REPORT TO THE LEGISLATURE

AUTOMATED TRANSPORTATION PERMIT SYSTEM FEASIBILITY STUDY STATUS REPORT

JANUARY 2009

Prepared by the California Department of Transportation
Division of Traffic Operations
Office of Truck Services

In response to
Item 2660-001-0042 of the Supplemental Report of the 2008 Budget Act

Report to the Legislature

Automated Transportation Permit System (ATPS)
Feasibility Study Status Report
January 2009

Purpose

This report is prepared in accordance with Item 2660-001-0042 of the Supplemental Report of the 2008 Budget Act related to transportation permits, which states:

> ***Oversized-Load Transportation Permits.*** The California Department of Transportation (Caltrans) shall report by January 10, 2009, on Caltrans' proposed long-term solution to improve the process for issuing transportation permits for oversized and overweight loads. In an April 1, 2008, Finance Letter, Caltrans notified the Legislature that the Transportation Permits Management System (TPMS) information technology project has been discontinued. The TPMS was intended to reduce highway accidents by implementing an online permitting system that would reduce the incidence of employee error.

Caltrans' core business processes for issuing transportation permits for oversized and overweight loads are permitting, routing, and vehicle inspections.

Background

- Caltrans issues about 180,000 transportation permits annually. Over the last six years, there have been no bridge hits due to errors by permit writer even though more than 1.1 million permits have been issued. This is due to the various measures implemented by Caltrans.
- Caltrans continues to double-check all overheight permits. Other activities Caltrans has implemented to ensure error-free permits include: placing advance signing for vertical clearance, marking vertical clearances on bridges statewide, conducting vertical clearance verification, and improving procedures for notification of clearance changes.
- In 2007, Caltrans concluded the TPMS project, but **did not** implement the vendor's solution. The proposed solution would not have adequately resolved the safety, business, and operational concerns intended from the project.
- A feasibility study is underway to determine how Caltrans will move forward in implementing an automated system.
- Caltrans issued Request for Offer #08-412 on May 15, 2008, for the ATPS Market Survey and Feasibility Study.
- Caltrans awarded JA Frasca and Associates (JAF) the contract on June 30, 2008.
- JAF is scheduled to deliver to Caltrans on November 12, 2008, a draft feasibility study report (FSR) on automating the issuance of transportation permits.

ATPS Feasibility Study Schedule

- Gather and document business and technical requirements to support future procurement solicitations.
  Status: Task completed on August 11, 2008.
- Identify how to best use the knowledge gained from previous efforts to automate the permitting process.
  Status: Identification in progress and scheduled for completion by the end of January 2009.
- Conduct market research and survey.
  Status: Tasks completed on October 6, 2008.
- Meet the State policy requirements by preparing an FSR for ATPS.
  Status: A feasibility study is in progress and scheduled for completion by the end of January 2009.

Current ATPS Status

- Draft Requirements (July 2008): Caltrans produced a list of 129 updated business and technical requirements to both validate Caltrans' permitting needs and evaluate vendor responses. These requirements were initially based on historical TPMS requirements.
- Market Survey (July - September 2008): Caltrans prepared and administered State and vendor surveys. The State survey was sent to representatives from 47 states on August 1, 2008. Fourteen states responded.

  Based on the State survey responses and market research, the vendor survey was sent to six vendors. The following were recipients of the vendor survey:

  - ACS Transportation Solutions
  - Bentley Transportation
  - Cambridge Systematics
  - Direct Technology
  - MGT of America, Inc
  - ProMiles Software Development Corporation

  The ATPS business and technical requirements were included in the vendor survey so that vendors could indicate their ability to meet requirements and responses could be uniformly assessed. Responses were received from four of the six vendors. Exhibit 1 on page 3 lists the respondents.
- FSR Development (August – To Date): The Business Case and Baseline Analysis sections have been developed. The draft FSR is scheduled for completion on November 12, 2008.

Assessment of Market Research

Data collected from the market surveys and the ensuing analysis led the ATPS team to recommend that a custom solution would meet Caltrans' permitting needs. Based on the information received from the State and vendor surveys, the following conclusions were reached in support of a custom solution:

- Electronic Permitting: Each of the four responding vendors stated that they could meet all or most of Caltrans' requirements. This would be achieved by developing either a fully custom solution or a combination of commercial off-the-shelf (COTS), modified COTS, and custom solutions.
- COTS Solutions: None of the systems used by the responding states are COTS solutions. The majority of the responding states used a custom or in-house approach to meet their permitting needs. This appears to be due to the complexity of the transportation permitting processes and the uniqueness of each state's business requirements. The survey responses from other states have provided evidence that an automated Web-based permitting application is possible.
- Automated Routing: Most applications in use by other states do not include automated routing. Of the 14 responding states, only four use automated routing. Two of the four responding vendors currently have an automated routing system. States that use an automated routing process have requirements that are similar to Caltrans' routing requirements. These requirements are technically achievable.
- Vehicle Inspections: None of the responding vendors has a COTS solution that integrates vehicle inspections as part of the permit issuance process. Texas is the only state other than California that uses a vehicle inspection process for certain types of loads as a condition for issuing a permit. The business requirements of Caltrans relating to vehicle inspections are unique to California and represent an unmet area for COTS solutions. Vehicle inspections are needed to ensure compliance with California law and help prevent premature aging and deterioration of highway pavement and bridges.

Exhibit 1 summarizes the Vendor solution fit analysis for COTS functionality. Vendor responses indicate that none of the COTS solutions could meet Caltrans' needs without a high degree of modification. The percentage of requirements not met ranged from 29 percent to 71 percent and were calculated based on each vendor's response. This degree of modification required in the COTS solutions presents an unacceptable risk of project failure. Previous experience with modified COTS projects reveals that a modification level greater than 10 percent is correlated with greater likelihood of software implementation failure.

Exhibit 1 – Vendor COTS Fit Analysis

Vendor	Percentage of Requirements *Not* Met By COTS			
	Permitting	**Routing**	**Vehicle Inspections**	**All Requirements**
Bentley	22	11	94	**29**
Cambridge	47	100	100	**71**
Direct Technology	**Custom Software Development**			
ProMiles	49	11	100	**47**

The results shown in Exhibit 1 suggest that the preferred alternative for automating the issuance of transportation permits is a custom-developed software solution.

ATPS Expected Costs

Based on the information collected to date, the total ATPS costs are estimated between $8.3 million and $12.5 million. This is a preliminary estimate for two years to implement and five years of maintenance based upon vendor-supplied application development services (including ongoing maintenance), and includes State costs of hardware, software, and staff. These costs are preliminary, and are currently being finalized in the feasibility study.

In order to fund the additional cost to develop a custom software solution, Caltrans will either redirect resources or submit a Budget Change Proposal during the 2010-11 fiscal year budget development cycle.

Schedule

Implementation of an automated transportation permits solution is expected to take approximately 24 months. Implementation will be a phased approach, which will allow the project to be separated into manageable components with clear deliverables for each phase. The FSR will contain more information regarding the ATPS project timeline and phasing.

Next Steps

The next steps in the feasibility study include:

- Completing the Feasibility Study Report: The final version is scheduled for late January 2009.
- Completing the Information Technology Procurement Plan: April 2009.
- Initiating Project: To be determined.

Summary

Caltrans is currently conducting a feasibility study to assess the viability of automating the issuance of transportation permits. As part of this study, Caltrans completed a market survey for both states and vendors. The results of this market survey shows that automated permitting is achievable, but that COTS solutions require high levels of modification. A custom software development approach is the preferred alternative based on the data from the states and vendors and validation of Caltrans' permitting needs.