

# Section 1 Caltrans Research Program Overview

## 1.1 The Division of Research, Innovation and System Information

The Division of Research, Innovation and System Information (DRISI) manages a comprehensive program to research, develop, test, and evaluate transportation innovations sought by its customers.

These innovations in methods, materials, and technologies enable the California Department of Transportation (Caltrans) to promote safety, enhance mobility and sustainability, improve the management of public facilities and services, and protect public investment in transportation infrastructure.

DRISI seeks to take full advantage of strategic opportunities by identifying public and private partnering solutions. These partnerships leverage the dollars invested in present and future public infrastructure.

With direction from the Caltrans Executive Board, this is comprised of the Caltrans Director, District Directors and Headquarter Deputy Directors, DRISI:

- Establishes and facilitates the process to identify, select, program, manage, and deploy research
- Meets all federal-aid program requirements, including the preparation and maintenance of this research manual and the State Planning and Research (SP&R) Part II Annual Work Program (AWP)
- Establishes the research agenda based on the involvement and participation of its customers
- Develops and performs applied transportation research for all modes of transportation
- Provides technical assistance to its customers to implement transportation research products

- Engages in both short-term and long-term research
- Allocates funding for the research that includes leveraging national research funding from other transportation organizations and pooled funding opportunities

### 1.1.1 Caltrans Mission, Goals, and Values

#### Caltrans Mission

*Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.*

Caltrans strives to be the highest performing transportation agency in the country. In pursuit of our mission, we continue to build a talented and diverse team, and we strengthen ties with our partners. To keep California moving, we commit ourselves to the following goals and values:

#### Caltrans Vision

*A performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation, and teamwork.*

#### Caltrans Goals

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| <b>Safety</b>      | Provide the safest transportation system in the nation for users and workers |
| <b>Mobility</b>    | Maximize transportation system performance and accessibility                 |
| <b>Delivery</b>    | Efficiently deliver quality transportation projects and services             |
| <b>Stewardship</b> | Preserve and enhance California's resources and assets                       |
| <b>Service</b>     | Promote quality service through an excellent workforce                       |

#### Caltrans Values

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| <b>Integrity</b> | We promote trust and accountability through our consistent and honest actions |
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**Commitment** We are dedicated to public service and strive for excellence and customer satisfaction

**Teamwork** We inspire and motivate one another through effective communication, collaboration, and partnership

**Innovation** We are empowered to seek creative solutions and take intelligent risks

### 1.1.2 Strategic Approach to Research

The research program development approach provides a framework for Caltrans and its partners to collaborate and to ensure research resources are directed to the most crucial needs.

This collaboration allows Caltrans to leverage research funds and provides guidance for partnering organizations that have common research needs, such as the Transportation Pooled Fund Program, the Transportation Research Board (TRB), and the American Association of State Highway and Transportation Officials (AASHTO).

The following tools also allow DRISI to address cross-functional research needs, and program-level research of the highest value:

- The Strategic Research Plan ensures selected projects are aligned with Caltrans' strategic direction. See: [DRISI Strategic Research Plan](#)
- Research Roadmaps identify the research projects within a program area. DRISI annually updates the research roadmap for each program area. See: [DRISI Research Roadmaps](#)
- Research project plans identify the tasks and activities within a project that are needed over time to accomplish a research outcome. For a project plan example see appendix C or: [DRISI Research Project Plan](#)

### 1.1.3 Research Results

As a customer focused research program, the research projects will result in deployable products, which are research solutions that can be implemented by Caltrans and its partners.

These deployable products are:

- New or improved technical standard, plan, or specification
- New or improved manual, handbook, guidelines, or training
- New or improved policy, rule, or regulation
- New or improved business practice, procedure, or process
- New or improved tool or equipment
- New or improved decision support tool, simulation, model, or algorithm (software)
- Processed data/database
- Evaluation of new commercial products to determine if they meet Caltrans needs
- Other

Research projects are composed of tasks. Tasks end with deliverables and/or final reports that document the lessons learned, research results, and facilitate the technology transfer of the results.

## 1.2 Legal Authority for Research

### 1.2.1 Federal Laws

The federal law, "Moving Ahead for Progress in the 21st Century Act," also known as MAP-21, was signed into law on July 6, 2012. It outlines federal priorities for transportation research and authorizes funding for transportation research in the SP&R Parts I and II.

### 1.2.2 Federal Regulations

The authority for a state research organization to use federal funds is set forth in USC Title 23-Highways, Chapter 5 Research and Technology, Section 505. The authority for a state to administer SP&R funds, Parts I and II, is set forth in the Code of Federal Regulations, (CFR), Title 23, Part 420, Planning and Research Program Administration – 420.117 2(e), which can be found at <http://bit.ly/e-CFR>.

### 1.2.3 State Laws

The authority for Caltrans to perform research is set forth in California Government Code, Title 2, Division 3, Part 5, Chapter 4, Section 14452, which can be found at: <http://www.leginfo.ca.gov>