

Delaware Valley Regional Planning Commission Philadelphia Metropolitan Region

Planning for Congestion Management and Tracking Progress

The Delaware Valley Regional Planning Commission uses a systematic process for managing traffic congestion and monitoring transportation system performance in the Philadelphia metropolitan region. Guided by an advisory team of stakeholders, the agency identifies congested corridors and sub-corridors in the region. It then determines the most appropriate multimodal strategies available to mitigate congestion and enhance mobility of people and goods. The agency tracks its progress in meeting its long-range goals through performance indicators, which it uses to evaluate what is working well in terms of minimizing congestion as well as to identify improvements the agency can make. Planned future enhancements to its process include increased focus on systems management and operations to better measure reliability, and strengthening its use of performance measures.

Background

The Delaware Valley Regional Planning Commission (DVRPC) is the metropolitan planning organization (MPO) and regional planning commission for the nine counties in the Philadelphia metropolitan region of southeastern Pennsylvania and southern New Jersey. The region has a population of approximately 5.5 million people and an area of over 3,800 square miles. Traffic congestion is a major problem in parts of the metropolitan region and factors such as land use patterns indicate congestion may worsen in the future.

Integrating the CMP in the Metropolitan Transportation Planning Process

At DVRPC, the Congestion Management Process (CMP) helps guide the discussion of where best to invest in the transportation system to reduce congestion and achieve regional goals, especially in light of fiscal constraints. The CMP strengthens the connection among the long-range plan (LRP), transportation improvement program (TIP), corridor studies and other projects and enhances sharing of data, analysis, and completed studies. The CMP helps

with Federal requirements for supplemental projects when road capacity is needed and tracks completion of these commitments. The 2006 CMP is currently being updated by DVRPC.

As part of the CMP update, DVRPC began by revisiting the basics. It confirmed that policy directions set for the 2006 CMP remained valid. The DVRPC Board determined that in order to reach its regional goals for moving people and goods, protecting the environment, enhancing quality of life, and supporting economic development, the CMP should use the following priorities for transportation projects and programs:

1. 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;
2. Manage demand for transportation by fostering land use patterns and other strategies that reduce the need for and length of trips;
3. Increase capacity of the existing multimodal transportation system, limiting the addition of through-travel lanes; and
4. Add new capacity where necessary, limiting the addition of new roads.





DVRPC works with the CMP advisory committee for guidance on all elements of the CMP program. One element of the update was reviewing whether all appropriate stakeholders were included in the process. The advisory committee includes representatives from the following organizations:

- Each of nine DVRPC counties;
- Pennsylvania and New Jersey State Departments of Transportation (DOT) and transit authorities;
- FHWA and FTA;
- DVRPC Regional Citizens Committee and Goods Movement Task Force; and
- Transportation management associations.

These stakeholders are motivated to participate because the benefits for participating have been made clear by DVRPC. These benefits include shaping an effort that will end up affecting many other projects and investments, getting useful analysis and help with projects, increased visibility for adopted corridor studies to help recommendations get done, and improving mobility and quality of life. The CMP includes broader outreach efforts that help stakeholders by fostering knowledge of how individuals within municipalities and organizations can address congestion and advance toward shared goals.

The CMP process (see Figure 1) begins with establishing guiding principles and agreeing on methodology. After discussion of available data sources and agreement on appropriate criteria, DVRPC conducts a region-wide analysis that helps identify congested corridors and sub-corridors. A variety of sections within DVRPC participate in this step, including operations management and travel modeling units. The selection of corridors and sub-corridors is refined with the input of the CMP advisory committee and additional reviews such as environmental, economic development, and quality of life. Congestion mitigation

strategies are identified for the sub-corridors. A shorter set of priority congestion sub-corridors is developed and used for additional studies. Those efforts result in proposals for TIP projects. The CMP document outlines the implementation of congestion mitigation approaches and projects, which helps link the goals from the LRP to the TIP.

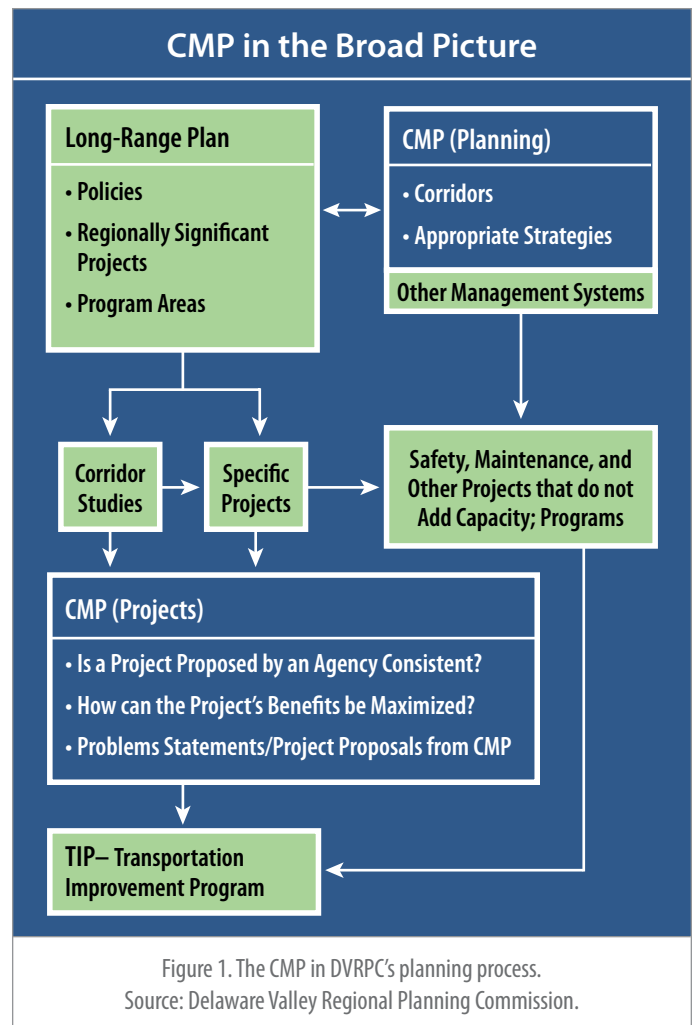
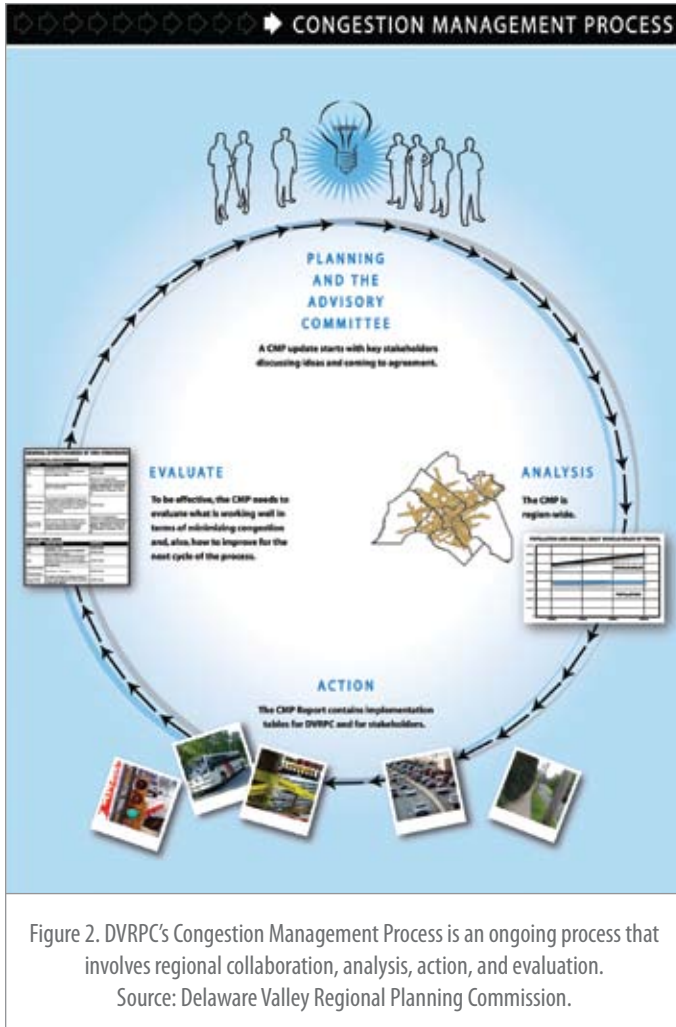


Figure 1. The CMP in DVRPC's planning process.
Source: Delaware Valley Regional Planning Commission.



Tracking Progress

Tracking Progress toward 2030: Regional Indicators for the DVRPC Long Range Plan is an effort to develop regional indicators to measure the region's progress toward the goals in its metropolitan transportation plan. Tracking Progress is designed to compile meaningful time series data that can help the agency and its partners make decisions that are more effective. Tracking Progress will provide feedback for updates of the LRP with the indicators being revised in turn. Besides developing systematic measures to evaluate progress toward the goals of the LRP, *Destination 2030*, this effort will accomplish several objectives, including:

- Providing an inventory of major performance measure systems and available databases in the region to promote their integration and to share resources;
- Considering ways to optimize regional investment policies that are consistent with the long-range plan policies and coordinating this approach with other agencies and organizations;
- Coordinating with DVRPC efforts in long-range plan development, the transportation improvement program, the Congestion Management Process, and other tasks; and
- Benefiting all residents in the region by ensuring ongoing improvements and integration among long-range plan functional areas.

The CMP also includes a program for regular monitoring and evaluation of system performance. DVRPC believes that for the CMP to be effective, it needs to determine what is working effectively to minimize congestion and how the CMP has worked to improve planning for the next cycle. A challenge has been figuring out how to evaluate the effectiveness of completed projects. The performance and evaluation data from the CMP feeds into the planning process through the agency's broader effort at performance measurement: *Tracking Progress toward 2030: Regional Indicators for the DVRPC Long Range Plan*.

Tracking Progress builds upon previous DVRPC efforts and is the product of technical work by the agency and guidance from the Tracking Progress Advisory Committee. To ensure the group had a strong foundation from which to begin Tracking Progress, DVRPC conducted a literature review of similar projects and studies. This included national studies and work by other metropolitan planning organizations, web-based materials and interactive sites such as the FHWA



Performance Measurement Exchange, and other related efforts in the region. Based upon this research, DVRPC developed a draft set of indicators, which it vetted through the advisory committee.

The Tracking Progress advisory committee was formed through an outreach effort to over 250 regional participants in DVRPC's transportation, environment, land use and development, and economic development committees, supplemented with stakeholders regionally known for their work in this field. Approximately 55 stakeholders accepted the invitation to be involved. The advisory committee focuses on how best to track progress toward long-range plans goals and strategies to help the region in reaching its goals. The group also facilitates coordination and cooperation among various related efforts in the region.

Within Tracking Progress, DVRPC established a specific vision relating to transportation. The vision seeks:

- A safe, convenient and seamless multi-modal passenger and freight system that is sufficient in its capacity, attractive and affordable to its users, accessible and equitable for all citizens and visitors to locations throughout the region, and incorporates sound growth management, urban revitalization, environmental, and economic development planning principles.

The specific goals from the long-range plan related to congestion and mobility are:

- Reduce Congestion - Reduce congestion by making the transportation infrastructure more efficient, instituting transportation demand management strategies and providing alternatives to the single-occupant vehicle
- Improve Mobility - Increase mobility by providing additional choices for travel and guaranteeing the transportation system accommodates everyone

Challenges and Lessons Learned

A broad challenge has been communicating why the CMP is important to the hundreds of individuals who need to buy into it for the process to work. Specific challenges have come from using many large databases of varying quality with differing data definitions. An outstanding challenge is using the power of computing to better select strategies and develop complimentary packages of solutions for congested corridors. DVRPC has not found a robust sketch-level program available to complete this required step in the CMP process.

One lesson learned at DVRPC is that geographic information systems (GIS) help in the CMP. GIS improves understanding of available data, allows data to be analyzed in new ways, eases the process of updating information in the future, and helps create understandable and interesting graphics. The most important lesson DVRPC would share with others regarding the CMP or Tracking Progress is to start with a relatively simple approach so the task can be completed and have an impact. The next iteration can always be more sophisticated.

Moving Forward

As DVRPC moves through a second CMP cycle, it has found that the structure of the process has stood up well, although elements continue to be refined. DVRPC is especially interested in work with systems management and operations to better measure transportation system reliability. DVRPC continues to work on using performance measurements in Tracking Progress. The use of performance measures continues to strengthen at DVRPC, as does coordination among various projects.



References

Delaware Valley Regional Planning Commission, *Tracking Progress toward 2030: Regional Indicators for the DVRPC Long Range Plan*, June 2006.

Delaware Valley Regional Planning Commission, *How the CMP Gets Us There*, November 14, 2007.

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