Let's Get Visual: Metrics at the National Transportation Library

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Laura Farley, Analytics & UX Fellow

Office of Library and Information Services, National Transportation Library

Bureau of Transportation Statistics, U.S. Department of Transportation

U.S. Department of Transportation
Office of the Secretary of Transportation

Data Collection & Visualization

Why might a library want track and visualize data? It's all about serving you, our clients. The National Transportation Library (NTL) was established in 1998 and, as posted at ntl.bts.gov, is mandated by **Moving Ahead for Progress in the 21st Century (MAP-21)** to:

- Acquire, preserve, and manage transportation information, products, and services for use by the US DOT, other Federal agencies, and the public.
- Provide reference and research services.
- Serve as a central repository for DOT research results and technical publications.
- Serve as a central clearinghouse for transportation data and information of the Federal Government.
- Serve as coordinator and policy lead for transportation information access.
- Coordinate and cooperate with external parties to develop a "comprehensive transportation information and knowledge network".
- Publicize, facilitate, and promote access to information products and services.

These responsibilities require collecting, tracking, and analyzing metrics to ensure we're fulfilling our responsibilities.

Collection, analysis, and visualization of metrics created by NTL products and services are vital for reporting, quality assurance, and decision-making.

Data Sources

With many products and services to track, NTL metrics come from multiple sources to capture the full spectrum of use:

Google Analytics: Used to create custom reports on NTL and the Bureau of Transportation Statistics (BTS) website traffic and behavior.

SWAT & SPLUNK Reports: Used to analyze use of the NTL digital repository ROSA P. These reports are generated monthly by the Center for Disease Control, the provider of the backend technology of ROSA P, and include metrics such as item views, item downloads, and search terms.

SpringShare LibAnswers Exports: Used to track reference requests received by the NTL Reference Librarians. LibAnswers is a ticketing system designed for libraries that contain metadata for every question answered, including what mode of transportation the question was about, what BTS products were used in answering the question, and how long it takes the librarians to complete a request.

Data Management

NTL has a responsibility to plan for long-term preservation of library metrics and takes a 3 pronged-approach to maintaining visualizations:

1. Visualizations updated on a scheduled basis are stored on a shared network drive. The visualizations and data are separated into 2 categories; **Live** and **Preservation**. The **Live** visualization and data are used in Tableau to create the visualizations and data extracts. **Preservation** data harvested from the sources are saved as an Microsoft Excel file and a CSV file and are never altered. When a dashboard is updated a Tableau Packaged Work-book is saved to the **Preservation** folder.

2. Data management plans and data packages are created for all dashboards updated on a scheduled basis.

3. In the future selected metrics dashboards will be published on the NTL website for public access.
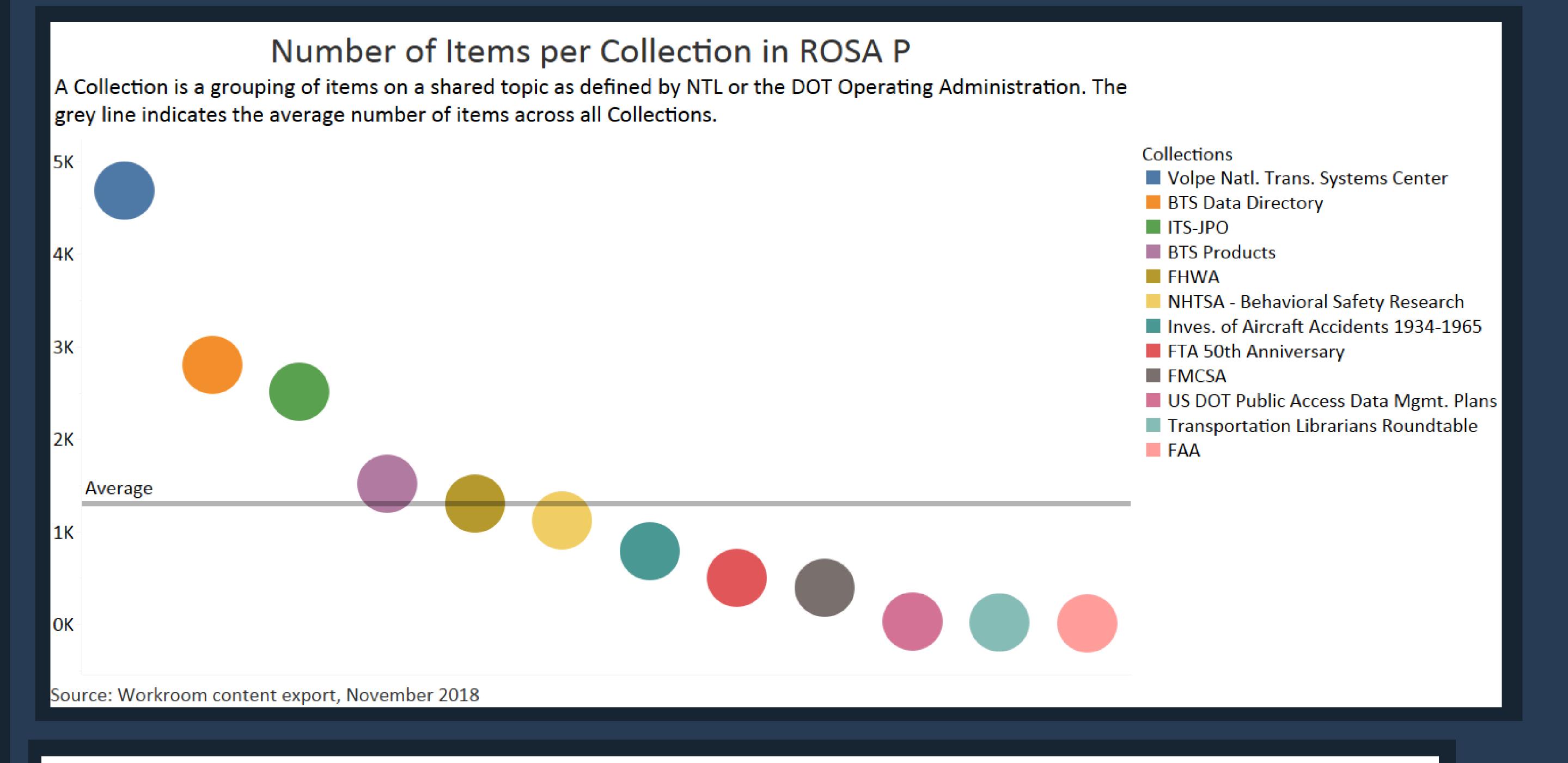
Next Steps

- Automate collection, update, and publication of dashboards utilizing ROSA P, NTL, and BTS website APIs and JSON and/or Python scripts.
- Develop a dashboard using the disparate NTL and BTS metrics to provide a complete snapshot of user experience across products.
- Increase sophistication of existing dashboards through advanced filtering and UX design. Move beyond simple metrics reporting to storytelling.
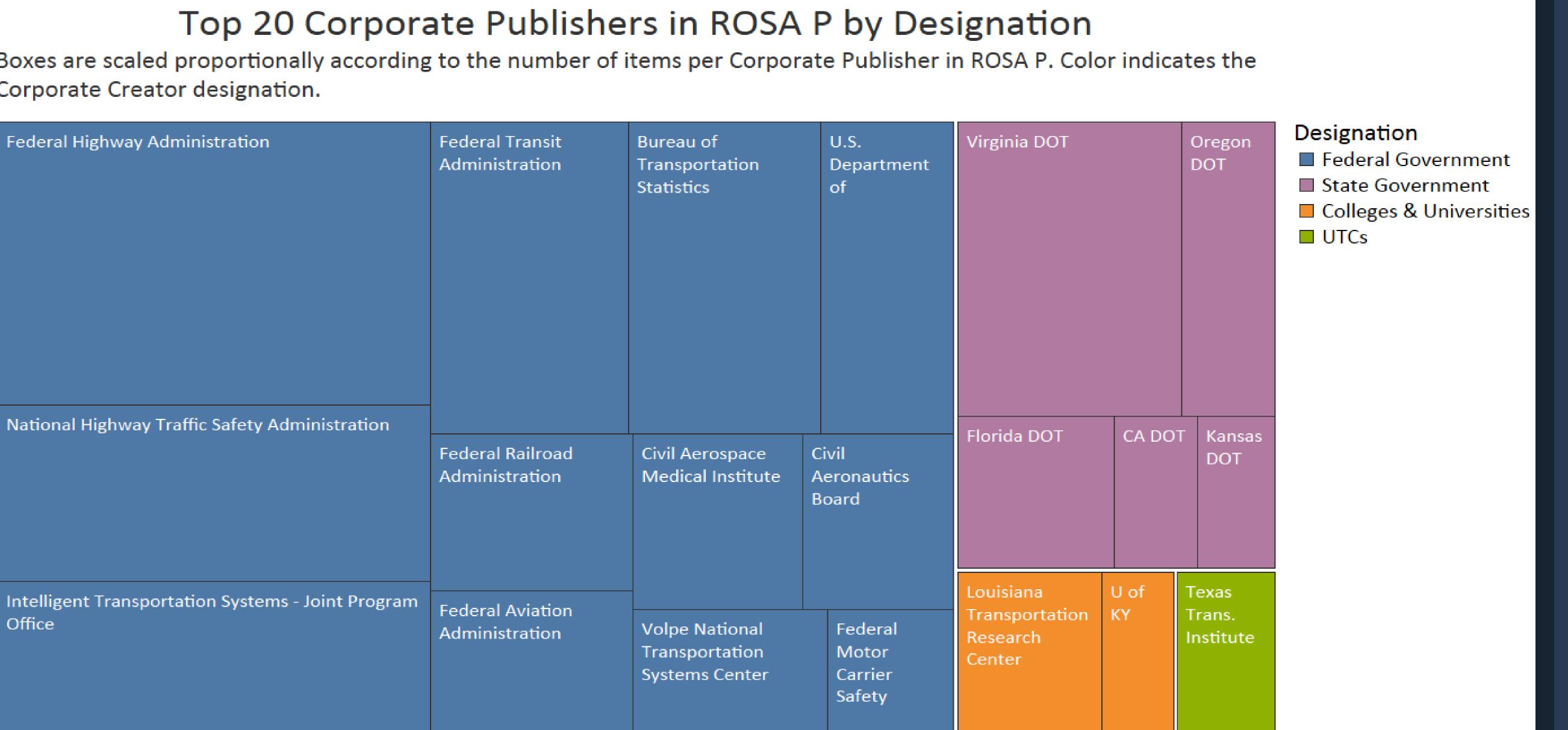
Let's Chat

Laura Farley
Analytics & UX Fellow
laura.farley.ctr@dot.gov
ORCID 0000-0002-9980-6850

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These 4 visualizations highlight different components of the ROSA P digital repository metadata . Metrics harvested from the NTL internal catalog Workroom up-to October 31, 2018. Metrics were cleaned in Microsoft Excel and analyzed in Tableau 10.5.

Number of Items per Collection in ROSA P

A Collection is a grouping of items on a shared topic as defined by NTL or the DOT Operating Administration. The grey line indicates the average number of items across all Collections.

Collections
- Volpe Natl. Trans. Systems Center
- BTS Data Directory
- ITS-JPO
- BTS Products
- FHWA
- NHTSA - Behavioral Safety Research
- Inves. of Aircraft Accidents 1934-1965
- FTA 50th Anniversary
- FMCSA
- US DOT Public Access Data Mgmt. Plans
- Transportation Librarians Roundtable
- FAA

Source: Workroom content export, November 2018

Items in ROSA P by Resource Type

Bubbles are scaled proportionally to the number of items per Resource Type in ROSA P

Resource Type
- Tech Report
- Research Paper
- Dataset
- Text
- Proceedings
- Journal Article
- Brief
- Manual
- Booklet/Pamphlet
- Presentations
- In Book
- Web Document
- Organization Info
- Journal
- Policy Statement
- Bibliography
- Video
- Data Management Plan
- Memorandum
- In Proceedings

Source: Workroom content export, November 2018

Top 20 Corporate Publishers in ROSA P by Designation

Boxes are scaled proportionally according to the number of items per Corporate Publisher in ROSA P. Color indicates the Corporate Creator designation.

Designation
- Federal Government
- State Government
- Colleges & Universities
- UTCs

Source: Workroom content export, November 2018

Top 50 TRT Terms (Item Keywords) in ROSA P

Words are scaled proportionally according to frequency in ROSA P. The top 10 TRT Terms are indicated in dark blue.

Source: Workroom content export, November 2018