# PATA Emission Inventory

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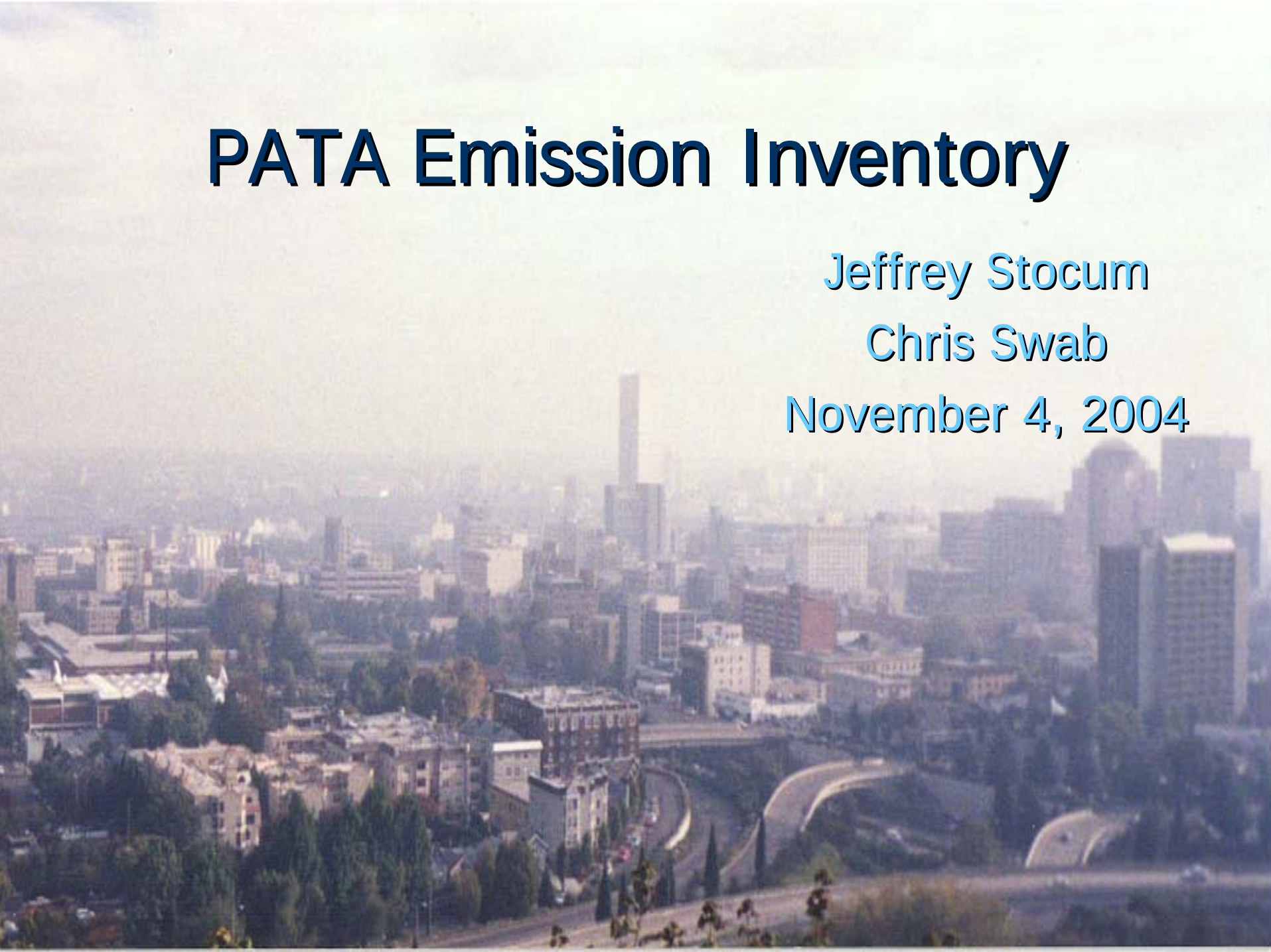


# Overview

- Emission inventory generation
- Spatial resolution of emissions
- EI validation and improvements through modeling

# PATA EI

## Scope

- Clackamas, Multnomah, Washington, Yamhill, Columbia, and Clark (WA) Counties
- Area, Point, Nonroad, and On-Road Mobile Sources

## Data Sources

- Clackamas, Washington, & Multnomah counties
  - Data from the 1999 DEQ NEI submittal
- Columbia, Yamhill, and Clark (WA) counties
  - Data from the US EPA 1996 NTI & 1999 NEI

# Review: Pollutants of Concern

- Formaldehyde
- Chromium
- Benzene
- POM
- Perchloroethylene
- Arsenic
- Diesel PM
- Chloroform
- 1,3-butadiene
- Acetaldehyde
- Nickel
- Acrolein

# Point Sources

- 279 point sources
  - 172 dry cleaners
  - 75 Oregon Synthetic Minor and Title V point sources
  - 16 chrome electroplaters
  - 16 point sources from Clark Co. Washington
- Default stack parameters based on EPA data used

# Dry Cleaners

- Non-permitted sources
- Inventoried because perchloroethylene was a pollutant of concern
- Inventoried as point sources instead of collectively as an area source
  - 172 dry cleaners located at unique coordinates
  - Individually calculated on a mass balance approach
  - Dry cleaner data taken from DEQ annual dry cleaner survey results

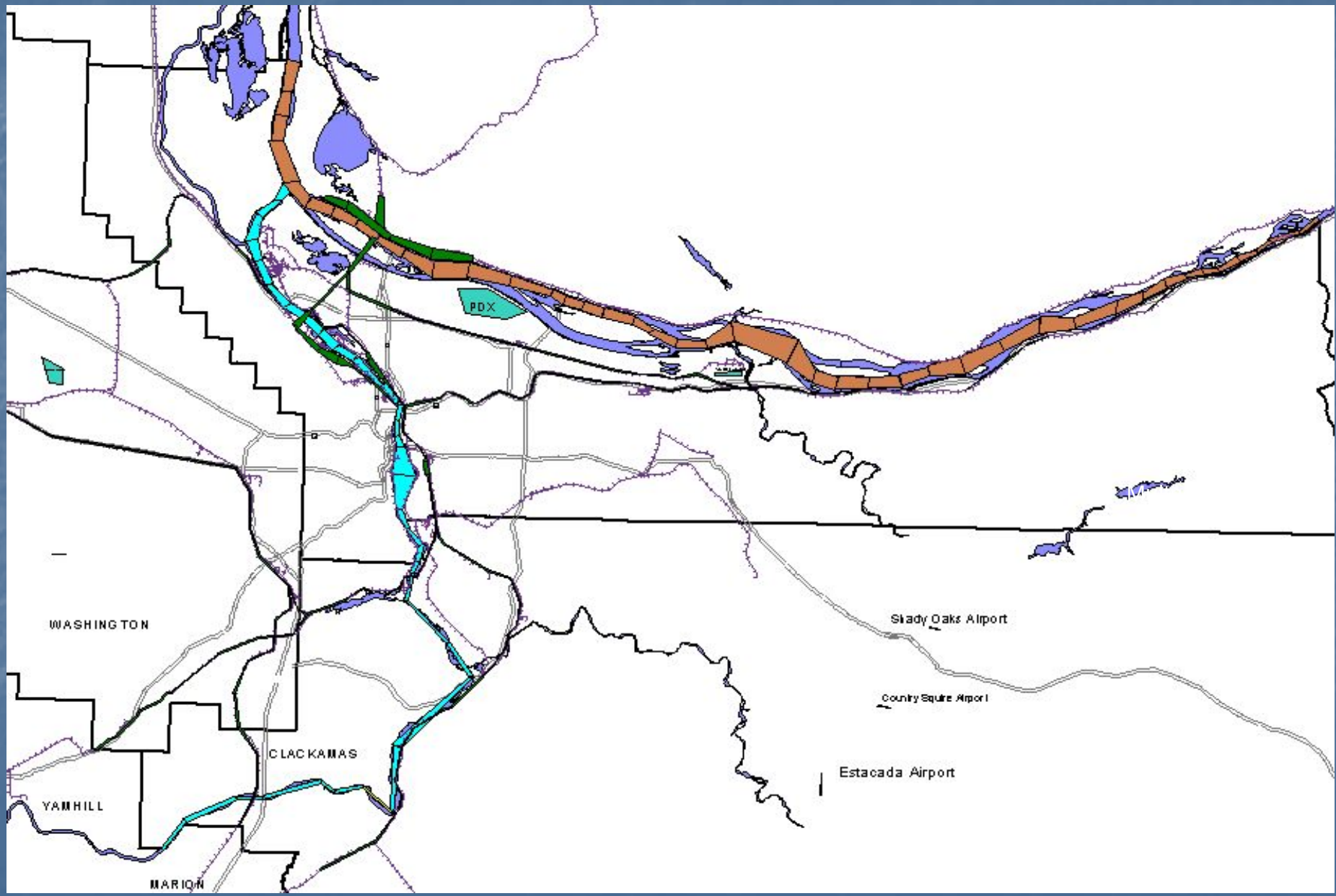
# Chrome Electroplaters

- Inventoried as point sources instead of collectively as an area source
  - 16 facilities located at unique coordinates
  - Based on DEQ survey of ampere-hours
- Both decorative and hard chrome facilities included

# Nonroad Mobile

- Railroads
- Marine vessels
  - Commercial
  - Recreational
- Aircraft
- Nonroad vehicles and equipment
  - US EPA NONROAD model
- Emissions spatially allocated to polygons
  - Airports, rail yards, rivers
  - Rail line-haul emissions spatially allocated using track mileage

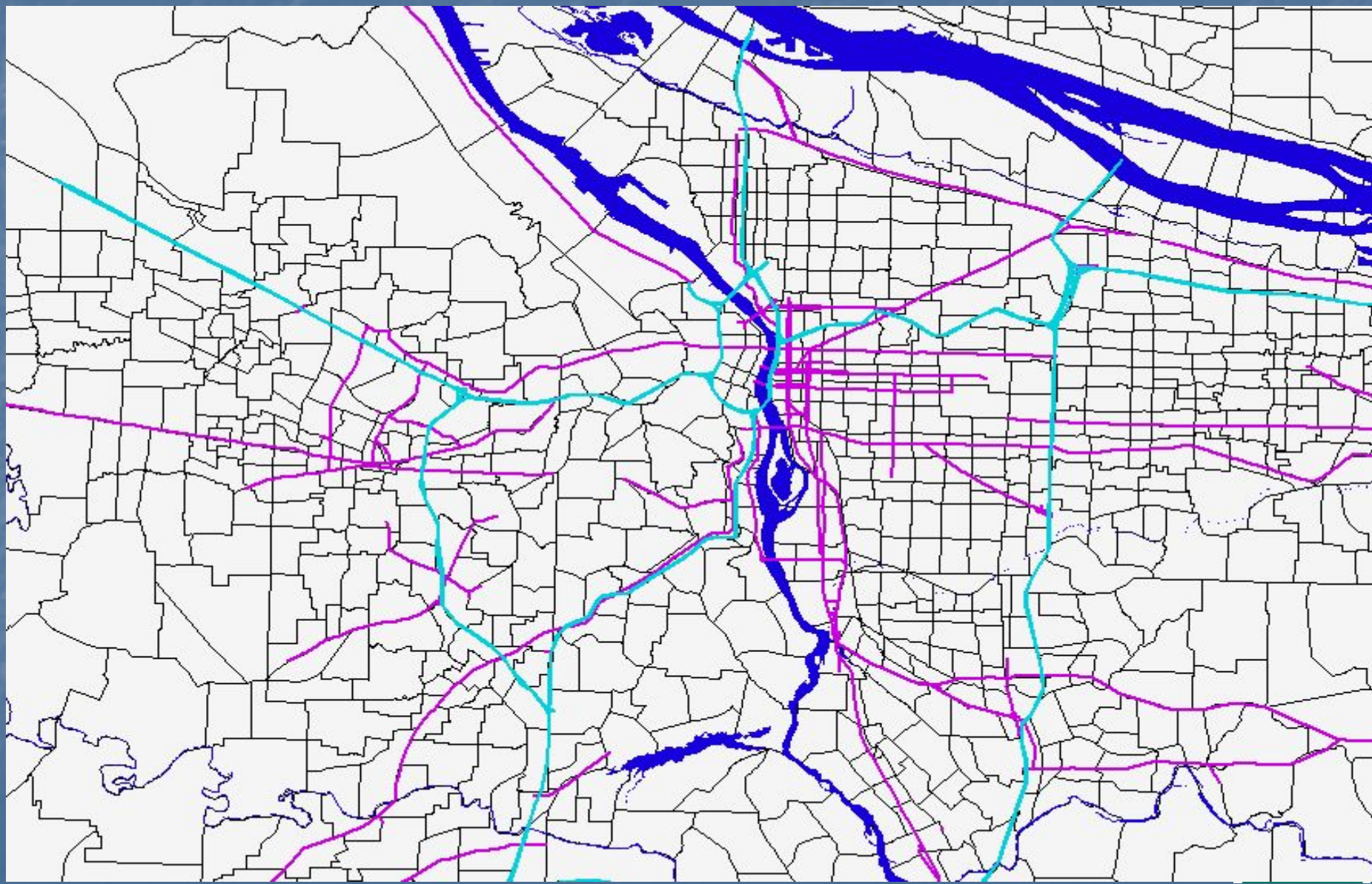
# Example: River, Rail, Airport Polygons



# On-Road Mobile Sources

- METRO provided highly detailed emissions data
  - By roadway link or traffic analysis zone (TAZ)
  - From travel demand model (EMME/2)
  - Utilizing MOBILE6.2
- For the initial regional scale analysis, DEQ reduced the number of discrete links to allow the CALPUFF model to function in a reasonable length of time
  - Any future modeling efforts will use local data resolved to a finer grid size

# Final Link Level Data



# EI Validation and Improvements

- Initial modeling results showed “hotspots” indicating EI limitations
- EI data was reviewed and refined within the following categories
  - NONROAD Model ~ replaced draft 2000 model with draft 2002 model
  - Residential wood combustion
  - Commercial marine vessels
  - Fossil fuel nickel emissions
  - Piston aircraft PAH emissions
  - PDX International Airport emissions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