

Federal GIS Conference 2014

February 10–11, 2014 | Washington DC

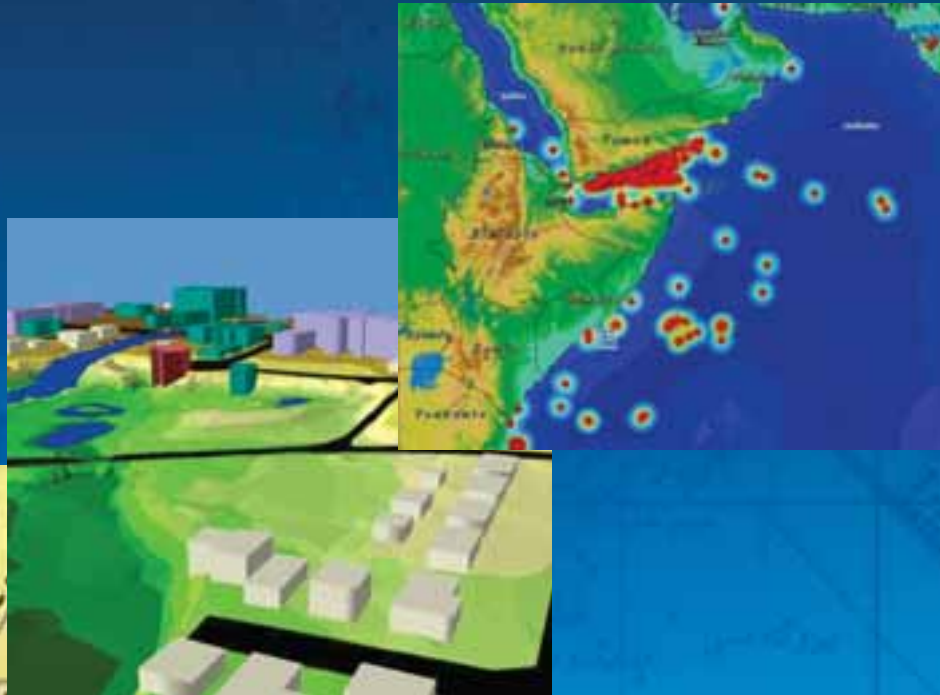


Thinking Spatially with GIS

Suzanne Foss, Esri

We Solve Geographic Problems

- Where am I?
- Where are they?
- Where will they be?



- How do they get there?
- Where else could they go?

Geographic
Approach

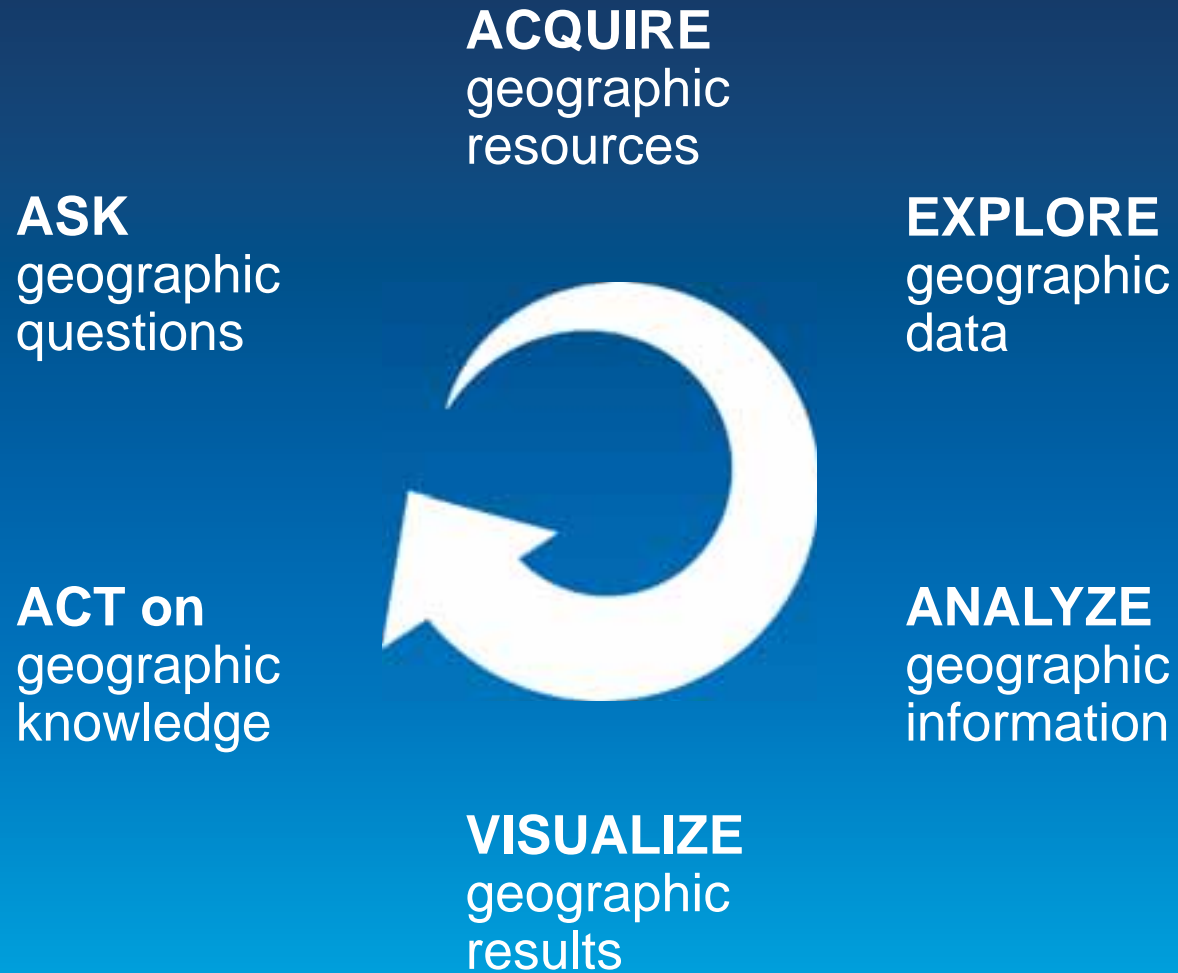
+

Spatial
Thinking



**Geographic
Advantage**

The Geographic Approach



Learning to Think Spatially

How do we learn geography as a child?

3. Patterns



2. Navigation

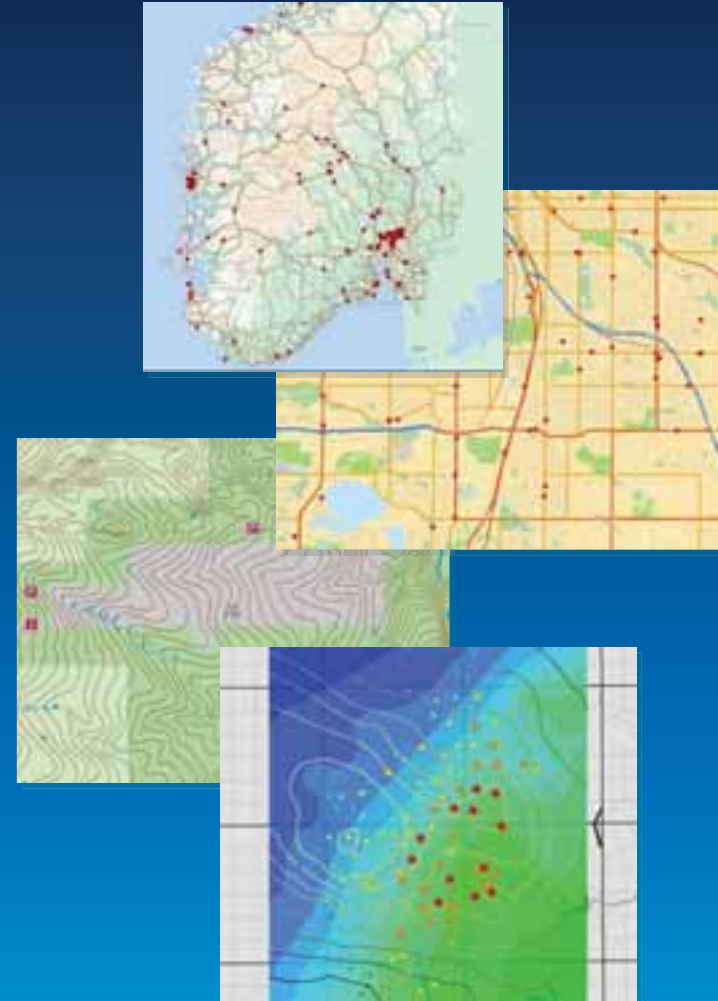


1. Place



Can You Think Spatially?

- Pattern Recognition
- Proximity and Spatial Distances
- Space and Time
- Navigation
- Overlays
- Workflows & Modeling
- 3D (multi-dimensions)
- Connectivity and Interaction
- Uncertainty and Sensitivity

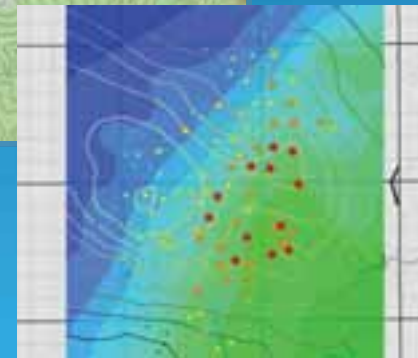


Explore your abilities. . .

Explore Your Abilities...

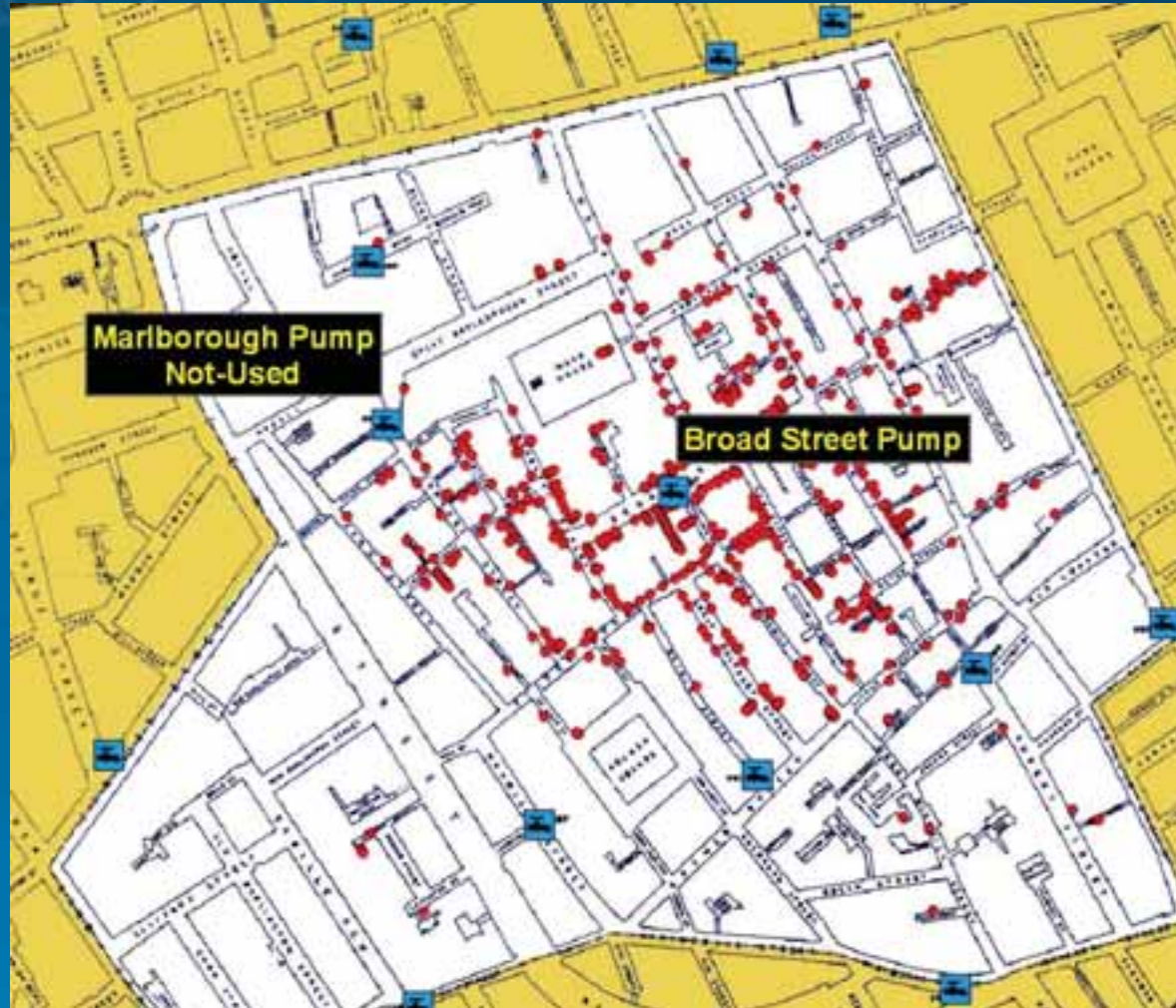
Rules

- What do you see?
- What questions or analyses would you perform?



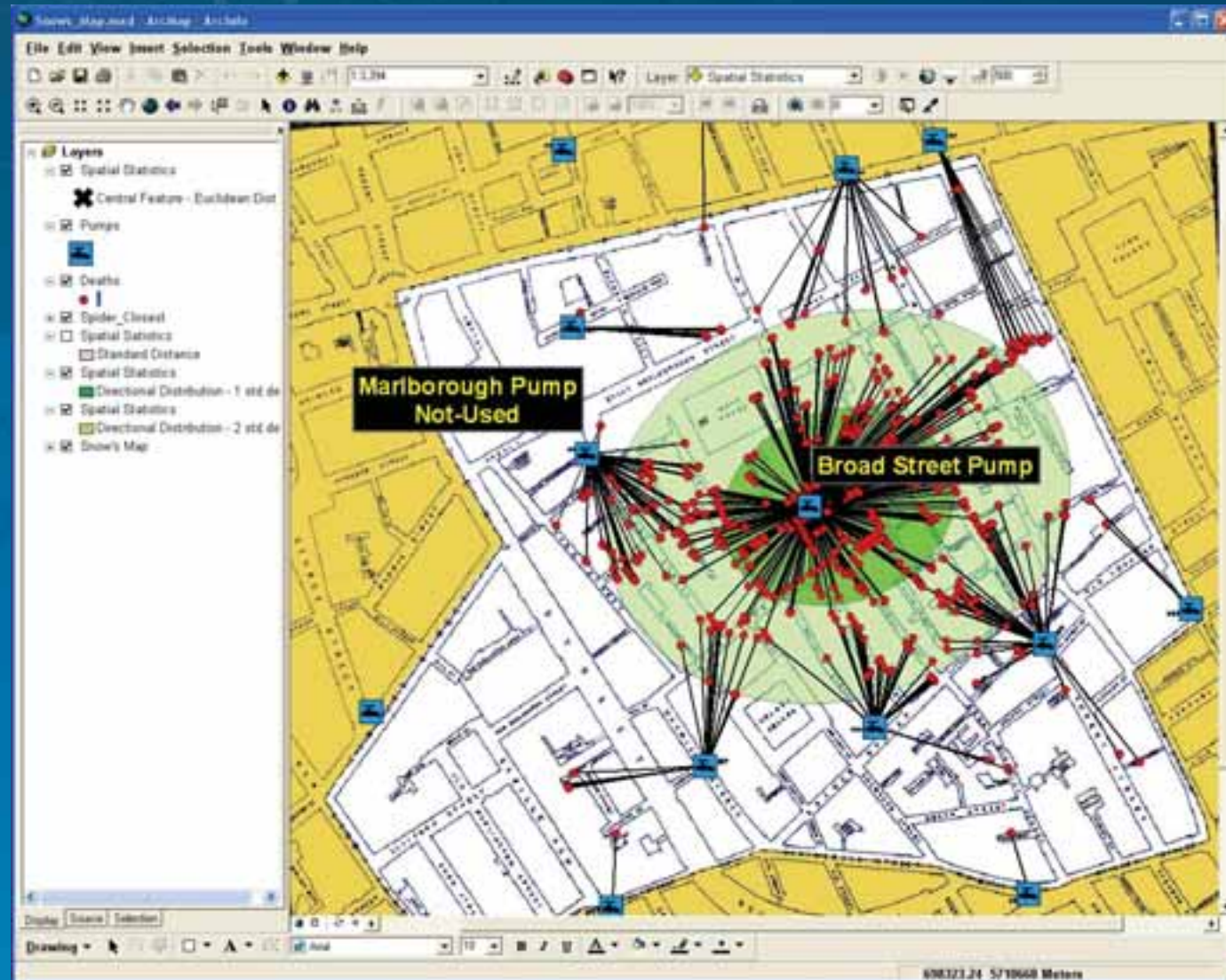
1854 London – Cholera

Dr. John Snow



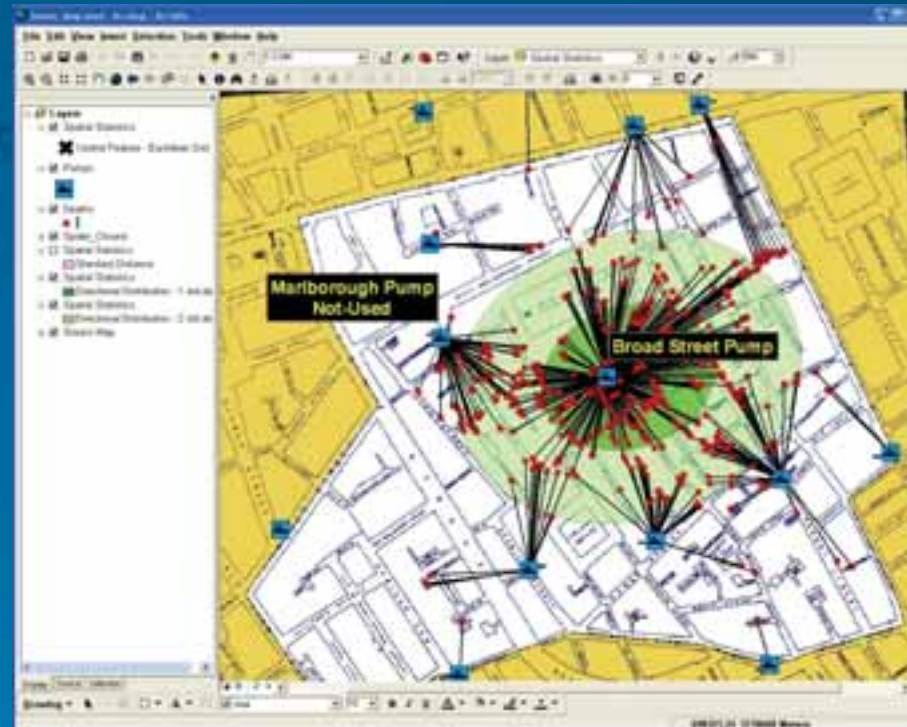
1854 London – Cholera

Dr. John Snow



Summary: Can You Think Spatially?

- Pattern Recognition
- Proximity and Spatial Distances



Norway March 30, 2008

The Pocket Man



The screenshot shows a Microsoft Internet Explorer browser window displaying the Aftenposten website. The browser's address bar shows the URL: <http://www.aftenposten.no/english/News/Warticle2191000.asp>. The website's main header features the title "Aftenposten" and the subtitle "NEWS FROM NORWAY". The date and time are listed as "Friday, March 28, 2008" and "Fri 28. mar 2008 08:24".

The main article is titled "Police finally nab pedophile 'Pocket Man'" and is accompanied by a photograph of a man in a dark coat and hat. The text of the article reads: "The so-called 'Pocket Man' is believed to have been picked up by a surveillance camera, but he eluded capture." Below the photo, it says "PHOTO: POLICE / SCANPIX".

The article continues: "Police in Bergen are quite sure they've finally arrested the pedophile Norwegian known as the 'Pocket Man.' He's believed to have been assaulting boys all over southern Norway for 30 years." Below this, it states: "Aftenposten.no could report Friday morning that the man arrested Friday morning is an affluent father of two in his mid-50s. His arrest was based on DNA analysis."

Further down, the article notes: "The suspect now in custody lives in the Bergen area, has run his own business for several decades and his tax returns show he has a net worth of NOK 6.9 million, with annual income of more than NOK 3 million. He was also arrested on suspected child molesting charges in 1999, but later released." The final sentence reads: "The suspect is known for cutting holes in his trouser

On the right side of the page, there are several sidebar sections: "Best Buy Online" with a link to "Date of Norway 2008 Collection free shipping worldwide"; "LATEST NEWS" with a list of headlines including "All Fench relieved over discrimination ruling", "No mandatory military duty for women", "Rage after it (Dwinger)", "No single factor behind fatal crash accident", "Fire may last for a week", "Fighting fuel piglets roadside restrictions", "Injured delays return of student's body", and "Traditions live on up north"; "Business" with headlines "Tourists flock to the US", "Labour talks break off again", and "Lamb shut down hospital"; "Sports" with "Soccer squad humbled" and "Soccer boss found guilty"; and "World" with "EU discussing 'fuel issue'".

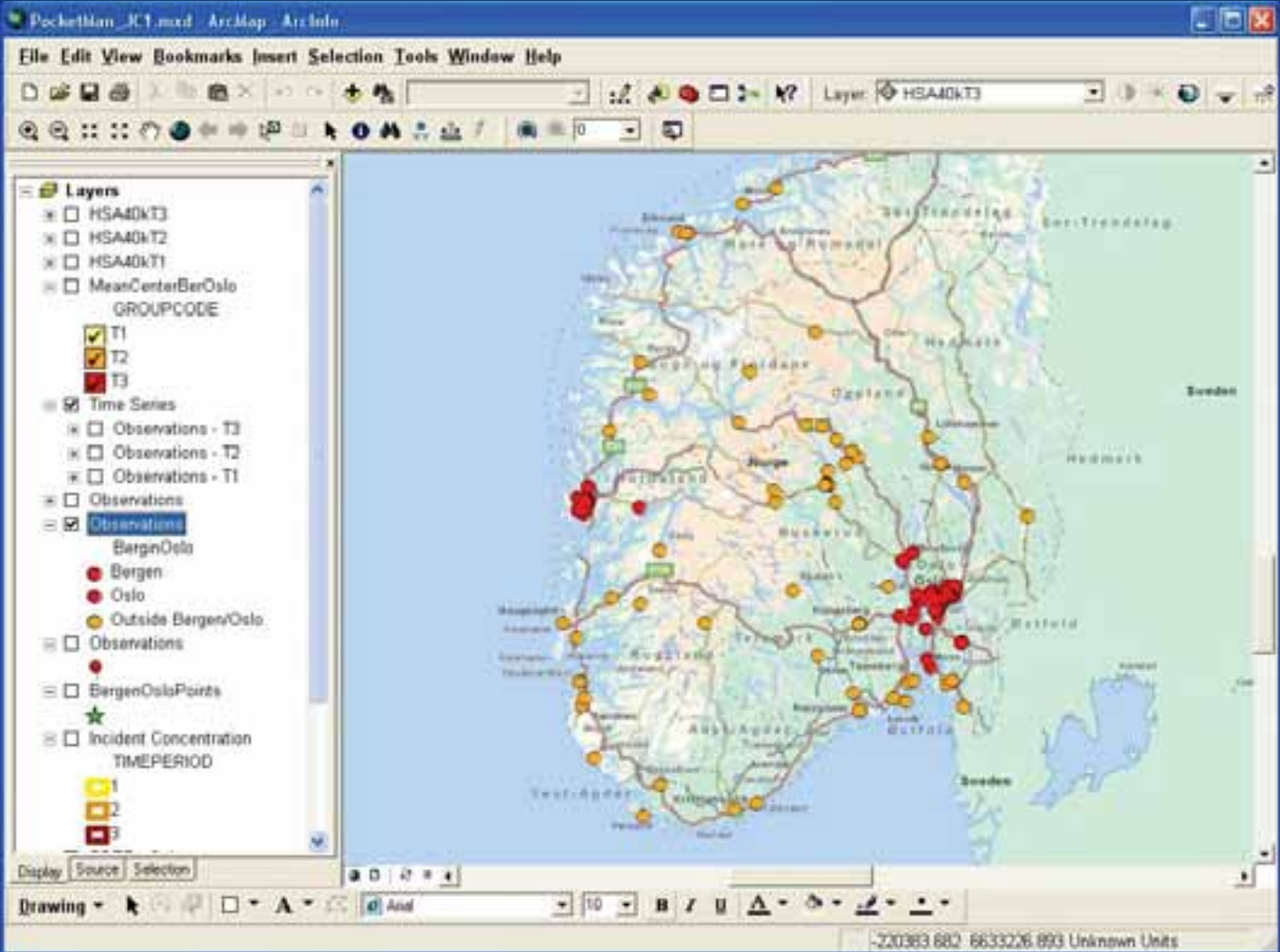
At the bottom of the page, there is an "Error on page." message and an "Internet" logo.

The Pocket Man



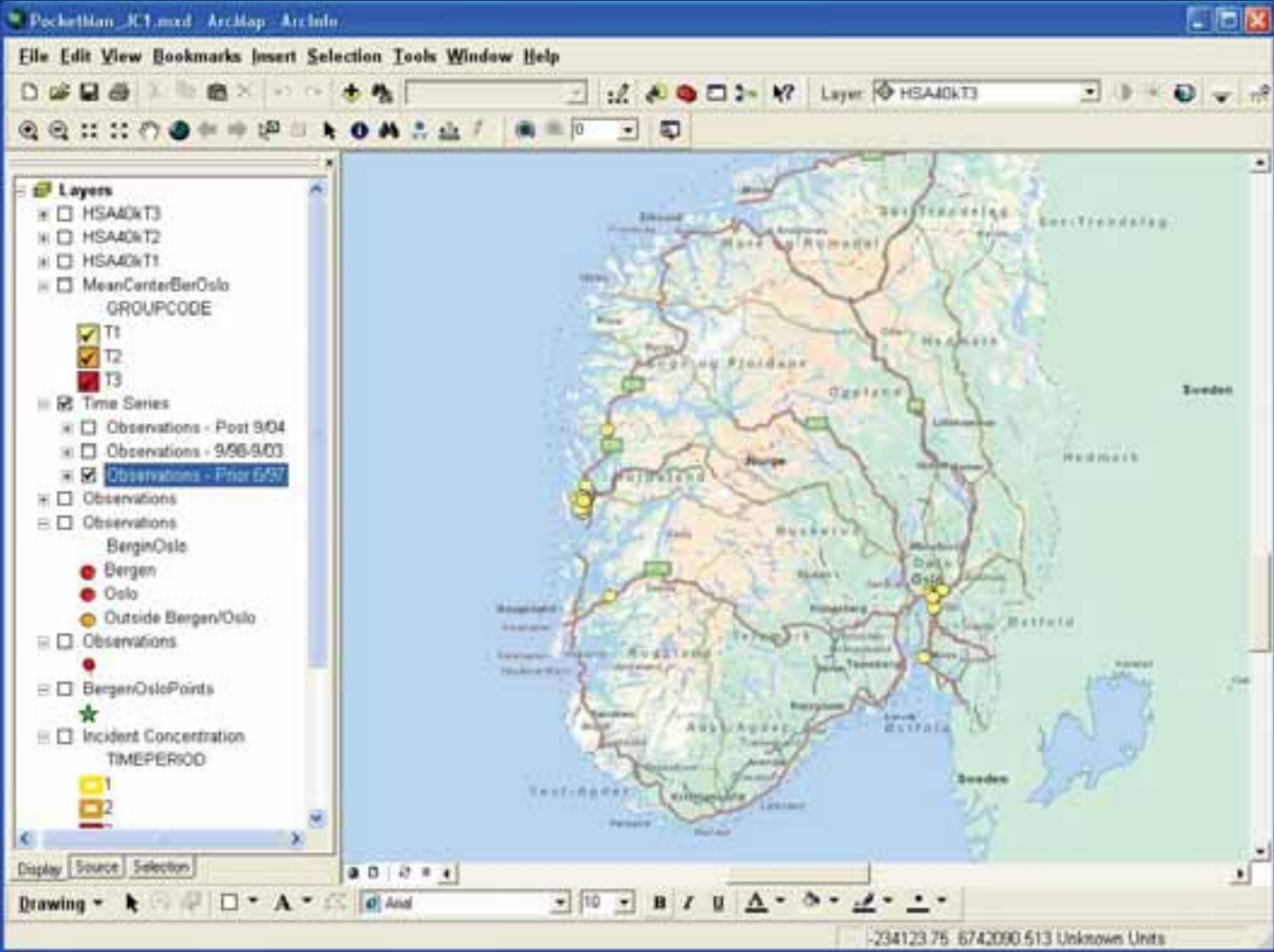
The Pocket Man

Spatial Clusters



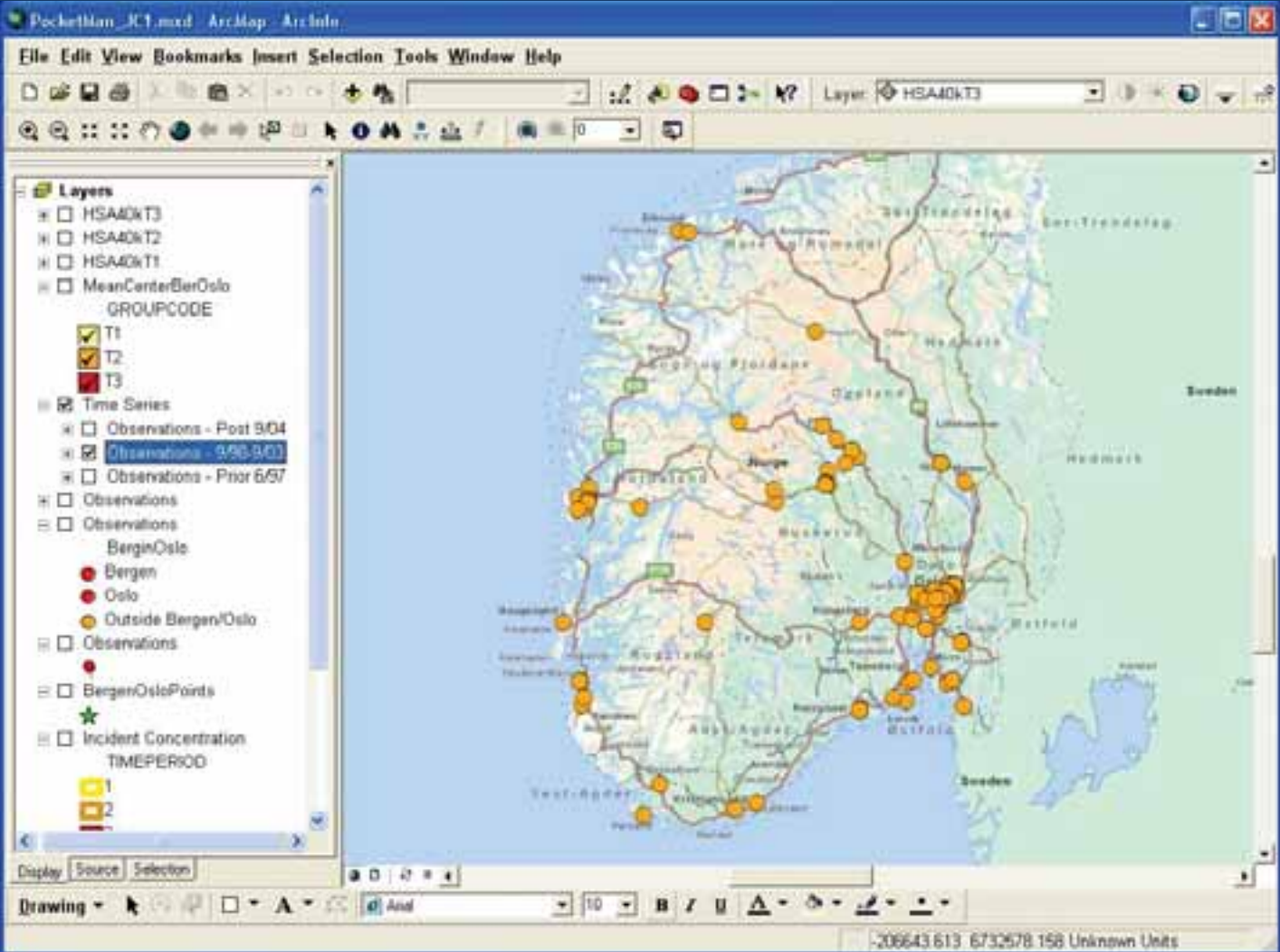
The Pocket Man

Time (early events)



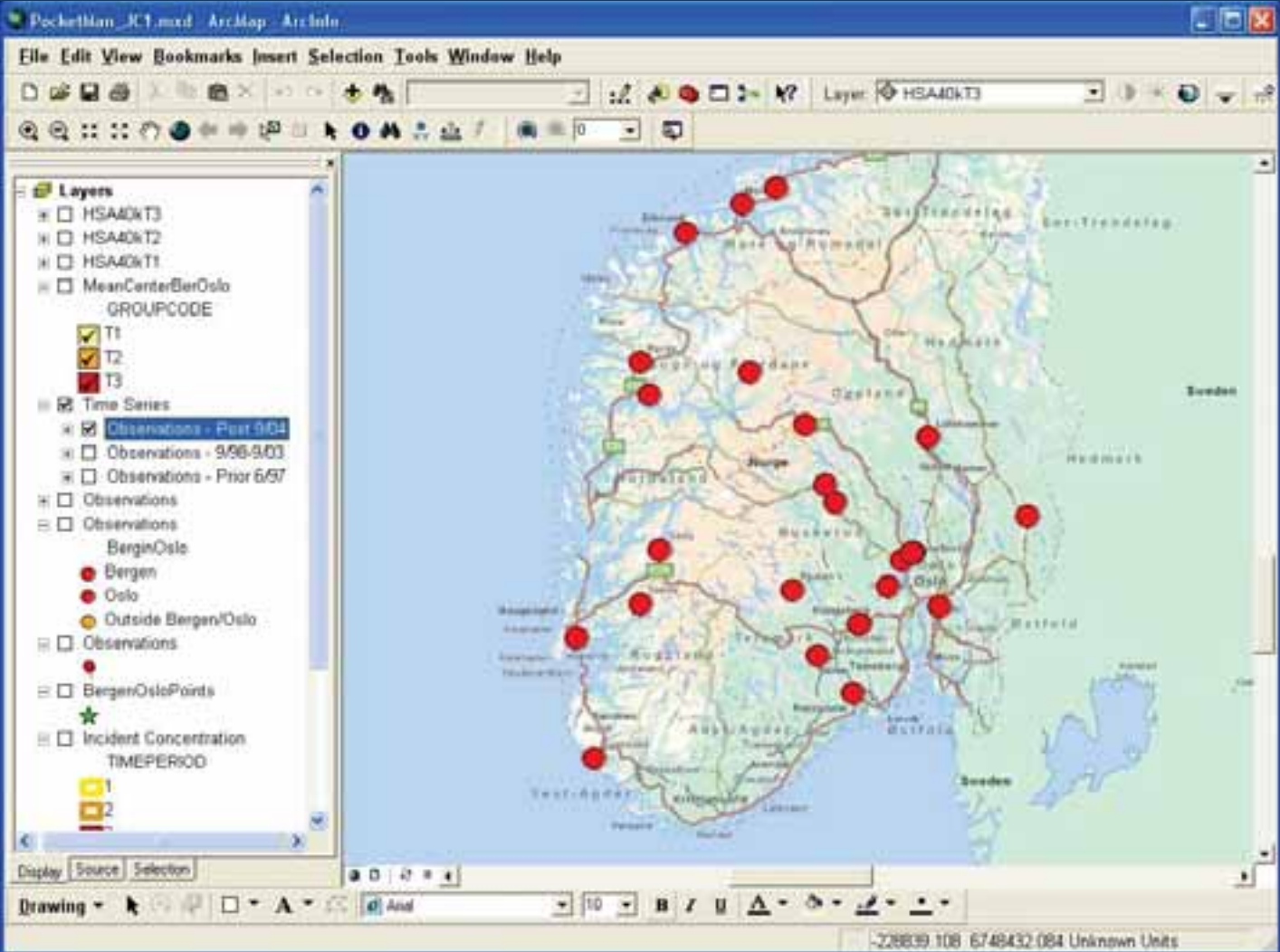
The Pocket Man

Time (mid events)



The Pocket Man

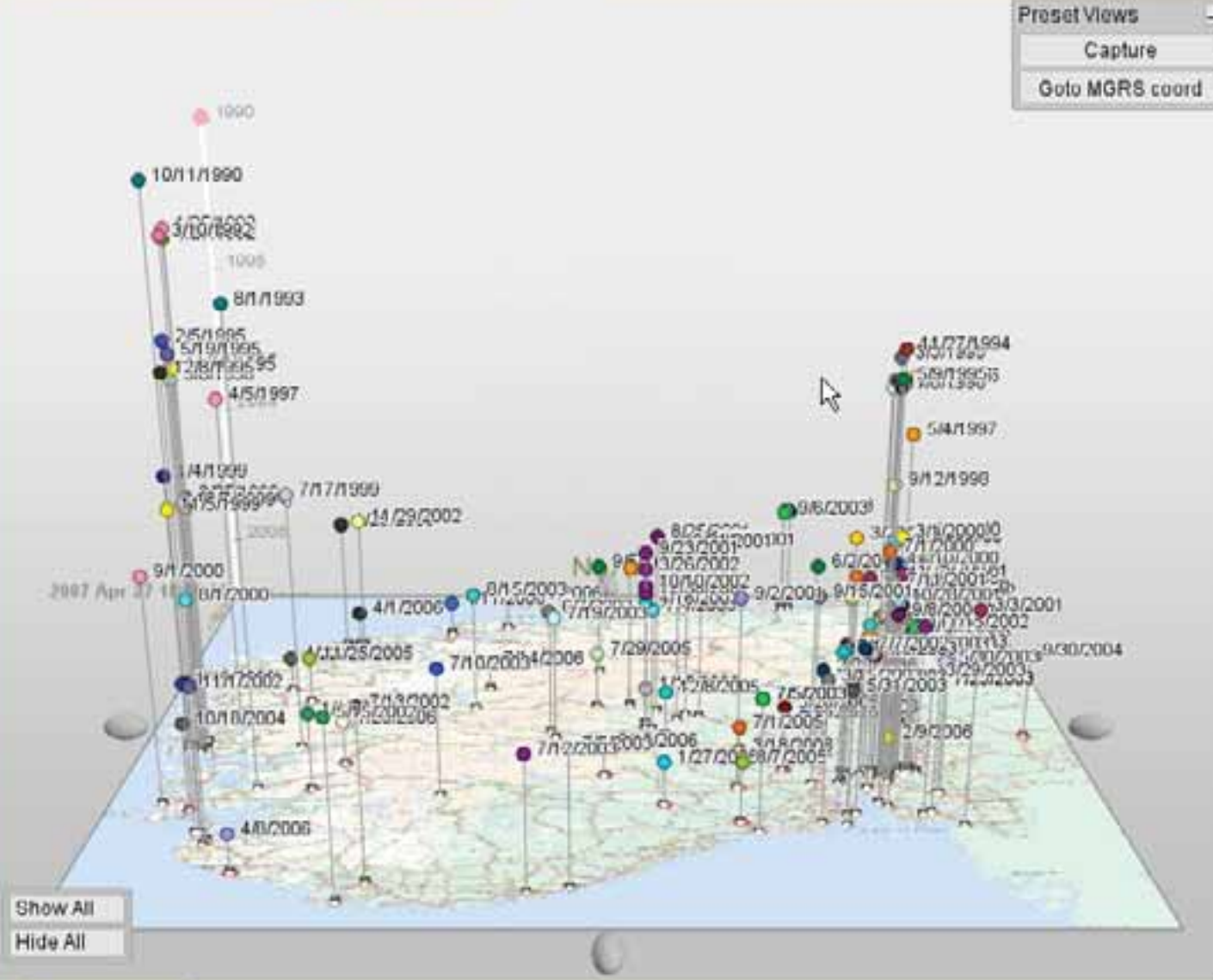
Time (late events)



Preset Views

- Capture
- Goto MGRS coord

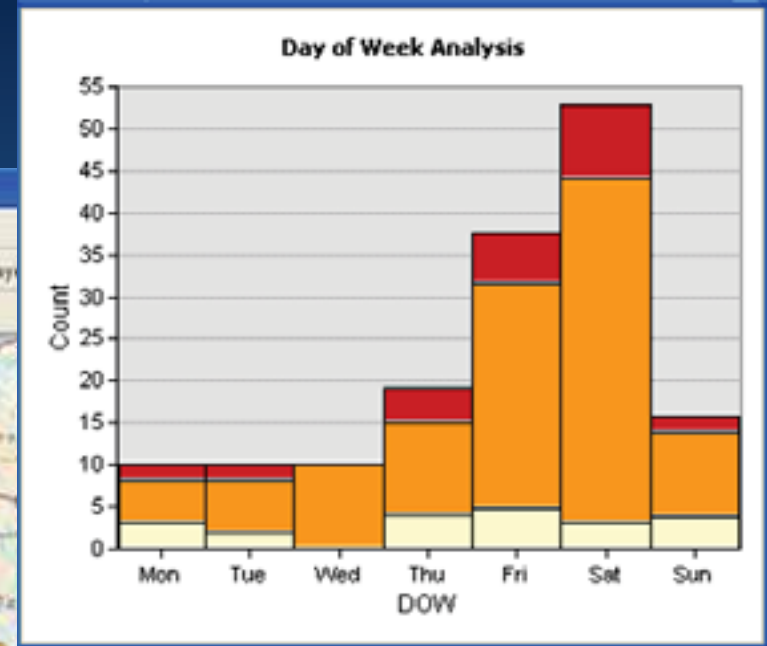
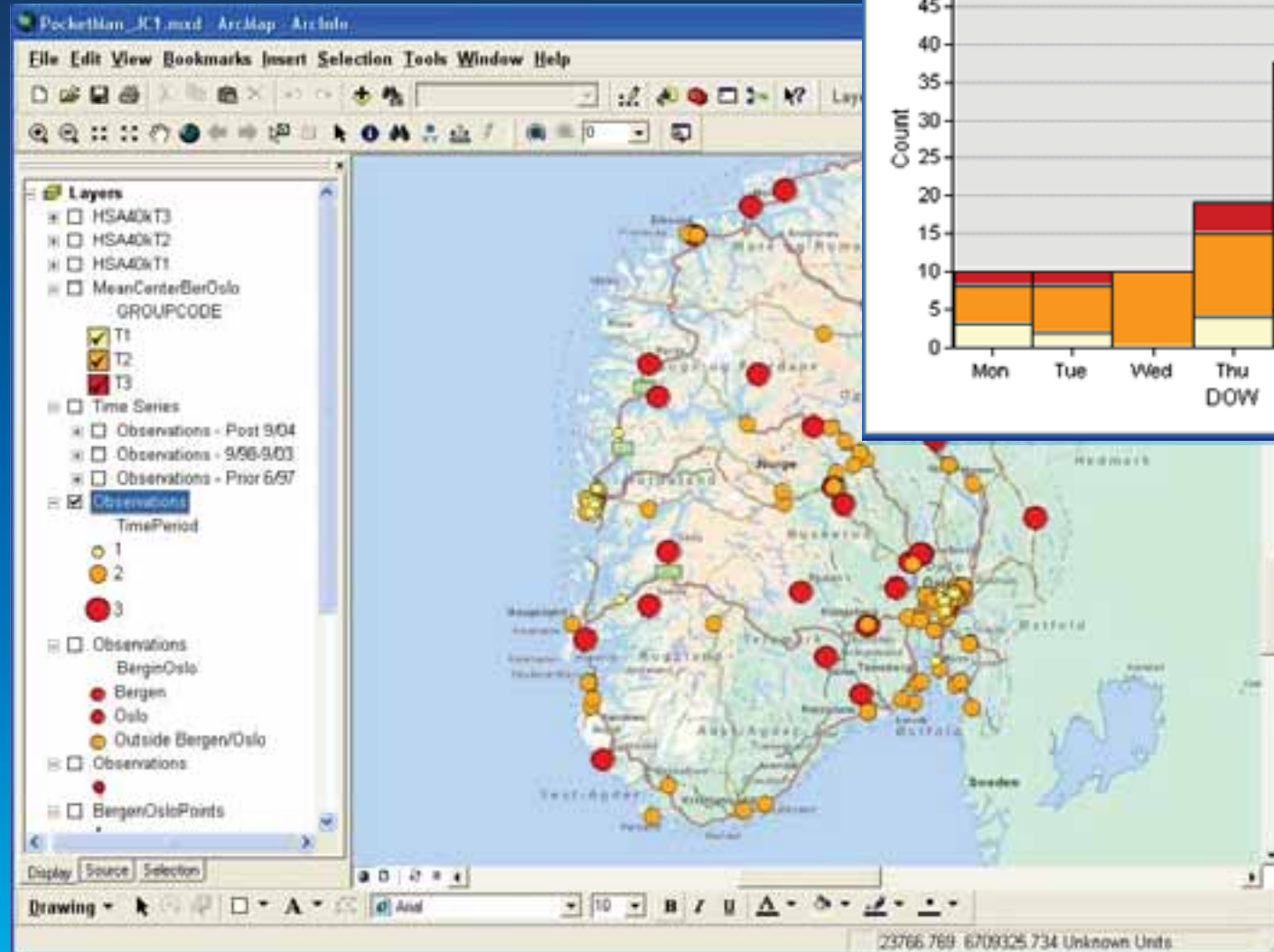
Layers		Associations	
Macros	Palette	Label	Charts
Place Show	Place Select	Place Label	Place Icon
Target Show	Target Select	Target Label	Target Icon
Event Show	Event Select	Event Label	Event Icon
Link	Link	Link	Link



Show All
Hide All

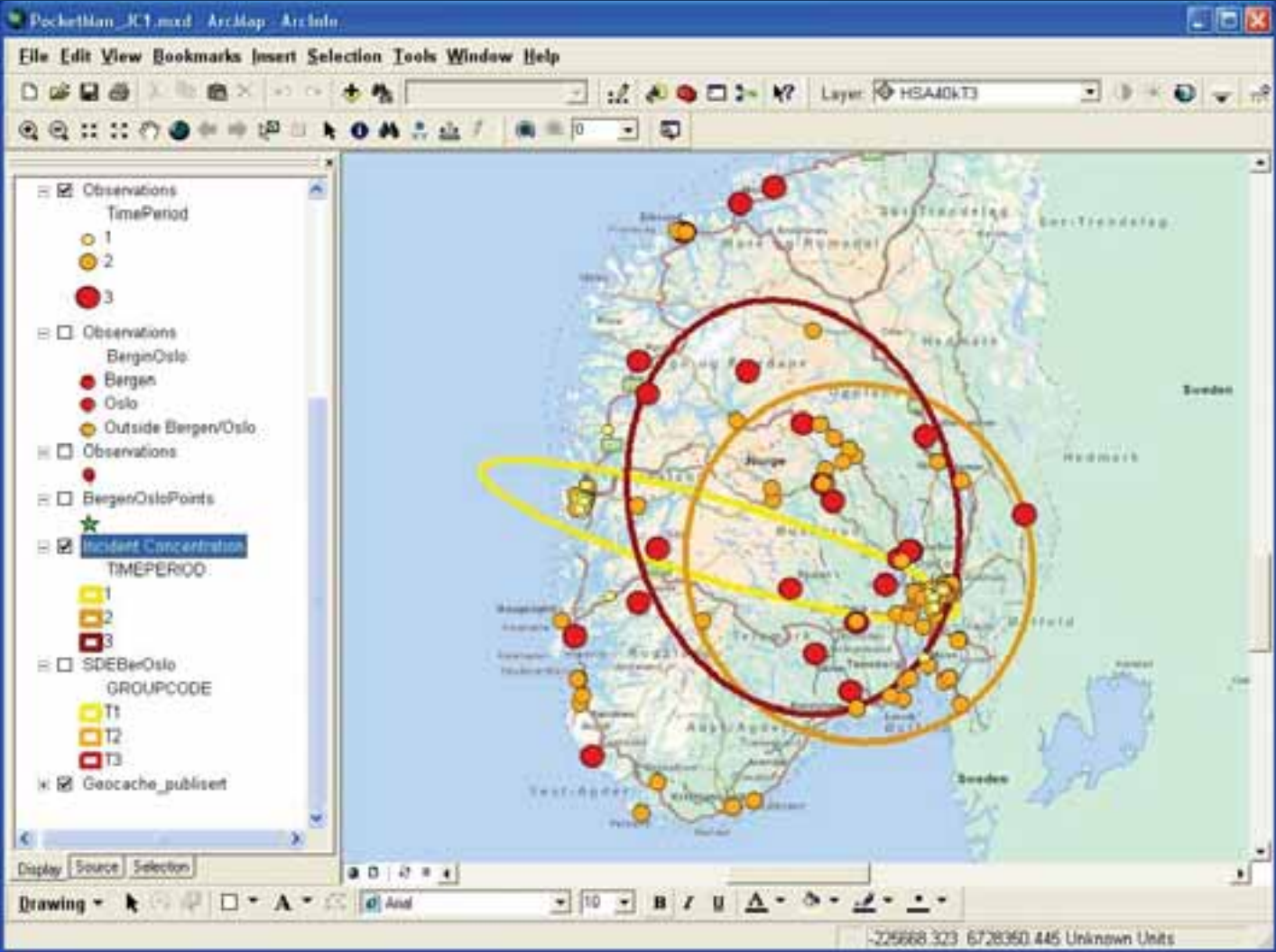
The Pocket Man

Day of the Week



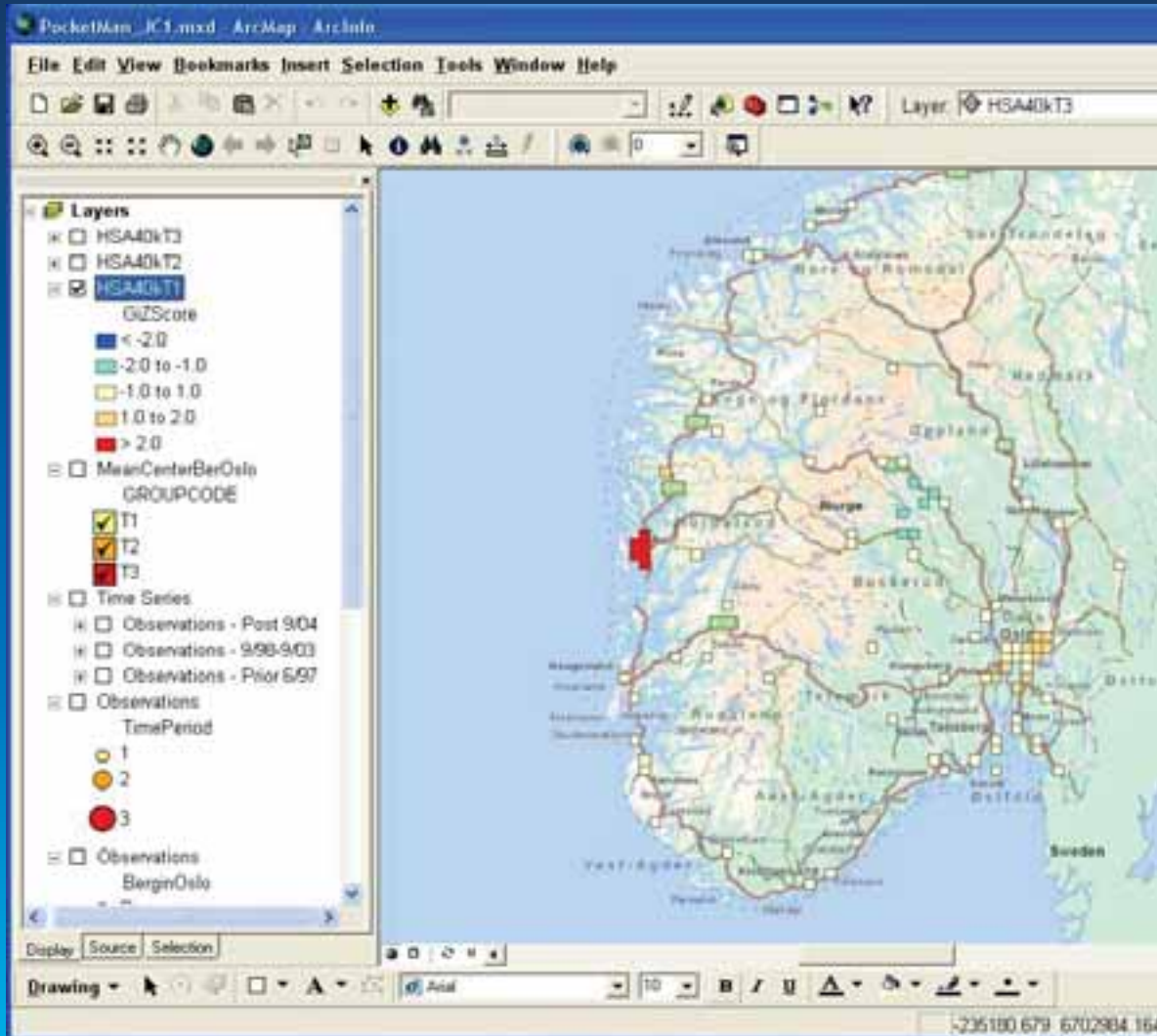
The Pocket Man

Spatial Statistics

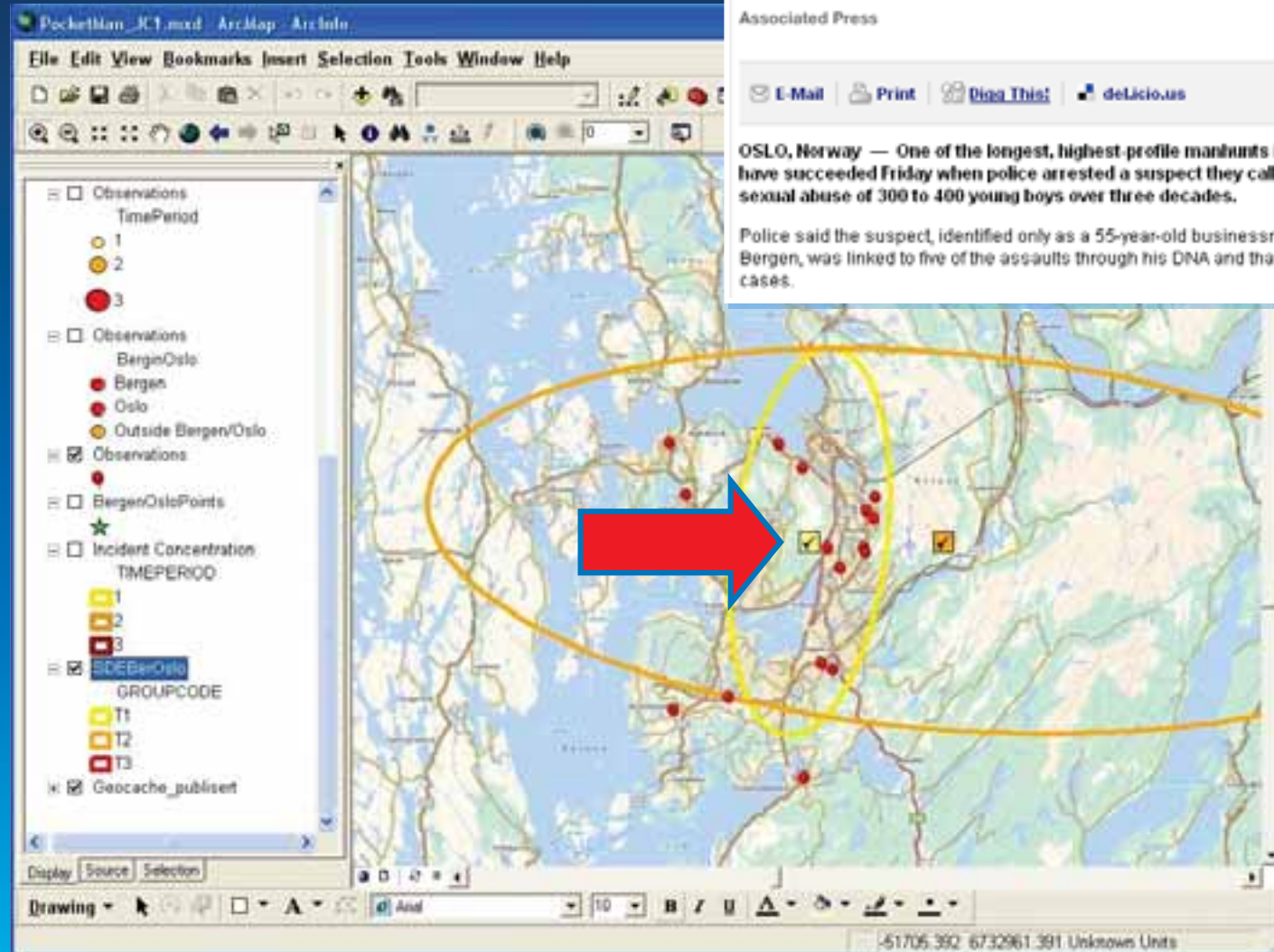


The Pocket Man

Hot Spot Analysis



The Pocket Man Caught



FOXNEWS.COM HOME > WORLD

Norwegian Police: 'Pocket Man' Arrested in Sex Abuse of Hundreds of Boys

Friday, January 11, 2008

Associated Press

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OSLO, Norway — One of the longest, highest-profile manhunts in Norwegian history may have succeeded Friday when police arrested a suspect they call "The Pocket Man" in the sexual abuse of 300 to 400 young boys over three decades.

Police said the suspect, identified only as a 55-year-old businessman from the western city of Bergen, was linked to five of the assaults through his DNA and that they expected to prove more cases.

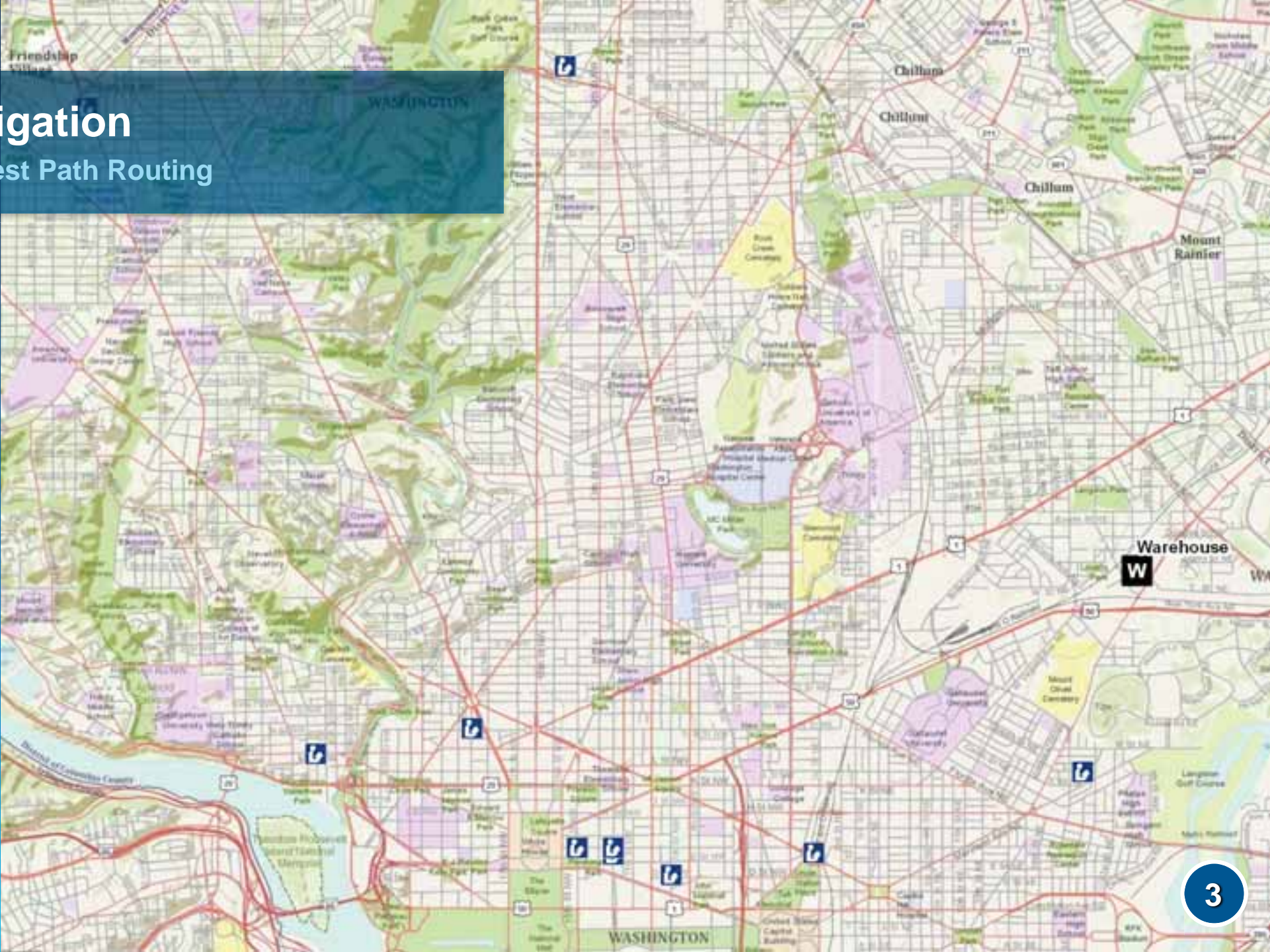
Summary: Can You Think Spatially?

- Pattern Recognition
- Proximity and Spatial Distances
- Space and Time

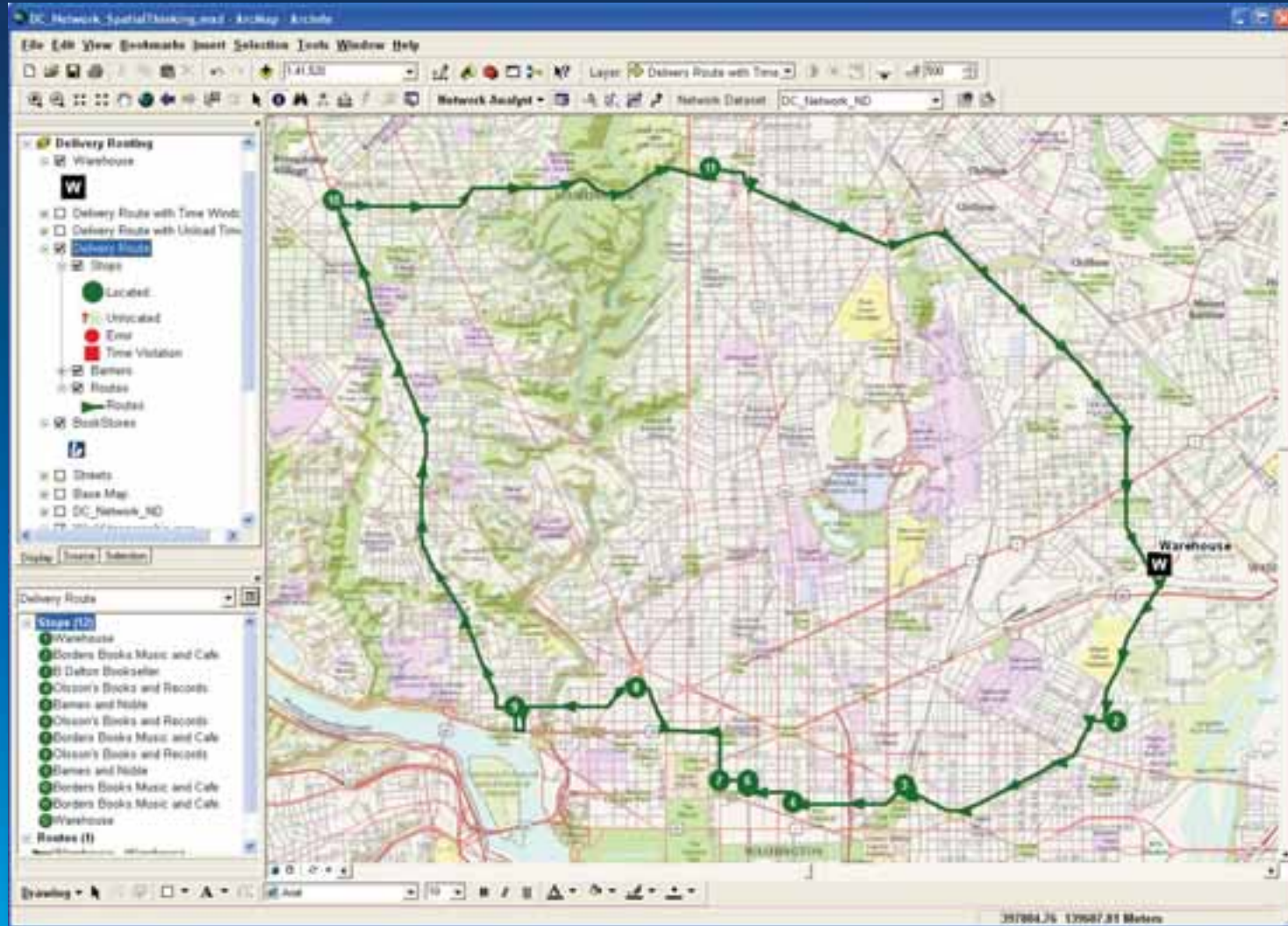


Navigation

Shortest Path Routing

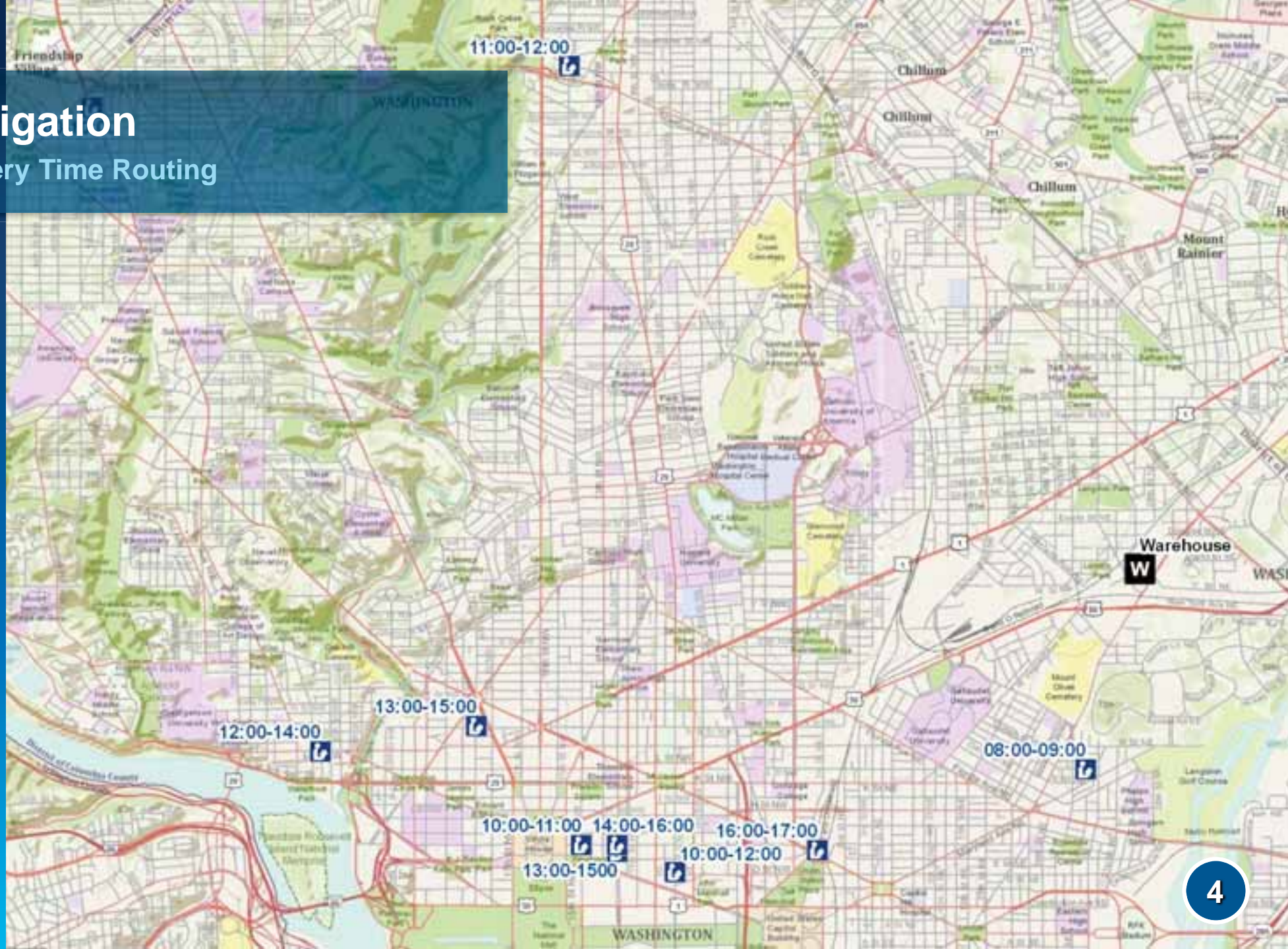


Shortest Path Routing

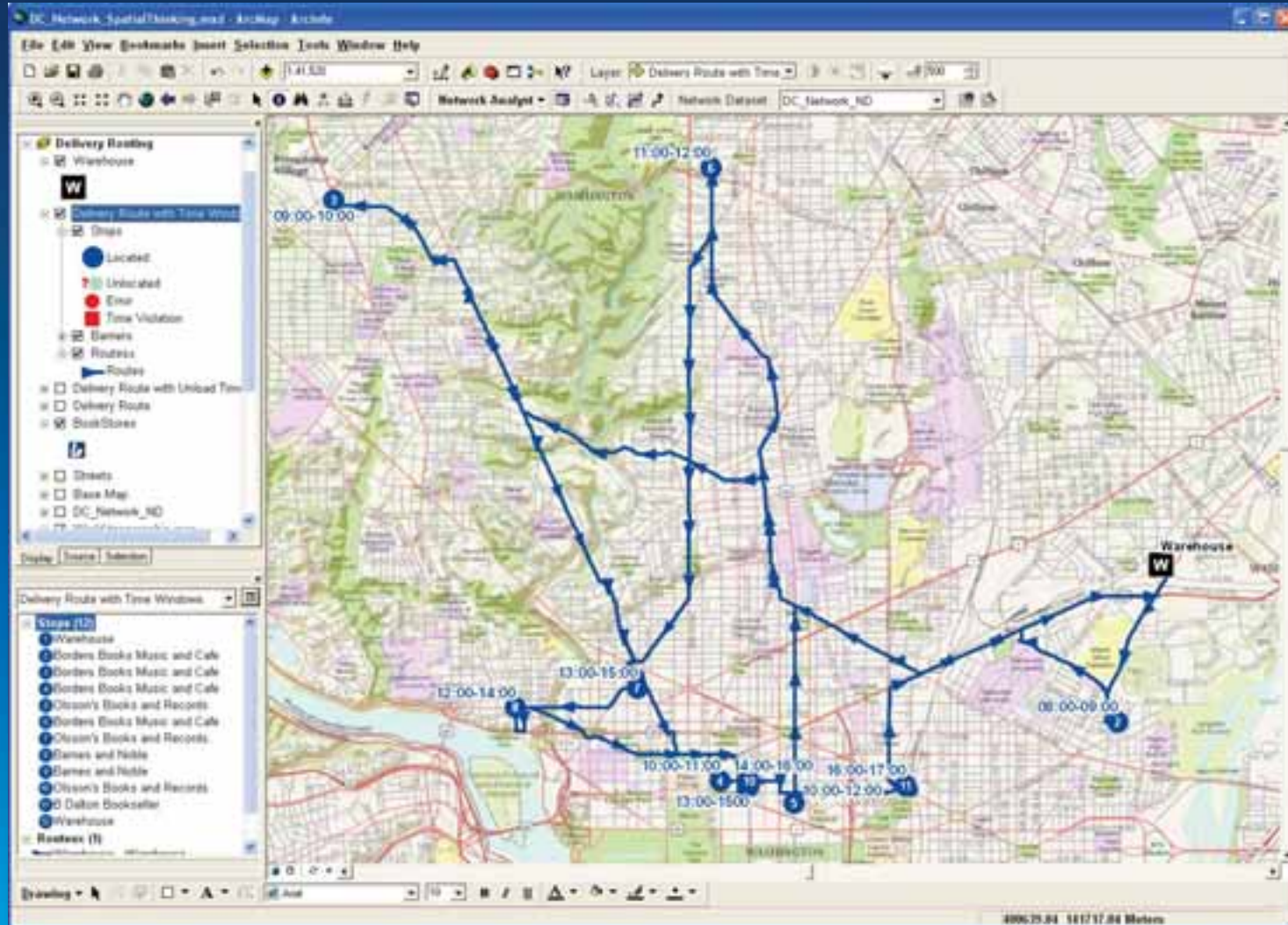


Navigation

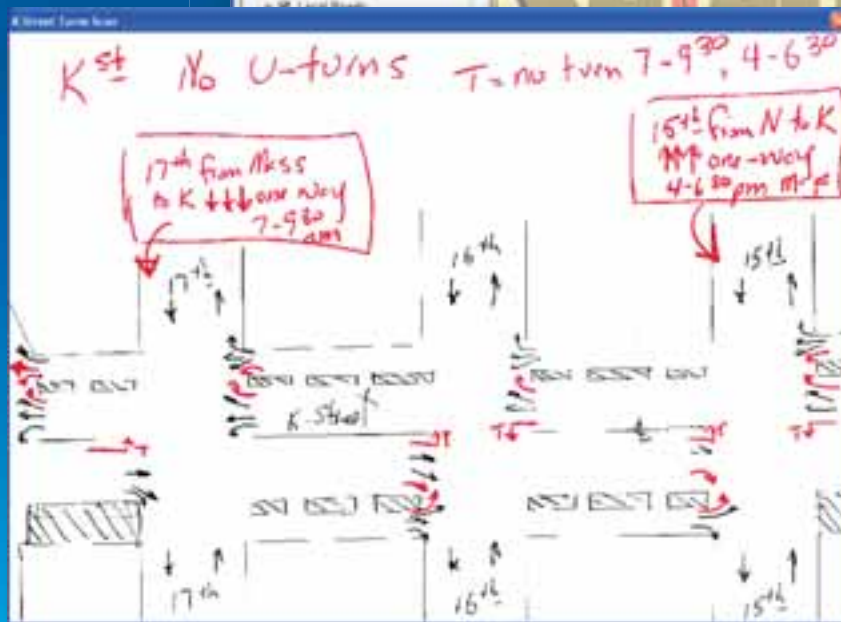
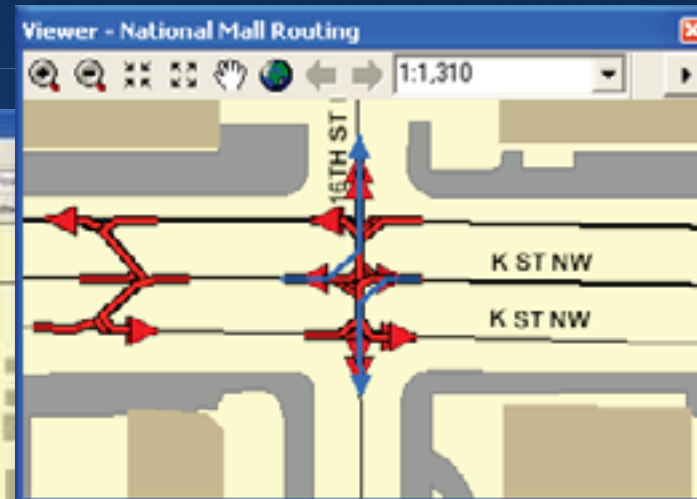
Delivery Time Routing



Delivery Time Routing



All Variables...



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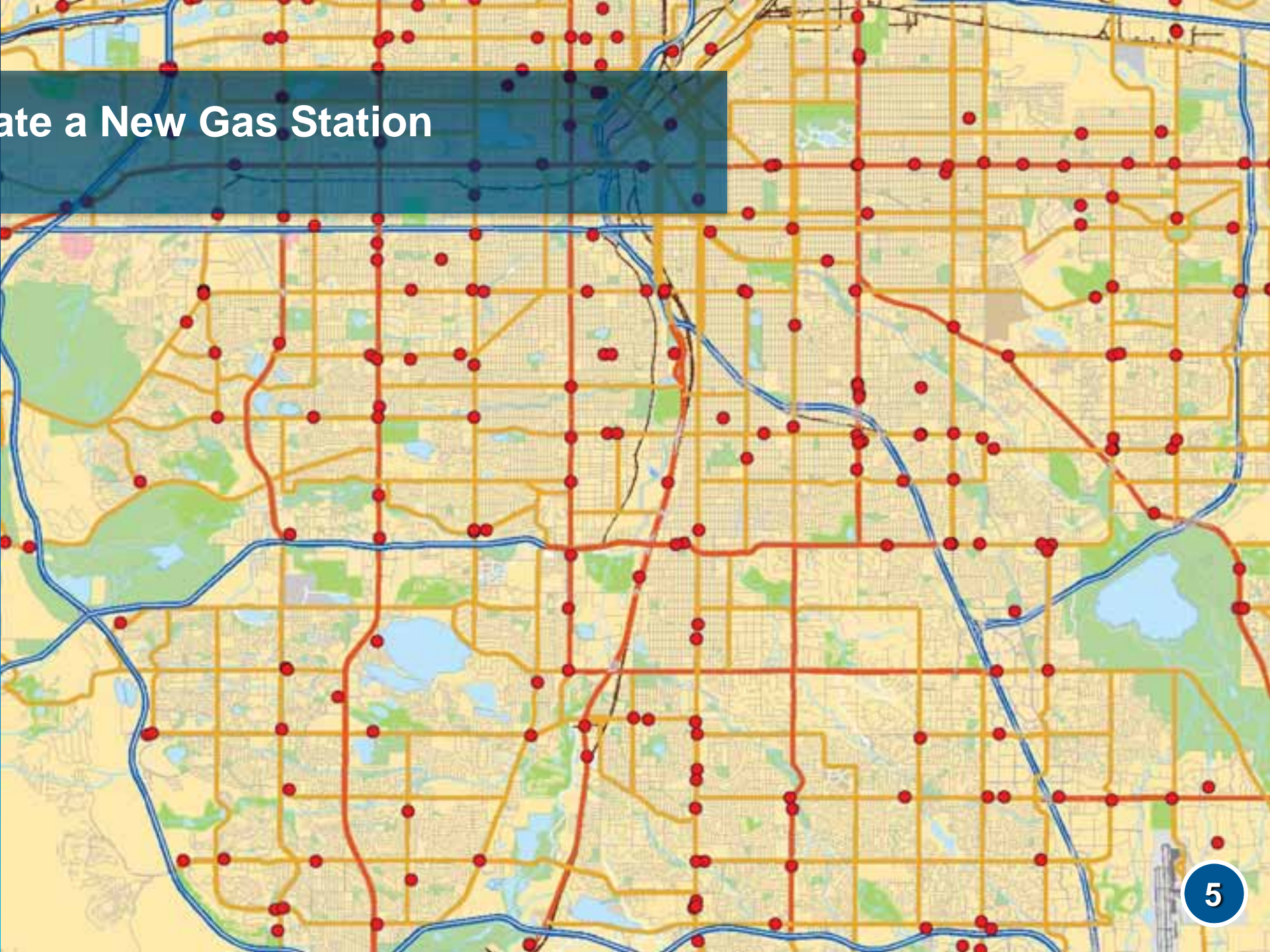
Overlays, Workflows and Methodology

Modeling the Geographic Approach

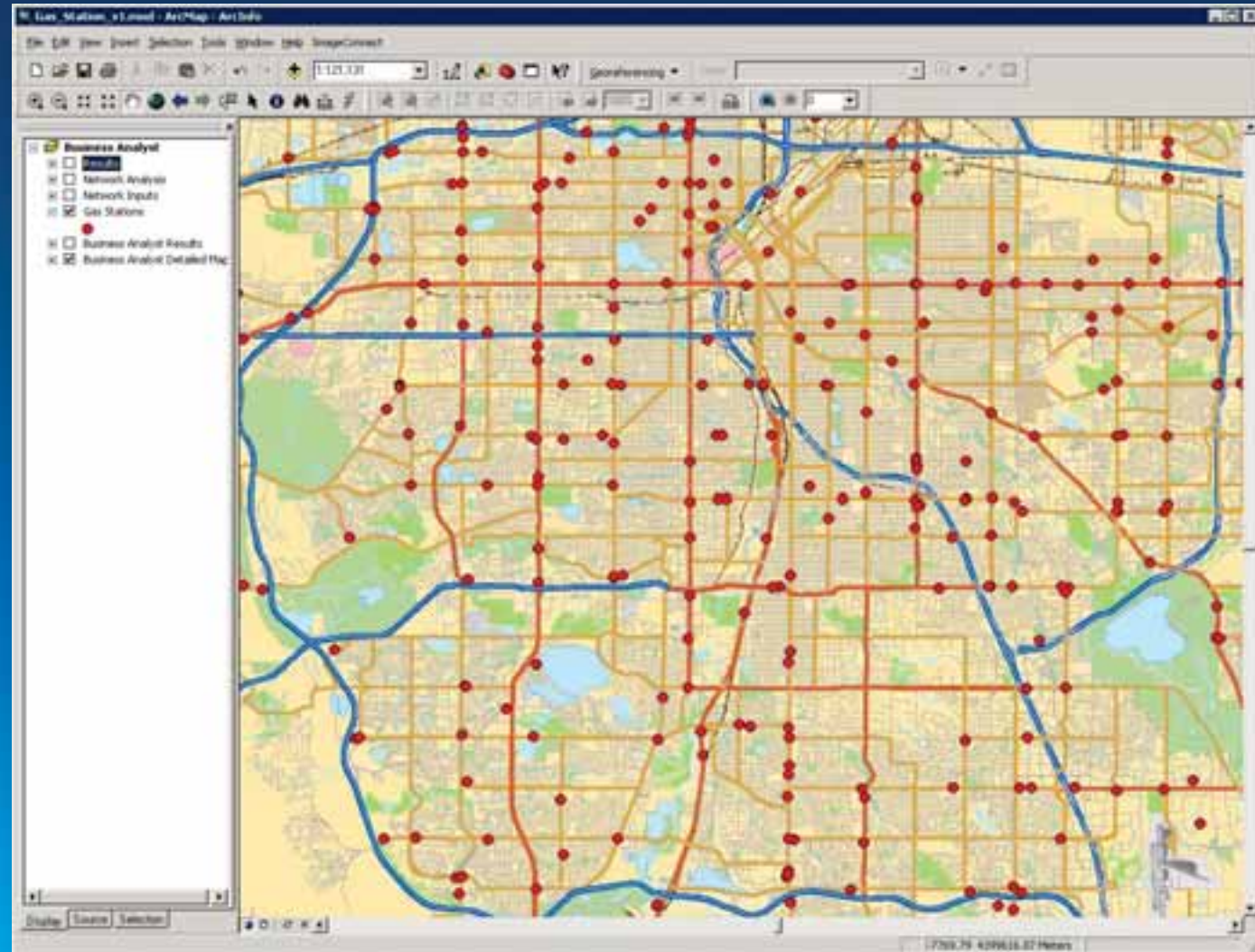


Locate a new gas station

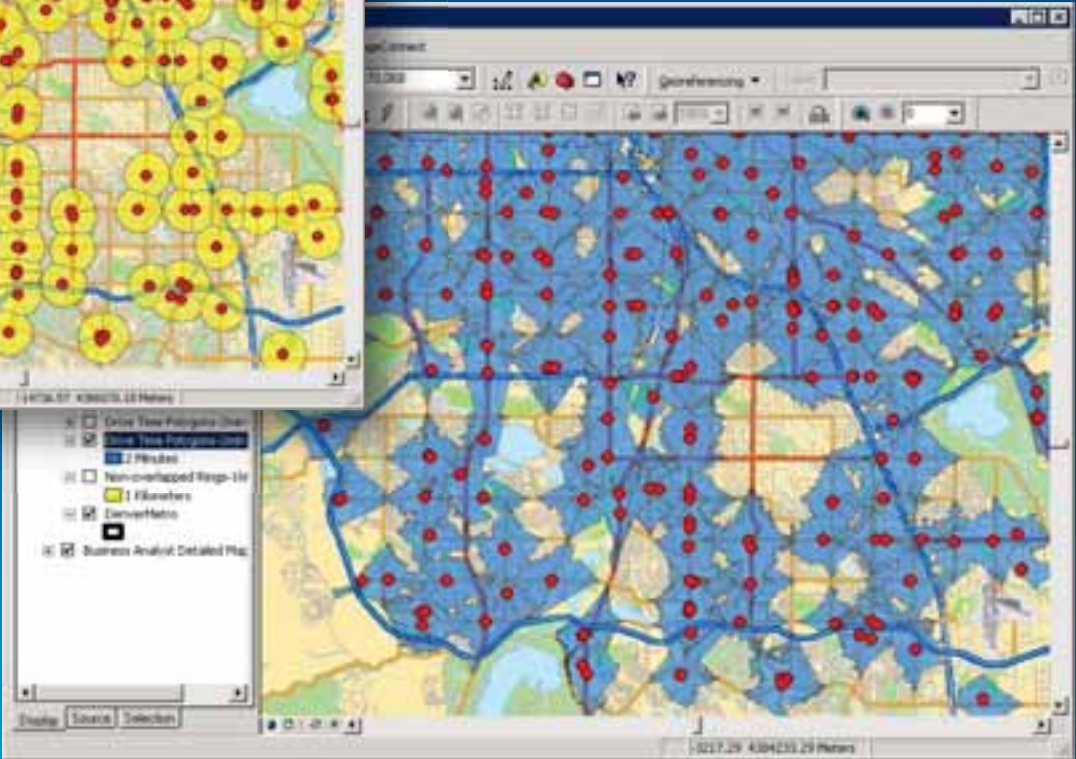
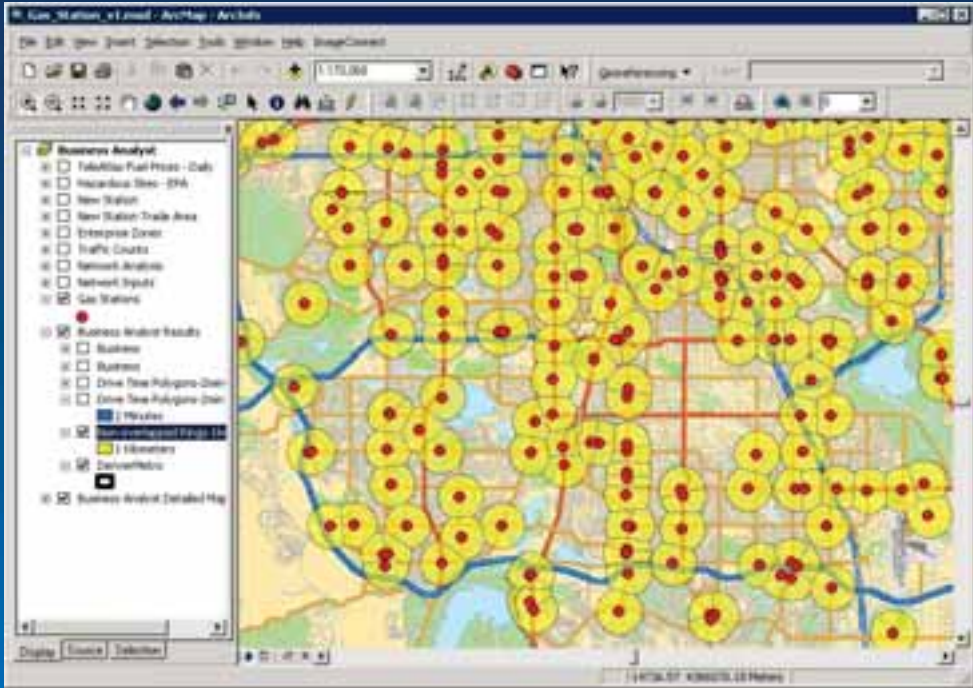
Locate a New Gas Station



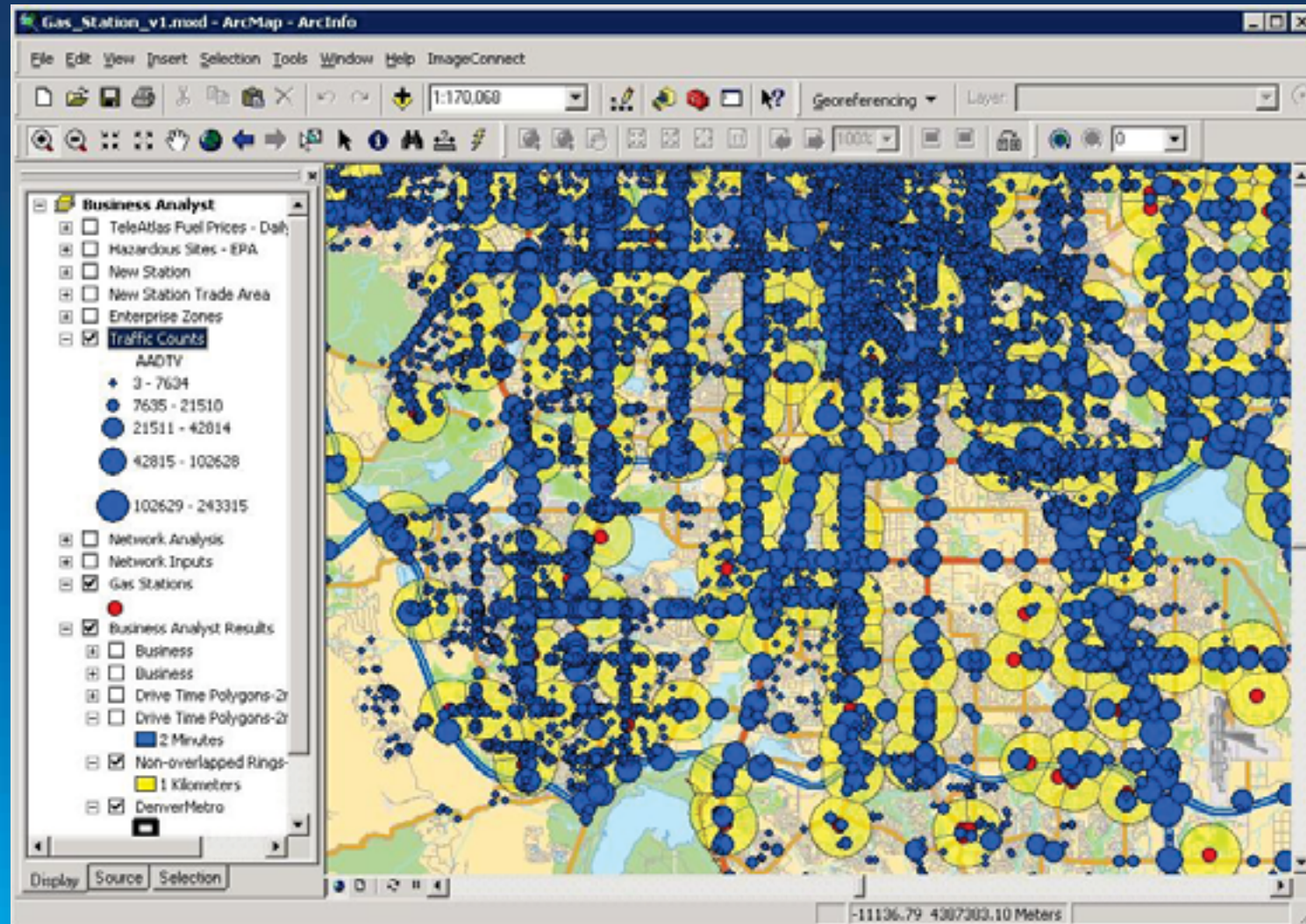
Existing Gas Stations



Calculate Service Areas



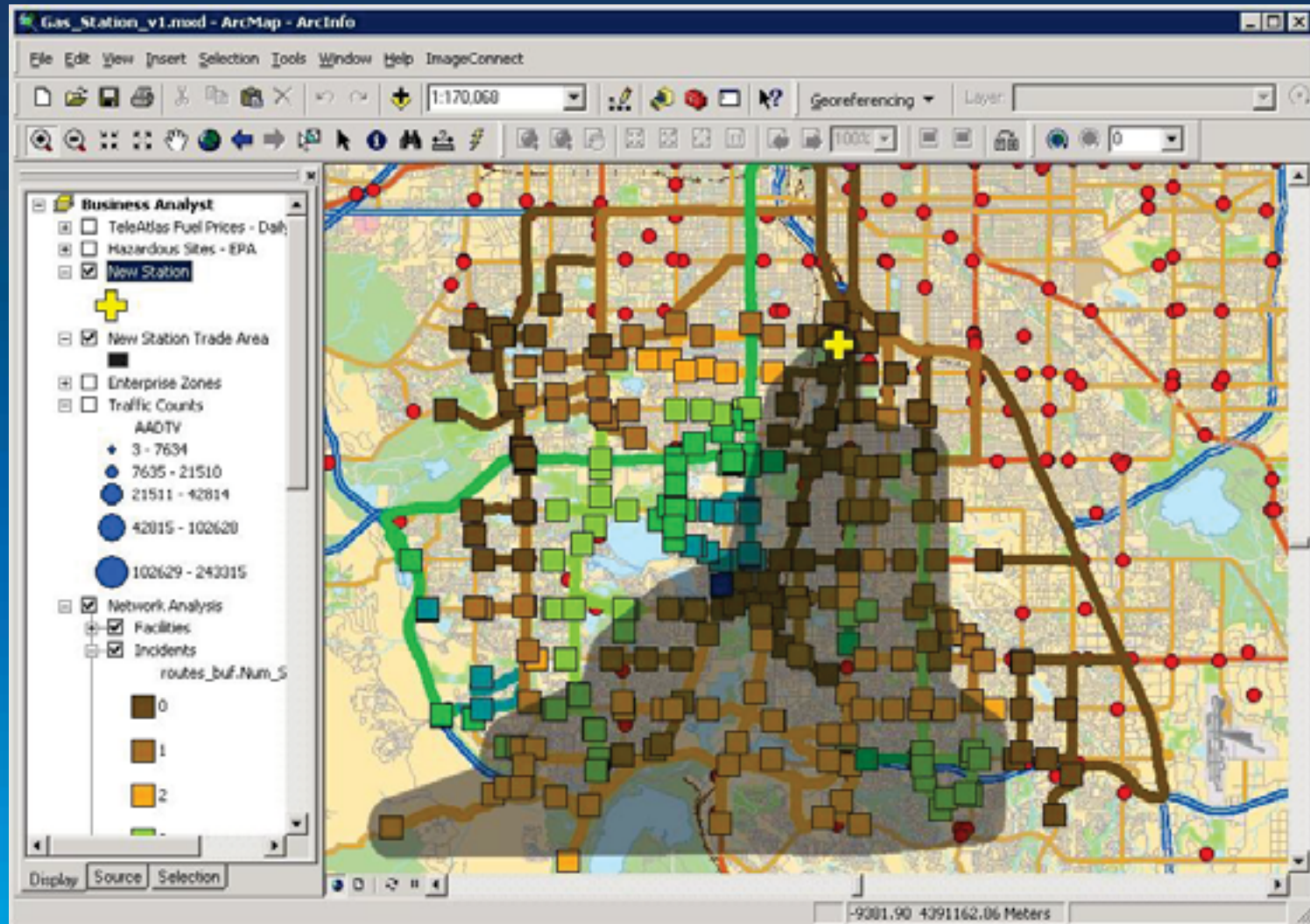
Overlay Traffic Counts



Model the Problem...



Modeling Your Methodology



Economic & Environmental Overlays

Gasoline Prices



Superfund & Toxic Sites
Enterprise Zones

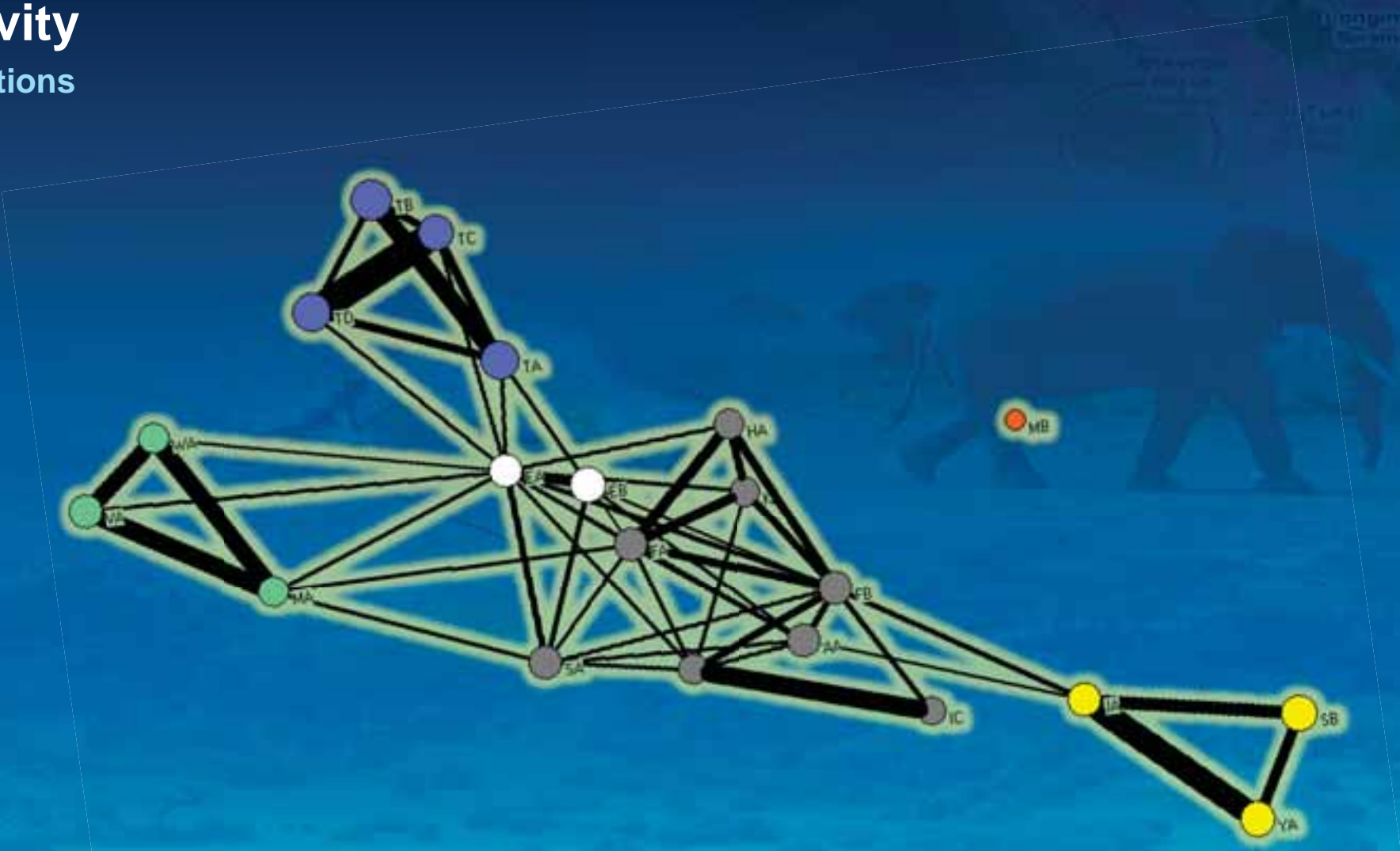
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- Overlays
- Workflows & Modeling



Connectivity

Social Interactions



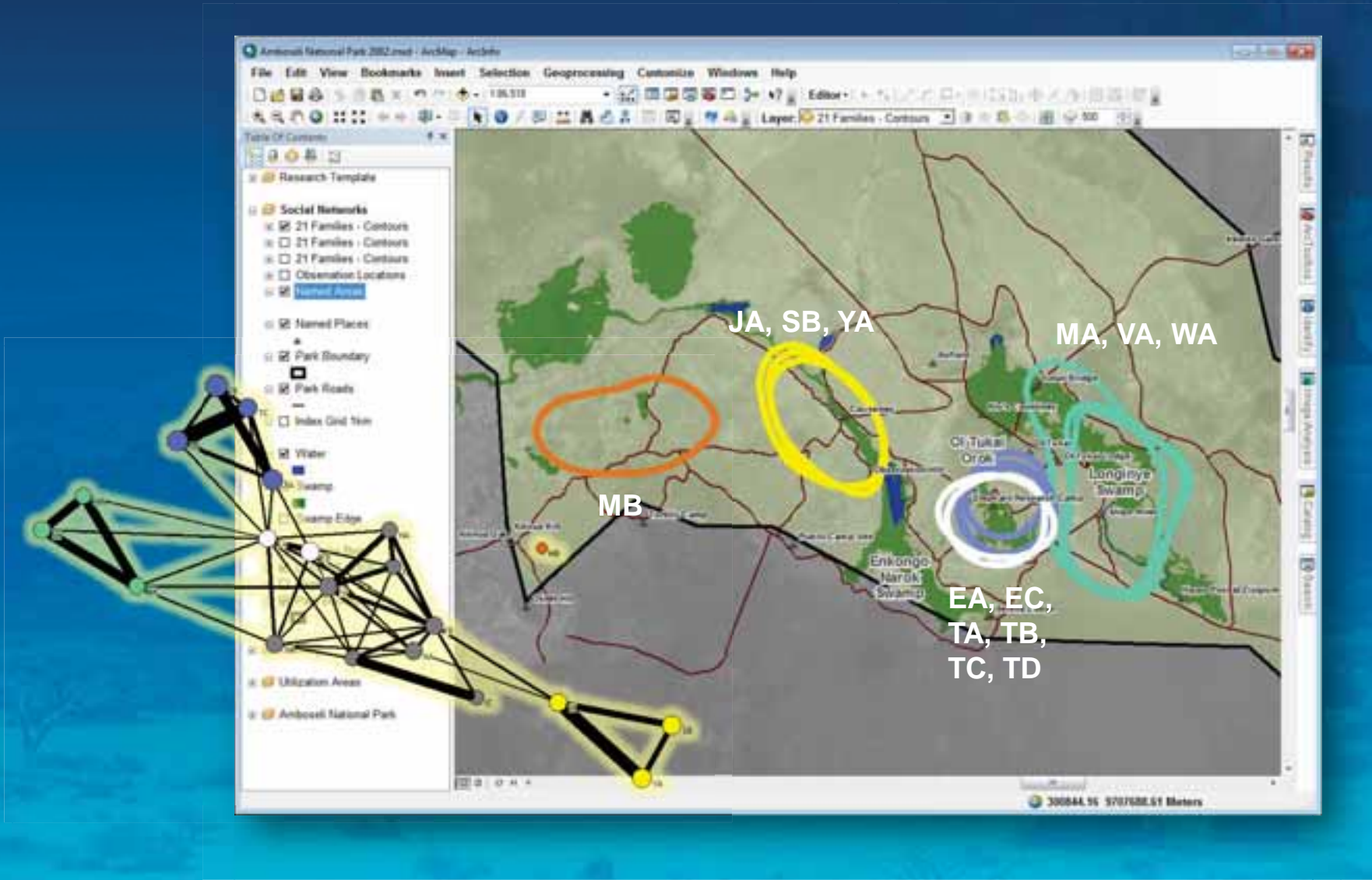
Connectivity

Social Interactions



Connectivity

Social Interaction



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Summary: Can You Think Spatially?

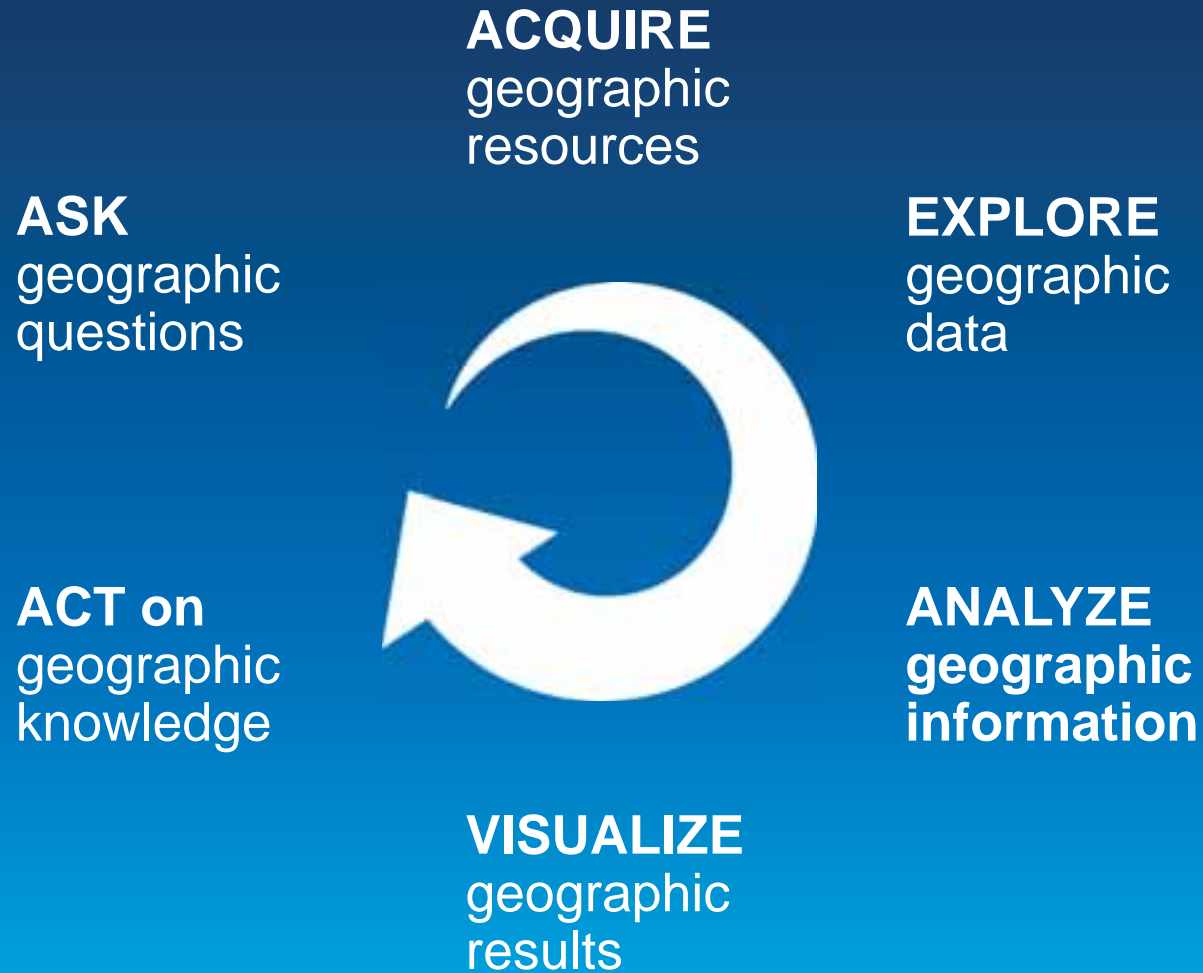
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The Geographic Approach



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**Don't forget to complete
a session evaluation form!**

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Networking Reception

Smithsonian National Museum of Natural History

Tuesday, 6:30 PM–9:30 PM

Bus Pickup located on L Street

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Print your customized Certificate of Attendance!

Printing stations located in Hall B
and the 140/150 Room Concourse.

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GIS Solutions EXPO, Hall B

Monday, 12:30 PM–6:30 PM

Tuesday, 10:45 AM–4:00 PM

- Exhibitors
- Hands-On Learning Lab
- Technical & Extended Support
- Demo Theater
- Esri Showcase

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Understanding our world.