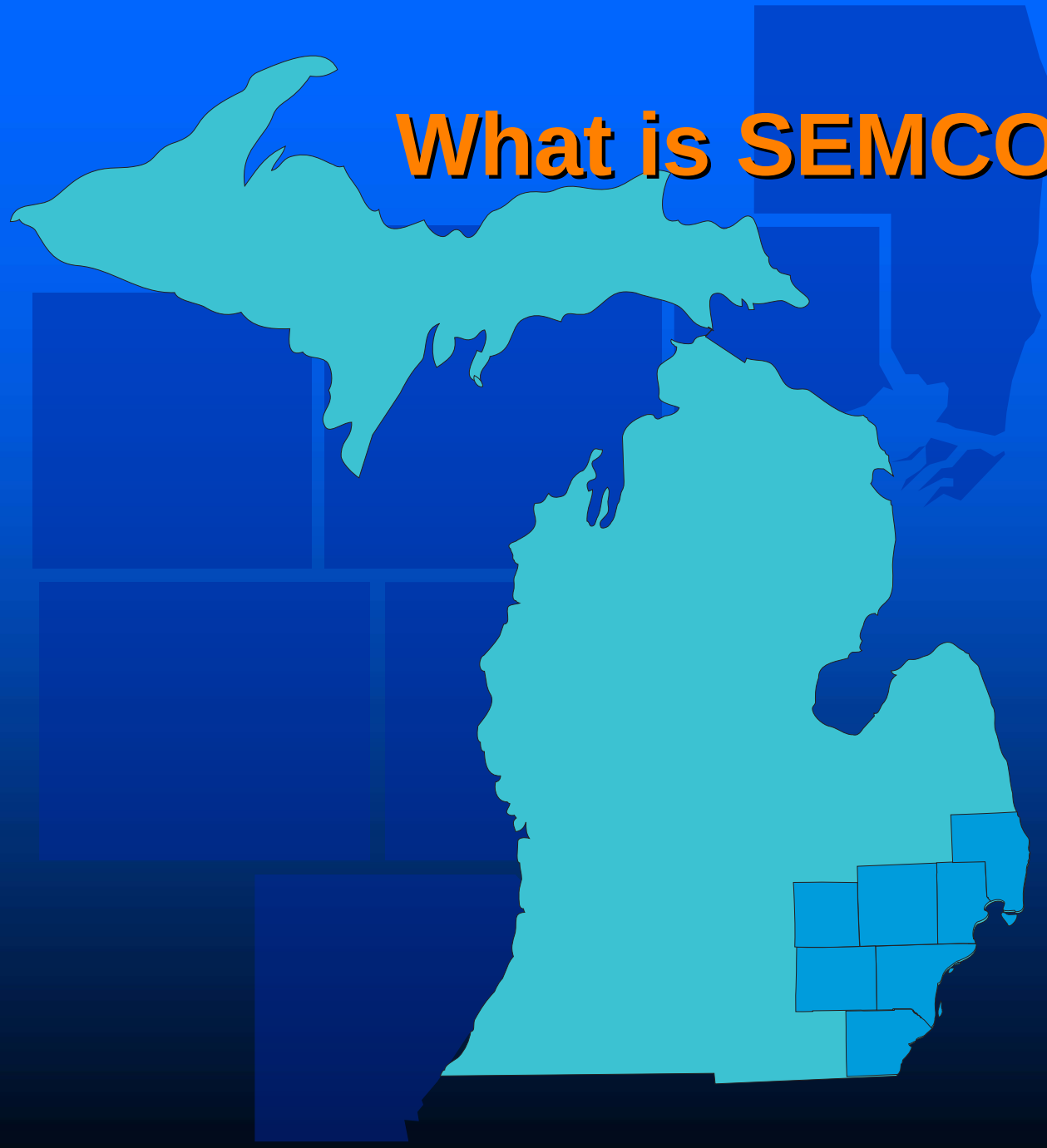
Southeast Michigan's Congestion Management Process:

Improving the Reliability of the Transportation System

TRB Conference
Congestion 1 – Congestion Management Process
September 4, 2008

SEMCOG

What is SEMCOG?



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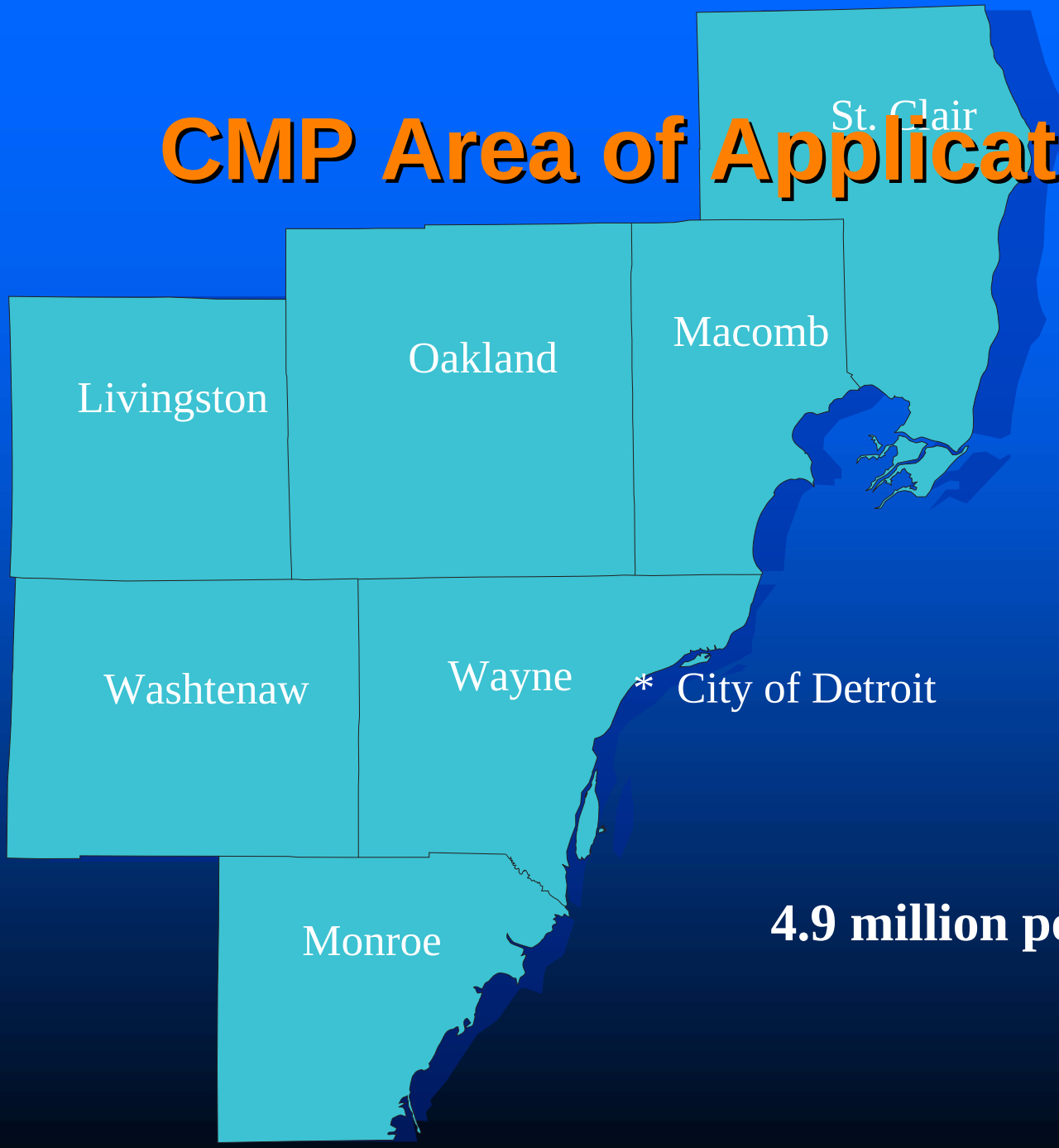
CMP Area of Application



4.9 million people

SEMCOG


22,800 miles of public road
Over 3,500 bridges


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
SQUARE LK RD
WEST
CROOKS RD
SOUTH
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

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.

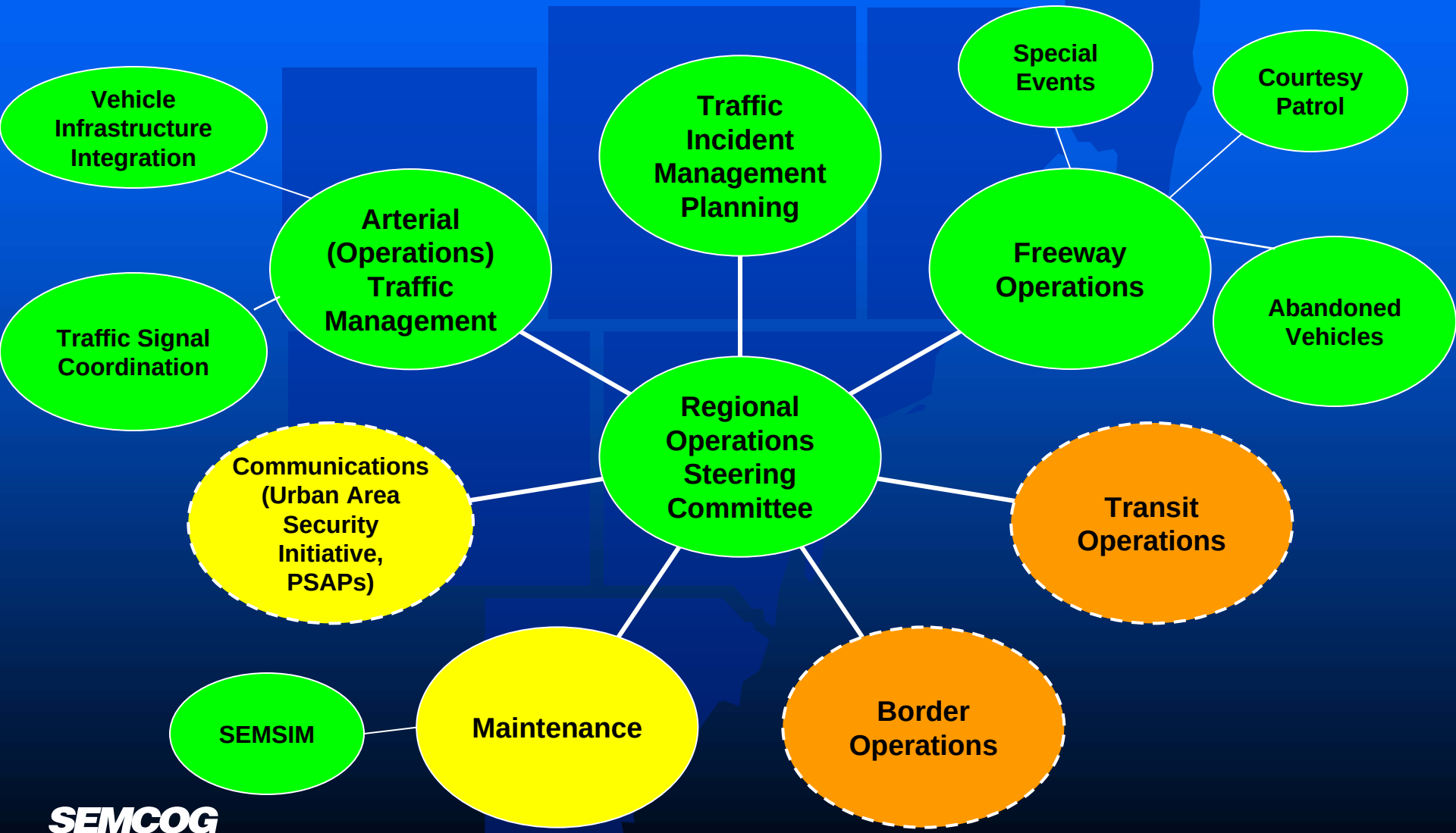
RCTO Vision

"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.

Transportation Operations Network



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For More Information:
Incident Management

T^3 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

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For More Information

- SEMCOG's Web site
  www.semcog.org/congestion.aspx
- Contact SEMCOG
  - Mr. Tom Bruff, Transportation Coordinator, bruff@semcog.org, 313-324-3340