

*Developing Regional Solutions*



**SEMICOG**

Southeast Michigan Council of Governments

*Developing Regional Solutions*



# **SEMCOG's Transportation Interactive Maps & Open Data Data Visualization**

Presentation to  
IMAGIN Conference 2017  
June 6, 2017

# Data Visualization

- Data visualization is to communicate information clearly and efficiently.
- Data visualization is the graphical display of abstract information.
- Data visualization is viewed by many disciplines as a modern equivalent of visual communication.
- Data visualization is both an art and a science.
- Data visualization is a general term that describes any effort to help people understand the significance of data by placing it in a visual context.
- Data visualization is the presentation of data in a pictorial or graphical format.
- Data visualization is a powerful means to discover and understand stories, and then to present them to others.
- Data visualization is far from simple to define since the term, and its corresponding synonyms, lack clear distinction and agreed upon definitions.

# Data Visualization

## Principles of Graphical Excellence

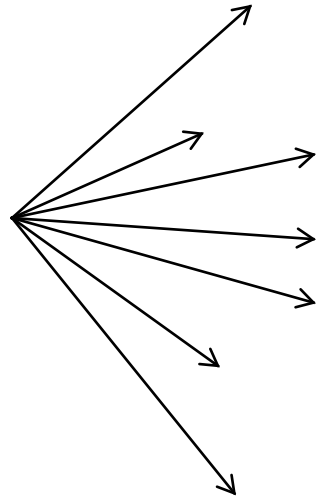
1. Graphical excellence is the well-designed presentation of interesting data – a matter of substance, of statistics and of design.
2. Graphical excellence consists of complex ideas communicated with clarity, precision, and efficiency.
- 3. Graphical excellence is that which gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.**
4. Graphical excellence is nearly always multivariate.
5. Graphical excellence requires telling the truth about the data.

# SEMCOG Map Gallery

Interactive Maps

Story Maps

Static Maps



Transportation  
Alternative Program

Boundaries

Footprints

Membership

Congestion

Corridors

Commuting Patterns

Pavement

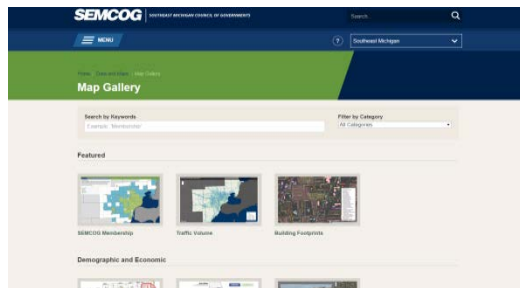
Sewers

Watersheds

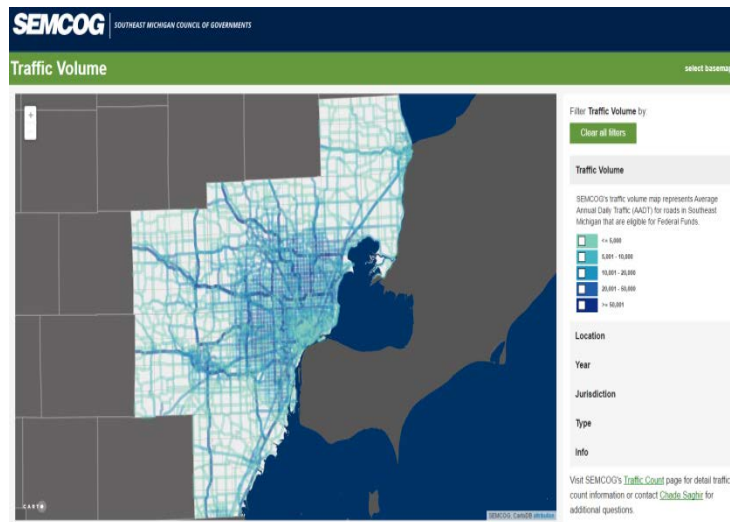
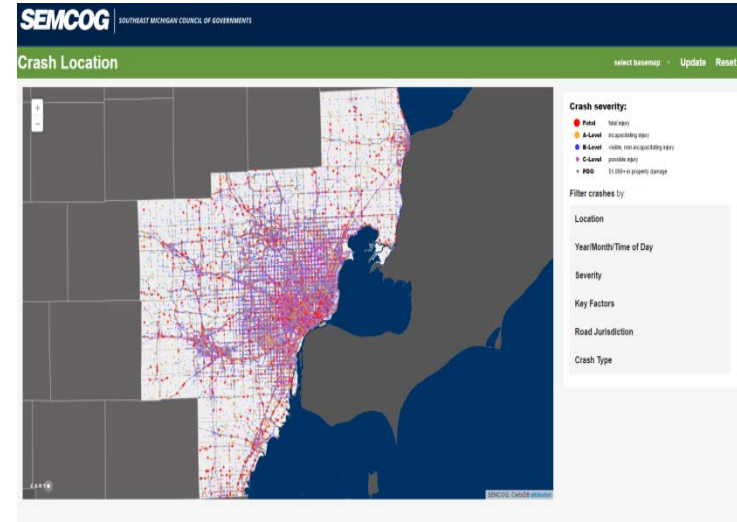
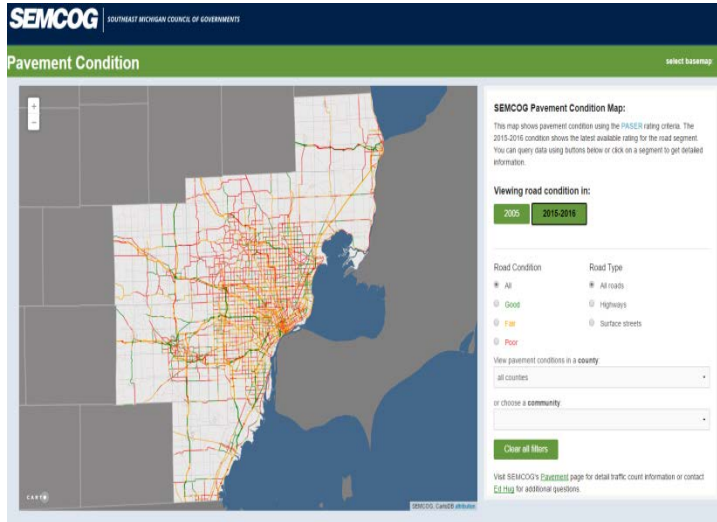
Crash Data

Act 51

Traffic Volume



# Transportation Data Visualization



# Data Sharing



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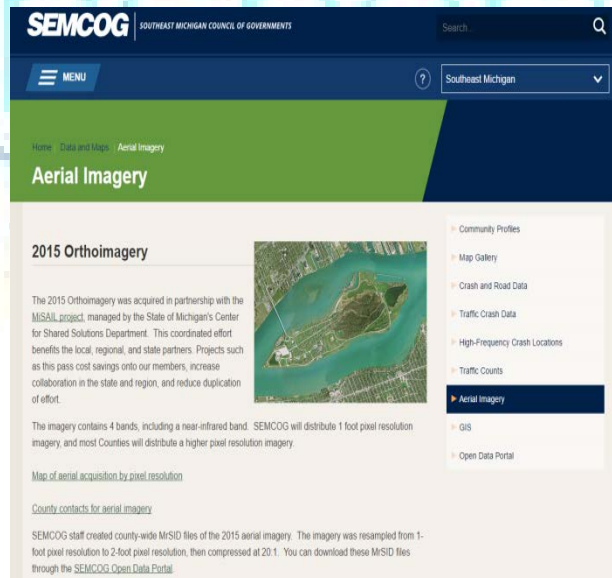
Search for open data

**Welcome to SEMCOG's Open Data**

SEMCOG supports local planning through its technical, data, and intergovernmental resources. The work SEMCOG does improves the quality of the region's water, makes the transportation system safer and more efficient, revitalizes communities, and spurs economic development.

In an effort to provide easy and efficient access to spatial data, SEMCOG has created this open data portal.

Boundaries Economy Land Data Transportation Aerial Photography



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Search

MENU

Southwest Michigan

Home Data and Maps Aerial Imagery

## Aerial Imagery

### 2015 Orthoimagery

The 2015 Orthoimagery was acquired in partnership with the MISAIL project, managed by the State of Michigan's Center for Shared Solutions Department. This coordinated effort benefits the local, regional, and state partners. Projects such as this pass cost savings onto our members, increase collaboration in the state and region, and reduce duplication of effort.

The imagery contains 4 bands, including a near-infrared band. SEMCOG will distribute 1 foot pixel resolution imagery, and most Counties will distribute a higher pixel resolution imagery.

Map of aerial acquisition by pixel resolution

County contacts for aerial imagery

SEMCOG staff created county-wide MrSID files of the 2015 aerial imagery. The imagery was resampled from 1-foot pixel resolution to 2-foot pixel resolution, then compressed at 20:1. You can download these MrSID files through the [SEMCOG Open Data Portal](#).

- Community Profiles
- Map Gallery
- Crash and Road Data
- Traffic Crash Data
- High-Frequency Crash Locations
- Traffic Counts
- Aerial Imagery**
- GIS
- Open Data Portal

Public

Useful

Accessible

Knowledge

Collaborative

# Working Together





# SEMCOG Park Inventory Application

- SEMCOG took inventory of 2,100 parks (80%), and we plan to continue this as we receive new data
- Intended to be a resource for local communities to view recreation amenities
- Bridges the gap for finding all parks in the entire SEMCOG region

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## Park Inventory

About Find Nearby Parks Select Basemap

56 parks meet these criteria

Location: Royal Oak

Find parks in a county: all counties

Or a community: Royal Oak

Park Type: Park Size

Filter Amenities by:

Trails & Fitness	Sports & Games
Water Recreation	Outdoor Recreation
Winter Recreation	Amenities & Facilities

Search filtered results

Previous 10	Next 10
BARTON PARK NORTH - CITY OF ROYAL OAK	
BARTON PARK SOUTH - CITY OF ROYAL OAK	
BASSETT PARK - CITY OF ROYAL OAK	
BEECHWOOD - CITY OF ROYAL OAK	
CLAWSON PARK - CITY OF ROYAL OAK	
CODY PARK - CITY OF ROYAL OAK	
CUMMINGSTON PARK - CITY OF ROYAL OAK	
DICKINSON PARK - CITY OF ROYAL OAK	
DONDERO PARK - CITY OF ROYAL OAK	
ELKS PARK - CITY OF ROYAL OAK	

# SEMCOG Park Inventory Application

## Code Examples

```
function showPosition(position) {  
  console.log("Latitude: " + position.coords.latitude + "Longitude: " + position.coords.longitude);  
  nearest_clause = ' ORDER BY the_geom_webmercator <-> ST_Transform(CDB_LatLng(' + position.coords.latitude + ',' + position.coords.longitude + '), 3857) LIMIT 10';  
  update()  
}
```

```
$("#parks-my-loc").on('click', function () {  
  if (navigator.geolocation) {  
    navigator.geolocation.getCurrentPosition(showPosition);  
  } else {  
    console.log("Geolocation is not supported by this browser.");  
  }  
});  
  
$("#parks-nearby-by-click").on('click', function () {  
  button_clicked = 1;  
  console.log('button_clicked ' + button_clicked);  
  crash_layer.setInteraction(false);  
  $('#map *').css('cursor', 'crosshair');  
});  
  
nativeMap.on('click', function (e) {  
  if (button_clicked === 1) {  
    button_clicked = 0;  
    $('#map *').css('cursor', '');  
    crash_layer.setInteraction(true);  
    console.log('map clicked at:' + e.latlng.lat.toString() + ', ' + e.latlng.lng.toString());  
    nearest_clause = ' ORDER BY the_geom_webmercator <-> ST_Transform(CDB_LatLng(' + e.latlng.lat + ',' + e.latlng.lng + '), 3857) LIMIT 10';  
    update()  
  }  
});
```

# Contact information

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