



**MASSDOT
GIS**

**QUINN MOLLOY
GIS MUNICIPAL COORDINATOR**

MASSDOT GIS SERVICES

- About GIS Services
 - In the Office of Transportation Planning
 - Managed by Kevin Lopes
- Primary function is to maintain the Road Inventory, submit data to HPMS for funding
- Current Services:
 - Collect, organize, & maintain data
 - Assist in data analysis
 - Develop custom applications
- Goals:
 - Increase the quality of our data
 - Improve municipal access to GIS for transportation

GEODOT



- Features:
 - Data downloads
 - eMap building
 - Custom tools, applications
 - Interactive Maps
 - Physical Map downloads
 - Historical Map database
 - Data collection and sharing tools

OPEN DATA



massDOT
Massachusetts Department of Transportation

My Data Sign In Sign Up

Open Data Portal

Search for GIS Data

Welcome to the **"NEW"** MassDOT Open Data Portal!
Use the search bar above to download Open Datasets in some of the most useful formats for spatial analysis and web integration.

Available Download Formats

SHP: Esri shapefiles often used by GIS professionals and academics while working with Esri products or compatible desktop software.
XML: Extensible Markup Language files are written in an easily read markup language commonly used to display meta data (data about data).
CSV: Comma Separated Value text files display tabular data in a plain-text or spreadsheet format and can be easily read by assistive technology.

- Features:
 - Live data exploration tools, visualizations
 - Filtered and dynamic data downloads
 - API integration for web developers

Explore Data Categories



Roadways



Boundaries



Facilities



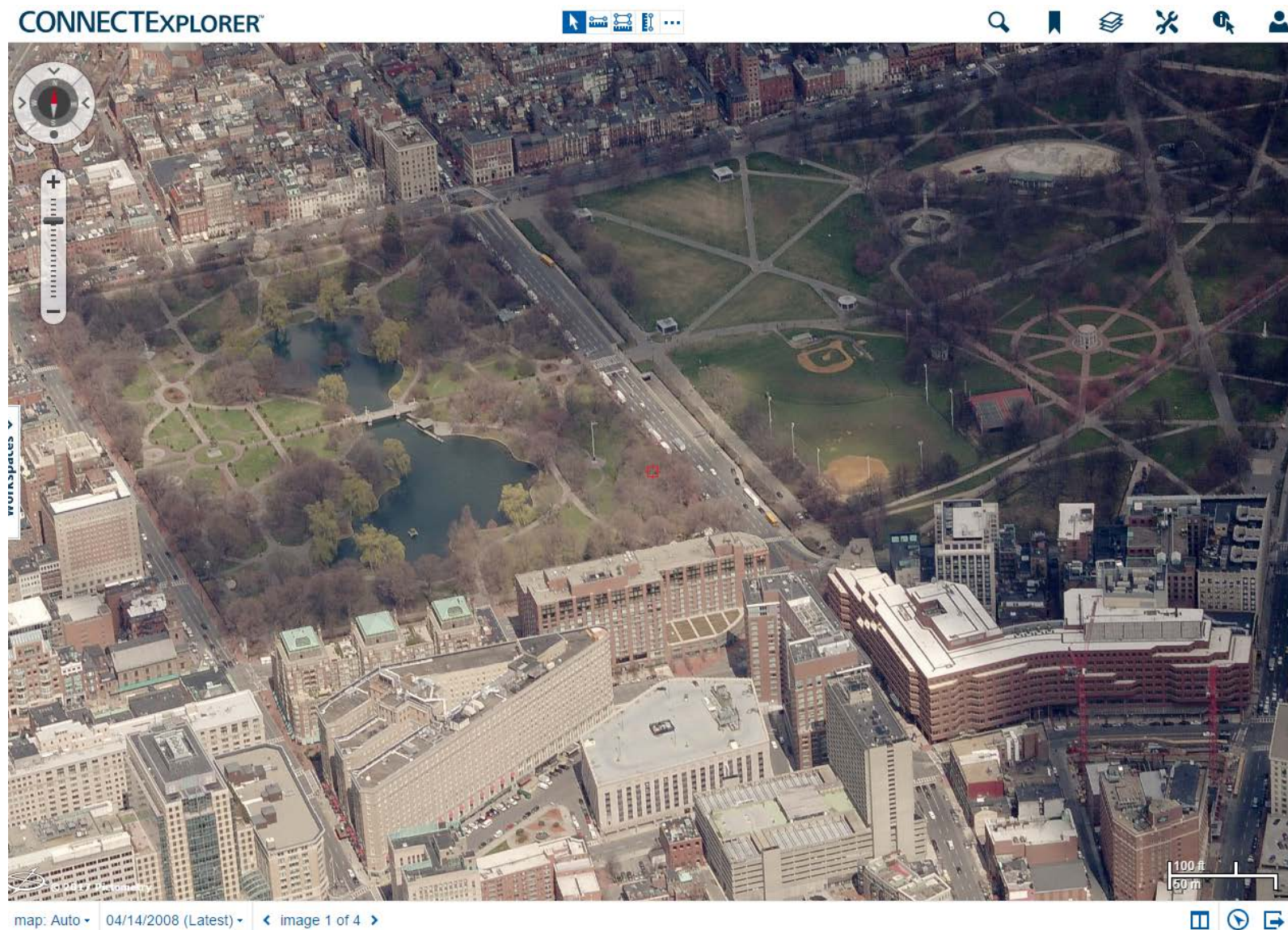
Category Link

GEO DOT LOCAL



- What is it?
 - A digital portal for local data development, GIS-T, and state interaction
 - A separate ArcGIS Online Organizational account from geoDOT, MassDOT's general AGOL portal
- Stakeholders:
 - MassDOT GIS
 - Municipalities
 - RPAs
 - MPOs

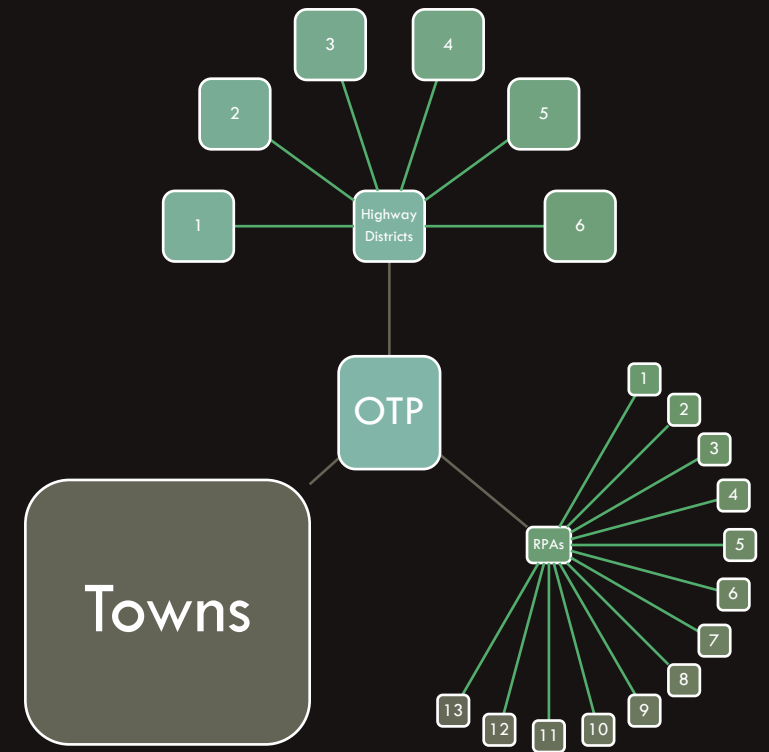
PICTOMETRY ACCESS



- Easily Accessed through GeoDOT Local
- Has the latest available imagery for each region of the state (ranges from 2008-2014)
- Licensing available for any local gvt
- Address search functionality

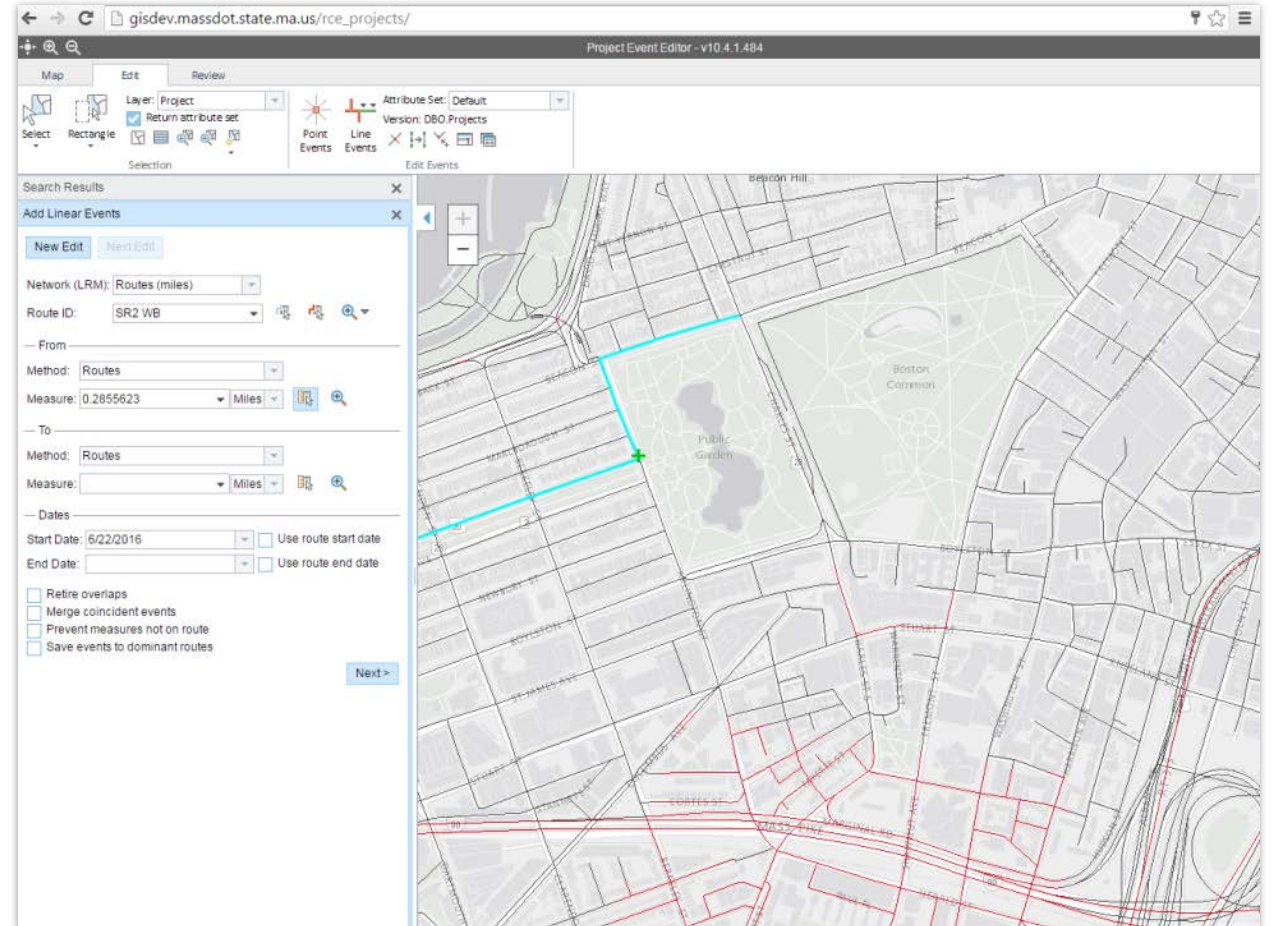
LOCAL AND REGIONAL COORDINATION

- Provide new tools and workflows to municipal and regional entities
- Eventually hope to allow municipalities to be completely in control of their own data updates with state oversight
- Municipal entities have much better knowledge of local conditions and changes than state employees

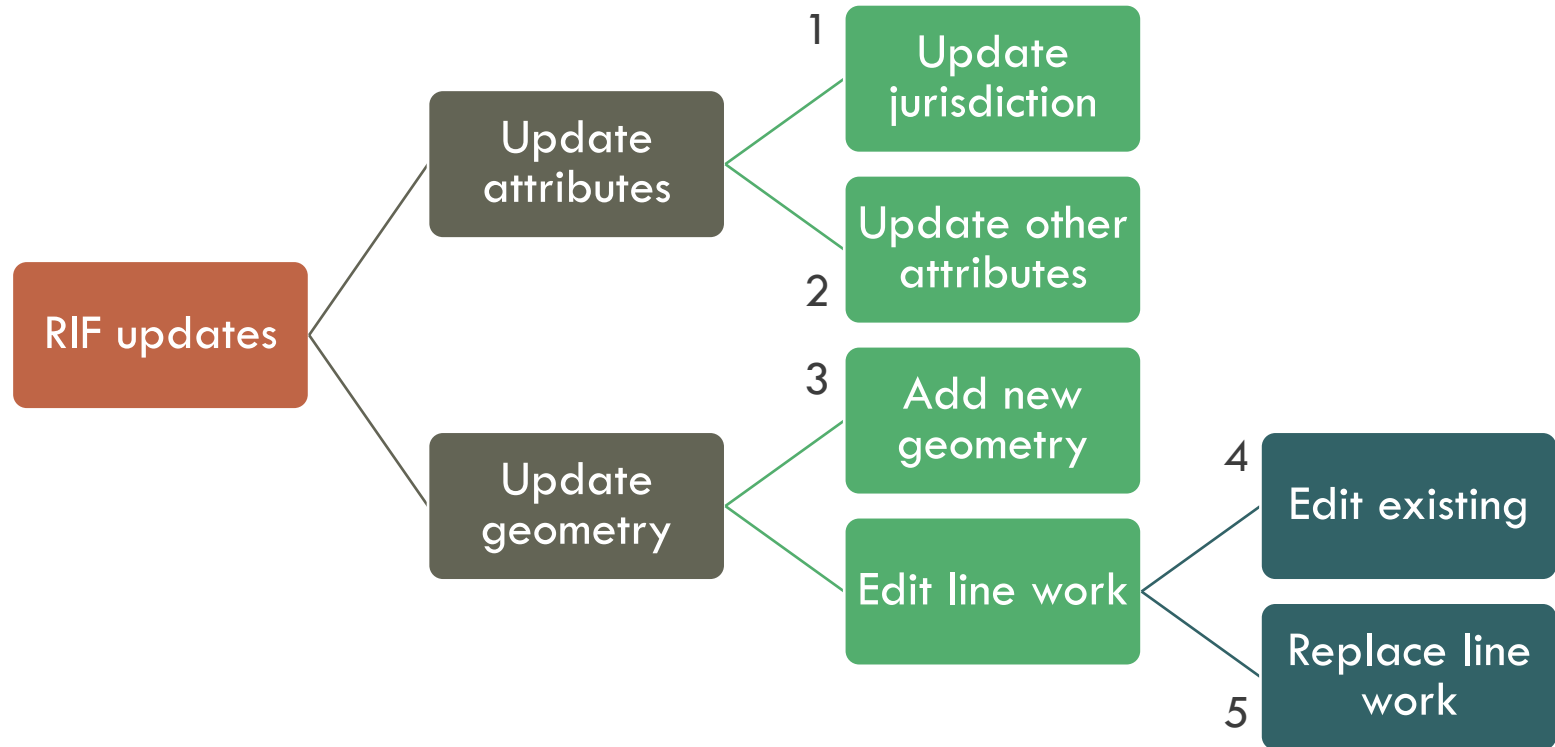


ROAD INVENTORY FILE UPDATES

- Process Revitalization
 - Old process:
 - Redundant work flows
 - Lack of tracking, accountability
 - Outreach effort went largely ignored
 - New components:
 - Digital interface
 - Robust annual reporting tools
 - Ability to make frequent edits
 - Customizable tools



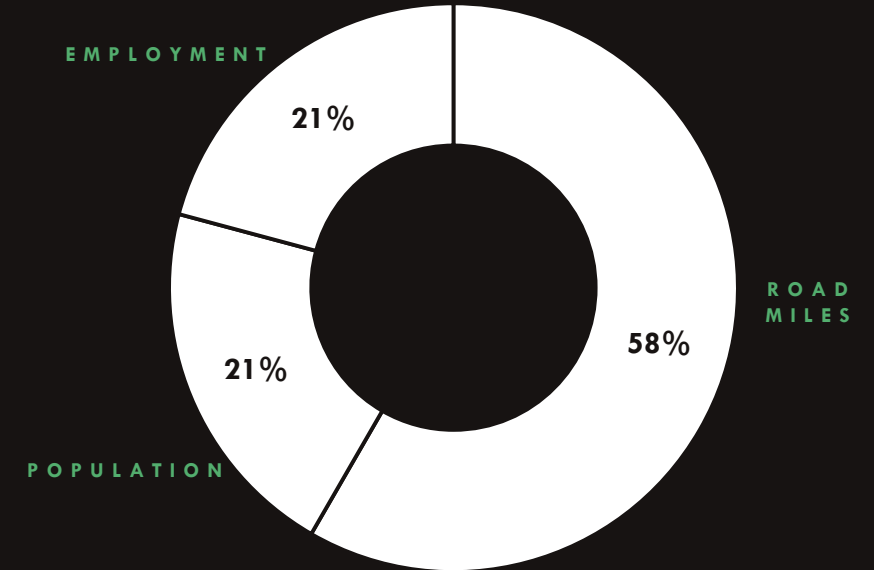
NEW WORKFLOW



1. Custom document interface with download
2. Road Characteristic Editor
3. On-screen digitizing with document upload
4. “Red-Line” editing
5. LRS integration effort

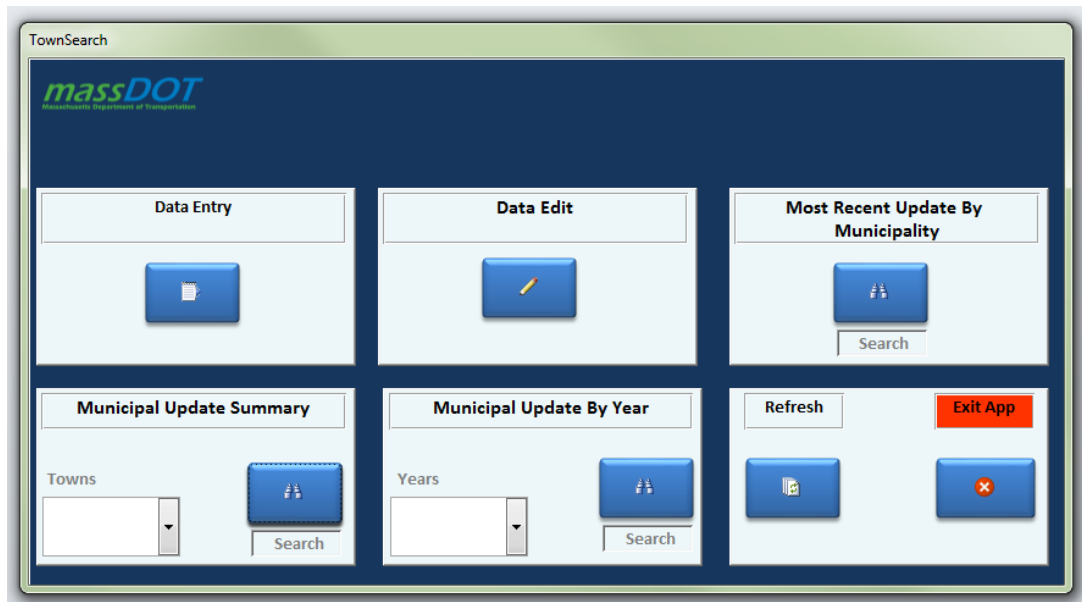
- Updating Road Inventory data may lead to an increase in Ch. 90 funding
 - If a road isn't in our database, it will not be in the final mileage total
 - If a town is maintaining a road, it should be owned by the town
 - Our database should be confirmed by each town semi-annually

CHAPTER 90 FORMULA



MIGRATING TO DIGITAL DOCUMENTATION

TRACKING TOOL DEVELOPMENT



KEY POINTS

- Promotes accountability
- Building online interface for municipal reporting
- Back-logging +30 years of road update information to allow for an accessible and searchable database

CREATE TOOLS TO INCREASE PUBLIC/LOCAL PARTICIPATION

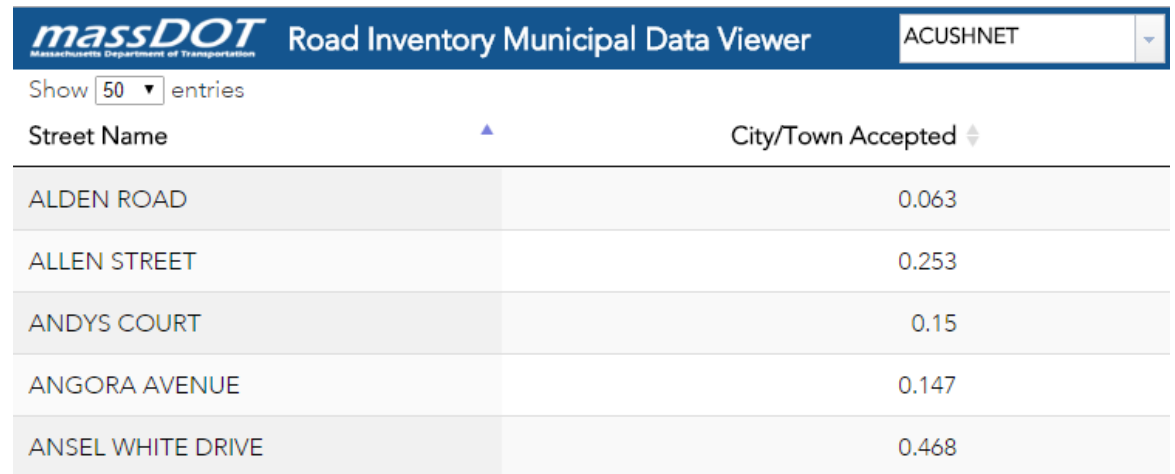
TYPES OF TOOLS IN DEV

- Data, communication, & update tracking
- Analysis and planning tools
- Summary tools to create downloadable tables
- Data dashboards for easy visualization and metric comparison
- Street-viewers for facility expansion

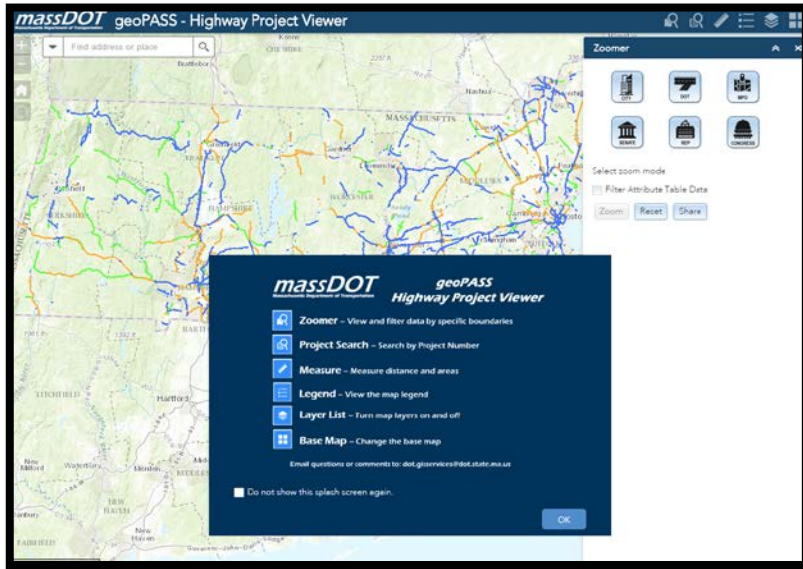
Welcome to the
Road Inventory Municipal
Data Viewer!

To get started, follow the instructions below:

1. Select a municipality from the drop down list.
2. Choose a street selection option:
 - i. Single Street - to view road segments of a single street within a municipality.
 - ii. All Streets - to view all road segments within a municipality.
 - iii. Ownership - to view mileage counts by Jurisdiction within a municipality.
 - iv. Functional Classification - to view mileage counts by Functional Classification within a municipality.
 - v. Federal Functional Classification - to view mileage counts by Federal Functional Classification within a municipality.
 - vi. NHS Status - to view mileage counts by NHS Status within a municipality.
 - vii. Federal Aid - to view mileage counts by Federal Aid eligibility within a municipality.



Street Name	City/Town Accepted
ALDEN ROAD	0.063
ALLEN STREET	0.253
ANDYS COURT	0.15
ANGORA AVENUE	0.147
ANSEL WHITE DRIVE	0.468

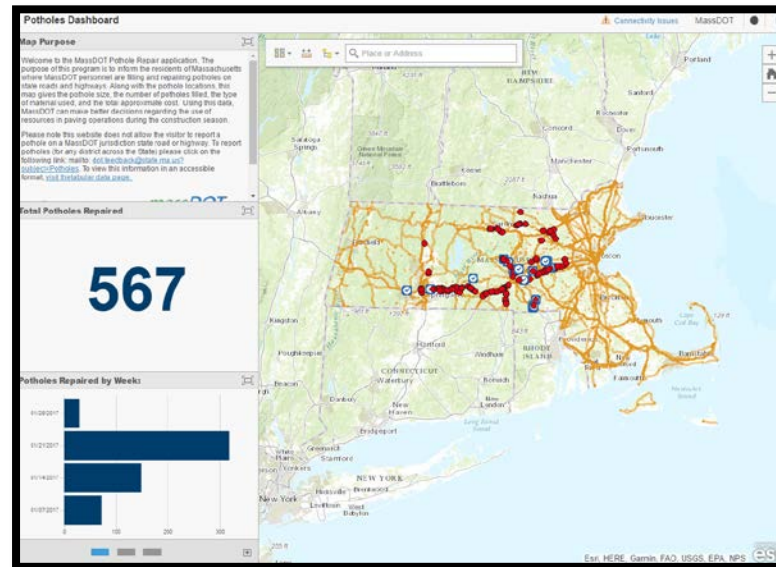


Highway Project Viewer

CUSTOM APP DEVELOPMENT

GIS users can work with GIS staff of get creative on their own to develop applications that best suit their needs.

Pot Holes Dashboard



Tools:

RIMDV

gis.massdot.state.ma.us/dataviewers/rimunicipal/

Geodot local

<http://massmpos.maps.arcgis.com/>

Road Inventory Interactive Map

<http://gis.massdot.state.ma.us/maptemplate/roadinventory>

CURRENT STATUS AND GOALS

– Timeline?

- Difficult to gauge
- Currently working with ESRI to build out each RIF update work flow

– GeoDOT Local Workspace

- Will gradually have more functionality
- MassDOT will send out quarterly update reports

– Goals

- Increase digital documentation
- Improve data
- Track updates
- Empower users



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