

A UNIFORM VISUALIZATION PLATFORM IN TRANSPORTATION PLANNING



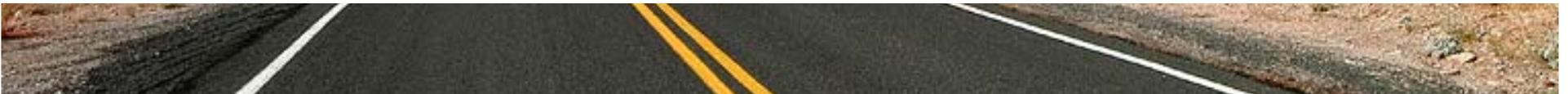
TRANSPORTATION RESEARCH BOARD
COMMITTEE ADA30 "TOOLS OF THE TRADE" CONFERENCE
TRANSPORTATION PLANNING FOR SMALL AND MEDIUM SIZED COMMUNITIES
2012 9/11 Big Sky, MT

Chin-Cheng Chen
Max Baker
Michael Skipper



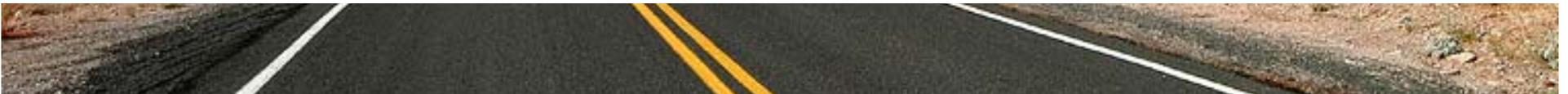
Outline

- Introduction (5 minutes)
 - Traditional Mapping
 - Grid Map
 - Range Aggregation
 - Data
- How to (10 Minutes)
 - Point, Line, and Polygon with examples
- Applications and Q&A



Indicator Report

The Nashville Area MPO's *Regional Indicators Report* provides a wide range of information about growth-related characteristics and trends for a 10-county greater-Nashville area.

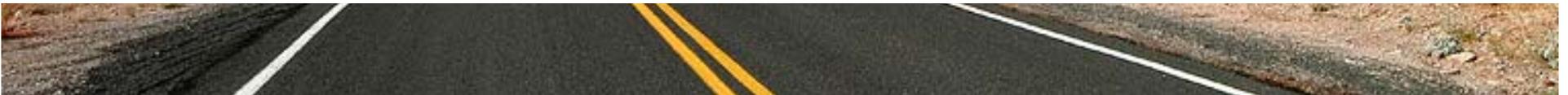


Grid Map

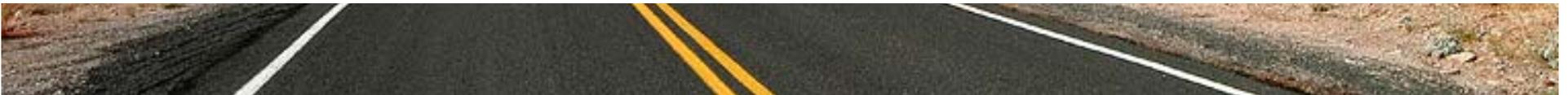
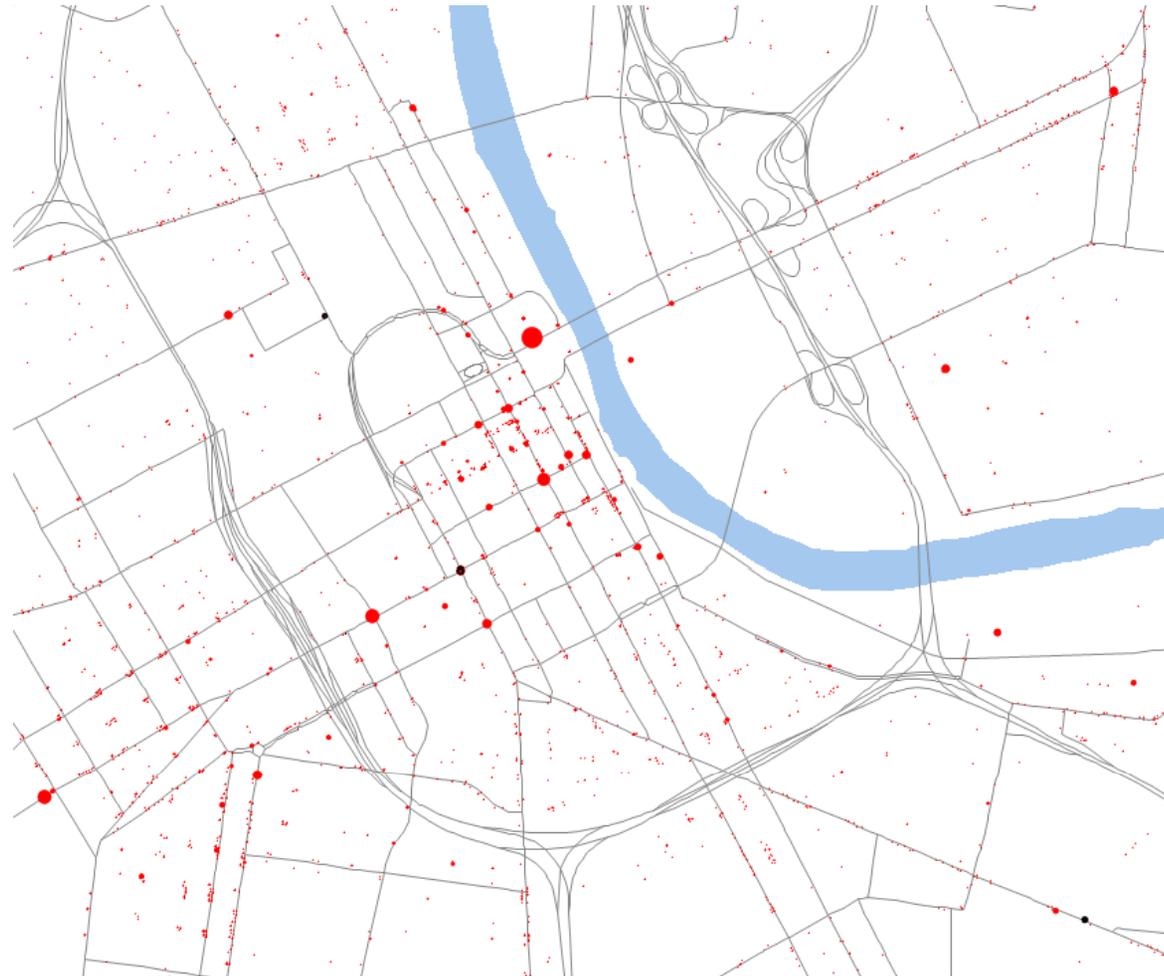
- Can be used in Transportation, Land Use, and Socioeconomic Analyses
- Solution for Modifiable Areal Unit Problem (MAUP)
- Uniform Visualization Technique
- Easy database management



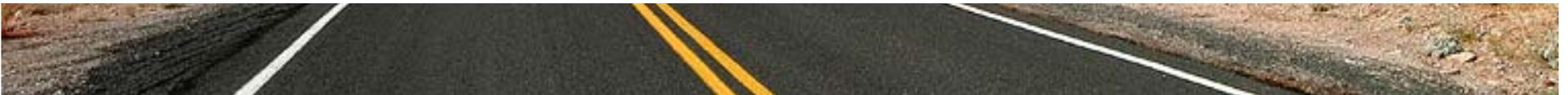
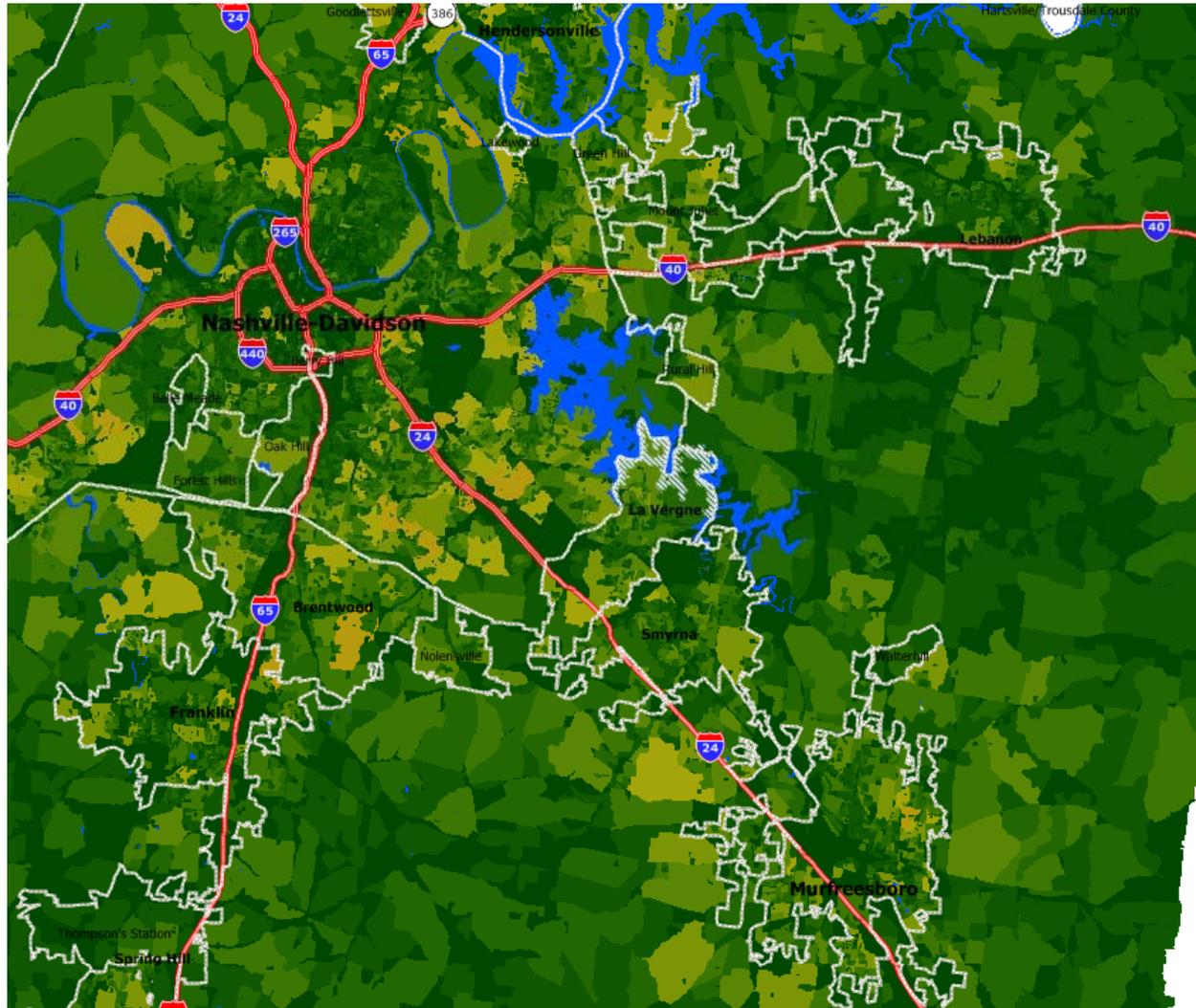
Traditional Mapping- (Accident Points)



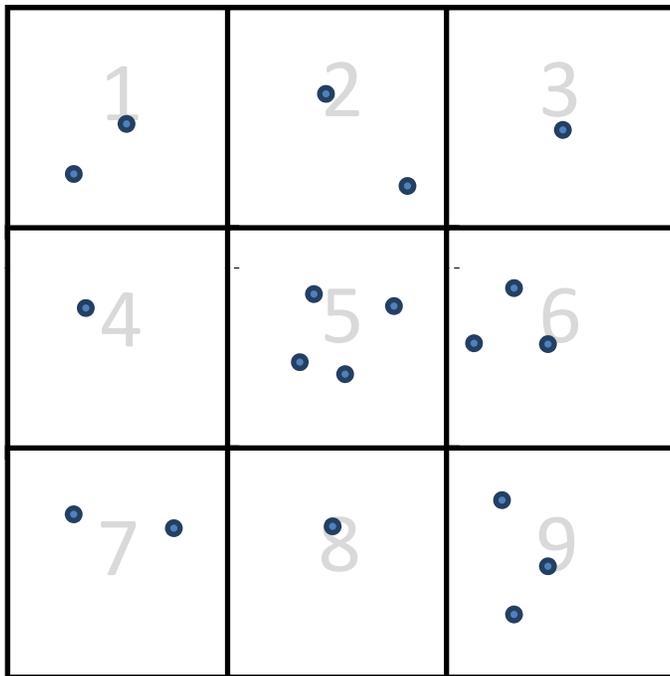
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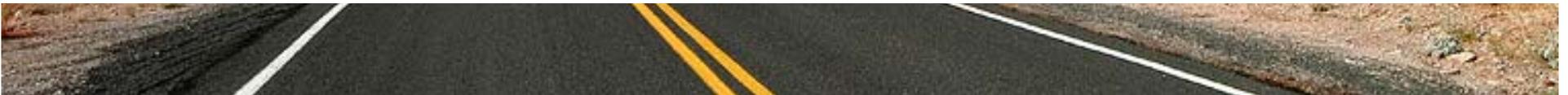
Traditional Mapping- Block Pop



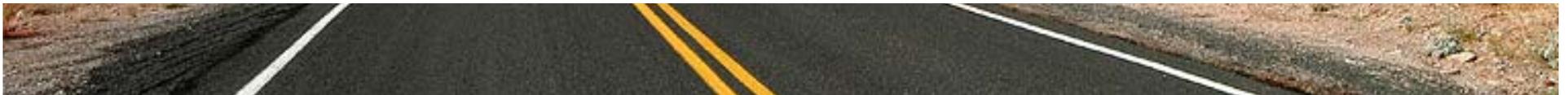
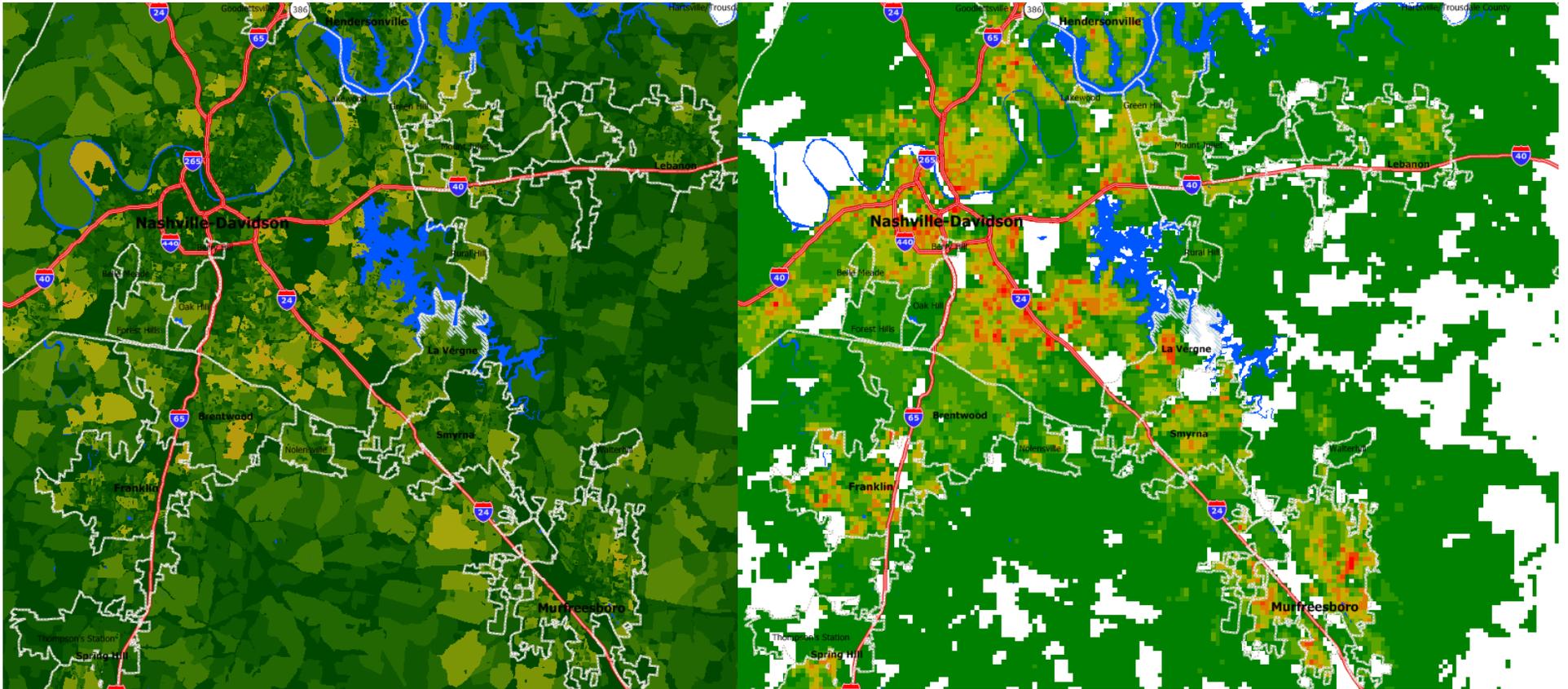
Aggregating the Information



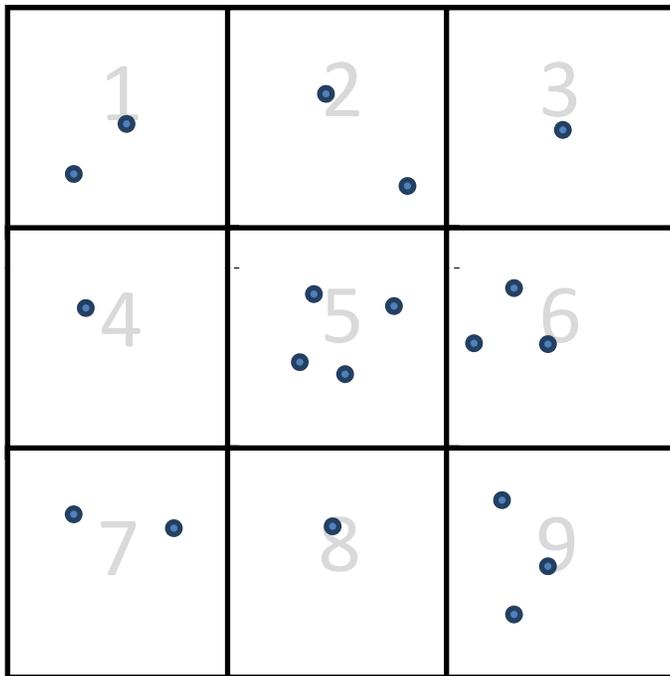
Grid Level Aggregation



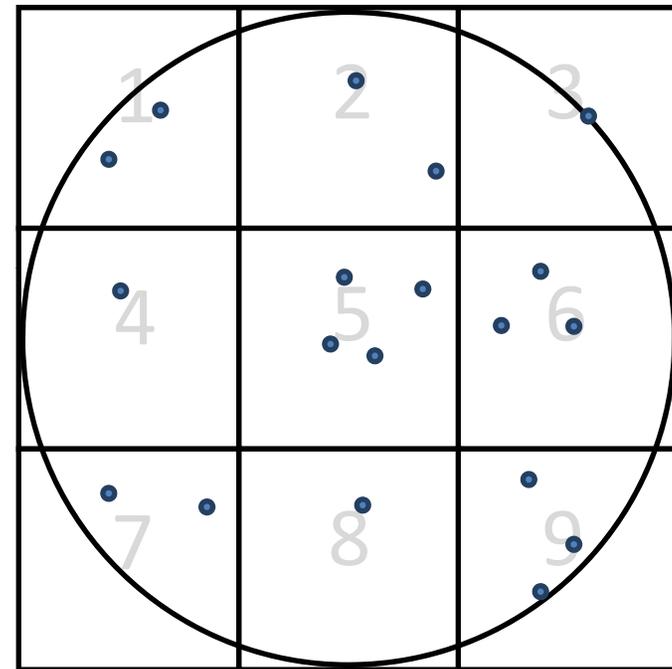
Polygon Grid (0.25)



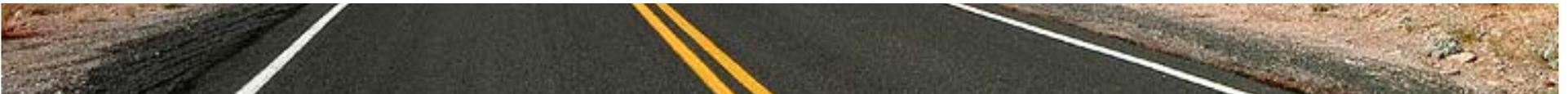
Range Aggregation



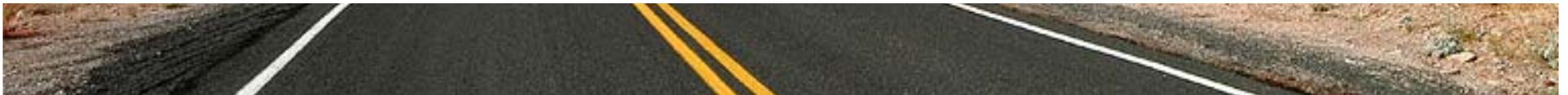
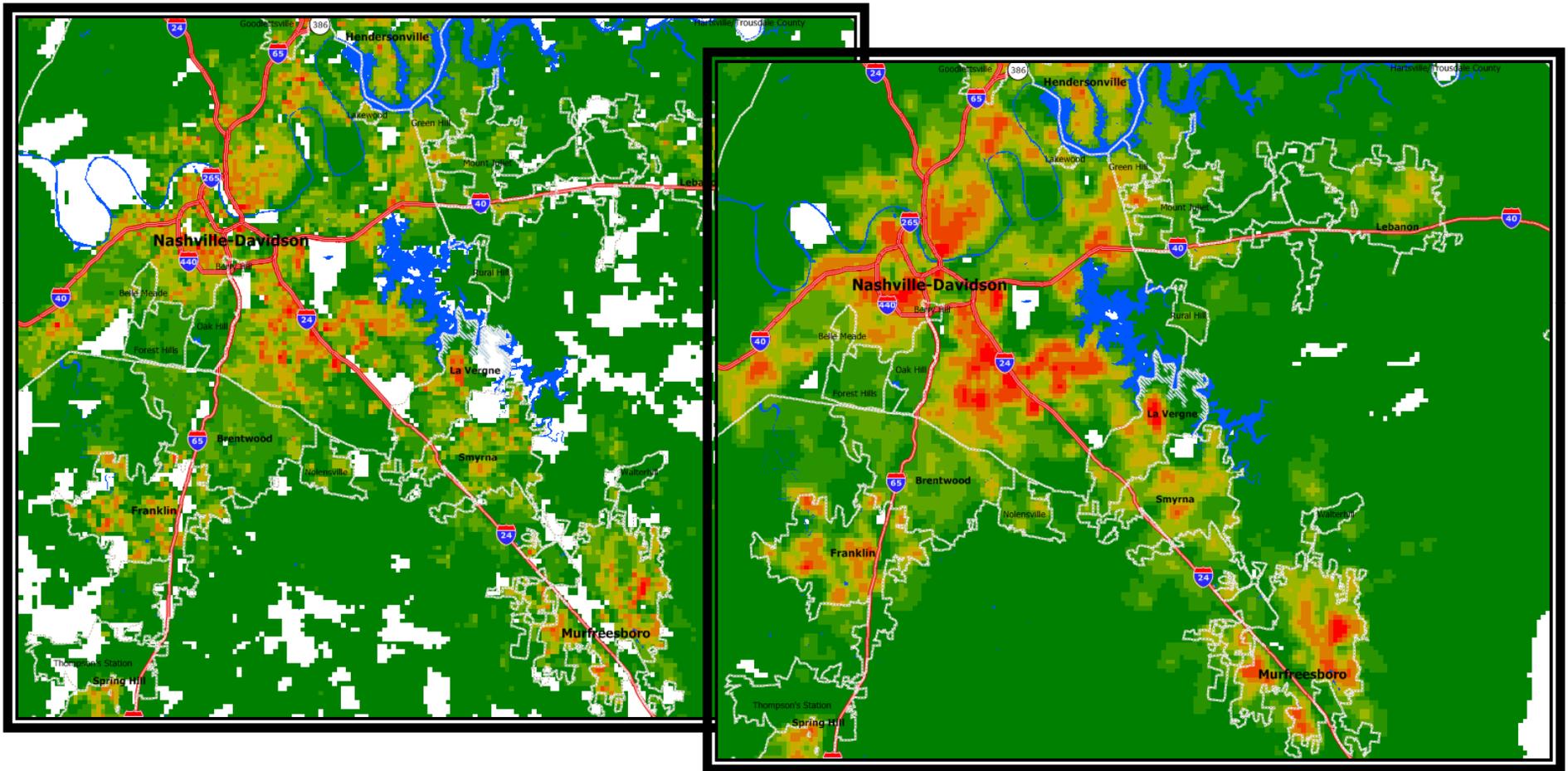
Grid Level Aggregation



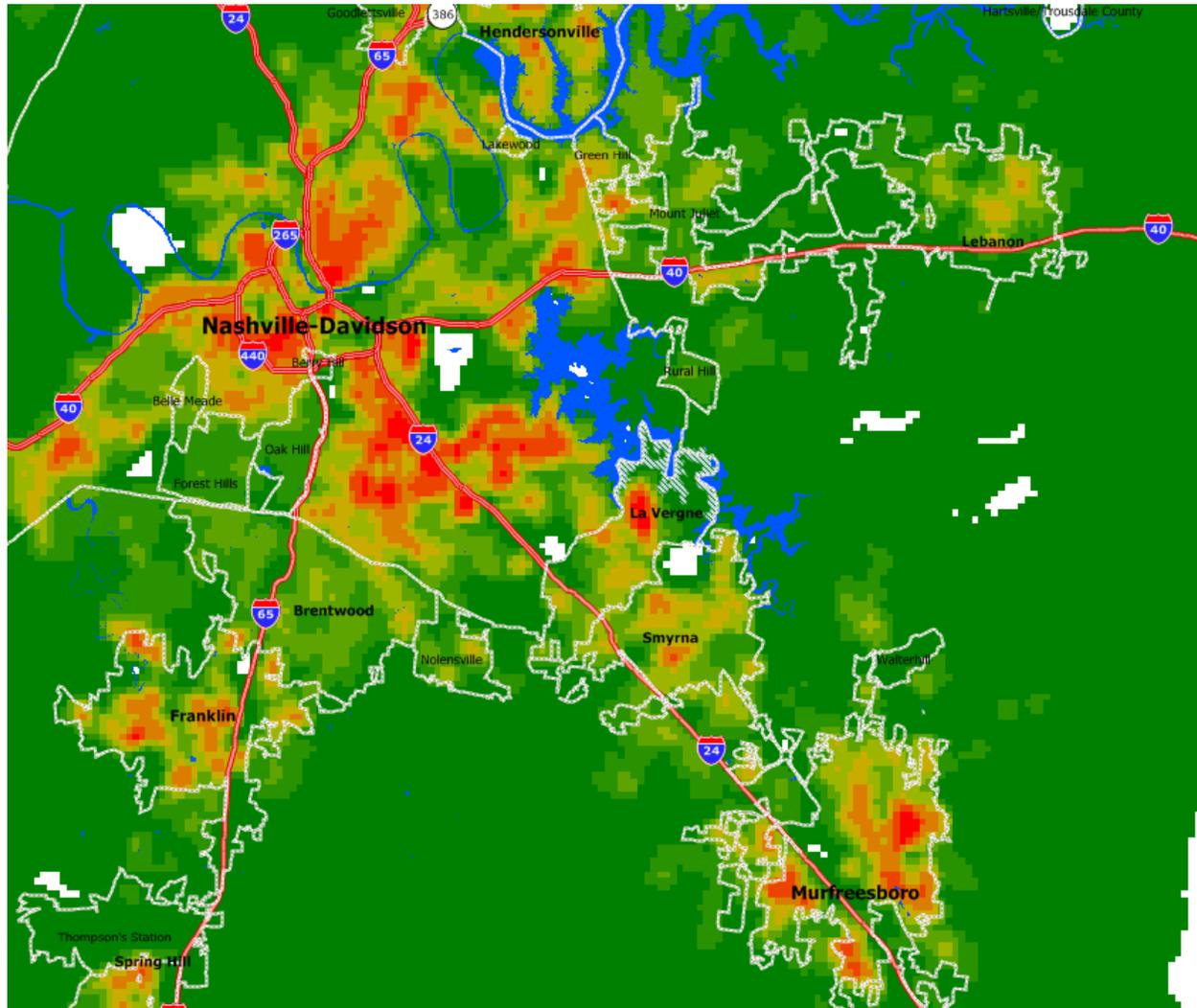
Range Aggregation



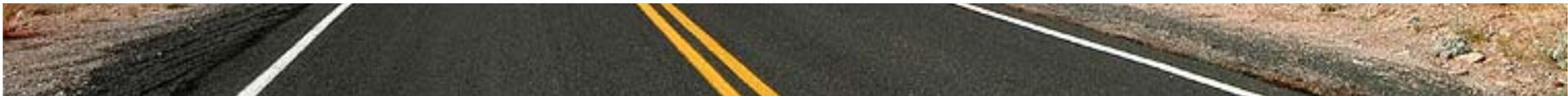
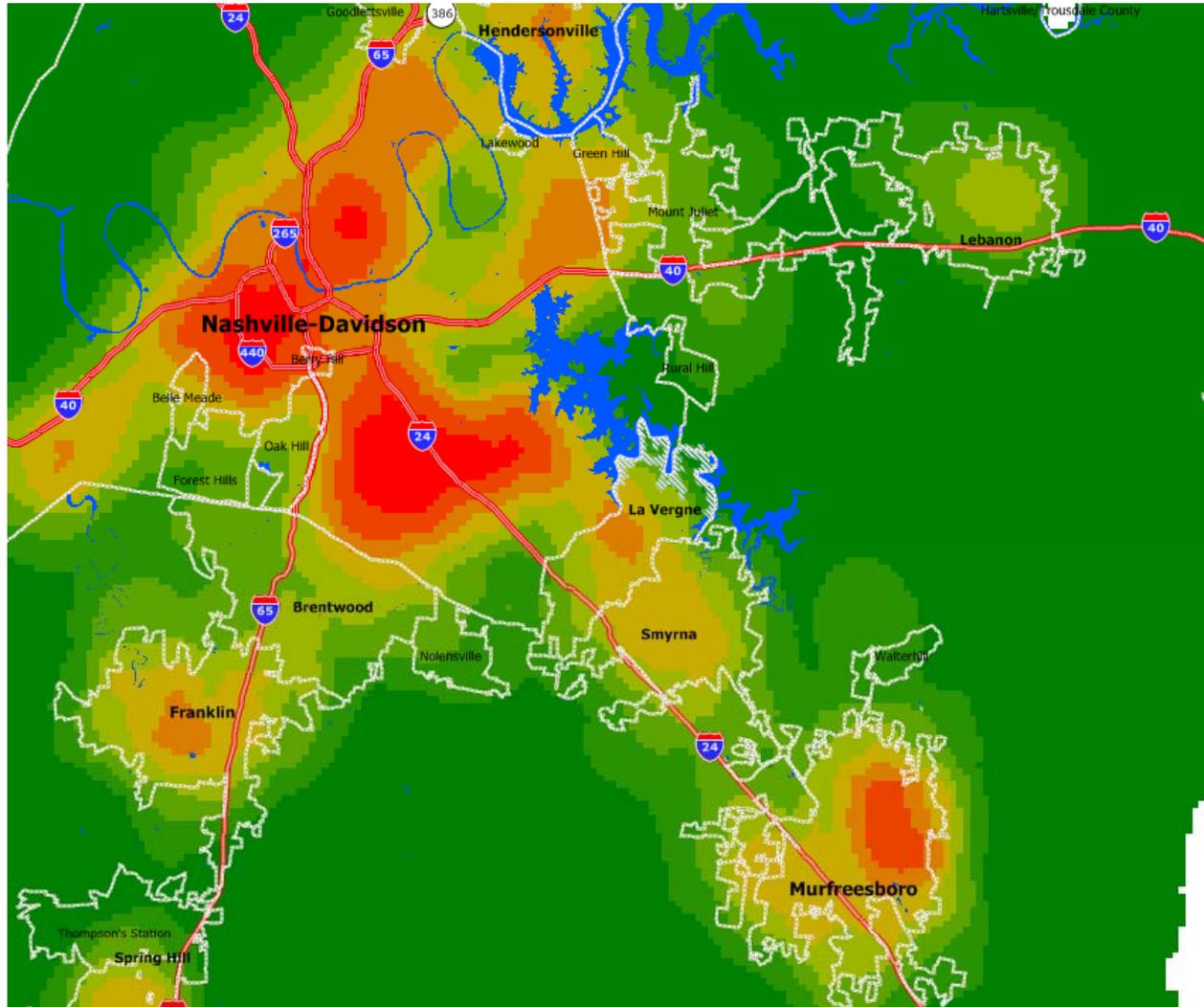
Range Aggregation(0.5)



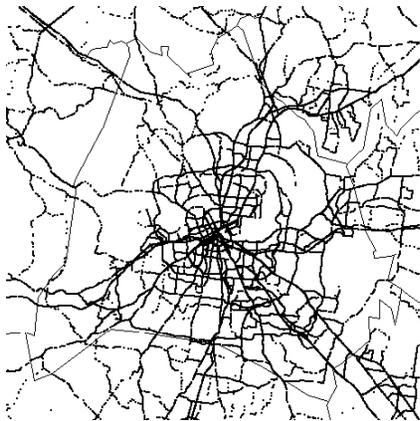
Community Level(0.5)



Regional Level(2)



Grid Map Examples – Accidents and VMT



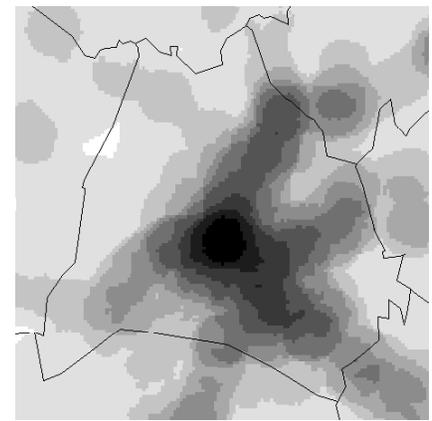
Raw Data



Grid Level



0.5 Mile Radius



2 Mile Radius



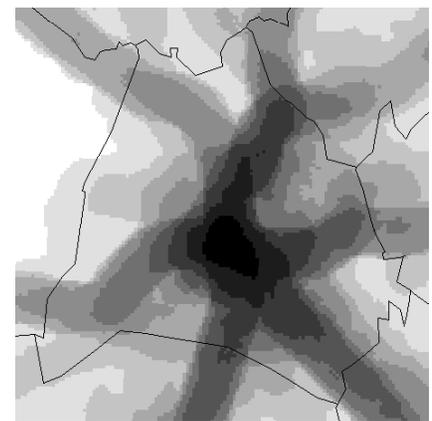
Raw Data



Grid Level



0.5 Mile Radius

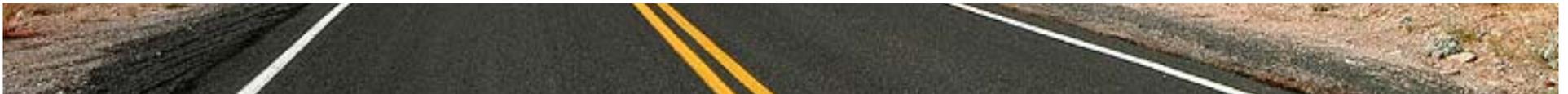


2 Mile Radius

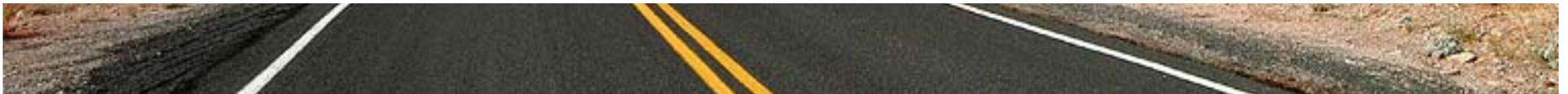


Data

Name	Category	Data Source	Weight	Float	Description
TotLandVal	Land-Use	Parcel Data		Sum	Total Land Value within the grid in 1,000
TotImpVal	Land-Use	Parcel Data		Sum	Total Improvement Value within the grid in 1,000
TotTotVal	Land-Use	Parcel Data		Sum	Total of the Total Value within the grid in 1,000
LandValAcre	Land-Use	Parcel Data	ActualAcre	Average	Land Value per acre in 1,000
ImpValAcre	Land-Use	Parcel Data	ActualAcre	Average	Improvement Value per acre in 1,000
TotValAcre	Land-Use	Parcel Data	ActualAcre	Average	Total Value per acre
ActualAcre	Land-Use	Parcel Data			Sum of non-Parcel Area

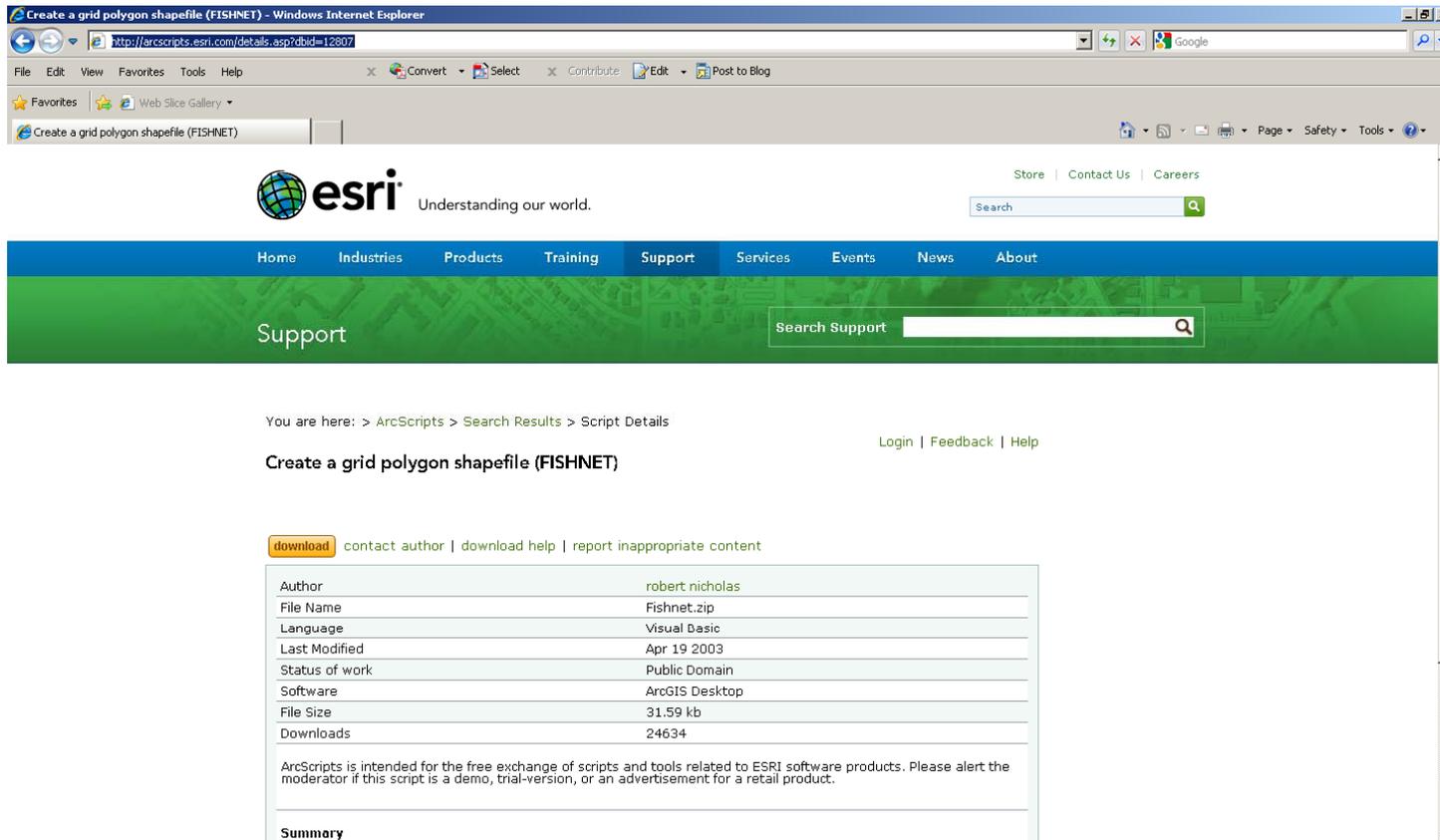


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- **How to (10 Minutes)**
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Examples – How to

FISHNET: <http://arcscripts.esri.com/details.asp?dbid=12807>



The screenshot shows a Windows Internet Explorer browser window displaying the ArcScripts website. The page title is "Create a grid polygon shapefile (FISHNET) - Windows Internet Explorer". The address bar shows the URL: <http://arcscripts.esri.com/details.asp?dbid=12807>. The website header includes the ESRI logo and the tagline "Understanding our world." with navigation links for Store, Contact Us, and Careers. A search bar is also present. The main navigation menu includes Home, Industries, Products, Training, Support, Services, Events, News, and About. The current page is titled "Support" and features a "Search Support" bar. Below the navigation, the breadcrumb trail reads "You are here: > ArcScripts > Search Results > Script Details". The script title is "Create a grid polygon shapefile (FISHNET)" with links for "Login | Feedback | Help". A "download" button is visible, along with links for "contact author | download help | report inappropriate content". A table provides details about the script:

Author	robert.nicholas
File Name	Fishnet.zip
Language	Visual Basic
Last Modified	Apr 19 2003
Status of work	Public Domain
Software	ArcGIS Desktop
File Size	31.59 kb
Downloads	24634

Below the table, a disclaimer states: "ArcScripts is intended for the free exchange of scripts and tools related to ESRI software products. Please alert the moderator if this script is a demo, trial-version, or an advertisement for a retail product." A "Summary" section is also present.



Examples – How to

XToolsPro: <http://www.xtoolspro.com/>

XToolsPro

ABOUT TOOLS DOWNLOAD PURCHASE FAQ FEEDBACK FORUM

More than 60 tools and functions for vector spatial analysis, shape conversion and table management.

This swiss knife for your ArcGIS does all sorts of things!

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14 DAYS TRIAL PERIOD

XToolsPro - Extension for ArcGIS

XTools Pro is a comprehensive set of useful vector spatial analysis, shape conversion, and table management tools for ArcGIS that greatly enhances ArcGIS functionality and allows ArcGIS users to get to a new level of efficiency and performance.

XTools Pro 9.0 includes more than 60 tools for vector spatial analysis, shape conversion, and table management and 40 geoprocessing tools. The most essential functions are collected in a single toolbar for ArcGIS users. New useful tools help save your time and open up unique opportunities for working with geographical data.

Latest version - XTools Pro 9.0

Attribute Table Views
- new XTools Pro Attribute Table Views have been developed

Definition Query Manager
- a new tool for adding and managing multiple definition queries has been added

Find Associated Documents and Datasets
- a new tool allowing to find all documents (mxd, mxt, sxd, sxt, lyr, pmf, 3dd) associated with the selected dataset(s) and all datasets used in the selected document has been developed

Extract Raster Zonal Statistics
- a new tool (and corresponding geoprocessing tool) for extracting zonal statistics from raster datasets has been

Other Data East products

CarryMap - an intelligent way to share your ArcGIS maps with non-ArcGIS users.

TAB Reader - convert MapInfo TAB files into any ArcGIS supported format.

Well Tracking - effective management and visualization of 3D spatial well drilling data on a corporate level.

NOTE

Earlier versions license keys are not valid for XTools Pro 9.x

ArcGIS compatibility

XTools Pro 9.0 is compatible with ArcGIS 9.2, 9.3, 9.3.1, 10 and 10.1 versions. Please consider earlier XTools Pro versions for using with the older ArcGIS 9.1/9.0 and ArcGIS 8.x versions.

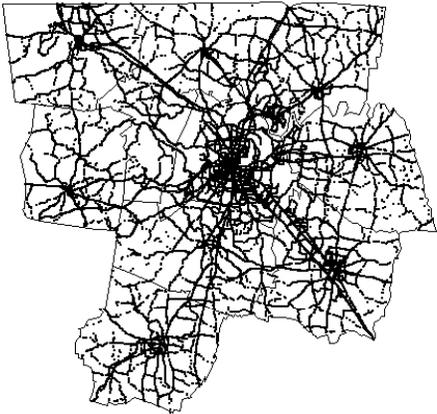
Flash exercise book

Support

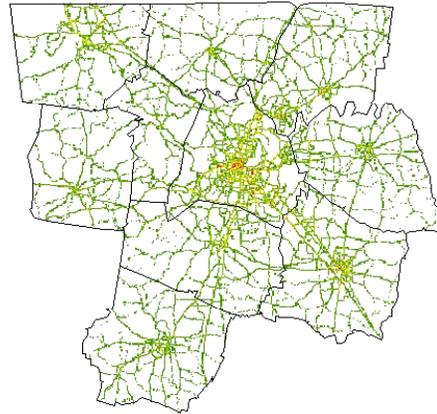
Technical support:
xtoolspro@dataeast.com



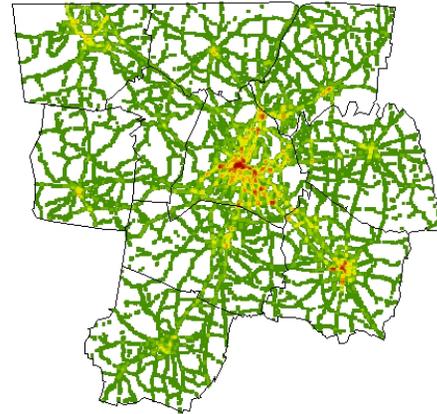
Points – Traffic Accidents



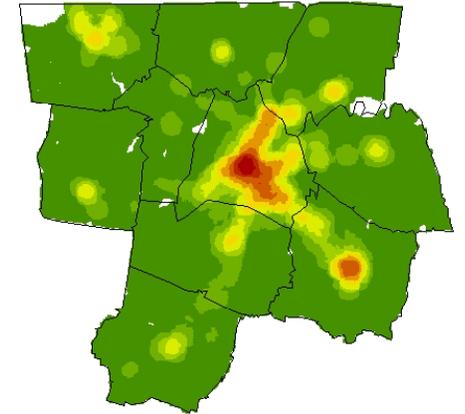
Raw Data



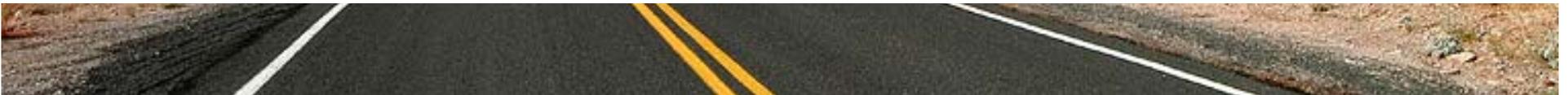
Grid Level



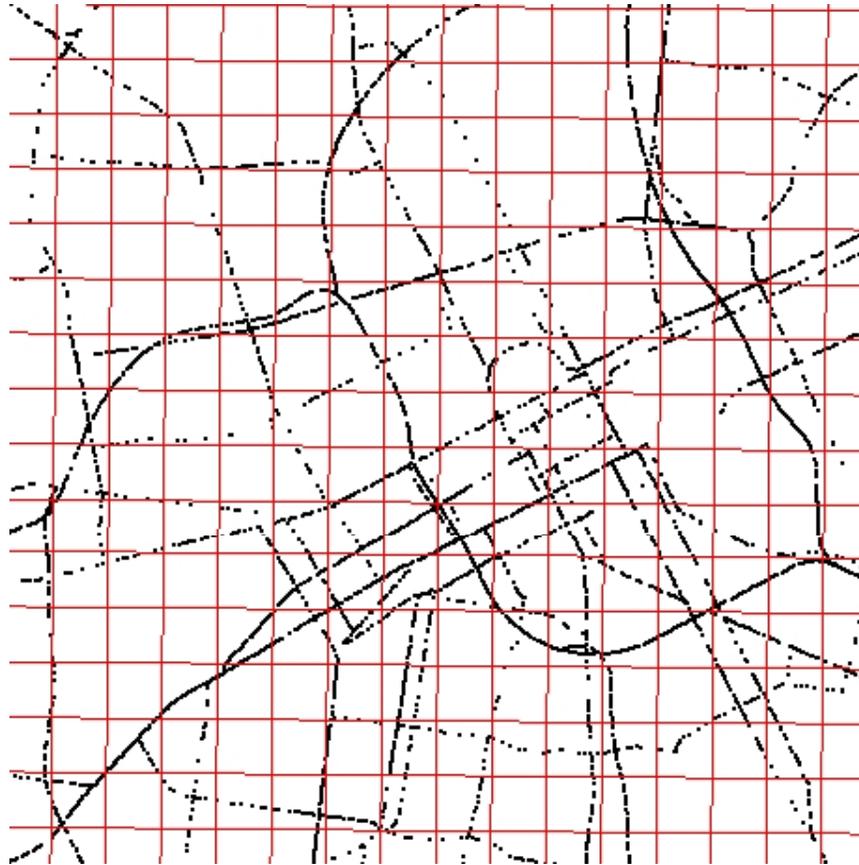
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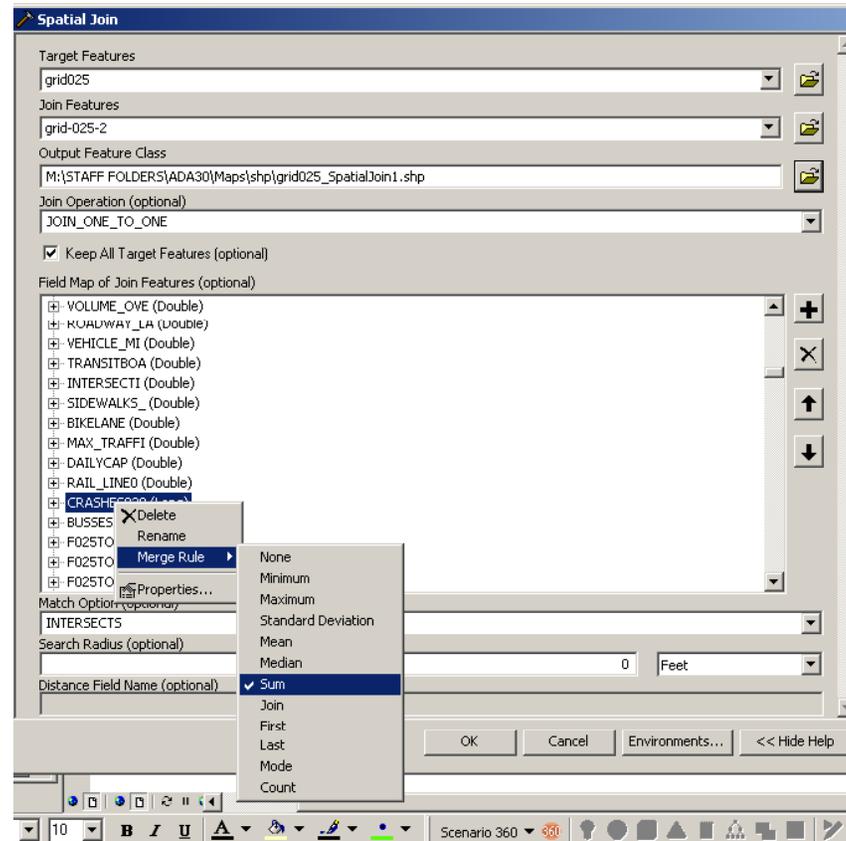
Points – Traffic Accidents



Raw Data



Points – Traffic Accidents



Spatial Join

