Building a GIS from the Beginning: Part 4: Simple Analytics and Outputs

Mike Siedschlag

GIS Technician II

Great River Energy

MID - WEST
EUUG
ESRI Utility Users Group

# Simple Analytics and Outputs Presentation Agenda

- Simple Analytics
  - Select by Attributes/Location
  - Calculate Mileage and Downstream Trace (w/ Geometric Network)

- Outputs
  - Building a Map Layout
  - Single Maps and Mapbooks
  - Exports
  - Reports
  - Web Services
  - KML (Google Earth)

MID - WEST
EUUG
ESRI Utility Users Group

Simple Analytics
Select by Attributes

- A selection method where one uses attributes contained in your GIS feature
  - SQL query expression
- This can be done in both the default map view and feature attribute table
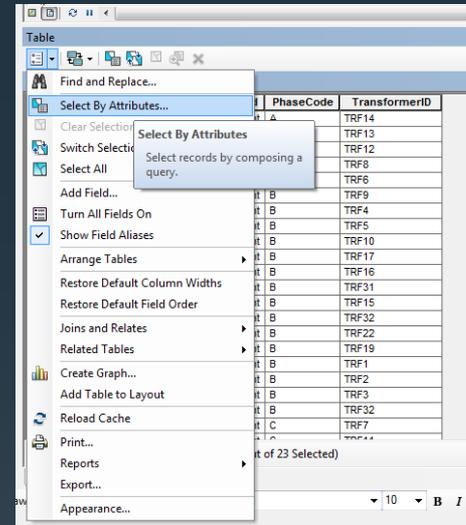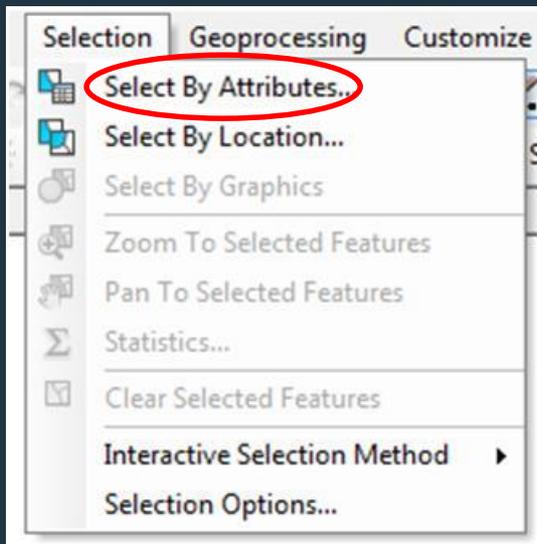
Simple Analytics
Select by Attributes

- Select layer

- Select field

- Select operator
  - Equals, greater/less than, And/Or/Not, etc.

- Unique values
  - can help build query

- Verify query

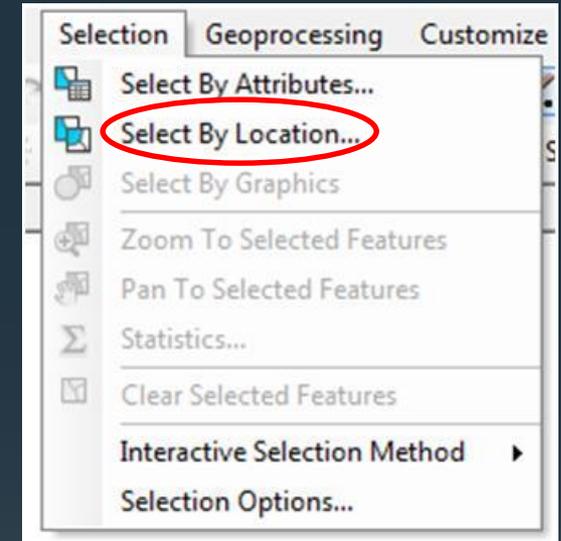# Simple Analytics
Select by Attributes

- Select by Attributes examples:
  - Select devices based on phase
  - Select poles based on height
  - OH/UG primary lines based on:
    - Phase
    - Conductor type
    - Has conduit
  - Select devices based on substation or circuit
  - Basically query anything based off attribute information contained in your features

MID - WEST
EUUG
ESRI Utility Users Group

Simple Analytics
Select by Location

- A selection method where one selects features based on their location relative to features in another layer
  - Many spatial relationship rules to use for your selection
    - Intersect
    - Are within a distance of
    - Are within
    - Are completely within
    - Contain
    - Completely contain
    - Have their centroid in
    - Share a line segment with
    - Touch the boundary of
    - Are identical to
    - Are crossed by the outline of

Simple Analytics
Select by Location

- Select by Location examples:
  - Number of consumers in a township/county/map grid/etc.
  - Searching for duplicate features
    - Ex. Two pole features from two sources
      - Apply search distance to see where duplicates are located
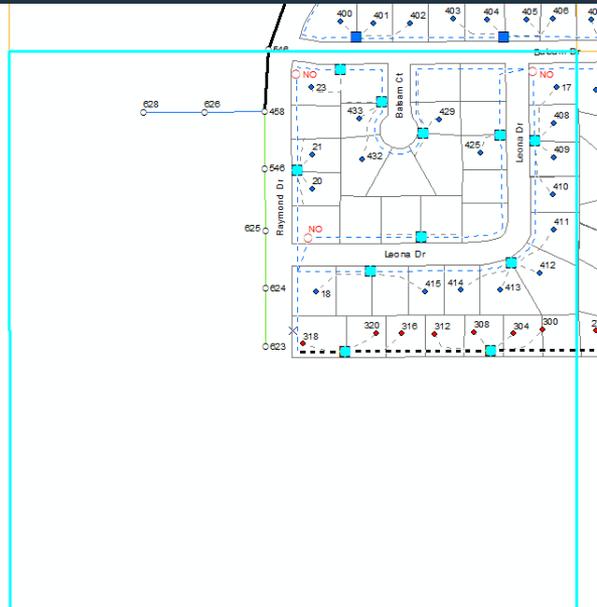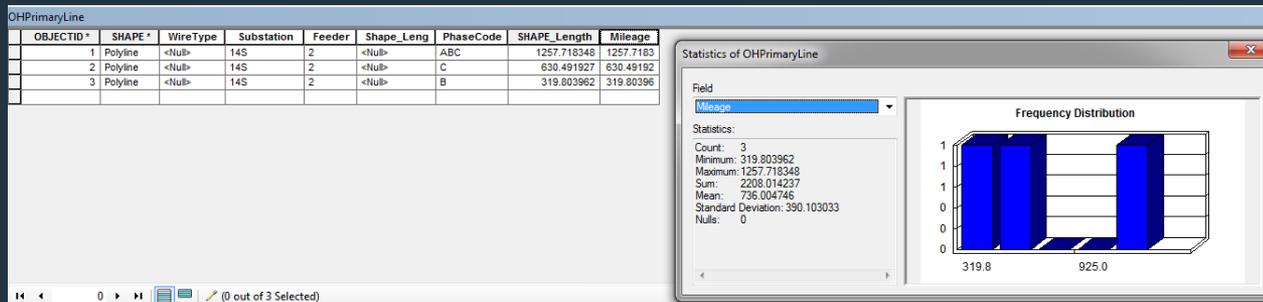
Simple Analytics
Calculate Mileage

- Ability to calculate mileages of line features
  - Overhead
  - Underground
  - Service Wire
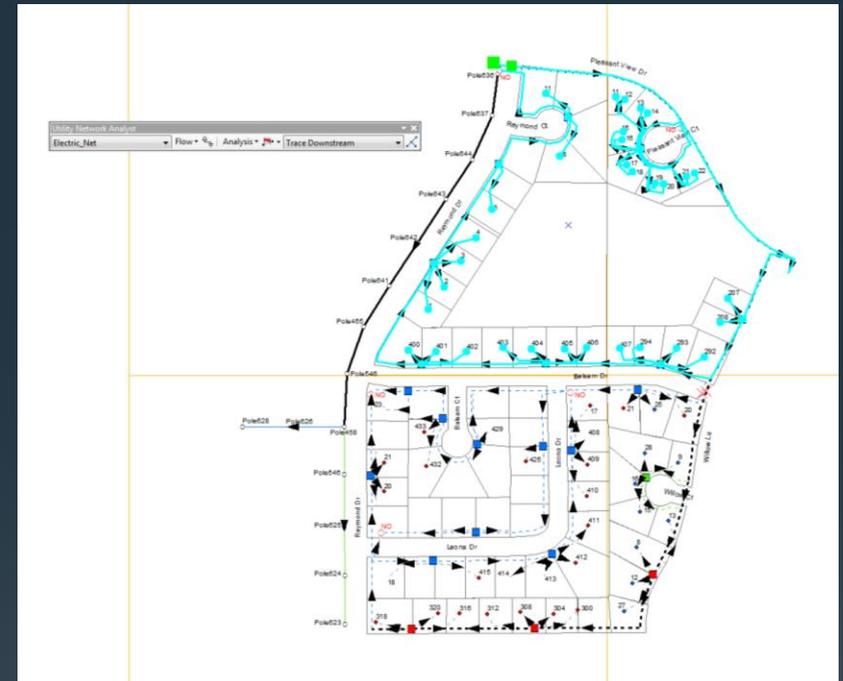- Distances summarized off of 'Mileage' field created within feature

Simple Analytics
Downstream Trace

- Electric data in a Geometric Network can be analyzed
  - Perform a downstream trace to:
    - Select a number of devices attached
    - Calculate mileage
    - Find the number of customers

Outputs
Building a Map Layout

- When building a layout consider:
  - Page size
  - Reference scale
  - Title
  - Legend
  - Additional map text
    - Disclaimer
    - Document path info

MID - WEST
EUUG
ESRI Utility Users Group

Outputs
Building a Map Layout

- Layout Toolbar
  - Page zoom in/out
  - Pan page, Zoom whole page, Zoom 1:1
  - Fix zoom in/out
  - Previous zoom, Zoom percent
  - Data driven pages toolbar

Outputs
Building a Map Layout

- ## Draw Toolbar
  - – Create simple shapes
    - • Ex. Outline boxes
  - – Text
    - • Map title
    - • Supplemental text

- ## Insert Menu
  - – North Arrow
  - – Scale Bar/Text
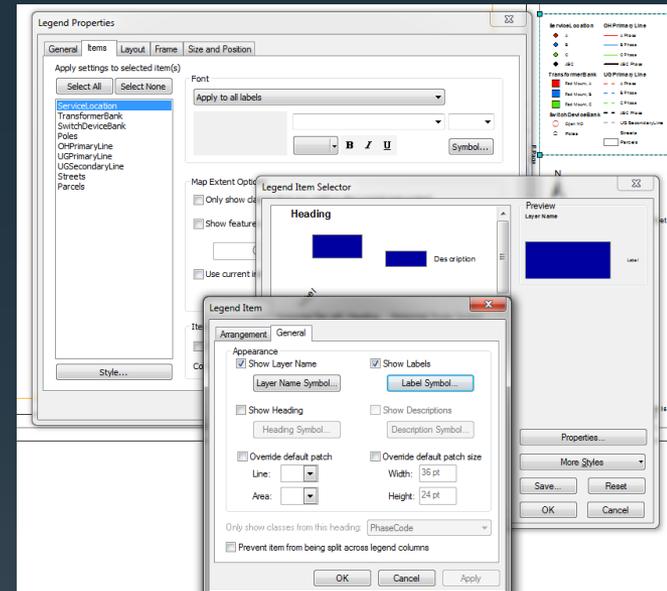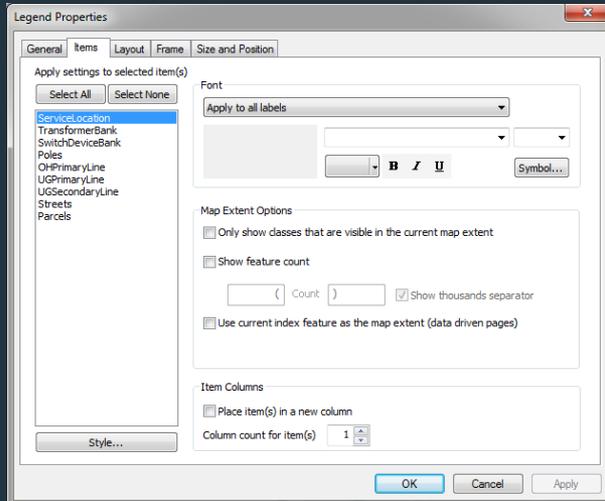 - – Picture
  - – Another Data Frame (map within a map)
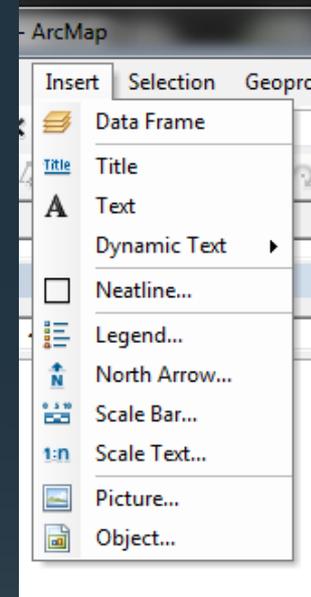
Outputs
Building a Map Layout

- Legend
  - Insert Menu – Legend – Legend Wizard
  - Choose which features participate in legend
  - After initial creation, best to go back to the properties of the legend and features in the legend to fix feature labels
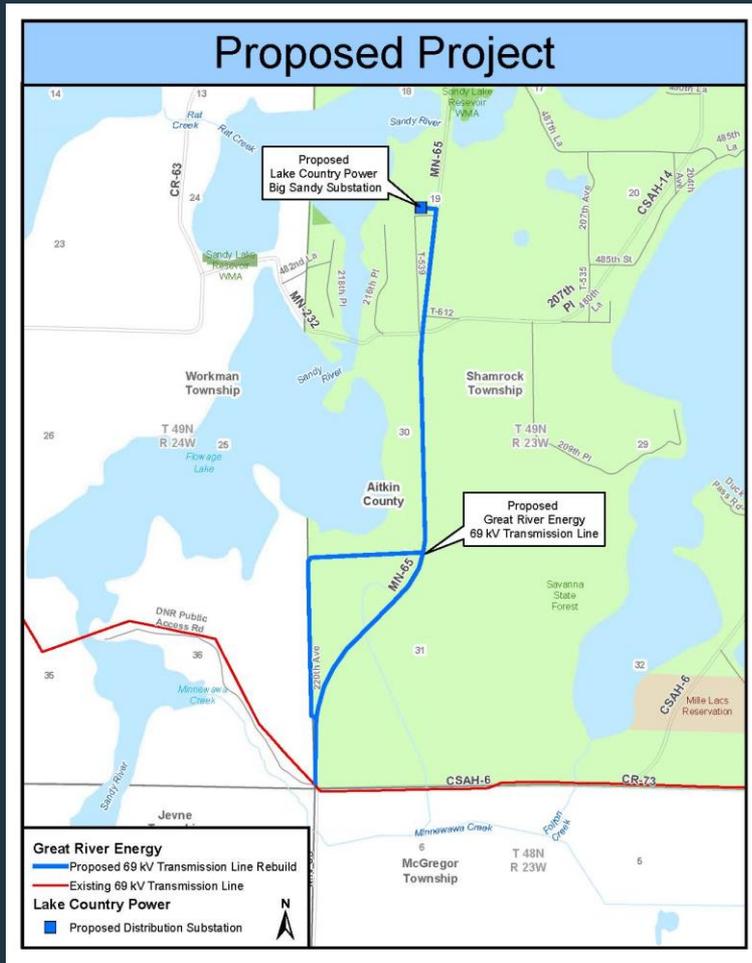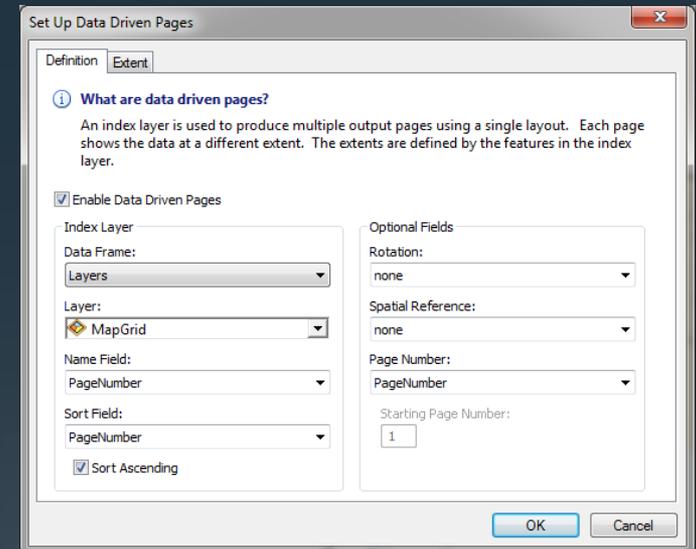
- Consider the message of the map
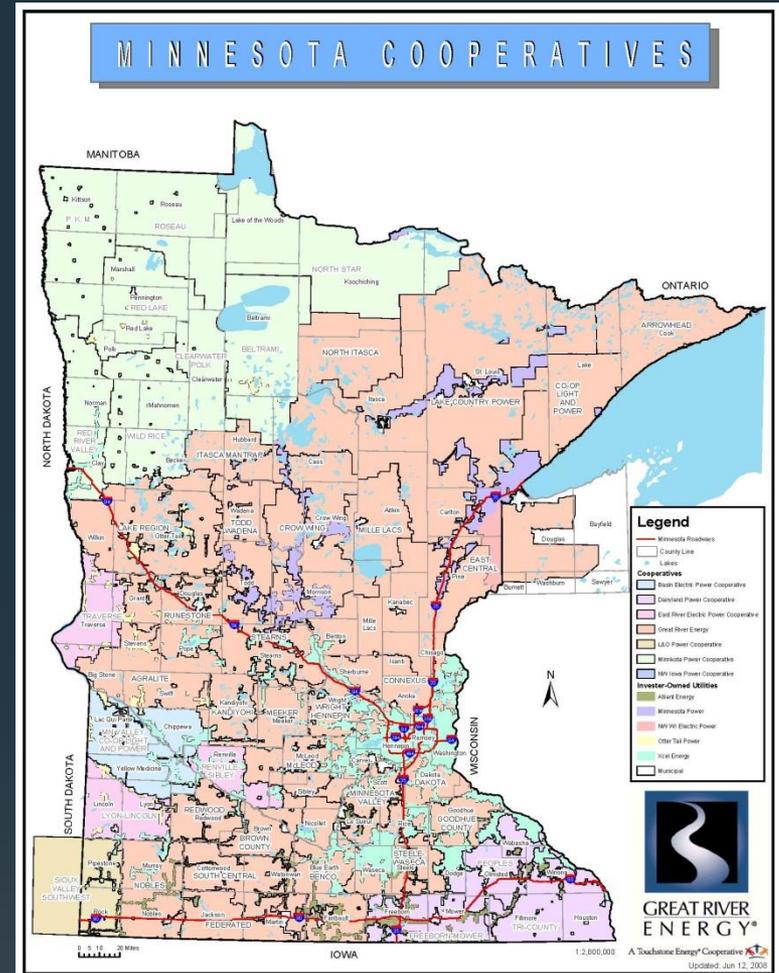
Outputs
Mapbooks

- Utilize a Map Grid feature and the Data Driven Pages toolbar to create a map book

- Map Grid feature:
  - Helpful attributes: Page #, adjacent page #'s, scale, document path

- Data Driven Pages toolbar:
  - Define:
    - Layer, Name, Sort, Extent - Scale

Outputs
Exports

- Ability to export data from your maps/database to give to others
  - Shapefiles
  - Attribute Tables
  - Database Features

Outputs
Reports

- Simple reports can be generated from your map document
  - View menu – Reports – Create Report
  - Select Layer/Table for report
  - Choose your fields
  - Select grouping/sorting

Outputs
Web Services
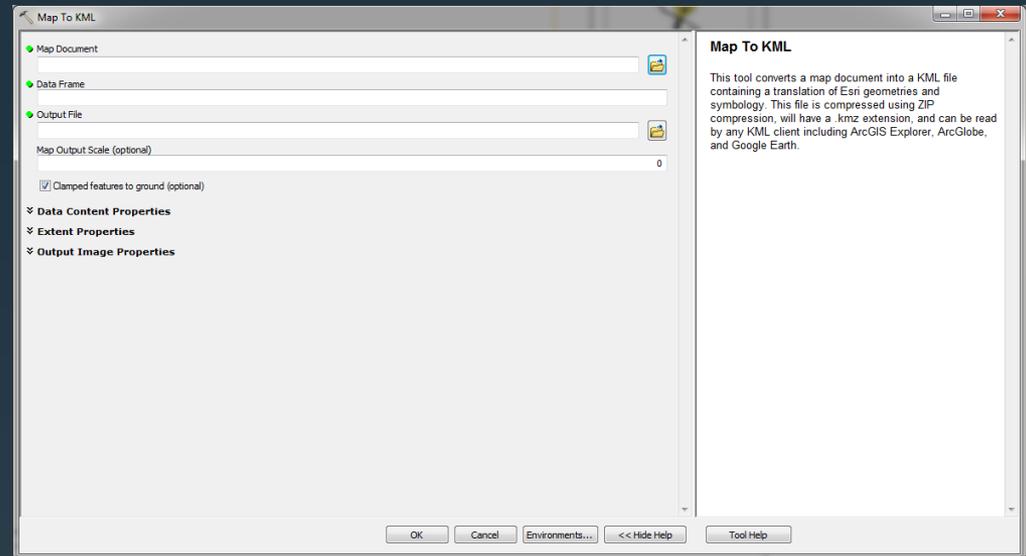
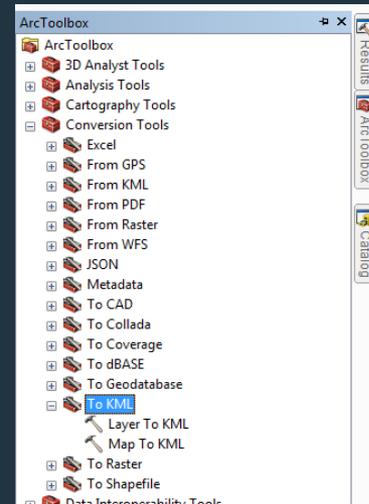- The creation of web services allows for your data to be utilized on ArcGIS Online and seen over web maps and apps

MID - WEST
EUUG
ESRI Utility Users Group

Outputs
KML

- If you want to export a particular feature, or all feature in an mxd, you can use ArcToolbox to export a KML that can be utilized in Google Earth and other applications.

Questions?

Mike Siedschlag

Great River Energy

(763)445-6028

msiedschlag@grenergy.com

MID - WEST

EUUG

ESRI Utility Users Group