route have been documented and necessary improvements identified. A strategic implementation plan was developed to be used as a dynamic long-range tool for the systematic selection of projects to create a significantly improved transportation system within the study area.
NJ	US 322	7A, 7C, 7D, 7E	Route 322 M.P. 4.80-14.90 Logan, Woolwich and Harrison Townships, Gloucester County, New Jersey: Tier 2 report	Urban Engineers, Inc., March 2003	This report is located within the townships of Logan, Woolwich, and Harrison along the US Route 322 corridor in Gloucester County. This report is designed to identify a list of short-term, midterm and long-term improvements to safety in the corridor.
NJ	US 322	7A, 7B, 7C, 7D, 7E	Managing Change along the US 322 Corridor: Land Use and Transportation Issues, Policies and Recommendations - Volume I	DVRPC Publication #06023, June 2006	The New Jersey Department of Transportation (NJDOT), through its Concept Development Program, is encouraging counties and municipalities to work cooperatively along key transportation corridors to assess land use and access management policies and to evaluate area growth potential, as defined in local zoning ordinances, and its transportation improvement and policy implications. The US 322 corridor assessment and the resulting implementation recommendations are intended to (1) preserve the state's investment in current or pending transportation investments; (2) promote the conditions to achieve multimodal transportation solutions to help alleviate current corridor congestion and forecasted travel growth; and (3) to further the goals of coordinated land use and transportation planning both within municipalities and along multimunicipal corridors. Volume One documents the baseline conditions along the corridor and provides a municipal and corridor wide build-out analysis. Volume Two included land use and transportation recommendations, as well as sample ordinances.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
NJ	US 322	7A, 7B, 7C, 7D, 7E	Managing Change Along the US 322 Corridor: Land Use and Transportation Issues, Policies, and Recommendations - Volume II	DVRPC Publication #07004, January 2007	This document is the second phase of an 18-month two-volume study. Completed in June 2006, Volume One: Baseline Conditions incorporated baseline information including demographics, land use and development, and transportation conditions. A municipal and corridor-wide zoning build-out analysis was also completed. Building upon the conditions identified in Volume I, this second volume provides the rationale for the US 322 Corridor Framework Plan. Within Volume 2 is a general introduction of the framework plan process and growth within the US 322 corridor; different perspectives of each corridor community and a proposed corridor-wide vision; two different future perspectives of growth for US 322 that include illustrations; an outline of land use, development, and access management principles; development and transportation goals for the US 322 corridor; detailed municipal and corridor-wide transportation and land use recommendations; implementation tools; and sample zoning ordinances for the study area municipalities.
NJ	Various	5A, 6H	Finding Space: Balancing Parking Needs and Urban Vitality in the City of Camden	DVRPC Publication #11030, August 2011	This study was prepared for selected areas of the City of Camden, New Jersey, to accommodate the city's parking needs as it moves forward with new development. Following an analysis of existing parking facilities, traffic circulation patterns and crashes, future development plans, zoning and policy requirements, and interviews with key stakeholders, recommendations were generated. The recommended actions, if implemented, will increase and upgrade the parking supply to meet demand sustainably, increase parking revenue and compliance with parking regulations, increase pedestrian and cyclist safety and reduce crashes, and encourage the development of parking policy that supports smart growth.
NJ	Various	5C, 13B	The Central Camden County Bicycling and Multi-Use Trails Master Plan	DVRPC Publication #08073, July 2009	This report describes a proposed network of bicycle facilities located in 10 contiguous municipalities in Central Camden County, New Jersey. Potential alignments and regional attractors were determined through workshops conducted with regional stakeholders. Included in this report are inventories of the existing and proposed bicycle facilities located in each of the ten municipalities.
NJ	Various	2A, 3A, 3D, 6J, 7A, 7B, 7C, 7D, 7E, 11A, 11B, 11C, 11D	Gloucester County Transportation Needs Study	DVRPC Publication #09059, March 2011	The Gloucester County Transportation Needs Study was a two-year, three-phase study undertaken by DVRPC to assist Gloucester County with the preparation of the transportation element of an updated County Master Plan. The study emphasized Smart Growth principles, multimodal commuting, and the relationship between land use and transportation. A version of the DVRPC regional travel demand model was prepared for the study with focus on the high-growth portions of the county. The modeling aspect assisted in determining the transportation improvements needed to accommodate the expected demands of future growth. Additionally, DVRPC conducted a station-area analysis for rail stations to be served by the locally preferred alternative of the PATCO South Jersey expansion project, the Glassboro-Camden Line. The station-area analysis looked beyond the immediate stations and determined improvements that may be needed in the surrounding areas to connect people (vehicles, cyclists, pedestrians) with the stations.
NJ	Various	Various	Cordon Line Highway Survey for the Delaware Valley Region – Report No. 1; US 1 and NJ 70 Cordon Stations in Burlington and Mercer Counties	DVRPC Publication #02029, June 2002	A cordon line survey of traffic entering and leaving the Delaware Valley region was conducted during the summer of 2001. This is a summary report describing the characteristics of traffic crossing the regional cordon line at two locations in New Jersey: US 1 and NJ 70. This includes information regarding the data collection, data summaries, and complete data tables in the appendices.
NJ	Various	Various	New Jersey Project Identification & Prioritization - September 2006	DVRPC Publication #06014, March 2006	This report describes the methodology used to identify transportation needs of the four county New Jersey portion of the region that are not yet being addressed in the New jersey Project Development Process. The methodology used data from a wide variety of sources, including the Long-Range Plan, the DVRPC Work Program, NJDOT's Congestion Management System, Pavement Management System, and Bridge Management System. The management systems will be used as a base from which problem areas will be identified from. The other sources will then be used to supplement the inventory by adding other problem areas that were not identified by the management systems. The report contains a set of tables that list the identified problem areas for each county.
PA	Baltimore Avenue	5C, 5E	Baltimore Avenue Corridor Revitalization Plan	Philadelphia and Delaware County Planning (McCormick Taylor), March 2007	Not available.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	Baltimore Pike	6A, 6B	Baltimore Pike Corridor Revitalization Assessment Building a Case for Community and Economic Redevelopment	DVRPC Publication #01037, December 2001	As part of a continuing project to foster intermunicipal cooperation, the Delaware Valley Regional Planning Commission (DVRPC), with the support and cooperation of the Delaware County Planning Department (DCPD), Lansdowne, East Lansdowne and Yeadon boroughs (which comprise the Eastern Delaware County Council of Governments), Clifton Heights Borough, and Upper Darby Township, conducted a Revitalization Assessment of the Baltimore Pike Corridor. The purpose of this assessment is to identify issues and conflicts within the corridor study area and build a case for the need of economic and community redevelopment along the corridor, which will help the study area municipalities obtain funding for such activities. To this end, DVRPC analyzed existing conditions and trends in the study area, conducted a land use analysis and aesthetic assessment, reviewed PennDOT's transportation enhancement project along Baltimore Pike and developed a vision, recommendations, and implementation strategies to guide future revitalization efforts. *Baltimore Pike Corridor Revitalization Assessment: Building a Case for Community and Economic Redevelopment* presents the outcome of these efforts.
PA	Ben Franklin Parkway	3A, 10A	Benjamin Franklin Parkway Circulation, Parking and Transit Study	Nelson/Nygaard Consulting Associates, January 2007	The purpose of this study was to assist the city, stakeholders, and local residents in making decisions and moving forward with improvements to the parkway. The conceptual plan attempts to better balance the needs of vehicles, pedestrians, and bicyclists, while keeping in mind the parkway's key role in the cultural, community, and civic life of Philadelphia ,as well as its transportation function. The study was conducted in two parts: the first concentrated on parking needs near the Free Library of Philadelphia ("Library") and the Youth Study Center ("Center"); the second took a comprehensive look at the parkway and its issues relating to circulation, parking, and transit. This report represents Phase II of the study. The study included meetings with parkway stakeholders and community groups, review of over 28 earlier studies, data collection, analysis of existing conditions, and recommendations. The impacts of special events on circulation, parking, and transit were also examined.
PA	Chester City	2D, 4D, 6A	Amtrak Service at Chester Transportation Center Feasibility Study	DVRPC Publication #09003, September 2008	This study examines the feasibility of providing Amtrak service to the Chester Transportation Center. Elements of rail operations, parking, and interstate destination appeal were examined for issues impeding service, as well as enabling solutions. While the addition of Amtrak station service is technically feasible, Northeast Corridor traffic scheduling would be affected. Comparisons with other stations suggest that a limited interstate station stop may not generate many boardings, especially in such close proximity to major Amtrak stations with full services. It was suggested that benefits would accrue through the provision of coach style buses providing direct service from established major interstate hubs such as 30th Street Station and the Philadelphia International Airport.
PA	Chester City	2D, 4D, 6A	Chester City Ramp Access Study	DVRPC Publication #03003, February 2003	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 socioeconomic 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, a review of the alternatives, and a brief discussion of the focused traffic simulation model used to develop the traffic projections are also included.
PA	Chester City	2D, 4D, 6A	Conceptual Access Plan for the City of Chester	DVRPC Publication #01025, October 2001	The objective of this report is to recommend an access plan to direct truck traffic to the Chester waterfront, and auto traffic to the CBD and waterfront from the regional highway system. A series of alternative routing schemes were evaluated as to their impact an feasibility. For the recommended access routes, detailed roadway and signing improvement as recommended.
PA	Marcus Hook	4D, 6A, 8A	Marcus Hook TOD	Kise Straw & Kolodner Publication, 2003	Not available.
PA	I-276, I-476	1A, 2B	Area Revitalization, Mobility & Industrial Corridor Reuse Study: Norristown, Plymouth & Conshohocken	DVRPC Publication #05006, March 2005	The purpose of this study is to evaluate the planning issues in adjoining sections of Norristown, Plymouth, and Conshohocken and to recommend strategies that will address the needs and problems of the area. Proposed recommendations address the issues of commercial revitalization, industrial use, housing, roadway reconstruction and circulation, public transit accommodations, recreational amenities, and streetscape improvements. This report completes the first phase of the two-phase project; an implementation phase related to the study recommendations will follow.
PA	I-476	2A, 2B, 2C, 2D	I-476 Express Bus Feasibility Study	DVRPC Publication #03008, June 2003	This report explores the feasibility of express bus service operating on I-476, the Mid-County Expressway, between Chester City and the mall centers at King of Prussia or Plymouth Meeting. Four service alternatives were assessed by study area demographics, comparative travel times, and ridership forecasts using DVRPC's transportation simulation model. Based on this data, express service was found to be faster than any current one-seat service, though low ridership forecasts make this a marginally feasible venture. Defined employee-employer matching, hours of operation, guaranteed ride home, and airport service were some of the issues to resolve. Transportation Management Associations may be best to examine and coordinate many of these points if a successful operation were to be developed.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	I-76	3C	Henderson Road/I-76 Westbound Ramps Traffic Study - Montgomery County, Pennsylvania	DVRPC Publication #03006, October 2003	This report presents 2010 and 2030 forecasts for the No-Build and Build Alternatives for the Henderson Road corridor and surrounding traffic study area. It was prepared at the request of the Pennsylvania Department of Transportation, which is conducting traffic alternatives analyses in support of providing new interchange ramps between Henderson Road and I-76 (Schuylkill Expressway). DVRPC's travel simulation model was utilized to estimate future traffic volumes for the No-Build and Build Alternatives. The Build Alternative assumes new ramp interchanges between Henderson Road and I-76 (Schuylkill Expressway) that are designed to improve traffic flows and enhance safety.
PA	I-76, I-476	2B, 3C	I-76/I-476 Interchange Area Traffic and Conceptual Engineering Study	DVRPC Publication #08074, April 2009	This report documents 2005 and 2030 traffic forecasting and operations testing in the I-76/I-476 Interchange and the Fayette Street Bridge River crossing area. AM and PM peak-hour level-of-service, travel times, and network speeds and delays performance measures were derived by using the VISSIM. The Louis Berger Group, Inc. provided highway engineering services to identify design enhancements and construction cost estimates associated with two Build Scenarios in the studied interchange network.
PA	I-76, I-95	4A, 4B, 4C	Pennsylvania Turnpike/Interstate 95 Interchange Project: Final Congestion Management System Evaluation	Greiner, Inc.; Kise, Franks & Shaw; Chilton Engineering; Barton Aerial Technologies, Inc., October 1995	The purpose of this evaluation is to evaluate feasible CMS strategies, singularly or combined, to determine if they meet the needs identified for the I-95/I-276 Interchange Project. Sixteen different strategies were evaluated to determine if congestion could be reduced in the traffic impact corridor enough to eliminate or reduce the need for a capacity adding project.
PA	I-95 (Ann Street to Frankford Creek)	4B	I-95 Interchange Enhancement and Reconstruction I-95 Section AFC (Ann Street to Frankford Creek) Interchange Traffic Study	DVRPC Publication #06010, May 2005	This report presents traffic forecasts and analysis for the Delaware Expressway (I-95), Section AFC (Ann Street to Frankford Creek), and Allegheny Avenue. The report examines the impacts of 2025 traffic volumes on I-95, interchanges for Castor, Aramingo/Girard, and Allegheny avenues, and also the local roadway system for a No-Build Alternative with and without Delaware Avenue Extension and seven Build Alternatives. The report also briefly describes the methodology used to develop the traffic forecasts.
PA	I-95	Sections GIR/VINE and AFC	I-95 Interchange Enhancement and Reconstruction I-95 Expressway Interchanges, Sections GIR/VINE and AFC Traffic Study - Supplement Number 3	DVRPC Publication #10066, October 2011	This supplemental technical report presents updated and coordinated year 2030 traffic forecasts for the four Section AFC alternatives still being considered in the FHWA Point of Access (POA) analysis for the I-95 Section AFC Ann Street to Frankford Creek interchange and mainline reconstruction project. These alternatives include: the No-Build, Minimum Build, Full Diamond Interchange at Allegheny Avenue, and Split Diamond Interchange at Allegheny Avenue and Castor Avenue. These forecasts are based on the same underlying assumptions, that is: 1) 2030 design year and Board Adopted DVRPC socioeconomic forecasts; 2) include Delaware Avenue/ Christopher Columbus Boulevard condominium and casino generated volumes; and 3) eliminate the Delaware Avenue Extension (temporary detour road). Also, the pedestrian crosswalk, bicycle, and vehicular turning movement counts within the North Delaware Avenue/Beach Street intersection at East Columbia Avenue taken during the 2010 Shad Fest held in Penn Treaty Park are included and analyzed in this report; as are 2030 vehicular intersection turning movement projections, including the SugarHouse Casino traffic generation. These pedestrian and bicycle counts and vehicular movement projections provide design data for access to Penn Treaty Park.
PA	I-95, I-476	2D, 4D	I-95/I-476 Interchange Feasibility Study	DVRPC Publication #11026, April 2012	This document is a study of the I-95/I-476 Interchange and its immediate vicinity. Traffic, roadway, and safety deficiencies were identified. Thirteen potential improvements were identified, and a high-level analysis of their costs and benefits was conducted. Three packages encompassing six high-priority operational improvements are recommended for further study.
PA	I-95, I-676	4B	I-95 Interchange Enhancement and Reconstruction: I-95 Girard Avenue and I-676 Vine Expressway Interchanges, Section GIR Traffic Study	DVRPC Publication #05003, June 2005	This report presents traffic forecasts and analysis for the Girard Avenue and I-676 Vine Expressway Interchange complex along I-95 in the Northern Liberties and Penn Treaty sections of Philadelphia. The report examines the impacts of 2025 and 2005 traffic volumes on I-95, interchange ramps for Girard Avenue and I-676 Vine Expressway, and also the local roadway system for the No-Build (Base Case) Alternative and five different Build options. The “Base Case” or No-Build Alternative, eliminates the lane drop on I-95 southbound at Girard Avenue, while adding a connection from the southbound Girard Avenue off-ramp to Aramingo Avenue, and five build options, which would reconfigure the I-95 on and off-ramps, as well as make other improvements to the Aramingo Avenue/Girard Avenue Interchange. The report also briefly describes the methodology used to develop the traffic forecasts.
PA	I-95, PA 73	4B, 5G	I-95 Interchange Enhancement and Reconstruction Cottman/Princeton Interchange Traffic Study	DVRPC Publication #02025, June 2002	This report presents traffic forecasts and analysis for the I-95 Cottman/Princeton interchange complex in northeast Philadelphia. The report examines the impacts of 2025 traffic volumes on I-95, the interchange ramps, and the local roadway system of four improvement alternatives: the No Build alternative, which would encompass only minor changes to the system, and three Design Options, which would reconfigure the I-95 on and off-ramps, as well as making other improvements to roadway in the ramps' vicinity. The report also briefly describes the methodology used to develop the traffic forecasts.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	I-95, US 322	4D, 8A	I-95/US 322 Interchange Traffic Study (Technical Memorandum)	DVRPC Publication #08024, April 2008	This report documents 2014 and 2034 traffic forecasts for the I-95/US 322 Interchange and surrounding area in Delaware County. Average daily and AM and PM peak-hour forecasts are provided for a No-Build and three Build alternatives and compared to current volumes.
PA	Martin Luther King Drive	3A	Improving Safety for All Users on Martin Luther King Drive	DVRPC Publication #11021, February 2012	This project addresses safety concerns for pedestrians and bicyclists on MLK Drive in Philadelphia. Included in this analysis is best practice research, the results of a computer model, and the results of fieldwork.
PA	PA 3	5B, 10C	Route 3, West Chester Pike, Land Use and Access Management Strategies, Phase I	DVRPC Publication #05029, March 2006	Phase I of this report documents existing conditions and recommends local land use and access management strategies for the communities along the Routes 3 and 252 corridors in Delaware County. Future growth pressure and redevelopment opportunities coupled with traffic congestion problems make this area ripe for the employment of access management techniques. This study recommended land use control measures and proactive collaboration with the Pennsylvania Department of Transportation to maintain or improve mobility in the face of increased future population. This study also established aesthetic consistency along the corridor through the modification of land use planning documents and local ordinances.
PA	PA 3	5B, 10C	Route 3, West Chester Pike, Implementation Strategies, Phase II	DVRPC Publication #05029A, November 2006	The promotion of land use and transportation planning linkages was the foundation for the improvement strategies recommended in the Phase I report (#05029). During FY 2006, these implementation strategies were further researched and developed into individual tools for use by the study area municipalities. This Phase II report (05029-A) combines each distinct improvement strategy into one toolbox, with guidance and samples that will provide momentum for implementation and continued multi-municipal cooperation. One of the primary goals of this study is to establish consistency along the corridor through the modification of land use planning documents and local ordinances. Strategies to arrive at this goal include utilizing various access management techniques, amending each community's comprehensive plan an other ordinances, adopting zoning overlays and creating an official map. To help guide study area municipaltiies in the creation and amendment of their own ordinances, samples from local communities were compiled in a separate Appendix document (#05029-C). Finally, the Potential Funding Sources document (#05029-B) inventories available funding programs to accomplish these recommended improvements.
PA	PA 3	5B, 10C	Route 3, West Chester Pike, Implementation Strategies, Phase II - Potential Funding Sources	DVRPC Publication #05029B, November 2006	This inventory of available funding sources is one of the several recommendations that resulted from the Route 3, West Chester Pike, Land Use and Access Management Strategies Study (#05029), completed by DVRPC during FY 2005 and 2006. Other improvement strategies recommended in the Phase I report were developed into a toolbox, to provide guidance to study area municipalities. The Phase II report (#05029-A) reviewed access management techniques as well as zoning overlays and the creation of an official map. The Appendix (#05029-C) for the Phase II report included sample ordinances, created by local municipalities. The Potential Funding Sources inventory briefly outlined funding programs for which the study area municipalities are eligible. These programs are primarily administered by various federal, state, and county government agencies; however, some programs are managed by DVRPC or other non-profit organizations. The document also included a matrix to link the funding sources with implementation activities recommended in the Phase I report. While the program listed are not meant to be all-inclusive, this inventory of funding sources provides a concise resource for the study area municipalities to transform study recommendations into improvements that will benefit their communities.
PA	PA 3	5B, 10C	Route 3, West Chester Pike, Implementation Strategies, Phase II - Appendix	DVRPC Publication #05029C, November 2006	The promotion of land use and transportation planning linkages was the foundation for the improvements strategies recommended in the Route 3, West Chester Pike, Land Use and Access Management Strategies, Phase I report (#05029). During FY 2006, these implementation strategies were further researched and developed into individual tools for use by the study area municipalities. The Phase II report (#05029-A) combined each distinct improvement strategy into one toolbox, with guidance to provide momentum for implementation and continued multi-municipal cooperation. This document serves as the Appendix for the Phase II report. Included in this publication are sample ordinances to help guide municipalities as they modify their land use planning documents and local regulations, focusing on access management ordinances, historic preservation and mixed-use zoning overlays, and official maps.
PA	PA 3	5B, 10C	Route 3, West Chester Pike, Implementation Strategies, Phase I - Potential Funding Sources	DVRPC Publication #05029D, March 2006	This report supplements the Route 3, West Chester Pike, Land Use and Access Management Strategies, Phase I report with an overview of potential funding sources for the implementation of its recommendations. A wide range of funding opportunities from federal, state, county and non-profit sources is summarized. A matrix of Phase I recommendations is provided to match the appropriate funding source(s) to each recommendation.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	PA 3	10B, 10C	Boosting the Bus: Better Transit Integration Along West Chester Pike	DVRPC Publication #10033, June 2011	The purpose of this project was first to develop a set of best practices to improve transit service in the West Chester Pike corridor as well as its integration with corridor development; and second to use VISSIM microsimulation to test the impacts of various operational improvement strategies on the speed and running times of SEPTA Route 104 buses. The results of this analysis suggest that these improvements would result in travel time savings, with the most meaningful benefits naturally being observed under the RapidBus BRT-lite proposal (which was simulated to cut the time competitiveness gap between auto and transit by about 32-percent in the westbound direction, and 66 percent eastbound). The time savings estimated for the TSP-only and TSP plus far-side stop scenarios are much more modest, with only a negligible additional benefit being observed for the addition of far-side stops to TSP.
PA	PA 3	10B, 10C	Transit Advantage: Transit Signal Priority On PA Route 3	Transportation Management Association of Chester County, June 2007	Transit Signal Priority (TSP) has been studied as a way to enhance a mature mass transit route along a spine corridor in Chester County, Pennsylvania. A TSP system can improve mass transit performance by reducing travel time and increasing a buses on-time performance. The TMACC formed two committees during this project, a technical advisory committee (TAC) and a policy advisory committee (PAC). The TAC was made up of municipal managers, transportation professionals, and transit operations managers to provide technical expertise about signal systems, local traffic conditions, and bus operations. The PAC was made up of elected municipal officials and policy level representatives to address all decisions that involved municipal policies, agreements, and ordinances, as well as broader policy issues such as signal ownership, coordination, emergency response, and legalities. TSP has been identified as feasible on a technical level with minor investments made in the current signal controllers, and with needed investments to the pedestrian network, connecting sidewalks and transit stops and shelters. Municipalities are interested in this project, although they want to limit their fiscal exposure. Funding will likely need to come from federal, state and/or county agencies with the possibility for minor local contributions.
PA	PA 3, I-476	10B, 10C	Feasibility Analysis of West Chester Pike Busway 69th Street Terminal to I-476	DVRPC Publication #07001, January 2007	The purpose of this study is to conduct a feasibility analysis of using the West Chester Pike median between 69th Terminal and I-476 for a reversible busway. It takes a “fatal flaw” approach, trying to identify potential problems that would prevent conversion of the median. Areas examined included identification of physical obstructions in the median, transit ridership, and the impact on transit operations, design issues related to a busway, and impact on traffic flow.
PA	PA 23, PA 113	9B	Phoenixville Borough, Chester County Congestion & Crash Site Analysis Program	DVRPC Publication #09016, April 2010	This document represents the findings and recommendations for the Chester County Congestion and Crash Site Analysis Project. This project represents an effort to improve the mobility and safety on roadways in the DVRPC region. The goal of the program is to identify cost-effective improvement strategies that will reduce congestion and crashes and improve mobility and safety for all road users. Working with Chester County Planning Commission, the intersection of Nutt Road (PA 23) and Kimberton Road (PA 113) and a section of Nutt Road to Mason Street were chosen for analysis. This area was identified as having congestion and safety issues. In-depth crash and level of service analyses were performed to quantify and gain an understanding of the issues. With input from stakeholders, improvement strategies were identified to address the issues. As appropriate, proposed improvement strategies were tested for level of effectiveness.
PA	PA 29, PA 113	9A, 9B	Intercounty Relief Route: Schuylkill, East Pikeland, Phoenixville, Upper Providence	DVRPC Publication #06024, August 2006	The Inter-County Relief Route is a proposed circumferential highway that would follow the alignment of the previously proposed multilane Phoenixville Spur expressway (including a new bridge over the Schuylkill River) and benefit traffic conditions through the greater Phoenixville, region; but which could be provided in amore context-sensitive manner, since it would be comprised principally of existing at-grade, two lane roadways. Both the ICRR highway concept and this detailed study of the highway were recommendations of the Phoenixville Area Intermodal Transportation (DVRPC, January 2003).
PA	PA 3, PA 252	10C	Managing Access in Newtown Square: PA 3 and PA 252 in Newtown Township, Delaware County, Pennsylvania	DVRPC Publication #10027, August 2010	The evaluations summarized in this report were performed in support of PennDOT’s statewide effort to promote the establishment of formal access management ordinances for state and local highways. A case study of Newtown Street Road (PA 252) and West Chester Pike (PA 3) in the vicinity of the proposed Ellis Preserve Town Square development was conducted and a conceptual plan prepared for the study area as a tangible illustration of the benefits of planning and implementing access management strategies, and as a means of combating congestion and enhancing traffic safety. In addition to providing a conceptual plan for the study area, the study also analyzed the existing access management regulations in the township’s zoning and subdivision and land development ordinances. Where regulatory gaps were found, recommendations with sample ordinance language were provided.
PA	PA 63	12A	Abington and Upper Moreland Townships, Montgomery County Congestion & Crash Site Analysis Program	DVRPC Publication #09015, December 2010	This document represents the findings and recommendations for the Montgomery County Congestion and Crash Site Analysis Program. This program represents an effort to improve the mobility and safety of the roadways in the DVRPC region. The goal of the program is to identify cost-effective improvement strategies that will reduce congestion and crashes and improve mobility and safety for all road users. Working with Montgomery County Planning Commission, the intersection of Moreland Road (PA 63) and Davisville Road were chosen for analysis. This intersection area was identified as having congestion and safety issues. An in-depth crash and level of service analysis was performed to quantify and gain an understanding of the issues. With input from the study advisory committee, improvement strategies were identified to address the issues. As appropriate, proposed improvement strategies were tested for level of effectiveness.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	PA 100	8A, 8L, 8M	PA 100 Corridor Study	DVRPC Publication #98002, January 1998	This report documents a comprehensive land use and transportation evaluation of the 13-mile long PA 100 corridor in central Chester County, Pennsylvania. The work augments planning activities conducted independently by the five corridor municipalities through adoption of a multimodal corridor perspective, application of regional planning initiatives (PA Congestion Management Systems, Mobility Alternatives Programs, etc.), and use of regional evaluation procedures (the regional travel demand forecasting model). A total of 48 highway, public transportation, travel demand management, and intelligent transportation systems improvements are enumerated to directly solve current and future mobility problems identified in and around the corridor. These are enveloped into a recommended Capital Improvement Plan for the corridor, totaling $635 million. The capital improvements recommendations are complemented with a comprehensive list of growth management and travel demand management actions, which are required also necessary to maintain the mobility in the corridor serviceability of the capital improvements.
PA	PA 100	8L	Pennsylvania Congestion Management System - PA 100 Corridor	DVRPC Publication #02009, June 2002	This report is part of the Pennsylvania Congestion Management System (CMS) and provides analysis of the PA 100 corridor in Chester County. Key intersections, arterial subcorridors, and transportation systems were examined. Ten intersections experiencing significant delays were studied at greater detail and congestion mitigation strategies were developed. Level of Service was evaluated on 37 arterial subcorridors. Five subcorridors were rated at level of service F and six performed at level of service E. Strategies were given for improving poor levels of service. The 2025 Journey-to-Work forecasts showed that private automobiles will be the predominant method of commuting in the study area. Growth pressures, increasing fuel prices, and air-quality concerns make transit an attractive method of reducing single-occupant vehicle trips in the study area. Transit improvements were explored as a viable method of mitigating congestion. The report also suggests a number of Travel Demand Management (TDM) measures, such as Regional Commuter Benefit and Mobility Alternative Programs, as additional methods of reducing single occupant vehicle trips. Bicycle and pedestrian facilities were also examined to determine ways to promote their use.
PA	PA 100	16A	Tri-County Transportation Study: A Vision for PA Route 100	DVRPC Publication #08092, December 2010	The transportation challenge facing many communities along PA Route 100 is how to best manage their transportation network as the surrounding area develops. As a result of current and anticipated development, weekday commuter rush hour traffic has the potential to increase by as much as 50 percent to 150 percent along various segments of the study corridor. Regrettably, very few of the study intersections can accommodate such drastic traffic growth, resulting in severe congestion along most of the corridor. The purpose of this study is to create an effective and sustainable plan to accommodate future traffic volumes resulting from intense development potential, improve safety and mobility along the corridor, provide for multiple modes of travel as practical, and promote smart growth practices.
PA	PA 113	11A	PA 113 Heritage Corridor Transportation and Land Use Study	McMahon Associates Publication, November 2005	Not available.
PA	PA 152, US 202	8H	Bristol Road Extension Traffic Study (Technical Memorandum)	DVRPC Publication #08032, May 2008	This report documents 2030 traffic forecasts for the Bristol Road Extension Traffic Study area. Average daily and AM, midday, and PM peak-hour forecasts are provided for a No-Build and a Build alternative and compared to current volumes. The Build Alternative extends the terminus of Bristol Road from US 202 to Park Avenue and provides additional connections between US 202 and portions of Chalfont and New Britain boroughs.
PA	PA 291, PA 420	4C, 6A	Congestion and Crash Site Analysis Program – Tinicum Township, Delaware County	DVRPC Publication #09017, November 2010	This document represents the findings and recommendations for the Delaware County Congestion and Crash Site Analysis Program. This program represents an effort to improve the mobility and safety on roadways in the DVRPC region. The goal of the program is to identify cost-effective improvement strategies that will reduce congestion and crashes and improve mobility and safety for all road users. Working with Delaware County Planning Department, the intersection of Industrial Highway/Governor Printz Boulevard (PA 291) and Wanamaker Avenue (PA 420) was chosen for analysis. This intersection was identified as having congestion and safety issues. In-depth crash and level-of-service analyses were performed to quantify and gain an understanding of the issues. With input from the advisory committee, improvement strategies were identified to address the issues. As appropriate, proposed improvement strategies were tested for level of effectiveness.
PA	PA 309, County Line Road	14C	Access Management Along Pennsylvania Highways in the Delaware Valley - County Line Road/PA 309 Case Study Corridor	DVRPC Publication #05020, September 2005	This project was created in support of PennDOT's effort to establish model access management ordinances for use by municipalities statewide. Two corridors were selected as case studies to help PennDOT illustrate the possible benefits of proactive access management implementation. This corridor report highlights County Line Road between North Wales Road and the Sellersville Bypass (the second case study focuses on City Avenue/US 1). The work was performed with the help of member governments, regional transportation providers, and PennDOT. The project began with the documentation of existing conditions along the County Line Road corridor. Access management related problem areas and specific issues were identified and studied in further detail. Recommendations to improve the congestion and safety concerns along the corridor were based on PennDOT's statewide model access management ordinances. A theoretical conceptual plan was prepared as a result of these recommendations and a map of these suggestions is included in this report. Additionally, this conceptual plan acted as a base for the interactive exercise that PENNDOT included in their access management model ordinance statewide training sessions.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	PA 413, PA 213	12A, 13A, 5I, 8I	Pennsylvania Congestion Management System - PA 413 Corridor	DVRPC Publication #03016, July 2003	This report is part of the Pennsylvania Congestion Management System (CMS) and provides an analysis of the PA 413 corridor in Bucks County, Pennsylvania. Through travel time surveys, conditions at intersections and arterial sections within the study network were evaluated during the peak periods. The most congested intersections and arterial sections were examined in detail and improvement measures to reduce congestion and delay were identified. Transit service was evaluated and changes were recommended to improve the attractiveness of this mode. Several Travel Demand Management (TDM) measures such as Regional Commuter Benefit and Mobility Alternative Programs were suggested as additional methods of reducing single-occupant vehicle trips. Based on DVRPC's 2025 forecast of Journey-To-Work travel patterns, the major destinations for highway person trips within the study area were determined. Based on the same forecast, origins and destinations of transit person trips were also determined.
PA	PA 413, PA 513	5I, 13A	Assessment of Land Use and Transportation Solutions for the Route 413/513 Corridor	DVRPC Publication #04014, February 2004	The purpose of this study was to identify key land use and transportation issues and to propose associated recommendations for the Route 413/513 corridor, along with Business Route 1 and Main Street in Hulmeville, as it affects the four boroughs of Langhorne, Langhorne Manor, Penndel, and Hulmeville and a small portion of the township of Middletown. Recommendations address the issues of creating a pedestrian-friendly environment, improving roadways and public transit accommodations, balancing regional and local needs, strengthening existing commercial districts, and enhancing the aesthetic quality of the study area.
PA	PA 413, PA 332	13A	Access Management Along Pennsylvania Highways in the Delaware Valley--Case Study Corridor: Durham Road (PA 413)	DVRPC Publication #08098, October 2008	The evaluations summarized in this report were performed in support of PennDOT's statewide effort to promote the establishment of formal access management ordinances for state and local highways. A case study of Durham Road (PA 413), between PA 232 and the Newtown Bypass, was conducted and a conceptual plan prepared for a segment of Durham Road as a tangible illustration of the benefits of planning and implementing access management strategies; and as a means of combating congestion and enhancing traffic safety. Principles and procedures outlined within PennDOT's Access Management Model Ordinances for Pennsylvania Municipalities Handbook, the Transportation Research Board's Access Management Manual, and the PennDOT/NJDOT Smart Transportation Guidebook were followed in developing the conceptual plan. The work was performed with the participation of staff from the Bucks County Planning Commission, PennDOT, and representatives from Wrightstown and Newtown townships. Broadly described, the safety and mobility improvements suggested for the corridor included eliminating turning movements (by closing driveways or restricting movements), reducing through travel interruptions by adding auxiliary turning lanes at traffic signals and providing a minimum of 1,000 feet between traffic signals), making vehicle entrances and exits to and from driveways and roadways more predictable (by supplying uniform spacing and better defined driveways, and provisions for shared access and integrated roadway, sidewalk and trail networks). Formal access management plans and codified ordinances are recommended, and close coordination with personnel from the PennDOT District 6-0 traffic Unit and the Bucks County Planning Commission to secure the vision and benefits for PA 413 within Wrightstown and Newtown townships.
PA	PA 532, Holland Road	5I	Northampton Township, Bucks County Congestion & Crash Site Analysis Program	DVRPC Publication #09014, December 2009	This document represents the findings and recommendations for the Bucks County Congestion and Crash Site Analysis project to improve the mobility and safety of the roadways in the DVRPC region. The goal of the program is to identify cost-effective improvement strategies that will reduce congestion and crashes and improve mobility and safety for all road users. Working with the Bucks County Planning Commission, five intersections located in the Holland Business District (Rocksville Road/Holland Road; Rocksville Road/Buck Road; Buck Road/Holland Road; Buck Road/Chinquapin Road; and Buck Road/Old Bristol Road) were chosen for analysis. These intersections were identified as having congestion and safety issues. In-depth crash and level of service analyses were performed to quantify and gain an understanding of the issues. With input from local stakeholders, improvement strategies were identified to address the issues. As appropriate, proposed improvement strategies were tested for level of effectiveness.
PA	PA 611	14A	North Broad Street Transportation and Access Study	Orth-Rodgers and Associates, Inc. (for the Philadelphia City Planning Commission), June 2007	This report describes the linkages between the various travel modes and access within the Broad Street corridor, and identifies ways to enhance the operation of this corridor to further the future development of the area. The study area includes the section of North Broad Street between City Hall and Erie Avenue as well as two blocks east and west of Broad Street. This final report has compiled the results of technical memoranda compiled in the early stages of preparing the report and provides recommendations for improving the North Broad Street Corridor. The final section includes a summary table of all recommended actions, with appropriate timeframe and the agencies that should take primary responsibility for implementation.
PA	PA 611, PA 263	14A, 14E, 14F	Routes 611/263 Corridor Study Phase 1 Report	DVRPC Publication #08045B, June 2008	This study provides a unique opportunity to identify ways in which transportation and land use can be coordinated in concert with environmental needs. It is hoped that this synergy will enhance the creation of economic development opportunities within the corridor. The study area was developed with the active involvement and cooperation of representatives from each of the study area communities, Montgomery County and the public. The study includes an assessment of existing corridor conditions, identification of strategic issues and identification and analysis of the corridors' vision, goals and objectives. The study was Phase I of a two-phase study process; the second phase focused on implementing various Phase I recommendations, working with Montgomery County and the study corridor municipalities.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	PA 611, PA 263	12A, 14A, 14B, 14E, 14F	Routes 611/263 Corridor Study Phase 2 Report	DVRPC Publication #08045C, December 2009	This report represents Phase 2 of a two-phase effort to identify corridor-wide and municipal-specific projects within the Route 611 (Old York Road) and Route 263 transportation corridor. This Phase 2 report is an action plan that presents a detailed analysis of issue areas identified by corridor municipalities, with specific recommendations that could guide project implementation. This study analyzed corridor-wide transit projects, as well as municipal-specific land use and infrastructure projects that would enhance the image and economic viability of the area. These recommendations can be pursued through a partnership of Montgomery County, the study corridor municipalities, and various state and regional agencies and entities.
PA	PA 724	9A	PA 724 Corridor Study	DVRPC Publication #04021, September 2004	This report documents a study to identify efficient, low cost alternatives for improving the operation, capacity and safety of PA 724. Lack of capacity at key intersections, poor sight distance, uncontrolled access and inadequate signage were identified as safety and operational concerns on PA 724. Overall, the addition of turn lanes and signals, better access management, and improved roadside maintenance (e.g. regular pruning of roadside vegetation) were found to be the most feasible options. A task force was convened made up of representatives from North Coventry, East Coventry, East Vincent and East Pikeland townships as well as PennDOT, Tri-County Chamber of Commerce and DVRPC staff. To improve traffic operations, task force members agreed that major widening of PA 724 was not an option. Turn lanes recommended in the study would require conversion of existing shoulders or expansion of PA 724, where right of way already exists. Recommended signal locations were based in large part on the location of proposed development. The recommendations in this report were based on field views, municipal and task force input, and Act 209 studies.
PA	Railroads	PA 2C, PA 2D	Delaware County Highway-Railroad Grade Crossing Study	DVRPC Publication #06007, October 2006	This study examines a grouping of eleven highway-railroad grade crossings along a major rail freight line in Delaware County, Pennsylvania. The purpose of the study is to document existing conditions at the crossings in the corridor, and to propose an improvement program which facilitates the flow of freight and mitigates the impacts of the trains on the surrounding communities. The report provides detailed information, maps, and aerial photographs about each of the corridor's eleven grade crossings. A range of options available to mitigate crossing conflicts are summarized and an analytic tool, GradeDec.Net, is employed to test various improvement scenarios. Drawing from a broad based steering committee, the report sets forth a broad corridor action plan, identifies those crossings with the greatest potential to be grade separated, and recommends a number of activities, which will help integrate rail freight operations with community goals.
PA	Transit (North Delaware Riverfront)	4B	North Delaware Riverfront Rail Stations Urban Design Study	Philadelphia City Planning Commission, April 2008	This study is focused on the opportunities and challenges facing five stations along SEPTA's R7 regional rail line, which connects Center City Philadelphia with Trenton, New Jersey. The five stations–Bridesburg, Wissinoming (currently closed), Tacony, Holmesburg Junction, and Torresdale–each present a unique set of issues and constraints related to their existing uses, market pressures and transportation infrastructure. At the same time, all of the stations share much in common, including a proximity to the North Delaware Riverfront, which promises to change substantially over the coming decades. The guiding objective of this project is to transform each station into an active, community resource that serves the needs of and encourages increased rail ridership by existing and new residents alike. To fuel the demand for rail services, the plan identifies a number of corridor-wide strategies to address the consistent issues facing each station.
PA	Transit (Paoli Transportation Center)	7D	Paoli Station Intermodal Access and Parking Study	DVRPC Publication #09078, December 2009	The *Paoli Station Intermodal Access and Parking Study* presents the findings obtained through research conducted as part of the Delaware Valley Regional Planning Commission's (DVRPC) Paoli Transportation Center Planning Assistance – Phase 2 initiative. The main contribution of the study is an inventory and assessment of access modes which currently arrive, park, idle, and/or leave Paoli Station, which provides access to SEPTA Regional Rail and Amtrak service. Evaluated modes include drive/park, kiss-and-ride, bus, shuttle, bicycle, and pedestrian. Also, as part of this study, DVRPC evaluated issues of parking management and identified potential improvements to the current station and future station area.
PA	Transit (Philadelphia International Airport Access)	4C, 6B	Philadelphia International Airport Transit Access Analysis	DVRPC Publication #08079, February 2011	This report presents the results of a study examining passenger ground options and access choices to Philadelphia International Airport (PHL). Passenger behavior and modal choices available at other major hubs domestically and internationally were compared to Philadelphia to establish service criteria present at airports with high transit usage and diverse options. PHL transit access is provided primarily by Southeastern Pennsylvania Transportation Authority (SEPTA). SEPTA bus routes to PHL are almost exclusively to serve airport-related employees. Private car access to the airport is currently the dominant mode and a major revenue producer for the airport, as parking facilities continue to expand. Future airport air operations expansion will limit parking expansion and encourage future passenger growth, and both factors will require more transit access to the airport. Several opportunities exist to modify existing transit service and introduce new service to improve attractiveness, market coverage, and connectivity.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	Transit (R6 Norristown Line Extension)	9A, 9B	R6 Norristown Line Service Extension Study	DMJM Harris/AECOM Publication, February 2009	The purpose of the R6 Norristown Line Service Extension Study was to identify new rail alternatives and sources of capital and operating funding for commuter rail service. The study analyzed various rail service alternatives utilizing the present Norfolk Southern line between Norristown and Wyomissing and the existing R6 Norristown Line to access Center City Philadelphia. To analyze these rail alternatives, existing studies and technical information were used and ridership and capital and operating costs were updated using current available data. In addition to traditional funding sources, the project explored innovative financing techniques, such as public-private partnerships, that could support the implementation of rail service. The study includes the Norfolk Southern rail corridor located between the Norristown Transportation Center in Norristown, Montgomery County, and Wyomissing in Berks County. Spanning Montgomery, Chester and Berks counties, the corridor is approximately 44 miles long and runs through Amity and Upper Merion townships, the boroughs of Phoenixville, Pottstown, Royersford, and Wyomissing, and the cities of Norristown and Reading.
PA	Transit (SEPTA Media/Elwyn Line)	5B, 8B	Wawa to West Chester Regional Rail Extension – Ridership Forecast	DVRPC Publication #10036, November 2011	This report documents forecasts of the number of trips that would result from an extension of SEPTA's Elwyn line from the planned Wawa station to West Chester. It compares year 2035 forecasts under a No-build scenario, an electrified extension alternative (one-seat ride), and a diesel extension alternative (requiring a transfer at Wawa). The line between West Chester, Elwyn, and Philadelphia is forecast to attract 1,910 and 1,350 additional daily rides due to the extension of service for the electric and diesel alternatives, respectively. A portion of trips on the extension is due to diversion from other SEPTA services. Total SEPTA system-wide net ridership gains are forecast to be about 1,410 and 990 trips in the electric and diesel alternatives, respectively. Area bus service is not significantly impacted by the extension; the location of the West Chester terminus location, either traditional location or a location at the West Chester Transportation Center, does not meaningfully affect the forecast. The report contains details on study area trends, the alternatives analyzed, and the forecasting methodology.
PA	Transit	4A, 5C, 5E, 5G, 5I, 10A, 12A, 13A, 14A, 14E	SEPTA Regional Rail Station Shed Analysis: West Trenton, Elwyn, Warminster, and Fox Chase Lines	DVRPC Publication #10025, December 2010	An analysis of the rider origins on the West Trenton, Elwyn, Warminster, and Fox Chase regional rail lines to determine the geographic areas from which riders originate. Rider origins are obtained from license plates, address matched by PennDOT, and mapped. The density of origins relative to each other is calculated and displayed for each station in the study.
PA	Transit (SEPTA R5)	8M	Needs and Opportunities Study for the R5 Extension West of Thorndale	DVRPC Publication #07021, June 2007	This study examines the costs and benefits of extending previously discontinued service from Thorndale Station west to three stations in Chester County: Atglen, Parkesburg, and Coatesville. The methods of analysis include evaluation of current service and parking levels, Year 2020 straight line ridership forecasts based on station sheds, an inventory of capital and operating costs and an assessment of cost recovery for varying ridership. The results of the analysis suggest three points: 1) the current mix of SEPTA and Amtrak service (including recent Amtrak rail upgrades) already provide a de facto western extension and should be promoted as Keystone Corridor service; 2) expensive capital improvements for rail, station, and parking improvements would be required for new service, though no funding sources were identified; and 3) Year 2020 forecast ridership could support a service extension but would require strong transit orientation of residential and employment growth.
PA	US 1	5F	Access Management Along Pennsylvania Highways in the Delaware Valley - City Avenue/US 1 Case Study Corridor	DVRPC Publication #05019, September 2005	This project was created in support of PennDOT's effort to establish model access management ordinances for use by municipalities statewide. Two corridors were selected as case studies to help PENNDOT illustrate the possible benefits of proactive access management implementation. This corridor report highlights US 1 City Avenue between 54th Street and the I-76 interchange ramps (the second case study focuses on PA 309 County Line Road). The work was performed with the help of member governments, regional transportation providers, and PennDOT. The project began with the documentation of existing conditions along the City Avenue corridor. Access management related problem areas and specific issues were identified and studied in further detail. Recommendations to improve the congestion and safety concerns along the corridor were based on PennDOT's statewide model access management ordinance. A theoretical conceptual plan was prepared as a result of these recommendations and a map of these suggestions is included in this report. Additionally, this conceptual plan acted as a base for the interactive exercise that PennDOT included in their access management model ordinance statewide training sessions.
PA	US 1	5G, 5H	US 1 - Roosevelt Boulevard Corridor Study	DVRPC Publication #07032, June 2007	This study was conducted as part of DVRPC's 2030 Long-Range Plan for the region. The section of this corridor studied extends from Ninth Street in the south to Grant Avenue in the north and is approximately eight miles in length. The breadth of the corridor has become an obstacle for pedestrian traffic. The corridor has experienced numerous pedestrian fatalities over the years and also experiences heavy peak-hour vehicular congestion. This study attempts to identify the constraints and opportunities on the boulevard and makes recommendations for its improvement as a travel corridor in terms of operational safety and mobility.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	US 1	5C, 5E, 10B, 10C	Pennsylvania Congestion Management System – US 1/Baltimore Pike Corridor	DVRPC Publication #00009, June 2000	As a component of the Pennsylvania Congestion Management System, this report provides an examination of congestion at key intersections and arterial segments within the US 1/Baltimore Pike Corridor in Delaware County, and identifies improvement strategies that are both practical and implementable. The 14 most congested intersections and selected corridors were examined in detail and proposed measures to be employed to alleviate current and future congestion were identified. The proposed congestion relief includes the following: signal coordination along major arteries to facilitate a progressive traffic flow; road widening on approaches to major intersections to increase traffic passing through the intersection; installing protected left turn signals; and restricting on-street parking within designated areas. Due to the high residential density and existence of a dense transit network within the corridor, the use of transit as a viable tool toward congestion mitigation in the corridor was also explored. Recommendations were made for improvements which would result in reduced transit travel time, increased accessibility, and increase in customer comfort and convenience.
PA	US 1	4A, 4B, 5H, 5I	US 1 Widening and Reconstruction Traffic Study (Technical Memorandum)	DVRPC Publication #08089, August 2008	This report documents 2015 and 2035 traffic forecasts for the US 1 Expressway corridor between the Philadelphia County Line and the US 1/I-95 interchange in Middletown Township. Average daily and AM and PM peak-hour traffic forecasts are provided for a No-Build and two Build alternatives and compared to current volumes.
PA	US 1, PA 532	12A	Congestion Management System Analysis: The Woodhaven Road Project, Philadelphia, Pennsylvania	McCormick, Taylor & Associates, Inc., January 1997	The Congestion Management System (CMS) analysis for the Woodhaven Road Project evaluates travel demand reduction and operational management strategies that could be applied in the area. It is designed to meet project needs to include: the poor structural condition of the Byberry Bridge over the Conrail tracks, vehicular congestion, and delay and traffic collection and distribution.
PA	US 1, US 202, US 322	8A, 5B	Route 322 Land Use Study	DVRPC Publication #02022, June 2002	This report recommends local land use strategies to accompany the route 322 improvements project proposed by the Pennsylvania Department of Transportation. This study seeks to create consistency between local land use plans and PennDOT's plans for the expansion of the highway, by encouraging access management and the modification of existing land use planning documents. The Route 322 Land Use Study included an extensive implementation phase that led to the drafting of specific zoning districts and comprehensive plan amendments. These documents are contained in the appendices of this report.
PA	US 13 (Baltimore Avenue)	10A, 5E	Baltimore Avenue Corridor Revitalization Plan (Executive Summary)	DVRPC Publication #07051A, November 2007	The Baltimore Avenue Revitalization Study is the first study produced under DVRPC's Strategies for Older Suburbs initiative. This report documents existing conditions along the multimunicipal Baltimore Avenue corridor from a land use, transportation, and economic/market standpoint, and articulates a cohesive vision for future growth, improvement, and revitalization. Recommendations are presented for specific implementation strategies that should be undertaken by a variety of stakeholders, including local municipalities, the City of Philadelphia, the Delaware County Planning Department, and SEPTA.
PA	US 13 (Baltimore Avenue)	10A, 5E	Baltimore Avenue Corridor Revitalization Plan	DVRPC Publication #07051B, November 2007	*The Baltimore Avenue Revitalization Study* is the first study produced under DVRPC's Strategies for Older Suburbs initiative. This report documents existing conditions along the multimunicipal Baltimore Avenue corridor from a land use, transportation, and economic/market standpoint, and articulates a cohesive vision for future growth, improvement, and revitalization. Recommendations are presented for specific implementation strategies that should be undertaken by a variety of stakeholders, including local municipalities, the City of Philadelphia, the Delaware County Planning Department, and SEPTA.
PA	US 30	7E	Managing Access Along US 30 in Western Chester County	DVRPC Publication #10026, September 2010	The evaluations summarized in this report were performed in support of PennDOT's statewide effort to promote the establishment of formal access management ordinances for state and local highways. A case study of US 30 (business route where applicable) in western Chester County was conducted and a conceptual plan prepared for the study corridor as a tangible illustration of the benefits of planning and implementing access management strategies, and as a means of combating congestion and enhancing traffic safety. In addition to providing a conceptual plan for the study corridor, the study also analyzed the existing access management regulation in each of the township zoning and subdivision and land development ordinances. Where regulatory gaps were found, recommendations with sample ordinance language were provided.
PA	US 30, PA 113	8M	US 30 Coatesville-Downingtown Bypass Traffic Study	DVRPC Publication #08099, July 2008	This report documents 2010 and 2030 traffic forecasts for the US 30 Coatesville-Downingtown Bypass and surrounding area in Chester County. Average daily and AM and PM peak-hour traffic forecasts are provided for a No-Build and three Build alternatives and compared to current volumes.
PA	US 202	8A	US Route 202 Section 100: Land Use Implementation & Coordination	DVRPC Publication #08004, March 2008	This document updates and builds on the analysis and recommendations included in *Route 202 Section 100 Land Use Strategies Study*, which was completed by DVRPC in 2001. Consistent with the Pennsylvania Department of Transportation's planned widening of the corridor, local land use and transportation strategies are explored and the coordination and implementation of "smart growth" planning techniques is encouraged. Recommendations included in this report cover such areas as multimunicipal planning, access management, bicycle and pedestrian infrastructure, transit-oriented development, and historic preservation. Applicable planning tools are identified and described, and sample ordinances are provided for local adoption.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	US 202	8C	US 202 (Section 300) Congestion Management System Report	DVRPC Publication #99014, July 1999	The Pennsylvania Department of Transportation has proposed widening US 202 (Section 300) from four to six lanes between US 30 and Valley Road. Federal requirements stipulate that any project which increases single-occupant vehicle capacity must result from a regional Congestion Management System (CMS). The Pennsylvania CMS Phase 2 Report serves as the CMS for the Pennsylvania portion of the DVRPC region. This document builds upon the preliminary findings of the PA CMS Phase 2 Report and is the project-level CMS analysis for the proposed improvements to US 202 (Section 300). This report includes a review of federal requirements and the regional CMS. It also documents and verifies levels of congestion noted in the PA CMS Phase 2 Report and performs a needs assessment. The needs assessment investigates the ability of Transportation Demand Management (TDM) and Transportation Control Measures (TCM) to meet the project needs in lieu of roadway widening. Finally, TDM and TCM strategies are analyzed and a set of commitments are recommended for implementation with project construction.
PA	US 202	8C, 8G, 8H	US 202 Congestion Management System (CMS) Reports/Programs	Section 300 (DVRPC Publication #99014, July 1999) Section 600 (DVRPC, July 27, 1995) Section 700 (DVRPC, July 27, 1995)	The Pennsylvania Department of Transportation has proposed widening US 202 (Section 300) from four to six lanes between US 30 and Valley Road. Federal requirements stipulate that any project which increases single-occupant vehicle capacity must result from a regional Congestion Management System (CMS). The Pennsylvania CMS Phase 2 Report serves as the CMS for the Pennsylvania portion of the DVRPC region. This document builds upon the preliminary findings of the PA CMS Phase 2 Report and is the project-level CMS analysis for the proposed improvements to US 202 (Section 300). This report includes a review of federal requirements and the regional CMS. It also documents and verifies levels of congestion noted in the PA CMS Phase 2 Report and performs a needs assessment. The needs assessment investigates the ability of Transportation Demand Management (TDM) and Transportation Control Measures (TCM) to meet the project needs in lieu of roadway widening. Finally, TDM and TCM strategies are analyzed and a set of commitments are recommended for implementation with project construction.
PA	US 202	8H	US 202 Section 700 - Traffic Study	DVRPC Publication 07009, April 2007	This report documents 2020 traffic forecasts for the US 202 Section 700 corridor in Bucks and Montgomery counties in Pennsylvania. Average daily and AM and PM peak-hour forecasts are provided for a No-Build and three Build alternatives. The Build alternatives include a US 202 Parkway on a new alignment, Widening Upper State Road, and a Combination Alternative comprised of some Upper State Road widening and a portion of the new alignment Parkway.
PA	US 202	8G	Butler Avenue Revitalization Strategies	DVRPC Publication #08060, December 2009	The corridor improvement represented by the US 202 Parkway project offered another chance for New Britain Township, Chalfont Borough, and New Britain Borough to join together to cooperatively explore and consider the future of Butler Avenue, the present alignment of US 202 as a Community Arterial—both transportation facility and community asset. Staff from the Delaware Valley Regional Planning Commission (DVRPC) was charged to conduct the planning/visioning study with the direct involvement of the Butler Avenue municipalities, working with the project's Joint Steering Committee (JSC) of local municipal officials and stakeholders. DVRPC provided design and technical services to develop a conceptual streetscape and circulation plan to supply a unique but uniform image of the Butler Avenue corridor, while continuing to support its transportation needs across the three municipalities. At the direction of the JSC, DVRPC staff conducted a public meeting with property owners along the corridor to inform, take comments, and fine-tune the recommendations. Construction cost estimates and an implementation strategy were prepared for the streetscape and sidewalk elements contained in the final recommended plan.
PA	US 202, PA 179	8I	US 202/PA 179 Corridor Study	DVRPC Publication #07033, June 2007	This study was developed using a consensus-based approach with input from the corridor communities of Solebury and Buckingham townships and the Borough of New Hope, as well as state and county representatives in the identification of transportation issues. This study documents and describes the existing conditions along the corridor and identifies alternative concepts that address existing deficiencies. Operational improvements were suggested ranging from intersection redesign to improved regulatory signage and pavement markings. An access management plan was developed for the section of US 202 in the vicinity of Logan Square in Solebury Township. Access management techniques were recommended to improve the safety and efficiency of the corridor. In addition, pedestrian safety recommendations, such as improved crosswalks, sidewalks, and buffers, were identified for areas in the vicinity of schools, shopping, and other areas with high pedestrian activity. A bicycle trail map was developed identifying existing and proposed bicycle trails within the corridor and showing their connectivity with other networks in surrounding communities.
PA	US 322, US 202	8B	US 322/202 Interchange Completion Study (Technical Memorandum)	DVRPC Publication #08009, January 2008	The West Chester Bypass (US 202/322) Interchange is located in West Goshen Township, Chester County, near the Borough of West Chester. The existing partial interchange contains no direct ramp movements form US 202 southbound to US 322 westbound, or from US 322 eastbound to US 202 northbound. To determine the impact of completing this interchange on study area traffic patterns, DVRPC was asked to forecast year 2030 traffic volumes for the proposed ramps and selected study area roadways. DVRPC also evaluated the potential for land development induced as a result of increased accessibility provided by the proposed ramps.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	US 322	7E	Guiding Transportation Investments and Land Use Decisions along US 322– Chester County	DVRPC Publication #09063, February 2010	Improving the linkage between land use and transportation is essential for the future of the US 322 corridor through Chester County. Inappropriate land uses coupled with inadequate infrastructure and transportation access will have negative impacts on the entire road network and quality of life for the western portion of Chester County. Working with the Chester County Planning Commission, the Delaware Valley Regional Planning Commission (DVRPC) conducted a thorough analysis of the US 322 Corridor to assess land use, environmental policies and impacts, and transportation issues. The goals of the study include preserving the operating performance of the current transportation facilities, promoting multimodal transportation solutions to help alleviate current and forecasted travel growth, furthering the goals of coordinated land use and transportation planning among municipalities, providing a policy rationale for future transportation improvements, and encouraging municipal actions to achieve a land use pattern that is reflective of smart growth principles.
PA	US 422	9A	Pottstown Bypass (US 422) Reconstruction Traffic Study	DVRPC Publication 02043, December 2002	This report presents 2006 and 2026 forecasts for the No-Build and Two Build Alternatives for the Pottstown Bypass (US 422) and surrounding study area. It was prepared at the request of the Pennsylvania Department of Transportation, which is conducting traffic alternatives analyses in support of reconstructing the Pottstown Bypass. DVRPC's travel simulation model was used to estimate future traffic volumes for the No-Build and Build Alternatives. The build alternatives assume various reconfigurations of the Pottstown Bypass interchanges that are designed to improve traffic flows and enhance safety.
PA	US 422	9A	Pottstown Bypass (US 422) Reconstruction Traffic Study Supplement Number 1 - Chester and Montgomery Counties, Pennsylvania	DVRPC Publication 11047, August 2011	This report documents 2015 and 2035 traffic forecasts under the No-Build and the Preferred Build Alternative (former Build Alternative 2) for the Pottstown Bypass (US 422) project study area, which considers alternative configurations of the Stowe and Armand Hammer interchanges.
PA	US 422	9B	Interim Improvements to Help Relieve US 422 Westbound Evening Traffic Problems	GVFTMA newsletter, 2005	This item describes the process and specifics of interim improvements for the River Crossing Complex where US 422 crosses over the Schuylkill River.
PA	US 422	9A, 9B	US 422 River Crossing Traffic Study	DVRPC Publication TR10069, February 2011	This report documents 2015 and 2035 traffic forecasts for the US 422 River Crossing Traffic Study Area. Average daily and AM and PM peak hour forecasts are provided for Scenario 1 (No-Build Alternative) and Scenarios 2 and 3 (Build Alternatives) and compared to current traffic volumes.
PA	US 422	9A, 9B	US 422 Corridor Master Plan	DVRPC Publication #09035, December 2009	The US 422 Corridor Master Plan represents a collaborative vision for sustainable land use and transportation for 24 diverse communities along the US 422 Corridor. The planning area includes over 200 square miles in portions of Montgomery, Chester, and Berks counties. The plan was initiated by the US Route 422 Corridor Coalition, managed by DVRPC and guided by a Steering Committee, including the three counties (Montgomery, Chester, and Berks), PennDOT District 5-0, PennDOT District 6-0, GVF Transportation, SEPTA, the Pennsylvania Turnpike Commission, and Pottstown Area Rapid Transit. The Corridor Master Plan examines 2030 land use and transportation trends, as well as a 2030 Sustainable Alternative incorporating elements of Smart Transportation, Smart Growth, and the Keystone Principles. Strategies for sustainability were developed, reviewed, and arrayed in a program for implementation by state and local governments, as well as area developers and stakeholders. Consideration of these land use and transportation strategies was integrated into public surveys and the public involvement activities of the study. Finally, a model resolution for endorsement of the Corridor Plan was provided for consideration by municipal government officials throughout the corridor.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	US 422, PA 23, PA 29	8C, 9A, 9B	Phoenixville Area Intermodal Transportation Study	DVRPC Publication #03001, January 2003	This report documents the undertakings, findings and recommendations of a multimunicipal transportation planning study to accommodate regional development and travel in Greater Phoenixville to the year 2025. The work was performed with the direct participation of member governments and regional transportation providers. Public involvement was conducted formally and informally. Transportation strategies and improvements were identified and evaluated to reduce congestion and promote travel options to single-occupant vehicles. Improvement recommendations, emanating from the evaluations, support or augment those determined independently within the study area by: adopting multimodal and area-wide perspectives; applying regional planning initiatives (PA Congestion Management Systems, Mobility Alternatives Programs, etc.); and using regional evaluation procedures (the regional travel demand forecasting model). A total of 66 highway, transit, travel demand management and multi-use trail improvement recommendations are enumerated to directly solve current and future mobility problems in the study area. Five technical studies are also recommended to promote intermodal opportunities and to strengthen transportation-land use linkages within the study area. The recommendations are enveloped into a staged Mobility Improvement Plan (MIP) totaling $173.5 million. As a complement to the MIP, the report also contains a comprehensive discussion of management measures which should be practiced to help deliver and maintain mobility throughout the study area.
PA	Various	Various	PennDOT Access Management Model Ordinances for Pennsylvania Municipalities Handbook	PennDOT, April 2005; Updated February 2006	The purpose of this handbook is to help Pennsylvania's local governments better understand access management and guide them in the development and implementation of a program for their community. It is structured in three sections: 1. What access management is and why it is important to your community. 2. How you can develop an access management program for your community. 3. Access management model ordinances. The sample ordinances range from simple techniques suited to smaller communities to more involved practices appropriate for complex local transportation networks. As with the adoption of any model ordinance, it is strongly recommended that your municipal solicitor assist in the review and adoption of these regulations for your community. Adopting appropriate access management practices will help ensure that your community can better accommodate growing traffic demand and development, while preserving the character of your town and quality of life for your residents and businesses.
PA	Various	Various	Speeding Up SEPTA: Finding Ways to Move Passengers Faster	DVRPC Publication #08066, August 2008	The final report of the Pennsylvania Transportation Funding and Reform Commission identified two key opportunities for SEPTA to enhance efficiency: to "reduce costs by improving average system speed" and to streamline and simplify its fare structure. This report explores the first opportunity through an examination of issues related to the improvement of SEPTA system speed. Section 1 of this report includes a table that consolidates and summarizes speed-related recommendations from prior studies, with those prior studies being further detailed in Appendix A. Sections 2 through 4 of this report include the results of three breakout analyses on Transit-First in Philadelphia (Section 2), techniques to enhance the efficiency of suburban bus service, focusing on Transit Signal Priority (TSP) techniques (Section 3), and the SEPTA regional rail network (Section 4).
PA	Various	4A, 13A	Bucks County Regional Traffic Study	DVRPC Publication #07026, October 2007	This report summarizes a multimunicipal transportation planning and traffic engineering effort executed by the Delaware Valley Regional Planning Commission (DVRPC), which systematically addressed common concerns experienced by the participating municipalities. Those issues included: general traffic safety and mobility conditions, large volumes of heavy trucks, overall traffic speeds, and traffic growth occurring as a consequence of ongoing regional development. Elected representatives from the seven participating municipalities, collectively referred to as the Regional Traffic Planning Task Force (RTPTF), commissioned, directed, and participated in the study. Study area stakeholders, community organization representatives, and the public-at-large were actively enlisted as participants for input, and to gauge the study's processes and products. The area-wide transportation planning and traffic engineering activities focused on 16 Key Roadways (representing 70 miles of state-owned highways). Specific tasks included: roadway integrity assessments, traffic safety and operational evaluations, and traffic-calming eligibility determinations for the Key Roadways. The engineering studies were performed in accordance with PennDOT's procedures, and accounted for four significant transportation improvement proposals being developed independently, along the Key Roadway network, by PennDOT and two of the study area municipalities. The principal product was a recommended regional mobility and safety improvement program (including: education, enforcement and engineering elements; and implementation costs and schedules) to accommodate all legal road users. The final improvement program was developed with consideration of public and municipal comments on the draft report (dated, June 2007), to address the multijurisdictional concerns. The report and its recommendations represents a first step, and foundation for further discussions and future development of the identified improvements, and the continued activities of the Regional Traffic Planning Task Force—with the community and the governing boards of the participating municipalities.

Table 13: Referenced Corridor Studies (continued)

State	Route	CMP Subcorridor(s)	Report Title	Publication/Author Information	Abstract
PA	Various	6E, 8G, 12A, 13A, 14C, 14F	Developing Around Transit: TOD Plans for Ellworth-Federal, North Wales, Warminster	DVRPC Publication #06034, September 2006	This document, Developing Around Transit: Transit-Oriented Development (TOD) Plans for SEPTA Broad Street Line Ellsworth-Federal, SEPTA R5 North Wales and SEPTA R2 Warminster, grew out of the work done on Linking Transit, Communities, and Development: Regional Inventory of Transit-Oriented Development Sites, published in 2003. The Regional Inventory determined a priority list of "Transit-Oriented Development (TOD) Opportunity Sites," in furtherance of the goals and policies of DVRPC's Destination 2030 Long-Range Plan. Forty-five stations were chosen out of a universe of 340 as having the most potential for TOD. Three stations were chosen for more in-depth study, in South Philadelphia, North Wales Borough, and Warminster Township. Recommendations included in this study cover such areas as zoning, land use, comprehensive plans, access, and development opportunities. The study is oriented toward asset-based plans that build from the existing strengths of each community.
PA	Various	2D, 4C, 4D, 5C, 5E, 6A, 6B, 8A, 10A, 10B	Delaware County Revitalization Plan Area 1-5 and New Area Corridors	Delaware County Planning Department	Not available.
PA	Various	15A	Germantown and Nicetown Transit-Oriented Plan	Philadelphia City Planning Commission, 2009	The Germantown and Nicetown Transit-Oriented Neighborhood Plan is a master plan that looks at all the facets of life in Germantown including land use, quality of life issues, historic resources, recreation, and economic development. The plan was created to guide and attract public and private investment in Germantown. It sets clear goals and priorities that were developed through community input and expert guidance. Residents, property owners, businesses, developers, and implementing city and state agencies should be able to use this plan to leverage change and direct actions. The grant monies came from the Transportation and Community Development Initiative (TCDI) program. The TCDI program emphasizes transportation resources as key to community and economic development.
PA	Various	1A, 2A, 2B, 3B, 3C, 8D, 8E, 8F, 8G, 9B, 15B	Schuylkill Crossings Traffic Study	DVRPC Publication #07040, January 2008	This report documents 2030 traffic forecasts for the Schuylkill River bridges in the Conshohocken, Plymouth Meeting, Norristown, King of Prussia area. Average daily and AM and PM peak-hour forecasts are provided for a No-Build and two Build alternatives and compared to current volumes. Average peak-hour intersection delays and levels-of-service are also provided for current and future conditions.
PA	Various	3A, 4C, 6D, 6E	Stadium Area Transit Study	Kise Straw & Kolodner Publication, June 2004	Not available.

Source: DVRPC, 2012

Publication Title:	DVRPC 2012 Congestion Management Process – Limiting Traffic Congestion and Achieving Regional Goals
Publication Number:	11042
Date Published:	April 2013
Geographic Area Covered:	The nine-county Philadelphia metropolitan area, which includes the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania, and Burlington, Camden, Gloucester, and Mercer in New Jersey
Key Words:	Congestion Management Process (CMP), traffic, multimodal, goods movement, transportation, corridors, strategies, Single-Occupancy Vehicles (SOV), capacity, long-range plan, Transportation Improvement Program (TIP), regional transportation planning, criteria, operations
Abstract:	A CMP is a systematic process to manage congestion. It identifies specific multimodal strategies for all locations in the region to minimize congestion and enhance the ability of people and goods to reach their destinations. The CMP advances the goals of the DVRPC Long-Range Plan and strengthens the connection between the *Connections* plan and the Transportation Improvement Program (TIP). The 2012 DVRPC CMP supersedes the 2006 and 2009 editions. It was adopted by the DVRPC Board in June 2011.

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