Tune-Ups for Your DOT

Using Process Studies to Improve the Value of the Services Provided by Your Department of Transportation

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Since assuming the responsibilities of managing the District II’s value analysis (VA) program in 1994, I have observed many trigger events that challenged Caltrans to change or embrace new business practices. The catalyst for change is generally new legislation and/or leadership policies. From 1997 to 2005, Caltrans conducted 54 process studies, 29 of which were initiated by District II. While the traditional studies on highway projects are the mainstay of a state’s VA/VE program, the process studies have served to increase the visibility of the Caltrans VA program. Process studies directly support management’s goals to respond to the needs of customers and other stakeholders.

Reducing Project Support Costs

The first process improvement study that took advantage of the value engineering job plan was a 1993 study to examine the administrative procedures during a project’s construction. This study was co-sponsored by Caltrans District II and the San Diego Association of Governments (SANDAG). The study was initiated to explore how to reduce the cost of Caltrans services for project construction oversight. Study objectives included reducing support cost, reducing delivery schedules, and maintaining quality and safe conditions. The team’s ideas were well received and collectively had the potential to annually reduce construction support cost by $6 million. The study sponsors were awarded Federal Highway Association’s (FHWA) Value Engineering Study of the Year Award. Examples of...
the implemented recommendations include: granting authority to resident engineers to approve construction change orders (CCOs), automating many construction documents, and creating a CCO database to analyze historical trends. The CCO database was subsequently adopted as a statewide Caltrans tracking tool.

Partnering

Many process studies are sponsored to support multi-agency partnering objectives. For example, District 11 partnered with the Imperial Irrigation District (IID) to help clarify roles and responsibilities when Caltrans projects impact IID facilities and operations. In Orange County, District 12 partnered with the City of Irvine to develop a prioritized listing of unresolved issues to address in a series of subsequent management meetings. At the border with Mexico, Caltrans partnered with the Mexican Government, Border Patrol, Customs, and other stakeholders to improve the movement of traffic and commerce at the busiest land port-of-entry crossing in the country. (See San Ysidro Border Crossing and USA-Mexico border above photos, this page, top.)

Community Outreach

A process study is also an excellent opportunity to engage community stakeholders. District 11 conducted a hybrid project/process study to solicit community representatives from the six coastal communities impacted by proposed improvements to Interstate 5. The objective of the study was to build trust and coop-
Achieving Value

Save Time

Value analysis studies are also an excellent tool to discover opportunities for reducing the time to deliver a service or product. District 11’s Right of Way Division joined forces with Headquarters’ Right of Way colleagues to examine the “Decertification” process. Requests to purchase Caltrans owned right-of-way must undergo a process to decertify the property or easement if there is no obvious purpose for retaining the property. The requester may enter into agreement with the state to fund a Caltrans review and evaluation process to determine with certainty that relinquishment will not adversely impact operations, future improvement plans and/or permitting agreements. The study resulted in process changes to better define project scope and cost before finalizing project funding. It was recommended to perform many key activities earlier in the project delivery process to minimize project changes and delays.

Innovation

Caltrans has a proud record of innovation. Innovation can be inspired by the sheer ingenuity of Caltrans employees striving to find a better way; but often it is necessity that demands that Caltrans be creative. One example, new regulations and policies challenged Caltrans to step up efforts to sustain water quality. The National Pollutant Discharge Elimination System (NPDES) requires permits with approved strategies to prevent and/or treat storm water runoff. District 11 sponsored a value analysis process study that improved the effectiveness of established “Best Management Practices” and identified strategies to accelerate the establishment of permanent methods to prevent/reduce erosion. Another innovative example won an award for Caltrans District 7. They received the 2005 American Association of State Highway and Transportation Officials (AASHTO) Value Engineering Award for Best Process Study. For this process study, District 7 partnered with the City of Los Angeles and Water Quality Board representatives. The study resulted in refining methods to meet annual 10% trash reduction goals and the ultimate goal of zero trash discharge into the Los Angeles River (this page, photos above). The study also resulted in strategies that reduced highway workers exposure to traffic, ensured data integrity and timeliness and shortened the overall design time.

Planning

The value analysis process has also been used to develop strategic plans. In 1997, a process study was collaboratively sponsored to develop a traffic operations strategic plan for Southern California.
For this study, the four southern California districts teamed up to assess traffic operational problems from a regional perspective. The resulting strategic plan continues to be used to guide the Districts in setting priorities for their operational improvements. This won the AASHTO Award in 1999 for Most Cost Effective Proposal in Process Improvement.

Like a tune-up for your car, a VA process study can help tune-up your organization by:

- extending the service life of your products/project,
- improving or expanding the performance of your services, products and projects,
- increasing the “mileage” of your policies and processes by reducing time and/or staffing costs,
- preserving the environment by ensuring regulatory compliance. (Reduce those smelly emissions of non-compliant omissions!)

To paraphrase a lesson gleaned from my long-time value engineering mentor, Terry Hays, “work processes are seldom engineered, they rather evolve in a hapless response to the constant tide of change.” Let value analysis/engineering help your organization better respond to the constant challenge of change and the noble aspirations of continuous improvement.

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