



DOTD - GIS

Connecting Data to Roads

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Data Quality

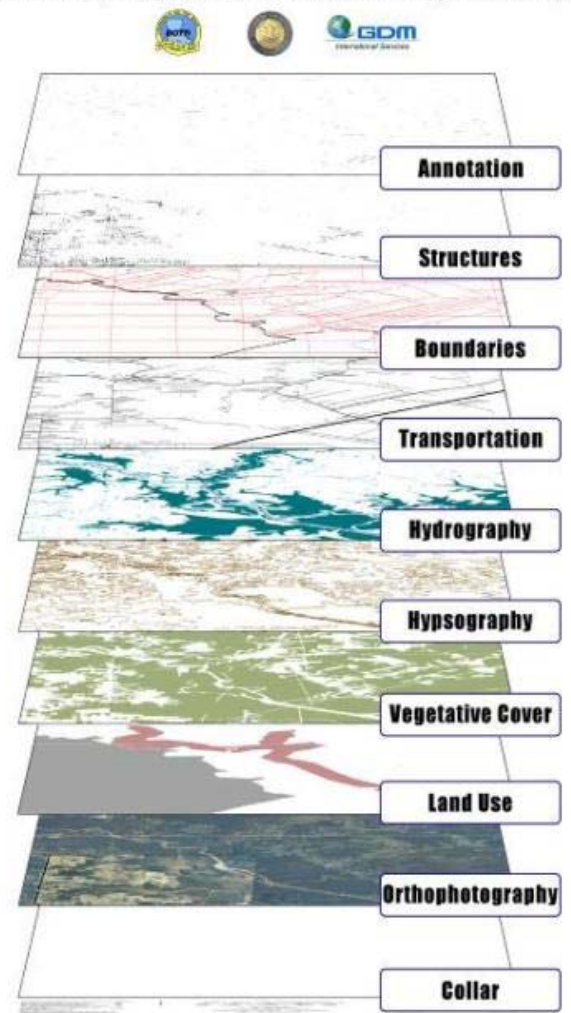
- **Complete**
 - **Current**
 - **Correct**
-
- We are striving for 95% of each one.



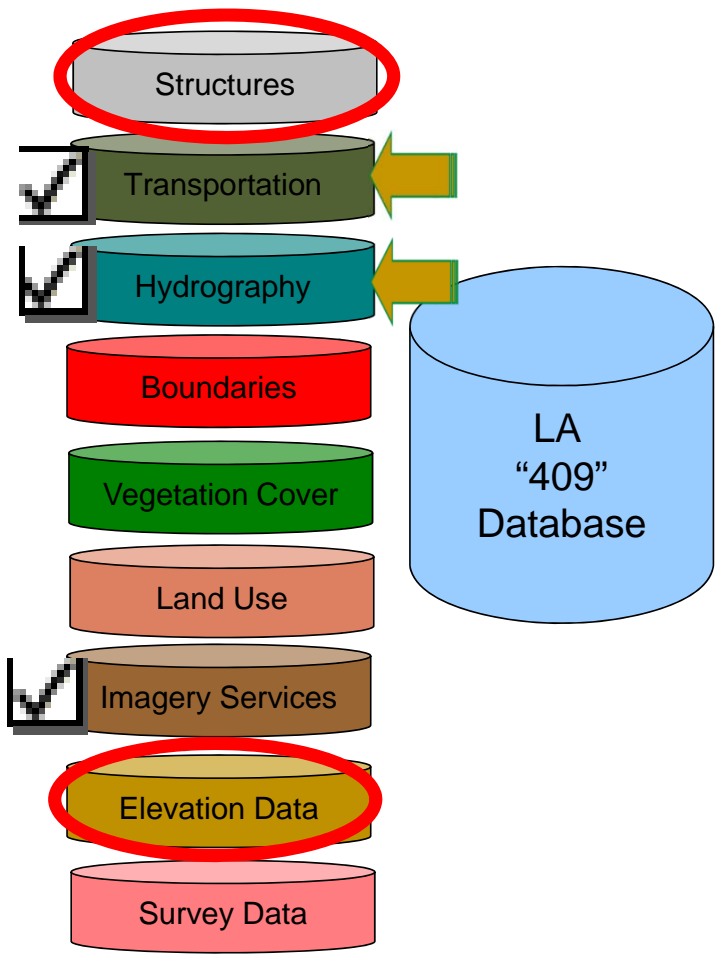
Traditional Basemap Sources

- GNIS, Local Data
- USGS Quads, DOQQ
- BLM, Census, State Data
- Census, State Data
- USGS NHD
- LiDAR
- Orthophotography
- BLM, Census, State Data

French Settlement Quadrangle
Framework Layer Separation of Data Layers from Digital Base Map



Digital Editing Database





Imagery Layer

- GOHSEP acquired 2010 statewide imagery using detailed Control Points providing 12” – 18” accuracy
- DOTD provided a GIS Imagery Service to use the imagery for GIS Layer creation and maintenance
- Plans are to provide 2014 imagery of Metropolitan Areas when it is uploaded
- Plans are to provide more updated imagery as it is acquired and available



Hydrography Layer

- GOHSEP and DOTD invested in the development of the Hydrography Layer completed in 2014
- Hydrography Layer includes:
 - Water Point Features
 - Water Linear Features
 - Water Polygon Features
 - Swamp Features
 - Shoreline Features
- Plans are to perform updates as necessary to the USGS National Hydrography Dataset for Louisiana
- Plans are to acquire more recent imagery to perform additional updates of the Coastal HUC's (Hydrographic Units)



Transportation Layer

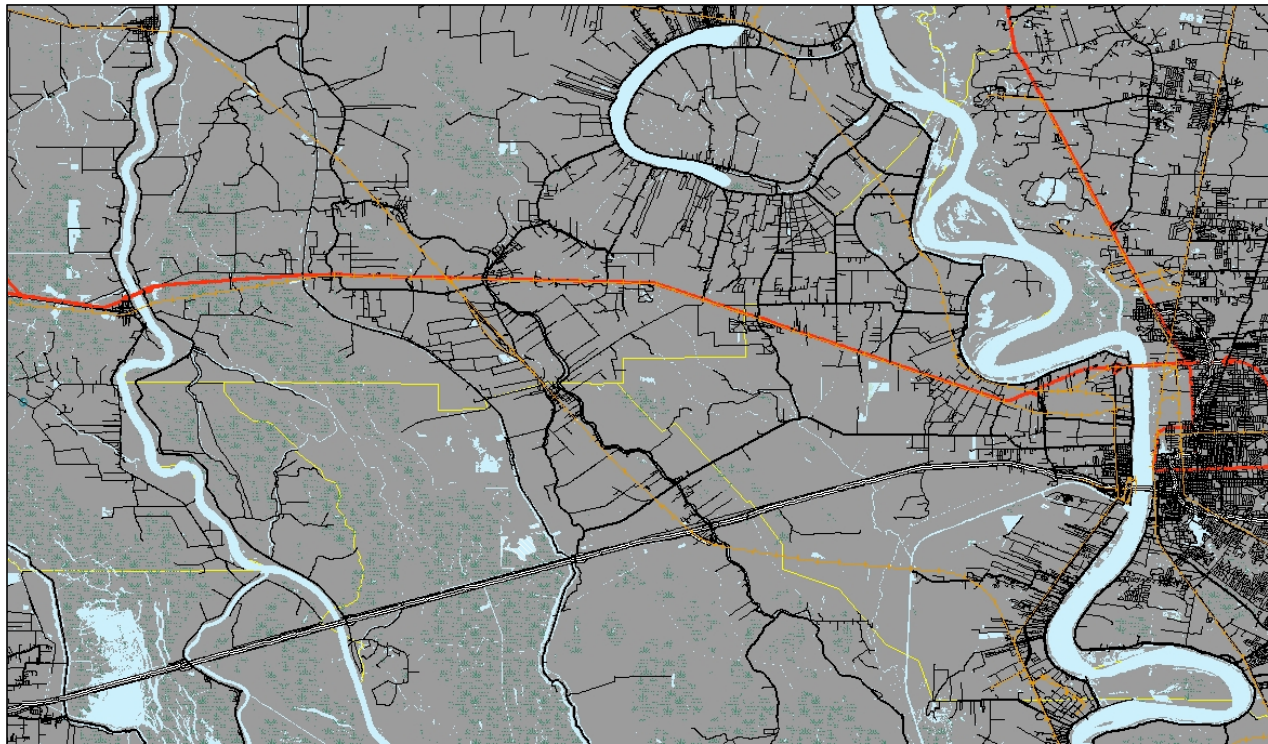
- FHWA requiring all states to submit an “ARNOLD” (All Road Network of Linear Referenced Data)
- DOTD invested in the initial “ARNOLD” development with FHWA funding completed in 2015
- Transportation Layer includes:
 - Roads
 - Rails
 - Airports
 - Ports
 - Freight Rail Facilities
 - Passenger Rail Stations
 - Bus Stations
 - Airport & Railyard Areas
- Annual Maintenance of Transportation Layer
- State and Local Government working TOGETHER to improve and share GIS data for government use



Transportation Layer

Rectified to 2010
GOSHEP Imagery

- Local
- Interstate Highway
- U.S. Highway
- State Highway
- Rails





Structures Layer

- DOTD will begin developing a Structures Layer in the next year fiscal year
- DOTD is working with a division of LSU to develop this layer. The goals of this group is to:
 - Develop a Building Footprint for all structures in a Parish
 - Map all Residential Addresses in a Parish
- Incorporate existing Structures and Addressing Data
- Acquire additional Structures and Addressing Data from additional Parishes
- Plans are to provide more updated imagery as it is acquired and available



Elevation Layer

- DOTD will begin development of an Elevation Layer using data acquired through regular data collection contracts
- State Highway System is collected on a two year cycle using a detailed process to assure accuracy of the x,y,z gps point data
- Non-State Roadways are being collected in a one-time cycle around the state along with a number of roadway assets. This cycle will also provide accurate x,y,z gps point data
- Two possible Features for the Louisiana Elevation Layer
 - Roadway Elevation feature
 - Ground Elevation Model feature using the roadway elevations and LIDAR data



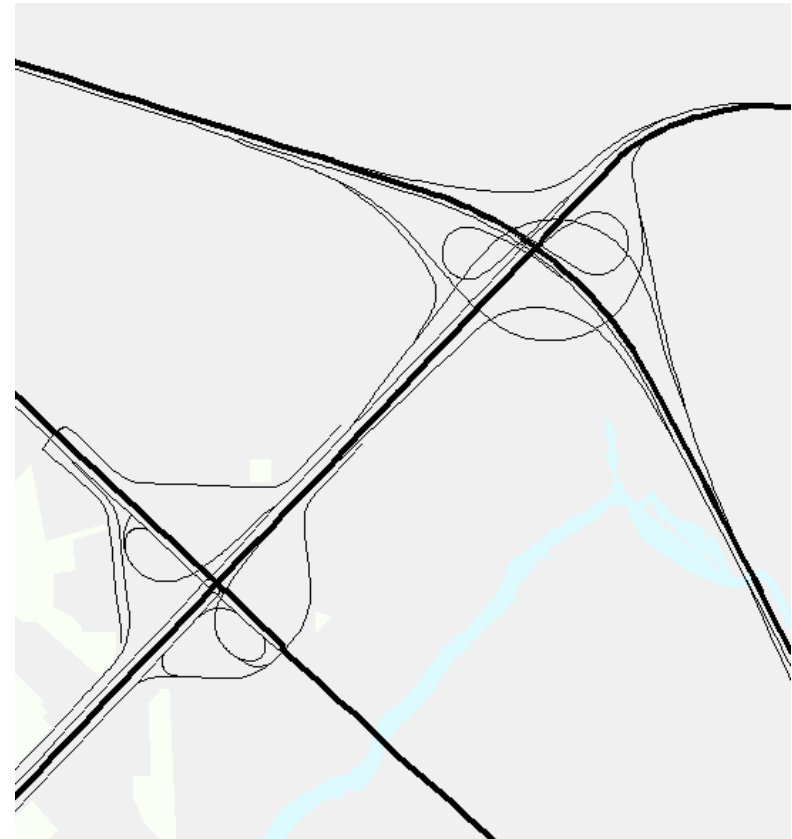
Displaying Speed Limit Data on a Map

- Received spreadsheet
- Converted to .csv file
- Deleted first row (blank)
- Saved as a .gdb table
- Added an LRS_ID column
(Table had begin and end Control Sections, used the begin.)



LRS ID?

- Control Section: 123-45
(main direction only)
- LRS_ID: 123-45-**1**-010
 - 1: main direction
 - 2: opposite direction
 - 3-6: frontage roads
 - A-S: ramps





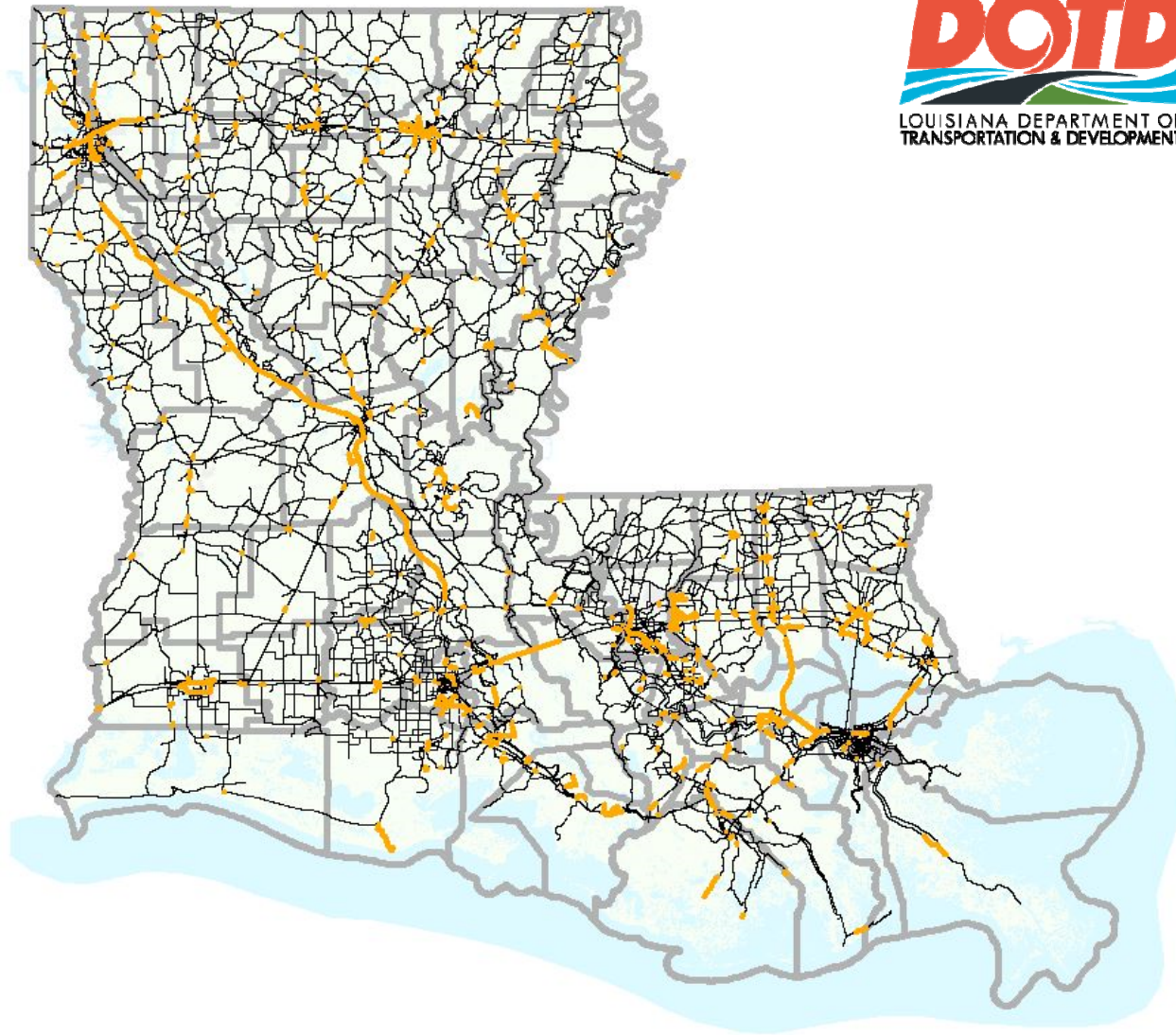


Displaying Speed Limit Data on a Map

- Route layer has each road with its own LRS ID and measure values.
- Table has LRS ID and begin and end logmile for each record.
- “Location Error” column could be used to improve data.

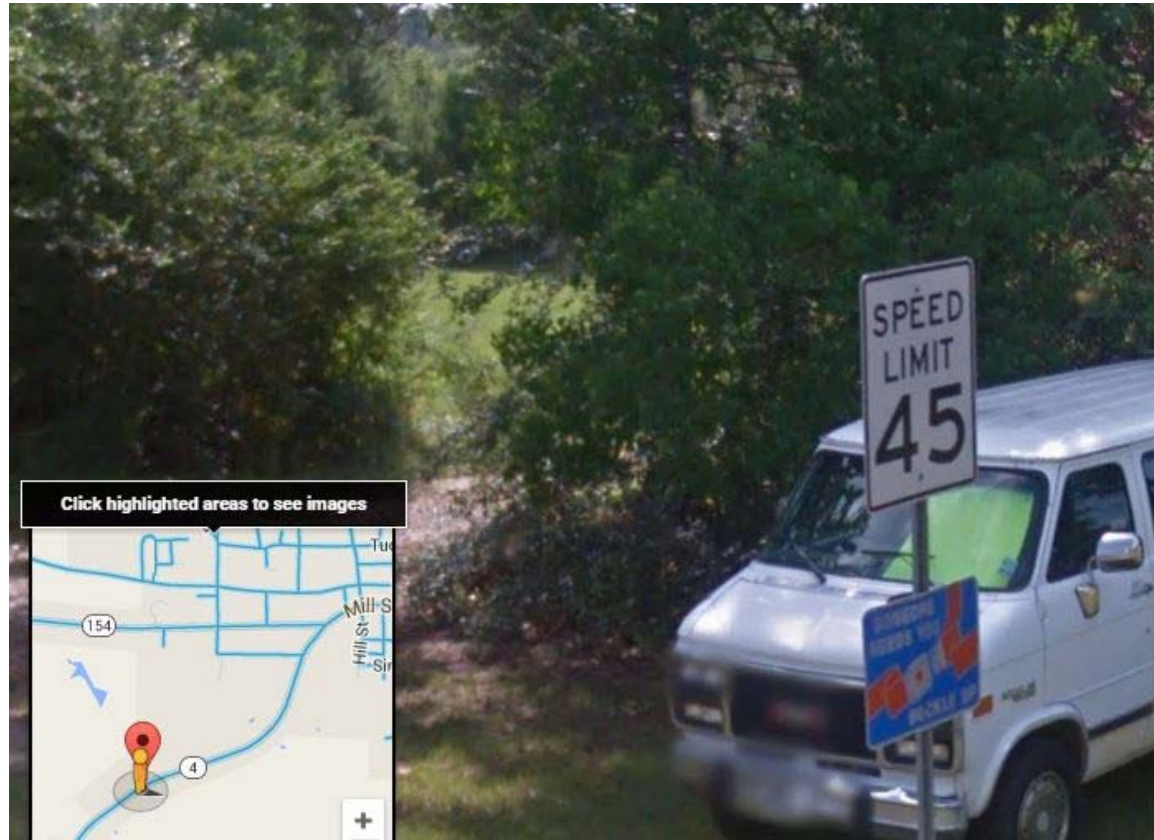
The screenshot shows a dialog box titled "Display Route Events" with a close button in the top right corner. The dialog contains the following sections:

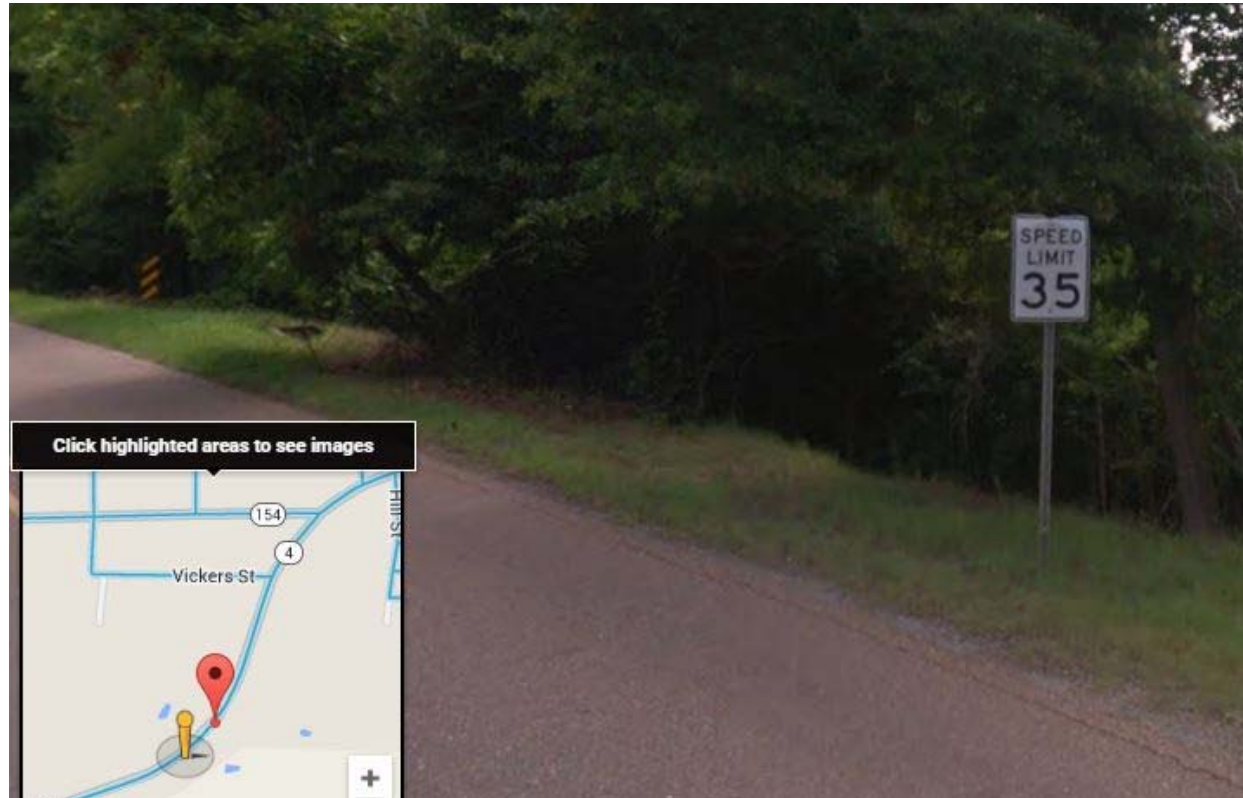
- Route events are objects with locations measured along routes. A table containing route events can be added to the map as a layer.**
- Specify the routes referenced by the events in the table:**
 - Route Reference: 
 - Route Identifier:
- Specify the table containing the route events:**
 - Choose a table from the map or browse for another table.
 - Event Table: 
 - Route Identifier:
- Choose the type of events the table contains:**
 - Point Events: Occur at a precise location along a route
 - Line Events: Define a discontinuous portion of a route
- Choose the measure fields for line events:**
 - From-Measure:
 - To-Measure:
- Choose the offset field. Events can be offset from their routes.**
 - Offset:
- Warn me if the resulting layer will have restricted functionality
- Buttons:















Roads & Highways, RCE

- Tabular data automatically connected to route layer.
- Each section/gang able to view and edit their data visually via “RCE” web service.
- View and compare multiple types of data simultaneously.
- As road layer changes, tabular data adjusts accordingly.



Roads & Highways

- Enterprise GIS
- Connecting Business Systems

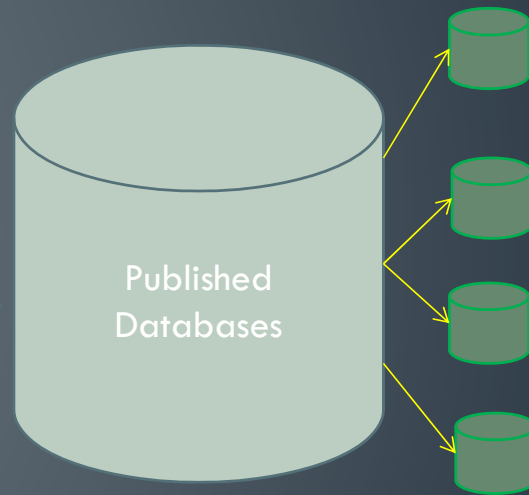
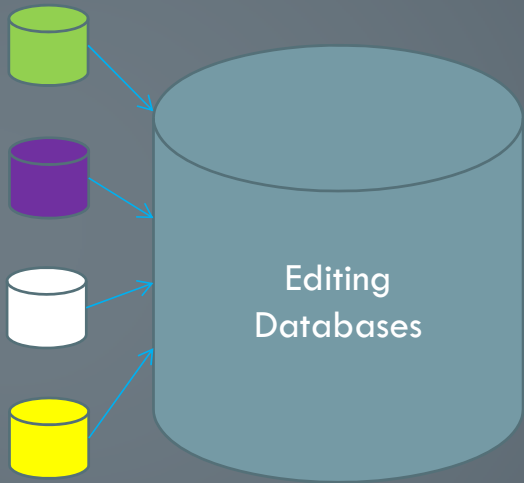


Local secure storage with WAN access to authorized contributors

Published to Web for client usage or privately published to secure servers

Periodic Updates Of "Certified" Data

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Used by Data Maintenance Process

Used by All Others



RCE (Roadway Characteristics Editor)

Workflow Manager



Roadway Assets

1. Surface Types
2. Lane Widths
3. Number of Lanes
4. Median Types
5. Median Widths
6. Shoulder Types
7. Shoulder Widths
8. Turn Lanes
9. Curb Locations
10. Sidewalks and Ramps
11. Bridge Locations
12. Railroad Crossings
13. Intersections
14. Grades
15. Horizontal Curves
16. Vertical Curves
17. Sight Distance
18. Terrain Type
19. Speed Limit Signs
20. Roadside Cultural Features

The roadway assets listed above have been collected for the state highway system and are currently being collected for non-state maintained roadways that are identified as “public roadways”.



QUESTIONS

SUGGESTIONS

DISCUSSION

