Delivering Toxic Release Inventory Transfer Data

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Velu Senthil

What is the Toxics Release Inventory (TRI) Program?

- Created Under the Emergency Planning & Community Right-to-Know Act (EPCRA) of 1986, and Pollution Prevention Act (PPA) of 1990.
- TRI is an information resource that provides information about toxic chemical releases and other waste management activities from certain facilities in your neighborhood.
- Facilities in certain industry sectors are required to report to EPA, states, and tribal governments each year
  - ❖ If they manufacture or process more than 25,000 lbs, or otherwise use more than 10,000 lbs annually of a chemical included on the TRI list of toxic chemicals
    - ❖ Non-PBT's
  - On-site releases (air, land, and water).
  - Waste management (i.e., Release, Recycling, Treatment, Energy recovery).
  - Pollution prevention activities.
  - Transfer of chemicals in waste to off-site locations.
- EPA must maintain and make the data available to the public

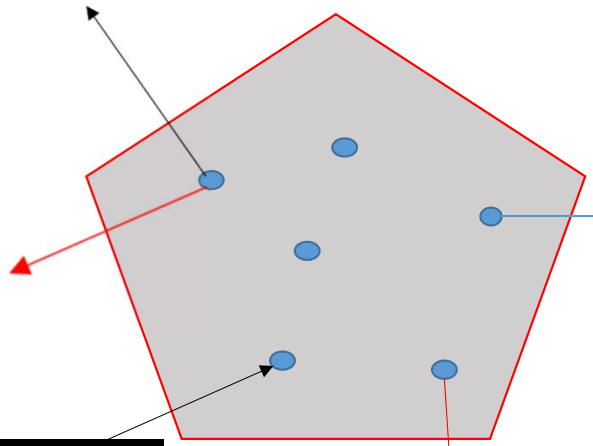
Background on TRI Transfer Project

- In 2014, TRI facilities reported over 100K offsite transfers consisting of ~400 million pounds of toxic chemicals for release and other waste management activities

- Three types of major facilities that receive chemicals in waste
  - Section 6.1 Publicly Owned Treatment Works (POTWs)
  - Section 6.2 Receiving Facilities with RCRA IDs
  - Section 6.2 Receiving Facilities without RCRA IDs

- This project aims to expand the scope from previous projects focusing on Section 6.2

TRI Transfer Project Site Depiction



Onsite
- Release, treatment, energy recovery, recycling

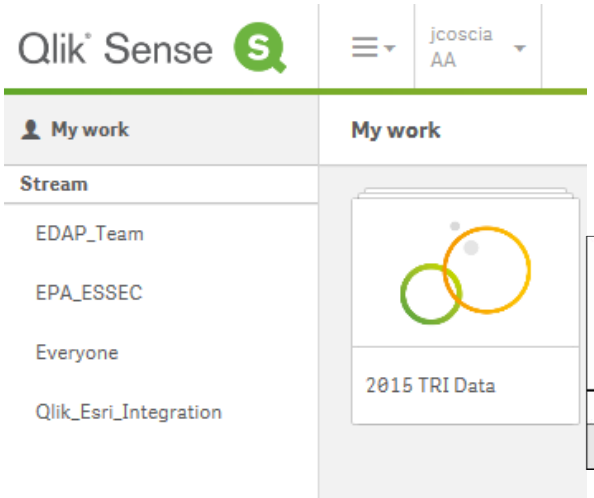
Receiving
- Release, treatment, energy recovery, recycling

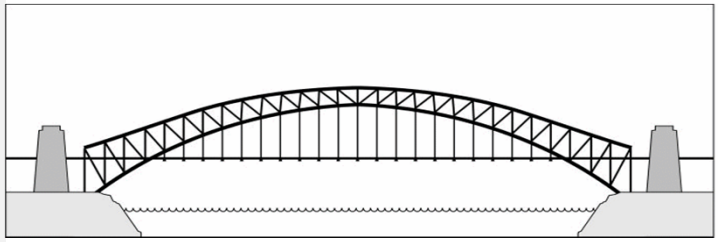
Offsite Transfer
- Release, treatment, energy recovery, recycling

http://smithculp.com/wp-content/uploads/2013/01/waste-water-planning.jpg

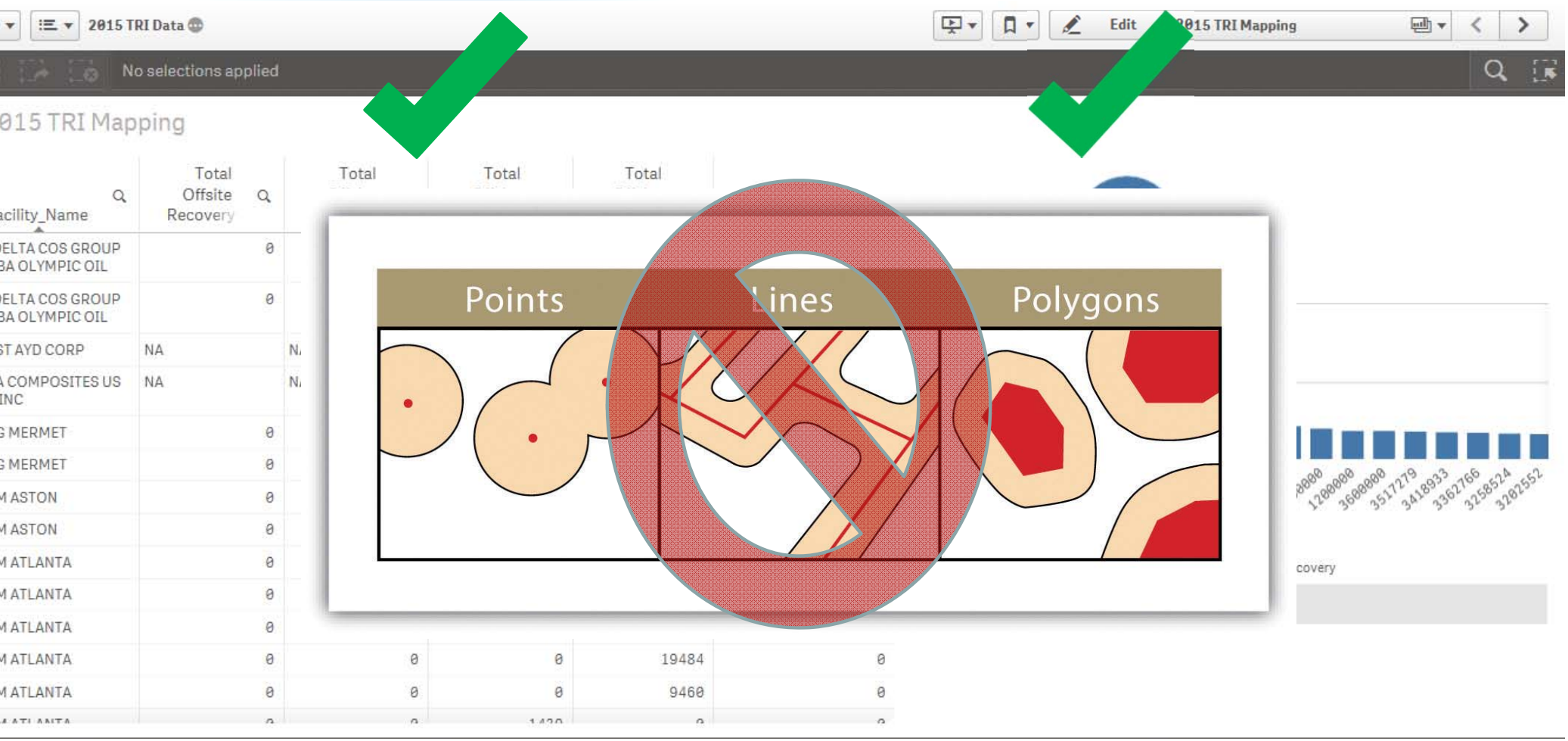
How do we want to visualize TRI Transfers?

- Purpose of project: Visualization of TRI offsite transfers





Qlik Sense


2015 TRI Data
Edit
2015 TRI Mapping
No selections applied
015 TRI Mapping
Total Offsite Recovery
Total
Total
Total
acility_Name
ELTA COS GROUP BA OLYMPIC OIL
ELTA COS GROUP BA OLYMPIC OIL
ST AYD CORP
A COMPOSITES US INC
G MERMET
G MERMET
M ASTON
M ASTON
M ATLANTA
M ATLANTA
M ATLANTA
M ATLANTA
M ATLANTA
Points
Lines
Polygons
covery

ArcGIS

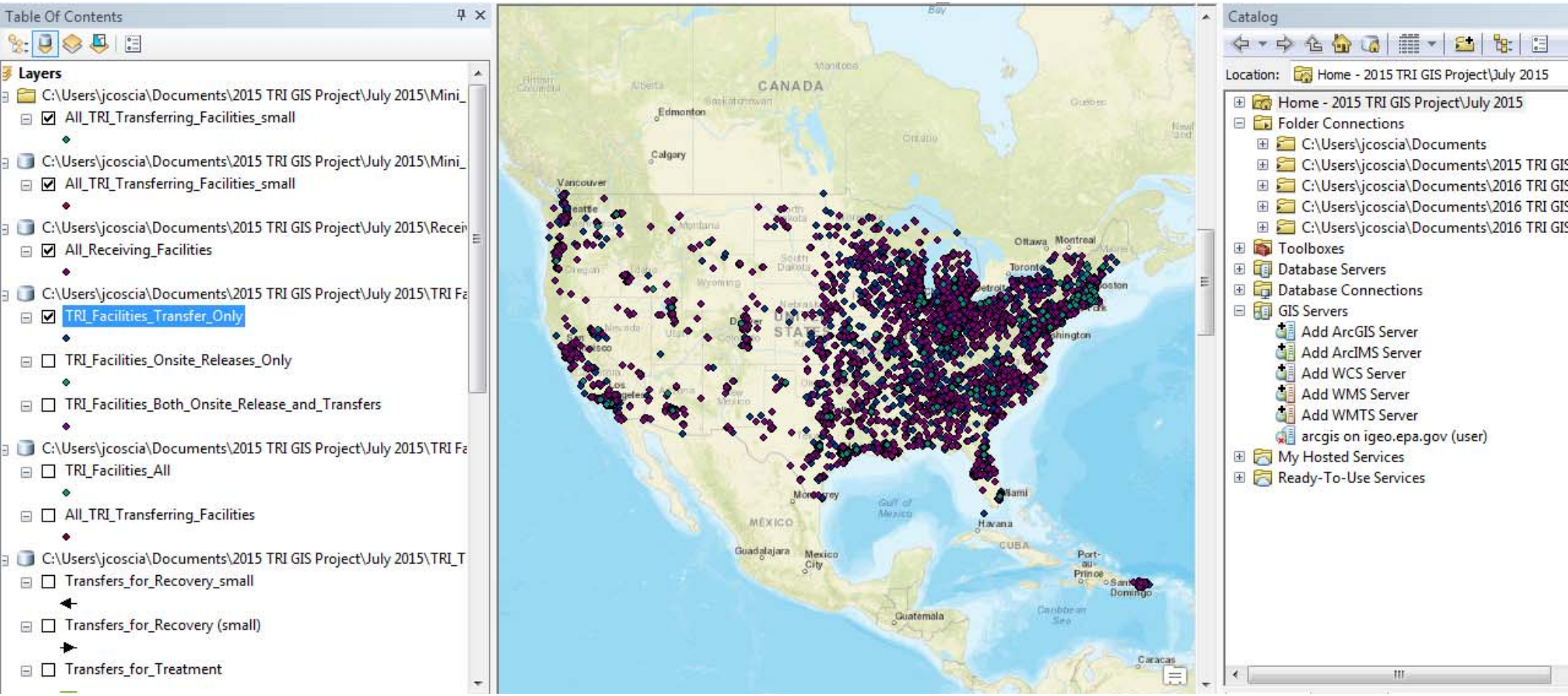


Table Of Contents
Layers
C:\Users\jcoscia\Documents\2015 TRI GIS Project\July 2015\Mini_
All_TRI_Transferring_Facilities_small
C:\Users\jcoscia\Documents\2015 TRI GIS Project\July 2015\Mini_
All_TRI_Transferring_Facilities_small
C:\Users\jcoscia\Documents\2015 TRI GIS Project\July 2015\Recei
All_Receiving_Facilities
C:\Users\jcoscia\Documents\2015 TRI GIS Project\July 2015\TRI Fa
TRI_Facilities_Transfer_Only
TRI_Facilities_Onsite_Releases_Only
TRI_Facilities_Both_Onsite_Release_and_Transfers
C:\Users\jcoscia\Documents\2015 TRI GIS Project\July 2015\TRI Fa
TRI_Facilities_All
All_TRI_Transferring_Facilities
C:\Users\jcoscia\Documents\2015 TRI GIS Project\July 2015\TRI_T
Transfers_for_Recovery_small
Transfers_for_Recovery (small)
Transfers_for_Treatment
CANADA
Edmonton
Calgary
Vancouver
Ottawa
Montreal
Toronto
MEXICO
Guadalajara
Mexico City
Havana
CUBA
Guatemala
Caracas
Catalog
Location:
Home - 2015 TRI GIS Project\July 2015
Home - 2015 TRI GIS Project\July 2015
Folder Connections
C:\Users\jcoscia\Documents
C:\Users\jcoscia\Documents\2015 TRI GIS
C:\Users\jcoscia\Documents\2016 TRI GIS
C:\Users\jcoscia\Documents\2016 TRI GIS
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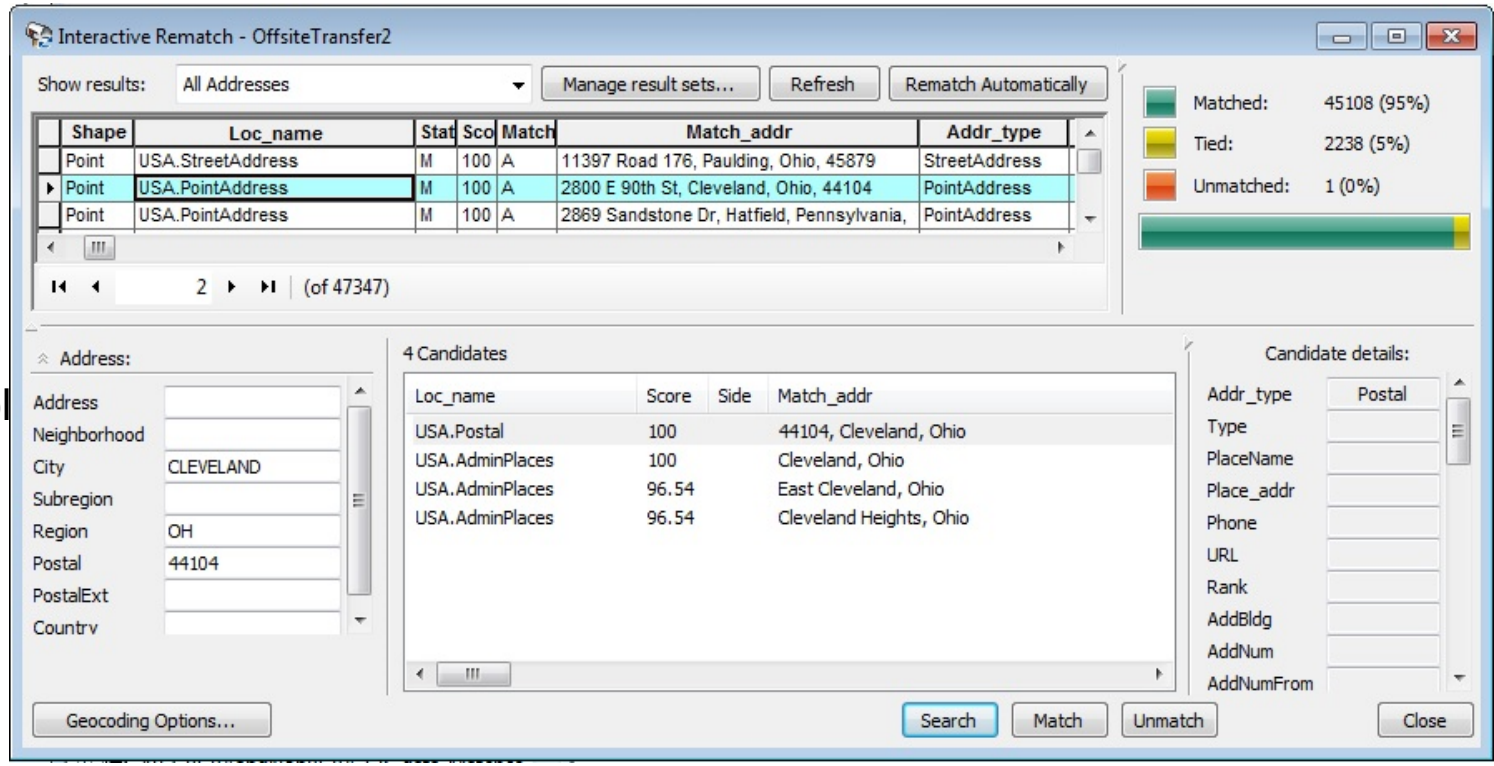
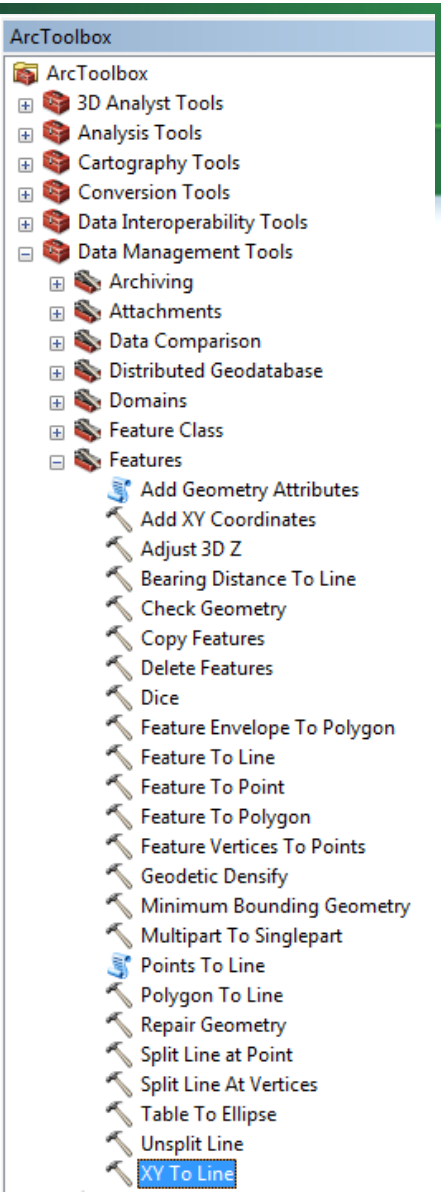
Toolboxes
Database Servers
Database Connections
GIS Servers
Add ArcGIS Server
Add ArcIMS Server
Add WCS Server
Add WMS Server
Add WMTS Server
arcgis on igeo.epa.gov (user)
My Hosted Services
Ready-To-Use Services

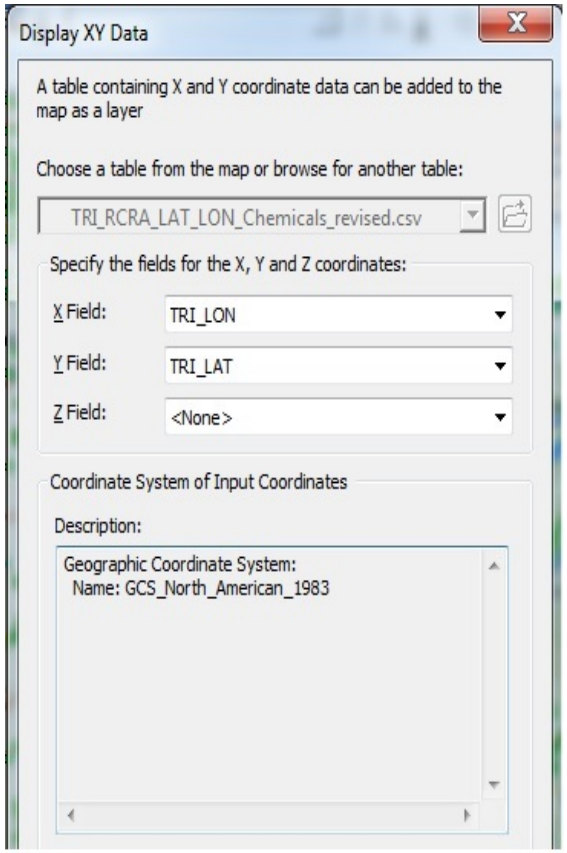
Data Cleansing/Data Prep

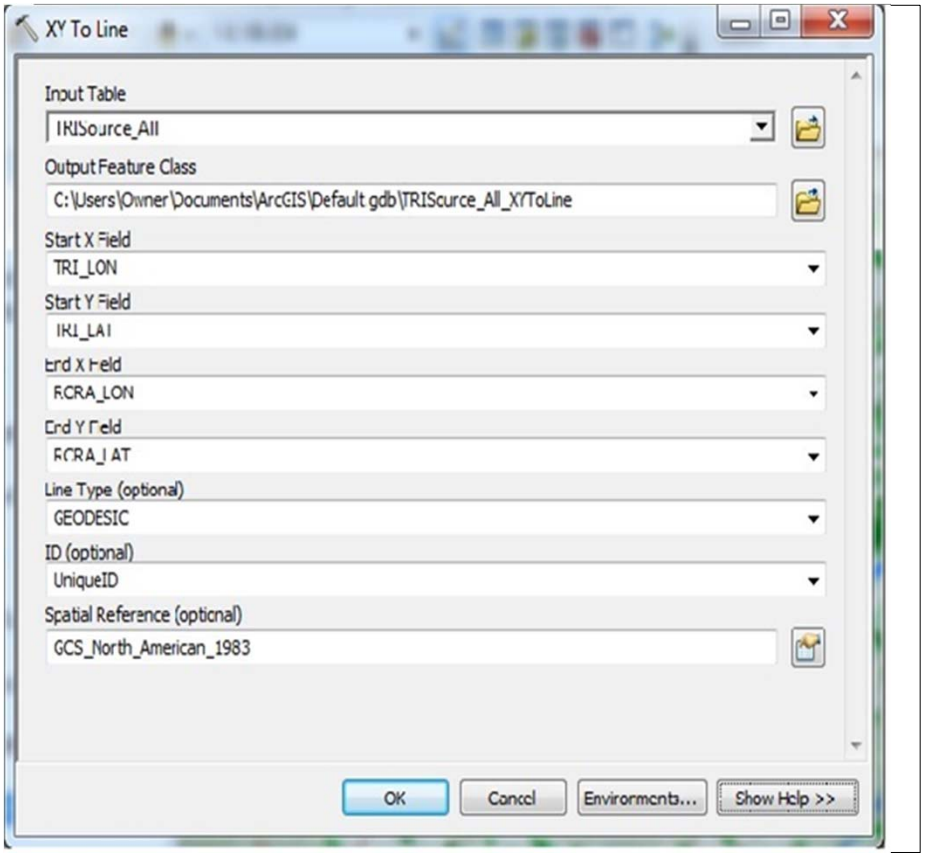
- Geocoded addresses ⟹ X,Y coordinates
- Data Supplied by Tim Antisdel
  - Innovate!
    - Mark Murphy
- Data Inconsistency
  - Address Correction
    - Arc Catalog
    - Review/Rematch tool



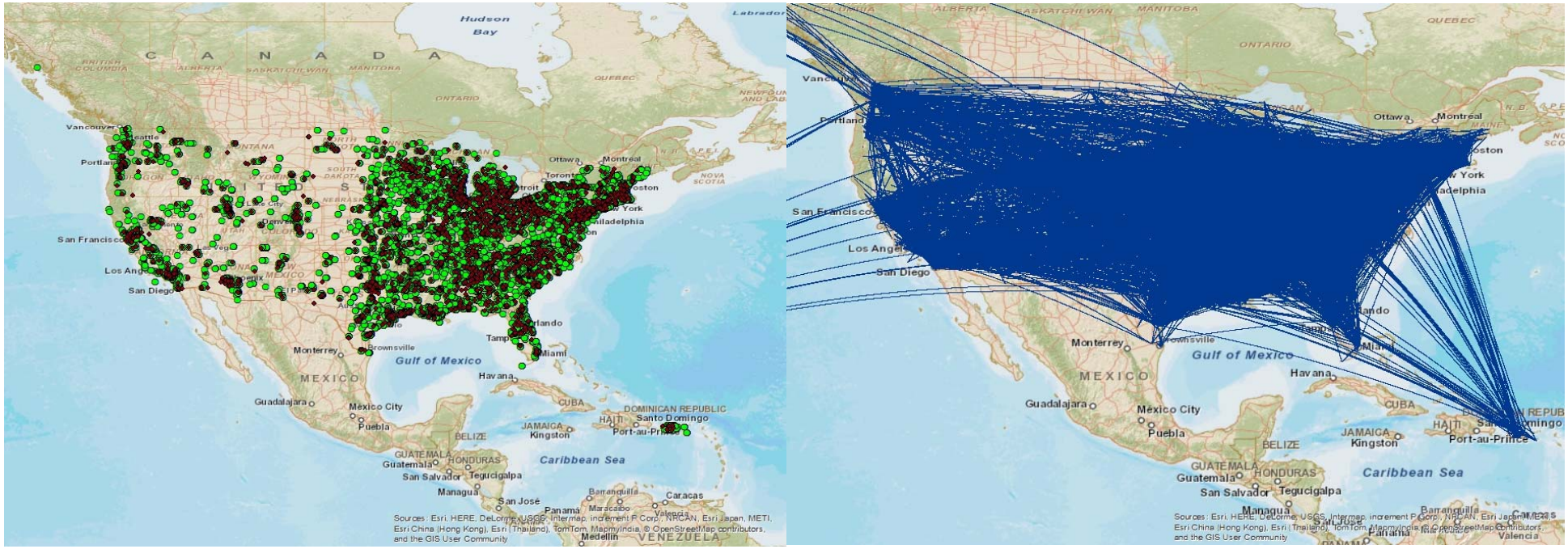
Creating the Initial Shapefiles







Facilities Involved in Transferring or Receiving TRI Chemicals

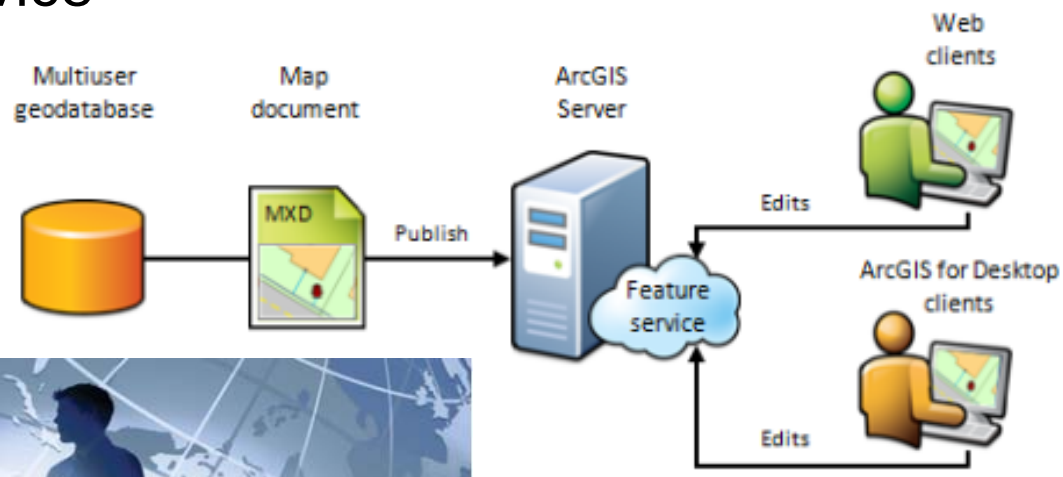


Establishing the Web Service

- Establish access to the NCC Servers
  - proper map symbology through NCC staging

Qi Dai

- Share GIS map as a “Map Service”
- Geoplatform access
  - web application

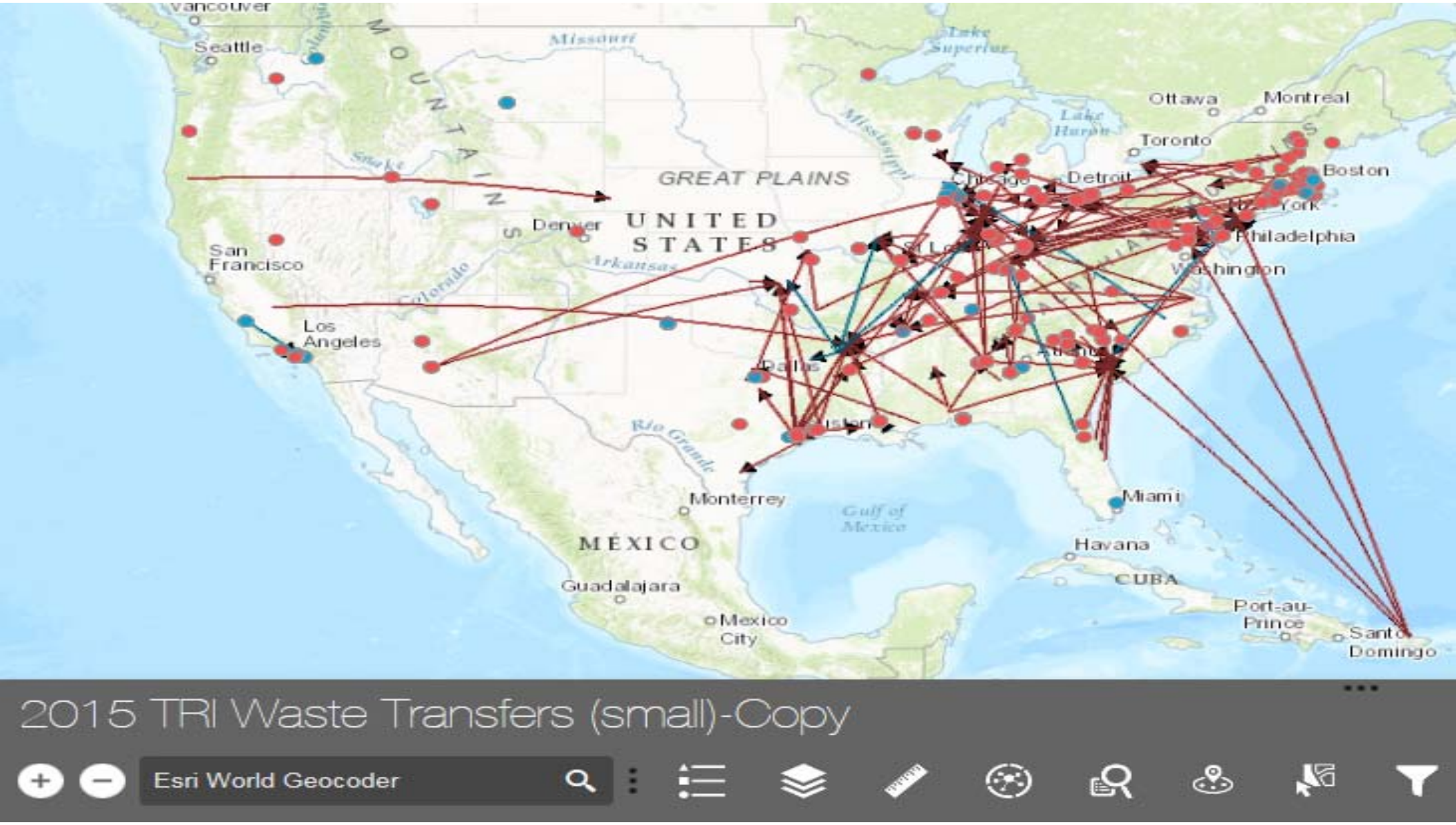


Live Demo

https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=4f9d3a5e31c945bb920431db4d5eb359

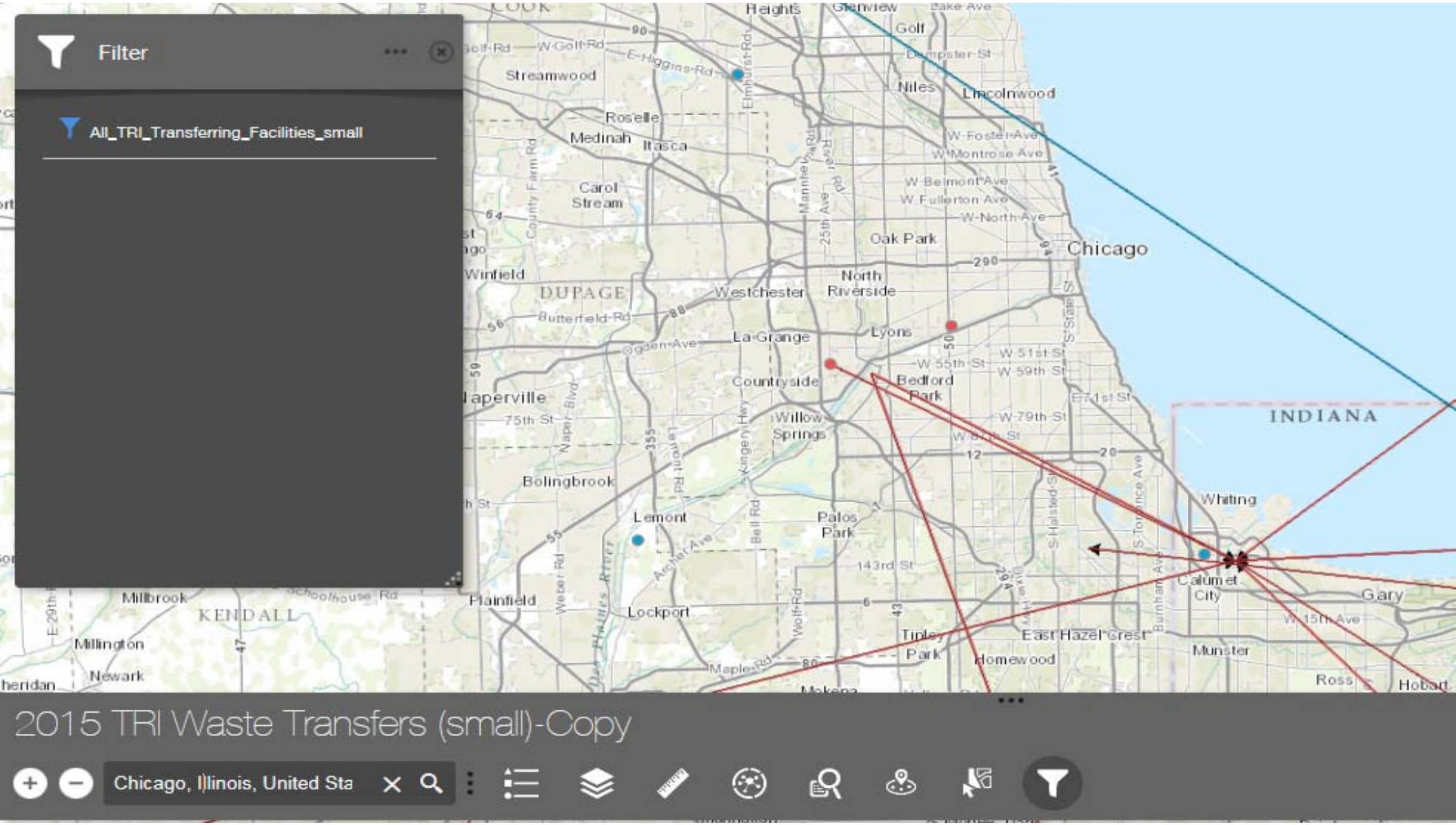
In Conclusion

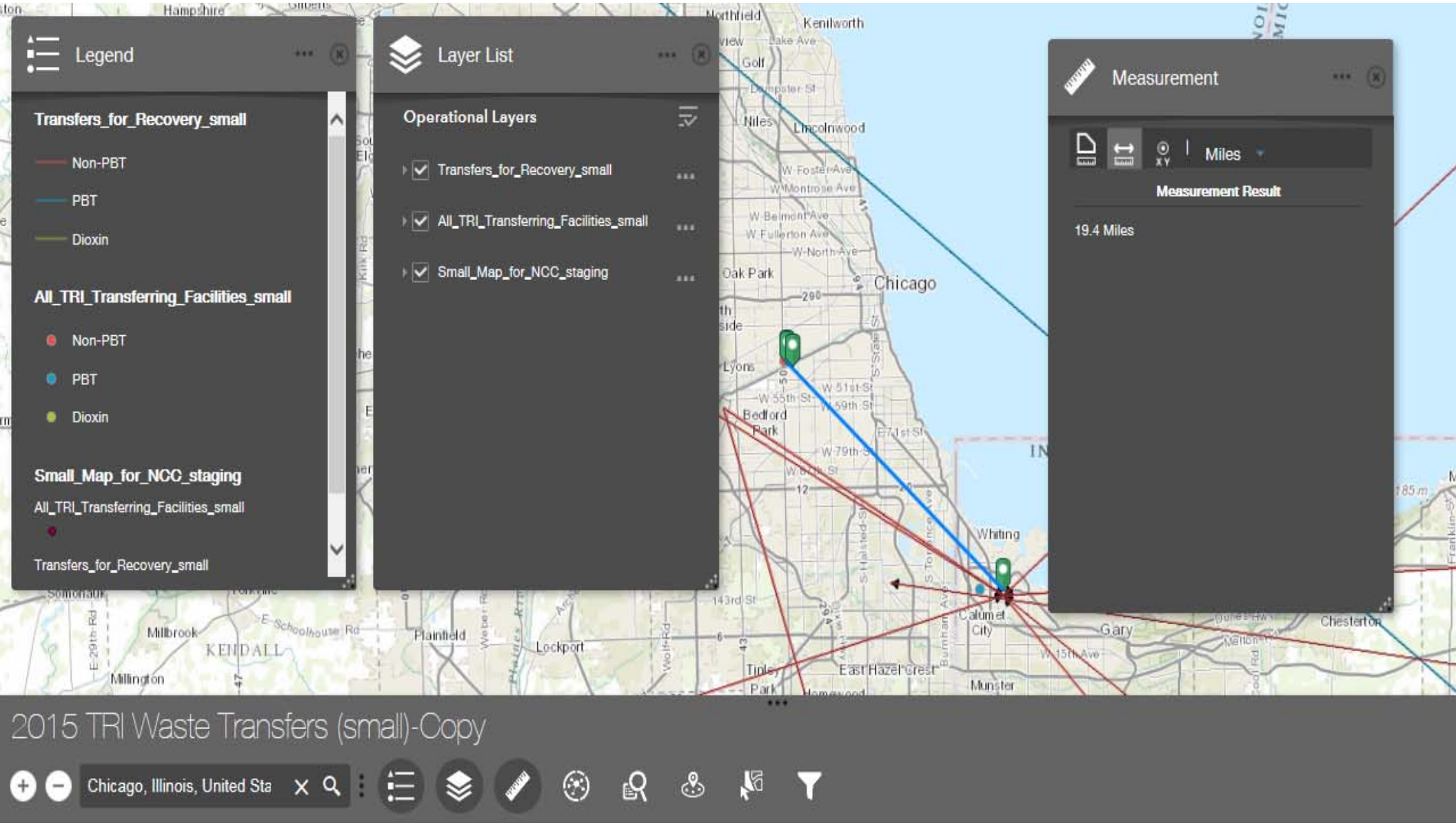
- Searchability of TRI transfer data
  - User friendly interface
  - Community's respond well to maps
- Questions?

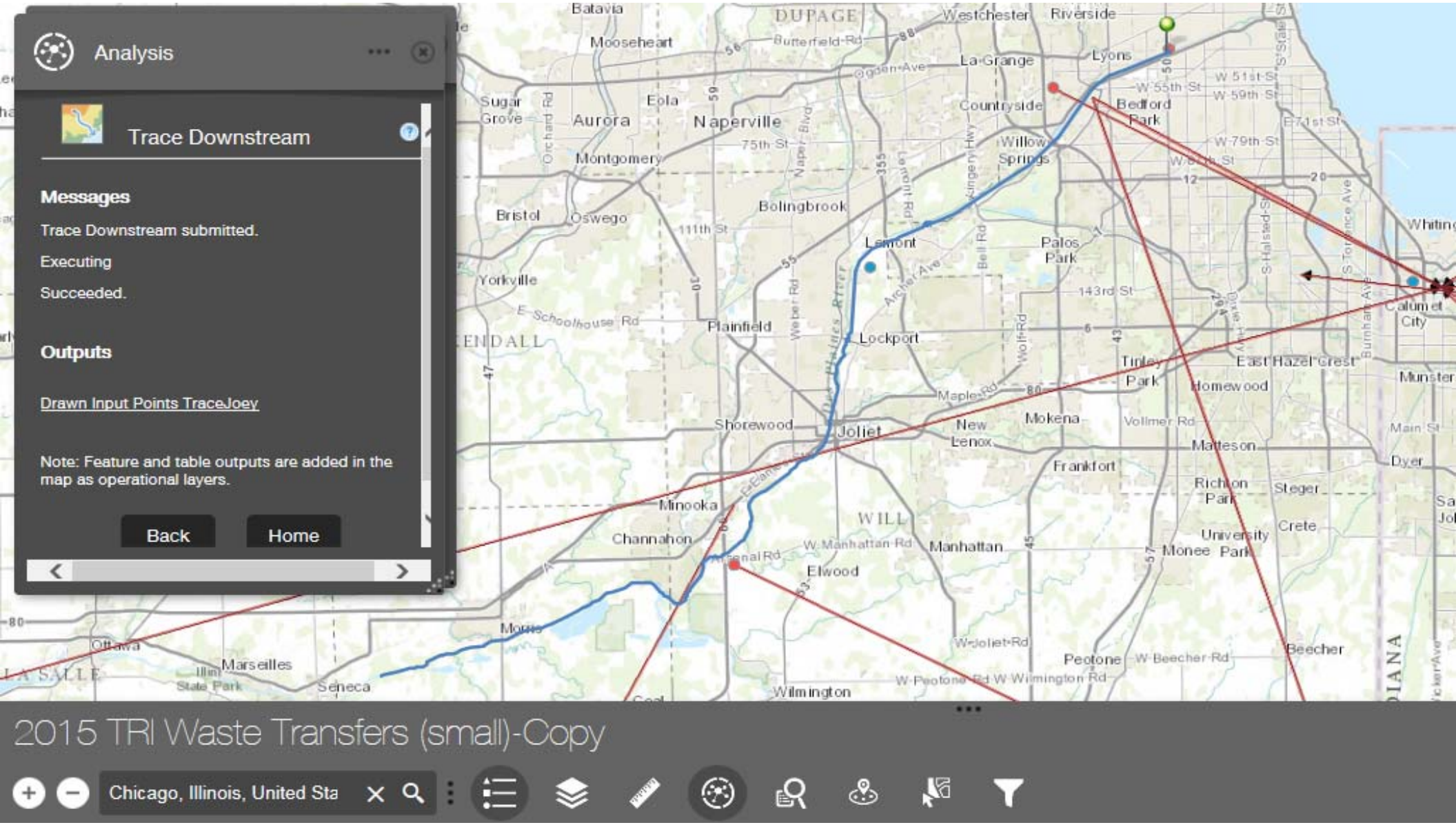


2015 TRI Waste Transfers (small)-Copy

Esri World Geocoder


Filter
All_TRI_Transferring_Facilities_small
Streamwood
Roselle
Medinah
Itasca
Carol Stream
Winfield
DUPAGE
Westchester
North Riverside
Oak Park
Chicago
La Grange
Lyons
Countryside
Bedford Park
Willow Springs
Bolingbrook
Lemont
Palos Park
Whiting
INDIANA
Calumet City
Gary
Plainfield
Lockport
KENDALL
Millbrook
Millington
Newark
Tinley Park
East Hazel Crest
Homewood
Munster
Ross
Hobart
Niles
Lincolnwood
Golf
Glenview
Heights
2015 TRI Waste Transfers (small)-Copy
Chicago, Illinois, United Sta


Legend
Transfers_for_Recovery_small
Non-PBT
PBT
Dioxin
All_TRI_Transferring_Facilities_small
Non-PBT
PBT
Dioxin
Small_Map_for_NCC_staging
All_TRI_Transferring_Facilities_small
Transfers_for_Recovery_small
Layer List
Operational Layers
Transfers_for_Recovery_small
All_TRI_Transferring_Facilities_small
Small_Map_for_NCC_staging
Measurement
Miles
Measurement Result
19.4 Miles
Chicago
Oak Park
Lyons
Bedford Park
Whiting
Calumet City
Gary
Chesterton
Munster
East Hazel Crest
Tinley Park
Plainfield
Lockport
Millbrook
Millington
KENDALL
Chicago, Illinois, United Sta
2015 TRI Waste Transfers (small)-Copy


Analysis
Trace Downstream
Messages
Trace Downstream submitted.
Executing
Succeeded.
Outputs
Drawn Input Points TraceJoey
Note: Feature and table outputs are added in the map as operational layers.
Back
Home
Batavia
DUPAGE
Westchester
Riverside
Mooseheart
Butterfield Rd
La Grange
Lyons
Sugar Grove
Aurora
Eola
Naperville
Countryside
Bedford Park
Montgomery
Willow Springs
Bolingbrook
Bristol
Oswego
Lemont
Palos Park
Yorkville
Plainfield
Lockport
Tinley Park
East Hazel Crest
Homewood
Shorewood
Joliet
New Lenox
Mokena
Matteson
Frankfort
Richton Park
Steger
Dyer
Minooka
WILL
Channahon
Manhattan
University Park
Crete
Elwood
Morris
Ottawa
Marseilles
Seneca
Peotone
Beecher
Wilmington
2015 TRI Waste Transfers (small)-Copy
Chicago, Illinois, United Sta