

Project Name: Research Program Management Database (Web-RPMD)

OCIO Project #:

Department: Transportation

Revision Date: 9/22/10

Concept Statement

Description

Brief description of the proposed project:

The Division of Research and Innovation (DRI) played a leadership role for the Transportation Pooled Fund Project (TPF) for the Research Program Management Database (RPMD). The conversion of the current FileMaker Pro v. 8 RPMD into an open-source website (web-RPMD) is the goal of this project. This project would be fully funded by the National Pooled Funds. TPF projects are a mechanism for multiple states Department of Transportations (DOTs) to contribute a portion of their federal research fund allocation toward conducting projects of mutual interest. In this case, the national interest stems from the lack of a standard database among DOTs to track and monitor research projects, and the desire to build upon Caltrans' RPMD application to address that gap with the creation of a web-RPMD.

Need Statement

High Level Functional Requirements:

The new web-RPMD will include essentially all of the core technical, programming, and financial capabilities of the current FileMaker-based RPMD, but offer the following enhancements:

- Operate within an open-source WAMP/LAMP framework to allow usage by a broader array of users/clients both within Caltrans and, to a limited extent, beyond Caltrans.
- Offer a cleaned-up and more flexible back-end design of data tables that reflect business practices that have evolved since the original design and which are not constrained by the limitations of FileMaker.
- Offer an improved set of reporting products consisting of a limited set of custom reports and a flexible tabular-report generation tool that together address the full range of core business cases.
- Provide expanded capabilities for tracking and managing information unique to partnered projects.

What is Driving This Need?

Nationally, the need is driven by partner state DOTs interest to address the current lack of a standard application among the DOTs to track and monitor research projects, and the desire to build upon Caltrans' experience with the RPMD application to address that gap. For Caltrans, this initiative is an opportunity to demonstrate national leadership and to improve upon the current RPMD capabilities to more flexibly address a broader range of clients and business cases.

Risk to the Organization if This Work is Not Done:

In addition to cost and time considerations, the current client/server architecture limits transparent information access of a broader range of stakeholders and beneficiaries of the research program.

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Without the database design modifications included in this project, DRI will continue to struggle to produce key reports (e.g. Annual Work Plan, Quarterly Reports) required by FHWA for receipt of federal funding. Currently Caltrans gets between \$15-20 million of State Planning and Research (Part 2) funds for transportation research that must be approved by FHWA in order to get federal reimbursement for the research work submitted on the Annual Work Plan. Much of this work would continue to be performed manually with spreadsheets, a process that is time consuming and error prone.

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Benefit Statement

Intangible Benefits

Process Improvements (describe the nature of the process improvement):

1. Improved project tracking and information dissemination will support client involvement, research deployment, and marketing objectives.
2. A clean and more flexible back-end design of data tables that reflect business practices not constrained by the limitations of FileMaker.
3. An open-source WAMP/LAMP framework to allow usage by a broader array of users/clients both within Caltrans and, to a limited extent, beyond Caltrans.
4. A set of reporting products consisting of a limited set of custom reports and a report generating tool addressing the core business cases.

Other Intangible Benefits:

1. Sound core business practices including the ability to accurately and transparently report on current status of any single research project or the overall program is vital to maintaining the cooperation and support of federal and partner sponsors.
2. Caltrans leadership in the national pooled fund study provides positive national exposure for Caltrans and the DRI program. Providing accurate and timely information about research products is very important to our customers. Without this information, many important customers will not engage in the innovation process.

Tangible Benefits

Revenue Generation (describe how revenue will be generated):

This project is fully funded by TPF funds.

Cost Savings (describe how cost will be reduced):

To Be Determined in the Feasibility Study.

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Cost Avoidance (describe the cost and how avoided):

1. The most important indirect financial benefit will result from improved staff efficiency realized through the increased use of the streamlined set of RPMD reports rather than from maintaining and circulating multiple, parallel (and often conflicting) spreadsheets to conduct business operations. This factor is difficult to quantify, but if effectively implemented, DRI could realize technical-staff time savings on the order of 10% to 20% which could be productively channeled toward increased technical monitoring, client support, and product deployment.

Risk Avoidance (describe the risk and how avoided):

1. The risk of spreadsheet and other manual reporting methods that create conflicting data within reports.

Improved Services:

1. Web access to the RPMD will enable the reports to be completed both efficiently and consistently.

Consistency

"No" Responses 		Rationale	Action Required
Enterprise Architecture	Yes		
Business Plan	Yes		
Strategic Plan	Yes		

Impact to Other Entities

Nature of Impact to Other Entities

Entity: Transportation Pooled Fund Project (TPF)

Describe the nature of the impact:

This is a multi-State project with pooled federal research funds. Cambria Solutions, Inc., the developer of the FileMaker version of the RPMD, was contracted by the Washington Department of Transportation (WashDOT) to conduct the work starting January 2010.

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by the Washington Department of Transportation (WADOT), to conduct the work starting January 2010.

Entity:
<i>Describe the nature of the impact:</i>

Entity:
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Solution Alternatives

Alternative 1:

To Be Determined in the Feasibility Study.

Technical Considerations for Alternative 1:

ROM Cost:

to

Note: high end of range must not exceed 200% of low end of range

Alternative 2:

Technical Considerations for Alternative 2:

ROM Cost:

to

Note: high end of range must not exceed 200% of low end of range

Alternative 3:

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Technical Considerations for Alternative 3:	
ROM Cost: _____ to _____	Note: high end of range must not exceed 200% of low end of range

Recommendation

Comparison:

Alternative 1	ROM Cost	Risk
	\$0 - \$0	
Alternative 2	ROM Cost	Risk
	\$0 - \$0	
Alternative 3	ROM Cost	Risk
	\$0 - \$0	

Conclusions:

1	
2	
3	
4	

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Recommendation:

Project Approach *(if known)*

System Complexity:		System Business Hours: <i>(e.g., 24x7, 9am-5pm)</i> :	To Be Determined in the Feasibility Study.
Architecture	<input type="checkbox"/> Mainframe <input type="checkbox"/> Client Server <input type="checkbox"/> Web Based		Num. of New Databases: _____
Technology	<input type="checkbox"/> New <input type="checkbox"/> New to Staff <input type="checkbox"/> In-House Experience		Interfaces: _____
Implementation	<input type="checkbox"/> Central Site <input type="checkbox"/> Phased Roll-out _____		Num. of Sites: _____
M & O Support	<input type="checkbox"/> Contractor <input type="checkbox"/> Data Center <input type="checkbox"/> Project <input type="checkbox"/> In House		
Procurement Approach:			Number of Procurements: _____
Open Procurement?		Delegated Procurement?	
Scope of Contract	<input type="checkbox"/> Development <input type="checkbox"/> Implementation <input type="checkbox"/> M & O <input type="checkbox"/> Other: _____		
Anticipated Length of Contract:		Years / _____	extensions for _____ years