Adapting Louisiana DOTD Base Map to Leverage Regional Applications

Primary Presenter
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Presentation format: Single presentation

Regional organizations are faced with unique challenges when developing an enterprise level GIS program. A typical Transportation Regional Planning Organization usually encompasses projects and plans which span multiple jurisdictions. Multiple base maps are used to plot roadway projects but inconsistencies occur when crossing jurisdiction boundaries. An enterprise level GIS is difficult to create without a seamless base map which encompasses all areas. In 2012, Louisiana DOTD released a statewide geodatabase base map (roads) and is committed to its upkeep. With the use of a comprehensive base map the New Orleans Regional Planning Commission migrated their GIS layers to align with this base map. An interactive, intuitive, user interface was developed so that all project layers could be seamlessly queried across the jurisdictions for information about cost, project date, functional class, ownership, classification, and speed and safety metrics. With this GIS enterprise approach, it is anticipated that comprehensive performance based planning and measurement analysis can be accomplished using one tool.
Since the 2005 Hurricanes, the Regional Transit Authority (RTA) in New Orleans has been struggling to regain pre-Katrina ridership. There is the chicken and the egg issue for the RTA: with increased ridership comes increased service (more frequent buses known as shorter headway). How do you increase ridership without more frequent buses? The RTA in history has been an important transportation provider for high school students in Orleans Parish. By focusing upon high school locations (which change frequently post-Katrina) in coordination with the LA Department of Education (Steve Gunning), RTA has asked RPC to help spatially analyze potential ridership according to high school transit ridership criteria. The initial analysis took place in Algiers (west bank of the Mississippi River in New Orleans) when new schools opened and transit routes needed to be re-routed. As more schools have come on line, more data is required and Orleans Parish School Board has now requested a more intense analysis.

The effects of increased ridership alleviate a heavy burden presently incurred by the school system in using school buses. Transit ridership improves air quality endeavors (the same data is used in the regional traffic model) in reducing some private car and school bus emissions, if these students have adequate access to and from their schools via transit. But, of course there are other issues that come into play and GIS is useful in facilitating many of these discussions.
Online Scenario Planning for Long Range Transportation Plans

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Presentation format: Single presentation

The Gulf Regional Planning Commission (GRPC) has developed an online, open source GIS data warehouse and scenario designer to support its long-range transportation plan (LRTP). The data warehouse contains comprehensive land-use, transportation, and environmental information for the region’s fourteen cities and three counties, including a first-ever translation of local land-use plans into a commonly classified regional land-use plan. The scenario designer allows users to “paint” traffic analysis zones or parcels with desired future place types from a user-created palette of choices. As geography is painted, the tool tracks the amount of population and employment applied to an area, and the amount remaining to be painted from a regional control total. The tool also scores scenarios with a set of sustainability indicators, e.g. VMT, greenhouse gas emissions, transit access. With real-time feedback from indicator scores, users are able to iterate to the most goal-responsive scenarios. In a July 2013 workshop, planners from local governments set VMT reduction as a primary goal, and were able to create two TAZ-level 2040 regional scenarios with lower per capita VMT in the course of a half-day of interactive collaboration. In this way, the GRPC intends to use the tool as a “digital bridge” between local land-use plans and the LRTP’s traffic analysis zones. County GIS managers and tax assessors are working with GRPC to maintain the land-use database through updates to the land rolls.