

PROJECT BRIEF

Hazardous Materials Commodity Flow Study: Marrion County

Project Dates: 02/2016–09/2016

TAKE-AWAYS

- Though there are mandates to report the quantity and type of hazardous materials stored in a jurisdiction, there are less stringent requirements for materials that are transported through a jurisdiction. These materials, however, still present a potential threat to communities, especially in an emergency situation. CPS was charged with completing the Hazardous Materials Commodity Flow Study to gather and analyze data about the hazardous materials that traverse Marion County, Oregon.
- A mixed-methods approach to analysis provided results in the form of (1) summary information by transportation network and hazardous material type, as well as (2) hotspots within the community that present a particularly high risk.

CHALLENGES

Hazardous materials are generally transported without incident. However, consequences of a hazmat transportation incident can be extreme with serious repercussions to public safety, life and wellbeing, the environment, and infrastructure. Additionally, though data is collected about the storage of hazardous materials in a jurisdiction, less is known about the types, quantities, and whereabouts of these same materials as they traverse a jurisdiction. To that end, the Marion County Emergency Management office commissioned a study to determine the possible threats to their community from these materials while in transport.

This study posed some challenges as it is one of the first of its kind in Oregon, and certainly the most recent iteration using complex, geo-spatial analytic methods. Data collection involved coordination across county government agencies, state agencies, private companies, and primary field data collection. The data analysis strategy was developed through an iterative co-production process with the client. Further, the strategy for data presentation was a named priority for the client; they wanted to ensure that the data would be presented in such a way that it could immediately be used to inform policy decisions.

STRATEGY

CPS designed and implemented a complex data collection plan, reaching out to numerous entities that held relevant data points.

- Liaised with county agencies, state agencies, and private corporations to collect and synthesize data on road, rail, pipeline, airway and waterway transportation networks
- Used a mixed-methods approach for data analysis: quantitative analysis for finding X and trends in the data in terms of each transportation network; geo-spatial analysis to identify hazardous materials threat hotspots

RESULTS

- CPS produced an extensive report and a dynamic mapping tool that, among other things, identified five hotspots in the community. These hotspots were shared with internal and external stakeholders, and will be used to frame future policy decisions. Additionally, the hotspots provide the foundation for the next phase of the project, the creation of an emergency pre-planning heuristic tool and community pre-plans.

FULL REPORT

Read full report at:

pdx.edu/cps/profile/HMCFS