

SEMICOG

Southeast Michigan Council of Governments

ITS Architecture Use in Transportation Planning: the Southeast Michigan Experience



Talking Technology and Transportation (T3) Webinar:
ITS Architecture Use and Maintenance

July 30, 2014



SEMCOG



St. Clair

Livingston

Oakland

Macomb

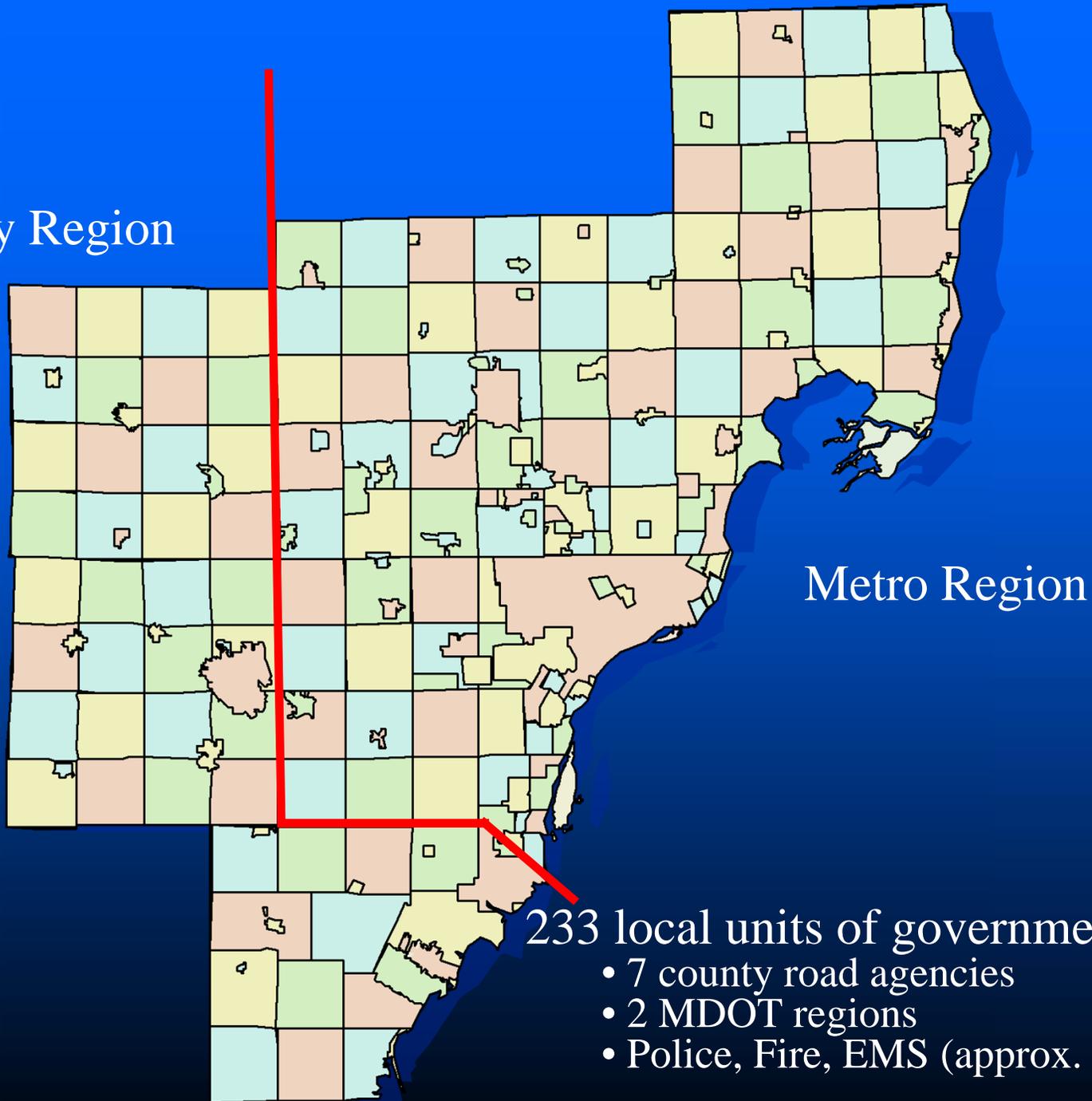
Washtenaw

Wayne * City of Detroit

Monroe

4.7 million people

University Region



Metro Region

233 local units of government

- 7 county road agencies
- 2 MDOT regions
- Police, Fire, EMS (approx. 233 x 3)

Development and Maintenance

- Initial Architecture developed with assistance by National Architecture Development Team, 2000
- Minor updates in 2005
- MDOT development/update in 2008 (included a Deployment Plan)
- Minor updates in 2014

Integration of ITS (Arch.) and Planning

- SEMCOG Regional ITS Architecture was initially adopted as part of 2025 Regional Transportation Plan
- Included as part of SEMCOG Congestion Management Process (CMP)

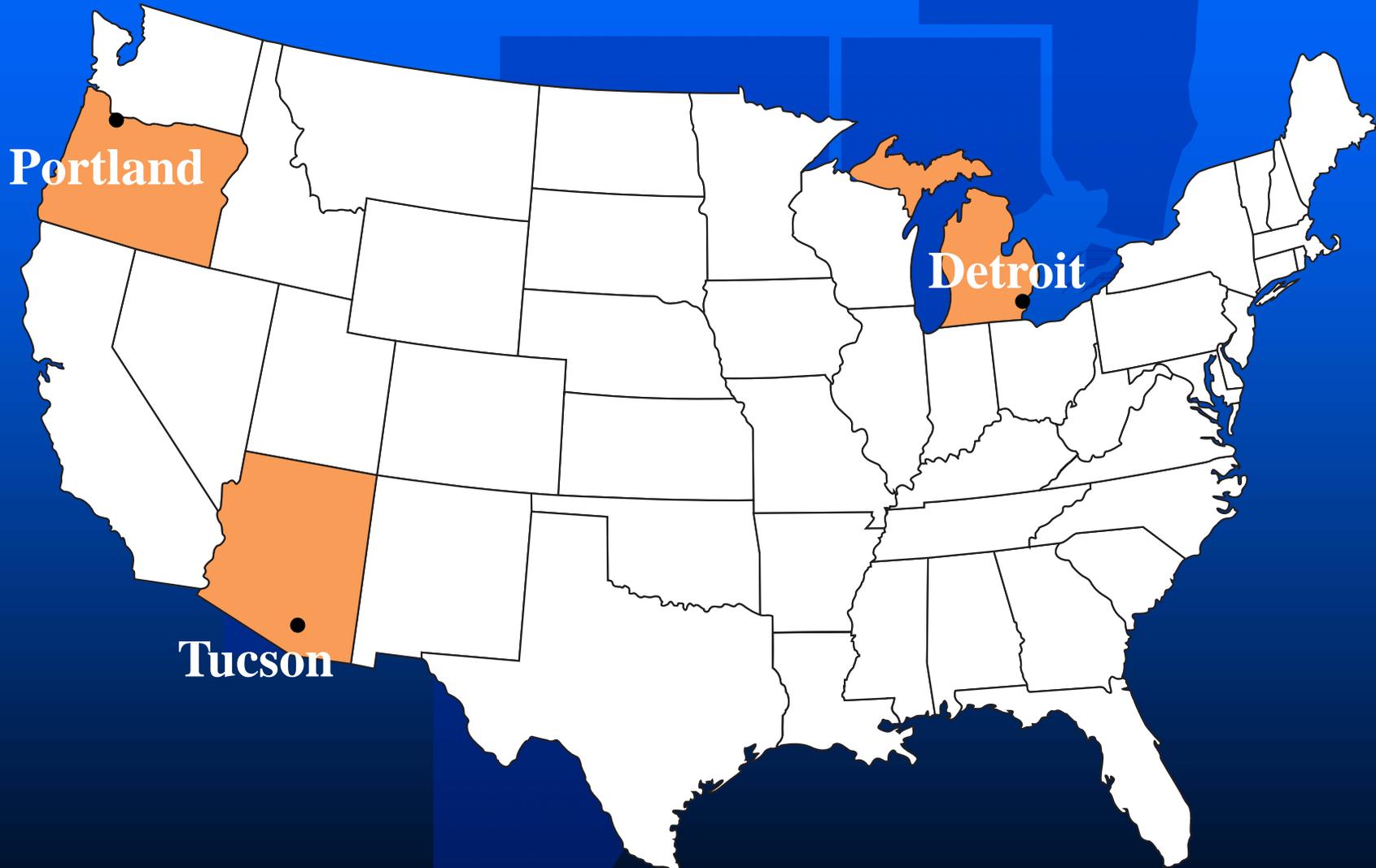
Integration of ITS (Arch.) and Planning (cont.)

- Integrated with Traffic Incident Management (TIM)
- Lead to the development of Regional Concept for Transportation Operations (RCTO) (FHWA demo)
- Elements of the Architecture were used in traffic incident management / operations planning

Transportation Operations/TIM Partnering Network



FHWA Awards Demonstration Initiative Grants - April 2005



Southeast Michigan Transportation Operations (RCTO) Vision

“Southeast Michigan will have reliable and managed transportation operations across jurisdictional, geographic and modal boundaries for both routine traffic operations and traffic incident management that saves lives, time, and money for its travelers.”

RCTO Objectives

- Improve responder safety
- Provide safe, quick clearance
- Disseminate operations information to stakeholders
- Retime traffic signals regularly
- Identify priority corridors for future investment

Top Stakeholder Suggestions:

Clearing incidents quickly and safely

- Local removal practices
- Responder safety workshop
- Table top exercises/After Action
- Crash investigation sites
- Alternative route planning
- Visibility

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Clearing Incidents Quickly and Safely:

Quick Clearance Laws Needed

- ✓ Driver Removal Law
- ✓ Authority Removal Law
- Hold Harmless Law



MOVE IT

it's the law!

Top Stakeholder Suggestions:

Disseminate operations information

The screenshot displays the MDOT Drive Interactive Map website. The browser's address bar shows the URL <http://www.mi.gov/drive>, which is circled in white. The website header includes the "Drive" logo and "Michigan Department of Transportation". Navigation tabs for "Interactive Map", "Traffic Cameras", and "Average Speeds" are visible. A sidebar on the left contains links for "Construction & Traffic", "Alternatives to Driving", "Laws & Licensing", "Maps", "Truckers", and "Detroit Headlines". The main content area features a map of Michigan with various traffic indicators. A legend on the right side of the map allows users to customize the display of information, including checkboxes for "Statewide" (Construction/Lane Closures, Cameras), "Detroit and Grand Rapids Only" (Cameras), and "Detroit Only" (Current Speed, Incidents, Message Signs). The legend also includes a section for "OR Just Display..." with a checkbox for "Coming Soon: Planned 2009 Projects". The map shows various road types and traffic conditions, with a scale bar indicating 20 miles. The footer of the website includes copyright information for 2009 and links for "Security", "Accessibility", "Link", and "Privacy".

Mi Drive Michigan Department of Transportation **Michigan.gov** The Official State of Michigan Website

Michigan.gov Home Drive Home MDOT Home Contact Us

Construction & Traffic

Interactive Map Traffic Cameras Average Speeds

Alternatives to Driving Live camera feeds from Michigan roadways. Help Detroit Grand Rapids My Cameras

Laws & Licensing

Maps

Truckers

My Cameras

Camera image timestamp: Friday, March 20, 2009 9:49:32 AM

 271-194/BELLEVILLE	 270-194/HARBERTV	 289-194/I275
 267-194 Click to zoom in.	 263-194/WINSTON	 261-194/HOURLIE
 260-194/OLTER DR	 258-194/GREENFIELD	 257-194/ROTHKOR

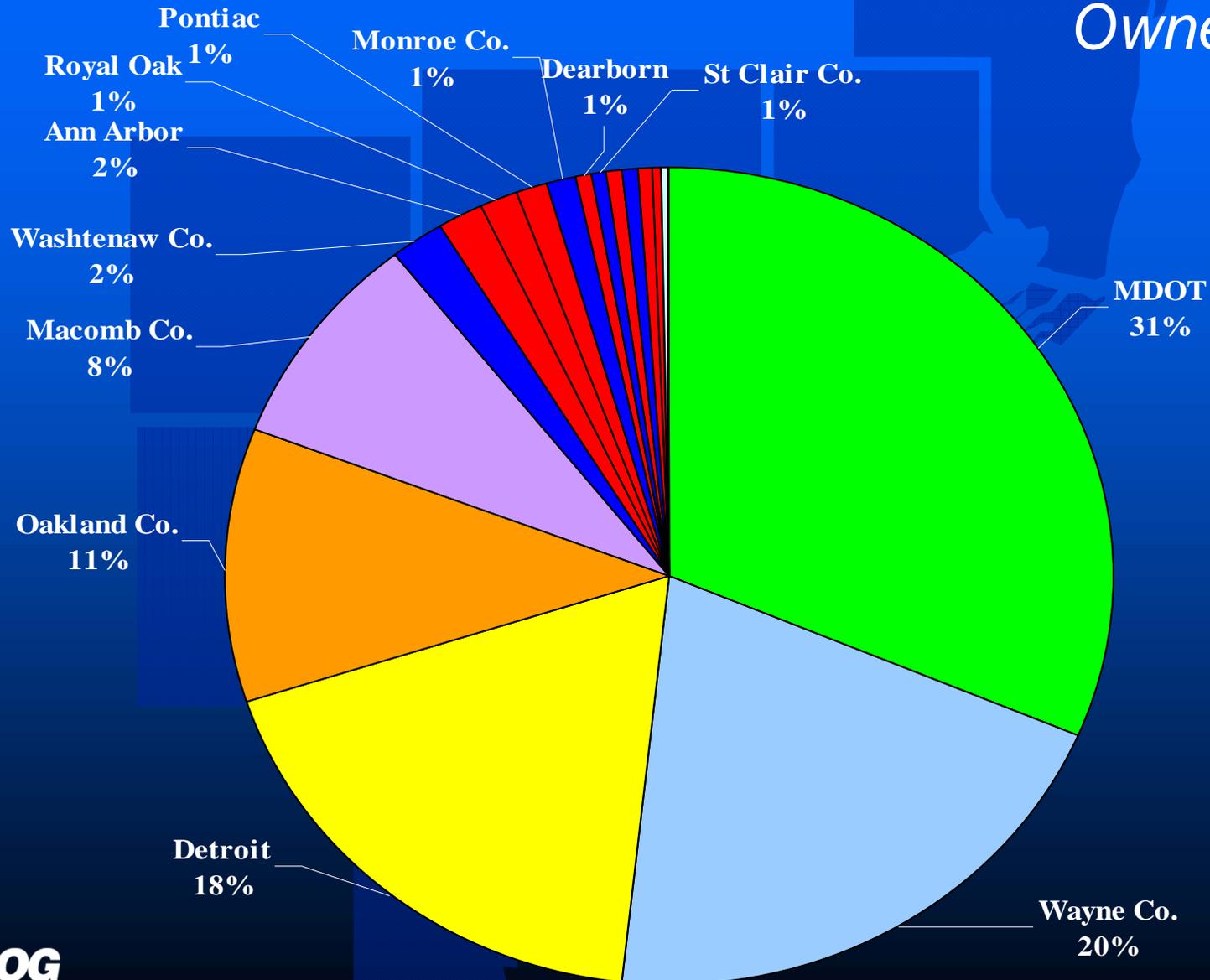
Clear All Cameras or click a close button to remove that camera.

Top Stakeholder Suggestions:

Retime traffic signals regularly

- Approximately 5,400 traffic signals regionally

Retime Traffic Signals Regularly: Ownership



Retime Traffic Signals Regularly:

Funding and Application Criteria

- Congestion Mitigation Air Quality Improvement Program

Priority Ranking	Points
Regional	40
Sub-regional	30
Higher-local	20
Local	10

- Annual Local Safety Program
 - ✓ Maximum of \$600,000 per project (80/20 match)

Top Stakeholder Suggestions:

Identify arterial streets as priority corridors

- Approximately 28,000 road-miles regionally
 - approximately 8,000 road-miles of federal-aid eligible
 - » Grouped into approximately 1,200 “like/peer” corridors

Identify Arterial Streets as Priority Corridors:

Evaluation criteria for prioritizing corridors

Criteria	Points	Based On
Safety	0-3	Weighted CPI (Crash Probability Index) per mile scaled to a maximum of (3)
Congestion	0-3	Percent of corridor overlapped by congested segments scaled to a maximum of (3)
Freight	0/3	(1) for corridors designated as truck routes
		(1) for identified corridors connecting to ports, airports, or intermodal facilities
		(1) for identified corridors serving high-priority regional freight corridors
Transit	0-3	Transit ridership by category ((1): 1-4,999 riders per day; (2): 5,000-9,999 riders per day; (3): 10,000+ riders per day)

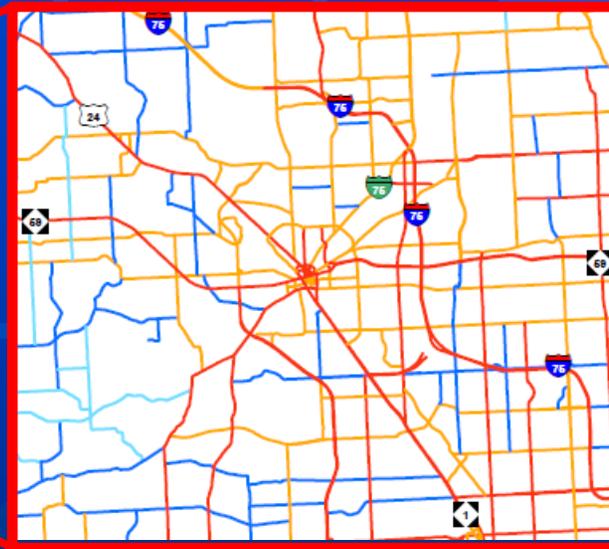
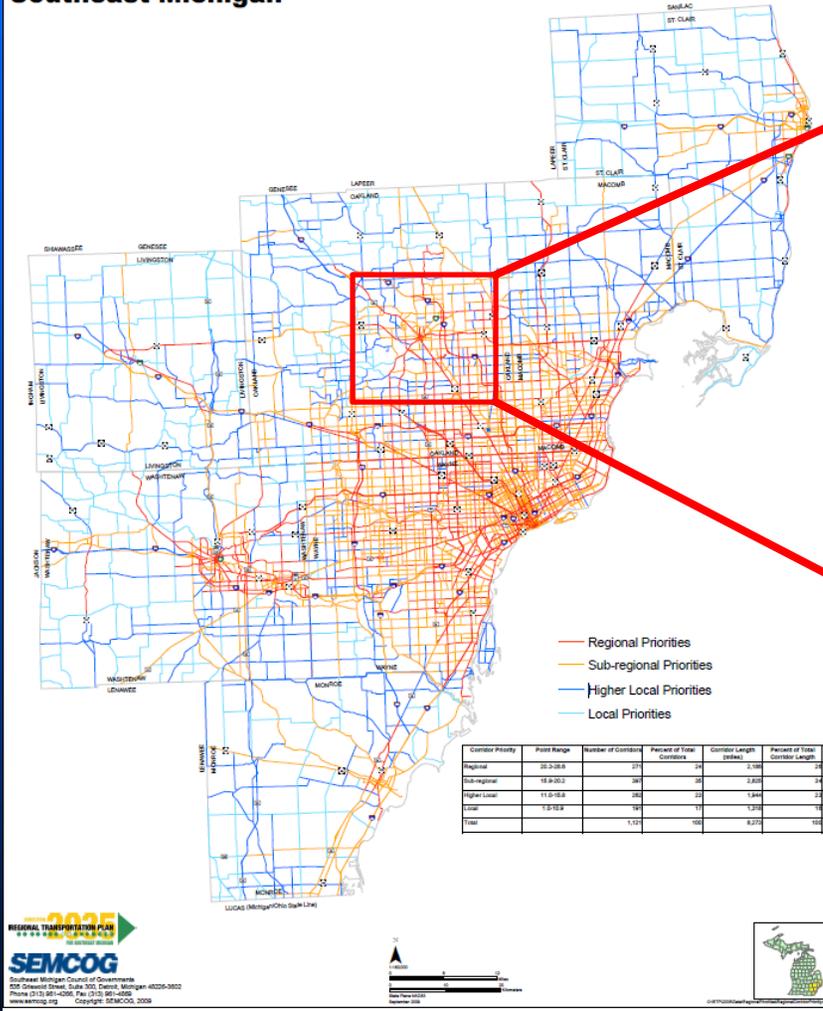
Identify Arterial Streets as Priority Corridors:

Evaluation criteria for prioritizing corridors

Criteria	Points	Based On
Volume	1-3	Volume by category ((1): 1-9,999 vehicles per day; (2): 10,000-29,999 vehicles per day; (3): 30,000+ vehicles per day)
Density	0/3	(3) for corridors intersecting TAZ with household density > 3.0 or job density >4.0
Activity Centers	0/3	(3) for corridors intersecting 1/2 mile buffer around identified activity centers
Functional Classification	0-3	See handout
Traffic Signals	0-3	Density per mile: 0, 1-2, 3-4, >4

Operations Priority Corridors

Corridor Priorities Southeast Michigan



- Regional Priorities
- Sub-regional Priorities
- Higher Local Priorities
- Local Priorities

For More Information

- SEMCOG's Website (www.semcog.org)
 - ITS Architecture and Deployment Plan
www.semcog.org/ITS.aspx
 - Regional Operations –
www.semcog.org/RegionalOperations.aspx
 - Creating Success in Transportation (2040 RTP)
www.semcog.org/Long-RangeTransportationPlans.aspx
- Contact
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