ABOUT

• Office of Transportation Planning

• Managed by Kevin Lopes

• Team of ~10 analysts, developers, & coordinators

• Produces GIS data to acquire federal funding through HPMS

GOALS

1. Maintain the accuracy of the Road Inventory and other datasets.

2. Provide a centralized platform for MassDOT’s geospatial activity on the web.

3. Enable partner access to consistent and equitable tools.

4. Increase public participation in transportation activities through technological advancements
GEODOT

A platform for data collection, sharing, visualization, and analysis.

Types of activities:

- Interactive Maps
- Data Viewers
- Field Collection
- Screening Tools
- Download Access
- Physical Map Requests
- Custom Applications
- Web-based Analysis
- Detailed Imagery

Get an account at: massdot.maps.arcgis.com/home/index.html
Filter and download transportation data

Features:

- Live data exploration tools, visualizations
- Filtered and dynamic data downloads
- API integration for web developers
- Suggest new data items
MAPPING TOOLS

Users have access to Esri’s powerful online mapping portal without having to purchase a license or download software.

Create your own web-based dataset, tool, analysis, work-flow, or application.

“Web Maps” allow users to make, visualize and share interactive data displays.
ANALYTICS

• Explore data patterns with Esri Insight.

• Use our pre-defined workflows or tools to reproduce results consistently.

• Use AGOL to create your own analysis.
• Provide **new tools and workflows** to municipal and regional entities

• Hope to allow municipalities to be in control of their own data updates with state oversight

• Municipal entities **have more knowledge of local conditions** than state employees
CH. 90 UPDATE PROCESS

Updating Road Inventory data may lead to an increase in Ch. 90 funding

1. If a road isn’t in our database, it will not be in the final mileage total

2. If a town is maintaining a road, it should be owned by the town

3. Our database should be confirmed by each town semi-annually
RIF UPDATES

2005-2017
• Redundant work flows
• Lack of tracking, no accountability
• Outreach efforts are largely ignored :(
• Reliant on physical mail

2018-Forward
• Digital interface
• Robust annual reporting tools
• Ability to make frequent edits
• Customizable tools
• Automated update notification
• Online interface accessible with a GeoDOT account.
• Update jurisdiction or other attributes.
• Upload your own supporting documents.
• Receive email verification of road acceptance
• Creates a robust annual report.
DATA VIEWERS

We currently have two public facing data viewers that allow you to summarize the Road Inventory File or Identify VMT by a geographic area. The interface allows you to view, sort, aggregate, and download tables.

Welcome to the Road Inventory Municipal Data Viewer!

To get started, follow the instructions below:

Assemble Road Inventory tables to better visualize your community.

Access and download VMT information through a custom portal.
PICTOMETRY ACCESS

- Easily accessed through GeoDOT
- Has the latest available imagery for each region of the state (ranges from ~2008-2017)
- Licensing available for any local government
- Address search functionality
COLLECTOR APPLICATION

• MassDOT provides a service in which municipalities can access Esri software on their phones or tablets to collect transportation asset locations.

• Users can then push that data into a public dashboard.

• Our most popular application collects filled pothole locations.
PROJECT INTAKE

Originally an offline Environmental data viewer.

Expanded into a comprehensive project screening tool.

Other data layers were added to provide planners with a holistic vision of a project's unique character.

Example Layers: Transit, Safety, Wetlands, Endangered Species, Title VI Areas, Utilities, Pedestrian Facilities, Historic Districts, Pavement Condition, and many others.
HOW IT WORKS

The interface is a representation of the PIF and PNF documents.

A user draws the project area using the mouse.

Geoprocessing intersects all background layers and conflicting geometries.

The information is pulled into the electronic project forms.

The completed document is forwarded to the “gatekeeper” for approval.

The accepted project goes to PRC for scoring.
• The tool integrates directly with Project Info.

• You will be able to see a visual representation of other projects in the state.

• Will be further developed to add underlying datasets.
NEXT STEPS & NEW INITIATIVES

• MassDOT GIS has many active short, medium and long term initiatives.

• Tool updates are released periodically through our GeoDOT newsletter.

• We are always open to new projects and tools.

1. Road Update ToolFebruary 2018
2. Pedestrian Inventory Implementation February 2018
3. Municipal Data Scorecard Fall 2018
4. Project Intake SRTS/Ch90 Upgrades September 2018
5. Drone Integration 2019
WEBSITES

GeoDOT
massdot.maps.arcgis.com

Open Data site
geo.massdot.opendata.arcgis.com

MassDOT
http://www.massdot.state.ma.us

MA state website
https://www.mass.gov

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We hope you found this presentation to be helpful, and that you reach out to our office with any additional questions or ideas you may have.