



Transportation Librarians Roundtable

Transportation Research Thesaurus:

WSDOT Use Cases

Andy Everett

Metadata Repository Administrator
Data and Information Architect
WSDOT

February 14, 2008



Initial Efforts

- Agency management supported the need and request for funding.
- First product: a metadata repository produced in 2001.
- Second product: a user interface that served as a repository and provided both a list of data sets and user search tools
- Project cost: approximately \$480,000
- One employee dedicated to its management
- Search returns were still limited and a decision was made in 2003 to hire an information professional with library science skills to improve the findability of data.



From Repository to Catalog

- Change way of thinking from engineering to library science principles through education (controlled vocabularies, content-oriented metadata, indexing and cataloguing)
- Collect an accurate inventory of our dataset assets (servers, databases, tables, fields)
- Improve the quality of the metadata (develop rules, policies and procedures, introduce new metadata)



Data Catalog Interface

Basic Search
Advanced Search

Enter Keyword(s) Find

Business Topics		
Assets Equipment, Facilities, Information Systems, ...	Operations Maintenance, Traffic	Trafficway Highway Safety, Traffic Data
Construction	Persons Person Role	Uncategorized
Environment Drainage Facilities	Planning and Design	Utilities
Geospatial Geographic Area, Location Reference, Political and Administrative Areas	Project Development	Weights and Measures Date and Time
Management and Organization Financial Management	Structures Culverts and Bridges	

Catalog Statistics as of: 1/3/2008 1:49:01 PM			
Business Topics: 36	Data Subjects: 281	Data Characteristics: 1,296	Variations: 1,174
Databases: 511	Tables: 18,243	Elements: 242,548	Links: 3,424



Search common vocabulary “crash”



Common Item Results

Physical Item Results

[Refine Search](#)

Business Topics (0)

Business Topics

Data Subjects (0)

Business Topics

Data Subjects

Data Characteristics (0)

Business Topics

Data Subjects

Data Characteristics

Variations (0)

Business Topics

Data Subjects

Reference Sets (0)

Thesaurus Items (1)

crash



WSDOT Data Catalog

From “crash” to “Collision”

EveretA (Librarian) | [Help](#) | [Back to Edit Thesaurus](#)

Thesaurus

[Find](#)

Synonyms

crash

[Delete](#)

Related Topics and Subjects

Business Topics

Highway Safety

[View](#)

Data Subjects

Collision

[View](#)

New Synonym

[New](#) [Save](#) [Reset](#)



WSDOT Data Catalog

From “crash” to “Collision”

Data Catalog Common Elements

Business Topic New -Highway Safety	Data Characteristic New Case Number City Identifier City Number Collision Record Status Type Code Collision Report Number Collision Report Source Type Code Count	Characteristic Variation
Data Subject New Collision Collision Quality Review Type Collision Record Status Type Collision Report Source Type Collision Report Type Collision Severity Type Collision Type	Highway Safety: Collision	

Data Subject Details Link Synonym & Common Edit Reference Sets Link Common & Physical

Topic -Highway Safety *	Status Accepted
Data Subject Name Collision *	Synonym(s) Accident Accident Report crash Police Traffic Collision Report
Operational Steward Paul Snow	<input type="checkbox"/> Reference Sets
Managerial Steward	
Executive Steward Jon Bauer	
Definition An occurrence of injury or damage involving at least one Motor Vehicle or Pedalcycle for which a Police Traffic Collision Report (PTCR) or Vehicle Collision Report (VCR) is filed.	



The Data Catalog Today

- Bi-weekly automatic update maintains an inventory of OIT-managed databases (relational and mainframe).
- 500 Databases, 18,000 tables, 240,000 data elements.
- Lists physical metadata: name, type, size, precision...
- Provides a single web site to find this information.
- Simple text searches can find databases, tables, fields by name.
- Lacks common business semantics—incomplete assignment of business terms to cryptic physical names.



Other Information Organization Projects at WSDOT





Indexing Web-based Documents

■ Facts

- Currently a WSDOT pilot project involving the Library Services, Interactive Communications and Information Resource Management (OIT/IRM)
- Uses a Dublin Core–based Metadata Application Profile
- Utilizes the TRT for the Keyword Metadata Element

■ Document Types

- Research Reports
- Engineering and Operations Manuals



Indexing Web-based Documents

Washington State Department of Transportation [News](#) | [Contact WSDOT](#) | [WSDOT Home](#)

Traffic & Roads | Projects | Business | Environment | Maps & Data

Search **Research Reports** text size: [T](#) [T](#) [T](#)

Research Reports Index

Search Research Reports

667.1: PCCP Texture Modification Using the Skidabrader

[Abstract](#) [Full Report](#)

Author(s): Keith W. Anderson, Jeff Uhlmeyer, Linda Pierce.

Originator: Washington State Transportation Center (TRAC)

Publish Date: January, 2007

666.1: Performance of a Portland Cement Concrete Pavement

[Abstract](#) [Full Report](#)

Author(s): Keith W. Anderson, Jeff Uhlmeyer, Linda Pierce.

Originator: Washington (State). Dept. of Transportation. Materials Laboratory.

Publish Date: April, 2007

665.1: Homeless Student Transportation Project Evaluation

[Abstract](#) [Full Report](#)

Author(s): Daniel Carlson, Sheri Reder, Nathalie Jones, Andrea Lee.

Originator: Washington State Transportation Center (TRAC)

Publish Date: December, 2006

664.1: Reliability-Based Design of Seismic Retrofit for Bridges

[Abstract](#) [Full Report](#)

Author(s): Kenneth J. Fridley, Zhiyuan Ma.

Originator: University of Alabama. Dept. of Civil, Construction and Environmental Engineering.

Publish Date: February, 2007



Indexing Web-based Documents

Washington State Department of Transportation [News](#) | [Contact WSDOT](#) | [WSDOT Home](#)

[Traffic & Roads](#) | [Projects](#) | [Business](#) | [Environment](#) | [Maps & Data](#)

[Search](#) **Research Reports** text size: T T T

Research Reports

- [Research Reports](#)
- [Research Home](#)

Performance of a Portland Cement Concrete Pavement

Description:
This report describes the construction of a portland cement concrete pavement built with three finishing methods; carpet drag, longitudinal tining, and transverse tining. The three finishing methods will be compared for their ability to resist the wear from studded tires. Ride and friction resistance will also be monitored and reported over the five year evaluation period.

Location: <http://www.wsdot.wa.gov/research/reports/fullreports/666.1.pdf>

Publish Date: April, 2007

Publication Number: WA-RD 666.1

Last Modified: May 10, 2007

Author(s): Keith W. Anderson, Jeff Uhlmeyer, Linda Pierce.

Originator(s): Washington (State). Dept. of Transportation. Materials Laboratory.

of Pages: 47 p., 1,161 KB (PDF)

Subject: Concrete construction, Concrete finishing, Friction course, Pavement grooving, Pavement performance, Portland cement concrete, Studded tires, Surface course (Pavements), Wear.

Keywords: Longitudinal tining, traverse tining, carpet drag, PCCP.

Related Publications:

—

—

[Full Report](#)

This abstract was last modified January 4, 2008



Information Architecture

- Namespace (definition)
 - The set of unique names used to identify objects within a well-defined domain. It is the same as a taxonomy but may follow different design rules governed by technology requirements

- WSDOT Information Architecture classifying:
 - Multiple Taxonomies based on content type and audience
 - Intranet and Public Web Content, Web Services and Web-based Applications, MS SQL Reporting Services Reports (Taxonomy)
 - Informs the development of WSDOT Ontology

- Goals
 - Intuitive structure that promotes reusability and findability
 - Term consistency between Web Applications, Web Content and Report Services, Enterprise Content Management (ECM) Systems

Other Information Organization Projects

- **Ontology Development**
 - For Service-Oriented Architecture Application Development
 - Consistent terms for data sharing and transfer (messaging) between applications

- **Controlled Vocabulary Consulting**
 - Reviewing Controlled Lists used in Applications including ECMs
 - Evaluate for approved or commonly used agency terminology
 - Promote use of Common and Centrally maintained lists
 - Develop/Review terms and naming conventions used in-house Database and Application Development

- **Image and Video Indexing Needs Assessment**
 - Project being lead by University of Washington Information School