Southeast Michigan’s Congestion Management Process:
Improving the Reliability of the Transportation System

TRB Conference
Congestion 1 – Congestion Management Process
September 4, 2008
What is SEMCOG?
CMP Area of Application

St. Clair

Livingston

Oakland

Macomb

Washtenaw

Wayne

Monroe

* City of Detroit

4.9 million people

SEMCOG
22,800 miles of public road

Over 3,500 bridges

Over 950 miles in poor condition

4,884 miles of truck routes

Over 5,400 traffic signals

Over 140,000 crashes

140 million vehicle miles traveled daily

Over 1,000 miles currently congested
CMP and the Planning Process

- Linking Congestion Management with the:
  - Long Range Plan/Regional Transportation Plan
  - Intelligent Transportation System Architecture
  - Regional Concept for Transportation Operations

- The 2030 Regional Transportation Plan Vision
  - …a guide for developing a transportation system that is accessible, safe, and reliable…
Goals

- Enhance accessibility and mobility
  - for all people
  - for freight
- Strategically improve infrastructure to enhance community and economic vitality
- Promote a safe and secure transportation system
- Protect the environment
Objectives

- Reduce time spent traveling
- Increase access to public transportation
- Coordinate with non-motorized facilities
- Increase connectivity/multimodal access
- Preserve existing system
- Improve efficiency and effectiveness
- Improve identification and clearance of incidents
- Minimize air and water pollutants
Performance Measures

- Travel time, speeds and delay
  - SEMCOG travel time studies
  - MDOT freeway road sensors/Traffic.com
  - Travel demand forecast model

- Transit level of service

- International border crossing delays

- Number of coordinated traffic signals

- Total and percent of congested vehicle miles traveled

- Total delay

- Incident clearance times
Performance Monitoring Plan

- Real-time data
  - Travel time surveys (floating car)
  - MDOT and Traffic.com freeway sensors
  - Freeway Courtesy Patrol/incident data
  - Traffic counts/Intersection Cameras - PTRs
  - Traffic signal inventory
Identifying Mitigation Strategies

- **Strategies**
  - **Transportation Systems Management**
    » Use of ITS, better coordination of traffic signals
  - **Transportation Demand Management**
    » Van/carpooling, flextime
  - Public Transit
  - Access Management
  - Capacity (widening)
Evaluating Mitigation Strategies

- Travel Demand Forecast Model (TransCAD)/Meso- and Microscopic Simulation Models
- Post processing of TransCAD output
- IDAS (ITS Deployment Analysis System)
- Annual Short-Range Program (TIP) Surveys/RTP-TIP Database
- Before and After Studies (travel time)
RTP Implementing

- Setting the Direction for Transportation by exploring transportation investment choices and establishing a regional investment direction

REGIONAL TRANSPORTATION PLAN 2035
FOR SOUTHEAST MICHIGAN
RTP Implementing

- Regional Performance-Based Needs Assessment
  - Using Asset Management techniques (i.e., AssetManager NT, HER-ST, etc.)
  - Investing strategically to maximize the achievement of regional goals

- Investment Areas
  - Transit
  - Pavement
  - Bridge
  - Expansion
  - Safety
  - Nonmotorized
  - Road Operations
CMP Implementing and Management

- Long-range Plan (RTP)/CMP Analysis
  - Congestion thresholds
  - Identifying congestion at the corridor level
  - Associating mitigating strategies for each congested corridor
  - Soliciting projects
  - Evaluation
  - Monitoring
Monitoring Strategy Effectiveness

- Annual Short-Range Program (TIP) Surveys/RTP-TIP Database
- Before and After Studies (travel time)
- Real-time data
  - Freeway sensors
  - Service patrol clear-times
  - SEMCOG travel time surveys
  - Traffic signal camera/sensor data
Regional Concept for Transportation Operations (RCTO), 2005

Planning Group

- SEMCOG
- MDOT
- Michigan State Police
- Assistance by Hubbell, Roth & Clark, Inc.
“Southeast Michigan will have a reliable and managed transportation operations across geographic and modal boundaries for both routine traffic operations and traffic incident management that saves time, lives, and money for its travelers.”
Metro Detroit (Stakeholder) Suggestions

- **Objectives**
  - Identify arterial streets as priority corridors, making them candidates for investments in traffic signal optimization, communications infrastructure, and closed circuit television cameras.
  - Disseminate operations information to stakeholders, the media, and individual travelers (i.e., video sharing).
  - Retime traffic signals regularly.
  - Reduce congestion and improve travel times by clearing incidents quickly and safely.
For More Information:
Incident Management

T³ Webinar

Date: September 11, 2008
Time: 1:00–2:30 P.M. ET
Cost: All T3s are free of charge
PDHs: 1.5

www.pcb.its.dot.gov/t3/s080911_tim.asp
For More Information

- SEMCOG’s Web site
  www.semcog.org/congestion.aspx
- Contact SEMCOG
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