



March 10, 2011

RITA's Research, Development & Technology Knowledge Management System
Alasdair Cain, Transportation Specialist, RITA Research, Development, & Technology Office

The Research, Development, and Technology (RD&T) Knowledge Management System (KMS)

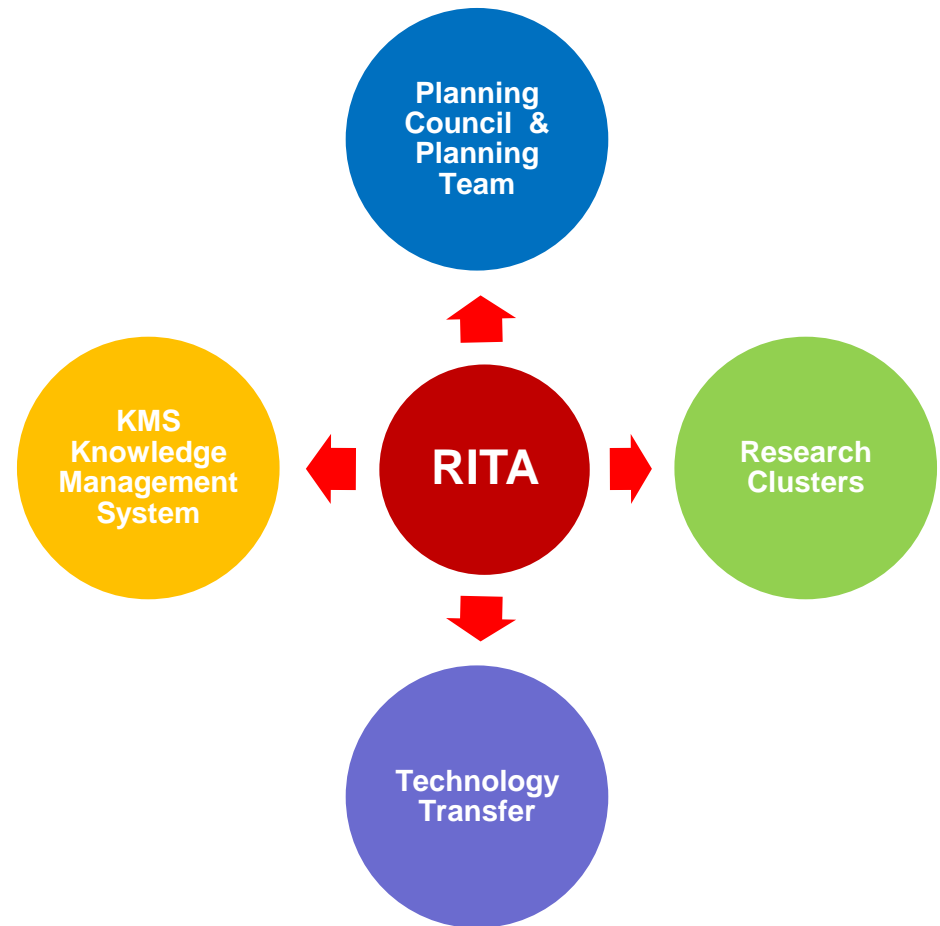
By Alasdair Cain,
Office of Research, Development, and Technology

March 2011

RITA's Research Coordination Activities

RITA Research Coordination Efforts are comprised of:

- Senior – level consultations through Planning Council & Planning Team
- Working – level consultations through the Research Clusters
- Project – level visibility into RD&T spending through the Knowledge Management System
- Sharing of research outcomes and outputs through Technology Transfer



The RD&T Knowledge Management System (KMS)

What is the KMS?

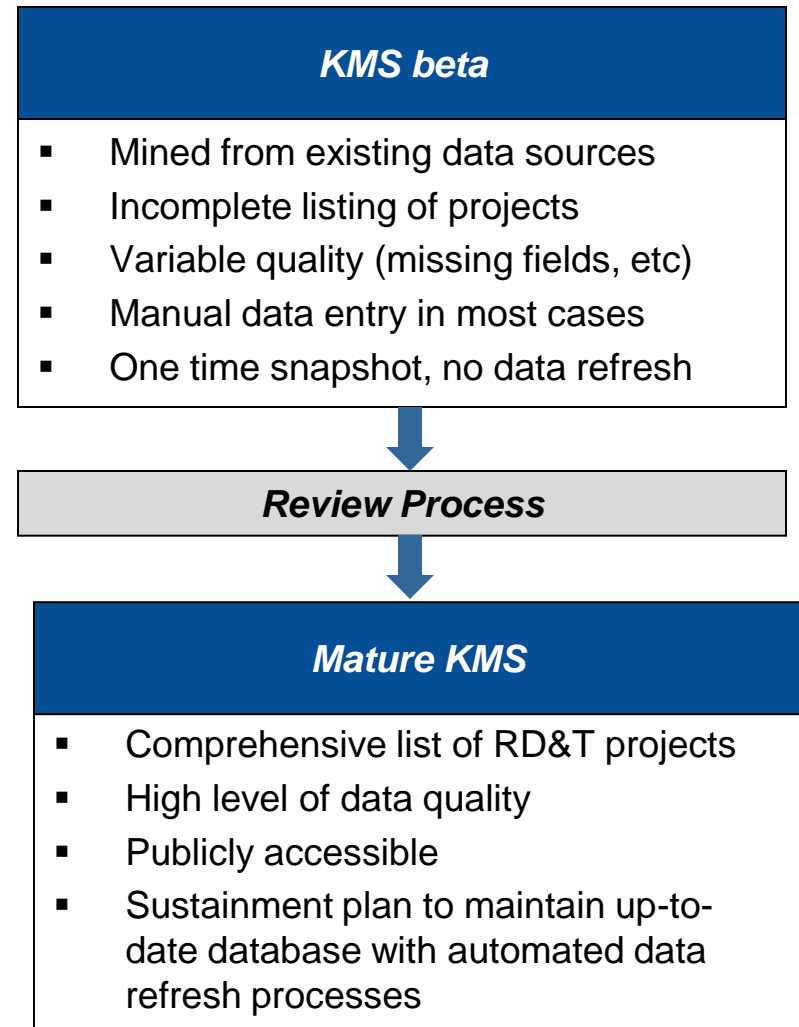
- A **publicly available**, web-based, searchable database of DOT-funded RD&T project records
- A central information repository populated by existing DOT agency data sources
- Field structure:
 - Project title
 - Program
 - Short description/abstract
 - Project sponsor and performer POC details
 - Project status (active, completed, etc)
 - Funding amount
 - Project findings and outcomes (reports/patents/rulemaking /new technologies, etc.)

Why do we need it?

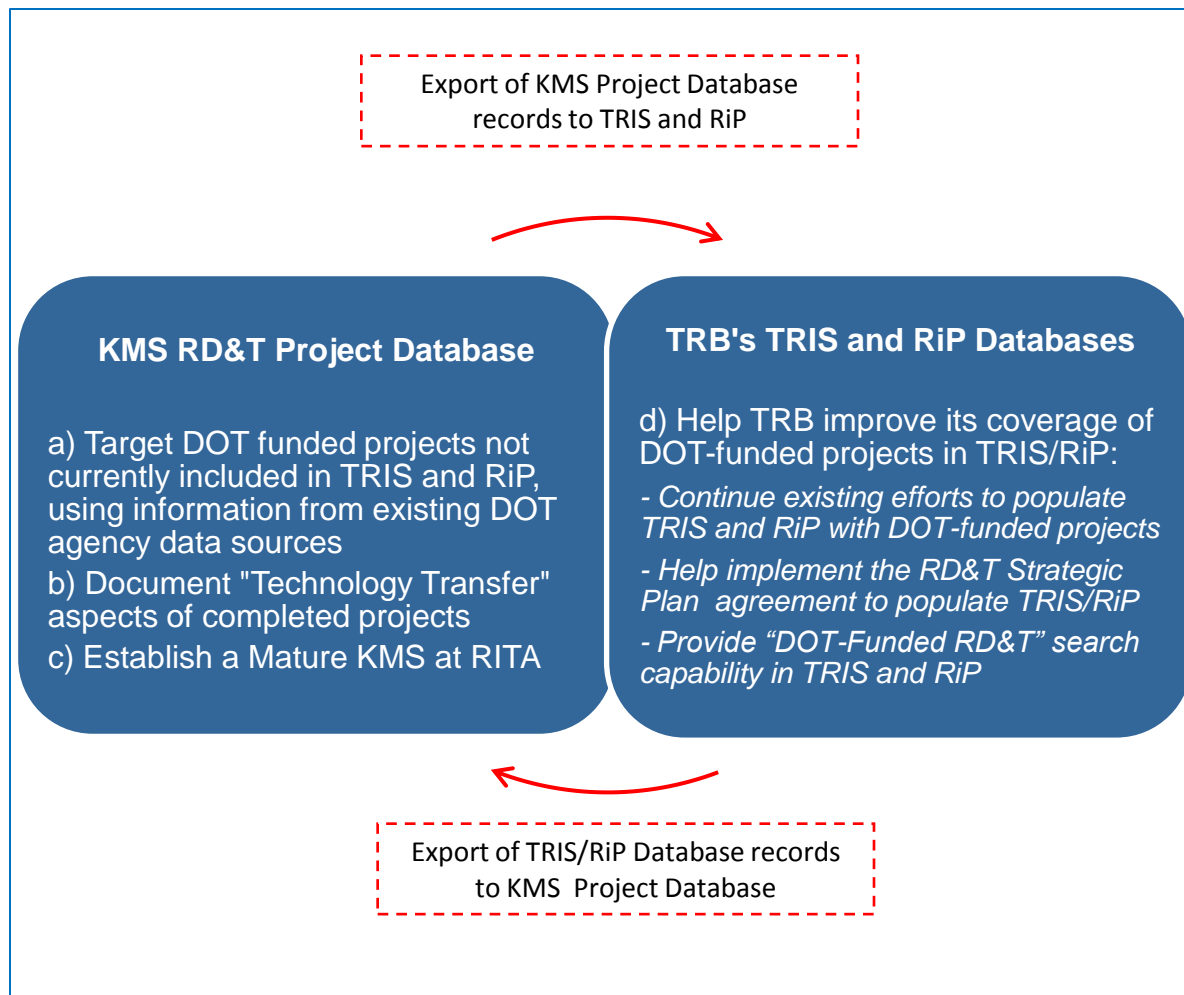
- Assist RITA in its research coordination, facilitation, and strategic planning efforts
- Facilitate knowledge sharing and leverage opportunities for cross-modal collaboration across DOT
- Provide DOT staff with a tool to quickly answer requests from external stakeholders for information on RD&T programs and projects
- Foster research coordination and collaboration across federal and state government, academia, and industry
- Enhance RD&T funding transparency in support of the Administration's Open Government initiative
- Congressionally mandated

KMS Approach

- Summer 2010 - Build KMS beta:
 - Volpe Center contracted to build KMS beta
 - Content provided by DOT operating administrations, supplemented by data from other sources like TRB
 - Currently contains over 3,000 active RD&T projects and projects completed after 9/30/2008 , (new content still being added)
 - Accessible to all DOT HQ staff at:
<http://152.122.19.223/kms/>
- Fall 2010 - Review Process:
 - Internal review by DOT staff (Oct/Nov)
 - External review by expert panel (Nov)
 - Develop KMS Evaluation Report (Nov/Dec)
- 2011 – Establish “mature” KMS:
 - Review KMS Evaluation Report and reach consensus on next steps
 - Migrate KMS to DOT HQ
 - Establish long-term database maintenance and sustainment approach
 - Coordinate with TRB’s existing databases



Coordination with TRB's Databases





The Research, Development, and Technology (RD&T) Knowledge Management System (KMS)

A searchable database of Department of Transportation RD&T projects



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[Guided Search](#)[Power Search](#)[Cluster Search](#)Keyword: 

The RD&T KMS Beta Version

This beta version represents the first phase of the **RD&T KMS**. It is populated with information on active RD&T projects and projects completed after September 2008. The project information was provided by DOT operating administrations, supplemented by information from other sources such as the Transportation Research Board. We would like you to review this beta version and let us know what you think. We will use the feedback you provide to help us develop the mature version of the **RD&T KMS**. Potential comment areas include:

- Do the different search functions allow you to retrieve the information you need quickly and accurately?
- Are there any RD&T projects currently missing from the database that need to be added?
- Are there any additional database fields that you think should be added?
- Is there anything in the database that you think should not be there, or that should not be made available to the public?
- Is there any repeated/duplicative information that needs to be deleted?



3 Ways to search the RD&T KMS

Guided Search

Power Search

Cluster Search



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▶ Guided Search

Power Search

Cluster Search

Filter By

Projects Active in Year

- [2011 \(1156\)](#)
- [2010 \(2151\)](#)
- [2009 \(2248\)](#)
- [2008 \(1429\)](#)
- [2007 and prior \(691\)](#)
- [Year Unknown \(425\)](#)

Sponsor

- [FAA \(223\)](#)
- [FHWA \(675\)](#)
- [FMCSA \(24\)](#)
- [FRA \(152\)](#)
- [FTA \(285\)](#)
- [NHTSA \(74\)](#)
- [PHMSA \(60\)](#)
- [RITA \(1704\)](#)

Level of Funding

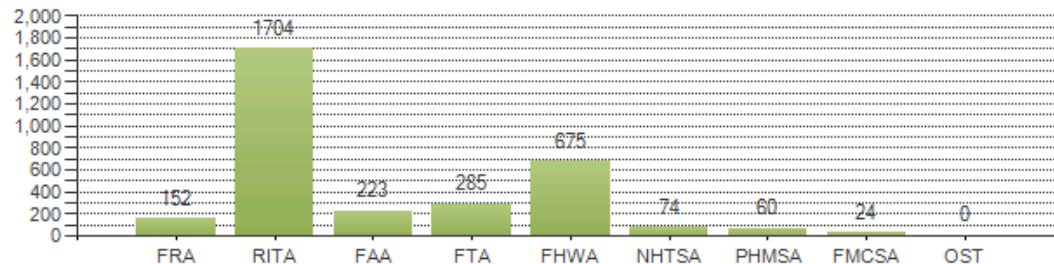
- [Under 500,000 \(2277\)](#)
- [500,000 to 1,000,000 \(308\)](#)
- [Greater than 1,000,000 \(324\)](#)
- [Funding Unknown \(288\)](#)

State

- [AK \(214\)](#)
- [AL \(93\)](#)
- [AR \(4\)](#)
- [AZ \(1\)](#)
- [CA \(296\)](#)
- [CO \(32\)](#)
- [CT \(8\)](#)
- [DE \(51\)](#)
- [FL \(88\)](#)
- [GA \(53\)](#)

Keyword: **SEARCH**

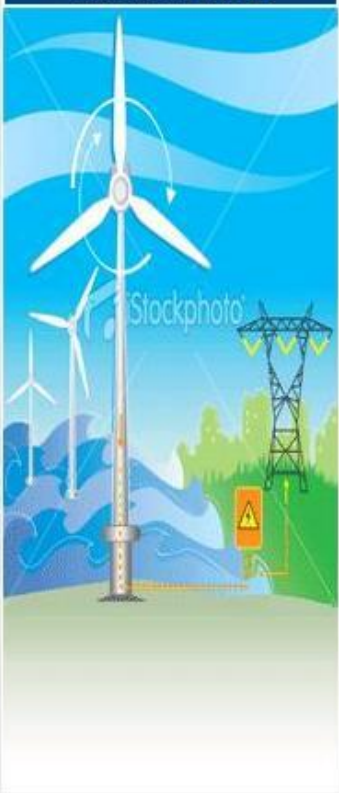
Project Counts by Sponsoring Organization



Search Results

Project Title	Sponsor	Performer	Start Year	End Year
07 Remote Infrared Audible Signage	FTA	Central Puget Sound Regional Transit Aut	2010	
2010 Ohio River Basin Transportation Rate Update	RITA	University of Tennessee, Knoxville (NTRC)	2010	2010
3rd Infantry Division Highway	FHWA		2010	2011
A GPS-Based Survey of Freight Movements in the Midwest Region	RITA	University of Illinois, Chicago	2010	2011
A New Graduate Course in Transportation Infrastructure Finance in the Civil Engineering Department at Texas A&M University	RITA	Texas A&M University, College Station	2010	2011
A Novel Approach to Mitigating Ballast Fouling and	RITA	University of Wisconsin,	2010	2010

- Guided Search
- ▶ Power Search
- Cluster Search



Keyword: 

Use the Power Search to build your own robust query!

Projects Active in Year (Select All | Deselect All)

- 2010
 2009
 2008
 2007 and prior
 Year Unknown

Sponsoring Organization (Select All | Deselect All)

- | | |
|---|---|
| <input type="checkbox"/> FAA - Federal Aviation Admin. | <input type="checkbox"/> FHWA - Federal Highway Admin. |
| <input type="checkbox"/> FMCSA - Federal Motor Carrier Safety Admin. | <input type="checkbox"/> FRA - Federal Railroad Admin. |
| <input checked="" type="checkbox"/> FTA - Federal Transit Admin. | <input type="checkbox"/> NHTSA - National Highway Traffic Safety Admin. |
| <input type="checkbox"/> OST - Office of the Secretary of Transportation | <input type="checkbox"/> RITA - Research and Innovative Technology Admin. |
| <input type="checkbox"/> PHMSA - Pipeline and Hazardous Materials Safety Admin. | |

Award Type (Select All | Deselect All)

- | | | |
|---|--|---|
| <input type="checkbox"/> Contract | <input type="checkbox"/> Grant | <input type="checkbox"/> Inter-Agency Agreement |
| <input type="checkbox"/> Intra-Agency Agreement | <input type="checkbox"/> Cooperative Agreement | <input type="checkbox"/> No Award Type |

Level of Funding (Select All | Deselect All)

- Under 500,000
 500,000 to 1,000,000
 Greater than 1,000,000
 Funding Unknown

Type of Performer (Select All | Deselect All)

- Non-profit
 Private Industry
 University
 Federal Research Lab
 Government

State

<div style="border: 1px solid #ccc; padding: 2px;"> Alabama Alaska Arizona Arkansas California </div>	<div style="display: flex; flex-direction: column; align-items: center;"> ▶ ◀ </div>	
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Status (Select All | Deselect All)

- Active
 Completed





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Guided Search

Power Search

▶ Cluster Search



Search by DOT Research Cluster

- | | |
|---|---|
| Infrastructure & Materials | Modeling & Simulation |
| Human Factors | Positioning, Navigation & Timing |
| Energy Sustainability | Transportation Implication For an Aging Population and Those with Special Needs |
| Risk-Based Analysis to Address Safety Issues | System Resilience & Global Logistics |
| Data Driven Decision Making | Policy Analysis |
| Multimodal Intelligent Transportation Systems | Travel Behavior |
| Livability | Economics |

- [▶ Guided Search](#)
- [Power Search](#)
- [Cluster Search](#)

Keyword: 

- Filter By**
- Projects Active in Year**
- 2010 (1186)
 - 2009 (1281)
 - 2008 (807)
 - 2007 and prior (410)
 - Year Unknown (86)
- Sponsor**
- FAA (223)
 - FHWA (675)
 - FMCSA (24)
 - FRA (139)
 - FTA (285)
 - NHTSA (74)
 - PHMSA (60)
 - RITA (567)
- Level of Funding**
- Under 500,000 (1221)
 - 500,000 to 1,000,000 (224)
 - Greater than 1,000,000 (263)
 - Funding Unknown (339)
- State**
- AL (7)
 - AR (1)
 - AZ (1)
 - CA (63)
 - CO (13)
 - CT (8)
 - DE (51)
 - FL (38)
 - GA (8)
 - IA (22)
 - ID (19)
 - IL (22)
 - IN (22)
 - KS (1)
 - KY (1)
 - LA (1)
 - MA (1)
 - MD (1)
 - ME (1)
 - MI (1)
 - MN (1)
 - MO (1)
 - MS (1)
 - MT (1)
 - NC (1)
 - ND (1)
 - NH (1)
 - NJ (1)
 - NM (1)
 - NY (1)
 - OH (1)
 - OK (1)
 - OR (1)
 - PA (1)
 - RI (1)
 - SC (1)
 - SD (1)
 - TN (1)
 - TX (1)
 - VA (1)
 - VT (1)
 - WA (1)
 - WI (1)
 - WV (1)
 - WY (1)

Project Details

Project Title	Aqueous Ethanol Ignition & Engine Studies, Phase II
Program	University Transportation Centers Program
Abstract	During the first year of this project, we will use our new heavy fuel evaporator and second plug-flow reactor to expand the range of catalysts, alternative biofuels, and ethanol-oxygen mixtures that we can test. In our engine laboratory we will acquire data with our Cooperative Fuel Research (CFR) engine to understand the differences between blended and separate injection of aqueous fuels, design/fabricate different igniter configurations for timing studies, and install a dilution tunnel/TEOM purchased from another grant. We will continue to make our laboratories available to other researchers and instructors in the Center for Clean Vehicle Technology. Outcomes of this work will include: 1) key information (light-off temperature and heat generation rate) needed for engineering timing models used to optimize igniter design; 2) design specifications and performance predictions for engine designs that are optimized for igniter systems; and 3) infrastructure improvements that enhance our competitiveness in state and federal funding programs.
Sponsoring Organization	RITA
Sponsor Contact	Mercado, Lydia
Sponsor Contact Address	
Sponsor Contact Phone	1-202 3663372
Sponsor Contact Fax	1-202 4932993
Sponsor Contact Email	lydia.mercado@dot.gov
Performer	University of Idaho, Moscow
Performer Address	National Institute for Advanced Transportation Technology, 115 Engineering Physics Building Moscow ID 83844-0901
Project Status	Active
Project Start Date	8/16/2010
Project End Date	
Project Funding Amount	\$85,647.00
Project Findings & Outputs	

Questions / Comments?

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