Overview *of the* Congestion Management Process [CMP]

CONGESTION MANAGEMENT PROCESS

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

Overview of the CMP

In the DVRPC region, the CMP is a requirement of the federal surface transportation act. For federal CMP regulations, see 23 CFR Parts 450.320 and 500.109

If your agency is developing a transportation project, the CMP contains valuable information. Contacting DVRPC staff at an early point can save you time.

WHAT IS A CONGESTION MANAGEMENT PROCESS (CMP)?

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 mobility of people and goods. The CMP advances the goals of the DVRPC Long-Range Plan and strengthens the connection between the Plan and the Transportation Improvement Program (TIP).

The most recent update of the region's CMP was adopted by the DVRPC Board in December 2008.

HOW DOES THE CMP WORK?

The CMP identifies congested corridors and multimodal strategies to mitigate congestion. Where more single-occupancy vehicle (SOV) road capacity is appropriate, the CMP includes potential supplemental strategies to 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. The process continues through implementation activities and evaluating effectiveness.

HOW DOES THE CMP HELP THE DELAWARE VALLEY?

- It helps identify where 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 which projects to include for funding in the Transportation Improvement Program (TIP); and
- It helps make investments as effective and long-lasting as possible.

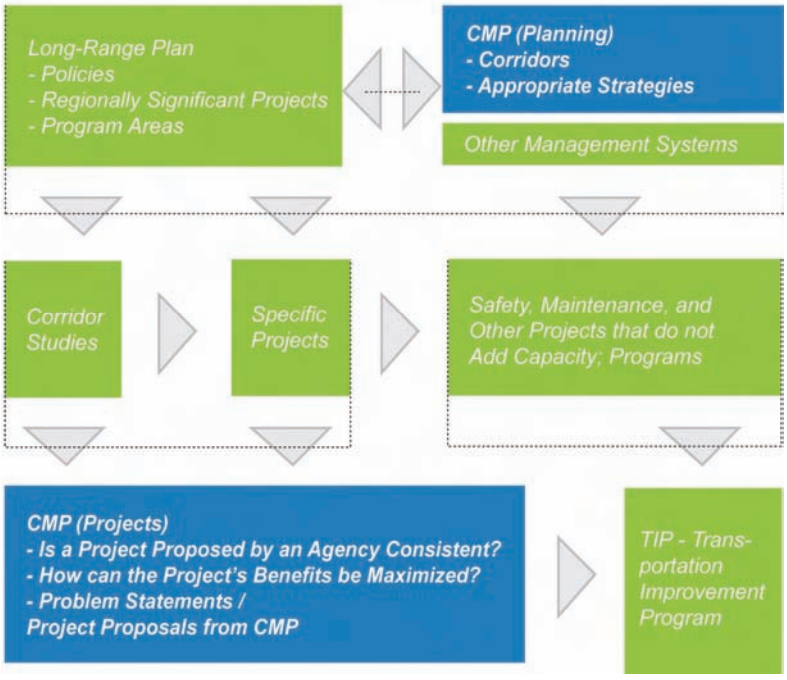
CMP IN THE BROAD PICTURE

The CMP is important at several points in the broad transportation planning picture, including:

- Providing information for updates of the Long-Range Plan;
- Selecting where DVRPC will do its annual corridor studies which lead to TIP projects;
- Suggesting ideas for TIP projects based on analysis; and
- Helping refine ideas for TIP projects from other partners.

If this Overview of the CMP helps with your work, you may want the full CMP Report (Publication #09028B) or the technical memorandum, CMP Procedures (Publication #TM09029). Both are available from the DVRPC website in the Products and Services section, under Publications.

CMP *in the* Broad Picture



Criteria Analysis

CRITERIA USED FOR CMP ANALYSIS

A critical step in developing the CMP is the analysis of the performance of the regional transportation system. The criteria used to develop the 2008 CMP were a refinement of those used in the 2006 CMP, and flowed from the goals of the Long-Range Plan. The CMP also feeds technical analysis back into the update of the Plan. Criteria are developed with significant input by the region's CMP Advisory Committee.

The CMP is focused on meeting the following set of simplified goals from the Plan:

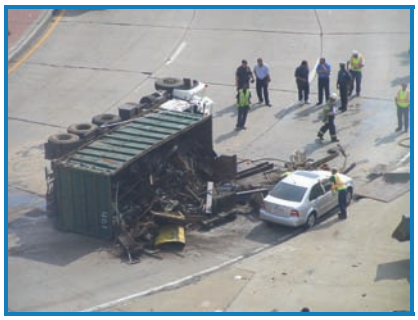
- Roads: Increase mobility and accessibility
- Transit: Make transit more competitive with driving alone
- Reliability: Increase system reliability and safety for drivers and transit users
- Land use: Support regional land use goals

The goals lead to the criteria. There is much more detail in the *CMP Report* but briefly, the current CMP criteria used in selecting corridors and as a consideration in developing strategies are:

- Major roads
- Roads with current peak-hour congestion measured by high volume-to-capacity (V/C) ratios

- Roads with high V/C ratios in the future peak-period travel model
- Locations where comparison of the current and future travel model simulations suggest high growth in peak-period V/C ratios
- Existing transit service (bus, trolley, or train)

- Roads that carry a number of transit riders similar to the capacity of a lane of cars, adding ridership from the different bus routes using the road
- Areas where transit might succeed in 2035 based on demographic forecasts regardless of whether they have transit service now
- Major roads where high crash rates lead to unexpected congestion



- Emerging bottlenecks based on growth in traffic counts over the last ten years and existing capacity limitations

- Areas with two or more times the regional average for employment or residential density

- Current or future development areas identified in the Long-Range Plan.

Strategies & Corridors

Incorporating supplemental strategies can save money in the short-term for projects where they may reduce the need for new road capacity and in the long-term by supporting use of multiple transportation modes. See the CMP Report and the Smart Transportation Guidebook (DVRPC Publication #08030A) for more information.

FULL RANGE OF STRATEGIES

The *CMP Report* offers 100 congestion-fighting strategies appropriate in the region. Strategies range from policy approaches to programs and capital improvements. A brief explanation of each is also provided.

The full range of strategies helps planners and engineers meet federal regulations. In accordance with federal regulations, other means of solving congestion problems must be considered before building major new road capacity. When major new road capacity is appropriate, a set of supplemental multimodal strategies scaled to the size of the project must be incorporated.

The strategies are grouped into the following categories, which also reflect the order in which they are used in the CMP:

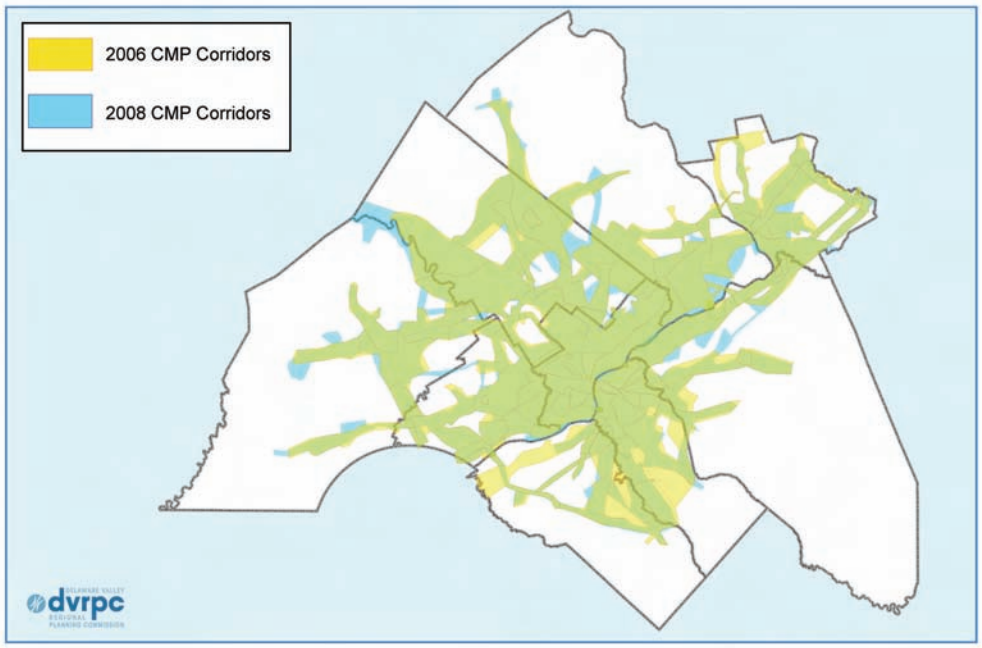
- Operational Improvements, Transportation System Management (TSM), and Intelligent Transportation Systems (ITS)
- Travel Demand Management (TDM)
- Policy Approaches such as Complete Streets and Transit-Oriented Development
- Smart Transportation to provide better conditions for walking, bicycling, and using modes other than driving alone while developing more livable communities
- Public Transit Improvements to the existing system, such as more frequent service on a bus route
- Road Improvements to existing facilities, such as adding lanes
- New Public Transit, such as new bus routes or train lines
- Goods Movement
- New Roads

ESTABLISHMENT OF CORRIDORS

Draft congested corridors were developed, starting with flows of people and goods where road segments had many criteria in effect. Refinements were incorporated such as including major highway interchanges and train stations, and generally avoiding large tracts of permanently protected open space. The draft corridors were then refined based on input from the CMP Advisory Committee.

The intent was to keep the number of corridors manageable for regional analysis while covering all key movements. After the 2008 analysis and careful revision of corridors using the results of the analysis, most corridors were still similar to the 2006 set. This essentially confirms the CMP approach.

Comparison of 2008 and 2006 CMP Corridors



The map to the left compares the 2008 and 2006 CMP corridors. Green indicates no change between iterations. Blue indicates new corridor areas, and yellow indicates areas no longer included in CMP corridors in 2008.

CMP Maps

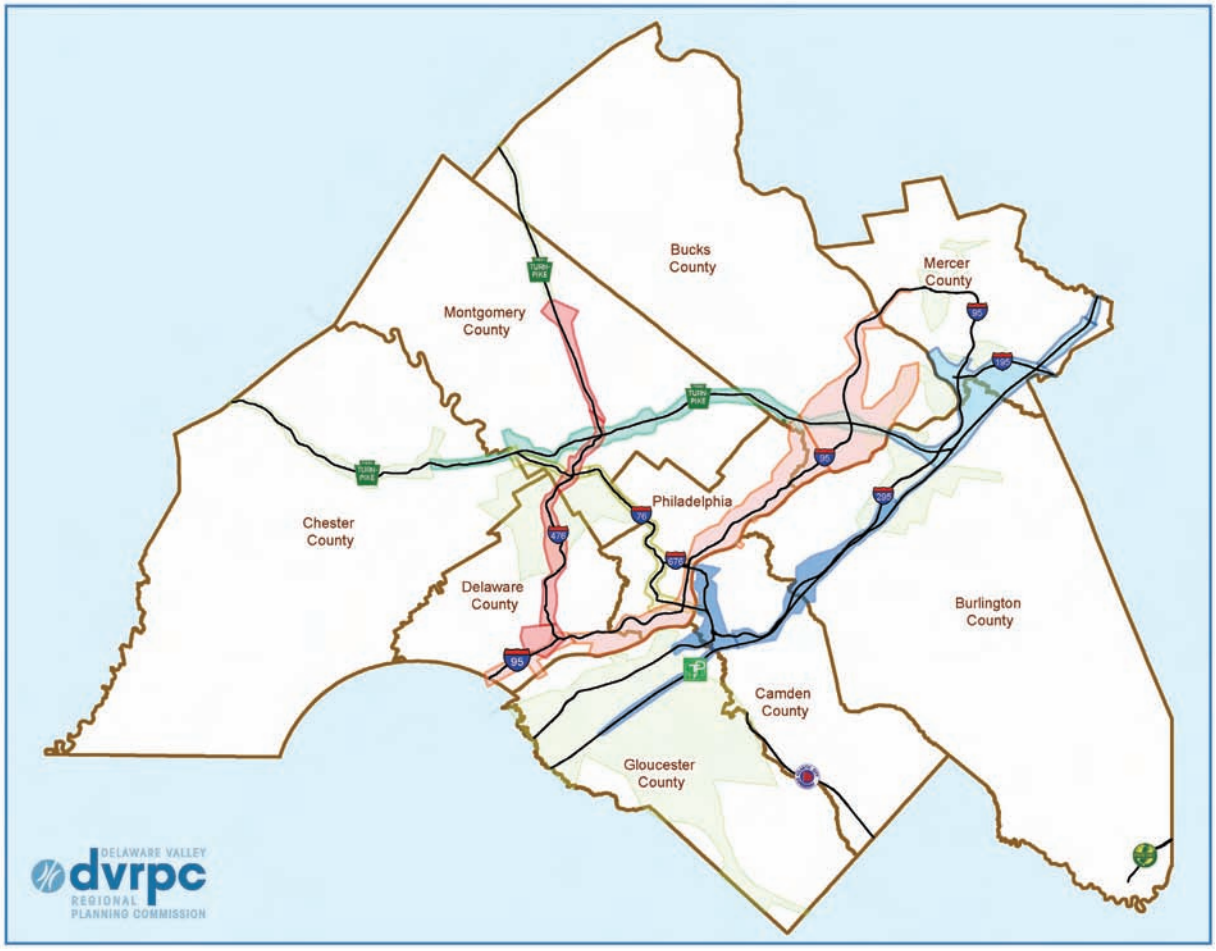
OVERVIEW OF CMP MAPS

Several key maps are included on the pages that follow.

The maps included are:

- Centerfold: Relationship Between CMP Corridors and Development Centers (With Centers from the DVRPC Year 2030 Long-Range Plan and Cities in the Surrounding Region)
- Back of Centerfold: Congested Interstate Corridors and Congested Non-Interstate Corridors

CONGESTED INTERSTATE CORRIDORS IN 2008



NJ Corridors

- 1 -- I-295, NJ Turnpike (N)
- 2 -- I-295, NJ Turnpike (S)

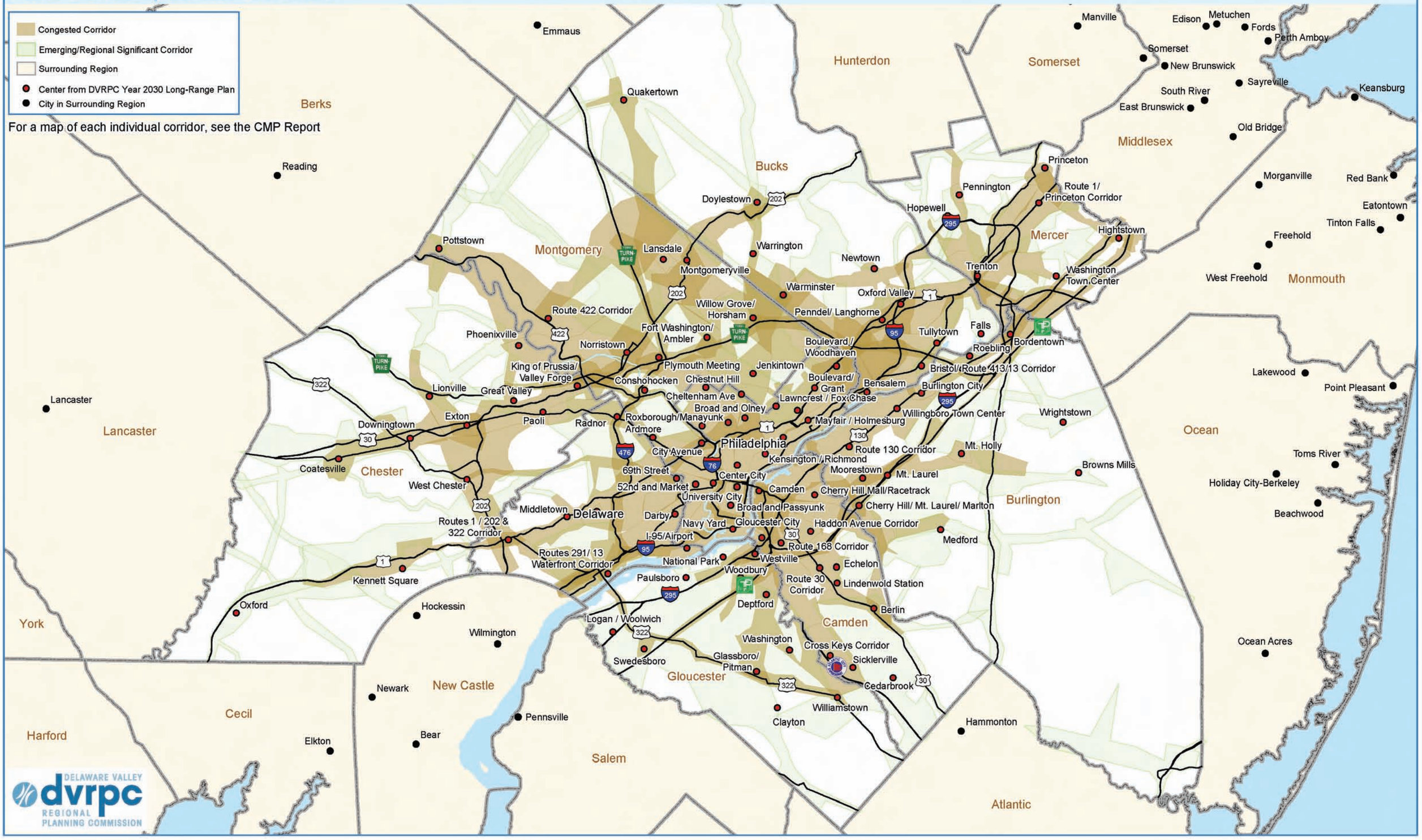
PA Corridors

- 1 -- I-276 (PA Turnpike)
- 2 -- I-476
- 3 -- I-76 & I-676
- 4 -- I-95

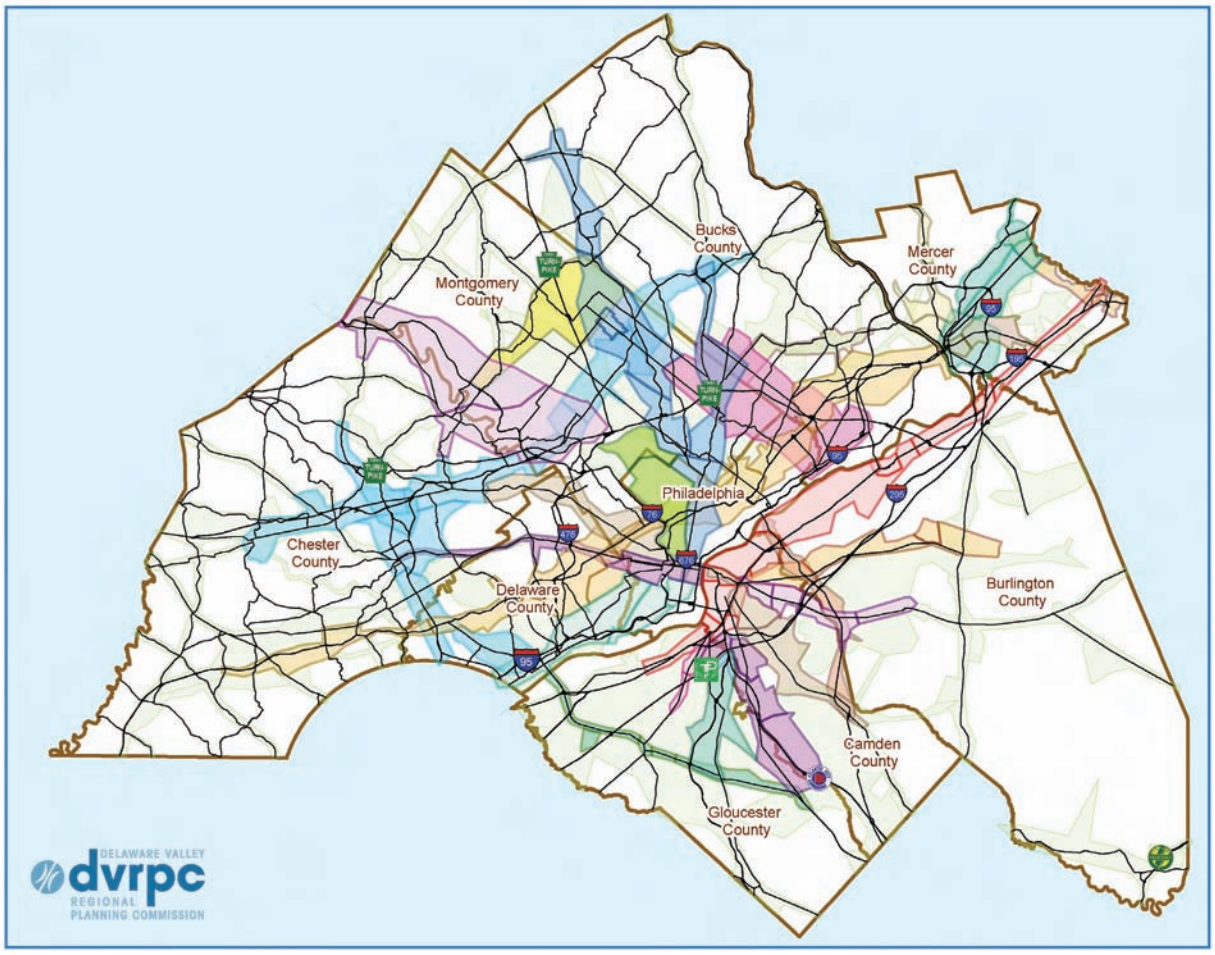
Emerging/Regionally Significant Corridors

For a map of each individual corridor, see the CMP Report

Relationship Between CMP Corridors And Development Centers



CONGESTED NON-INTERSTATE CORRIDORS IN 2008



NJ Corridors

- 3 -- AC Expressway/NJ 42
- 4 -- US 1, US 206
- 5 -- US 30
- 6 -- US 130
- 7 -- US 322, Cross Keys Area
- 8 -- NJ 31
- 9 -- NJ 33
- 10 -- NJ 38
- 11 -- NJ 41, NJ 47, NJ 55
- 12 -- NJ 45
- 13-- NJ 70
- 14 -- NJ 73
- 15 -- CR 571

PA Corridors

- 5 -- US 1
- 6 -- US 13/MacDade Blvd/PA 291
- 7 -- US 30 to Philadelphia
- 8 -- US 202, 322, 30, PA 100
- 9 -- US 422
- 10 -- PA 3 & Center City
- 11 -- PA 113
- 12 -- PA 132 & 63, Co. Line Rd
- 13 -- PA 332
- 14 -- PA 611 & PA 309
- 15 -- Ridge-Lincoln-Cheltenham

Emerging/Regionally Significant Corridors

For a map of each individual corridor, see the CMP Report

STRATEGIES FOR EACH SUBCORRIDOR

Congested corridors were divided into subcorridors where, at a regional planning scale, similar sets of strategies are appropriate. Strategies for each subcorridor were selected using a multi-step process based on analysis, but that also incorporated stakeholder feedback. The approach moved from broad to specific characteristics of the subcorridor in selecting the set of Very Appropriate and Secondary strategies. Strategies Appropriate Everywhere should also be considered.

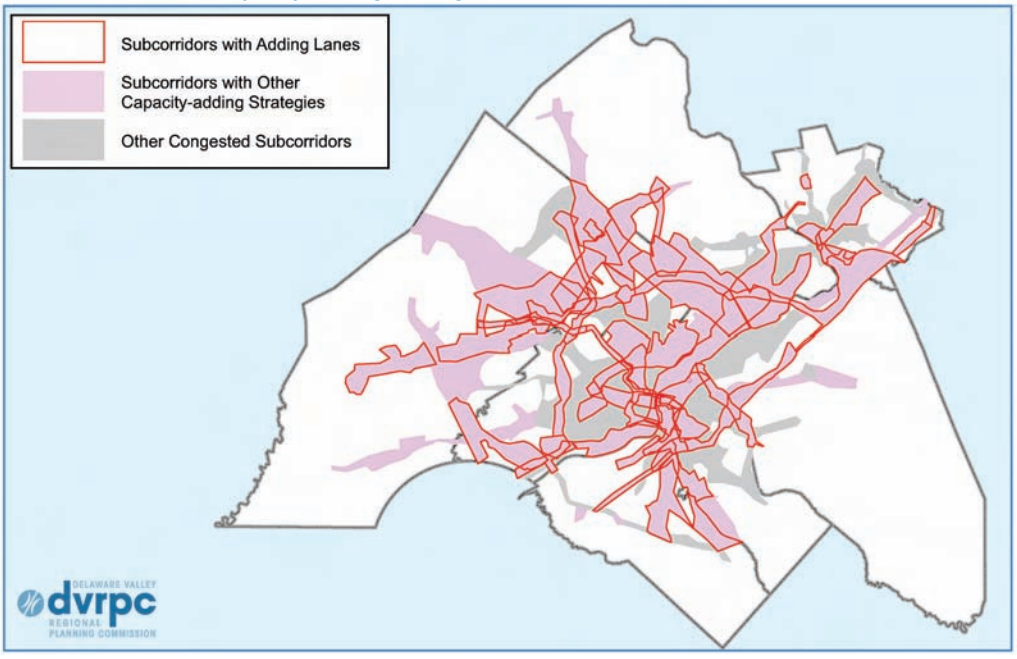
Strategies Listed For a Sample CMP Subcorridor

NJ 41 and NJ 168 (Black Horse Pike) Very Appropriate Strategies
Closed Loop Computerized Traffic Signals
Enhanced Transit Amenities and Safety
Channelization
Center Turn Lanes
Context Sensitive Design
Transit First Policy
More Frequent Transit or More Hours of Service

Any new SOV road capacity must be developed in a thoughtful way. In keeping with regional goals, strategies that add SOV capacity are not listed for all subcorridors.

The map on this page shows CMP corridors where capacity-adding strategies are listed as appropriate if absolutely necessary. Subcorridors with red outlines include the strategy of adding lanes. Pink subcorridors list other capacity-adding strategies, including Major Reconstruction with Minor Capacity, Building New Arterial or Collector Roads, Limited Access Highways, and Interchanges with Related Road Segments. Due to the size of subcorridors, capacity additions may be appropriate for a subcorridor but not everywhere in it. Widenings are assumed to be considered on major facilities first.

CMP Corridors with Capacity-adding Strategies in 2008



Final engineering for major SOV capacity-adding projects will not be listed in the TIP without a table of supplemental strategies. DVRPC staff is available to provide technical and process support to project managers.

**For a more detailed version of the flowchart about how a project moves through the CMP, see CMP Procedures. Steps are included that instruct the project sponsor on how to meet the higher burden of proof for considering capacity where it is not a strategy listed in the CMP.*

Summary *of* How *a* Project Moves Through *the* CMP

	☐ if YES...	☐ if NO...
Is the problem in a congested subcorridor? Is the problem in an emerging / regional corridor?	Document.	It may not matter, depending on the project. *
Can the problem be addressed without building more road capacity?	DVRPC is available to help evaluate strategies.	Document this initial research.
If new road capacity is an alternative, is it likely to be Major SOV Capacity?	Go to next question.	Keep the project description current in TIP listings; DVRPC available to help.
Is the new Major SOV Capacity consistent with the CMP?	Start considering supplemental strategies.	A different SOV Capacity - adding strategy was listed - Include that strategy in an alternative, include other CMP strategies as alternatives. Adding Major SOV Capacity was not listed - Use the CMP Very Appropriate, Secondary, and Strategies Appropriate Everywhere to develop alternatives. The project is not in a congested subcorridor - See "Evaluating Projects Outside of Congested Corridor" and checklist. *
Are the supplemental strategies set?	Stakeholders agree on strategies, implementation, and timeline.	DVRPC remains available to help.

SUPPLEMENTAL STRATEGIES

The figure at right provides a real-world example of how a major SOV project can incorporate multimodal supplemental strategies to reduce congestion, get the most value from investments, and meet federal requirements.

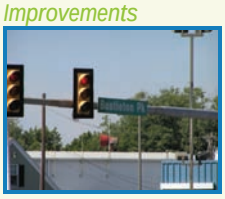
The US 202, Section 300 project consists of widening and improving a 6.3-mile stretch of highway. The project includes adding a third travel lane in each direction. A sample of the supplemental strategy commitments is provided at right. It should be noted that many of the strategies are low-cost, and that others qualified for funding sources such as the Mobility Access Program (MAP) and Job Access Reverse Commute (JARC) program.

Sample CMP Commitment Table

US 202, Section 300	
Sample of Commitments	**Lead Agency / Organization**
➔ Intersection improvements including ITS where appropriate	➔ PennDOT
➔ Provide information and assistance to employees who are looking to set up alternative work schedules or telecommuting ➔ Expand Park-and-Ride lot capacity	➔ Greater Valley Forge Transportation Management Association (TMA) / TMA of Chester County (TMACC) ➔ PennDOT / SEPTA
➔ Continuation of county and municipal planning initiatives	➔ Chester County Planning Commission
➔ PennDOT will provide sidewalks as part of 3 new bridge structures ➔ Construction of Chester Valley Trail from Norristown to Exton.	➔ PennDOT ➔ Montgomery & Chester counties
➔ Provide midday and late evening service on Route 206.	➔ SEPTA
➔ Provide new bus service to Great Valley corporate area, including SEPTA 205, 306, and TMACC BEELINE.	➔ SEPTA / Chester County Planning Commission / TMACC

The photos below illustrate some of the supplemental strategies from the Sample CMP Commitment Table.

Intersection Improvements



Expand Park-and-Ride

Construct Trail

New Bus Service

Conclusion

If you're working on a corridor study, the CMP Report contains the results of technical analysis, a map of each congested corridor, and appropriate strategies to use as a starting point. The CMP incorporates professional studies and can help your adopted recommendations get implemented.

CLOSING THOUGHTS

The CMP is useful for transportation project managers, policy-makers, municipal and county officials, and citizens concerned about transportation solutions. Addressing congestion is an ongoing process that helps advance toward achieving regional goals, and is most effective with participation from everyone. Together we can advance toward a better future for the Delaware Valley.

Special thanks to the CMP Advisory Committee.

It consists of representatives from:

- Each DVRPC county
- PennDOT and NJDOT
- Transit authorities
- Federal partners
- TMAs
- Other committees including the Regional Citizens Committee and the Goods Movement Task Force
- Other MPOs
- Other participants as invited or who asked to join.

Notes

For More Information Contact:
Zoe Neaderland, AICP
Manager of Transportation Safety and Congestion Management
(215) 238-2839
ZNeaderland@dvrpc.org
www.dvrpc.org/CMP

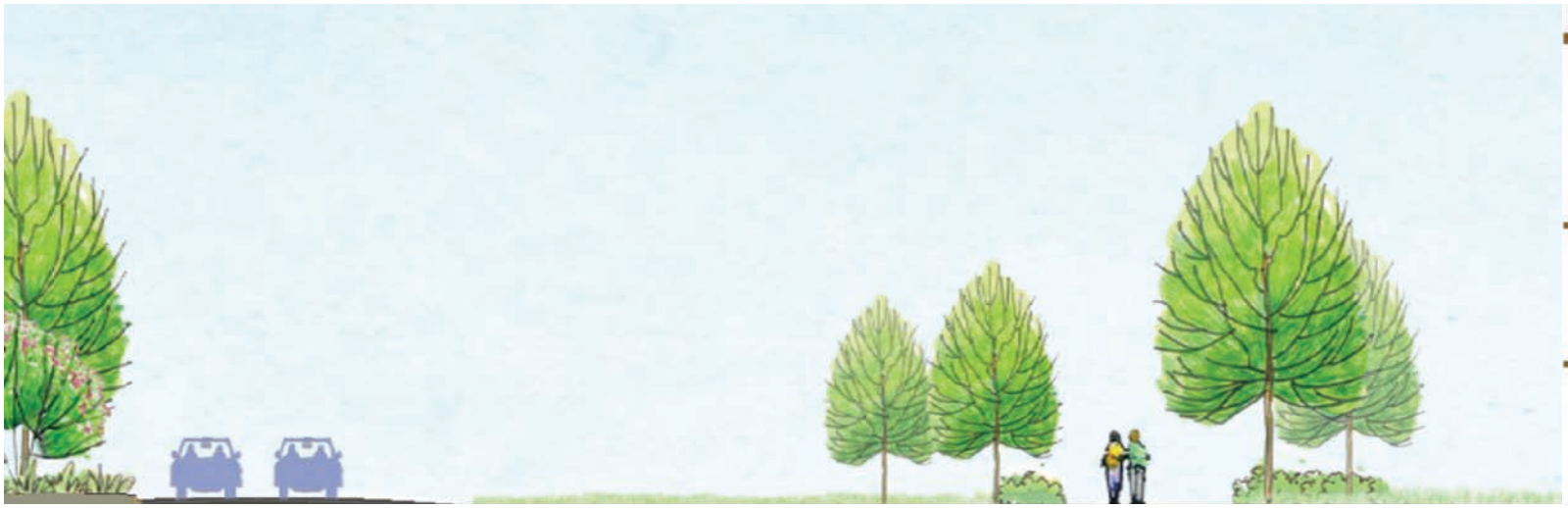
Delaware Valley Regional Planning Commission
190 N. Independence Mall West – 8th Floor
Philadelphia, PA 19106

Publication # 09028A
Published: June 2009
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 mobility of people and goods. The CMP advances the goals of the DVRPC Long-Range Plan and strengthens the connection between the Plan and the Transportation Improvement Program (TIP). The 2008 DVRPC CMP was an update of our 2006 CMP and was adopted by the DVRPC Board in December 2008.

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 the 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.

DVRPC fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. DVRPC's website may be translated into Spanish, Russian, and Mandarin online by visiting www.dvrpc.org. Publications and other public documents can be made available in alternative languages or formats, if requested. For more information please call (215) 238-2871.



DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

190 N. Independence Mall West – 8th Floor
Philadelphia, PA 19106-1520
P: 215-592-1800
F: 215-592-9125
www.dvrpc.org

cover and back cover illustration source: www.charmeck.org/Departments/Transportation/Urban+Street+Design+Guidelines.htm