

2017 Congestion Management Process

The 2017 Congestion Management Process (CMP) Plan was adopted by the Harrisburg Area Transportation Study (HATS) Coordinating Committee in June 2017, which replaces the 2013 CMP.

WHAT IS HATS?

- HATS was created as a result of the Federal-Aid Highway Act of 1962, which mandated regional planning as a condition for receiving federal funds for transportation projects. To this day, the planning must be supported through a continuing, comprehensive, coordinated (3C) process. **HATS serves 103 municipalities in Cumberland, Dauphin and Perry Counties and is the designated Metropolitan Planning Organization (MPO) for the region.** The MPO is comprised of federal, state and local agencies, as well as officials from Cumberland, Dauphin and Perry Counties, the City of Harrisburg and Capital Area Transit.
- In this role, HATS develops a long-range **Regional Transportation Plan (RTP)**, which among other things, documents the current status of transportation projects and programs, identifies long-term needs and recommends projects to meet those needs. The RTP sets a framework and priorities for the expenditure of federal transportation funds over a 25-year period. **The CMP is a plan that helps support the development of the RTP.**



WHAT IS A CMP PLAN?

- It is an ongoing planning process that identifies congested locations, determines possible causes, prioritizes the most congested corridors and intersections, develop strategies to reduce traffic congestion and increase mobility, and measures strategy effectiveness. While the plan is updated on an ongoing process, a report is generated every four years and serves as input into the HATS RTP and TIP programs. It requires alternatives to building new capacity be considered, but ultimately capacity improvements may be necessary.

WHY DO A CMP PLAN?

- The Fixing America's Surface Transportation (FAST) Act and prior federal legislation requires MPOs such as HATS with a population over 200,000 to maintain a CMP. Furthermore, a regional goal of the HATS RTP is to enhance mobility across the region.

WHAT IS CONGESTION?

- The U.S. DOT defines congestion as **"the level at which transportation system performance is no longer acceptable due to traffic interference."** The level of acceptability may vary by type of transportation facility, location, or time of day. There are two primary types of congestion:
 - **Recurring congestion** tends to be concentrated into shorter time periods, such as rush hour, and is caused from excessive traffic volumes resulting in reduced speed. The causes include: daily peak period commuter traffic, insufficient capacity/excess volume, roadway geometry deficiencies, traffic signal timing/coordination shortcomings, heavy truck volumes, seasonal activities and long-term construction.
 - **Non-recurring congestion** is caused from irregularly occurring incidents affecting driver behavior. The causes include crashes, disabled vehicles, special events, weather and short-term construction.



HOW IS THE CMP INTEGRATED IN THE TRANSPORTATION PLANNING PROCESS?

- The CMP process is integrated into the HATS RTP project priority rankings. Projects that exist on priority congested corridors and intersections are given a higher benefit and receive a higher point value, with the expectation that higher priority projects will generate the most benefit to the regional transportation network. Also, the CMP information is used by the HATS staff as part of the Transportation Impact Statement (TIS) and HOP process with PennDOT and municipalities to identify congestion locations and make recommendations to mitigate.

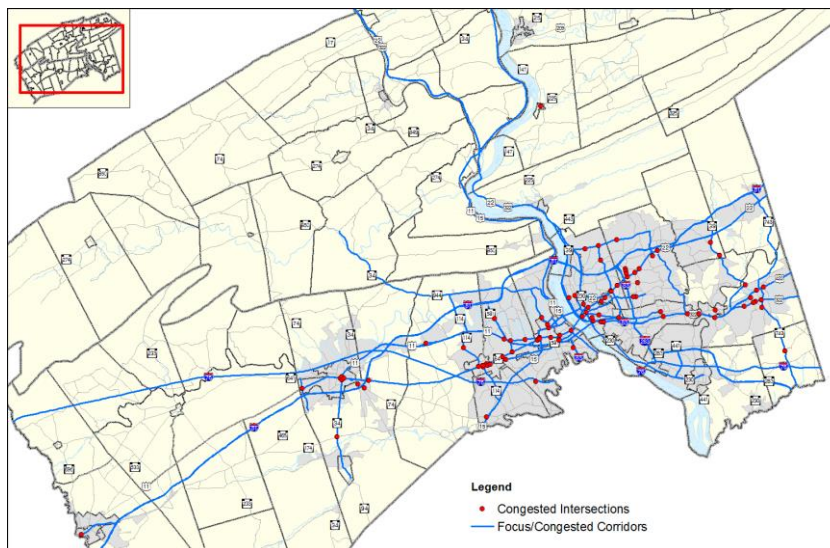
WHAT PERFORMANCE MEASURES ARE USED TO IDENTIFY CONGESTED LOCATIONS?

- **Multi-Modal congestion measures** are used to determine the intensity and extent of congestion on the roadways and on the bus transit system. Measures are derived from the TomTom GPS travel time/speed data, PennDOT traffic volumes and CAT transit ridership data. They include:
 - **Peak Vehicle Delay** is the difference between free flow (from nighttime) and actual speeds for peak hour (AM/PM).
 - **Peak Volume Delay** is the peak vehicle delay as a function of peak hour traffic volume. This measure was used for both all vehicles and just for trucks.
 - **Travel Time Index** is the peak hour travel time divided by the free flow travel time. The larger the TTI value, the greater congestion.
 - **Annual Average Daily Traffic (AADT)** is the measure of traffic volume by roadway segment.
 - **Transit Level of Service** is the measure of the number of bus riders relative to bus capacity.



WHERE ARE FOCUS AND CONGESTED CORRIDORS & INTERSECTIONS?

100 focus corridors and 90 intersections were ranked from most to least in delay, which resulted in 17 priority congested corridors and 16 intersections.



HOW DO YOU MITIGATE CONGESTION?

- There are a full range of strategies to reduce congestion beyond just building new capacity. They include: transit improvements, ridesharing and carpooling programs, park-and-ride/carpool parking facilities, variable work hour programs and telecommuting, operational/ITS improvements, incident management, parking management, land use growth management, access management and autonomous/connected vehicle technologies.