



KEEPING DATA ACCURATE WITH THE DUSA APPLICATION

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TXDOT: Maintaining Local Data in a HUGE State

1 County Roads and Local Streets

How much is A LOT?

2 Past Collection Procedures

County Road Inventory Projects

City Street Data Collection & Processing

3 Partnering and Data Sharing

Collaboration within the DOT

Use Local Knowledge

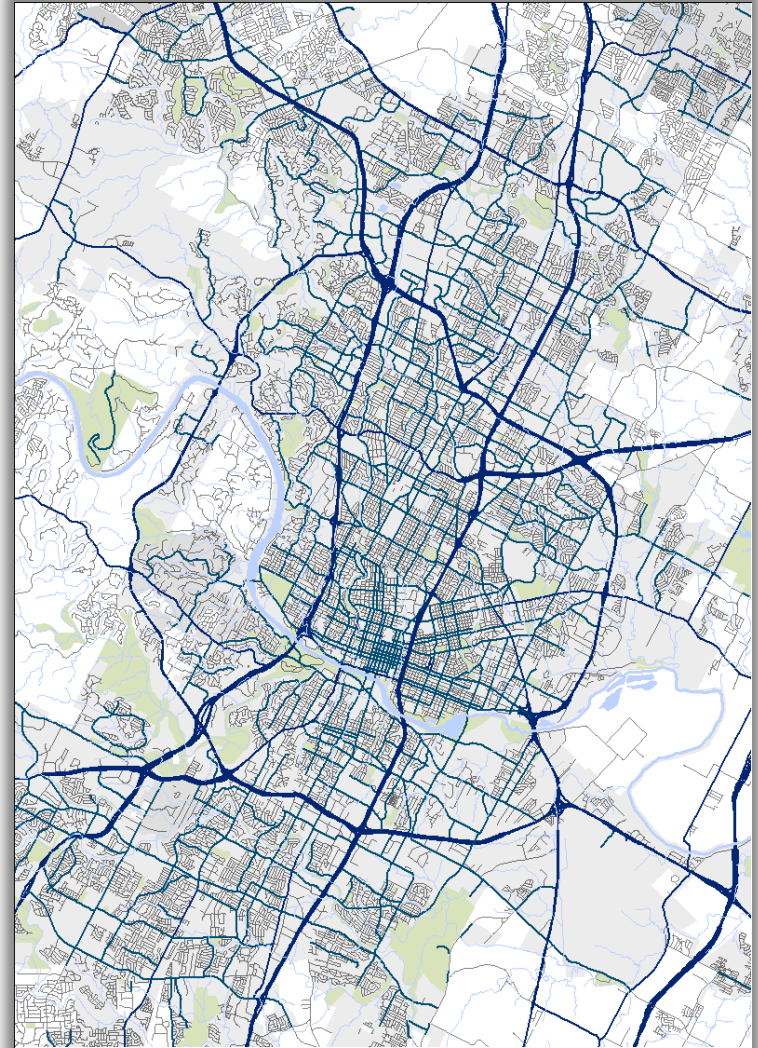
Building and Maintaining Local Partnerships

4 Online Data Tools for Collaboration

DUSA – Data Updates & Sharing Application

Feature Service Mark Up Tools

Data Download & Submittals



How much is A LOT? A look at mileage in Texas

Data Maintenance

Current Mileage Counts

Ownership	Mileage
State Designated	80,422.782
County	146,961.026
City	83,203.203
Non-TxDOT Toll Authority	370.718
Federal	2,637.784
Total Mileage	313,595.513

Fun Fact: **73.4%** of all data maintained by TxDOT for reporting requirements is owned and maintained by cities or counties.

Yearly Growth

- Texas grows at a rate of ~9% each year
- County road inventory increases between 500-800 miles per year
- City street inventory increased by **400 miles** without a comprehensive data collection update process in place
- The expected amount of mileage to update could be in the hundreds of miles

Options – Project Management

Contractor / Vendor

Purchase Data



Manual Digitization

Recreate Data



Work with Local Data Maintainers

Integrate disparate data sets into a cohesive data layer.



Building & Maintaining Local Data

Past Collection Procedures



County Roads

- Bi-Annual inventory for each county
- Responses could be digital shapefiles or marked up paper maps
- Group project to manually enter changes into inventory and assets

City Streets

- Statewide data collection effort in 2013
- One-Off project; replication very difficult
- All updates have since been done in office visually or from district personnel notification

MANUALLY INTENSIVE

Collaboration & Data Sharing

Data Partnerships

- TxDOT Districts
- Cities
- COGs & MPOs
- Counties

Business Needs

- Current Roadway Inventory for Local Data
 - Street Name
 - Pavement Type
 - Number of Lanes
 - Roadway Design

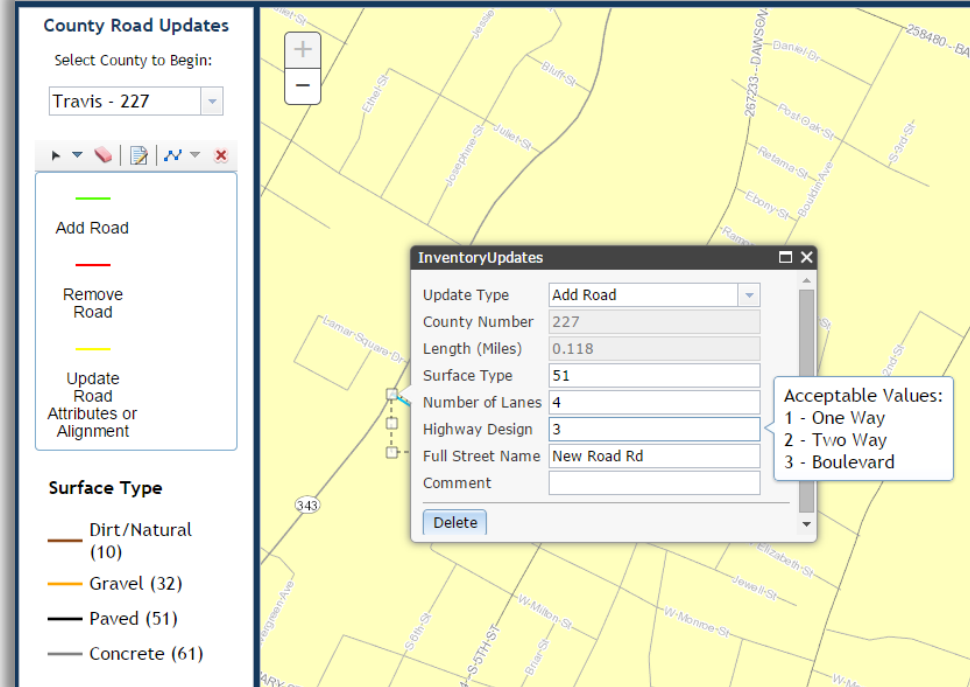
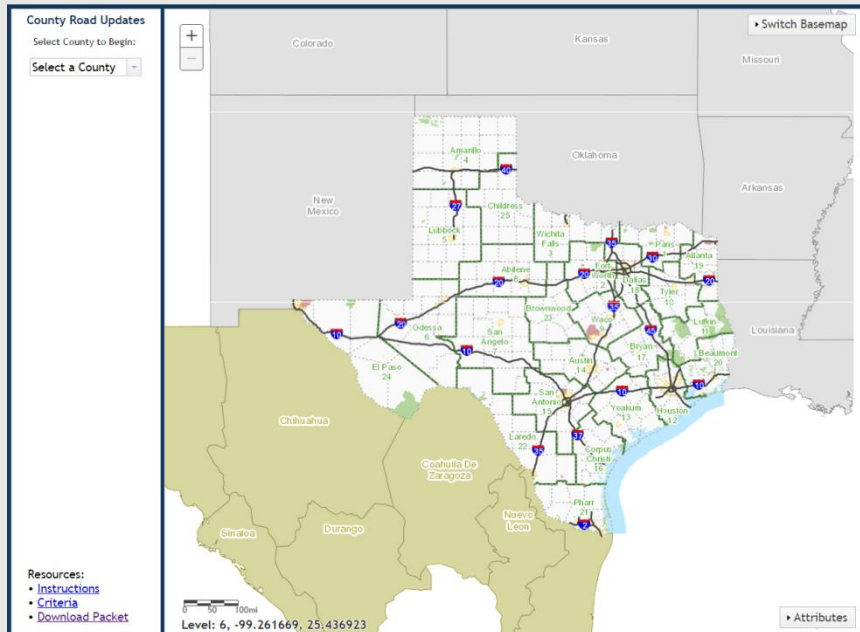


Data Specifications

- Digital
- Relatable Schema

County Road Updates Application

- Tool #1 – County Road Inventory was launched in 2015
- Functions within the Feature Service:
 - Access to mark up existing roadway attributes
 - draw new alignments



But what about the city streets....?

Great Question!

- The city streets are a required part of the federal submission....
- No established workflow to maintain them was ever created
- The task is to make the submittal as easy as possible for cities, districts and counties to get maximum participation

Solution Requirements

- **Easy to use**
- Allows user to download data for editing
- Allows user to submit data through the application
- Provides TPP with data updates and edits to be used in the statewide data maintenance process

Structure

ESRI JavaScript API

- Data hosted on ArcGIS Online as Feature Services
- Current Inventory is a separate service
- Red line editing of separate feature service

Bootstrap

- Style

JQuery

- Framework

Functionality

- Published geoprocessing service allows download functionality
- Built with a modular structure so the application and functions can be modified to process different data types
 - Future: Federal Roads, City Limits, Functional Classification Updates

Long Term Data Maintenance and Partnering

Web Portal

- Web application for markup & Data Submittal
- Optionally can submit data via FTP

Planning and Design

- Permissions and Roles

Data Partnerships

- Ongoing process of reaching out and engaging with local GIS communities

Data Updates & Sharing Application

Sign-In

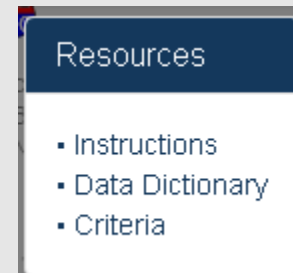
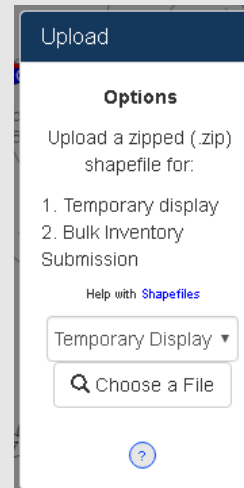
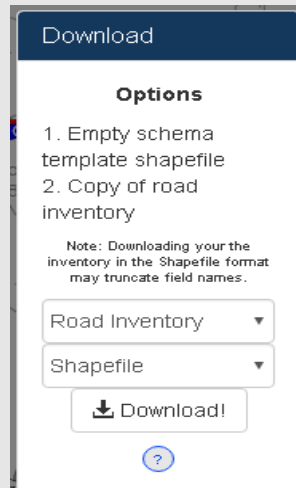
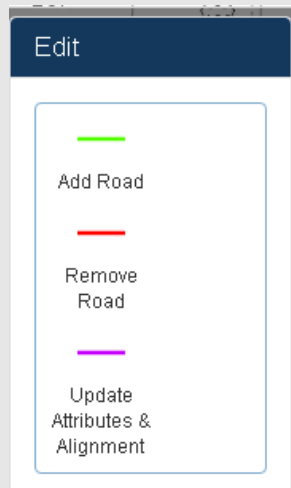
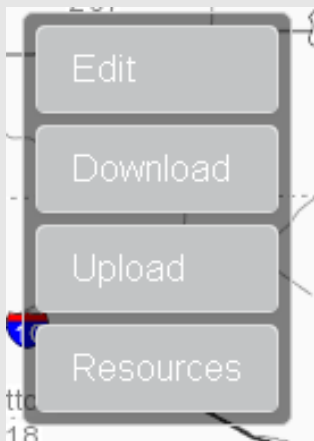
Choose an Inventory to Update

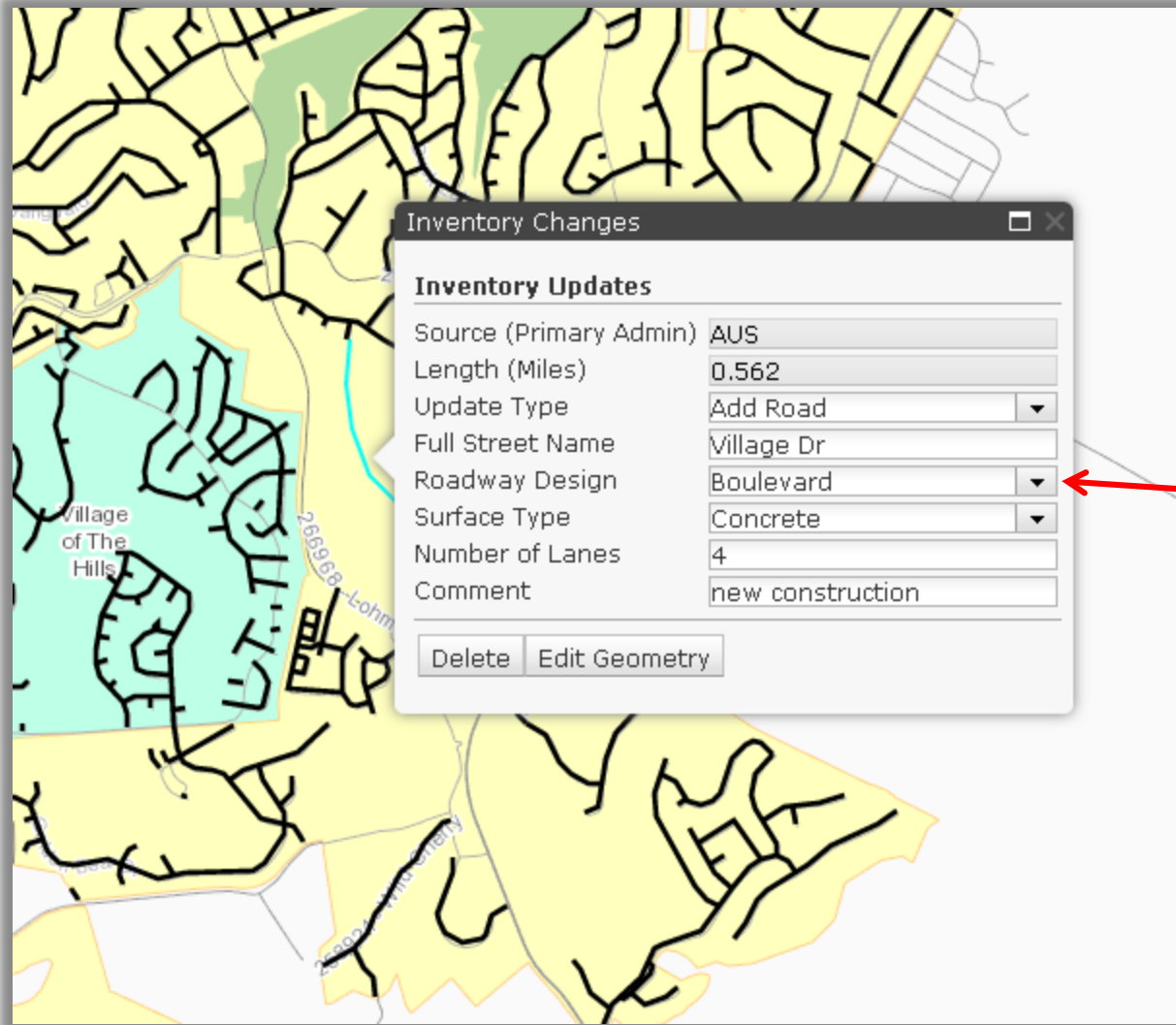
Choose Your Organization

Access Code

Sign In

Need Help?





Requires basic knowledge of ArcGIS Online

Drop down menus reduce errors

All edits stored in the feature service

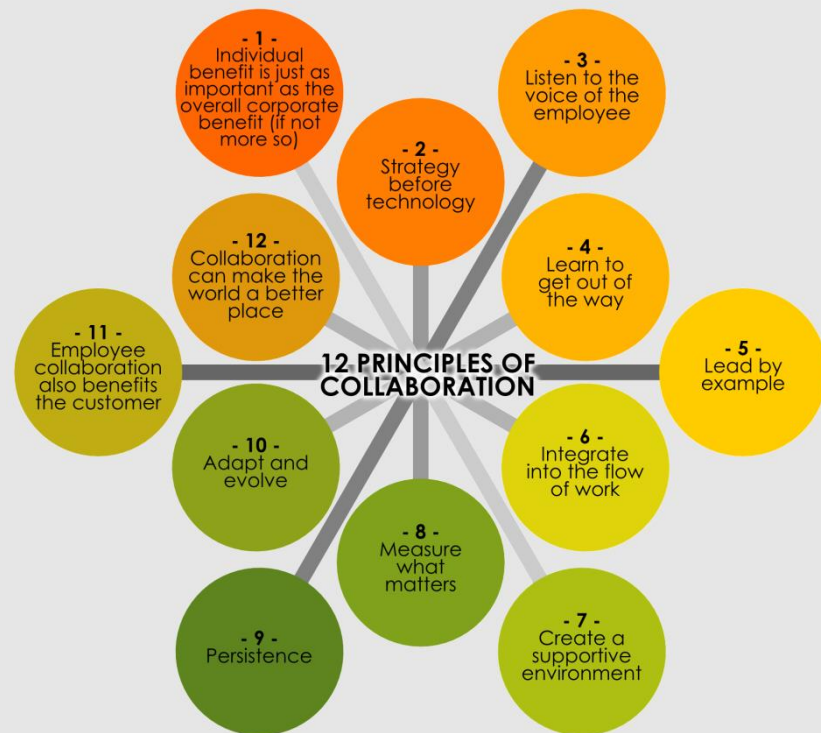
Who Benefits?

Determining the 'Value' of Data Exchange

- Roadway linework exchanged for TxDOT Data
- City Limit Boundary updates (future phase)
- Improved data quality statewide

Building and Maintaining Local Partnerships

- Communication is key
- Yearly calls for data submissions
- Option to update at any time



Data Update Goals



Mileage Reporting Requirements



Informs Funding Allocation, Planning
and Transportation Development



Roadway Basemap Layers



Make Available Statewide Roadway
Data



Increased Communication Between
Data Partners

Questions?

View the Application:
[Data Updates and Sharing Application](#)



THANK YOU!

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