KEEPING DATA ACCURATE WITH THOSE WHO KNOW BEST

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The Transportation Planning & Programming Division administers planning funds, prepares maps, collects data and programs projects.

The Mapping Group is the central hub for TxDOT’s GIS data systems. The group creates, maintains, analyzes, and publishes the GIS data utilized by the various TxDOT divisions and the public.

- 73,000 on-system miles (State Owned & Maintained)
- 160,000 off-system miles (County Roads and Functionally Classified City Streets)
- 3,000 federal miles
- 69,000 local miles
County Road Inventory Project

- Specific definition of county road for annual reporting and funding purposes
- Mileage reported to State Comptroller, DMV, FHWA for funding
- Over 146,000 miles across 254 counties
- Input required from subject matter expert
- Annual Project with biennial county submissions
- Outreach letter to County Judge (often passes off to 911 or Precinct Commissioners)
- Many rural counties don’t have funding or technological expertise enough for GIS capabilities; rely on paper update methods
- Responses unpredictable due to amount of effort necessary. Snail mail lost responses.
- Increase response rate with most submission options: paper mail, paper email, GIS shapefile/feature class, GIS data from COG, MPO, etc.
Design & Goals

Goal: Create a simple, user friendly, easily accessible alternative which provides the Mapping Group with GIS formatted, proper schema update submission to streamline the update process

- Accessible year-round to disseminate work throughout the year and curb the load/dump of updates. This increases project and inventory updates management ability around other projects

- Simple as possible to encourage use over alternative paper methods. Empower those with technological illiteracy

- HTML5 webpage application accessible from any browser utilizing ArcGIS Javascript API and ArcGIS Online hosted feature services

- Tiled ‘Statewide Planning Map’ displays all necessary reference layers. Official TxDOT layers

- Accessible imagery for accuracy

- ‘Red Line’ vs Direct Feature Edits

- Links to legacy resources

- Automated Retrieval via Python ArcREST module
The Application

http://www.txdot.gov/apps/statewide_mapping/cri.html
Draw 'red line' edits directly over roads (or portions of) which need edits.

Use aerial to draw in new roads.
Special Features

Event related objects to push/force user into specific workflow and prevent error

- Dropdown choice before edit tools show
- Inventory updates programmatically attributed with county choice and road length without manipulation permitted
  - If pan too far away from editable county, user can click the dropdown to return to their county
  - If zoomed too far out to make accurate red-line edits, feature layers disappear and county highlights red
- Limited editing toolbar
- Domain for edit type and pop-up hints for codes within InfoWindow
Future Improvements

Continually enhance the application to bridge the capability gap between counties with GIS resources and those without. Create tools and functionality which addresses all positions in the array of differences

- Export copy of feature service itself rather than pre-generated shapefile
- Export of geometric portion of data drawn by user
- Report Generation of Statistics from feature service (Total mileages, summarizations by attribute, etc.)
- Migrate current inventory and update feature services to ArcServer for direct SDE updates
- GIS data submission via geoprocessing service
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