

Appendices

Appendix A: Initialisms and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ACRP	Airport Cooperative Research Program
AWP	Annual Work Program
Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
CMAS	California Multiple Award Schedules
DOT	Department of Transportation
DRISI	Division of Research, Innovation, and System Information
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HMCRP	Hazardous Materials Cooperative Research Program
MAP-21	Moving Ahead for Progress in the 21st Century Act
NCHRP	National Cooperative Highway Research Program
NCRRP	National Cooperative Rail Research Program
PI	Preliminary Investigation
PM	Project Manager
PSC	Program Steering Committee
R&T	Research and Technology
RDAC	Research and Deployment Advisory Committee
RPMD	Research Project Management Database
SHA	State Highway Account
SP&R	State Planning and Research
TAP	Technical Advisory Panel

Appendix A: Initialisms and Acronyms, page 2

TCRP.....Transit Cooperative Research Program

TM.....Task Manager

TPF.....Transportation Pooled Fund

TRB.....Transportation Research Board

USUnited States

USC.....United States Code

US DOTUnited States Department of Transportation

UTC.....University Transportation Center

Appendix B: Definitions

Customer:	The customer typically a Caltrans Division or District, engages in the project throughout the research process. Customers may be the end-user, a sponsor or a champion on behalf of another public entity. (See page 15)
Deployable Product:	A deployable product is a research solution that can be implemented by Caltrans and its partners. (See page 2)
Implementation:	<p>The various activities that are required to put the product of a research project into widespread use. Implementation mainstreams a technology or innovation into an organization's standard operating procedure.</p> <p>In the context of the DRISI research development process, implementation is the adoption of research products within the California transportation system infrastructure. (See page 15)</p>
Implementation Plan:	Implementation Plans are the documents that will be used to guide DRISI research towards the implementation of the research products. (See page 15)
In-house Research:	In-house research differs from contracted research in that the researcher is an employee of Caltrans. The in-house researcher often also serves as the PM or TM. (See page 10)
Peer Exchange:	(Also known as Peer Review), an information exchange among transportation research colleagues through which a host State may find the means to restructure or merely fine tune research program processes. (See page 6)
Performance Management:	Performance management is a tool for diagnosing, solving problems, and maximizing opportunities. At DRISI performance management is the ongoing process of establishing goals, selecting performance measures, evaluating the results, and closing the circle by reviewing and refining performance measures (See page 13)
Performance Measures:	DRISI measures products outcome, efficiency and stakeholder satisfaction types for its performance management. (See page 13)
Preliminary Investigation:	A Research Preliminary Investigation is a literature review and identification of best practices in a specific field and function of the transportation system. (See page 7)
Program Steering Committees:	Program Steering Committees (PSCs) are representatives from various Caltrans programs requesting research. PSCs identify program-level research priorities, annually approve multi-year research roadmaps, and support implementation of research products. (See page 3)
Project:	A research project typically consists of a sequence of tasks that results in deployable products are research solutions that can be implemented by Caltrans and its partners. (See pages 2 & 7)

Appendix B: Definitions, page 2

- Project Panel:** The Project Panel is flexible and varies by the size and complexity of the project. At a minimum, the Project Panel consists of the research Project Manager and the customer representative. The Project Panels purpose is to guide the research project. (See page 7)
- Project Plan:** A Project Plan is a dynamic tool that guides the PM and the stakeholders of the project in execution of the project. This plan explains why the research is being conducted, the anticipated outcome of the project, the perceived benefits of the project, and identifies what deployable product is anticipated.
The Project Plan also conveys the current planning decisions made related to cost, schedule and scope, together with the constraints facing the project and what additional resources the project will require. (See page 8)
- Research Project Management Database:** The Research Project Management Database (RPMD) is a database used to store, manage, and report on the research program and projects. (See page 9)
- Task:** Tasks are the building blocks for a research project. They break up the work needed to create the deployable product into logical partitions, and offer an opportunity for the PSC to reassess the progress of the project at regular intervals. (See page 7)
- Technical Advisory Panels:** The Technical Advisory Panels (TAP) are composed of technical experts from Caltrans divisions, districts, DRISI and external partners. They recommend research priorities and research needs to the PSC and identify implementation opportunities. (See page 3)
- Technology Transfer:** Technology Transfer is the process by which research knowledge is communicated or shared by Caltrans.
Technology Transfer includes those activities that lead to the adoption of a new technique or product and can involve information dissemination, demonstration, and training. (See page 16)

Appendix C: DRISI Research Project Plan Example (Referenced from page 2)

PROJECT PLAN - SUMMARY REPORT							Interim v0.96	
STRATEGIC TIE	WBS: NO: P77	Title: Automated Safety Warning System Controller						
	Deployable Product/Service:	A fully tested, District accepted, TEES ready, documented software installation package for an environmentally hardened embedded Linux system that can be easily configured to acquire sensor data from and send data to various roadside devices autonomously. The controller will activate various traveler information devices to notify the motorists of the roadway condition.						
	Goal: Safety SRQs: SF4 - Proactive Safety SF6 - Driver Behavior		PSC: Rural TAP: Rural Family: Rural Highway Conditions & Regional		Sponsor: Ed Lamkin Customer Rep: Ian Turnbull Project Mgr: Campbell, Sean Deploy Champ: Implem Champ:			
STATUS & FUNDING	Project Initiated in RPMD: 1/24/2008		FY \$ Requested		FY \$ Allocated			
	Recommended by PSC:		12/13 \$100,000		05/06 \$80,530			
	Initially Approved by RDSC: 8/18/2009		13/14 \$150,000		06/07 \$147,963			
			14/15 \$50,000		07/08 \$71,507			
Project Status: Approved				08/09 \$0				
Project Start Date: 6/15/2006				09/10 \$75,000				
Project End Date: 12/31/2013				10/11 \$150,000				
11/12 \$75,000								
%Complete: Deployment Stage: 3		TOTAL: \$300,000		TOTAL: \$600,000		TOTAL:		
On Scope? Y								
On Budget? Y								
On Time? Y								
Updated as of: Qtr FY								
PROJECT OVERVIEW	Background & Problem Statement:							
	Automated warning systems are not a new concept within the transportation community. There are several projects on the state highway that use the concept of a roadway sensor initiating some type of motorist warning. To date, all of these systems are unique implementations that use one-of-a-kind software for control. The system controller is a custom device which can only be used with that particular project's physical and electrical layout. The department has benefited from a standardized approach to individual field elements such as Changeable Message Signs, Extinguishable Message Signs and detection loops. A standardized automated warning system controller, which controls standardized field elements in a system environment, has not been developed to date.							
Description:								
Phase I - Initial Design : Determine the best platform to design the controller on. Determine initial user and system requirements. Design software based on initial requirements. Integrate lab prototype. Lab testing based on initial requirements. Field site determination, installation, testing and evaluation at four locations.								
Phase II - Enhancements and Field Tests : Focus on enhancements that are necessary based on results of Phase I. Deploy enhanced controller at existing field sites as well as other test sites throughout state. Evaluate enhanced controller based on rigorous testing criteria. Begin institutional policy change to garner statewide support for controller. Software and hardware documentation.								
Phase III - Specifications and Deployment : Create TEES standards and specifications for controller. Transfer technology from research partner to customer partners. Provide national exposure opportunities. Add controller to qualified products listing.								

Appendix C: DRISI Research Project Plan Example, page 2

Weblink: http://bit.ly/DRISI_Research_Project_Plan_Example

PROJECT PLAN - SUMMARY REPORT

Interim v0.96

Outcome:

To influence driver behavior by presenting the motorists with proactive, timely, accurate roadway condition information. Using this information, the motorist can take appropriate action such as slowing down, pay greater attention to the roadway and be aware of conditions external to the vehicle.

Benefits:

Assists the Department's goal of reducing the fatality rate on the California state highway system.
Reduces incidents on the rural highway network.
Real time traveler information to the motorists.

Constraints:

Intellectual property issues need to be worked through legal in order to be deployed nationally.

Additional Resources:

District staff to undergo two-day training class. District to procure embedded Linux platform for each deployed location. DRI to support during lifetime of product.

PROJECT OVERVIEW

Appendix C: DRISI Research Project Plan Example, page 3

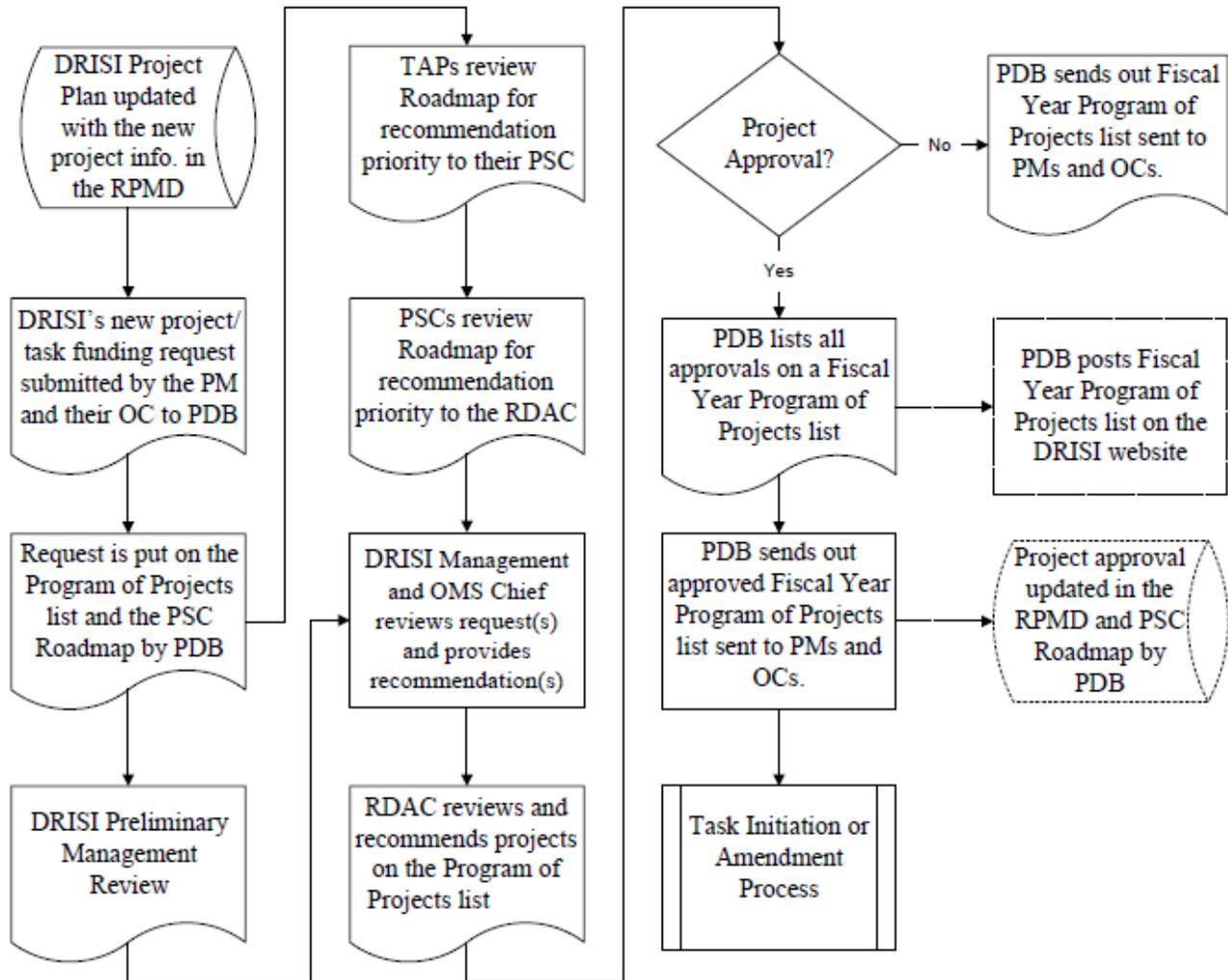
Weblink: http://bit.ly/DRISI_Research_Project_Plan_Example

PROJECT PLAN - SUMMARY REPORT										Interim v0.96	
				Project Timeline							
Task: Automated Safety Warning System Controller Phase I : Initial Design											
Task ID: 1007	Pooled Fund: N	Lead:		Jun-06	Dec-09						
\$ Requested	\$ Approved	\$ Allocated	\$ Balance	On Scope?	On Budget?	On Time?	% Complete:	Status:			
\$0		\$300,000		Y	Y	Y	100	Closed			
Task: Automated Safety Warning System Controller Phase II : Enhancements and Field Tests											
Task ID: 1750	Pooled Fund:	Lead:		Apr-10		Mar-12					
\$ Requested	\$ Approved	\$ Allocated	\$ Balance	On Scope?	On Budget?	On Time?	% Complete:	Status:			
\$0	\$300,000	\$300,000		Y	Y	Y	40	Active			
Task: Automated Safety Warning System Controller Phase III : Specifications and Deployment											
Task ID: 1751	Pooled Fund:	Lead:		Jan-12		Dec-13					
\$ Requested	\$ Approved	\$ Allocated	\$ Balance	On Scope?	On Budget?	On Time?	% Complete:	Status:			
\$300,000								Proposed			

TASK SUMMARY

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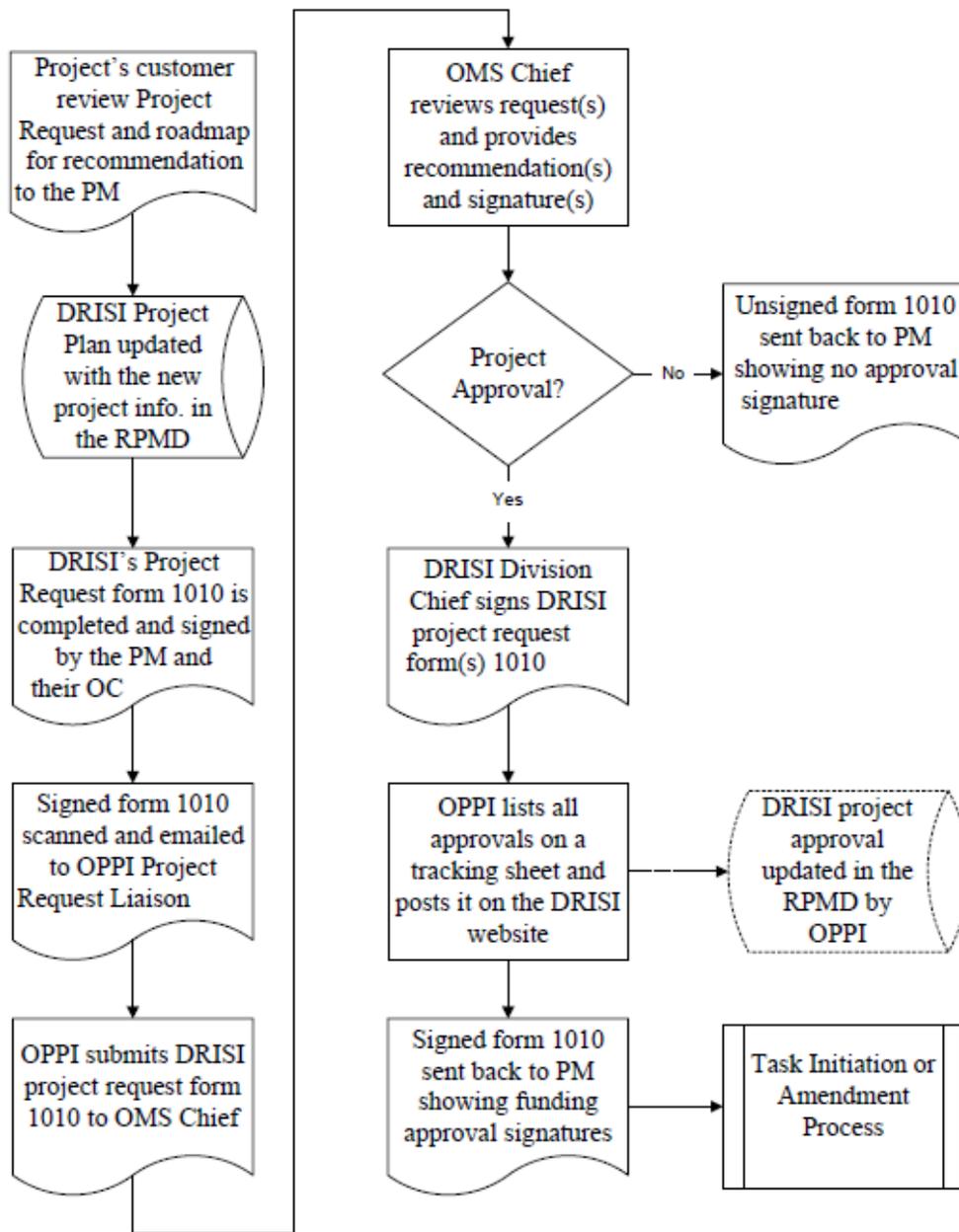
Appendix D: DRISI Annual Funding Request Process
 (Referenced from page 7)



ACRONYMS
 DRISI: Division of Research, Innovation and System Information
 RPMD: Research Project Management Database
 PM: Project Manager
 OC: Office Chief
 PDB: Program Development Branch
 TAP: Technical Advisory Panel
 PSC: Program Steering Committee
 RDAC: Research and Deployment Advisory Committee
 OMS: Office of Management Support

Updated 4/9/2014

Appendix E: DRISI Contingency Funding Request Process (Referenced from page 7)



ACRONYMS

DRISI: Division of Research, Innovation and System Information
 RPMD: Research Project Management Database
 PM: Project Manager
 OC: Office Chief
 OPPI: Office of Policy, Planning, and Innovation
 TAP: Technical Advisory Panel
 PSC: Program Steering Committee
 RDAC: Research and Deployment Advisory Committee
 OMS: Office of Management Support

Updated 5/20/2013

Appendix F: Website Links

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5	California State Research Authority http://www.leginfo.ca.gov	2	Sub-section 1.2.3
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