HIGHWAY STATISTICS

2010 WILMAPCO Congestion Management System (CMS)

The main goal of the Wilmington Area Planning Council's (WILMAPCO) Congestion Management System (CMS) report is a "systems" approach to identifying and addressing congestion in our region. With this approach, the existence of congestion in the transportation system can be seen in more of a regional (or national) context and it becomes apparent how slight changes at a specific location can impact the operation of the transportation system as a whole. It has been produced annually since 2001, with the exception of 2006. The 2008 CMS uses a "Summary-Style" approach that has been designed to focus on the core functions of what a CMP is to perform. The goal was to create a more streamlined, data-oriented summary that serves as a resource for use in other Metropolitan Planning Organization (MPO) documents. The report has four key sections:

Section #1: Congestion Definition and Corridor Identification

Congestion Definition

Due to constraints in data collection, the network has been limited to all roadways classified as Minor Arterial or greater according to the FHWA functional classification network. The CMS uses a series of performance measures to evaluate the current congestion level of our most traveled roadway network. Currently, performance measures used in the congestion identification analysis in this report is limited to roadway and transit (bus) congestion due to reliable data constraints. Those measures used include:

• Roadway Volume to Capacity Ratio
• Intersection Level of Service
• Roadway Travel Speeds vs. Posted Speed Limit
• Bus Load Factor (V/C ratio) by Road Segment

Corridor Identification

Using the four performance measures, the final step in the process is to delineate specific congested corridors. Members of the CMS Subcommittee identified these corridors with criteria that analyzed congestion density (number or frequency of adjacent congested segments and/or intersections) and predominant travel patterns.

Section 2: Strategy Evaluation
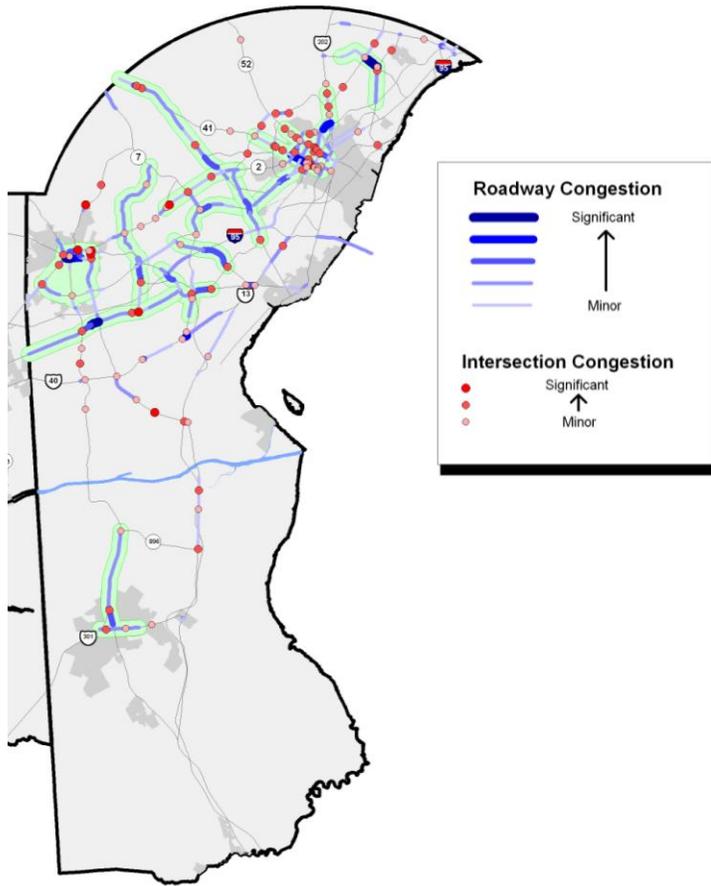
Potential strategies to reduce congestion have been assembled in a "toolbox" designed to provide the appropriate solutions for each corridor. Within each of these strategies, specific mitigation measures are outlined and described in detail. This package of solutions to congestion includes measures involving all modes of transportation as well as encouraging more efficient patterns of land use and development.

WILMAPCO CMS "TOOLBOX" STRATEGIES:

Strategy #1: Eliminate person trips or reduce VMT during peak hours
Strategy #2: Shift Trips from Automobile to Other Modes
Strategy #3: Shift Trips from SOV to HOV Auto/Van
Strategy #4: Improve Roadway Operations
Strategy #5: Add Capacity

A key component in WILMAPCO's "top-down" approach ensures that solutions which would eliminate or shift auto trips or improve roadway operations are evaluated before adding roadway capacity.

The WILMAPCO CMS and the Project Prioritization Process

Spurred by a plethora of unfunded transportation projects in our 2030 Regional Transportation Plan (RTP) and the desire for more transparency in project selection, WILMAPCO developed a technical process to score, and ultimately help rank projects for funding. Known as the "Project Prioritization Process," transportation projects are scored against criteria tied to the overall goals of our RTP: Improve Quality of Life; Transport People and Goods; and Support Economic Growth and Activity.

As shown in the image below, measures such as a project's impact on air quality, sensitive neighborhoods (Environmental and Transportation Justice), or location along a freight route are considered. Projects receive points if they support these criteria, or can have points deducted if they do not. For example, a major commuter rail project would receive the maximum of three possible points for air quality, as it would promise to reduce automobile emissions. By contrast, an interstate interchange project located in a low-income/minority neighborhood would receive the maximum of three negative points for Environmental Justice, as it would introduce noise, pollution and traffic into the community.

WILMAPCO Project Prioritization Process & Criteria
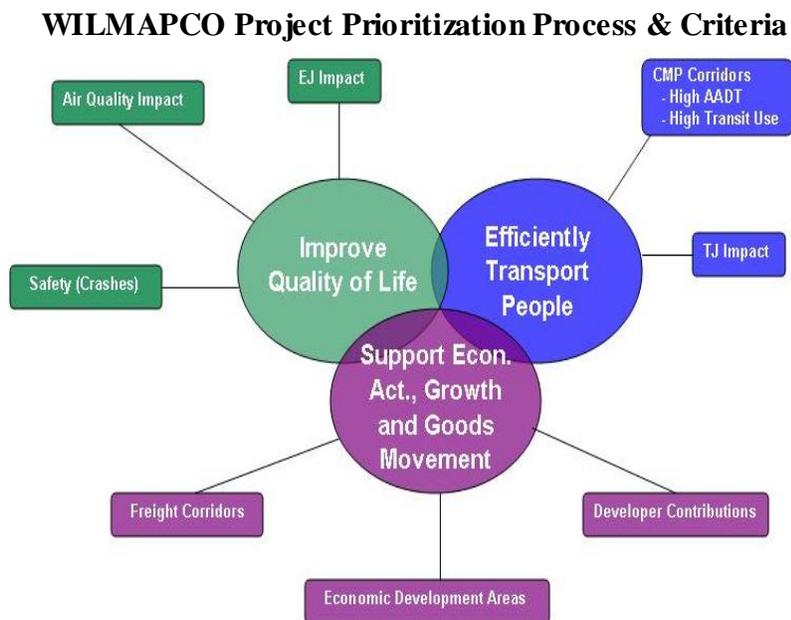
A project's presence within an identified CMS corridor can boost its score greatly. Projects within a CMS corridor automatically receive two points. They are then qualified to receive up to four points if the traffic volumes are high and up to three points if the capacity of the location's fixed-route transit service is too. With nine points out of a possible 33, CMS is the single most heavily-weighted factor in the prioritization process.

After technical scores are calculated, qualitative considerations may be introduced to adjust a project's final ranking. These include the urgency of the project, or its cost-effectiveness. For a more detailed overview of the WILMAPCO Prioritization Process with full point breakdowns, please visit: www.wilmapco.org/RTP .

Putting the scoring system into practice, the table below lists the technical scores of projects in the FY2011-2014 Transportation Improvement Program (TIP) which fell within a CMS corridor. The TIP is a four-year funding program with over $1.2 billion in transportation projects. Below is a breakdown of the congestion-based scoring criteria used in the adopted WILMAPCO prioritization process.

Top FY 2010-13 TIP Projects Based on CMS Criteria from the WILMAPCO Prioritization Process

	Project	Project Type	CMS Proximity Score	CMS AADT Score	CMS Transit Score	Total Score	CMAQ Eligible?
1	I-95 & SR 141 Interchange	Expressways	2	4	3	9	
2	I-95 & SR 1 Interchange	Expressways	2	4	3	9	
3	Rail: Newark to Wilmington Track Expansion	Transit	2	4	3	9	Yes
4	I-95 / US202 Interchange	Expressways	1	4	3	8	Yes
5	SR 1, Tybouts Corner to SR 273, Widening to 6 lanes	Expressways	1	4	3	8	
6	SR 2: S. Union Street	Arterial	2	2	3	7	
7	Aeronautics, New Castle County Airport Terminal Improvements	Other	1	4	2	7	
8	Churchmans: BR 234 Pedestrian Improvements	Bike Ped	2	2	3	7	Yes
9	Transit Vehicle Replacement and Refurbishment, New Castle County	Transit	2	2	3	7	Yes
10	SR 141 & US 13 to Burnside Blvd. Widening	Arterial	1	4	1	6	
11	Transit Vehicle Expansion: Bus Route 301	Transit	1	2	3	6	Yes
12	SR 7/US 40: SR 7, Newtown Rd. to SR 273	Arterial	2	2	1	5	
13	Churchmans: SR4/Harmony Rd.	Arterial	1	2	2	5	Yes
14	SR 4, Christina Parkway: SR 2, Elkton Rd. to SR896, S. College Ave	Arterial	2	2	1	5	
15	US 40: Eden Square Connector	Arterial	1	2	2	5	
16	Wilmington Traffic Calming: Walnut: MLK Blvd. to 16th	Collector	2	2	1	5	
17	I-95: Carr Road/Marsh Rd. Interchange	Expressways	2	3	0	5	
18	Bicycle, Pedestrian: Pomeroy	Bike Ped	2	2	1	5	Yes
19	Transit Vehicle Expansion: Middletown/Glasgow/Newark	Transit	2	2	1	5	Yes
20	Transit Vehicle Expansion: 301 MIS	Transit	2	2	1	5	Yes
21	US 40: Transit improvements	Transit	1	2	2	5	Yes
22	Rail Improvements: Fairplay Station Parking	Transit	2	0	3	5	
23	SR 2, Elkton Rd., Casho Mill Rd. to Delaware Ave.	Arterial	2	2	0	4	
24	SR 2, Elkton Rd., Maryland State Line to Casho Mill Rd.	Arterial	2	2	0	4	
25	Wilmington Riverfront: Christina River Bridge	Collector	1	0	3	4	
26	US 301: MD Line - SR 1, and Spur	Expressways	2	2	0	4	
27	Transit Vehicle Expansion, NCC	Transit	1	2	1	4	Yes

Section #3: System Monitoring

The fourth and final step in the development of the CMS, the task of monitoring the system, tracks the effectiveness of the CMS recommendations over time and allows us to see where new problems might arise. This section displays series of data analyses designed to help decision makers get a sense of the changing conditions of our region and their impact on our network. Analysis in this section includes:
- Programmed Projects along identified CMS corridors
- Crash Analysis & Trends

- Crash Analysis– Roadway Segments
- Crash Analysis—Intersections
- Impact of Freight on the CMS Network
- Mean Peak Travel Speed Changes
- Traffic Volume Changes

Section #4; Congestion Mitigation Activities

The following section is designed to chronicle the effectiveness of some of the congestion mitigation strategies discussed in the strategy evaluation section of this document. This is now possible as a result of the numerous data collection efforts performed by WILMAPCO and its member agencies. With a well established base of annual data, the ability to see trends that have developed. The analysis in this section gives some insight on the linkage between where certain congestion mitigation measures are more effective than others.

- Transit Performance
- Non-Motorized Facilities
- Intelligent Transportation Systems (ITS)
- Park & Ride / Park & Pool Lot Inventory
- Transportation Management Activities

WILMAPCO CMS Subcommittee

The CMS is developed by the WILMAPCO Congestion Management Subcommittee and assembled by WILMAPCO staff. WILMAPCO staff coordinates with all agencies of the subcommittee for various activities regarding the report such as data collection, review of performance measures and review of potential congestion mitigation strategies. Currently the subcommittee consists of members from DelDOT, Maryland State Highway Administration (MDSHA), Delaware Transit Corporation (DTC), New Castle County Land Use Department, City of Wilmington, TMA Delaware, Maryland Department of Planning, Delaware Office of State Planning Coordination and a member of the WILMAPCO Public Advisory Committee.

For more information regarding the CMS or to download the latest version, visit http://www.wilmapco.org/cms

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