

# A Risk Index for Hazardous Material Transport in Peel

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# Discussion

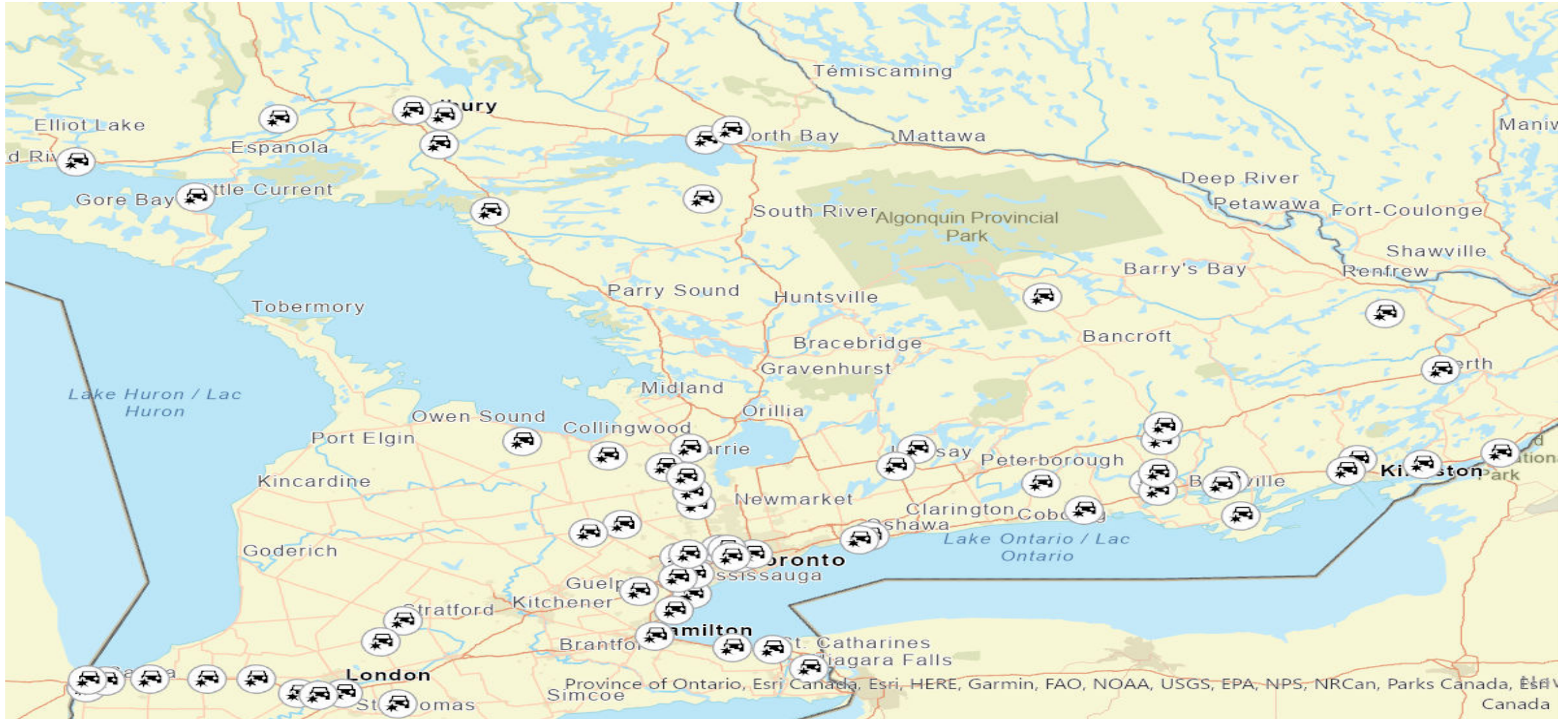
1. Truck Accidents involving Hazardous Materials (Hazmat)
2. Gasoline Movement in Peel
3. Population at Risk

# Accidents involving Hazmat

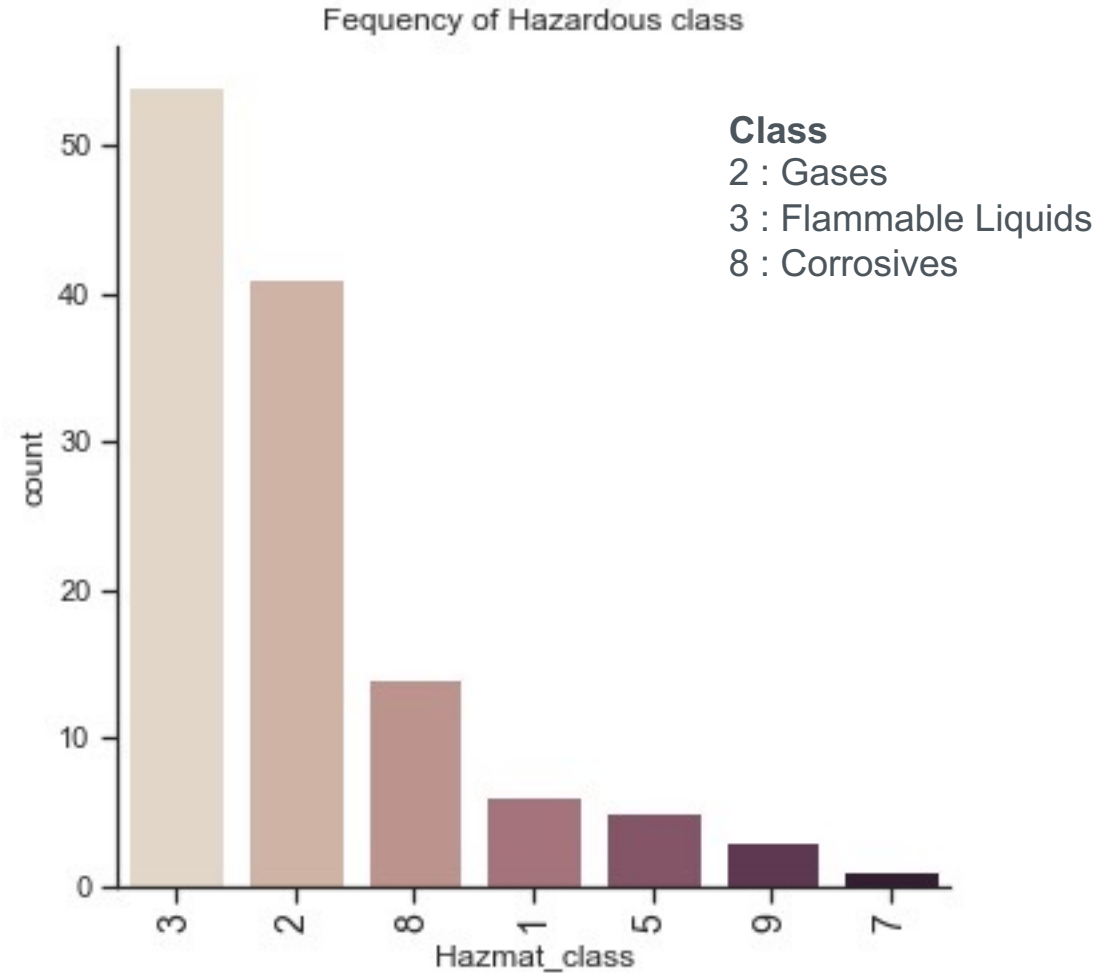
## Data

- Transportation of Dangerous Goods (TDG), department of Transport Canada
- Reportable hazmat road accidents (2017-2020) within Ontario,
- 124 records (accidents)

# Accidents involving Hazmat



# Accidents: Hazmat Class



# Gasoline Movement in Peel

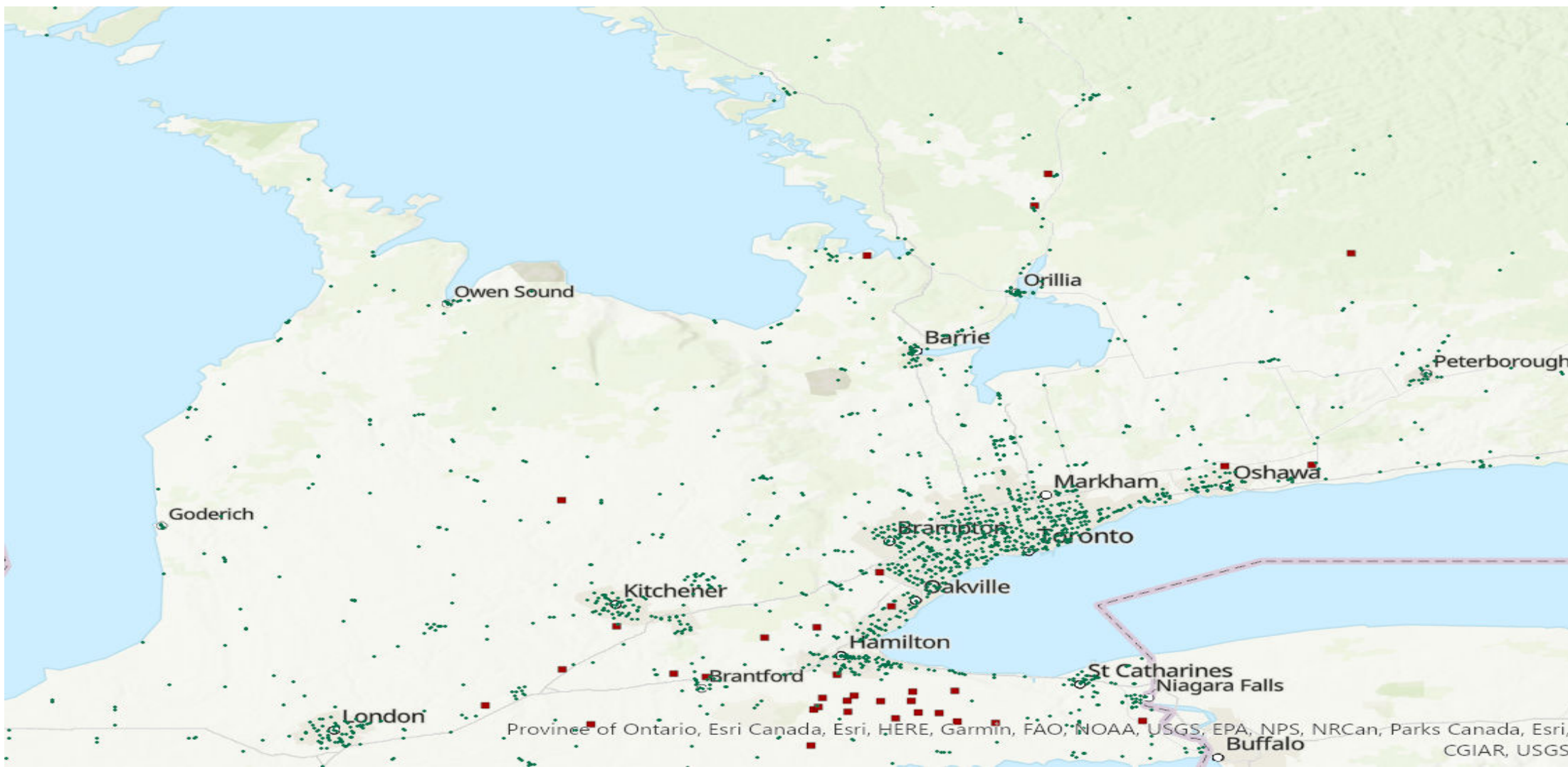
## Data (from [DMTI Spatial](#) through [Scholars GeoPortal](#))

- ❑ Gas Stations points:
  - 3374 gasoline stations across Ontario
- ❑ Gas and Oil Facilities points:
  - 111 gasoline and oil facilities across Ontario (anonymous)
- ❑ Network Dataset:
  - Road network data

## Analysis

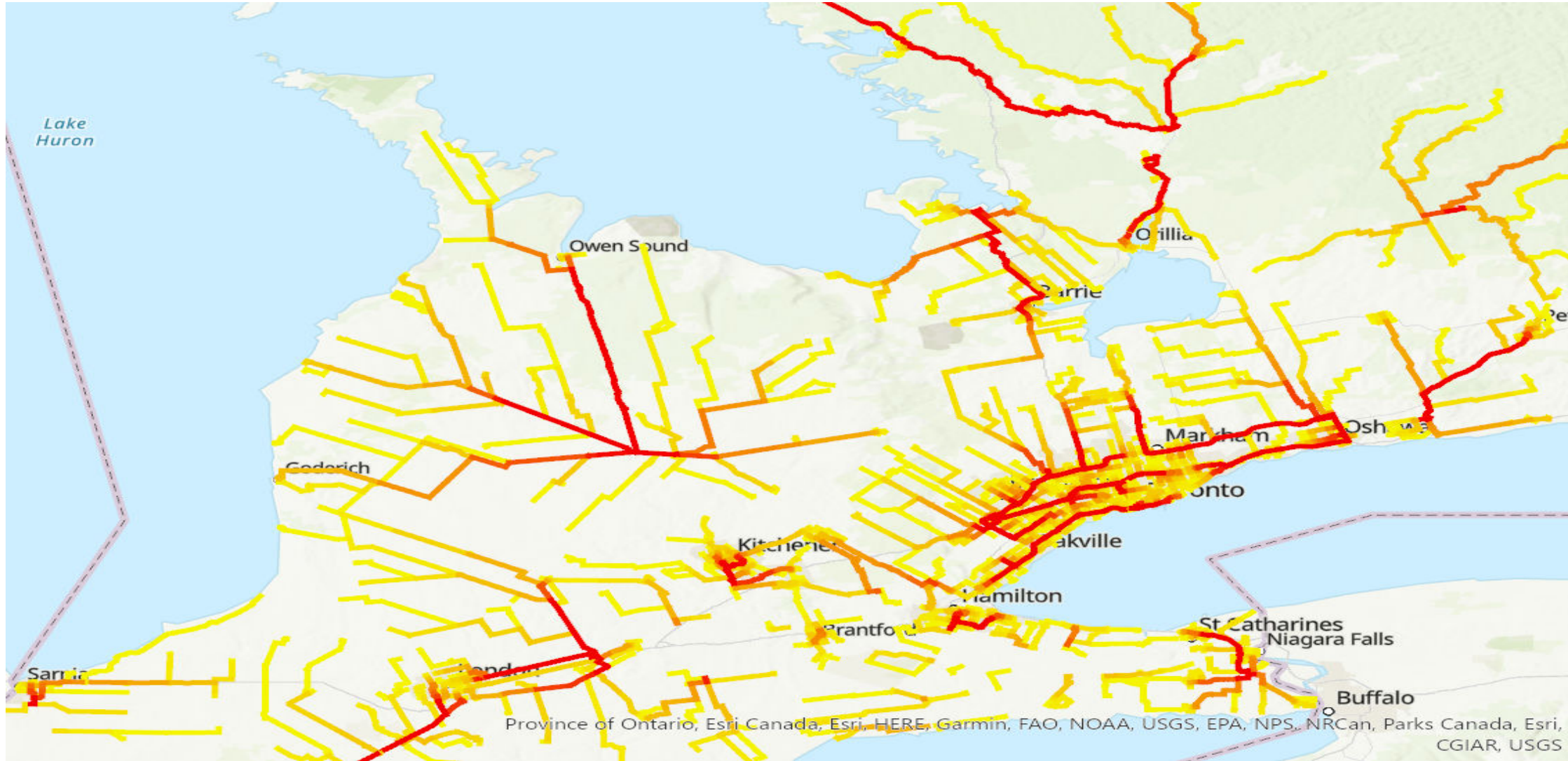
- Gas stations assigned to the closest facility using ArcGIS Pro,
- Minimizing trucking time

# Gas Stations and Facilities



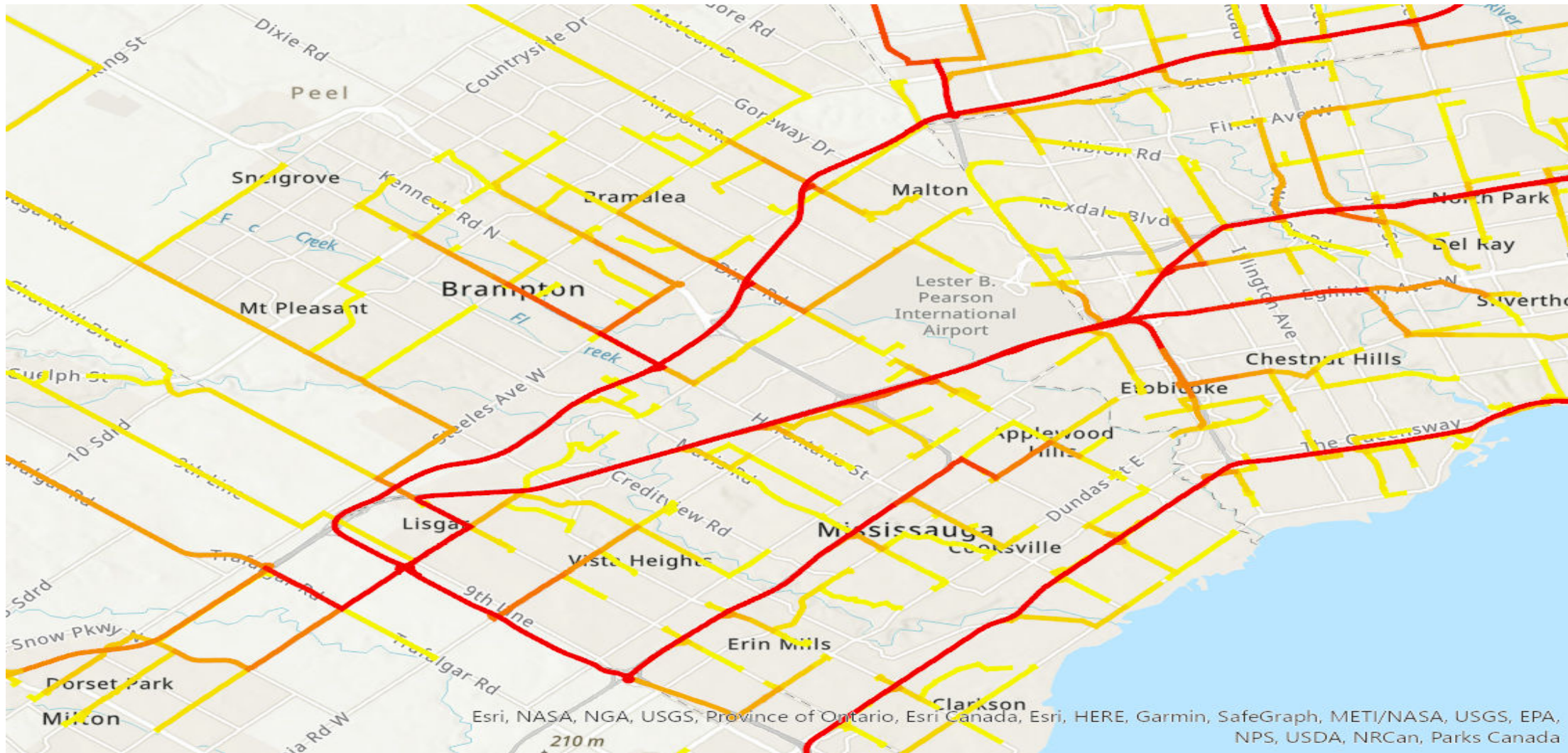
- Facilities
- Stations

# Gasoline Movement in Peel





# Gasoline Movement in Peel



# Gasoline Movement in Peel

## Mostly used roads in Peel

### □ East – West

- Highways 407, 403 and 401
- Steels Avenue,
- Queen St
- Bovaird drive

### □ North - South

- Airport Rd,
- Dixie Rd,
- Main St,
- Missisuaga Rd

# Population at Risk

## Data

### ❑ Population:

- From Statistics Canada at Scholars GeoPortal
- Dissemination area wise population counts in Canada

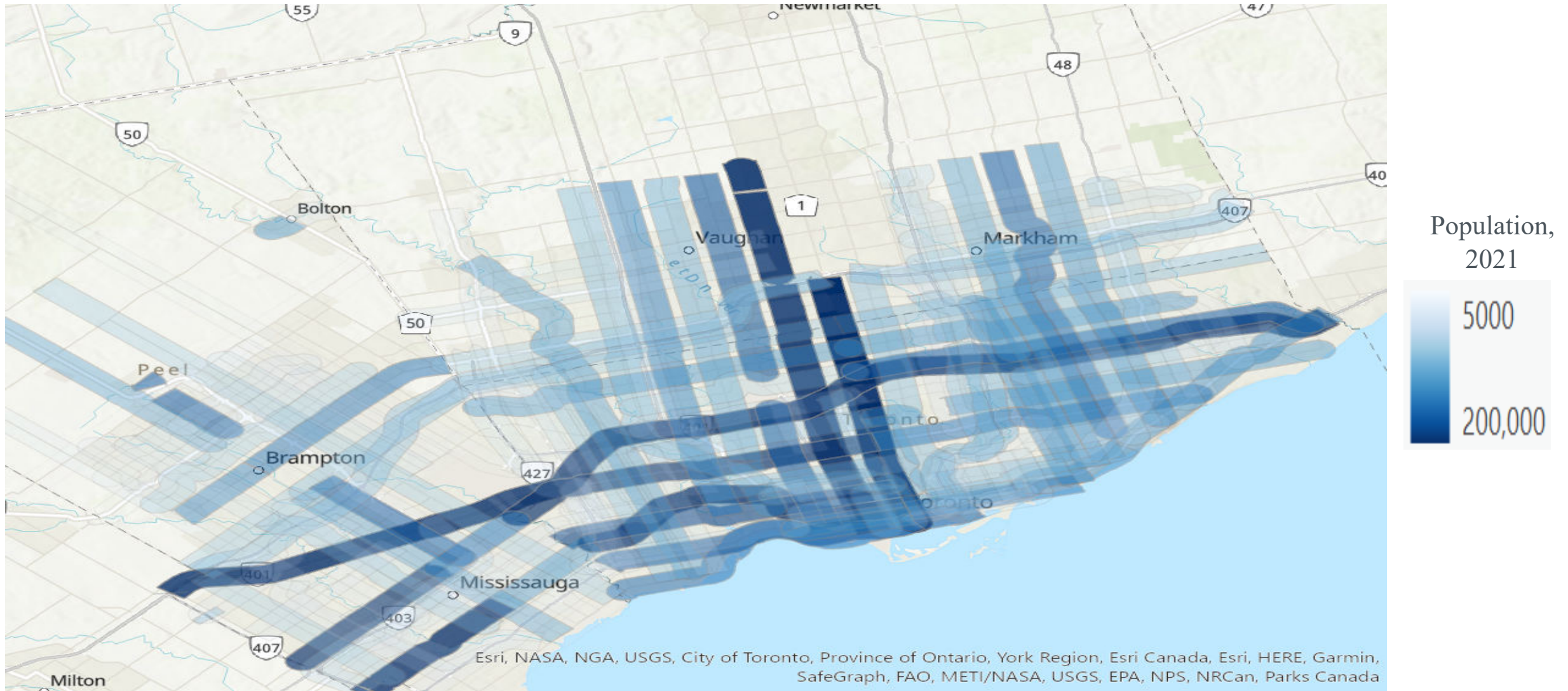
### ❑ Network Dataset:

- Road network data

## Analysis

- Number of population at risk around road segments if accident (hazmat) happens,
- During transportation of class 2 hazmat (e.g. gasoline)

# Population at Risk



# Thank You

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