Apps, Maps, and Data at the Bureau of Transportation Statistics

GIS-T 2019
Kissimmee FL

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Agenda

- BTS Overview and static maps
- Data – National Transportation Atlas Database (NTAD)
- Web mapping applications
  - Web mapping and feature services
  - Web mapping application for the Secretary
Overview
Bureau of Transportation Statistics

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) created BTS to:

- administer transportation data collection, analysis, and reporting; and
- ensure the most cost-effective use of resources to monitor
  - Transportation’s contributions to the economy
  - Extent, condition and performance of transportation system
  - Transportation’s implications, e.g., safety, environment

BTS is one of the 14 Principal Federal Statistical Agencies

- Policy-neutral, objective broker of information
- Special abilities to protect confidentiality
Geospatial and Visualization Data and Tools

- Data
  - NTAD and NSDI/FGDC Transportation Theme Lead
- Maps
  - static and dynamic
- Apps
  - Viewers and tools
- Analysis
  - Network and spatial
BTS Geospatial Projects

- Maritime - Automatic Identification System (AIS) Analysis
- Aviation – System Wide Information Management (SWIM) Analysis
- Highways – Vehicle Probe Analysis
- Transit and Bus – National Transit Map and National Intercity Bus Atlas
- Noise – National Transportation Noise Map
- Multimodal - Transportation Disruption and Disaster Statistics Program
- Safety – Solving for Safety Visualization Challenge and Waze Analysis
It Starts with the Data – National Transportation Atlas Database (NTAD)

Main Page: https://www.bts.gov/maps/
NTAD Open Data Catalog: http://data-usdot.opendata.arcgis.com/
Selection of Current NTAD Data

Aviation
Airports
Runways

Rail
North American Rail Lines and Nodes
Rail Crossings
Amtrak Lines
Amtrak Stations

Marine
Dams
Locks
Major Ports
Ports
Strategic Ports
Waterway network

Transit
National Transit Map Data

Roads
Freight Analysis Framework (FAF) network
Highway Performance Monitoring System (HPMS)
National Highway Planning Network (NHPN)
Fatality Analysis Reporting System (FARS)
National Bridge Inventory
Truck Stop Parking
Travel Monitoring Analysis System (TMAS)
Alternative Fueling Stations
Web Mapping and Feature Services
Vector Tile Services

- WMS and WFS: https://geo.dot.gov/server/rest/services/NTAD
- 15 Vector Tile services: https://geo.dot.gov/server/rest/services/Hosted (services with VT at the end)
Upcoming NTAD Datasets

• Border Crossings/Ports of Entry
• Time Zones
• Specialized Roads (HOV, HOT, Toll, etc.)
• Waterway Congestion
• Intermodal/Intramodal Facilities
• Freight Networks
  – National Truck Network
  – HAZMAT Routes
  – National Multimodal Freight Network
USDOT Emergency Response Application
Ingest Local Information

• Need to have a bigger conversation
• Leverage information that is already out there
• Decrease duplication of effort
• How to ingest reliable web feature services from states and local governments during an emergency
• 511 data is important
Questions for You

• National Transportation Atlas Database
  – Does it meet you need?
  – What works well?
  – What could be improved?
  – What additional layers would be useful?
  – What other datasets are needed?
  – How could we fill in gaps/lacking areas?
The Importance of Good Data

- Providing REST endpoints for applications
- Precursor to 2020 GIS-T workshop
- Data quality and completeness

Image from ESRI
Future Spatial and Visualization Work at BTS

- Monitoring emerging areas
  - HD Maps/Automated vehicles
  - BIM/CIM
  - IoT Smart Cities
- Exploring Techniques
  - Machine learning
  - Crowdsourcing
- Partnerships
  - State and local governments
Bureau of Transportation Statistics

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