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

Implementing and Maintaining the Freight Data Dictionary

Text USDOT BTSFDD to 468311 for a link to the Freight Data Dictionary

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Abstract

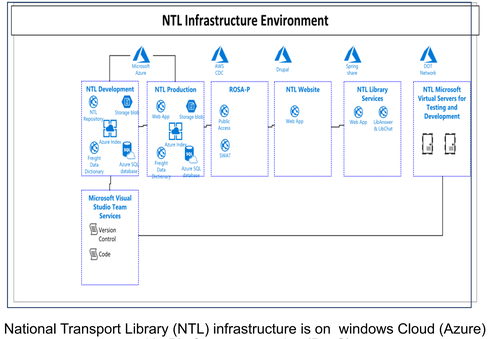
National Cooperative Freight Research Program (NCFRP) report 35, Implementing the Freight Transportation Data Architecture: Data Element Dictionary identified freight data sources, compiled and classified data elements, identified differences in data element definitions, and produced software for a searchable inventory of freight data dictionaries. The report indicates that the U.S. Department of Transportation's (USDOT) Bureau of Transportation Statistics (BTS) will permanently host the web-based interface, with staff from the National Transportation Library (NTL) providing updates and maintenance. NTL is currently hosting the freight data dictionary (FDD) code, since early 2018.

In order to make the FDD a robust, sustainable and useful tool, the freight data community will need to be engaged in its maintenance. This includes active updating of data sources, dictionary elements, and software, as well as identifying new data sources from which the FDD draws.

This presentation will give a progress report on current BTS activities to launch the web-based FDD. The presentation will also explore future areas for freight community involvement in the long-term maintenance of the FDD.

A national Freight Data Dictionary is proposed that offers a centralized, controlled, authoritative vocabulary capable of supporting: Enhanced data inputs; Improved accuracy, efficiency, and flexibility in freight data interchange; Freight data analysis and interoperability across the transportation sector, and Improved analysis and decision making at all levels of government.

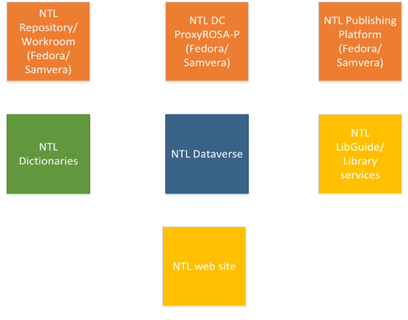
NTL Environment



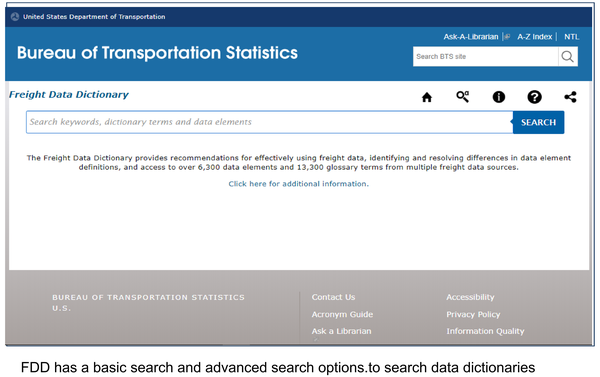
National Transport Library (NTL) infrastructure is on windows Cloud (Azure) with Platform as a service (PaaS).

Future NTL Services

A Vision for Next generation of NTL Digital Services

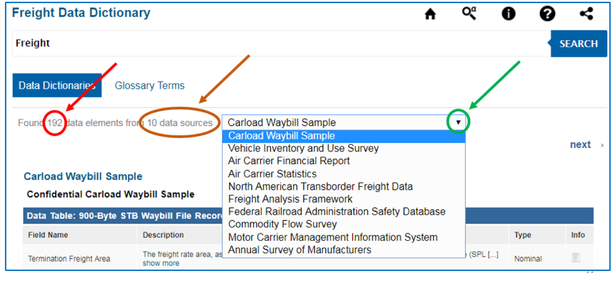


Element: Data Management Plan

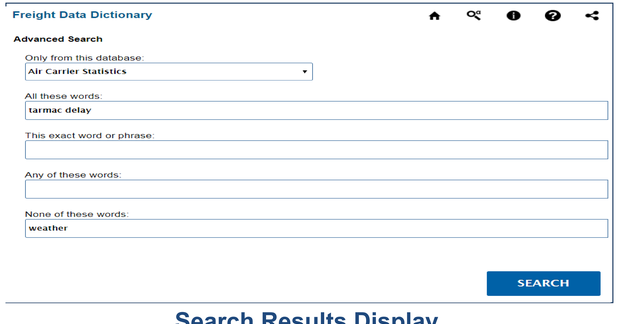


FDD has a basic search and advanced search options.to search data dictionaries and the glossary terms.

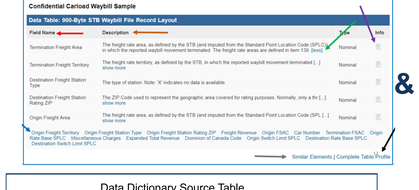
FDD Simple Search Results: Data Dictionary Number and Sources



Advanced Search

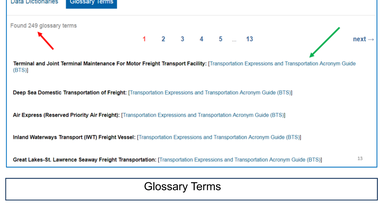


Search Results Display



Data Dictionary Source Table

&



Glossary Terms

Current Data Sources

1 Air Carrier Statistics
2 Air Carrier Financial Reports
3 Annual Survey of Manufacturers
4 Border Crossing/Entry
5 CTA Intermodal Terminals Database
6 Carload Waybill Sample
7 Commodity Flow Survey
8 County Business Patterns
9 Fatality Analysis Reporting System
10 Federal Railroad Administration Safety Database
11 Foreign Trade
12 Freight Analysis Framework
13 Highway Performance Monitoring System
14 IHS Transearch
15 Motor Carrier Management Information System
16 Motor Carrier Safety Measurement System
17 National Agricultural Statistics Service
18 National Ballast Information Clearinghouse Database
19 National Corridors Analysis and Speed Tool Database
20 North American Transborder Freight Database
21 Pipeline and Hazardous Material Safety Administration
22 Service Annual Survey
23 Survey of Business Owners
24 Topologically Integrated Geographic Encoding and Referencing
25 U.S. Waterway Data
26 Vehicle Inventory and Use Survey
27 Vehicle Travel Information System
28 Woods and Poole Economics, Inc.

Current FDD database has data from 28 different sources

Technology Stack and Infrastructure

FDD is developed with Java, java script, jQuery, Ajax, PHP and MS SQL Server Database..
Application is on Azure cloud with platform as service (PaaS).
Search is backed up by Azure indexing.
FDD have a web base API on public interface.

FDD Future Opportunities & Challenges

- Open Source platform (challenge and opportunity)
- One body with many heads solution to similar product (opportunity)
- Data elements and vocabulary standardization (challenge and opportunity)
- Data interchangeability
- Database normalization
- Add back processing module
- Add term suggestion request form
- Other functions YOU would like to have
- Curation and Updates: Community Effort