

Geospatial Coordination at USDOT and Transportation for the Nation (TFTN)

Steve Lewis

Geospatial Information Officer, USDOT

Director, Office of Geospatial Information Systems, USDOT/RITA/BTS

December 4, 2012

Topics

- USDOT Organizational Structure
- USDOT Geospatial Programs
- Geospatial Coordination
- Transportation for the Nation (TFTN)
- Moving Ahead for Progress in the 21st Century (MAP-21)



USDOT Organizational Structure

- 13 “Operating Administrations”
 - Office of the Secretary Transportation
 - Office of the Inspector General
 - Federal Aviation Administration
 - Federal Highway Administration
 - Federal Railroad Administration
 - Federal Transit Administration
 - Federal Motor Carrier Safety Administration
 - Maritime Administration
 - National Highway Traffic Safety Administration
 - Pipeline and Hazardous Material Safety Administration
 - Saint Lawrence Seaway Development Corporation
 - Surface Transportation Board
 - Research and Innovative Technology Administration



USDOT Geospatial Programs

- Almost all of the Operating Administrations have geospatial programs
- Some have dedicated programs, some are “other duties as assigned”
- With the exception of the Research and Innovative Technology Administration (RITA), all are “modally biased”

Geospatial Coordination

- RITA leads the geospatial coordination efforts at USDOT
 - Geospatial Information Officer
 - Senior Agency Official for Geospatial Information
 - Designated lead for Transportation Theme of the National Spatial Data Infrastructure
 - National Transportation Atlas Databases (NTAD) product represents the Transportation Theme
 - Represents the USDOT on the Federal Geographic Data Committee and in the Office of Management and Budget's e-gov initiatives
 - Participates in meetings of the National States Geographic Information Council and the National Geospatial Advisory Committee

TFTN - Background

Influenced by several different efforts:

- In 2008, an “issues brief” by NSGIC called for the creation of TFTN
- OMB Circular A-16 identifies the USDOT as the “lead agency” for the “transportation theme” of the National Spatial Data Infrastructure (NSDI).
- Emerging USDOT data requirements for geospatial data for all roads, such as accident reporting for enhanced safety and bridge inventory.
- Aligned with several initiatives such the emerging federal Geospatial Platform concept. - one element of the “geospatial portfolio”

TFTN Concept

“Creation and maintenance of high-quality, nationwide transportation data that is in the public domain”

- An **initial focus on street centerlines**, but eventually multi-modal
- **Nationwide** data spanning all states and territories
- **All roads**, not just Federally funded roads
- Provides a **common geometric baseline**
 - Road naming
 - Persistent segment ID numbering
 - Advanced functionality is built on top of baseline



TFTN Strategic Planning Effort – What We Did

- Identified and engaged stakeholders
- Defined requirements, challenges and opportunities
- Documented progress already made
 - Existing Datasets
 - Best Practices
 - New Ideas
- Explored implementation issues
- Evaluated funding sources

Stakeholder Outreach Interviews



- Safety
- FHWA Highway Performance Management System
- Intelligent Transportation Systems
- Asset Management



Stakeholder Outreach Presentations & Workshops



2010
GIS-T

Mountains of Opportunity

Transportation Research Board
89th Annual Meeting
January 10-14, 2010
Washington, D.C.

NSGIC 2010 Midyear Conference
"A Collaborative Heading"
March 7-10, 2010
Loews Annapolis Hotel
Annapolis, MD



**ESRI International
User Conference**

Join us July 12-16, 2010 at the
San Diego Convention Center

Transportation Research Board
90th Annual Meeting
January 23-27, 2011 • Washington, D.C.



GIS-Pro 2010
URISA's 48th Annual Conference for GIS Professionals




fgdc
Federal Geographic Data Committee

Home Library Calendar Contact Us

Participants Data & Services Standards Metadata Framework Policy & Planning Training Grants International Geospatial Info

you are here: home → national geospatial advisory committee

National Geospatial Advisory Committee

The National Geospatial Advisory Committee (NGAC) is a Federal Advisory Committee sponsored by the Department of the Interior under the Federal Advisory Committee Act. The NGAC reports to the Chair of the Federal Geographic Data Committee (Secretary of the Interior or designee). The scope and objectives of the NGAC are described in the NGAC Charter: "The Committee will provide advice and recommendations related to management of Federal and national geospatial programs, the development of the National Spatial Data Infrastructure, and the implementation of Office of Management and Budget Circular A-16 and Executive Order 12904. The Committee will review and comment upon geospatial policy and management issues and will provide a forum to convey views representative of non-federal stakeholders in the geospatial community."

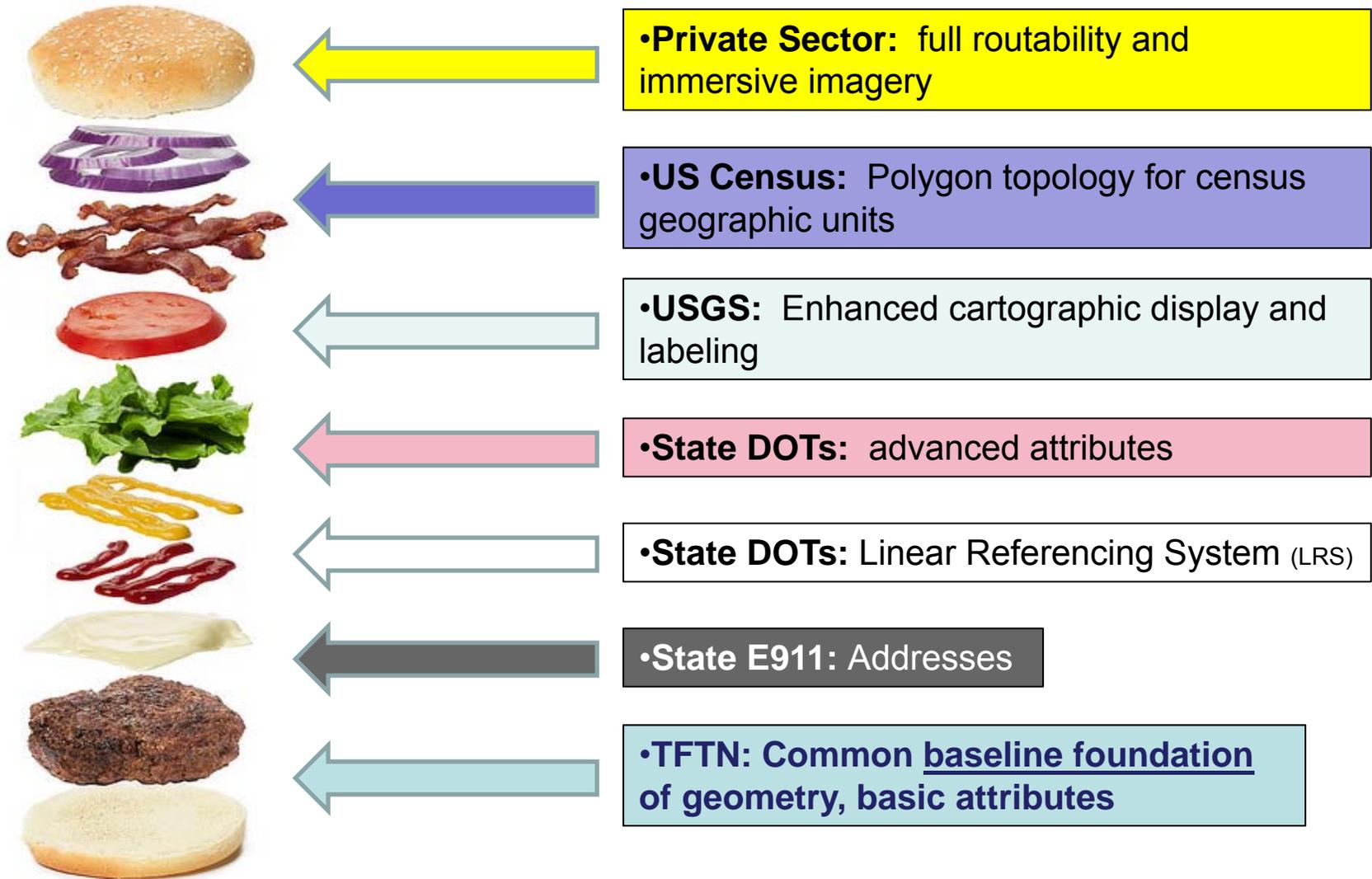


Baseline Geometry with “Special Sauce”

- The specifics of what’s included in “baseline geometry” requires further definition
- Initial, **minimal components** might be:
 - Road naming
 - Basic attributes (e.g. functional classification)
 - Persistent segment ID numbering
- Seeking additional ideas and input from stakeholders on what’s feasible
- “Special sauce” can be content and/or capabilities



Variety of stakeholders adds their own “special sauce” on top



The Model for TFTN - HPMS

- Federal Highway Administration (FHWA) reporting requirements for the Highway Performance Monitoring System (HPMS) included the submission of a geospatial network of all **Federal-aid roads** by each State DOT
- Reporting requirements for the HPMS could be expanded to require all roads
 - Detailed HPMS attributes would continue to be provided for only Federal-aid roads
 - Annual nature of HPMS reporting provides a **data update mechanism**
 - USDOT will work with states to develop basic standards
 - Reporting requirement would **enable states to utilize FHWA funding** for creation and maintenance of inventory

Obstacles Associated With This Model

- FHWA needed to change the HPMS Reporting Requirements to include all roads in the geospatial submission
- States are not required to work with neighbors for connectivity
- No USDOT resources currently available for aggregation, assembly and publication of a nationwide data set
- The level of quality/accuracy varies from State to State
- Although there is general agreement that the state DOTs are the authoritative source for street centerlines for their respective jurisdictions, there is very little independent verification of their accuracy

Case Studies – “Mini TFTNs”

1. **OH:** Example of [state activating counties](#)
2. **NY:** Example of [state-private sector partnership](#) for centerlines
3. **MI:** Example of a [state GIS office](#) assisting a state DOT
4. **KY:** Statewide, [multi-purpose centerline](#) used for HPMS, E-911, etc.
5. **VA Counties:** Example of [multiple counties](#) collaborating for centerlines
6. **WA Pooled Funds Study:** Example of a [multi-state, regional data collection and integration effort](#)
7. **I-95 Corridor Study:** Example of [multi-state data integration and update challenges](#)



NGAC Endorsement

- TFTN Strategic Plan was presented to NGAC on June 8, 2011
- On June 9, 2011, NGAC passed the following recommendation: ***The NGAC commends the U.S. Department of Transportation (USDOT) for developing the new Transportation for the Nation (TFTN) Strategic Plan through the engagement of the stakeholder community. The NGAC encourages USDOT to develop a business plan as the next step in the development of TFTN.***



Will the Business Plan Happen?

- RITA lacks the funding for a Business Plan
- FHWA has the funding
 - They fully support TFTN and the recommendations from the Strategic Plan
 - They believe that a Business Plan is NOT necessary
- Do TFTN stakeholders believe a Business Plan is necessary?
- If so, what can the stakeholders do to express their concerns and communicate their support of the Business Plan?



TFTN Without A Business Plan: The Good

- FHWA believes they are already making progress
 - For the 2010 HPMS submittal, networks received from all but one State DOT
 - 20 State DOTs provided networks for ALL roads
 - Several State DOTs provided dual-carriageway networks
- A search through regulations reveals several avenues to require State DOTs to provide complete networks to support the Safety and Certified Public Mileage programs.
- FHWA is working on submittal guidance that will require State DOTs to submit all roads and dual carriageways starting with the 2013 submittal.
- FHWA has promised to keep the stakeholders involved.

Moving Ahead for Progress in the 21st Century (MAP-21)

- Signed into law by President Obama on July 6, 2012
- Funds surface transportation programs at over \$105 billion for fiscal years 2013 and 2014
- Includes funding of \$4.8 billion for a Highway Safety Improvement Program (HSIP)
 - Requires the development of a “basemap” of all roads onto which safety attributes can be attached
 - HSIP funds can be used by State DOTs to develop the basemap

MAP-21 and TFTN

- FHWA has embraced the recommendations of the TFTN Strategic Plan and will develop the “basemap” using HPMS networks
 - A memo was issued to each State DOT requiring that they provide a complete road network as part of the annual HPMS submittal
 - Will include both paved and unpaved roads and dual carriageway representation where appropriate
 - In addition to HSIP funds, FHWA waived the match requirement for using State Planning and Research Funds
 - A plan of action is required from each State DOT by June 2013
 - Complete networks required by June 2014



What's Next

- FGDC Transportation Subcommittee will be looking at best ways to expand TFTN to other modes of transportation.



Questions/Comments?

Steve Lewis
(202) 366-9223
steve.lewis@dot.gov

