

# Section 5 Research Evaluation

## 5.1 Introduction

DRISI uses performance management and research project evaluation to more efficiently manage the research program and determine the program's overall effectiveness.

## 5.2 Research Program Evaluation

### 5.2.1 Performance Management

Performance management is a tool for diagnosing, solving problems, and maximizing opportunities. Performance management provides a framework that enables the DRISI research program to set realistic goals, focus on the most important challenges, and improve efficiency.

Performance management at DRISI is the ongoing process of establishing goals, selecting performance measures, evaluating the results, and closing the circle by reviewing and refining performance measures. The DRISI management team uses these evaluation tools to effectively manage the research program.

### 5.2.2 Performance Measures

DRISI measures products outcome, efficiency and stakeholder satisfaction types for its performance management.

For further details can be found at: [DRISI\\_Performance\\_Measures](#).

## 5.3 Research Project Evaluation

Every research project will be subject to evaluation. The two major areas of the DRISI research project evaluation are continuing project evaluation and final project evaluation.

### 5.3.1 Continuing Project Evaluation

Continuous project oversight occurs throughout the life of every DRISI project and is formally performed quarterly with a project review occurring annually.

The purpose is to ensure that a project is achieving its stated objectives by remaining within scope, on schedule, within budget, to the satisfaction of the Project Panel and customers.

## Quarterly Task Review

Caltrans research projects are performed using one or more tasks; therefore a basic mechanism for the quarterly evaluation is the task quarterly report. The TM is responsible for conducting the task quarterly evaluation and posting the results in the RPMD. For further details see DRISI's web link at:

[DRISI Quarterly Reporting Guidelines](#).

The PM is responsible for reviewing the information posted in the quarterly report(s), evaluating the project as a whole, and communicating the results to DRISI management and to the project customers.

The PM will evaluate whether or not the progress on the tasks requires changes to the research Project Plan. The PM's three basic recommendations to management are:

- Continue with the project as it stands
- Make changes in the project scope, schedule, or funding
- End the project

## Annual Task Review

Annually each PSC will review their portfolio of projects and determine if each project should be continued, modified, or canceled. The Project criteria used for this effort will include:

- Financial performance as determined through the performance measures
- Success to-date in meeting the objectives according to the schedule as determined through the performance measures
- Potential for ultimately meeting the project objectives within scope, on schedule, and within the budget
- Potential risks impacting implementation
- Alignment of the project with the goals and priorities of Caltrans
- Availability of continued project funding

As part of the annual review, each PSC will work with the PM to update the Project Plan as necessary. The results of the each PSC annual review will be utilized (along with other

information) by the RDAC in preparing the Strategic Research Plan and Annual Program of Research Projects.

### **Project Review at Task Completion**

When each task of a project is completed, there will be a formal review of the entire project to determine if the project should be:

- Continued as planned with the same scope, schedule, and budget
- Modified and continue with a changed scope, schedule, or budget
- Cancelled

The PM and the Project Panel will conduct the review and make recommendations to the appropriate PSC and DRISI management about the future of the project. The PSC and DRISI management will determine the course of the project, taking into consideration the recommendations of the PM and the Project Panel.

The criteria used to determine a project's future include, but are not limited to:

- Success in meeting the objectives of the completed tasks
- Successful delivery of all of the scheduled deliverables of completed and ongoing tasks as of the date of the review
- The project tasks are on-budget or under-budget as of the date of the review
- The PM and the Project Panel's assessment of risks for the project and their determination that there is a high probability for successful project completion
- Adequate future project funding exists
- The project continues to have a high priority for the PSC and for Caltrans
- Deployment and implementation potential

### **5.3.2 Final Project Evaluation Completed Research Projects**

Final evaluations are performed by the PM at the conclusion of each project. The PM will use

the following questions to determine the lessons learned and success of the project:

- Were the objectives of the project met to the satisfaction of the customer and other stakeholders?
- Did the project produce all of the expected products?
- Have the customers formally verified and accepted the products produced during the research?
- Did the products meet all functional, performance, and quality specifications?
- Was the final research report written and accepted by Caltrans and the FHWA?
- Has the research report been distributed to appropriate depositories and stakeholders?
- Were the research methodologies used appropriate for the subject area?
- Was the project completed within the approved schedule?
- Was the project completed within the approved budget?
- If appropriate, are the research results in the process of being published in a peer reviewed journal?
- Are the anticipated benefits of the research being realized?
- Is the product being implemented by Caltrans, or by others?

The PM is encouraged to use quantitative analyses, such as cost reduction or crash reduction when appropriate, to evaluate the success of a completed project.

As part of the evaluation, the PM will recommend to DRISI management and the appropriate PSC if further research is needed.

### **Canceled Researched Projects**

Research projects may be canceled as noted in the Section 5.3.1, Annual Task Review. Every canceled project will still be evaluated by the PM as part of the project closing process. The PM will review the project and recommend to the PSC and DRISI management whether or not to continue work in the research area with a new modified project.