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Opioid Treatment Program Drive Time Analysis Dashboard

Kelsey Chance, Senior Director of Engagement & Analytics, Indiana MPH
Amy Ann Tylenda, Data Scientist, Indiana MPH

What are we talking about?

1. Project Intro and History
2. The Ask
3. Sensitive Data and the Hurdles
4. Drive Time Method
5. Proper Documentation
6. Final Product

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Project Intro & History

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The Data Driven Addiction, Prevention, and Recovery (DDAPR) Project

Federally funded, multi-agency collaborative to analyze & visualize substance use data.

Aimed to

- Understand substance use trends
- Support data informed decision making
- Identify & track indicators of success

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Opioid Treatment Drive-time Analysis

Use Case Description

Understand the geographic accessibility of **opioid treatment** by analyzing where services are located and how far individuals must travel to access them.
Includes:

- Opioid Treatment Programs (OTP)
- Office Based Opioid Treatment (OBOT)

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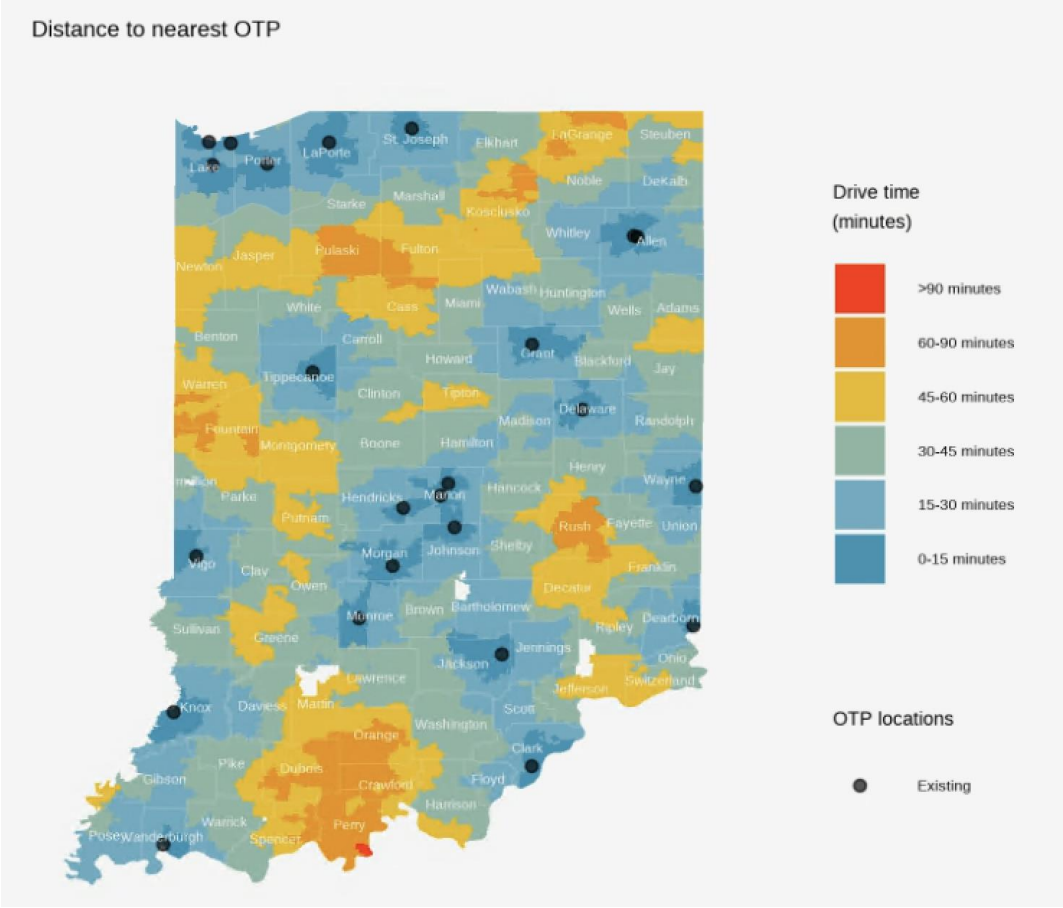
Opioid Treatment Drive-time Analysis
Deliverable: Version 1

Facility locations (DMHA)
Drive time calculation (Google API)

Static map(s) of Indiana

- OTP locations
- OBOT locations
- Driving Radius



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The Ask

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Just a Quick Update?

The Changes

- A dashboard?
- Potential Opioid Treatment Program (OTP) locations?
- No more OBOT

The Challenges

- Data Structure changes
- Older packages are no longer supported
- Sensitive data

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Sensitive Data and Hurdles

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Sensitive Data

Potential OTP locations

- Not published
- Not public
- Not allowed to be disclosed

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Protect the Data

- Remove the Google Map API
- Find a way to calculate Drive Time without using external services

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Drive Time Method

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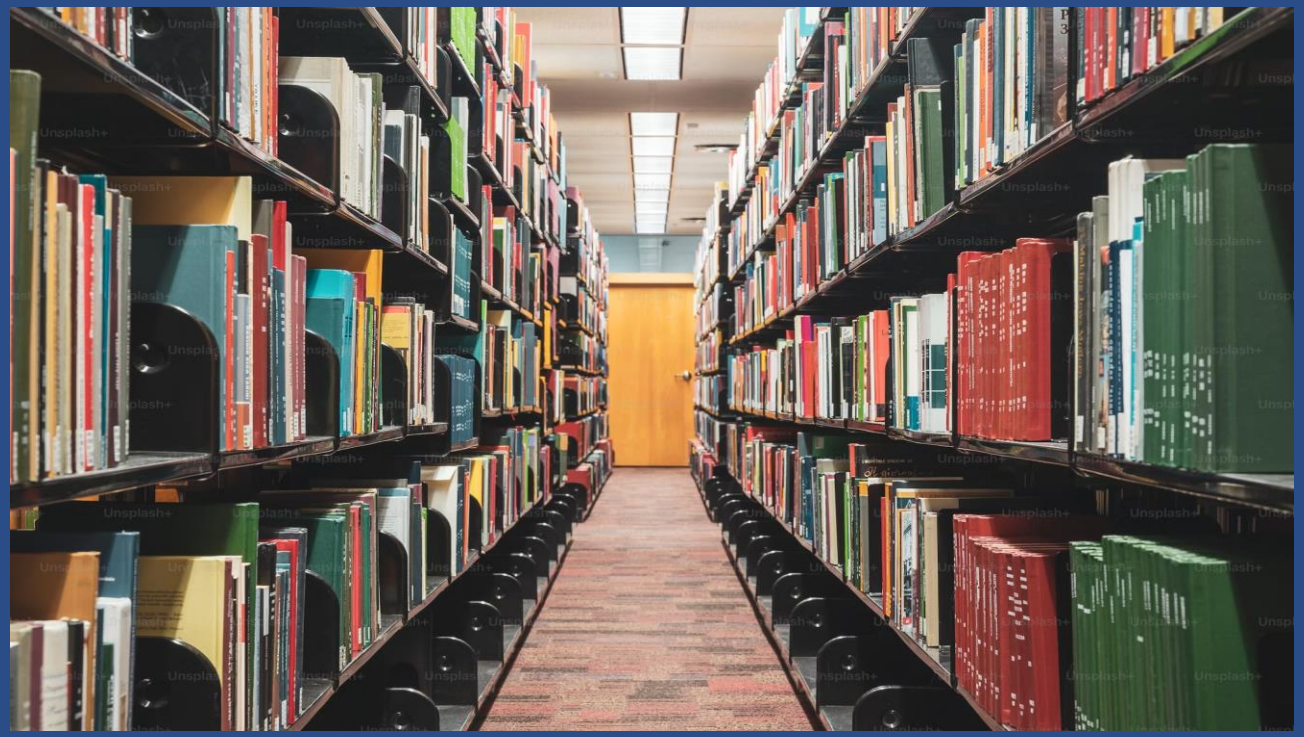
Researching Estimation Methods

- Cost
- Efficiency
- Accuracy
- Resources
- Project Timeline



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Potential Commercial Methods

- Google Maps
- Bing Maps
- ESRI
- ArcGIS

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Potential Open Source Methods

- OSMnx
- OSRM
- Maybe something else???

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Geometry Break

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Arc Length

- Gather the ZIP code centroids
- Gather OTP location coordinates
- Calculate the arc length

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Average Driving Speed

- Finding the length of Indiana roads
- Find the speed limit of each category of road

Data Sources

- Federal Highway Administration
- IC 9-21-5-2: Maximum speed limits

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Proper Documentation

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Leave Good Crumbs

In the Code

- Comment your thoughts
- Break your code into sections
- Include your criteria

In the Documents

- Well written methodology
- Write up a data dictionary
- Include key file locations and what the final outputs are

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The Final Product

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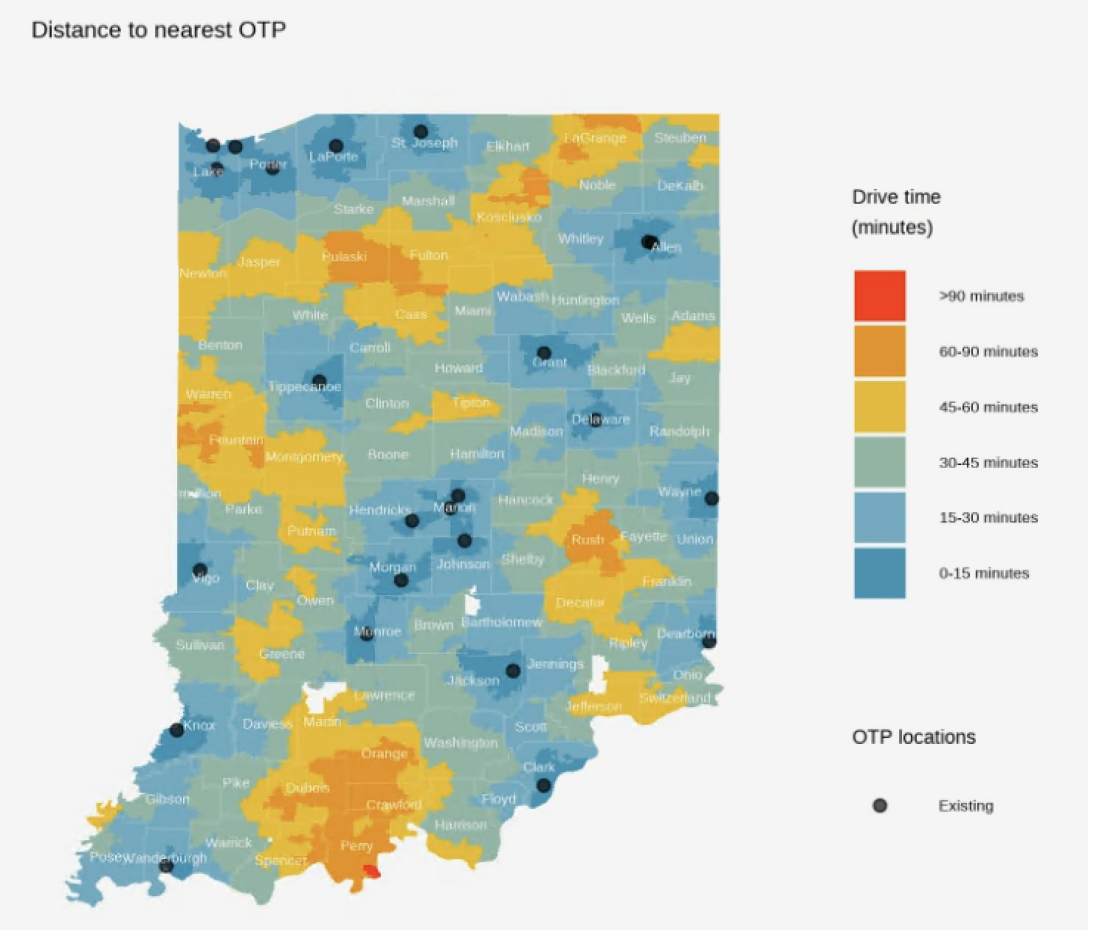
The First Version

- Static Image
- Multiple files
- Unable to Isolate OTP locations or ZIP codes



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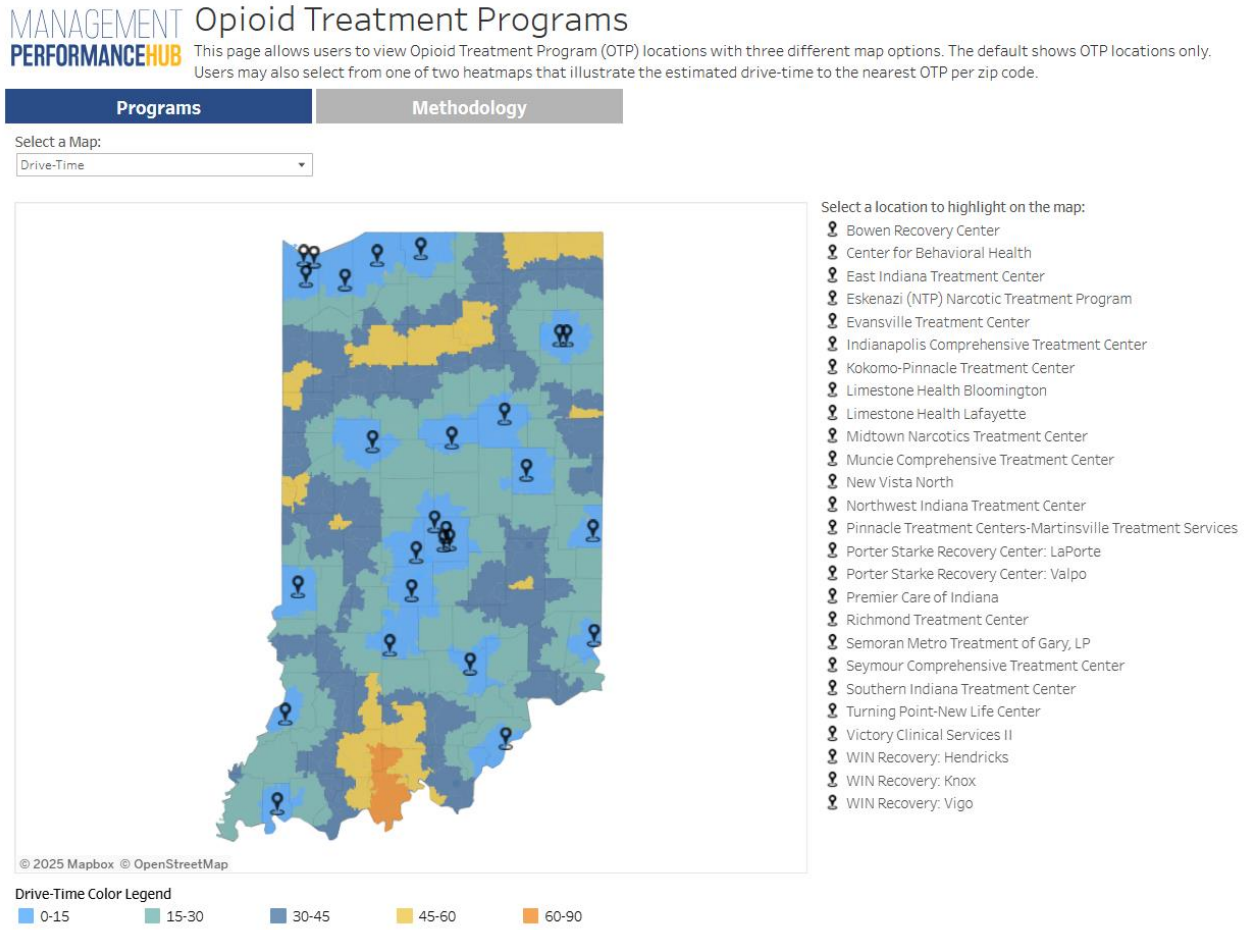
The Current Version

- Interactive
- Multiple layers with different views
- Ability to isolate the OTP location or ZIP code



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Key Takeaways

- Be kind to your future self. Leave good crumbs
- Don’t be afraid to get creative
- Strive for efficiency and accuracy. Know where the balance is
- Keep data privacy in mind

Questions?

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Contact Info

Amy Ann Tylenda
Data Scientist
Email: atylenda@mph.in.gov

Kelsey Chance
Senior Director of Engagement and Analytics
Email: kchance@mph.in.gov

Indiana Management Performance Hub
Web: data.IN.gov
Data Hub: hub.mph.in.gov

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Sources

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