



U.S. Department of Transportation
Bureau of Transportation Statistics

United States Department of Transportation Bureau of Transportation Statistics

Presentation to the TPB Travel Forecasting Subcommittee
September 21, 2018

Overview

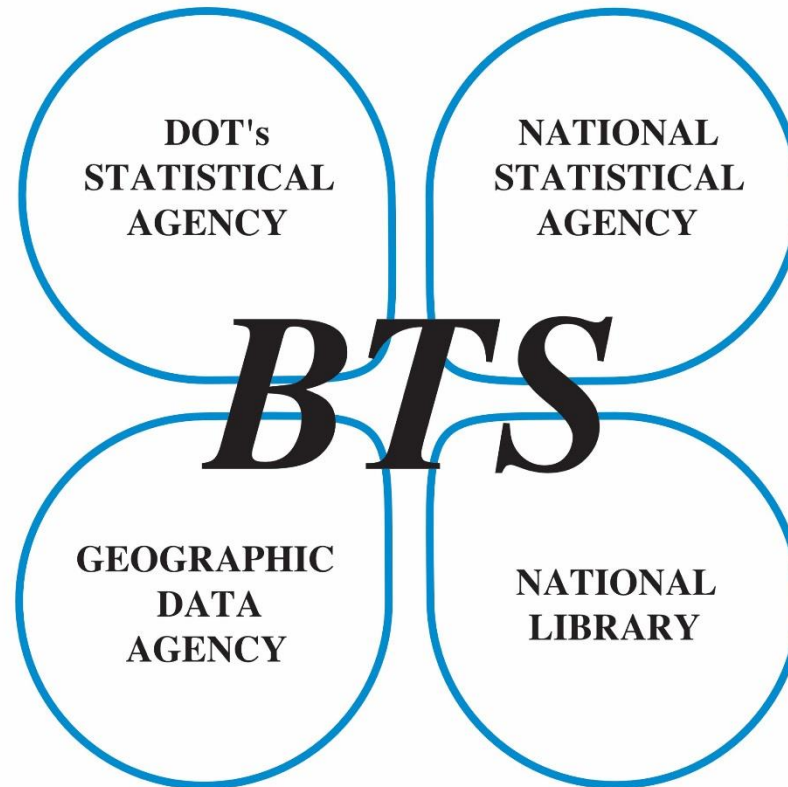
- In 1991, the [Intermodal Surface Transportation Efficiency Act \(ISTEA\)](#) created BTS to:
 - administer transportation data collection, analysis, and reporting; and
 - ensure the most cost-effective use of resources to monitor:
 - Transportation's contributions to the economy
 - Transportation's implications, e.g., safety, environment
- BTS is one of the 13 Principal Federal Statistical Agencies
 - Policy-neutral, objective broker of information
 - Special abilities to protect data confidentiality



The Bureau of Transportation Statistics

- Provides timely, accurate, credible information on the U.S. transportation system, the movement of people and goods, and the consequences of transportation for the economy, society and the environment
- Is the preeminent source of statistics on commercial aviation, multimodal freight, and transportation economics
- Provides context to decision makers and the public for understanding statistics on transportation

BTS in 4 worlds



Seven major components of the BTS mandate

1. Intermodal Transportation Data (ITD)

- Passenger and freight flows by commodity or trip purpose, mode, origin and destination
- Intermodal connections
- Transportation economic accounts for capital stocks, expenditures, and employment

2. National Transportation Atlas Database (NTAD)

- Transportation network for analysis of passenger and freight flows by all modes
- Detailed transportation network for measures of condition and performance
- Links to social, economic, and environmental data

3. Transportation Performance and Impacts

- Compile, analyze, and publish statistics on the extent, connectivity, condition, economic efficiency, safety, and consequences for human and natural environment of the transportation system, and on factors affecting demand for transportation

Seven major components (continued)

4. Airline Information

- Passenger origin-destination and freight volume by segment
- On-time performance
- Financial data on air carriers

5. Safety Data Program

- Collection of near miss data to identify precursor events

6. National Transportation Library (NTL)

- Acquiring, management, preservation and transferring of transportation knowledge
- Depository and clearinghouse for departmental research
- Provide reference services

7. Statistical Coordination

- Member of the Interagency Council on Statistical Policy (ICSP)
- Review of all DOT data collection programs
- Improved methods of data collection and analysis
- Improved statistical quality

Geospatial at the Bureau of Transportation Statistics



Data



Applications



Maps

National Transportation Atlas Database - NTAD

A compilation of geospatial databases
that depict:

- The Transportation System
- Flows of people, goods, vehicles, and craft
- Social, economic, and environmental conditions that affect or are affected by the transportation system
- Capable of supporting intermodal network analysis

NTAD Sources



**US Army Corps
of Engineers.**





Data

Geospatial Layers

by Mode



Rail



Aviation



Roads



Transit



Marine

by Category



Performance



Safety



Freight



Energy and
Environment



Transportation
Infrastructure



Passenger
Movement



Boundaries
and
Landmarks



Characteristics

Physical and Operational Infrastructure

- Modes
- Inter/multi-modal terminals
- Ports/airports
- Stops
- Locks
- Bridges

Performance

- Flows
- Congestion
- Delay
- Reliability
- Resilience

Conditions

- Good Repair
- Safety
- Environmental Consequences
- Economic Impact
- Social Impact

Point:		Polygon:
Airports	Travel Monitoring Analysis System (TMAS)	Congressional districts
Alternative fuel stations	Polyline:	Core Based Statistical Areas
Amtrak stations	Freight Analysis Framework (FAF) network	Counties
Border crossings	Hazmat	FAF regions
Dams	Highway Performance Monitoring System (HPMS)	Hydrology
Freight facilities	National Highway Planning Network (NHPN)	Military bases
Passenger facilities	Railways	Metropolitan Planning Organization (MPO)
Fatality Analysis Reporting System (FARS)	Runways	Non-attainment areas
Locks	Transit	Parks
National Bridge Inventory (NBI)	Waterways	States
Places		Urbanized areas
Ports		
Major ports		

View Themes

- How does my location compare to everyone else?

- Visualize
- Query
- Download



Applications

Analyze

Conditions / Consequences

Select ...

- How many? Of what? When?

Tell me ...

- What's close to me/my organization/jurisdiction
- How does it affect me

- Proximity
- Heat maps/clustering
- Influence Sheds
- Statistics

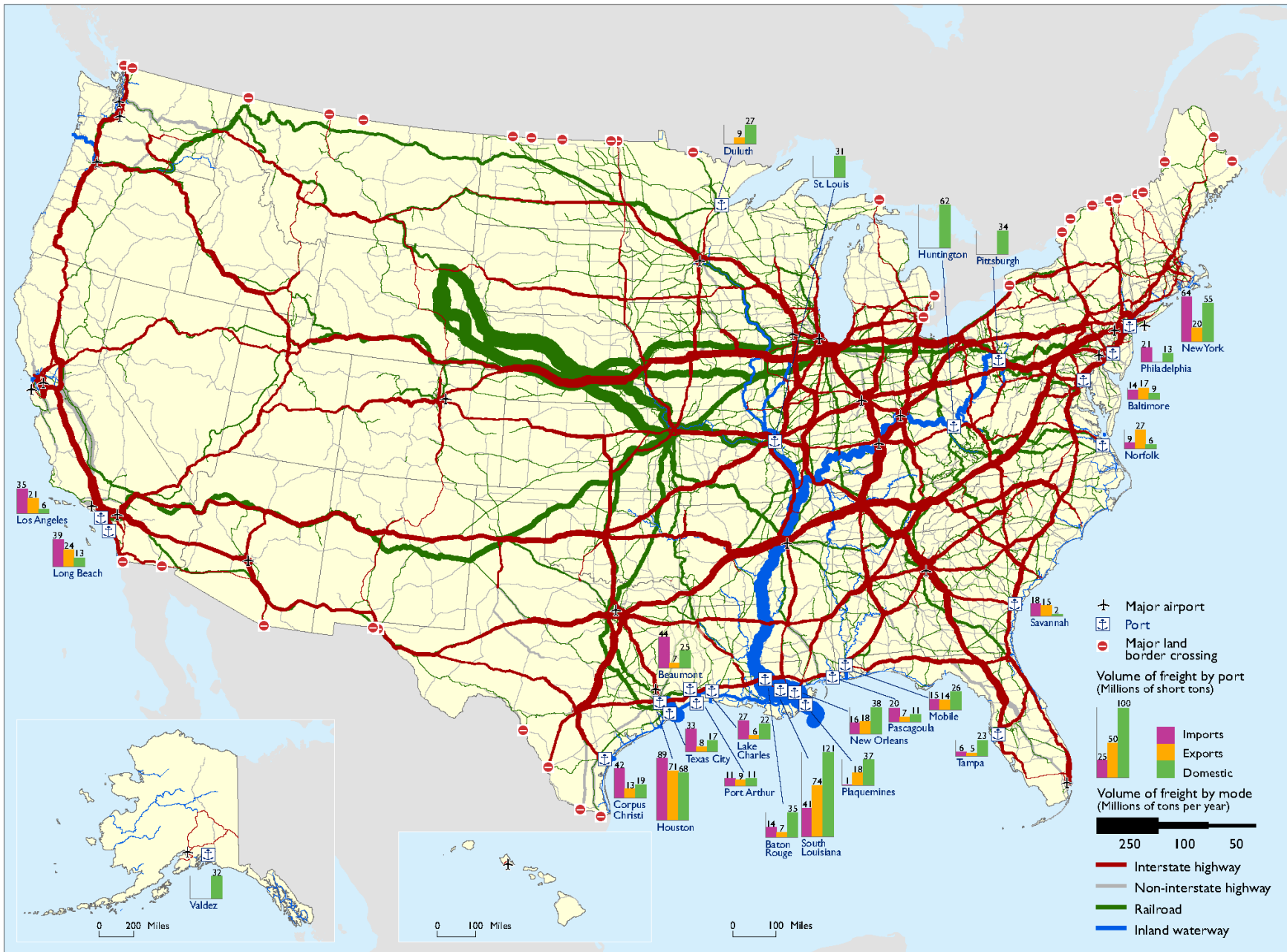


Maps

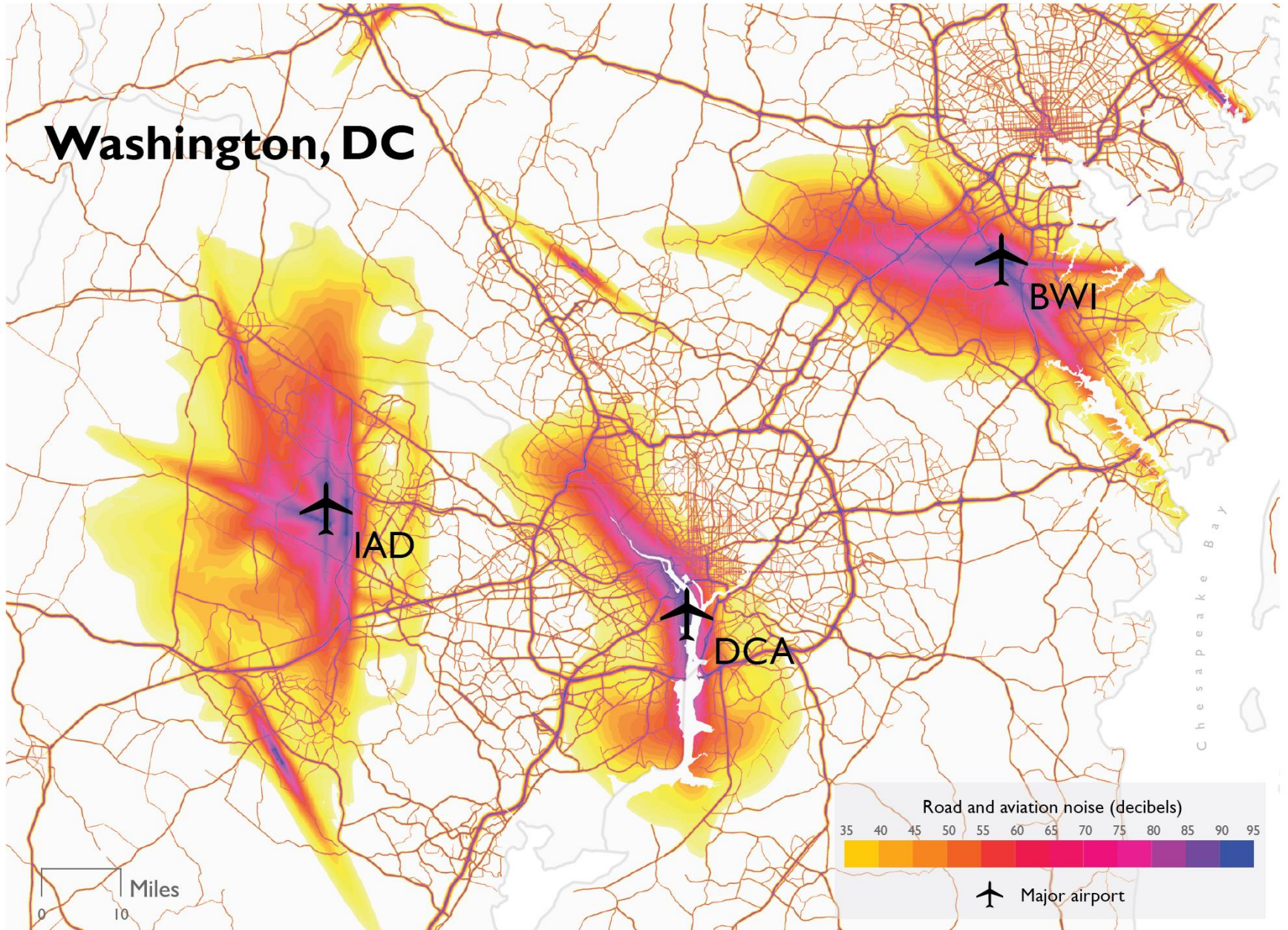
Map Gallery

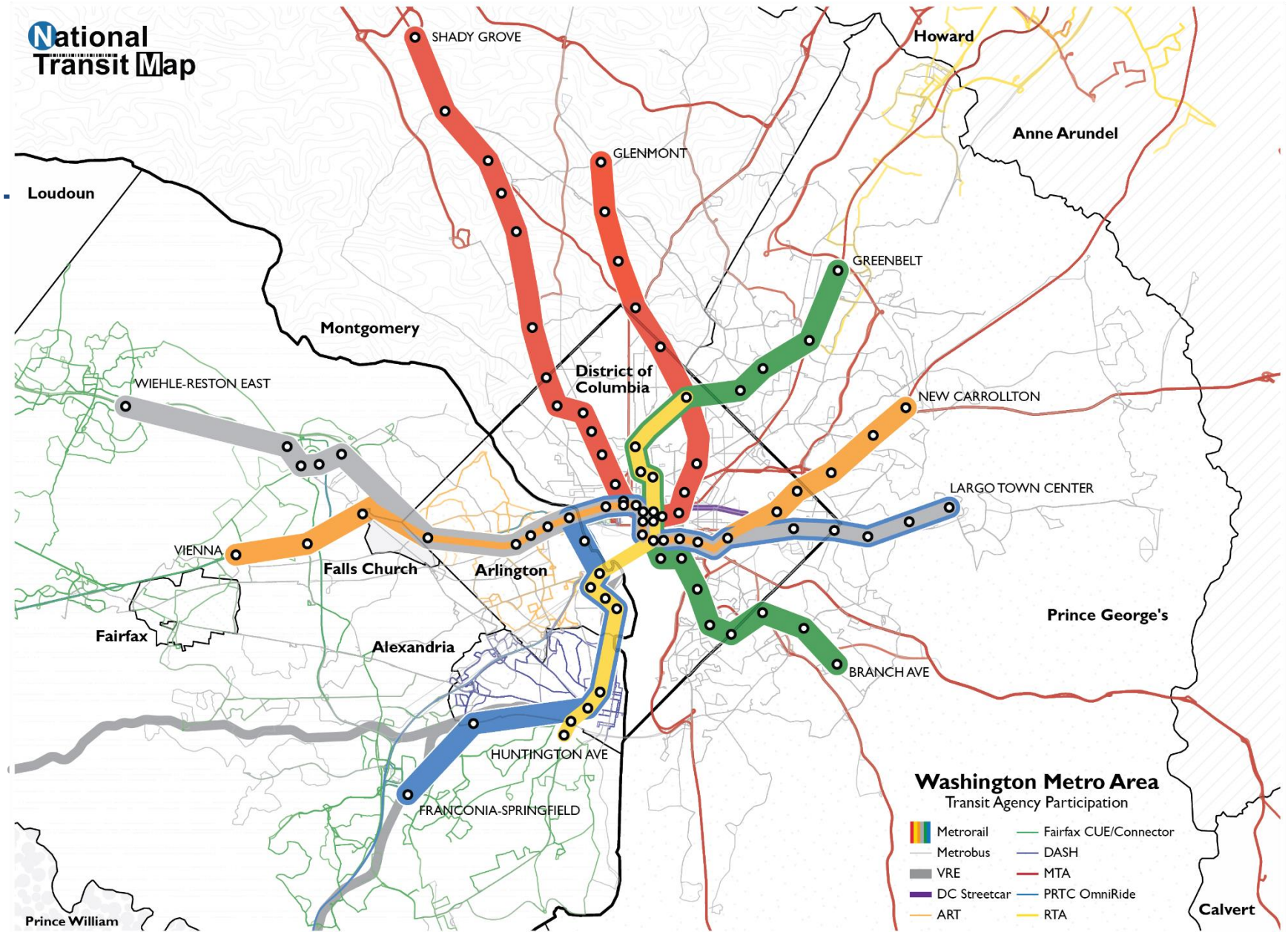
Static Maps
Story Maps

- Document Management System
 - Map metadata
 - Map keywords



Washington, DC





Washington Metro Area
Transit Agency Participation

- Metrorail
- Metrobus
- VRE
- DC Streetcar
- ART
- Fairfax CUE/Connector
- DASH
- MTA
- PRTC OmniRide
- RTA

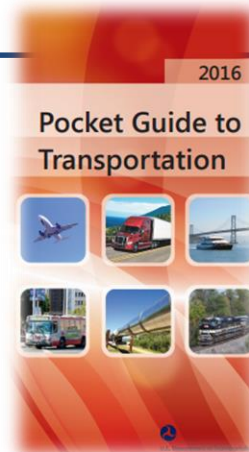
BTS Innovative Projects

- Freight – Machine Learning
- Maritime - Automatic Identification System (AIS) Analysis
- Aviation – System Wide Information Management (SWIM) Analysis
- Safety – Waze Analysis
- Highways – Vehicle Probe Analysis
- Mobile App – Data Automation/APIs

Discussion

- National Transportation Atlas Databases and National Transportation Atlas
 - What parts of NTAD and NTA do you most frequently use now?
 - What works well?
 - What could be improved?
 - What additional layers would be useful?
 - What delivery mechanism and formats work best?
- Future Products
 - What are your geospatial needs and how might our analytical work and geospatial products be able to help you?
 - What ideas do you have for new geospatial products and services?
 - What functionality are you and your customers/stakeholders looking for from online GIS tools that BTS could provide?
 - Are there spatial analyses and thematic maps that we should consider developing?

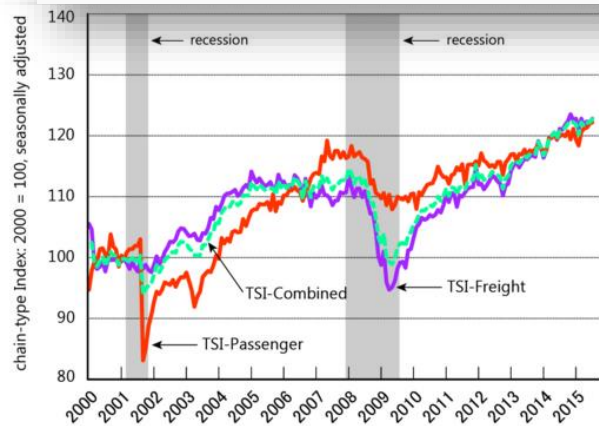
More about BTS: www.bts.gov



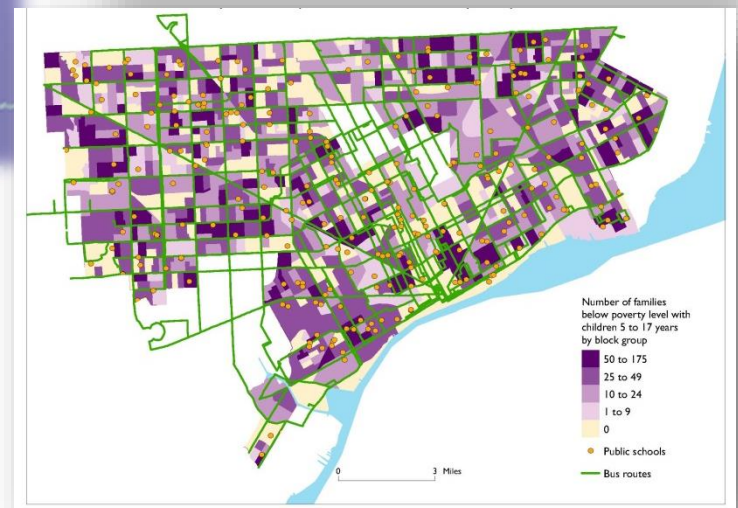
NTAD 2015



Transportation Services Index: Jan. 2000–July 2015



STATE TRANSPORTATION
STATISTICS 2015



Notes: The Transportation Services Index measures the movement of freight and passengers.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, available at www.bts.gov as of September 2015.