

# **Information Technology Capital Plan**

## **Department IT Capital Plan**

### **California Department of Transportation**

**Information Technology Capital Plan, Plan Year 2009-10 through 2013-14 Executive Approval Transmittal**



**Department Name**

Department of Transportation

**APPROVAL SIGNATURES**

I am submitting the attached Information Technology Capital Plan as required by the State Administrative Manual Section 4904.

I certify that the IT Capital Plan was prepared in accordance with State Information Management Manual section 57 and that the proposed IT projects are consistent with our business strategies and information technology strategy.

I have reviewed and agree with the information in the attached Information Technology Capital Plan.

<b>Chief Information Officer</b>		<b>Date Signed</b>
<b>Printed name:</b> Ann Barsotti		
<b>Information Security Officer</b>		<b>Date Signed</b>
<b>Printed name:</b> Jerry Knedel		
<b>Budget Officer</b>		<b>Date Signed</b>
<b>Printed name:</b> Norma Ortega		
<b>Department Director</b>		<b>Date Signed</b>
<b>Printed name:</b> Will Kempton		

## DEPARTMENT OF TRANSPORTATION IT CAPITAL PLAN

Department Name and Org Code:

Transportation - 2660

Plan Year:

2009-10 through 2013-14

### 1. Summarize your organization's business goals and objectives below:

The Department of Transportation's (Caltrans) goals assert the general direction desired to realize the mission and vision: *Caltrans Improves Mobility Across California*. Each goal reflects an area of focus for improving performance across the organization.

**Safety** – Provide the safest transportation system in the nation for users and workers.

**Mobility** – Maximize transportation system performance and accessibility.

**Delivery** – Efficiently deliver quality transportation projects and services.

**Stewardship** – Preserve and enhance California's resources and assets.

**Service** – Promote quality service through an excellent workforce.

Objectives express specific expectations an organization sets for itself in regard to achieving its goals. Caltrans' Strategic Plan contains a total of 26 objectives to quantifiably measure progress toward achievement of the five goals listed above. These objectives are listed in the Caltrans 2007-2012 Strategic Plan. ([www.dot.ca.gov/docs/StrategicPlan2007-2012.pdf](http://www.dot.ca.gov/docs/StrategicPlan2007-2012.pdf))

### 2. What are your organization's plans to upgrade or replace your IT infrastructure for the following? When responding, please indicate the timeframes of your intended upgrade or replacement efforts.

#### 2.1. Hardware

Caltrans plans on a continuous hardware refresh strategy with a planned replacement cycle, over a four-year period, rather than an upgrade or replacement of the IT infrastructure.

#### 2.2. Software

Caltrans' policy is to never be more than one version behind, and to not have to support more than two versions of key software components.

#### 2.3. Network

Caltrans plans on a continuous network technology refresh strategy with a planned replacement cycle, over a four-year period, rather than an upgrade or replacement of the IT infrastructure.

### **3. Existing Approved Reportable IT Projects**

**Provide the following information regarding your existing approved reportable IT projects on Table 1 on the following page:**

- Existing IT Project;
- Approved Project Cost;
- Project Number; and
- Implementation Date

### **4. Proposed IT Projects**

**After each proposed IT project has been documented by answering questions 4.1 through 4.15 of the attached IT Project Proposal Form, provide the following information on Table 2 on the following page:**

- The name of each proposed IT project;
- The priority ranking;
- The FSR submission date; and
- The estimated cost

**Table 1-Existing Approved Reportable IT Projects Summary by Department**

<b>Existing IT Project</b>	<b>Approved Project Cost*</b>	<b>Project Number</b>	<b>Implementation Date</b>
Bulk Fuel System (acronym-BFS) <sup>1</sup>	\$5,845,000	2660-419	06/2014
Construction Management System (acronym-CMS) <sup>2</sup>	\$20,454,075	2660-415	06/2012
ERP Financial Infrastructure System (acronym-e-FIS)	\$29,300,867	2660-416	04/2010
Inland Empire Traffic Management Center (acronym-IETMC)	\$5,734,001	2660-411	06/2011
Project Resourcing & Schedule Management (acronym-PRSM)	\$27,484,649	2660-160	01/2011
Project Resourcing & Schedule Management (acronym-PRSM)-SPR	\$30,846,741*	2660-160	01/2011
Roadway Design Software (acronym-RDS)	\$22,914,170	2660-421	06/2014
Virtual Traffic Monitoring Stations (acronym-VTMS)	\$2,430,000	2660-418	06/2010
<b>Existing IT Project (Currently Delegated)</b>	<b>Approved Project Cost*</b>	<b>Project Number</b>	<b>Implementation Date</b>
Electronic Bidding (acronym-eBid) <sup>3</sup>	\$440,873	2003/04-0008	06/2007
Standard Tracking & Exchange Vehicle for Environmental System (acronym-STEVE) <sup>4</sup>	\$498,110	2660-417	07/2007

**\*Note: If a Special Project Report (SPR) was submitted for review in July 2008 that includes project costs that differ from the last approved project document, enter both the last approved project cost and the revised project cost from the SPR under review.**

<sup>1</sup> SPR is being developed and will be submitted to OCIO by December 2008.

<sup>2</sup> SPR is being developed and will be submitted to OCIO by December 2008.

<sup>3</sup> Approved delegated project. The project is under review to determine if an SPR is required, which will make it a reportable project.

<sup>4</sup> Approved delegated project. The project is under review to determine if an SPR is required, which will make it a reportable project.

**Table 2-Proposed IT Project Summary**

<b>Proposed IT Project</b>	<b>Priority Ranking</b>	<b>FSR Submission Date**</b>	<b>Estimated Total Cost</b>
Automated Transportation Permits Management System (acronym-ATPS)	4	01/2009	\$500,001 - \$5,000,000
Bay Area Security Enhancement System (acronym-BASE)	3	11/2008	\$500,001 – \$5,000,000
Central Valley Spatial Reference Network (acronym-CVSRN)	13	05/2010	\$500,001 – \$5,000,000
Cultural Resources Inventory Database (acronym-CRID)	12	03/2010	\$50,001 - \$500,000
Encroachment Permits (acronym-ePermits)	5	02/2009	\$500,001 – \$5,000,000
Environmental Management System (acronym-EMS)	6	03/2009	\$500,001 – \$5,000,000
Fog Detection and Warning System (acronym-FDWS)	2	09/2008	\$50,001 - \$500,000
Ground Penetrating Radar Database (acronym-GP)	11	01/2010	\$50,001 - \$500,000
Highway Performance Monitoring System (acronym-HPMS)	7	05/2009	\$50,001 - \$500,000
IT Service Desk Project (acronym-SDP)	8	07/2009	\$50,001 - \$500,000
Pavement Management System (acronym-PMS)	1	07/2008	\$3,948,000
Rapid Rehabilitation of Pavement (acronym-RR)	10	11/2009	\$500,001 – \$5,000,000
Tool for Regional Architecture Maintenance (acronym-TRAM)	14	07/2010	\$500,001 – \$5,000,000
Transportation Project Output Tracking (acronym-TPOT)	15	09/2010	\$0 - \$50,000
Web Content Management System (acronym-WCMS)	9	09/2009	\$50,001 - \$500,000

\*\* FSR submission dates are projected and may change due to Executive Order S-09-08.

## **PROPOSED IT PROJECTS**

**Complete this IT Project Proposal Form (questions 4.1 through 4.15 below) for each proposed IT project that meets the definition of a reportable project as defined in the State Administrative Manual Section 4819.37:**

### **4.1.1 Proposal name and priority ranking:**

#4 Automated Transportation Permits System (ATPS)

### **4.2.1 Description of the proposed IT project:**

Caltrans is responsible for issuing transportation permits for vehicles that exceed legal dimensions and weight. The Office of Truck Services issues approximately 180,000 transportation permits annually and most of the process is manual. The Transportation Permits Management System (TPMS) project was underway for several years and was expected to provide an automated solution for the issuance and management of transportation permits.

In December 2007, Caltrans concluded the TPMS project through a mutual release of the contract. Caltrans is currently conducting a feasibility study to identify and evaluate the alternatives to determine the most viable solution that best meets the business goals and objectives. The feasibility study is scheduled to complete in November 2008, and a Feasibility Study Report will be completed.

### **4.3.1 Which of your department's business goals and objectives does this project support, and how?**

**Safety** – Provide the safest transportation system in the nation for users and workers.

**Mobility** – Maximize transportation system performance and accessibility.

**Delivery** – Efficiently deliver quality transportation projects and services.

**Stewardship** – Preserve and enhance California's resources and assets.

**Service** – Promote quality service through an excellent workforce.

### **4.4.1 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

- Automated issuance of transportation permits.
- Automated credit card processing.
- Automated validation of vehicle inspection reports.
- Automated enforcement of non-compliance actions with trucking companies.
- Automated validation of width and length requirements.
- Automated communication of route changes to industry users.
- Reduced turn-around time to process transportation permits.

4.5.1 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

4.6.1 Is the proposal consistent with your organization's Enterprise Architecture?

- Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.
- No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

4.7.1 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?

- Yes**
- No**

4.8.1 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?

01/2009

4.9.1 What is the estimated project start date (mm/yyyy) if the FSR is approved?

To be determined

4.10.1 What is the duration of the proposed project?

To be determined

4.11.1 Will the proposed project utilize the existing infrastructure?

- Yes**
- No**

If no, please explain.

4.12.1 Is the proposal related to another proposal or to an existing project?

- Yes**
- No**

If yes, describe the related proposal or project and how it is related:

**4.13.1 Describe the consequences of not doing this proposed project at the planned timeframe:**

The issuance of transportation permits is a critical business function for Caltrans, but relies heavily on the expertise and knowledge of the permit writers. An automated solution will provide consistent business rules and edits to ensure that appropriate routes are approved for travel.

**4.14.1 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.1 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

Fund Source	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund*						
<b>Total</b>						

#### 4.1.2 Proposal name and priority ranking:

#3 Bay Area Security Enhancement (BASE) System

#### 4.2.2 Description of the proposed IT project:

The BASE System was installed in response to the September 11, 2001, terrorist incidents and is designed to monitor major transportation structures in the San Francisco Bay Area. National and State security officials with the Department of Homeland Security identified the Bay Area's toll bridges, tunnels and tubes as highly possible terrorist targets because if compromised or destroyed, a considerable loss of life, property, and commerce would devastate California and the nation. The BASE System is a wireless video point-to-point design that enables cameras to be placed on structures located over a vast area, presently 2,000 square miles, and have images transmitted to a central location. From the central viewing location, California Highway Patrol personnel monitor the images. The system uses multiple communication modes to achieve greater security. The BASE System consists of 259 video cameras, motion sensor detectors and other advanced technology devices.

#### 4.3.2 Which of your department's business goals and objectives does this project support, and how?

**Safety** – Provide the safest transportation system in the nation for users and workers.

**Mobility** – Maximize transportation system performance and accessibility.

**Delivery** – Efficiently deliver quality transportation projects and services.

**Stewardship** – Preserve and enhance California's resources and assets.

**Service** – Promote quality service through an excellent workforce.

Maintenance of the toll bridges, toll facilities, tunnels, and tubes provides safety for the motoring public and preventative maintenance is the most effective method of preserving California's transportation infrastructure.

#### 4.4.2 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?

Currently, State forces have knowledge and expertise in maintaining the BASE System. With additional resources, State forces and qualified contractors will be able to handle the increased maintenance of the existing system and the expansion of the BASE System.

**4.5.2 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.2 Is the proposal consistent with your organization's Enterprise Architecture?**

- Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.
- No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.2 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

- Yes**
- No**

**4.8.2 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

11/2008

**4.9.2 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.2 What is the duration of the proposed project?**

To be determined

**4.11.2 Will the proposed project utilize the existing infrastructure?**

- Yes**
- No**

**If no, please explain.**

**4.12.2 Is the proposal related to another proposal or to an existing project?**

- Yes**
- No**

**If yes, describe the related proposal or project and how it is related:**

**4.13.2 Describe the consequences of not doing this proposed project at the planned timeframe:**

The BASE System is in need of higher maintenance level than currently funded. Deferral of system updates and preventative maintenance work will lead to continued deterioration of the system resulting in compromising public safety and costly rehabilitation.

**4.14.2 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed**
- Redirection of existing funds**
- Other (describe):**

Funding is to be determined based on the outcome of the FSR.

**4.15.1 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.3 Proposal name and priority ranking:**

#13 Central Valley Spatial Reference Network (CVSRN)

**4.2.3 Description of the proposed IT project:**

Shortages in qualified land surveyors and the annual funding shortfalls to procure high cost surveying equipment require Caltrans to seek efficiencies and innovations to do more with less. Current Real Time Kinematic (RTK) Global Positioning Satellites (GPS) surveying techniques have improved in the areas of safety, productivity and efficiency including a reduction in equipment costs. In this new paradigm, permanent reference stations are established to transmit survey data to a central server to process information that is then sent to the rover unit via a communication link. This technique enables the surveyor to produce the same highly accurate geospatial data while being much farther away from any of the reference stations. This technique also eliminates the need of the survey crew to transport, set up, or monitor equipment at a GPS base station. The Plate Boundary Observatory is the major contributor in establishing the new paradigm.

**4.3.3 Which of your department's business goals and objectives does this project support, and how?**

**Safety** – Provide the safest transportation system in the nation for users and workers.  
**Delivery** – Efficiently deliver quality transportation projects and services.

With the ability to partner with agencies in the surveying profession and utilizing current technologies, this project will contribute to meet the strategic goals established by Caltrans.

**4.4.3 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

- Resource savings utilizing GPS network.
- Increase project delivery by increasing the quantity and accuracy of surveying products produced within the network area.
- Reduce GPS equipment needs and repairs.
- Reduce the amount of project control required for projects.
- Decrease exposure to the traveling public thereby increasing worker and public safety.

**4.5.3 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.3 Is the proposal consistent with your organization's Enterprise Architecture?**

**Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.

**No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.3 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

**Yes**

**No**

**4.8.3 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

05/2010

**4.9.3 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.3 What is the duration of the proposed project?**

To be determined

**4.11.3 Will the proposed project utilize the existing infrastructure?**

**Yes**

**No**

**If no, please explain.**

**4.12.3 Is the proposal related to another proposal or to an existing project?**

**Yes**

**No**

**If yes, describe the related proposal or project and how it is related:**

The CVSRN began as a pilot project in District 6 (Fresno). This CVSRN project is to expand the original pilot to roll out the application to include additional Caltrans districts.

**4.13.3 Describe the consequences of not doing this proposed project at the planned timeframe:**

The inability to quantify expenditures/savings associated with productivity, equipment, and safety.

**4.14.3 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.3 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

Fund Source	2009-10	2010-11	2011-12	2012-13	2013-14 and future	Total
General Fund						
Federal Fund						
Special Fund*						
<b>Total</b>						

**4.1.4 Proposal name and priority ranking:**

#12 Cultural Resources Inventory Database (CRID)

**4.2.4 Description of the proposed IT project:**

As a result of Transportation Equity Act funding, 10 of the 12 Caltrans Districts have GIS and/or Access databases that store crucial and confidential cultural resources information that is used daily by Caltrans cultural resource staff. The current software and server configurations are not consistent throughout the State and information cannot be shared among the various geographic locations. This project proposes to create a single, enterprise wide database accessible to cultural resource staff in all Districts, built on an industry standard platform consistent with current Caltrans IT standards.

**4.3.4 Which of your department's business goals and objectives does this project support, and how?**

**Stewardship** – Preserve and enhance California’s resources and assets.

**4.4.4 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

To create a repository system that can be shared statewide and meets business requirements while consistent with Caltrans IT standards and best practices. Access to cultural information will be secure and consistent throughout the State.

**4.5.4 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.4 Is the proposal consistent with your organization's Enterprise Architecture?**

**Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.

**No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.4 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

**Yes**

**No**

**4.8.4 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

03/2010

**4.9.4 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.4 What is the duration of the proposed project?**

To be determined

**4.11.4 Will the proposed project utilize the existing infrastructure?**

**Yes**

**No**

**If no, please explain.**

**4.12.4 Is the proposal related to another proposal or to an existing project?**

**Yes**

**No**

**If yes, describe the related proposal or project and how it is related:**

**4.13.4 Describe the consequences of not doing this proposed project at the planned timeframe:**

Caltrans runs the risk of failure of one or more of the existing database systems as the systems were not created in a uniform, approved, supportable application. The current systems do not integrate and will become obsolete. Valuable information may be lost if a system crashes before a solution is made available.

**4.14.4 Check the appropriate box(es) to identify the proposal's funding strategy:**

**Augmentation needed**

**Redirection of existing funds**

**Other (describe):**

Funding is to be determined based on the outcome of the FSR.

**4.15.4 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.5 Proposal name and priority ranking:**

#5 Encroachment Permits (ePermits)

**4.2.5 Description of the proposed IT project:**

Traffic Operations Office of Encroachment Permits seeks funding to implement a system (ePermits) to fully automate the encroachment permit process. This includes online payment, submission of plans and applications by applicants, online status tracking by applicants, workflow to track application review by functional areas and by permit engineers, and automation of permit review, issuance, inspection, and closure functions.

**4.3.5 Which of your department's business goals and objectives does this project support, and how?**

**Service:** Promote quality service through an excellent workforce.

- Caltrans issues approximately 14,000 encroachment permits every year. The California Streets and Highways Code requires Caltrans to complete the review process within 60 days. When fully implemented, the ePermits system will streamline the intake of encroachment permit applications, enable easy monitoring and reporting of application review status, and reduce response time.
- Surveys and interviews with Caltrans' external customers (applicants and permittees) show that they are not satisfied with the duration of the permit review, the inability to track an application once it has been submitted, or the manual processes associated with completing and submitting an encroachment permit application. Completion of the ePermits project will substantially improve the services provided to encroachment permit stakeholders.

**4.4.5 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

- To ensure the safety of California drivers, Caltrans staff, and other public agency and private organization staff working at encroachment sites.
- To ensure that the proposed encroachment is compatible with the primary uses of the State highway system.
- To protect the State's and public's investment in the highway facility.
- To protect, maintain, and enhance the quality of the State highway system during and after permitted work.
- To ensure that the temporary uses of the State highway right-of-way for special events, filing, and other activities are conducted with minimal inconvenience to the traveling public.

**4.5.5 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**

- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.5 Is the proposal consistent with your organization's Enterprise Architecture?**

**Yes**, This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.

**No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.5 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

**Yes**

**No**

**4.8.5 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

02/2009

**4.9.5 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.5 What is the duration of the proposed project?**

To be determined

**4.11.5 Will the proposed project utilize the existing infrastructure?**

**Yes**

**No**

**If no, please explain.**

**4.12.5 Is the proposal related to another proposal or to an existing project?**

**Yes**

**No**

**If yes, describe the related proposal or project and how it is related:**

**4.13.5 Describe the consequences of not doing this proposed project at the planned timeframe:**

In 2006, the Caltrans Office of Audits & Investigations completed a statewide audit of the Encroachment Permits program. The published findings documented that there were eight (8) areas of deficiency preventing Caltrans from recovering the actual costs of administering billable permits. The Division of Traffic Operations explored many options to address the audit findings as quickly as possible and concluded that an automated solution would address the majority of the audit findings. If ePermits does not move forward, Caltrans options to correct these deficiencies will be limited.

**4.14.5 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.5 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.6 Proposal name and priority ranking:**

#6 Environmental Management System (EMS)

**4.2.6 Description of the proposed IT project:**

The Division of Environmental Analysis is pursuing an integrated information system, the Environmental Management System Portfolio, with management and metrics tools that can efficiently process and deliver “product” information to stakeholders and decision makers while contributing to and drawing upon the corporate knowledge. Key components include the Standard Tracking Exchange Vehicle for Environmental (STEVE) and the Preliminary Environmental Assessment Report Tool (PEAR Tool) currently in development. While these key components will be integrated, each will provide stand alone capabilities and functionality. Each addresses a set of challenges and opportunities identified in the business process review of environmental planning within a context of cross-functional information sharing, stakeholder needs, business practices, legal requirements, and available technology. Each component may be developed as a single project, phased system, or as multiple projects depending upon business practice, interdependence and utility, technological feasibility, cost effectiveness, and other factors identified in the business process review, and subsequent feasibility study report.

**4.3.6 Which of your department's business goals and objectives does this project support, and how?**

**Delivery** – Efficiently deliver quality transportation projects and services.

From the Caltrans Strategic Plan, Objective 4.4: each year, ensure environmental commitments are documented and implemented on 100 percent of projects, and Objective 4.4.3: create and populate the STEVE database and tracking tool. Create standard operating procedures for using STEVE.

**4.4.6 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

This project will replace a variety of independent, standalone environmental systems statewide and produce an enterprise tool for Caltrans use.

**4.5.6 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- Improving the reliability and performance of IT infrastructure**
- Enhancing human capital management**
- Supporting state and agency priorities and business direction**

- 4.6.6 Is the proposal consistent with your organization's Enterprise Architecture?**  
 **Yes**, This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.  
 **No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

- 4.7.6 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**  
 **Yes**  
 **No**

- 4.8.6 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

03/2009

- 4.9.6 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined through the FSR process

- 4.10.6 What is the duration of the proposed project?**

To be determined through the FSR process

- 4.11.6 Will the proposed project utilize the existing infrastructure?**

**Yes**  
 **No**

**If no, please explain.**

- 4.12.6 Is the proposal related to another proposal or to an existing project?**

**Yes**  
 **No**

This EMS Portfolio is expected to interface and exchange data with the STEVE database.

- 4.13.6 Describe the consequences of not doing this proposed project at the planned timeframe:**

If EMS is not approved, the current systems in place will continue, lacking a statewide (enterprise) system and a variety of District –specific environmental databases (in FileMaker, Access, etc.) functioning independently, unable to share important environmental information.

**4.14.6 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.6 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.7 Proposal name and priority ranking:**

#2 Fog Detection and Warning System (FDWS)

**4.2.7 Description of the proposed IT project:**

Multiple-vehicle crashes resulting from reduced visibility have been catastrophic along State Route 99. Given that this route consists of a freeway cross section, crashes along the route during foggy conditions tend to involve large numbers of vehicles and often begin with rear-end collisions. The proposed system will consist of three components: Intelligent Transportation Systems, education, and enforcement. These three components will be implemented in phases to address the continuing fog-related issues that occur in the treatment area. The FDWS is also intended to provide improved integration of operational procedures, including procedures that take advantage of the data and detection capabilities of the FDWS to enhance existing emergency response for all types of incidents. Given a predetermined threshold for vehicle speeds and visibility site distance from vehicle detection systems and roadway weather information systems, the system may be activated. As the central software control system analyzes the data in near real-time, the control system will then determine whether to activate various types of changeable message signs.

**4.3.7 Which of your department's business goals and objectives does this project support, and how?**

**Safety** – Provide the safest transportation system in the nation for users and workers.

FDWS addresses Caltrans Strategic Plan Objective 1.1: to reduce the fatality rate on the California State Highway System; and, Objective 2.2: to improve reliability of the transportation system.

**4.4.7 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

The overall objective of the proposed system is to eliminate fog-related crashes along State Route 99 by both alerting and educating the public about weather-related conditions, including, but not limited to fog. Information regarding fog hazard will be available for trip planning and while the traveler is en-route.

**4.5.7 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- Improving the reliability and performance of IT infrastructure**
- Enhancing human capital management**
- Supporting state and agency priorities and business direction**

- 4.6.7 Is the proposal consistent with your organization's Enterprise Architecture?**  
 **Yes**, This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.  
 **No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

- 4.7.7 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**  
 **Yes**  
 **No**

- 4.8.7 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

09/2008

- 4.9.7 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

- 4.10.7 What is the duration of the proposed project?**

To be determined

- 4.11.7 Will the proposed project utilize the existing infrastructure?**

**Yes**  
 **No**

**If no, please explain.**

- 4.12.7 Is the proposal related to another proposal or to an existing project?**

**Yes**  
 **No**

**If yes, describe the related proposal or project and how it is related:**

- 4.13.7 Describe the consequences of not doing this proposed project at the planned timeframe:**

The hazards that the FDWS project aims to address will remain. The motoring public will continue to be at risk without the use of available Intelligent Transportation Systems monitoring or education.

**4.14.7 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.7 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.8 Proposal name and priority ranking:**

#11 Ground Penetrating Radar (GPR) Database

**4.2.8 Description of the proposed IT project:**

Caltrans has determined that a centralized database is required for network pavement structural section data. This data will support and define the pavement performance models for Caltrans Pavement Management System (PMS). The data will include one-time Ground Penetrating Radar (GPR) for identifying/baselining the existing structural section and follow-up data supplied by contractors as work is performed on these existing structural sections.

**4.3.8 Which of your department's business goals and objectives does this project support, and how?**

**Stewardship** – Preserve and enhance California's resources and assets.

Accurately identify existing and future pavement structural sections to determine the performance of the pavement, so funds can be spent more efficiently. The purpose is to address the needs of a pavement in a timelier manner by better anticipating its future condition.

**4.4.8 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

- GPR data, though used for establishing pavement performance models, will be accessible for engineering purposes in regards to design, construction, and maintenance of pavements.
- The centralized location will facilitate future GPR data collection performed by staff at various locations within the highway network in connection with project specific pavement designs.
- The database will provide readily accessible, and up to date, structural section data that will benefit engineers in design, materials, construction, and maintenance and eliminate the need for costly testing.
- As-built data inputs will help to maintain a more accurate definition of the current structural section rather than having engineers searching for hard copies of as-builts.

**4.5.8 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- Improving the reliability and performance of IT infrastructure**
- Enhancing human capital management**
- Supporting state and agency priorities and business direction**

- 4.6.8 Is the proposal consistent with your organization's Enterprise Architecture?**  
 **Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.  
 **No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

- 4.7.8 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**  
 **Yes**  
 **No**

- 4.8.8 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

01/2010

- 4.9.8 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

- 4.10.8 What is the duration of the proposed project?**

To be determined

- 4.11.8 Will the proposed project utilize the existing infrastructure?**

- Yes**  
 **No**

**If no, please explain.**

- 4.12.8 Is the proposal related to another proposal or to an existing project?**

- Yes**  
 **No**

**If yes, describe the related proposal or project and how it is related:**

- 4.13.8 Describe the consequences of not doing this proposed project at the planned timeframe:**

Without a database, the Pavement Management System will have no automated repository for storing this information and continued use and storage of hard copy documentation will be required.

- 4.14.8 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed**  
 **Redirection of existing funds**  
 **Other (describe):**

Funding is to be determined based on the outcome of the FSR.

**4.15.8 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.9 Proposal name and priority ranking:**

#7 Highway Performance Monitoring System (HPMS)

**4.2.9 Description of the proposed IT project:**

Less than 70 percent of cities and counties respond to the annual requests for traffic data or roadway inventory. Of those responding, the reports are often incomplete. This information is needed for the federally mandated reporting upon which apportionments are based via the HPMS. Caltrans receives requests from the Federal Highway Administration to evaluate and improve data reporting. This project proposes to implement a web-enabled application for data submission. Shown to have success in other states, this web application could increase participation by local agencies in the HPMS reporting. It could also provide an opportunity for the agencies to consider or revisit their own challenges concerning data integration. There would be added utility for the cities and counties by which they could retrieve and submit data to the State's system. The reports would be organized into logical groupings. Four such reports are currently being proposed including roadway inventory, traffic data, pavement condition and travel forecasting.

**4.3.9 Which of your department's business goals and objectives does this project support, and how?**

**Mobility** – Maximize transportation system performance and accessibility.  
**Stewardship** – Preserve and enhance California's resources and assets.

Mobility is based on the Caltrans Operational Plan strategies 21.43 & 21.44, and Stewardship is based on Operational Plan strategies 4.2.1, 7.7.79 & 4.7.82.

**4.4.9 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

Positive outcomes from implementation of this new application include:

- An increase in the number of cities and/or counties reporting data.
- An increase in the number of records in which data is updated.
- Improved pavement data and traffic data in the HPMS.
- Improved travel forecasts from the local agencies.
- More complete and comprehensive data on maintained public road mileage and lane-miles, upon which federal apportionments are based.
- Improved communication between Caltrans and its local partners.

**4.5.9 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- Improving the reliability and performance of IT infrastructure**
- Enhancing human capital management**
- Supporting state and agency priorities and business direction**

- 4.6.9 Is the proposal consistent with your organization's Enterprise Architecture?**  
 **Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.  
 **No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

- 4.7.9 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**  
 **Yes**  
 **No**

- 4.8.9 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

05/2009

- 4.9.9 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

- 4.10.9 What is the duration of the proposed project?**

To be determined

- 4.11.9 Will the proposed project utilize the existing infrastructure?**

- Yes**  
 **No**

**If no, please explain.**

- 4.12.9 Is the proposal related to another proposal or to an existing project?**

- Yes**  
 **No**

This new project will exchange data and interface with the existing Highway Performance Monitoring System.

- 4.13.9 Describe the consequences of not doing this proposed project at the planned timeframe:**

Data reporting must meet the specifications set out by the Federal Highway Administration for the HPMS. Current reporting does not allow for dynamic segmentation and forces the issue of data integration for many local agencies.

- 4.14.9 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed**  
 **Redirection of existing funds**  
 **Other (describe):**

Funding is to be determined based on the outcome of the FSR.

**4.15.9 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.10 Proposal name and priority ranking:**

#8 IT Service Desk Project (SDP)

**4.2.10 Description of the proposed IT project:**

Caltrans has identified the IT Service Desk function as a priority for centralization and standardization. The Service Desk is the IT organization's primary customer facing function. Currently, each District has their own service desk and process and procedures are executed in disparate manners across the enterprise. Therefore, IT cannot produce accurate, meaningful reports about IT problems to determine levels of service provided, and which IT services need improvement.

**4.3.10 Which of your department's business goals and objectives does this project support, and how?**

**Delivery** – Efficiently deliver quality transportation projects and services.

**Stewardship** – Preserve and enhance California's resources and assets.

**Service** – Promote quality service through an excellent workforce.

Goals for the Information Technology Division as documented in the 2007 Agency Information Management Strategy include providing the best value IT services and products to assure continuous improvements of services and products, develop solutions that improve operations and/or reduce staff effort, and eliminate low-value services and products. This project will ensure continuous improvement in IT service delivery by reengineering the IT service desk/user support operations.

**4.4.10 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

There will be a single point of contact for IT service desk functions statewide with a standard problem tracking tool. Caltrans IT will be able to more accurately quantify the resources required for IT support issues and capture/document customer needs.

**4.5.10 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.10 Is the proposal consistent with your organization's Enterprise Architecture?**

**Yes**, This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.

**No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

**4.7.10 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

- Yes  
 No

**4.8.10 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

07/2009

**4.9.10 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.10 What is the duration of the proposed project?**

To be determined

**4.11.10 Will the proposed project utilize the existing infrastructure?**

- Yes  
 No

If no, please explain.

**4.12.10 Is the proposal related to another proposal or to an existing project?**

- Yes  
 No

If yes, describe the related proposal or project and how it is related:

**4.13.10 Describe the consequences of not doing this proposed project at the planned timeframe:**

Decentralized service desks located throughout the state will not enable a single solution. Information will continue to be gathered manually, increasing the likelihood of error and the possibility of duplicate efforts moving forward due to lack of a comprehensive information gathering toolset.

**4.14.10 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed  
 Redirection of existing funds  
 Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.10 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.11 Proposal name and priority ranking:**

#1 Pavement Management System (PMS)

**4.2.11 Description of the proposed IT project:**

The Division of Pavement Management needs a modern pavement management system that provides robust reporting, analysis, and optimization tools to transition to a more proactive approach to determining project priorities. The current process is reactive and generally results in more expensive pavement projects, such as rehabilitation or reconstruction in lieu of preservation projects. In June 2005, a consultant was commissioned by the Division of Maintenance to conduct a Business Process Review of the Caltrans' pavement management processes. As part of this project, a series of reports were produced, including a business process gap analysis, market survey, and "as-is" reports, containing interim solutions to address immediate short-term needs and long-term recommendations. One of the key findings resulting from this effort indicated that current systems and tools are not sufficient to support pavement management processes and inhibit effective decision making.

**4.3.11 Which of your department's business goals and objectives does this project support, and how?**

**Delivery** – Efficiently deliver quality transportation projects and services.  
**Stewardship** – Preserve and enhance California's resources and assets.

This project aims to build, preserve, and operate facilities more cost effectively by forecasting the future performance of California's pavements, deliver to the tax payer the best value for the public tax dollar spent, and enhance the credibility and accountability of Caltrans to its partners, stakeholders and the Legislature.

**4.4.11 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

The overall goals of the PMS are:

1. Improving data integrity and access.
2. Providing the capability to produce timely and accurate reports.
3. Optimizing investment in the State highway network by providing analysis tools to assist in the planning, programming, and budgeting of pavement projects.
4. Creating a centralized system to track pavement management history.

**4.5.11 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- Improving the reliability and performance of IT infrastructure**
- Enhancing human capital management**
- Supporting state and agency priorities and business direction**

**4.6.11 Is the proposal consistent with your organization's Enterprise Architecture?**

**Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.

**No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.11 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

**Yes**

**No**

**4.8.11 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

07/2008

**4.9.11 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

10/2009

**4.10.11 What is the duration of the proposed project?**

20 months

**4.11.11 Will the proposed project utilize the existing infrastructure?**

**Yes**

**No**

**If no, please explain.**

**4.12.11 Is the proposal related to another proposal or to an existing project?**

**Yes**

**No**

**If yes, describe the related proposal or project and how it is related:**

**4.13.11 Describe the consequences of not doing this proposed project at the planned timeframe:**

1. Data integrity and access in the current "as-is" system is inadequate to meet the Caltrans' needs.
2. The current system has limited reporting capabilities.
3. Caltrans has no analysis tools currently available that are capable of prioritizing pavement projects and predicting pavement performance.
4. The Department has no single database or tools currently available to track the history of pavement projects.

5. The Department is unable to perform objective budgeting and optimization of pavement projects.

**4.14.11 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed**
- Redirection of existing funds**
- Other (describe):**

**4.15.11 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>	\$1,283,000	\$1,233,000	\$711,000	\$721,000		\$3,948,000
<b>Total</b>	<b>\$1,283,000</b>	<b>\$1,233,000</b>	<b>\$711,000</b>	<b>\$721,000</b>		<b>\$3,948,000</b>

\* State Highway Fund via Budget Change Proposal (BCP) and redirection from internal Programs.

**4.1.12 Proposal name and priority ranking:**

#10 Rapid Rehabilitation (RR)

**4.2.12 Description of the proposed IT project:**

The computer software Construction Analysis for Pavement Rehabilitation Strategies (CA4PRS) is an innovative decision-support tool to find the solution that minimizes the impact of Caltrans' activities on highway users by selecting the appropriate window for such activities. It is a schedule and traffic analysis tool that aids planners and designers in managing rehabilitation activities by determining the most efficient highway rehabilitation or reconstruction strategies. It can quantify the impact of work zone closures to the traveling public in terms of traffic time and user cost, taking into account alternative pavement designs, lane-closure tactics, and contractor logistics.

**4.3.12 Which of your department's business goals and objectives does this project support, and how?**

**Mobility** – Maximize transportation system performance and accessibility.

**Delivery** – Efficiently deliver quality transportation projects and services.

The Division of Research and Innovation (DRI) stimulates innovation in transportation by performing applied, customer focused research that yields tangible products and process improvements for mobility. DRI partners with public and private organizations to research, develop, test, and evaluate transportation innovations to provide the most effective management of public facilities and services, protect public investment in transportation infrastructure, and enhance and expand mobility options.

**4.4.12 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

This software tool will automate current manual methods and will enable the creation and evaluation of traditional, as well as more innovative designs, construction schedules, and traffic management options by significantly increasing the number of "what-if" scenarios that engineers can examine. The result will be the reduction in project delivery time for various roadway projects and a reduction of their impact.

**4.5.12 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.12 Is the proposal consistent with your organization's Enterprise Architecture?**

- Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.  
 **No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.12 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

- Yes**  
 **No**

**4.8.12 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

11/2009

**4.9.12 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.12 What is the duration of the proposed project?**

To be determined

**4.11.12 Will the proposed project utilize the existing infrastructure?**

- Yes**  
 **No**

**If no, please explain.**

**4.12.12 Is the proposal related to another proposal or to an existing project?**

- Yes**  
 **No**

**If yes, describe the related proposal or project and how it is related:**

**4.13.12 Describe the consequences of not doing this proposed project at the planned timeframe:**

Roadway widening, bridge replacement, pre-cast panels, and life-cycle cost analysis interaction projects are done manually for the most part, so each aspect of planning, design, construction scheduling, and traffic management is evaluated separately using labor intensive means. The time required for manual methods also makes it difficult to use innovative scenarios or to modify traditional approaches to achieve more economical solutions for specific project conditions. Additionally, manual calculations are more prone to errors than automated methods.

**4.14.12 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.12 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.13 Proposal name and priority ranking:**

#14 Tool for Regional Architecture Maintenance (TRAM)

**4.2.13 Description of the proposed IT project:**

The TRAM System will establish an electronic format for retrieving and processing online information associated with statewide, regional, and 'sub-regional' Intelligent Transportation Systems (ITS) architectures in California. The need for this concept is driven by the difficulty in accessing, using, and sharing information within and across architectural boundaries. TRAM proposes an online tool that can assist in the maintenance of and outreach for regional ITS architectures by making them more available and accessible in an online format.

**4.3.13 Which of your department's business goals and objectives does this project support, and how?**

**Delivery** – Efficiently deliver quality transportation projects and services.

This project will increase the use and capabilities of existing information and improve information sharing and coordination with partners in both the State and private sector.

**4.4.13 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

Several benefits are anticipated from the successful development of the TRAM System, including:

1. Improved agency coordination.
2. Stakeholder support of the architecture process.
3. More up to date data within the architecture databases.
4. Reduced strain on local agency resources.
5. A central repository for architecture and field device data.

**4.5.13 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.13 Is the proposal consistent with your organization's Enterprise Architecture?**

- Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.
- No**

If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.

**4.7.13 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

- Yes  
 No

**4.8.13 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

07/2010

**4.9.13 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.13 What is the duration of the proposed project?**

To be determined

**4.11.13 Will the proposed project utilize the existing infrastructure?**

- Yes  
 No

If no, please explain.

**4.12.13 Is the proposal related to another proposal or to an existing project?**

- Yes  
 No

If yes, describe the related proposal or project and how it is related:

**4.13.13 Describe the consequences of not doing this proposed project at the planned timeframe:**

The accessing and sharing of information associated with statewide, regional and sub-regional ITS will continue to be limited.

**4.14.13 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed  
 Redirection of existing funds  
 Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.13 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.14 Proposal name and priority ranking:**

#15 Transportation Project Output Tracking (TPOT)

**4.2.14 Description of the proposed IT project:**

The project objectives are to minimize the effort in collecting, managing, and reporting project delivery outputs to the California Transportation Commission and other agencies. The existing process of monitoring project deliverables is evolving and requires that Caltrans be held accountable to project outputs and outcomes. The Web tool and database should be centralized in headquarters for efficient usage. With the new business requirements, the database will improve communications with the districts and divisions and improve the existing process of collecting, managing, and reporting the progress of the districts project commitments.

**4.3.14 Which of your department's business goals and objectives does this project support, and how?**

**Delivery** – Efficiently deliver quality transportation projects and services.  
**Stewardship** – Preserve and enhance California’s resources and assets.  
**Service** – Promote quality service through an excellent workforce.

**4.4.14 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

Implementing a Web database tool will provide a centralized location for project information to be gathered and tracked throughout the lifecycle of the project. The Web database tool will provide Caltrans with a universal location to view and obtain information regarding an individual project or a group of projects. The Web database tool will also provide a consistent reporting format for all agencies.

**4.5.14 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses
- Enhancing information and IT security
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)
- Improving the reliability and performance of IT infrastructure
- Enhancing human capital management
- Supporting state and agency priorities and business direction

**4.6.14 Is the proposal consistent with your organization's Enterprise Architecture?**

- Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.
- No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.14 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

- Yes  
 No

**4.8.14 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

09/2010

**4.9.14 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.14 What is the duration of the proposed project?**

To be determined

**4.11.14 Will the proposed project utilize the existing infrastructure?**

- Yes  
 No

If no, please explain.

**4.12.14 Is the proposal related to another proposal or to an existing project?**

- Yes  
 No

If yes, describe the related proposal or project and how it is related:

**4.13.14 Describe the consequences of not doing this proposed project at the planned timeframe:**

Continued use of multiple, divisional spread sheets to collect and distribute data. The quality of the data currently being utilized will be less reliable and the reporting that Caltrans does to the Legislature, California Transportation Commission, and the Federal Highway Association will be inconsistent.

**4.14.14 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed  
 Redirection of existing funds  
 Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.14 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

**4.1.15 Proposal name and priority ranking:**

#9 Web Content Management System (WCMS)

**4.2.15 Description of the proposed IT project:**

The project will be a pilot for Web content management, using the Caltrans Internet Website. The solution must reduce the amount of time spent by Information Technology staff performing Web related work by nearly 50 percent, provide administrative control, ensure standardization and conformity to federal and State government rules and regulations, and be extensible.

**4.3.15 Which of your department's business goals and objectives does this project support, and how?**

**Delivery** – Efficiently deliver quality transportation projects and services.

The WCMS solution will improve the effective management of Caltrans Internet Website, conform to Caltrans, State, and federal standards and be extendable to meet the changing needs of customers due to advances in technology.

**4.4.15 What are the expected business outcomes or benefits of the proposal as they relate to your organization's business goals and objectives?**

- Reduce the time spent by current staff on Website maintenance by nearly 50 percent within the first year of project implementation.
- Maintain an audit history of changes made to each page, by each user, and allow multiple-version page rollbacks to earlier page versions.
- Update all of the pages from Caltrans Internet Website to conform to the version of the CA.GOV State template, and create pages that have less code, are Section 508 accessible, and comply with current DTS Web standards for separation of content and presentation.

**4.5.15 The following are from the State's IT strategic plan. Check the appropriate box(es) to identify the goals this proposal supports:**

- Supporting and enhancing services for Californians and businesses**
- Enhancing information and IT security**
- Reducing state operational costs (leveraging, consolidation, new technology, etc.)**
- Improving the reliability and performance of IT infrastructure**
- Enhancing human capital management**
- Supporting state and agency priorities and business direction**

**4.6.15 Is the proposal consistent with your organization's Enterprise Architecture?**

**Yes** This proposal is consistent with the Caltrans Enterprise Architecture that has thus far been implemented as discussed in Appendix A.

**No**

**If no, please explain why the deviation from the organization's Enterprise Architecture is necessary.**

**4.7.15 Will the proposed system collect, store, transmit, or exchange confidential or sensitive information?**

**Yes**

**No**

**4.8.15 If this proposal is conceptually approved, what is the estimated date (mm/yyyy) the FSR will be submitted?**

09/2009

**4.9.15 What is the estimated project start date (mm/yyyy) if the FSR is approved?**

To be determined

**4.10.15 What is the duration of the proposed project?**

To be determined

**4.11.15 Will the proposed project utilize the existing infrastructure?**

**Yes**

**No**

**If no, please explain.**

**4.12.15 Is the proposal related to another proposal or to an existing project?**

**Yes**

**No**

**If yes, describe the related proposal or project and how it is related:**

**4.13.15 Describe the consequences of not doing this proposed project at the planned timeframe:**

Continued frustration for customers trying to identify the appropriate Caltrans staff to contact when unable to find information on the Website, and non-compliance to State and federal Website standards.

**4.14.15 Check the appropriate box(es) to identify the proposal's funding strategy:**

- Augmentation needed
- Redirection of existing funds
- Other (describe):

Funding is to be determined based on the outcome of the FSR.

**4.15.15 What are the estimated cost and funding source(s) by fiscal year through implementation (information should be provided in the following format):**

<b>Fund Source</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14 and future</b>	<b>Total</b>
<b>General Fund</b>						
<b>Federal Fund</b>						
<b>Special Fund*</b>						
<b>Total</b>						

Enterprise Architecture

A.1. Does your organization have documented Enterprise Architecture principles, strategies, or standards to guide decisions on technology projects?

- Yes
- No

A.2. Indicate on Table A-1 below, the completion status of the component Reference Models of your formal Enterprise Architecture efforts. If available, please submit a copy of your Enterprise Architecture document.

Table A-1, Enterprise Architecture Completion Status

Component Reference Model	Status			
	Implemented	Implementation in Progress	Planned or Planning in Progress	Not Implemented and Not Planned
Business			x	
Service			x	
Technical			x	
Data			x	

**Business** – Caltrans has a completed Functional Hierarchy Diagram (FHD) which is equivalent in information content to the Business Reference Model, although it is in a different format. Caltrans responded to the State CIO’s BRM survey (FHD is available upon request).

**Service** – While Caltrans has implemented a few Web services, it has not undergone an in depth Service Reference Model.

**Technical** – Caltrans has implemented Web services and has one application using an Enterprise Service Bus (ESB); however, ESB’s scope is not enterprise. Caltrans intends to use any Service Oriented Architecture (SOA) made available by the Department of Technology Services as a way to shorten development timelines and reduce infrastructure costs.

**Data** – Caltrans created an equivalent Data Resource Model document for all applications that interact with financial data, which is approximately half of the existing applications.

## Enterprise Architecture

**A.3. Describe the governance structure your organization uses to review and approve the Enterprise Architecture and any subsequent changes.**

Caltrans has an executive management steering committee, named the Information Technology Management Committee (ITMC). The purpose of the ITMC is to ensure that IT is applied to meet the business needs of Caltrans, its customers, and partners.

**A.4. Does your organization have an Enterprise Architect? (if yes, provide their name, telephone number, and e-mail address below)** Yes No

**Name:** Kari Gutierrez

**Classification:** Data Processing Manager IV

**Telephone Number:** (916) 654-7255 **E-Mail:** Kari\_Gutierrez@dot.ca.gov

## Information Security

### B.1. How is your Information Security Officer involved in proposed project development efforts?

When requested, the Information Security Officer provides guidance to ensure Caltrans' information assets and resources are subject to a minimal amount of risk and maximum amount of security.

### B.2. What are your department's core business principles, policies and standards related to information integrity, confidentiality, and availability and the protection of information assets?

Caltrans publishes policy through the issuance of Director's Policy, Deputy Directives and a departmental Information Security Policy Manual. Caltrans information security posture incorporates industry's best practices as a benchmark. Caltrans has issued policies addressing responsibilities, standards, and enforcement at an enterprise level regarding information assets, including but not limited to, acceptable use, passwords and malware protection. Additionally, Caltrans has outlined the responsibilities for maintaining the integrity, confidentiality, availability, protection, and management of information assets and records.

To ensure compliance with departmental policy and maintain appropriate risk management practices, Caltrans institutes:

- Role-based access controls to Caltrans systems.
- Confidential destruction of hardware containing any information assets.
- Training of Data Guidance personnel on the proper handling of reports that contain personal or confidential data.
- Encryption of laptops and portable data storage devices.
- Extensive network monitoring and controls to protect network resources.

### B.3. If data within your department is shared with external entities, does your department implement data exchange agreements with these entities?

- Yes  
 No  
 Not applicable

### B.4. How does your department ensure that software developers and programmers follow standards and best practices for Web, application, and system development?

Caltrans Web developers follow the Department of Technology Services' templates and best practices, defined at <http://www.webtools.ca.gov>. The primary development language is Java, using the Struts Framework. The procedures followed during development include:

1. Walk-throughs. Program code is presented by the developer/programmer to the lead.
2. Review. Products are submitted and reviewed by a peer group before being installed into production.

Information Security

**B.5. Does your organization have an Information Security Officer? (if yes, provide their name, telephone number, and e-mail address below)**

Yes

No

**Name:** Jerry Knedel

**Classification:** CEA

**Telephone Number:** (916) 651-8483 **E-Mail:** jerry\_knedel@dot.ca.gov

## Workforce Development, Workforce Planning and Succession Planning

### C.1. Does your organization have a workforce development plan for IT staff?

- Yes  
 No

If yes, briefly describe it.

Managers develop training plans for staff to strengthen current and future technical and managerial skills and knowledge.

### C.2. Check the appropriate box(es) to identify which workforce development tools, if any, your organization is using for IT classifications:

- Training  
 Upward Mobility  
 Mentoring  
 Career Assessments  
 Knowledge transfer program  
 Performance Evaluations  
 Other (please list): Rotational assignments or out of class assignments.

### C.3. Does your organization have a workforce plan for IT staff (i.e., for Rank and File)?

- Yes  
 No

If yes, briefly describe it.

Each manager is responsible for developing individual training plans.

### C.4. Does your organization have a succession plan for IT staff (i.e., for Management)?

- Yes  
 No

If yes, briefly describe it.

Rotational assignments to various functional areas of the IT organization provide managers with the skills necessary to manage when needed.

### C.5. IT Staffing

Provide the following information in table C-1 on the following page:

- The name of each IT classification currently in the organization.
- The number of staff in each IT classification in the organization.
- The number of staff in each IT classification eligible to retire in the next five years.
- The percentage of each IT classification eligible to retire in the next five years.

## Workforce Development, Workforce Planning and Succession Planning

Table C-1 — IT Staffing

IT Rank and File Staff Classification	Number of IT Rank and File Staff in Classification	Number of IT Rank and File Staff in Classification Eligible to Retire in Next 5 Years	IT Management Staff Classification	Number of IT Management Staff in Classification	Number of IT Management Staff in Classification Eligible to Retire in Next 5 Years
Senior Information Systems Analyst	14	6	Senior Information Systems Analyst Supervisor	3	3
Staff Information Systems Analyst	85	32	Staff Information Systems Analyst Supervisor	3	2
Associate Information Systems Analyst	225	108			
Assistant Information Systems Analyst	64	1			
Senior Programmer Analyst	8	6	Senior Programmer Analyst Supervisor	4	1
Staff Programmer Analyst	36	17			
Associate Programmer Analyst	41	17			
System Software Specialist III (Technical)	9	3	System Software Specialist III (Supervisor)	1	1
System Software Specialist II (Technical)	26	6	System Software Specialist II (Supervisor)	2	2
System Software Specialist I (Technical)	28	10			

Workforce Development, Workforce Planning and Succession Planning

Associate System Software Specialist	3	1			
Computer Operator	1	1			
Information Systems Technical	10	6			
Programmer I	1	1			
Information Systems Specialist	1	1			
			Data Processing Manager IV	1	0
			Data Processing Manager III	16	9
			Data Processing Manager II	23	10
			Data Processing Manager I	14	4

## Project Management, Portfolio Management and IT Governance

### D.1. Does your organization have a process for improving the alignment of business and technology?

- Yes  
 No

If yes, briefly describe it.

Caltrans has developed a Strategic Plan 2007-2012, which includes the mission and vision, values, goals, objectives, and strategies. The strategic planning process integrates into the development of an annual Operational Plan that must reconcile the way the existing budget will be allocated. Caltrans' Strategic Plan serves as the framework for the annual Operational Plan, which maps each work activity back to specific goals and objectives, ensuring the alignment of the Caltrans' core business objectives to new technologies.

### D.2. What is the status of implementing a formal portfolio management methodology for technology projects within your organization?

- Implemented (Please describe)  
 Implementation in progress (Please describe)  
 Planned or planning in progress  
 Not implemented and not planned

### D.3. List any automated tools being used for portfolio management. Enter "None" if no automated tools are being used.

Spreadsheets

### D.4. What is the status of implementing a standard project management methodology for technology projects in your organization?

- Implemented (Please describe)  
 Implementation in progress (Please describe)  
 Planned or planning in progress  
 Not implemented and not planned

The existing project management methodology was developed from requirements established by the Department of Finance. The Project Management Office (PMO) is currently conducting a business process review on the project management methodology, policies, processes, and standards to identify opportunities for enhancement and alignment with the OCIO requirements and industry best practices.

## Project Management, Portfolio Management and IT Governance

**D.5. Does the organization require its project managers to be certified, either through a professional organization (e.g., PMI, ITIL) and/or through completion of specified project management coursework:**

- Yes**
- PMI**
  - ITIL**
  - Agency-specified project management coursework (identify below)**
- No**, however, Project Management Professional certification is encouraged and supported.

**D.6. Select from the list other areas of training your organization requires of its project managers:**

- Fundamental Project Management**
- Systems Development Life Cycle**
- Scheduling tool (identify below)**
  - Microsoft Project
- Project Performance Management (e.g., Earned Value Management)**
- Business Process Analysis**
- Requirements Traceability**
- Procurement/Contracts Management**
- Other (identify below)**
  - Risk Management
  - Business Analysis
- None**

**D.7. Describe project-level governance practices, including change management, issue resolution, and problem escalation.**

The standard project-level governance practices include:

**Project Oversight** – conducted by either an Independent Project Oversight Consultant (IPOC) for reportable projects or the PMO staff for delegated projects. The project oversight provides the project manager and decision makers with an additional perspective of the factors impacting the project.

**Change Management** – developed, implemented, and managed by each project according to the project specifics. The change management process regularly employed includes the analysis of any proposed changes by the project manager and team, review and approval/denial by the project sponsor and/or steering committee, and the documentation of changes by registering the change request, updating the impacted plans, and providing reports.

**Monthly Reporting** – project managers are required to submit monthly project status reports to the PMO that detail the cost and schedule status, issues, and risks related to the project.

**Project Management, Portfolio Management and IT Governance**

Issue and Risk Management – project managers are required to manage and monitor issues and risks that impact the project. This requires the development and implementation of an issue and risk management plan with identifiers for ownership, plausible mitigation strategies, and escalation triggers.

**D.8. Does the project management methodology include processes for documenting lessons-learned and applying these to future projects?**

**Yes (Please describe)**

**No**

The Closeout Phase of the project management methodology requires that the project manager and team conduct lessons learned to identify successes and opportunities for improvement. The lessons learned information is documented in the Post Implementation Evaluation Report (PIER) in addition to being captured in a lessons learned spreadsheet that is maintained by the PMO staff for all project managers' planning purpose.