

MDOT Presentation at RUCUS

September 26th, 2018



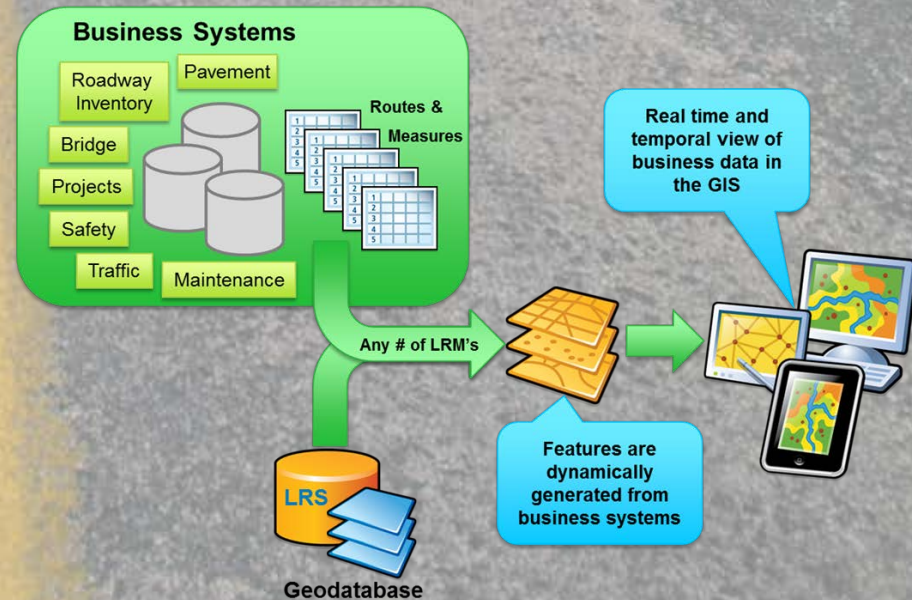
The Linear Referencing Systems are the Base of Road Data

- Physical Road (PR) and mile point(s), MDOT LRS standard for all roads
- Control Section (CS) and mile point(s), are MDOT LRS only
- Route – Third LRS in Roads and Highways, think mile marker signs on Interstate
- Future – Fourth LRS, unbuilt routes that have been FHWA approved as federal-aid eligible.
- Versions have historically been released annually (v15, v16, v17)
- CSS has historically maintained the LRS and provided PR migration tables to migrate our business data, i.e. projects, condition, crashes, etc.

MDOT

ESRI Roads & Highways

- Advanced Linear Referencing System (ALRS)
 - Allows for multiple Linear Referencing Methods and on-the-fly LRM to LRM conversions to view data on the customer's LRM of choice
 - Registered 'events' have behaviors that allow for semi-automatic updates of business data based on linear referencing edits
- Temporality
 - All edits are saved with a time stamp, so a user can see what the data reflects in the past, present, or future



ESRI Roads and Highways Workflow Manager

esri ArcGIS Workflow Manager Web Edition Welcome Himmelein Austin, Logout

Queries: All Jobs or find job: 2774 Select Report Create New Job

Categories: Public Queries, Act 51, Act 51 Web Jobs, General Queries, All Jobs, Unassigned Jobs, Group Queries, Jobs assigned to my groups, Jobs with steps assigned to my groups, HPMS, HPMS Web Jobs, LRS, LRS Jobs, Personal Queries, Jobs assigned to me, Jobs with steps assigned to me, User Queries

Bar Pie

139

330

4

3

1

1

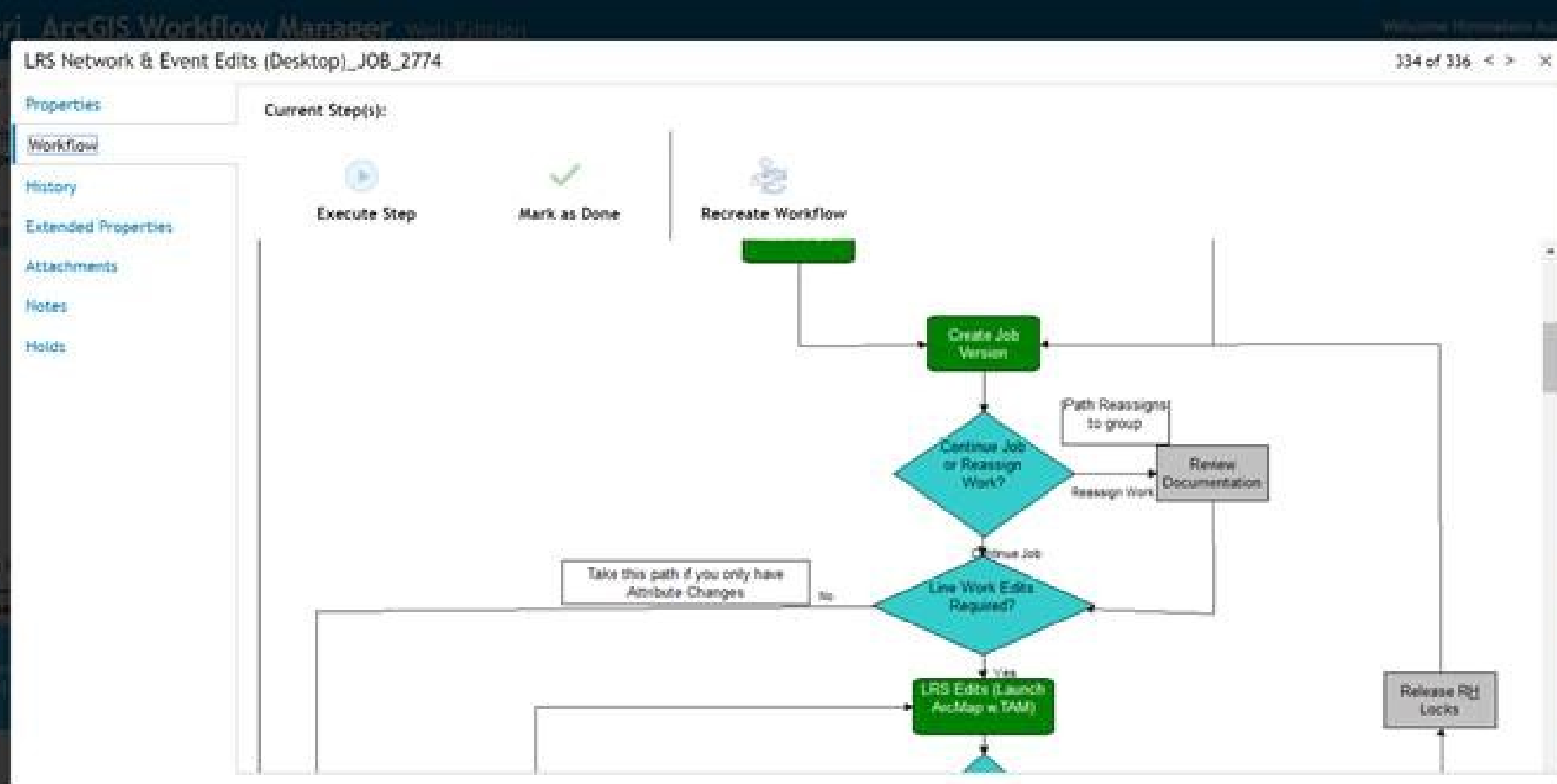
WMX Administrator

All Jobs: 478 Job(s)

Job Name Assigned To Job Type

Act 51 Event Edits (Web)_JOB_9659	Act 51 Editors	Act 51 Event Edits (Web)
Act 51 Event Edits (Web)_JOB_10036	Act 51 Editors	Act 51 Event Edits (Web)
Act 51 Event Edits (Web)_JOB_10038	Act 51 Editors	Act 51 Event Edits (Web)
Act 51 Event Edits (Web)_JOB_10039	Act 51 Editors	Act 51 Event Edits (Web)
Act 51 Event Edits (Web)_JOB_10053	Act 51 Editors	Act 51 Event Edits (Web)
Act 51 Event Edits (Web)_JOB_10040	Act 51 Editors	Act 51 Event Edits (Web)
Act 51 Event Edits (Web)_JOB_10041	Act 51 Editors	Act 51 Event Edits (Web)

ESRI Roads and Highways Workflow Manager



ESRI Roads and Highways Event Editor Tool

DEV DEV DEV Event Editor DEV DEV DEV - v10.5.1.1353 - Event Editor HPMS

Map Edit Review

Web Map Save Web Map Layers Basemap View Date: Today

Explore 1: 144,448 Bookmarks Find Route Find Identify

HPMS EVENT EDITOR

Add Linear Events

Events	Layer	Attribute	Value
<input checked="" type="checkbox"/>	Rural Urban	Rural Urban	<null>
<input checked="" type="checkbox"/>	NHS	NHS	<null>
<input checked="" type="checkbox"/>	Facility Type	Facility Type	<null>
		Field Establish Date	<null>
<input checked="" type="checkbox"/>	Functional System	Functional System	<null>
		Proposed Functional System	<null>
<input checked="" type="checkbox"/>	County Code	County Code	<null>
		Field Establish Date	<null>
<input checked="" type="checkbox"/>	ACUB	ACUB	<null>

☐ Show network names
☒ Show layer names
☒ Go to next measure upon save

Back Save

Click to select by a point

Michigan State University Esri HERE, Garmin, NGA, USGS, NPS

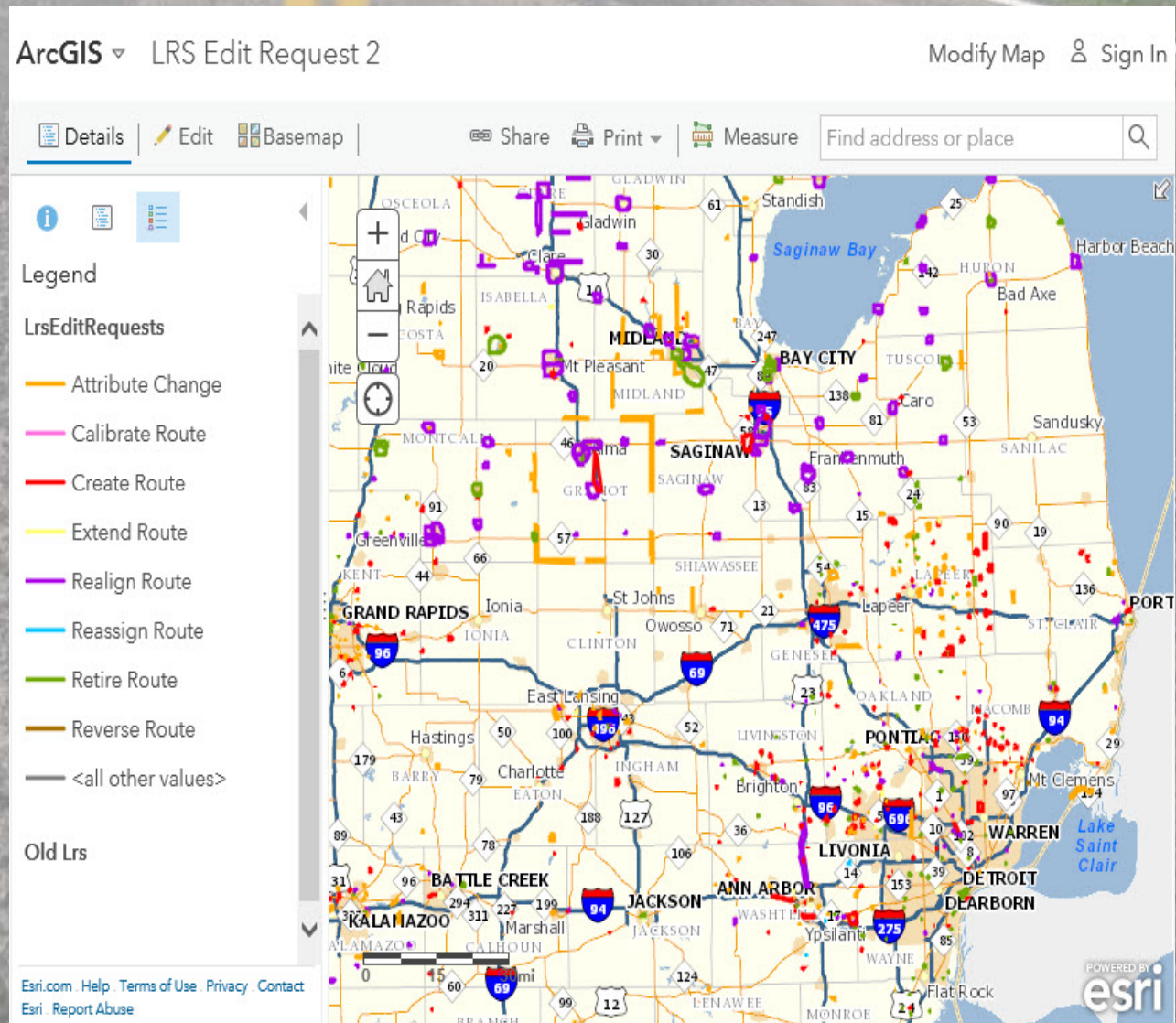
esri

Upgrade in Technology and Moving the LRS of the MGF to MDOT – Why?

- To create a work order based asset management system focused on maintenance management in the initial rollout. Include assets like, culverts, guardrail, signs, and pump stations.
- To eliminate non-applicable left/right values.
- **To better align Act 51 with MGF**
- To update certain changes on an as-needed basis
- MDOT will be partnering with the Center For Shared Solutions on their MGF Modernization project, many more details to come in the coming months.


MDOT Edit Request Log Goal

- Act 51 – 2017 and 2018 certified changes minus re-alignments in the first R&H vintage
- Michigan State Police Crash Location/CSS
- Roadsoft Map Framework Change requests



Align Act 51 With MGF; the Role of Roadsoft

- A majority of Michigan Roadsoft users are road jurisdictional agencies – Act 51
- Act 51 agencies that are driving the roads for their business purposes, PASER collection, or other asset collection with a GPS are in the best position to report possible errors.
- What is the best way to get corrections into the next version of Roadsoft MGF?
- In Roadsoft “Tools”, go to “Create Framework Map Change Request”



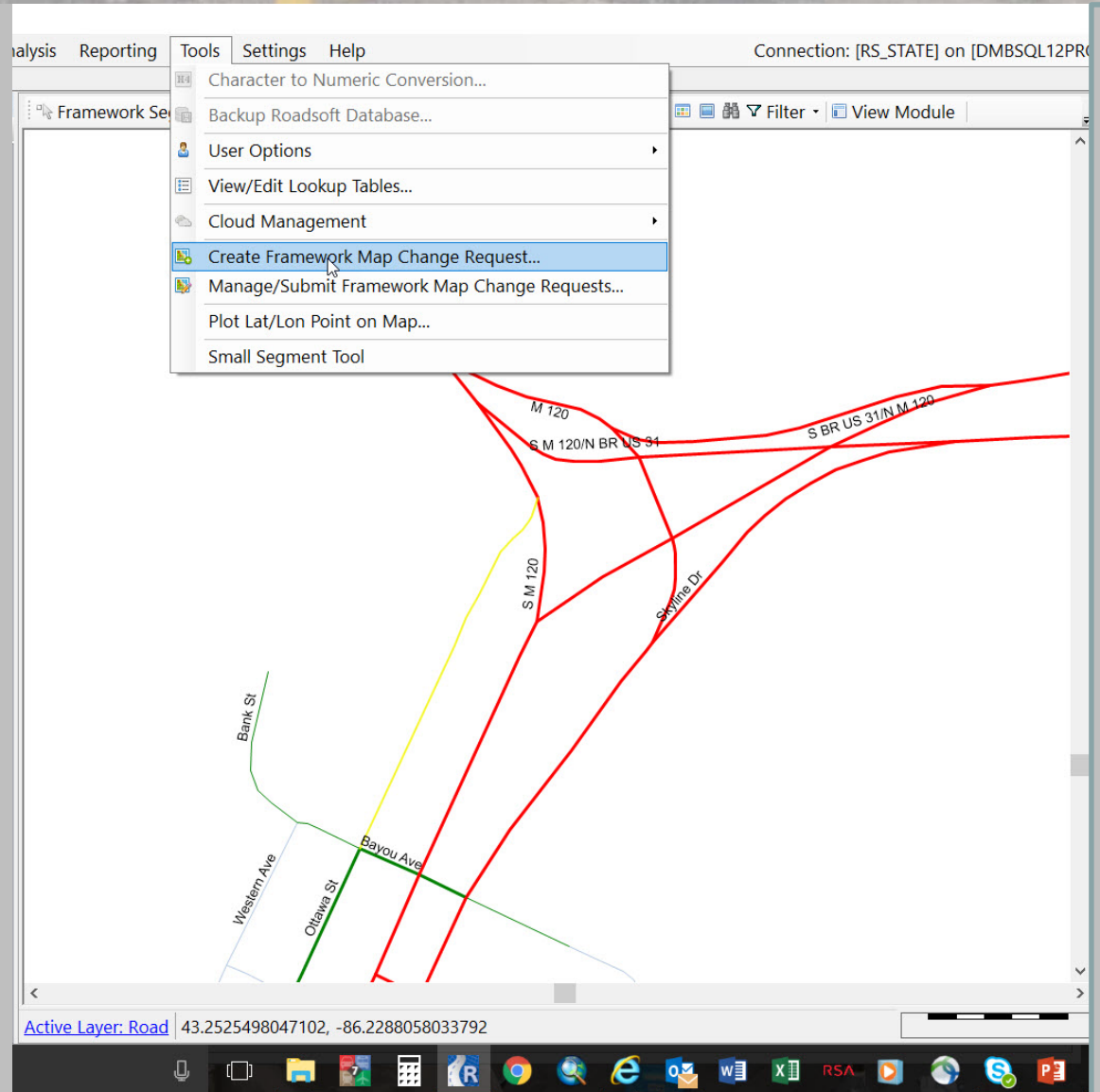
Starting last month, the MDOT Act 51 Team now receives Roadsoft Map Framework Change requests and starting November 2018, MDOT will be able to edit the corrections in MDOT Roads and Highways.

CSS and MGF, will consume the MDOT Roads and Highways values. Do you need the same MGF product you had in the past?

MDOT

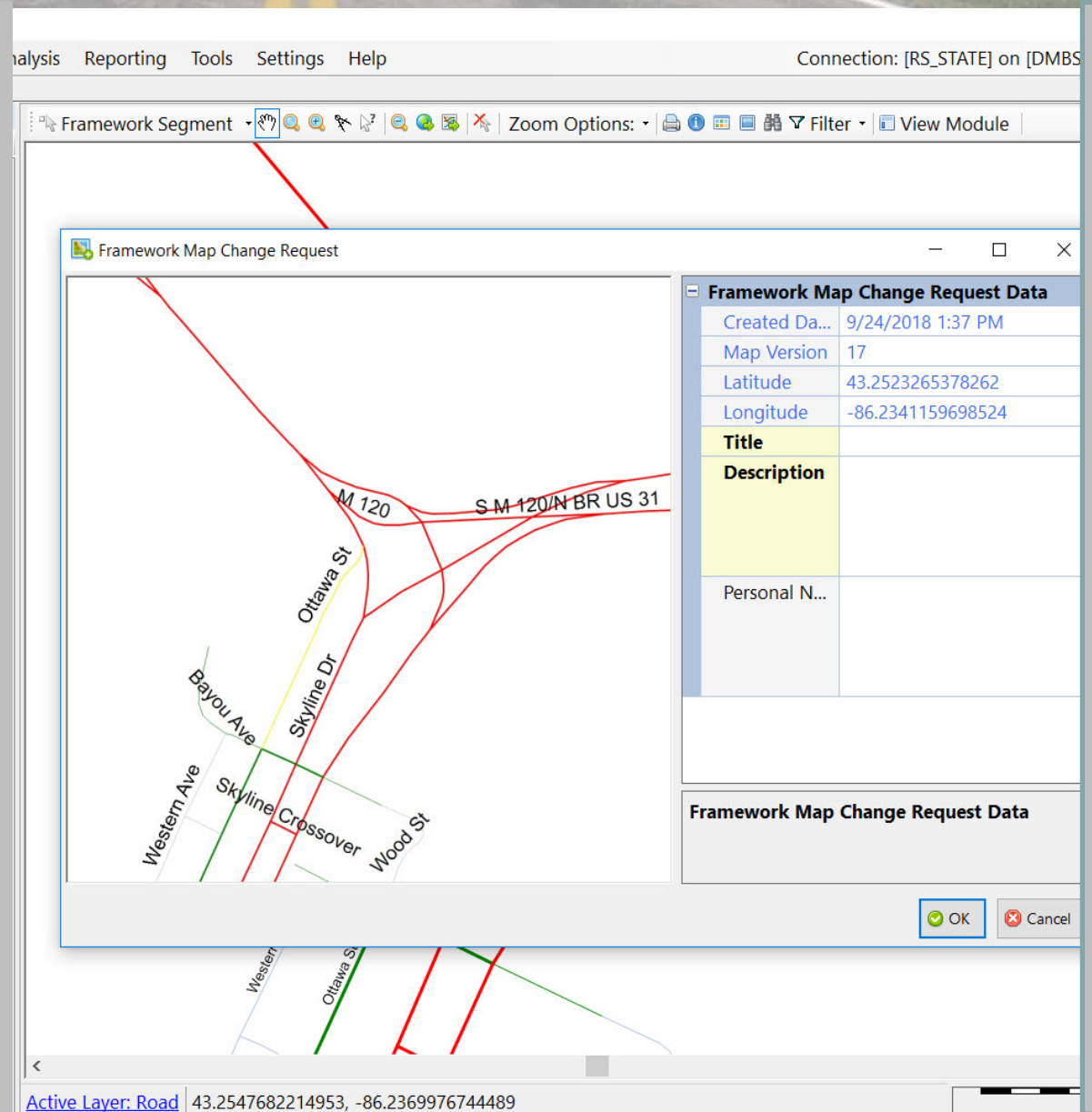
Roadsoft Map Framework Change Request Tool

Before going into the tool, please select and highlight the road segment(s) that you are referring too. List the color in your description!



Roadsoft Map Framework Change Request Tool

Please be specific about all the changes you want to bring to our attention. Road name, classification, representation, etc.





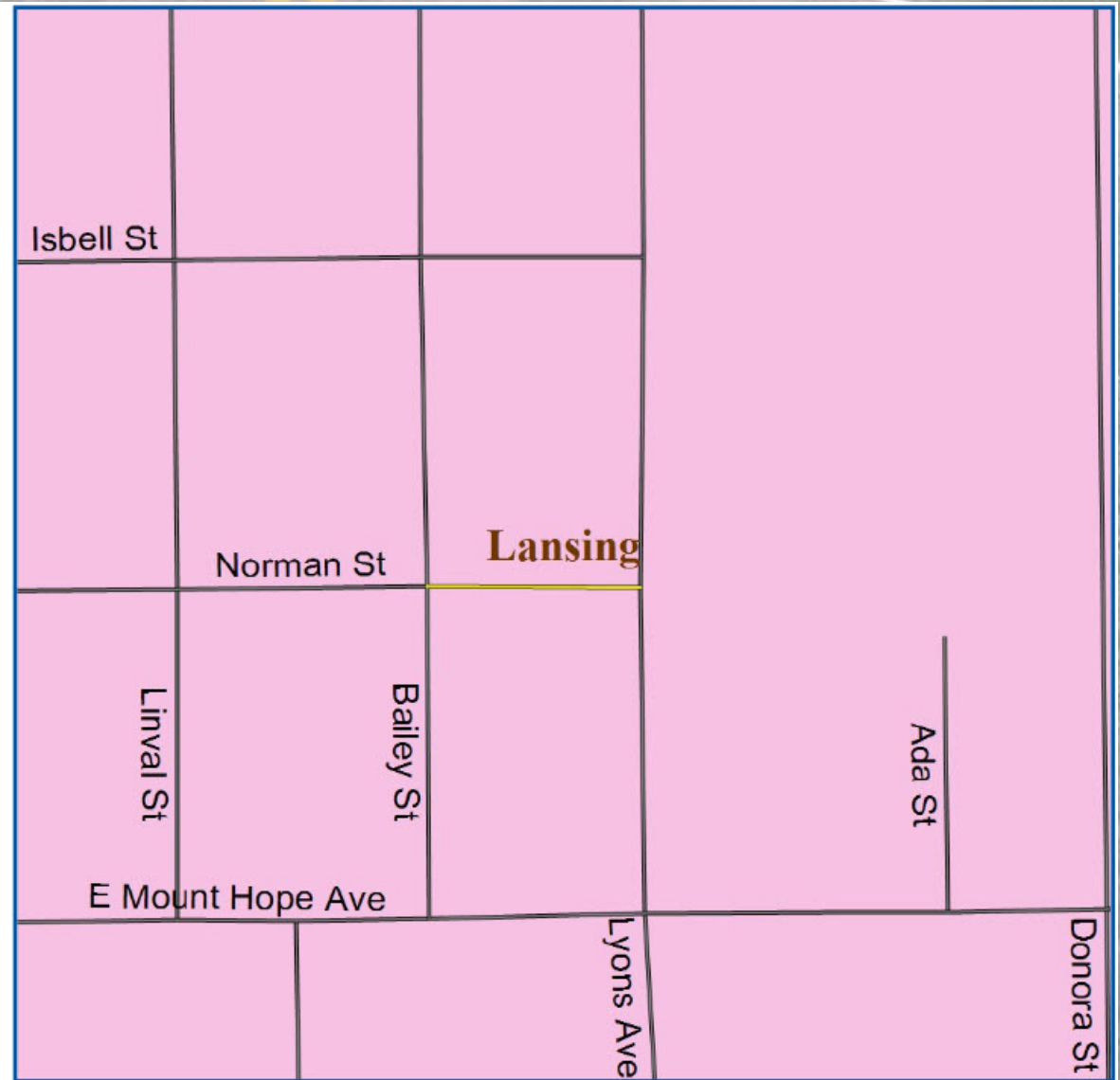
Roadsoft Map Framework Change Request Tool

We have received a lot of good of corrections that our Act 51 team has verified.

We receive an email with a pdf map output from Roadsoft. The pdf we can attach to our workflow tools.

Roadsoft Map Framework Change Request Tool

Actual request - verified

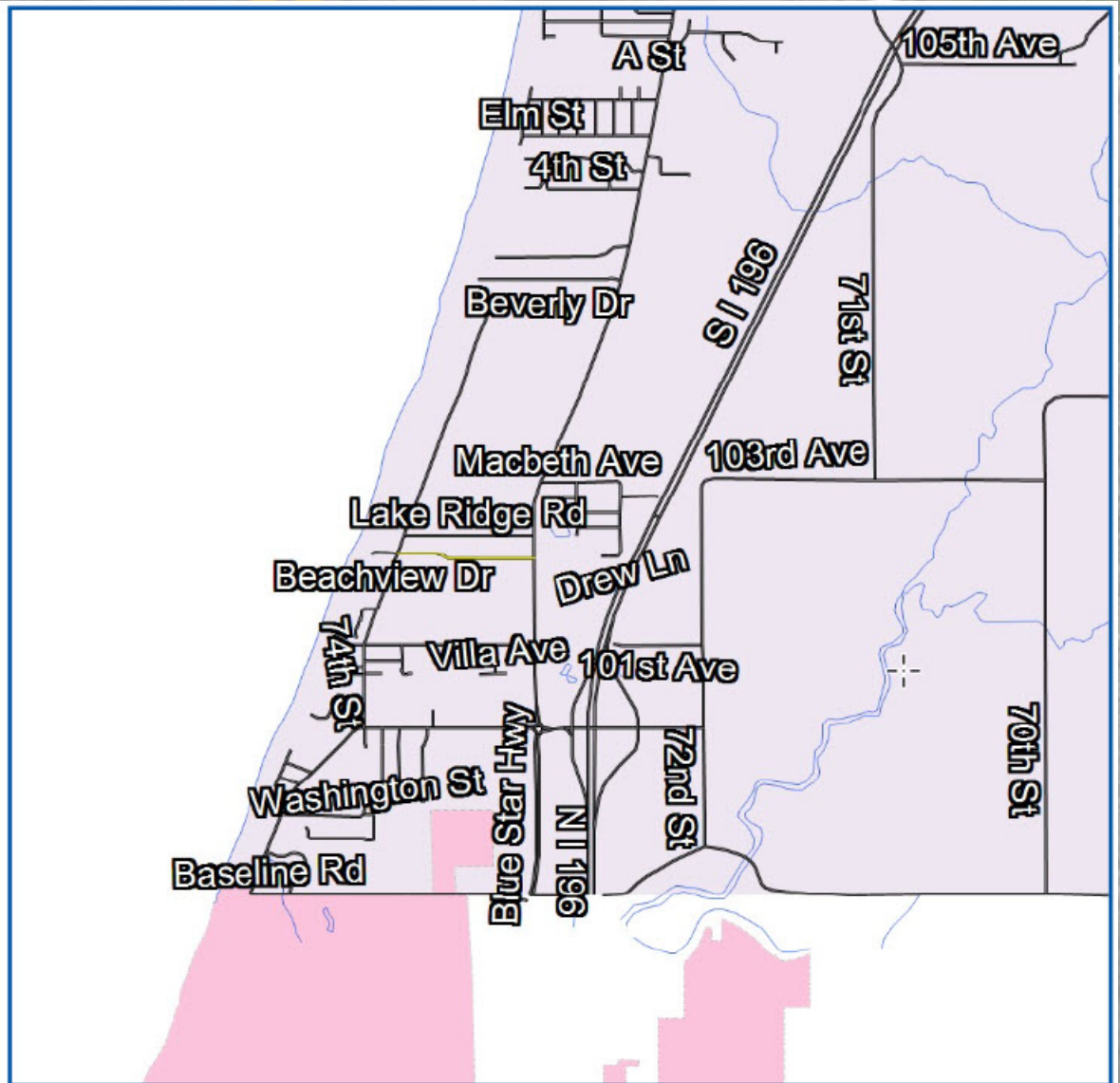


Description:

does not exist between Bailey and Lyons

Roadsoft Map Framework Change Request Tool

Actual request - verified

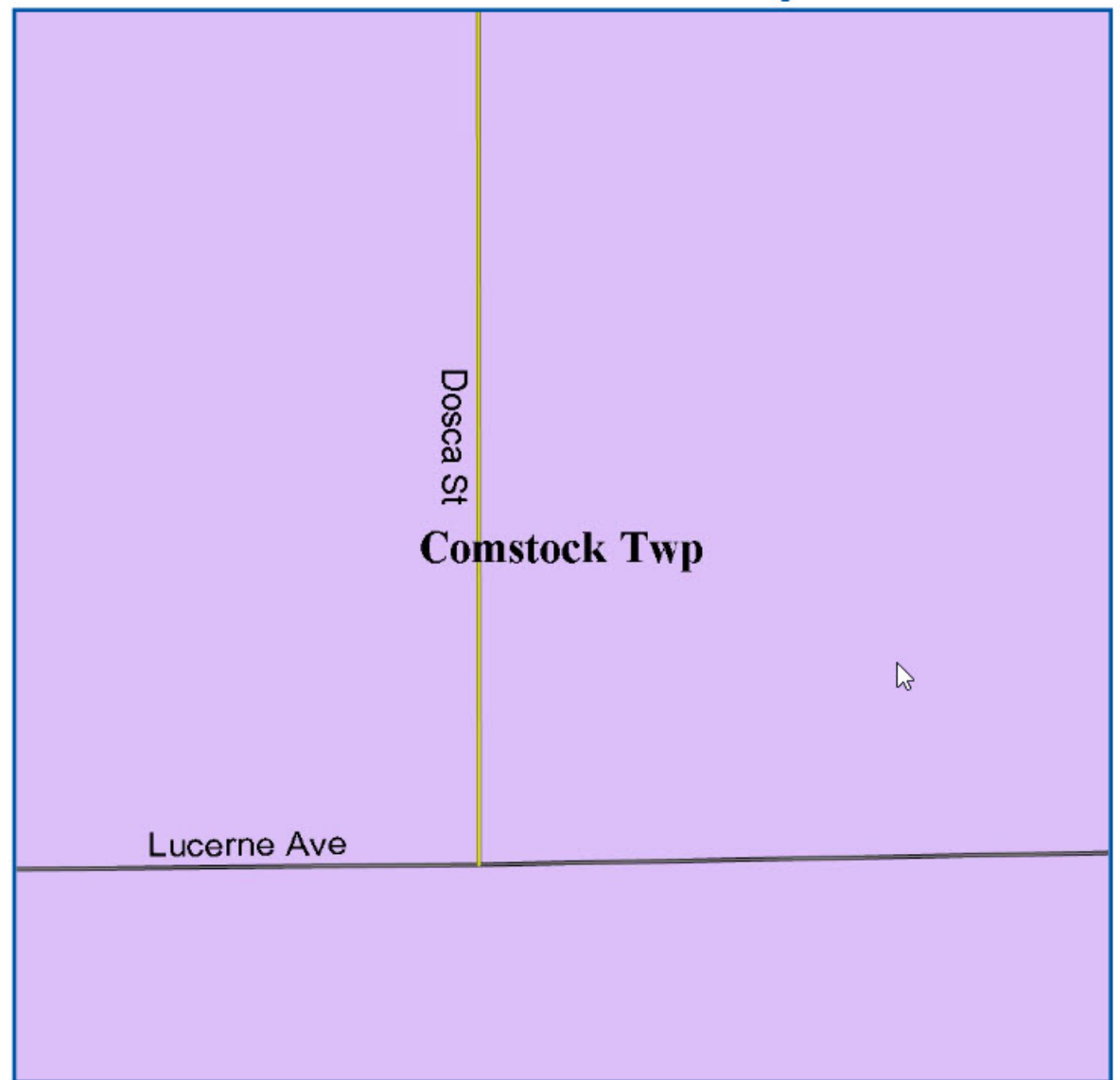


Description:

102nd Ave between 74th St and Blue Star Hwy is a certified local road.

Roadsoft Map Framework Change Request Tool

Actual request - verified



Description:

Road name should be Docsa Street

Roadsoft Map Framework Change Request Tool

Actual request - verified



Description:

This unknown Road is Pineview Drive



Roadsoft Map Framework Change Request Tool

All clear jurisdiction and Act 51 values requests will be reviewed by our Act 51 team. The most recent approved Act 51 maps will be used. Request not on the current Act 51 map? No change in MGF.

CMADOT

Align Act 51 With MGF; Manage Expectations

This is a multi-year ongoing process!

When you get the next version of MGF in April of 2019 for PASER collection it will contain...

Approved Act 51 map and mileage changes for 2017 and 2018. This is what is in ADARS currently. The exceptions are no re-alignments will be corrected!

MDOT

Roadsoft Map Framework Change Request Tool

No re-alignments until the 2020 MGF version is released 😞
They will be logged in our tool 😊 so please send them.

Latitude: 42.9963948043286

Longitude: -85.845577945268



Description:

Removed curves and made 'T' intersections both north and south

MIRE FDE

Model
Inventory of
Roadway
Elements (202)

Fundamental
Data
Elements (38 of 202)

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Safety

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eSubscribe

ROADWAY SAFETY DATA PROGRAM

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Improved Data Collection and Analysis

More Informed Decision Making

Better Targeted Investments

Fewer Fatalities & Serious Injuries

What is MIRE?

MIRE, the Model Inventory of Roadway Elements, is a recommended listing of roadway inventory and traffic elements critical to safety management. MIRE is intended as a guideline to help transportation agencies improve their roadway and traffic data inventories. It provides a basis for a standard of what can be considered a good/robust data inventory and helps agencies move towards the use of performance measures to assess data quality. The Moving Ahead for Progress in the 21st Century (MAP-21) reauthorizing legislation identifies the need for improved and more robust safety data for better safety analysis to support the development of State's [Strategic Highway Safety Plans](#) (SHSPs) and their [Highway Safety Improvement Programs](#) (HSIPs). Among these new analytic tools are: the [Highway Safety Manual](#), the [Interactive Highway Safety Design Model](#) (IHSDM), [AASHTOWare Safety Analyst™](#), as well as AASHTO's [NCHRP Series 500 Data and Analysis Guide](#), which all require crash, roadway, and traffic data to achieve the most accurate results.



Click to expand and learn more

About MIRE

MIRE Data Elements

Integrating MIRE

Resources

Contact Us

How were the MIRE FDE Chosen?

Key Principles in MAP-21 & FAST Act

- Highway Safety Improvement Program (HSIP):
 - The goal is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. **“The Benefit!”**
 - Requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

Why Roadsoft as a MIRE FDE tool?

Goals

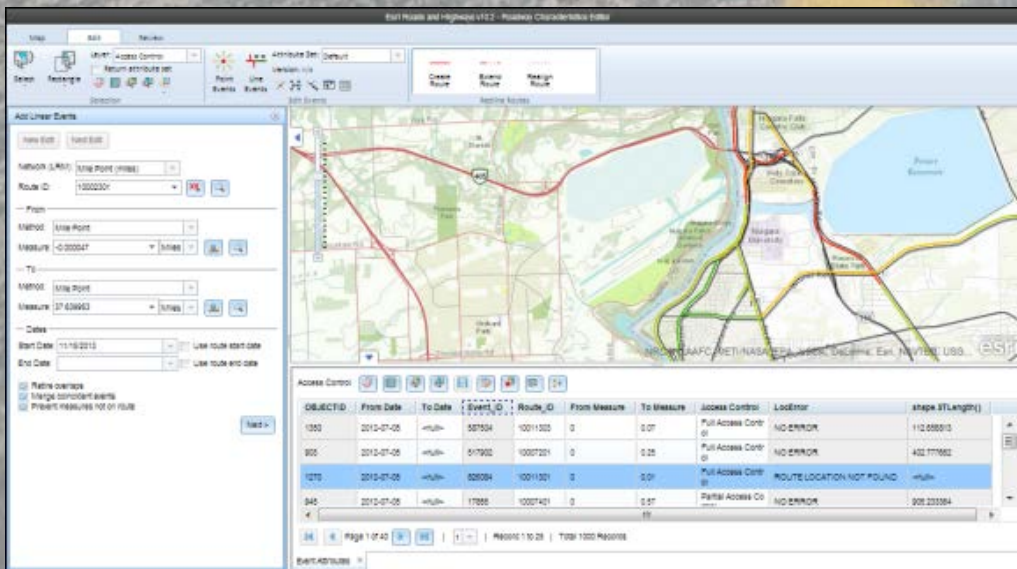
- Agency access to a familiar tool
- A tool to collect MIRE FDE data
- Store, query, and report data on the road network
- **Safety analysis with data at state and local level**

Roadsoft

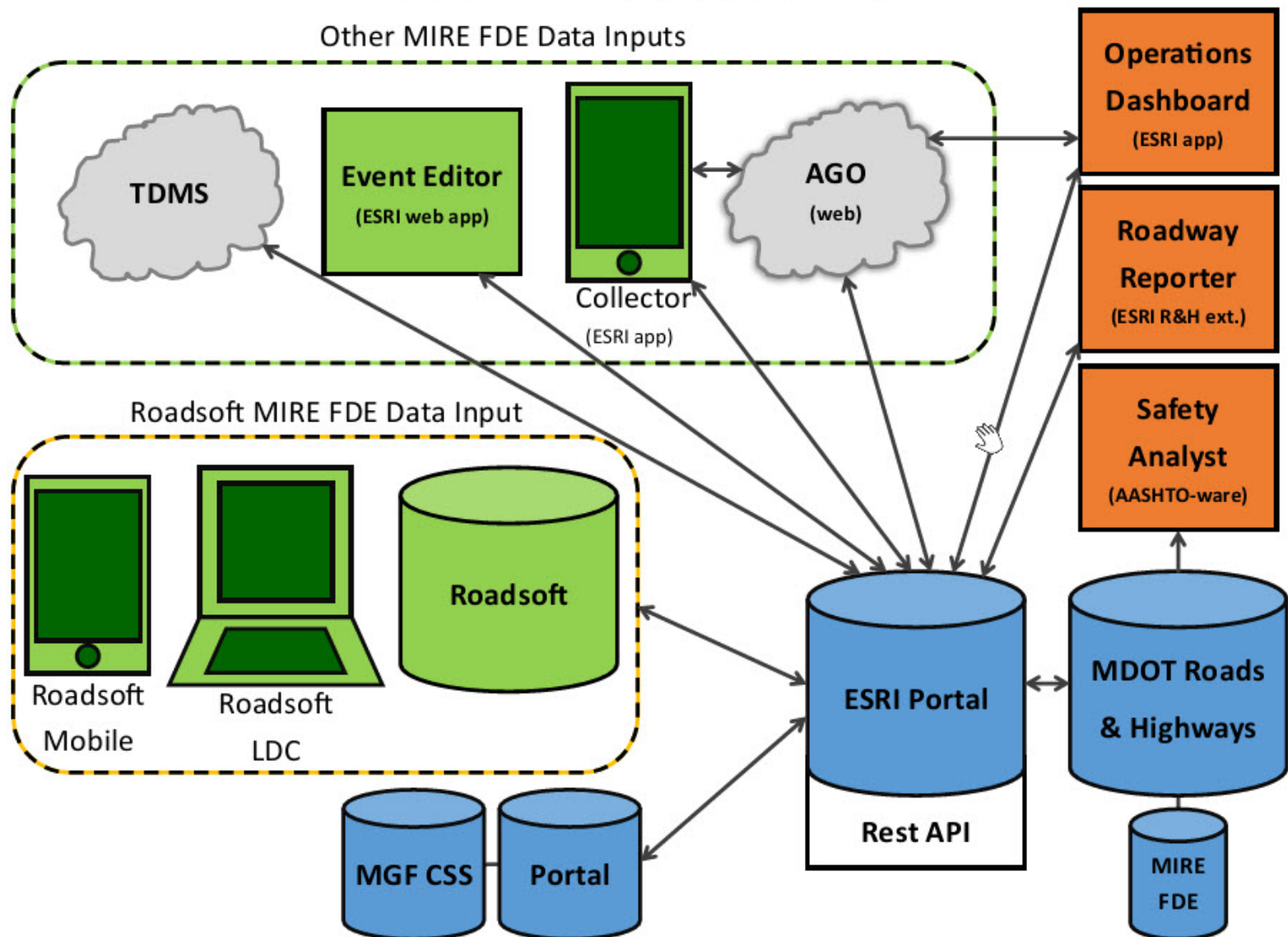
- Used by over 400 road agencies and TAMC
- Roadsoft has this ability.
- Roadsoft has this ability,
- **Performs safety analysis at state and local levels**

MDOT MIRE FDE data Repository Plan

- ESRI Roads & Highways (R&H) technology plays a direct role
- R&H technology will be used to create a MIRE FDE data repository that can exchange data with Roadsoft users



MIRE FDE Data Work Flow



Questions?

Thank you

