

# **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



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4.7 million people

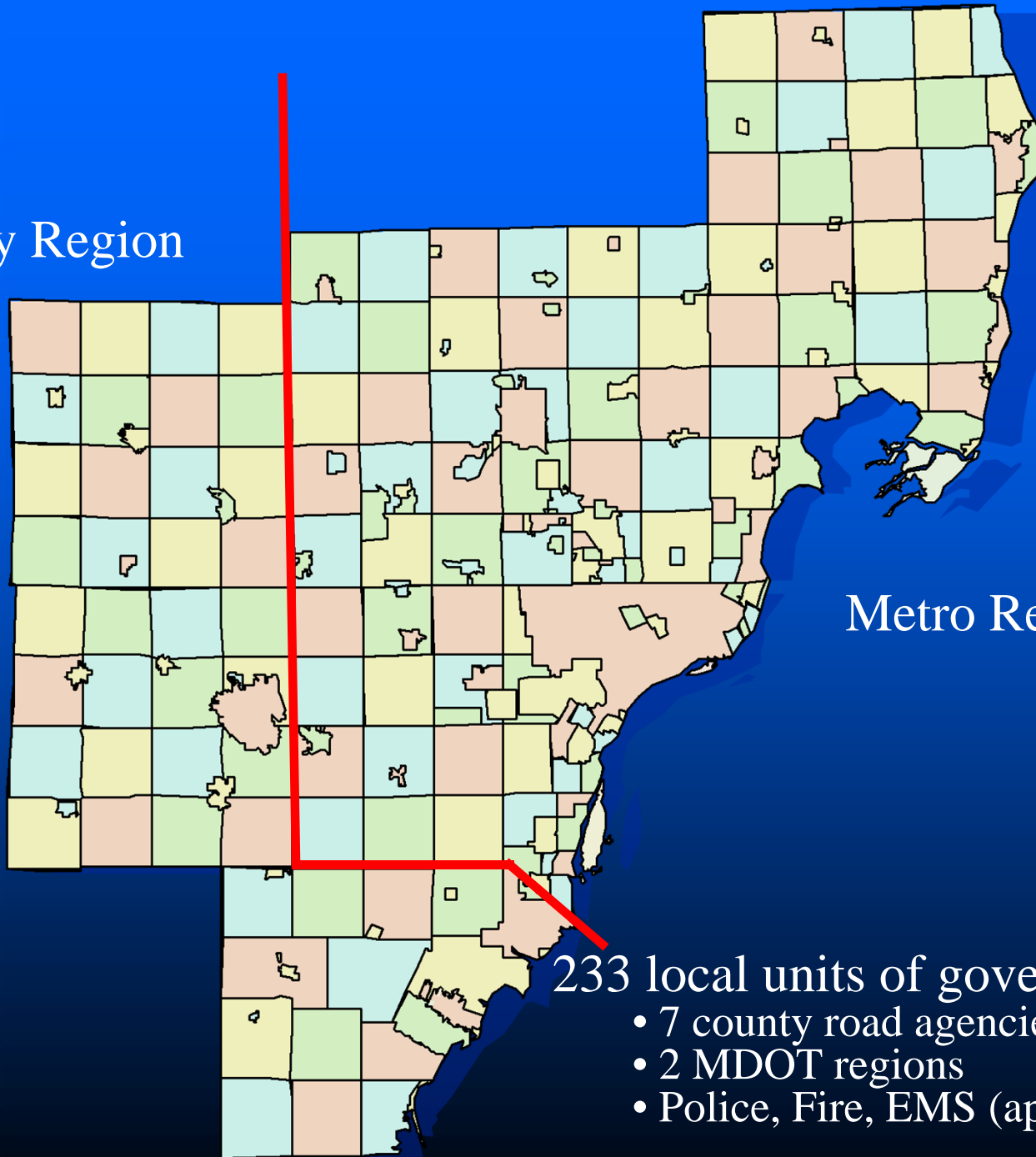
University Region

Metro Region

233 local units of government

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

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# 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.)

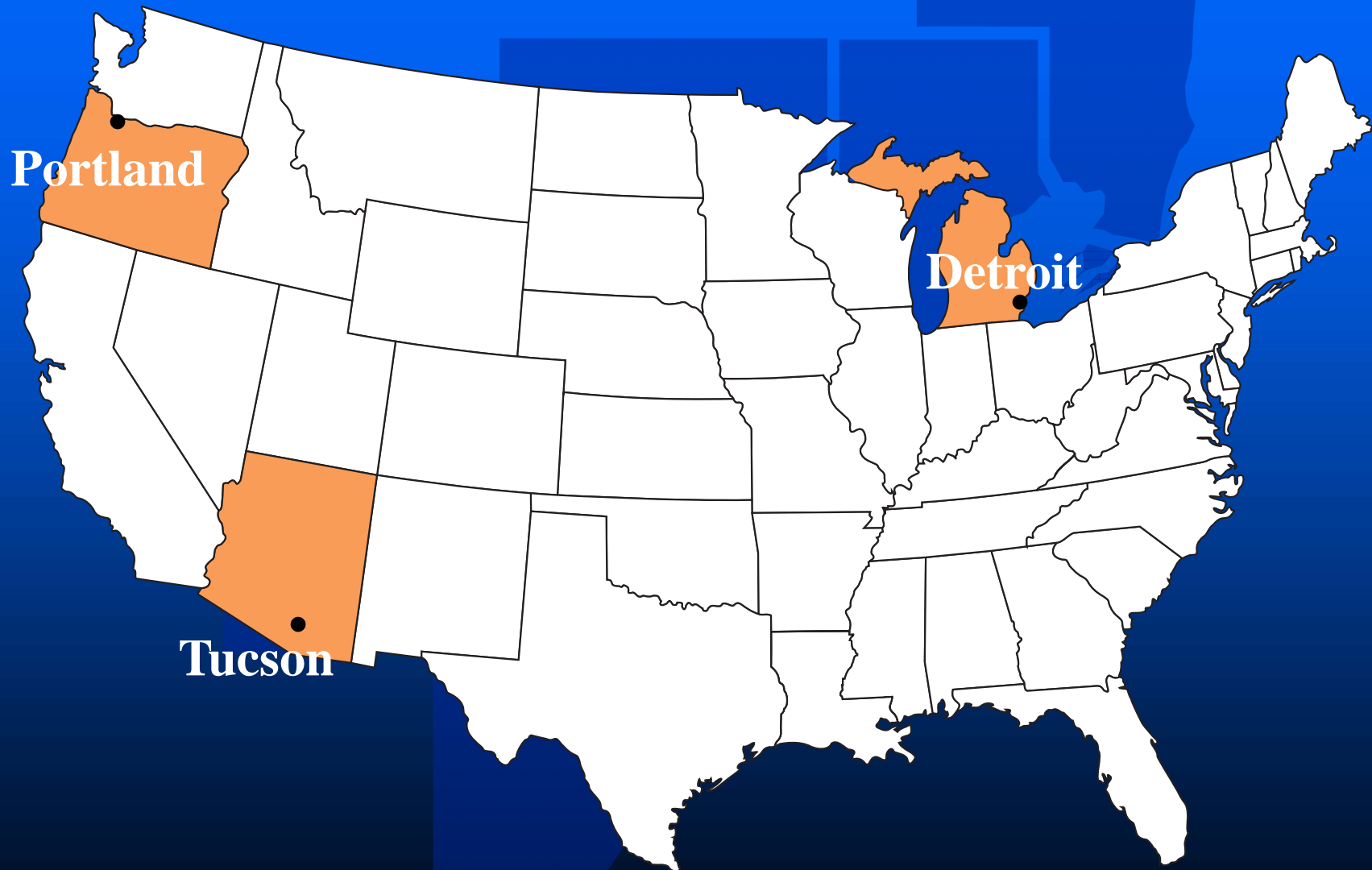
- Integrated with Traffic Incident Management (TIM)
- Lead to the development of Regional Concept for Transportation Operations (RCTO) (FHWA demo)
- Elements of the Architecture were used in traffic incident management / operations planning



# Transportation Operations/TIM Partnering Network



# FHWA Awards Demonstration Initiative Grants - April 2005



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# 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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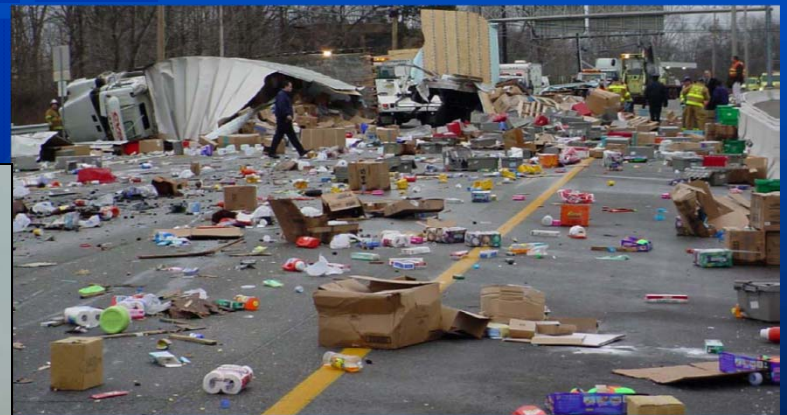




# Clearing Incidents Quickly and Safely:

*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*

MDOT - Drive Interactive Map - Windows

http://www.mi.gov/drive

File Edit View Favorites Google

SEMCOG Data MDOT - Drive Interactive ...

**Drive** Michigan Department of Transportation

Michigan.gov Home Drive Home MDOT Home Contact Us

Michigan.gov The Official State of Michigan Website

Construction & Traffic

Alternatives to Driving

Laws & Licensing

Maps

Truckers

**Detroit Headlines**

Friday, 20 March 2009 9:35 AM

**Traffic Delays**

- Under 30 mph on Northbound I-75 South of 12 Mile Road

View All Headlines

Interactive Map Traffic Cameras Average Speeds

Interactive map for Michigan roadways.

Help Legend Go To... Save This View

**Legend** Use checkboxes to display... [close]

**Statewide**

- ☒ Construction/Lane Closures (current) (future)

**Detroit and Grand Rapids Only**

- ☒ Cameras

**Detroit Only**

- ☒ Current Speed 45+ 25 - 45 0 - 25 No Data
- ☒ Incidents (active) (clearing)
- ☐ Message Signs

**OR Just Display...**

- ☐ Coming Soon: Planned 2009 Projects

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Done Internet 100%

MDOT - Traffic Cameras - Windows Internet Explorer

http://mdotwas1.mdot.state.mi.us/public/drive/cameraViewer.cfm#

File Edit View Favorites Tools Help

Google

SEMCOG Data MDOT - Traffic Cameras

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Construction & Traffic

Interactive Map Traffic Cameras Average Speeds

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Maps

Truckers

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

### My Cameras

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

 271-194/BELLEVILLE	 270-194/HAGGERTY	 289-194/I275
 267-194	 263-194/HUNTER	 261-194/HUNTER
 280-194/OLIVER DR	 258-194/GREENFIELD	 257-194/ROTHMAN

Click to zoom in.

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

Done Internet 100%



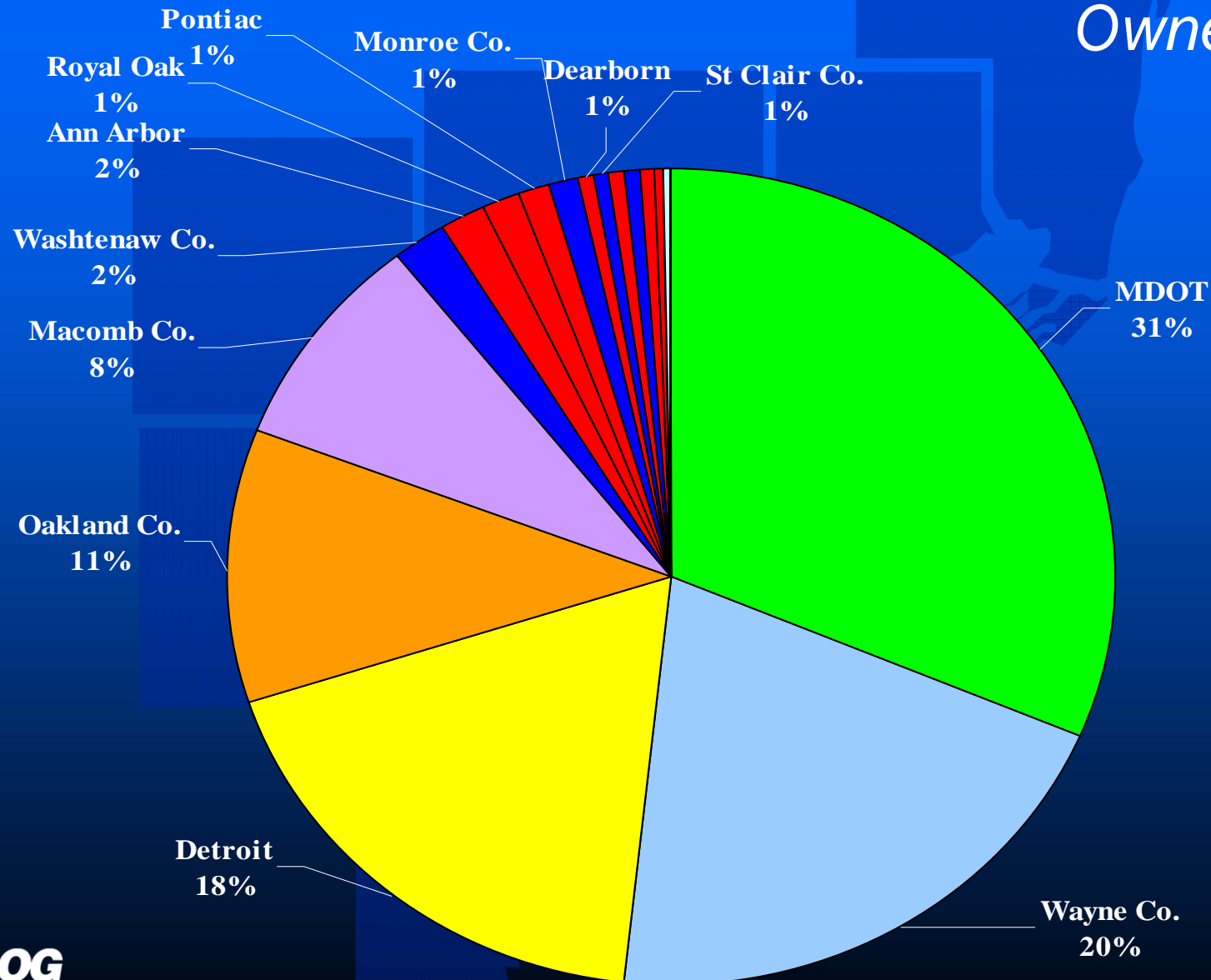
# Top Stakeholder Suggestions:

*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)

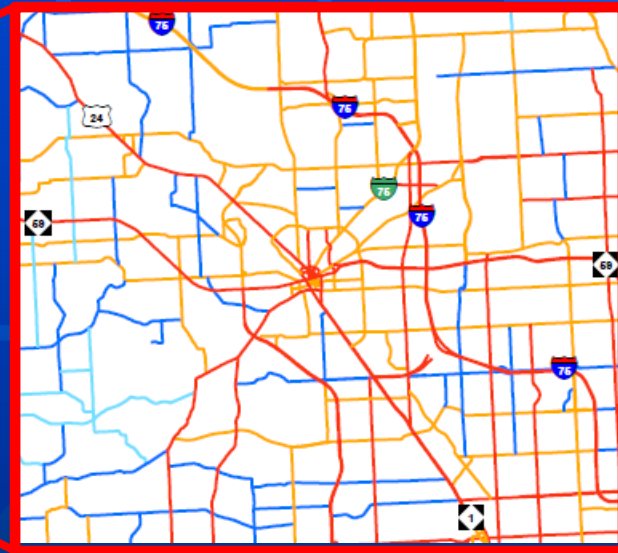
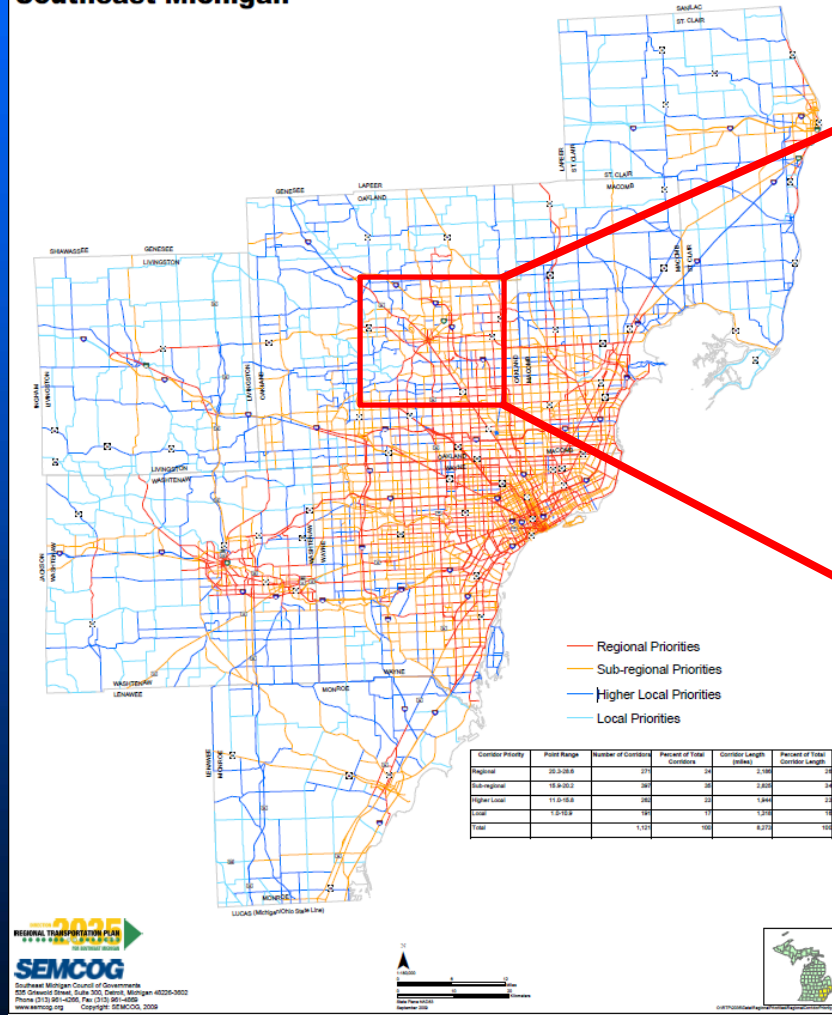
# Identify Arterial Streets as Priority Corridors:

## *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](http://www.semcog.org))
  - ITS Architecture and Deployment Plan  
[www.semcog.org/ITS.aspx](http://www.semcog.org/ITS.aspx)
  - Regional Operations –  
[www.semcog.org/RegionalOperations.aspx](http://www.semcog.org/RegionalOperations.aspx)
  - Creating Success in Transportation (2040 RTP)  
[www.semcog.org/Long-RangeTransportationPlans.aspx](http://www.semcog.org/Long-RangeTransportationPlans.aspx)
- Contact
  - Tom Bruff, Manager – Plan & Policy Development
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  - Phone: 313-324-3340 (direct)



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