

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT DOCUMENTATION PAGE

TR0003 (REV. 10/98)

<p>1. REPORT NUMBER CA17-3064</p>	<p>2. GOVERNMENT ASSOCIATION NUMBER</p>	<p>3. RECIPIENT'S CATALOG NUMBER</p>	
<p>4. TITLE AND SUBTITLE Crowdsourcing Innovation at Caltrans</p>		<p>5. REPORT DATE September 19, 2016</p>	
<p>7. AUTHOR(S) Loren L. Turner, Kimberly A. Reilly</p>		<p>6. PERFORMING ORGANIZATION CODE</p>	
<p>9. PERFORMING ORGANIZATION NAME AND ADDRESS California Department of Transportation Division of Research, Innovation, & System Information 5900 Folsom Blvd. MS-5 Sacramento, CA 95819</p>		<p>8. PERFORMING ORGANIZATION REPORT NO. CA17-3064</p>	
<p>12. SPONSORING AGENCY AND ADDRESS California Department of Transportation Division of Research, Innovation & System Information 5900 Folsom Blvd. MS-5 Sacramento, CA 95819</p>		<p>10. WORK UNIT NUMBER</p>	<p>11. CONTRACT OR GRANT NUMBER Task ID 3064</p>
<p>15. SUPPLEMENTAL NOTES</p>		<p>13. TYPE OF REPORT AND PERIOD COVERED Final Report</p>	
<p>16. ABSTRACT This report documents the first year experience in launching and sustaining a web-based, crowdsourcing innovation management tool at the California Department of Transportation (Caltrans). In March 2015 an ad-hoc team of Caltrans managers and staff began exploring various strategies to further enhance a culture of innovation within the organization. The effort was motivated by the Department's recently updated strategic management plan that has an emphasis on innovation. The use of a crowdsourcing innovation management tool was identified to be a promising approach, successfully employed by other state transportation agencies and across the private sector in other industries. In September 2015 the Department launched the "Innovate@Caltrans" site with a trio of campaigns to elicit ideas from employees on water conservation, workplace safety, and suggestions for future campaigns. Over the course of the ensuing 12 months, over 3300 employees participated in a total of 9 campaigns, contributing close to 550 ideas. 2 ideas from a campaign were implemented during this period. 25 ideas from 3 campaigns were moved to advanced stages of the innovation process to identify next steps. The tool demonstrated how an innovation platform can be effectively leveraged to engage employees at all levels in the organization while fostering dialogue across conventional organizational boundaries. The experience gained from implementing these new processes provided an opportunity for growth moving forward with an improved innovation platform.</p>		<p>14. SPONSORING AGENCY CODE</p>	
<p>17. KEY WORDS Innovation, Innovation Management Tools, Public-Sector Innovation, Crowdsourcing</p>	<p>18. DISTRIBUTION STATEMENT No restrictions. This document is available to the public through the National Technical Information Service, Springfield, VA 22161</p>		
<p>19. SECURITY CLASSIFICATION (of this report) Unclassified</p>	<p>20. NUMBER OF PAGES 75</p>	<p>21. PRICE</p>	

DISCLAIMER STATEMENT

This document is disseminated in the interest of information exchange. The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This publication does not constitute a standard, specification or regulation. This report does not constitute an endorsement by the Department of any product described herein. For individuals with sensory disabilities, this document is available in alternate formats. For information, call (916) 654-8899, TTY 711, or write to California Department of Transportation, Division of Research, Innovation and System Information, MS-83, P.O. Box 942873, Sacramento, CA 94273-0001.

CROWDSOURCING INNOVATION AT CALTRANS

September 19, 2016

Task ID 3064

Final Report

Prepared by:

Loren L. Turner, P.E.

Division of Research, Innovation & System Information
5900 Folsom Blvd, MS-5, Sacramento, CA 95819

Kimberly A. Reilly

Office of Innovation, Risk, and Strategic Management
1120 N Street, MS 49, Sacramento, CA 95814



Caltrans Division of Research,
Innovation and System Information

(This page intentionally left blank.)

Crowdsourcing Innovation at Caltrans

Task ID 3064

Final Report Prepared by:

Loren L. Turner, P.E.

California Department of Transportation
Division of Research, Innovation and System Information
5900 Folsom Blvd., MS-5, Sacramento, CA 95819
(916) 227-7174
loren.turner@dot.ca.gov

Kimberly A. Reilly

California Department of Transportation
Office of Innovation, Risk, and Strategic Management
1120 N Street, MS 49, Sacramento, CA 95814
(916) 654-4384
kimberly.reilly@dot.ca.gov

(This page intentionally left blank.)

TABLE OF CONTENTS

TABLE OF FIGURES	11
1. INTRODUCTION	1
2. BACKGROUND	3
3. INNOVATION MANAGEMENT TOOL	5
3.1. SELECTING AN INNOVATION PLATFORM	5
3.2. CROWDSOURCING INNOVATION	6
3.3. OVERVIEW OF THE INNOVATION WORKFLOW	6
4. THE CALTRANS INNOVATION WEBSITE	9
4.1. WEBSITE ARCHITECTURE	9
4.2. LANDING PAGE	9
4.3. HOME PAGE	10
4.4. CAMPAIGN PAGE	12
4.5. SUBMIT IDEA PAGE	14
4.6. IDEA SUMMARY PAGE	15
4.7. REFINE STAGE FORM	17
4.8. EVALUATE STAGE SCORING FORM	18
5. DESCRIPTION OF CAMPAIGNS	21
5.1. IMPROVE WORKPLACE SAFETY	21
5.2. CONSERVE WATER	24
5.3. FIELD MAINTENANCE EMPLOYEE IDEAS	27
5.4. DISTRICT 11 INNOVATION EXPO 2015	32
5.5. CALTRANS EXHIBIT AT THE 2016 CALIFORNIA STATE FAIR	35
5.6. SUGGEST A FUTURE CAMPAIGN CATEGORY	37
5.7. TRANSFORM PAPER-BASED BUSINESS PROCESSES	39
5.8. IMPROVE THE INNOVATION PROCESS!	42
5.9. RENAME THE INNOVATION SITE!	44
6. OUTREACH AND EMPLOYEE PARTICIPATION	47
6.1. OUTREACH AND COMMUNICATIONS	47
6.2. ACTIVITY SUMMARY	50
6.3. PARTICIPATION BY DISTRICT AND HEADQUARTERS	50
6.4. CAMPAIGN STATUS	52
6.5. TIMELINE OF ACTIVITY	54
6.6. CAMPAIGN STATISTICS	55
7. LESSONS LEARNED	59
7.1. BREAKING DOWN ORGANIZATIONAL BARRIERS	59
7.2. INCREASING PARTICIPATION	59
7.3. SHORTENING CAMPAIGN STAGES	61

7.4.	ENLISTING PROACTIVE MODERATORS.....	63
7.5.	SUSTAINING AN INNOVATION PROGRAM.....	63
8.	SUMMARY	65

TABLE OF FIGURES

- Figure 3-1 – Caltrans Director and Chief Deputy Director at the Town Hall Meeting on Innovation..... 6
- Figure 3-2 – From good ideas to solutions..... 7
- Figure 3-3 – Innovation process..... 8
- Figure 4-1 – Website architecture 9
- Figure 4-2 – Landing page 10
- Figure 4-3 – Home page 11
- Figure 4-4 – Listing of ideas 12
- Figure 4-5 – Campaign page..... 13
- Figure 4-6 – Submit Idea form 14
- Figure 4-7 – Idea page..... 16
- Figure 4-8 – Refine stage data entry form 18
- Figure 4-9 – Evaluate stage scoring form..... 20
- Figure 5-1 – “Improve Workplace Safety” campaign main page 21
- Figure 5-2 – “Conserve Water” campaign main page..... 24
- Figure 5-3 – Postcard for idea submission 27
- Figure 5-4 – “Field Maintenance Employee Ideas” campaign main page 28
- Figure 5-5 – LED Lights on Stop/Slow Paddles 30
- Figure 5-6 – Flashing Lights and Messaging on Crash Attneutors 31
- Figure 5-7 – Exhibits at the Innovation Expo 32
- Figure 5-8 – “District 11 Innovation Expo 2015” campaign main page 33
- Figure 5-9 – “2016 California State Fair” campaign main page 35
- Figure 5-10 – “Suggest a Future Campaign Category” campaign main page 37
- Figure 5-11 – New innovation logo, name, and tag line 45
- Figure 6-1 – Innovation poster in the TransLab building lobby 48
- Figure 6-2 – Email outreach 49
- Figure 6-3 -- Postcards 50
- Figure 6-4 – Employee participation by District and Headquarters 51
- Figure 6-5 – Participation by District and Headquarters Units 52
- Figure 6-6 – Number of new users visiting the site over 12-month period..... 54
- Figure 6-7 – Ideas submitted under campaigns during 12-month period 54
- Figure 6-8 – Comments submitted to ideas during 12-month period 55
- Figure 6-9 – Votes cast for ideas during 12-month period 55
- Figure 6-10 – Breakdown of aggregate employee participation by campaign 56
- Figure 6-11 – Breakdown of employee participants by campaign 56
- Figure 6-12 – Breakdown of idea submissions by campaign 56
- Figure 6-13 – Breakdown of votes by campaign..... 57
- Figure 6-14 – Breakdown of comments by campaign 57
- Figure 7-1 – Employee participation on the innovation website 60

Figure 7-2 – Voting activity on the innovation website following all-employee emails..... 61
Figure 7-3 – Time spent in campaign stages..... 62

1. INTRODUCTION

This report documents the first year experience in launching and sustaining a web-based, crowdsourcing innovation management tool at the California Department of Transportation (Caltrans). In March 2015 an ad-hoc team of Caltrans managers and staff began exploring various strategies to further enhance a culture of innovation within the organization. The effort was motivated by the Department’s recently updated strategic management plan that has an emphasis on innovation. The use of a crowdsourcing innovation management tool was identified to be a promising approach, successfully employed by other state transportation agencies and across the private sector in other industries. In September 2015 the Department launched the “Innovate@Caltrans” site with a trio of campaigns to elicit ideas from employees on water conservation, workplace safety, and suggestions for future campaigns. Over the course of the ensuing 12 months, over 3300 employees participated in a total of 9 campaigns, contributing close to 550 ideas. 2 ideas from a campaign were implemented during this period. 25 ideas from 3 campaigns were moved to advanced stages of the innovation process to identify next steps. The tool demonstrated how an innovation platform can be effectively leveraged to engage employees at all levels in the organization while fostering dialogue across conventional organizational boundaries. The experience gained from implementing these new processes provided an opportunity for growth moving forward with an improved innovation platform.

(This page intentionally left blank.)

2. BACKGROUND

The *Innovation Leadership Team* was formed in March 2015 under the sponsorship of the Caltrans Chief Deputy Director, Kome Ajise, and was charged to explore strategies to foster a more innovate culture within the Department. A Preliminary Investigation (PI) report published by the Division of Research, Innovation and System Information (DRISI) in March 2015, “*Fostering Innovation with State Departments of Transportation*,”¹ informed the team of the current state of practice and key success factors for innovation programs at other state Departments of Transportation (DOT). The PI report noted that many of the successful innovation programs at state DOTs integrated crowdsourcing as one part of a multifaceted strategy:

“Many states described tools used for collecting innovative ideas from all agency staff: Idea Lab (Arizona), Innovators! Task Team (Florida), Operation 57 (Louisiana), Innovation Jam (Minnesota), Innovations Challenge (Missouri), IdeaLink (Pennsylvania), and IdeaWorks (Washington State). These programs have processes in place for upper-level review to determine feasibility and required next steps to put the suggested innovations into practice.”

Other factors cited in the report include having top-level leadership support of innovation programs, assuring management-level sponsors can bring ideas to implementation, having tools and processes in place to support innovation, recognizing and rewarding innovation efforts, and having a safe environment to fail while striking a balance with risk.

Innovation is a core value at the California Department of Transportation. The Innovation Leadership Team further focused its efforts on developing a common understanding of what innovation means to the Department and its employees. An important outcome of that activity was a more formalized definition of innovation:

“Innovation is the implementation of a new or significantly improved product or process that creates a public value.”

1

http://www.dot.ca.gov/newtech/researchreports/preliminary_investigations/docs/fostering_innovation_preliminary_investigation_revised_2015-07-28.pdf

(This page intentionally left blank.)

3. INNOVATION MANAGEMENT TOOL

Innovation Management Tools comprise a class of crowdsourcing software designed to support organizations in engaging staff in a type of community brainstorming activity. Typical features and workflow include idea submission, community voting and commenting, team building, idea refinement, scoring and prioritization, and tracking.

3.1. Selecting an Innovation Platform

The innovation management tool implemented by the Minnesota DOT (MN DOT) appeared to be successfully implemented and, as a result, was further evaluated by the Caltrans team. MN DOT chose the cloud-based, software-as-a-service (SaaS) platform from the Berkeley, California based company, *IdeaScale*². This platform along with several other competitive platforms were evaluated by the Caltrans Team, relying on industry trade publications, such as the one by the Forrester Group³, to help identify alternatives.

In June 2015 a Caltrans-specific demonstration site was set up on the IdeaScale platform to facilitate a more in-depth exploration of features. A 12-month subscription agreement with IdeaScale was initiated in August 2015.

The Department formally launched its web-based innovation management tool in September 2015 as a key component of its new innovation initiative. The new site was introduced by Caltrans Director, Malcolm Dougherty, and Chief Deputy Director, Kome Ajise, during a statewide Town Hall Meeting on the topic of innovation which was concurrently webcast to all-employees (Figure 3-1).

² <https://ideascale.com/>

³ http://go.spigit.com/rs/123-ABC-801/images/Forrester_Wave-Innovation_Management_Solutions_2016Q2.pdf



Figure 3-1 – Caltrans Director and Chief Deputy Director at the Town Hall Meeting on Innovation

3.2. Crowdsourcing Innovation

The term “crowdsourcing” was first introduced in 2006 in an article published in Wired magazine.⁴ The term has since been formally defined by the Merriam-Webster Dictionary as “*the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers.*”⁵ In the context of innovation, crowdsourcing is an approach where through a broad community of active participants, ideas are generated, discussed, and the most promising ideas elevated to the attention of decision makers. The success of this approach is premised on the assumption that the employees (or “crowd”) are the organization’s best resource for ideas and have the most relevant knowledge and experience to identify the key issues and possible solutions.

3.3. Overview of the Innovation Workflow

Innovation management tools incorporate a workflow built on the concept of innovation “campaigns” or “challenges.” These campaigns focus on a particular topic or problem to be solved, and are typically run over the course of weeks or months during which time ideas are elicited from the community. Campaign Sponsors play a key role in the process – they represent the organization’s leadership team and provide the authority and resources to implement ideas into practice.

⁴ <http://www.wired.com/2006/06/crowds/>

⁵ <http://www.merriam-webster.com/dictionary/crowdsourcing>

The innovation management tool is one component of a multi-stage process to get from good ideas to implemented solutions (Figure 3-2 – From good ideas to solutions). First, the most promising ideas are identified through a process of employee idea submissions, discussions, and voting on the innovation management tool. Next, teams designated by the Campaign Sponsors refine and evaluate the top voted ideas and develop recommendations on next steps towards implementation. Finally, additional teams are tasked to develop and implement innovative solutions under the sponsorship of the Innovation Leadership Team.



Figure 3-2 – From good ideas to solutions

The innovation management tool has functions to support four primary activities:

- **Idea Submission:** Employees submit new ideas, engage in discussion on ideas by others, and vote for ideas that they like.
- **Build Team:** The most promising ideas, determined by votes, are assigned by the Campaign Sponsors to a team of Subject Matter Experts (SMEs).
- **Refine:** A group of SMEs analyze, clarify, and refine the idea.
- **Evaluate:** The top ideas that have been refined by the SMEs are evaluated and scored by the Campaign Sponsors and/or a designated panel. The best ideas are selected for implementation.

Six primary stakeholder groups have responsibilities in the innovation process (Figure 3-3). These stakeholders are:

- **Administrators:** The staff responsible for ongoing operations and maintenance of the innovation management tool. Administrators publish site content, facilitate the launch of new campaigns, and respond to inquiries on technical and/or procedural issues.
- **Campaign Sponsors/ Campaign Sponsor Group:** The Campaign Sponsors are the champions of individual campaigns. They develop the campaign content, provide staff to actively moderate discussions, assign staff to SME teams, carry out evaluations, develop recommendations on how ideas should move forward, and sponsor implementation efforts.

- **Moderators:** These individuals are active participants on the innovation management tool, interacting on a daily basis with the community, engaging idea submitters in discussion, redirecting non-constructive discussions, and encouraging overall tool usage.
- **Community Members:** These are the Caltrans employees.
- **SME Teams:** Subject Matter Experts (SMEs) are assigned by Campaign Sponsors to participate in the “refine” stage to provide factual background information on the highest ranked ideas. SMEs are considered to be the Department’s experts in the specific topic area.
- **Management:** In the context of the innovation process, “management” generally refers to the Innovation Management Team, the Executive Board, and other key managers that have decision making authority in the implementation process.

During the early idea submission stage, hundreds of ideas are submitted, discussed, and voted upon. Moderators and community members are the primary participants. During the refine stage, tens of ideas are given more careful consideration. Of these, typically several ideas go forth into the implementation stage.

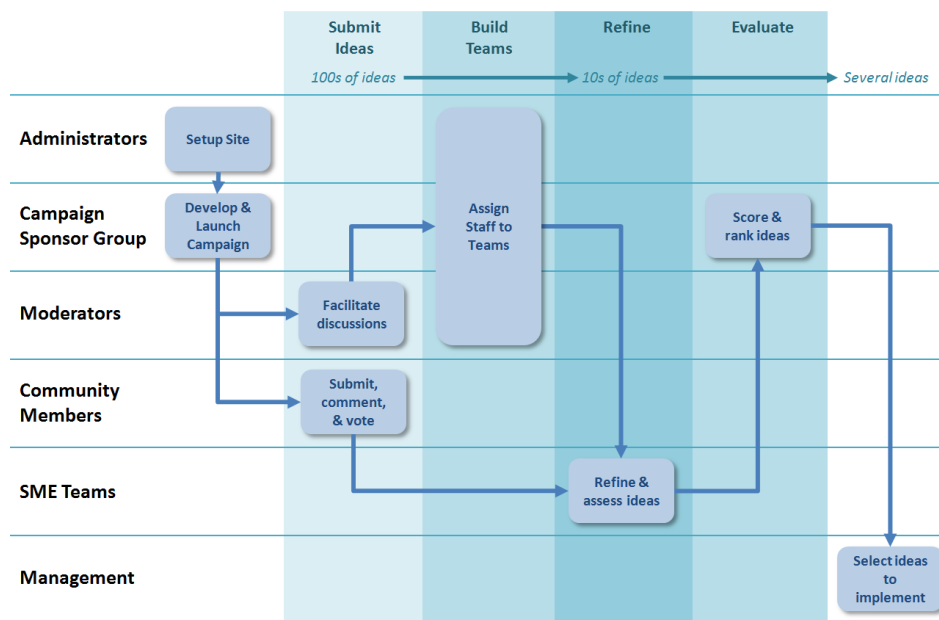


Figure 3-3 – Innovation process

A more detailed description of each stage is provided in later sections along with screenshots of the software.

4. THE CALTRANS INNOVATION WEBSITE

Caltrans implemented an online innovation management tool using the *IdeaScale* platform. The software came pre-configured with a standard, template-based architecture, similar in many ways to popular *Content Management Systems (CMS)* such as *Drupal*⁶ and *Wordpress*⁷.

4.1. Website Architecture

The overall website architecture is comprised of the landing page, home page, campaign pages, and idea pages, structured in a hierarchy as shown in Figure 4-1.

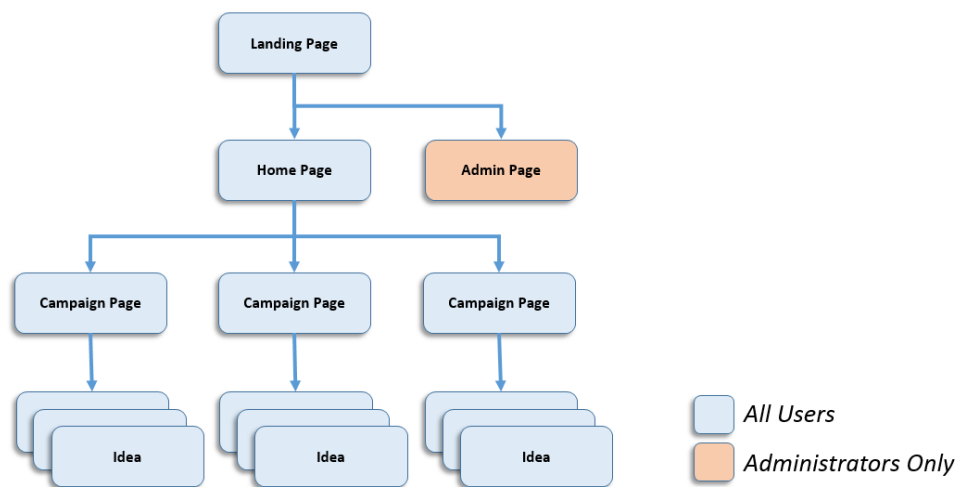


Figure 4-1 – Website architecture

A series of administrative pages are accessible to Admin users to manage users, modify site content, oversee workflow stages, and export status report data.

4.2. Landing Page

The *landing page* (Figure 4-2) serves as the main portal to the innovation tool. It introduces users to the innovation program with a short “About” section. Current campaigns are presented in the center of the page, along with images and a short description. Experienced users can click these images to jump directly to specific campaign pages, or they can click the “View & Submit Ideas” link in the top center image to go to the home page.

⁶ <https://www.drupal.org/>

⁷ <https://wordpress.com/>

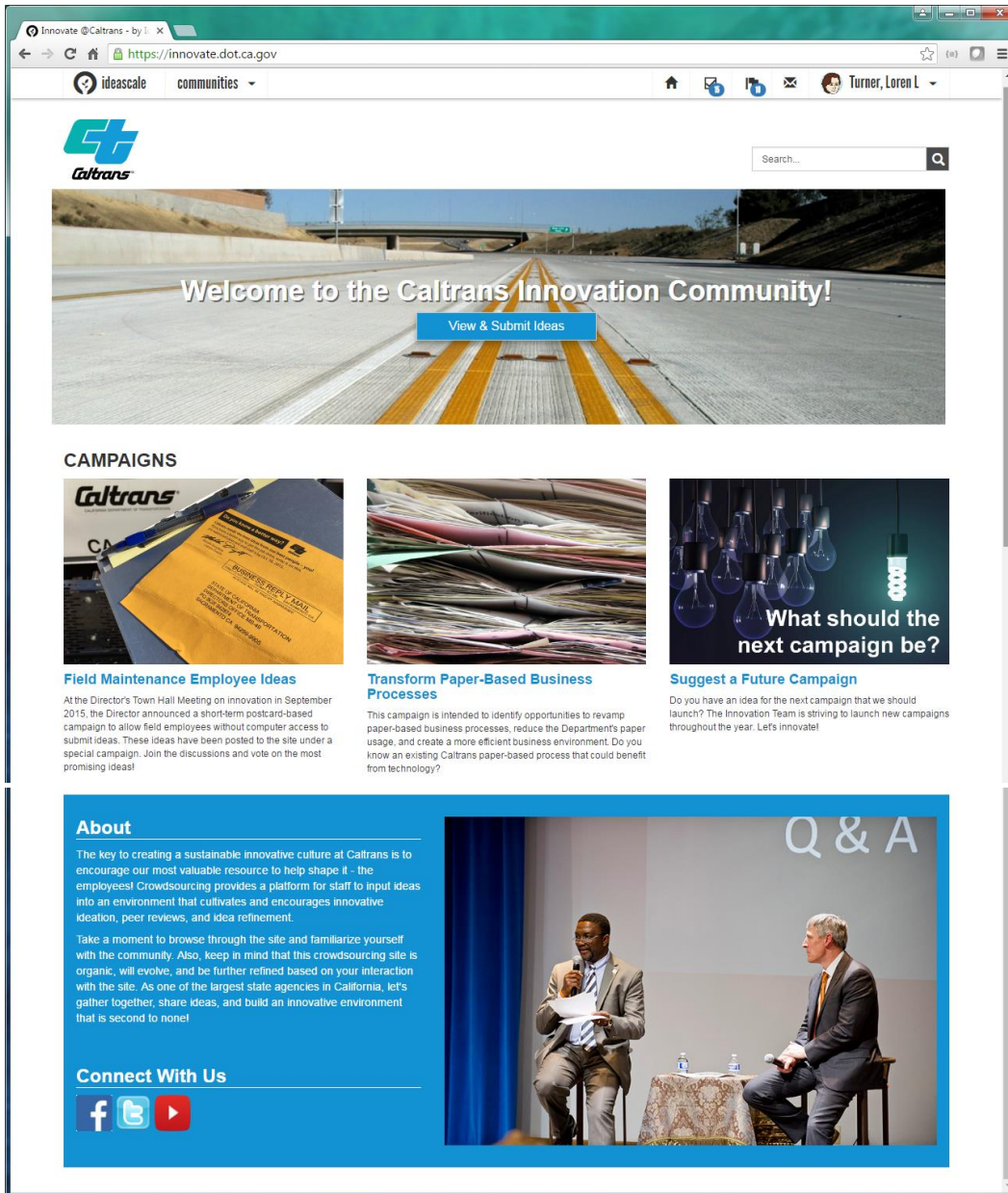


Figure 4-2 – Landing page

4.3. Home Page

The *home page* (Figure 4-3) is comprised of three main sections. The center section is used to communicate general information about the innovation tool, the status of current and closed campaigns, and any notable news items. The right sidebar provides navigational links to specific campaigns, statistics on site usage, a summation of numbers ideas within the various stages of the innovation process, the leaderboard of most active community participants, and a word cloud that graphically presents the most commonly used words in idea submissions and discussions.

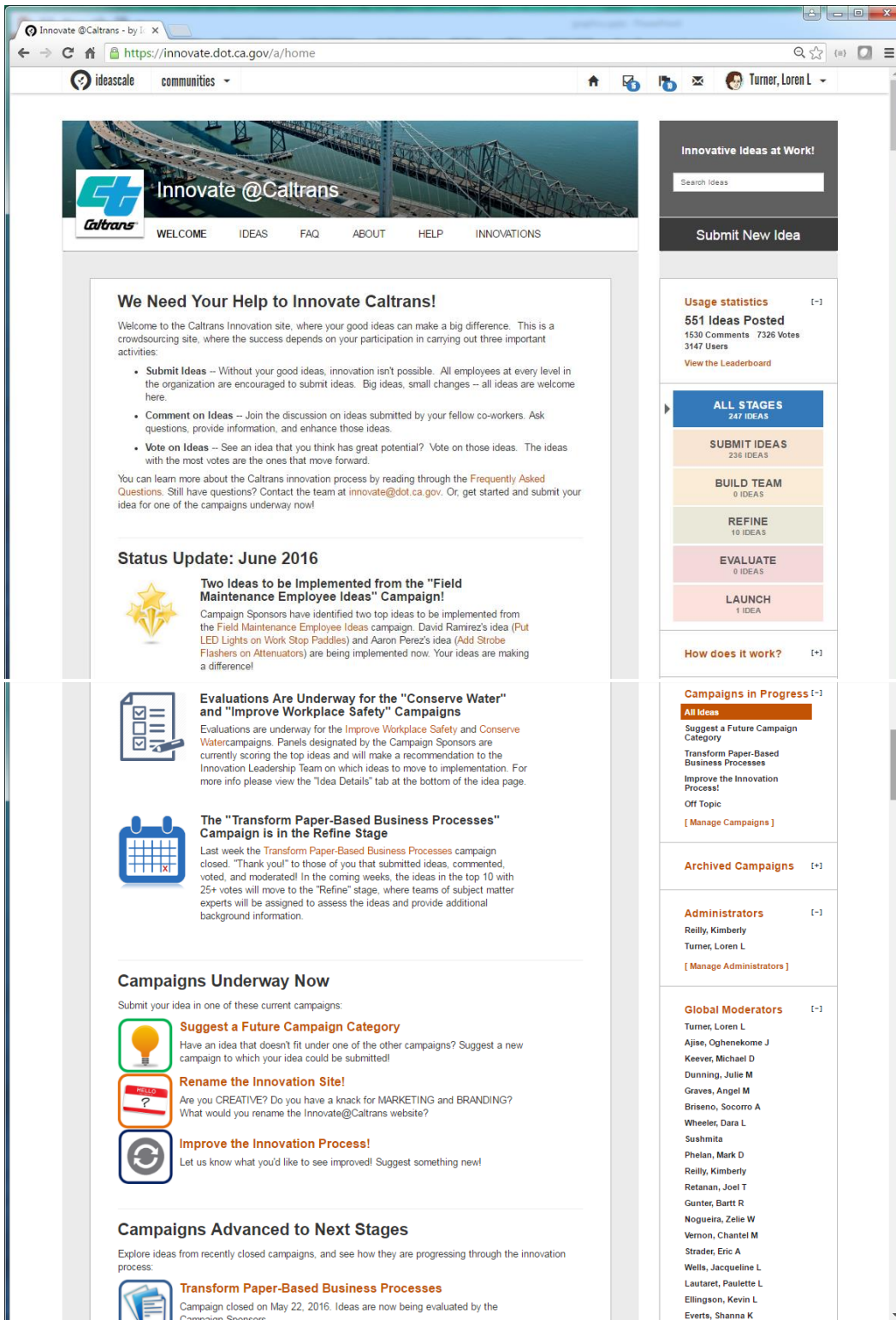


Figure 4-3 – Home page

The lower section of the home page (Figure 4-4) presents a list of all ideas submitted to the site under currently active campaigns. This form of presentation of ideas is used throughout the site on the

individual campaign pages. Ideas can be sorted by most recently submitted, popularity determined by votes, “hot” determined by a combination of votes and number of comments, or by ideas submitted by the user.

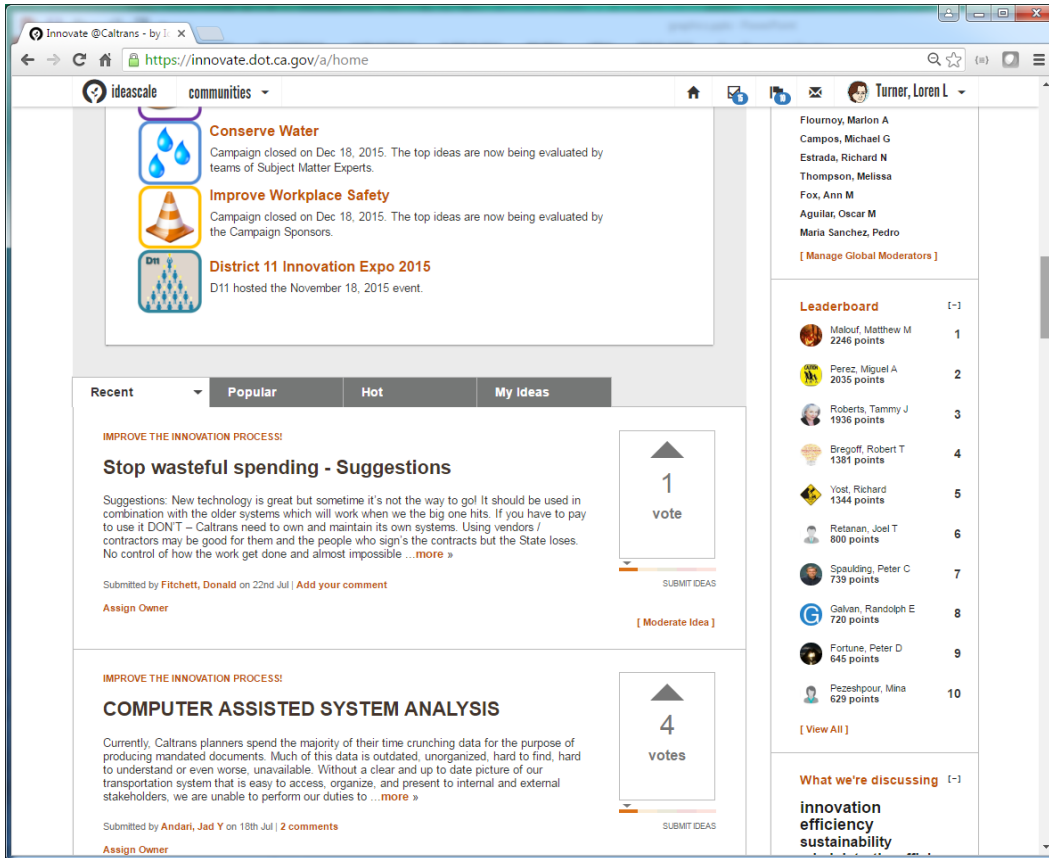


Figure 4-4 – Listing of ideas

4.4. Campaign Page

The *campaign page* (Figure 4-5) is structured nearly identical to the home page, with the central area comprised of campaign-focused content. A few notable differences exist. The statistical data in the right sidebar only shows the counts of ideas specific to the campaign being viewed. Also the upper right corner of the page displays a “Campaign Countdown” showing the number of days remaining in the campaign.

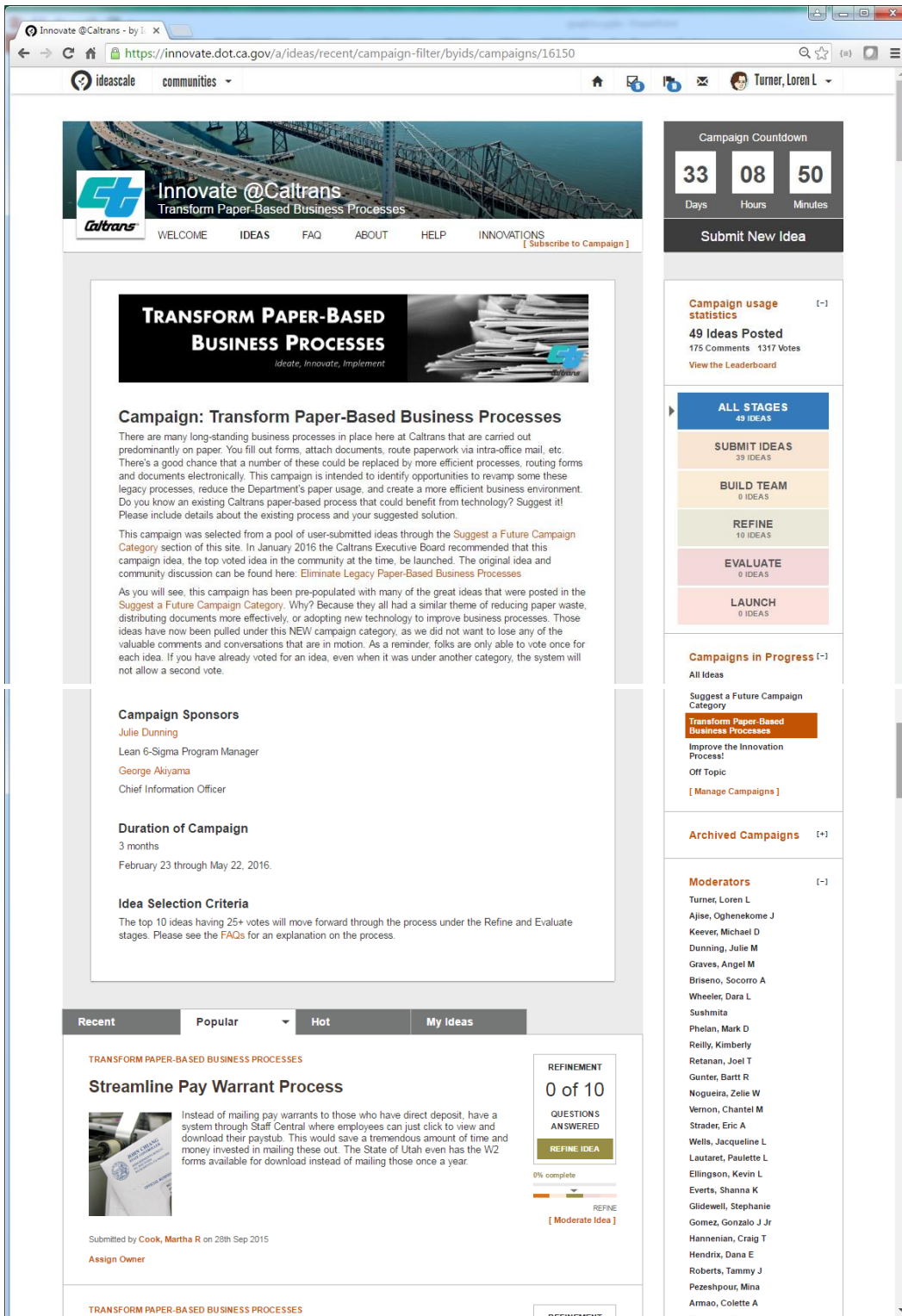


Figure 4-5 – Campaign page

4.5. Submit Idea Page

The *Submit Idea* page (Figure 4-6) provides a form to capture information about the idea. Users of the system provide, at minimum the following information:

- Idea Title
- Idea Description
- The Campaign to which the idea is being submitted

Optional information that can be provided includes:

- Tags – these are keywords that are associated with the idea
- Attachments – this can include image files and/or other relevant files

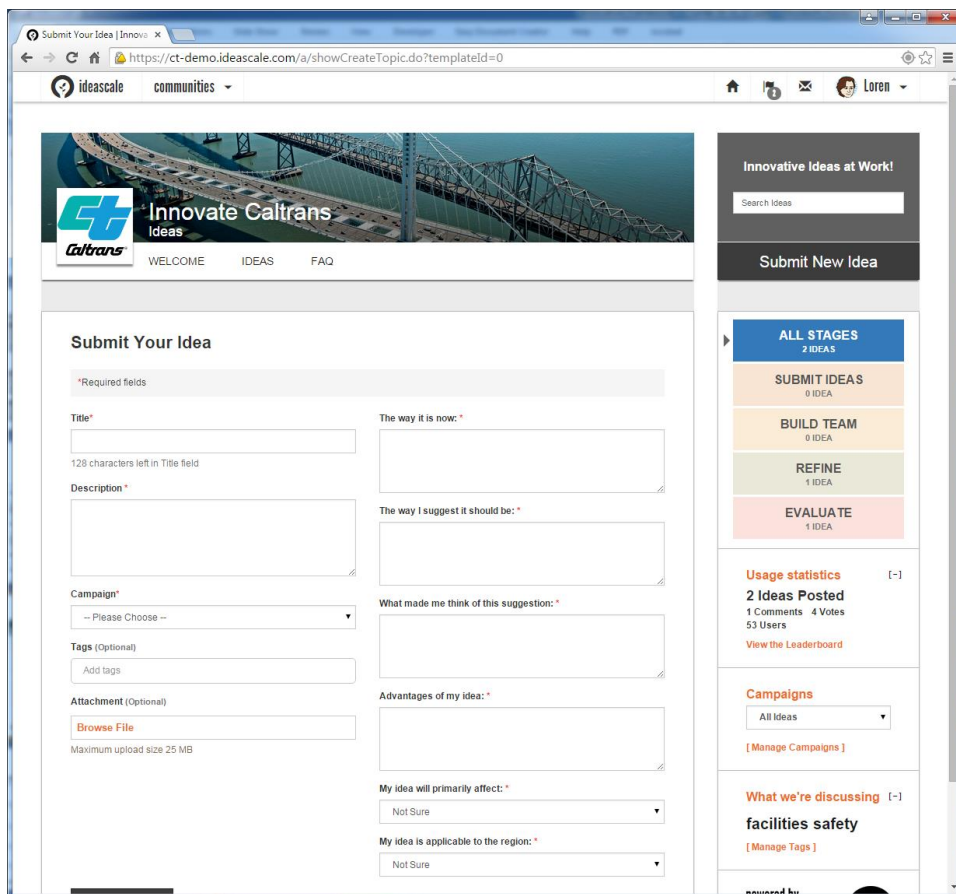
The image shows a screenshot of a web browser displaying the 'Submit Your Idea' form on the Innovate Caltrans Ideas website. The browser's address bar shows the URL: https://ct-demo.ideascale.com/a/showCreateTopic.do?templateId=0. The website header includes the Caltrans logo and navigation links for WELCOME, IDEAS, and FAQ. The main content area is titled 'Submit Your Idea' and contains a form with several fields. Required fields are marked with an asterisk (*). The form includes: a 'Title*' field with a character count of 128 characters left; a 'Description*' field; a 'Campaign*' dropdown menu with the option '-- Please Choose --'; a 'Tags (Optional)' field with an 'Add tags' button; an 'Attachment (Optional)' field with a 'Browse File' button and a note 'Maximum upload size 25 MB'; a 'The way it is now: *' text area; a 'The way I suggest it should be: *' text area; a 'What made me think of this suggestion: *' text area; a 'Advantages of my idea: *' text area; a 'My idea will primarily affect: *' dropdown menu with 'Not Sure' selected; and a 'My idea is applicable to the region: *' dropdown menu with 'Not Sure' selected. On the right side of the page, there is a sidebar with a search bar, a 'Submit New Idea' button, and a 'ALL STAGES' section showing progress for 'SUBMIT IDEAS' (0 IDEAS), 'BUILD TEAM' (0 IDEA), 'REFINE' (1 IDEA), and 'EVALUATE' (1 IDEA). Below this is a 'Usage statistics' section showing '2 Ideas Posted', '1 Comments', '4 Votes', and '53 Users'. There is also a 'Campaigns' section with a dropdown menu set to 'All Ideas' and a 'What we're discussing' section with the tag 'facilities safety'.

Figure 4-6 – Submit Idea form

The form can be further customized to meet specific information or capture requirements of the campaign. In the example in Figure 4-6, several additional required form fields are identified:

- The way it is now
- The way I suggest it should be
- What made me think of this suggestion
- Advantages of my idea
- My idea will primarily affect (functional unit)
- My idea is applicable to the region (statewide, district)

These additional questions were used in many of the campaigns, as they mirror the information collected on the standard state form STD-645, *EMPLOYEE SUGGESTION*⁸.

4.6. Idea Summary Page

The *idea summary page* (Figure 4-7) displays information provided by the idea submitter as well as any discussion comments submitted by users.

⁸ <http://www.documents.dgs.ca.gov/dgs/fmc/pdf/std645.pdf>

The screenshot displays the Ideascale website interface for a campaign titled "Streamline Pay Warrant Process". The page is viewed in a browser window with the URL <https://innovate.dot.ca.gov/a/dtd/Streamline-Pay-Warrant-Process/125124-36112#idea-tab-comments>. The top navigation bar includes "ideascale", "communities", and user information for "Turner, Loren L.". A "Campaign Countdown" shows 33 days, 08 hours, and 42 minutes remaining. The main content area features a header for "Innovate @Caltrans" and a navigation menu with "WELCOME", "IDEAS", "FAQ", "ABOUT", "HELP", and "INNOVATIONS". The campaign title "Streamline Pay Warrant Process" is prominently displayed, along with a "REFINEMENT" progress bar at "0 of 10" and a "Submit New Idea" button. A detailed description of the idea is provided, along with submission information: "Submitted by Cook, Martha R on 28th Sep 2015". A list of comments is visible, with the first comment by Armao, Colette A on 7th Oct 2015. The right sidebar contains several sections: "Campaign usage statistics" showing 49 ideas posted, 175 comments, and 1317 votes; a vertical navigation menu with stages like "ALL STAGES", "SUBMIT IDEAS", "BUILD TEAM", "REFINE", "EVALUATE", and "LAUNCH"; "Campaigns in Progress" with a list of active campaigns; and a "Leaderboard" listing top contributors with their names and point counts.

Figure 4-7 – Idea page

4.7. Refine Stage Form

During *Refine Stage*, teams of Subject Matter Experts (SME) are formed to develop responses to a series of questions about the top ideas in a campaign. SME teams are comprised of Caltrans staff that have expertise, experience, or authority in the idea's subject matter. Within a campaign the same individuals may be assigned to participate in multiple SME teams, or single SME teams may be tasked with working on multiple ideas.

A SME team Lead will organize the efforts of the team in preparing a consensus response to the refinement questions on the innovation website. SME teams can choose to carry out their work predominantly online using the innovation site or use other collaboration tools outside of website. The SME Team develops responses to ten questions:

1. Summarize the key issues and proposed solution. Refine the idea description and provide additional background details.
2. Has this been examined by others, either within Caltrans or at another organization? Explain and cite references.
3. Is there an urgency to implementing this idea? Explain.
4. What are the risks if this idea is implemented or not implemented?
5. How feasible is implementation of this idea?
6. Who are the key stakeholders necessary to implement this idea?
7. What potential barriers would prohibit successful implementation of this idea? (Include law, regulation, policy, or guidance document)
8. Can the benefits of the idea be quantified (e.g. cost, time savings, etc.)? Explain calculations and assumptions.
9. Which Department strategic goal does this idea most closely address?
 - Safety and Health
 - Stewardship and Efficiency
 - Sustainability, Livability and Economy
 - System Performance
 - Organizational Excellence
10. What resource(s) would the Department use to further develop and implement this idea?
 - A District or HQ Division would sponsor and carry out the work.
 - The HQ Lean 6-Sigma group would pursue a process improvement project.
 - An ad-hoc team comprised on staff from various Caltrans units would be tasked by Executive Management.
 - The New Products Group would evaluate the solution.
 - The Division of Research, Innovation & System Information would develop a research project to investigate the solution.

In preparing the response, the team considers the comments and discussion posted to the idea during the earlier stage. A single response is posted to the site, representing the collective response of the team. The team’s response is viewable by all Caltrans staff, the online community. Teams are encouraged to use non-technical language where possible, defining acronyms used, etc.

A form to capture the collective response of the SME team is provided on the idea page under a “Refine” tab (Figure 4-8).

The screenshot shows a web browser window displaying the 'Refine' stage of an idea on the Innovate dot CA website. The main content area is titled 'Help answer the questions below' and contains four numbered questions, each with a text input field and a 'Save Answer' button. The questions are:

- Summarize the key issues and proposed solution. Refine the idea description and provide additional background details. :
- Has this been examined by others, either within Caltrans or at another organization? Explain and cite references. :
- Is there urgency to implementing this idea? Explain. :
- What are the risks if this idea is implemented or not implemented? :

The right sidebar contains a 'Leaderboard' section with a list of users and their point counts:

Rank	User	Points
1	Melouf, Matthew M	2246 points
2	Perez, Miguel A	2035 points
3	Roberts, Tammy J	1936 points
4	Bregoff, Robert T	1381 points
5	Yost, Richard	1344 points
6	Retanan, Joel T	811 points
7	Spaulding, Peter C	739 points
8	Galvan, Randolph E	720 points
9	Fortune, Peter D	645 points
10	Pezeshpour, Mina	629 points

Figure 4-8 – Refine stage data entry form

4.8. Evaluate Stage Scoring Form

During the *Evaluate Stage*, a panel is established by the campaign sponsors to score the idea against a set of criteria. The *Evaluate* stage is the final stage that is carried out on the innovation website. Although hundreds of ideas are typically submitted over the course of a campaign, typically ten or fewer ideas progress through the *Refine* stage where SMEs provide background facts and information. These refined ideas are subsequently evaluated by a panel designated by the Campaign Sponsors in the *Evaluate* stage.

To support the work in the stage, the Campaign Sponsor identifies a panel of individuals to review the ideas under consideration, rates the ideas against pre-defined criteria, and provides recommendations to the Innovation Leadership Team on which ideas to pursue. The panel can be comprised of as many or few people as deemed appropriate by the Campaign Sponsor.

For each idea assigned for evaluation, the panelist navigates to the idea on the website, and completes the form at the bottom of the page in the Evaluate section. Five criteria are presented. Evaluators indicate a relative strength score on a 1-5 star scale, with higher numbers representing stronger agreement with the criterion.

- **Strategic Alignment** – The extent to which the proposed idea aligns with the Department's goals and objectives.
- **Impact and Reach** – Extent to which the solution will benefit a large number of employees.
- **Feasibility** – The extent to which the Department could implement the solution technically, procedurally and operationally.
- **Innovative Approach** – The extent to which the solution is unique and has not been done before.
- **Return on Investment** – The potential impact of the idea relative to the effort of implementation

Panelists that are identified to carry out the evaluations are given special rights within the system to carry out the scoring. Although other users will see an aggregate score for the idea, they do not see the individual evaluator's score. During the scoring process, each evaluator can use the "Add Review Note" function to add comments to convey to the Campaign Sponsors. In general, evaluators are encouraged to consider (1) the factual information developed by Subject Matter Experts during the Refine stage, (2) the original idea submission and the author's information, and (3) the comments and discussion thread associated with this idea.

A form to capture the scores is provided on the idea page under an "Evaluate" tab (4-9). Scoring is carried out on a subjective 1-5 star scale. The criteria is as follows:

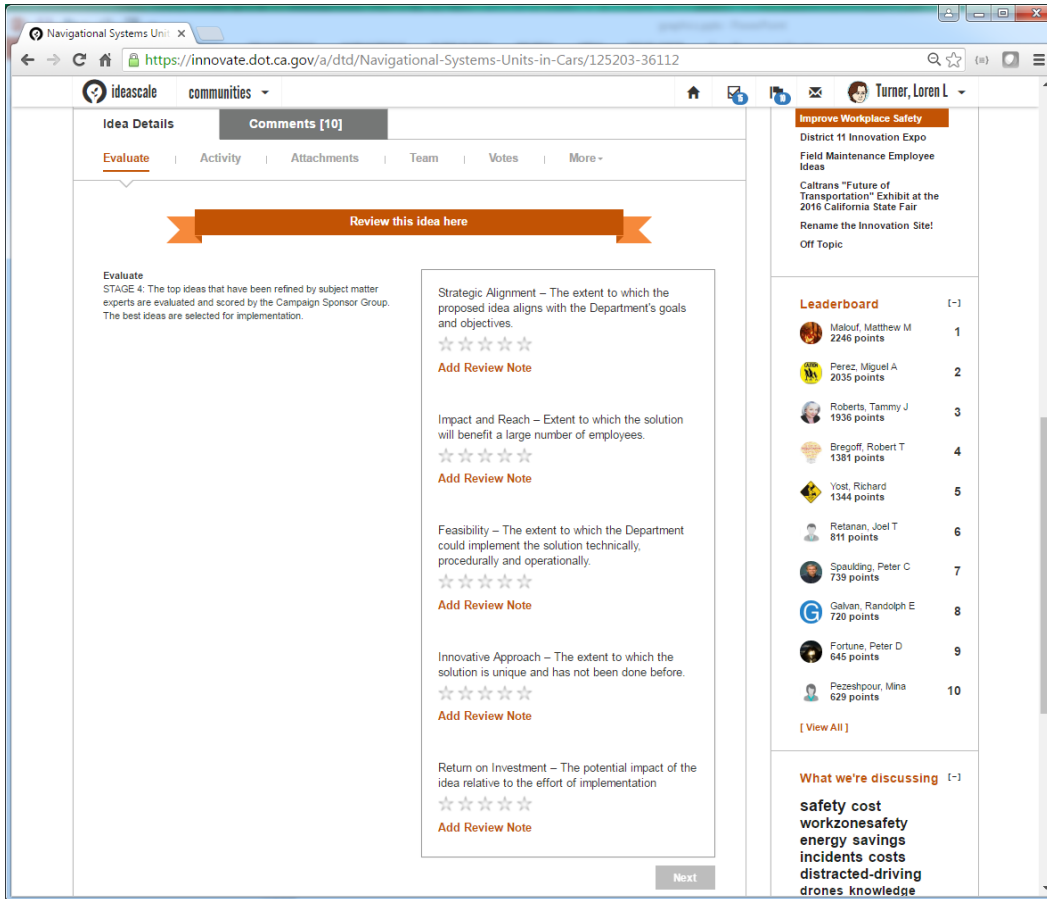


Figure 4-9 – Evaluate stage scoring form

5. DESCRIPTION OF CAMPAIGNS

Over the course of the first year of operations of the innovation website, a total of nine campaigns were carried out. At the time of writing this report, eight of the nine campaigns had concluded and were in the latter stages of the innovation process.

5.1. Improve Workplace Safety

As one of the first campaigns launched, the “Improve Workplace Safety” campaign was intended to engage all employees to come up with ideas relating to their work environment. The campaign was introduced in September 2015 during the *Director’s Town Hall Meeting on Innovation*⁹. The main campaign page is shown in Figure 5-1.

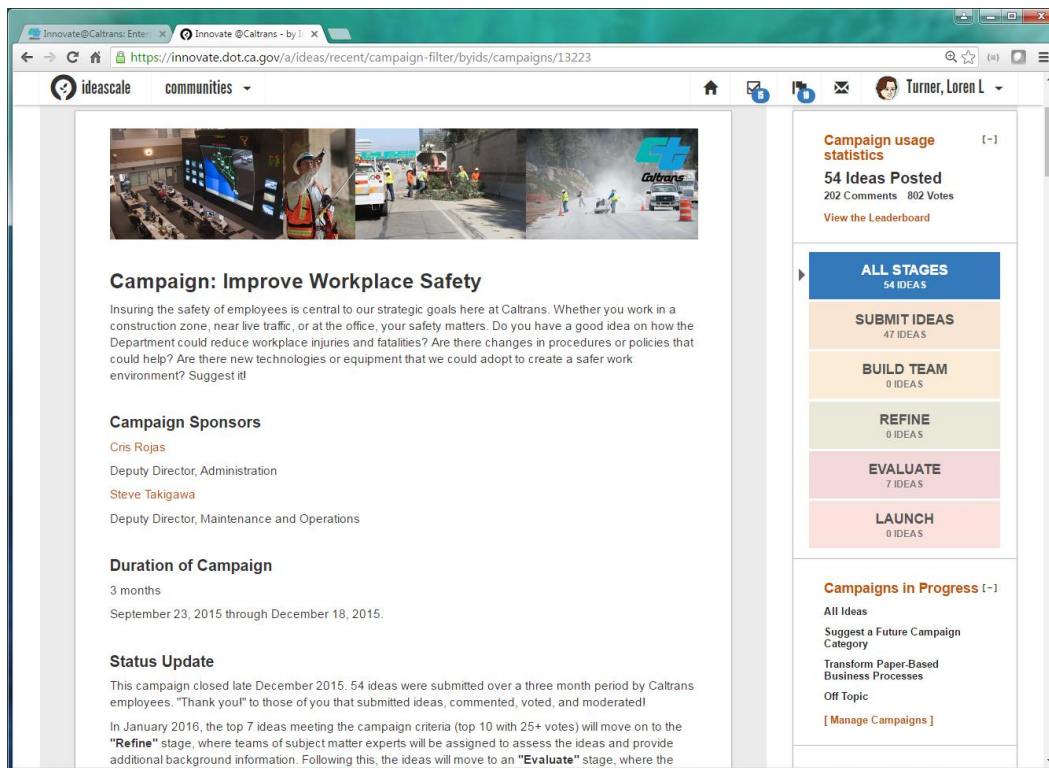


Figure 5-1 – “Improve Workplace Safety” campaign main page

⁹ http://svgcstream01.dot.ca.gov/webcast/director/vod_townhall.asp

5.1.1. Campaign Details

Details of the campaign are summarized in Table 5-1.

Table 5-1 – Campaign Details

Title	Improve Workplace Safety
Description	Insuring the safety of employees is central to our strategic goals here at Caltrans. Whether you work in a construction zone, near live traffic, or at the office, your safety matters. Do you have a good idea on how the Department could reduce workplace injuries and fatalities? Are there changes in procedures or policies that could help? Are there new technologies or equipment that we could adopt to create a safer work environment? Suggest it!
Duration	3 months, September 23, 2015 through December 18, 2015.
Sponsor(s)	Cris Rojas, Deputy Director, Administration Steve Takigawa, Deputy Director, Maintenance and Operations

5.1.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-2.

Table 5-2 – Employee Participation

Ideas Posted	54
Votes	802
Comments	202

5.1.3. Campaign Outcomes

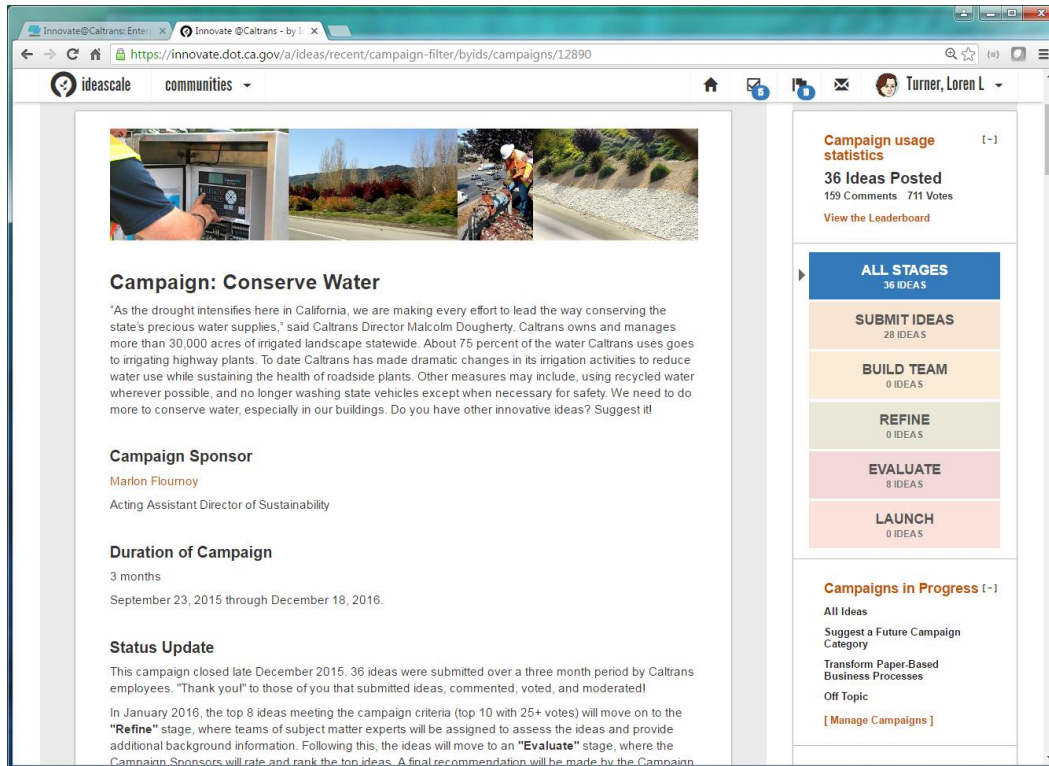
The campaign closed late December 2015. 54 ideas were submitted over a three month period by Caltrans employees. In January 2016, the top 7 ideas meeting the campaign criteria (top 10 with 25+ votes) moved on to the "Refine" stage, where teams of subject matter experts were assigned to assess the ideas and provide additional background information. In May 2016, the ideas progressed to the *Evaluate* stage, where a team designated by the Campaign Sponsors scored and ranked the top ideas. The results of the scoring are presented in Table 5-3. At the time of report preparation, preliminary recommendations were being developed by the Campaign Sponsors for consideration by the Innovation Leadership Team.

Table 5-3 – Scoring summary and recommendations

Idea	Votes	Evaluation Score	Rank
Active Shooter Awareness Training	25	4.20	1
Certified Industrial Hygienists (CIH)s	40	4.13	2
LED embedded lights in worker clothing	52	3.80	3
Glare-Free Nighttime Construction Lighting	76	3.60	4
Improve Security at Caltrans Facilities	28	3.40	5
Drones in Confined Areas	67	3.15	6
Navigational Systems Units in Cars	82	1.79	7

5.2. Conserve Water

In parallel with the “Improve Workplace Safety” campaign, the “Conserve Water” campaign was developed to encourage Caltrans employees to think of ideas relating to water conservation to help with the ongoing drought in California. The campaign was introduced in September 2015 during the *Director’s Town Hall Meeting on Innovation*¹⁰. The main campaign page is shown in Figure 5-2.



The screenshot shows the main page of the "Conserve Water" campaign on the Innovate@Caltrans website. The page is titled "Campaign: Conserve Water" and features a header image showing a person working on a water conservation device. The main content area includes a description of the campaign, the sponsor (Marlon Floumoy, Acting Assistant Director of Sustainability), the duration (3 months, September 23, 2015 through December 18, 2016), and a status update. The status update mentions that 36 ideas were submitted and that the top 8 ideas will move on to the "Refine" stage.

Campaign: Conserve Water

"As the drought intensifies here in California, we are making every effort to lead the way conserving the state's precious water supplies," said Caltrans Director Malcolm Dougherty. Caltrans owns and manages more than 30,000 acres of irrigated landscape statewide. About 75 percent of the water Caltrans uses goes to irrigating highway plants. To date Caltrans has made dramatic changes in its irrigation activities to reduce water use while sustaining the health of roadside plants. Other measures may include, using recycled water wherever possible, and no longer washing state vehicles except when necessary for safety. We need to do more to conserve water, especially in our buildings. Do you have other innovative ideas? Suggest it!

Campaign Sponsor
Marlon Floumoy
Acting Assistant Director of Sustainability

Duration of Campaign
3 months
September 23, 2015 through December 18, 2016.

Status Update
This campaign closed late December 2015. 36 ideas were submitted over a three month period by Caltrans employees. "Thank you" to those of you that submitted ideas, commented, voted, and moderated!
In January 2016, the top 8 ideas meeting the campaign criteria (top 10 with 25+ votes) will move on to the "Refine" stage, where teams of subject matter experts will be assigned to assess the ideas and provide additional background information. Following this, the ideas will move to an "Evaluate" stage, where the Campaign Sponsors will rate and rank the top ideas. A final recommendation will be made by the Campaign

Campaign usage statistics [-]
36 Ideas Posted
159 Comments 711 Votes
[View the Leaderboard](#)

ALL STAGES 36 IDEAS
SUBMIT IDEAS 28 IDEAS
BUILD TEAM 0 IDEAS
REFINE 0 IDEAS
EVALUATE 8 IDEAS
LAUNCH 0 IDEAS

Campaigns in Progress [-]
All Ideas
[Suggest a Future Campaign Category](#)
[Transform Paper-Based Business Processes](#)
[Off Topic](#)
[\[Manage Campaigns \]](#)

Figure 5-2 – “Conserve Water” campaign main page

¹⁰ http://svgcstream01.dot.ca.gov/webcast/director/vod_townhall.asp

5.2.1. Campaign Details

Details of the campaign are summarized in Table 5-4.

Table 5-4 – Campaign Details

Title	Conserve Water
Description	“As the drought intensifies here in California, we are making every effort to lead the way conserving the state’s precious water supplies,” said Caltrans Director Malcolm Dougherty. Caltrans owns and manages more than 30,000 acres of irrigated landscape statewide. About 75 percent of the water Caltrans uses goes to irrigating highway plants. To date Caltrans has made dramatic changes in its irrigation activities to reduce water use while sustaining the health of roadside plants. Other measures may include, using recycled water wherever possible, and no longer washing state vehicles except when necessary for safety. We need to do more to conserve water, especially in our buildings. Do you have other innovative ideas? Suggest it!
Duration	3 months, September 23, 2015 through December 18, 2015.
Sponsor(s)	Marlon Flournoy, Acting Assistant Director of Sustainability

5.2.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-5.

Table 5-5 – Employee Participation

Ideas Posted	36
Votes	711
Comments	159

5.2.3. Campaign Outcomes

The campaign closed late December 2015. 36 ideas were submitted over a three month period by Caltrans employees. In January 2016, the top 8 ideas meeting the campaign criteria (top 10 with 25+ votes) moved on to the "Refine" stage, where teams of subject matter experts were assigned to assess the ideas and provide additional background information. In May 2016, the ideas progressed to the *Evaluate* stage, where a team designated by the Campaign Sponsors scored and ranked the top ideas. The results of the scoring are presented in Table 5-6. At the time of report preparation, preliminary recommendations were being developed by the Campaign Sponsors for consideration by the Innovation Leadership Team.

Table 5-6 – Scoring summary and recommendations

Idea	Votes	Evaluation Score	Rank
Make it Modern - Highway Landscaping	41	4.13	1
Caltrans Water Partners' Program	52	3.00	2
Use Desert Landscape to Save Water	108	2.97	3
Conserving Water in Our Restrooms	78	2.88	4
Use Grey Water from Facilities for Irrigation	26	2.63	5
Recycling Unused Water	35	2.50	6
Rain Barrels and/or Cisterns at State Facilities	90	2.47	7
Check Sprinklers for Leaks	37	2.47	8

5.3. Field Maintenance Employee Ideas

The “Field Maintenance Employee Ideas” campaign was launched in September 2015 during the *Director’s Town Hall Meeting on Innovation*¹¹ to specifically support Caltrans staff without access to Department computers. In contrast to the other campaigns, ideas were submitted on handwritten postcards (Figure 5-3) over the course of a month and then entered into the innovation website manually afterwards.



Figure 5-3 – Postcard for idea submission

No new submissions were allowed through the website. However, voting and commenting features were enabled over the course of two months to allow the community to identify the most promising ideas. The main campaign page is shown in Figure 5-4.

¹¹ http://svgcstream01.dot.ca.gov/webcast/director/vod_townhall.asp

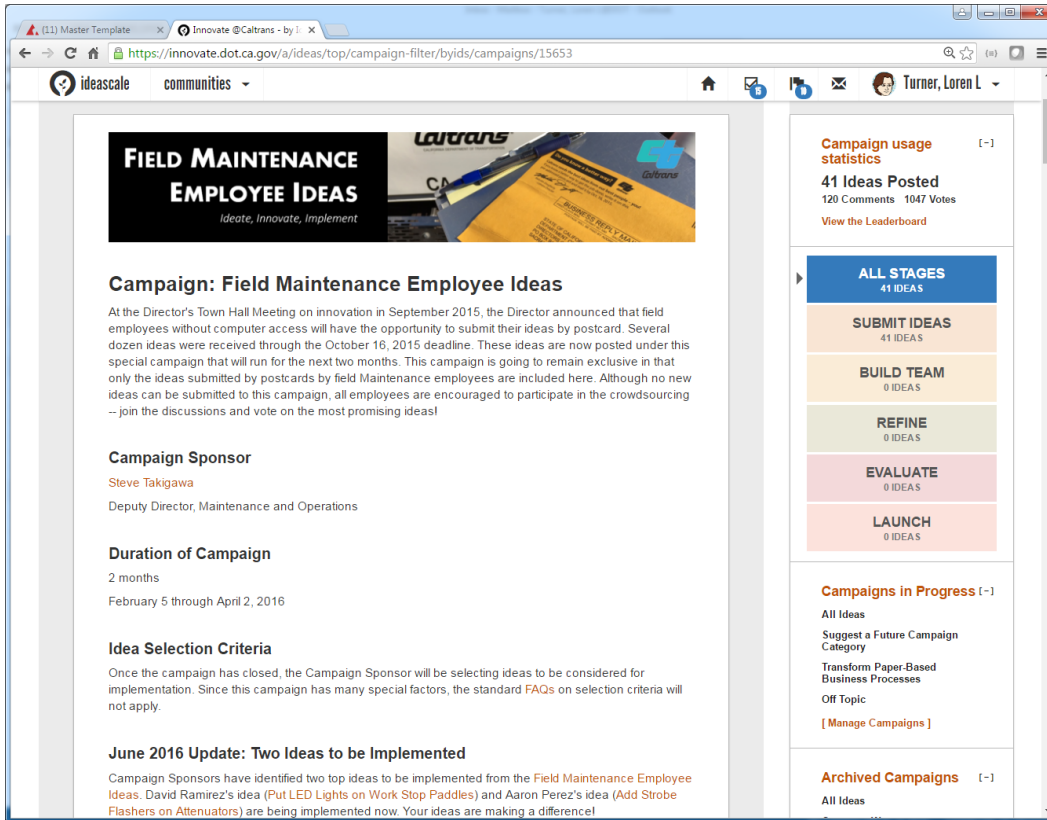


Figure 5-4 – “Field Maintenance Employee Ideas” campaign main page

5.3.1. Campaign Details

Details of the campaign are summarized in Table 5-7.

Table 5-7 – Campaign Details

Title	Field Maintenance Employee Ideas
Description	At the Director's Town Hall Meeting on innovation in September 2015, the Director announced that field employees without computer access will have the opportunity to submit their ideas by postcard. Several dozen ideas were received through the October 16, 2015 deadline. These ideas are now posted under this special campaign that will run for the next two months. This campaign is going to remain exclusive in that only the ideas submitted by postcards by field Maintenance employees are included here. Although no new ideas can be submitted to this campaign, all employees are encouraged to participate in the crowdsourcing -- join the discussions and vote on the most promising ideas!
Duration	2 months, February 5 through April 2, 2016
Sponsor(s)	Steve Takigawa, Deputy Director, Maintenance and Operations

5.3.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-8.

Table 5-8 – Employee Participation

Ideas Posted	41
Votes	1047
Comments	120

5.3.3. Campaign Outcomes

The campaign closed in April 2015. 41 ideas were submitted by postcards over a one month period by Caltrans Maintenance employees. The standard innovation stages (i.e. Refine, Evaluation) were not used for this campaign, due to the unique idea collection approach and short time frame. In June 2016, the Campaign Sponsor selected the top two most highly voted ideas for further implementation. Those outcomes are summarized in Figure 5-5 and Figure 5-6.

LED LIGHTS ON STOP/SLOW PADDLES

Caltrans Maintenance workers are faced with the hazards of live traffic on a daily basis. Alerting motorists to our presence can often be a challenge. Having seen LED Stop/Slow paddles used by others, David Ramirez, Caltrans Maintenance, submitted a suggestion on the *Innovate@Caltrans* site that these paddles be made available to all Maintenance units.

This wasn't just another good idea – it turned out to be the number 1 voted idea under the "Field Maintenance Employee Ideas" campaign, getting support from all levels in the Department. As a result, these paddles are now on order and will soon be available as a standard item statewide through the DPAC Sacramento Warehouse*.



*Warehouse: <http://dpac.onramp.dot.ca.gov/warehouse>

Innovate@Caltrans



Caltrans

innovate.dot.ca.gov

Figure 5-5 – LED Lights on Stop/Slow Paddles



FLASHING LIGHTS & MESSAGING ON CRASH ATTENUATORS

Using the attenuator as a message board that says, "Slow down or move over - It's the law!" was part of the idea that District 11 Equipment Operator II, Aaron Perez, submitted last October when asked what innovative idea he would suggest for Caltrans to implement. The other part was to install flashing lights on the attenuators which are activated while the box is lowered or raised.

This idea, along with several others submitted by Aaron's peers, was crowdsourced on Caltrans' new Innovate@Caltrans website. Collecting over a hundred votes, this idea caught the eye of Deputy Director of Maintenance and Operations, Steve Takigawa. Steve is the executive sponsor for the Field Maintenance Employee Campaign, and he appreciated this multifaceted idea because of its dual purpose of worker safety and public awareness.

Moving forward, flashing amber lights will be installed on all new attenuators purchased by the Division of Equipment. As far as the exact messaging on the attenuators, the general idea was a good one and will be run by Public Affairs for current campaign slogans so that we stay consistent with our messaging statewide.

Keep an eye out for these new attenuators with a new safety message and flashing lights and remember that innovative thinking outside the box begins at Innovate@Caltrans!

Figure 5-6 – Flashing Lights and Messaging on Crash Attenuators

5.4. District 11 Innovation Expo 2015

The “District 11 Innovation Expo 2015” campaign was launched in November 2015 in support of the District’s annual Innovation Expo¹². The annual event occurs mid-day at the District 11 Headquarters building in San Diego and features booths and displays from Department staff and local vendors on innovative products and methods (Figure 5-7). The event was organized by the District 11 Innovation Leadership Team.



Figure 5-7 – Exhibits at the Innovation Expo

During past events a suggestion box at one of the booths was used to elicit ideas from staff. The team requested that a campaign be established (Figure 5-8) to run the course of the week of the Innovation Expo to support idea collection in addition to the suggestion box.

¹² http://www.dot.ca.gov/dist11/departments/planning/presentations/CEAL/2016_Innovation_Expo.ppsx

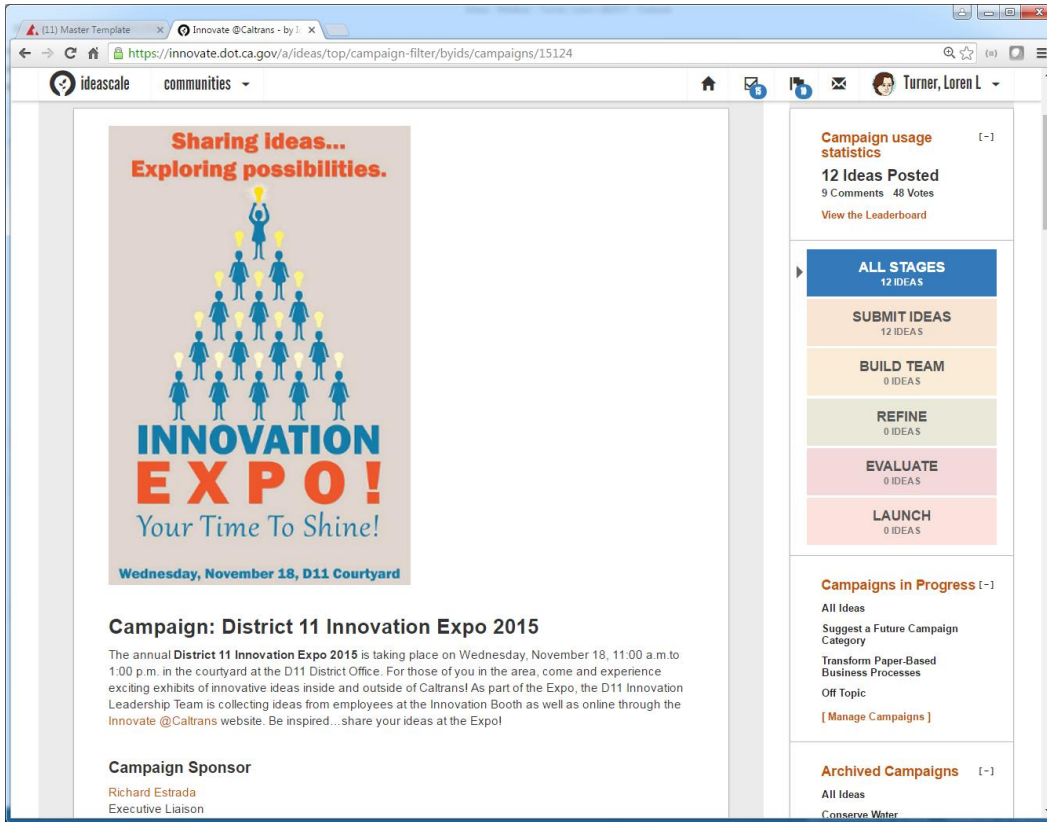


Figure 5-8 – “District 11 Innovation Expo 2015” campaign main page

5.4.1. Campaign Details

Details of the campaign are summarized in Table 5-9.

Table 5-9 – Campaign Details

Title	District 11 Innovation Expo 2015
Description	The annual District 11 Innovation Expo 2015 is taking place on Wednesday, November 18, 11:00 a.m. to 1:00 p.m. in the courtyard at the D11 District Office. For those of you in the area, come and experience exciting exhibits of innovative ideas inside and outside of Caltrans! As part of the Expo, the D11 Innovation Leadership Team is collecting ideas from employees at the Innovation Booth as well as online through the Innovate @Caltrans website. Be inspired...share your ideas at the Expo!
Duration	1 week, November 18, 2015 through November 24, 2015
Sponsor(s)	Richard Estrada, Chair, D11 Innovation Leadership Team

5.4.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-10.

Table 5-10 – Employee Participation

Ideas Posted	12
Votes	48
Comments	9

5.4.3. Campaign Outcomes

At the conclusion of the week-long campaign, 12 ideas had been submitted by Caltrans District 11 employees. Ideas captured on paper forms through the on-site suggestion box were not uploaded to the website. The standard innovation stages (i.e. Refine, Evaluation) and tools on the website were not used by the Campaign Sponsors. The selection of ideas to move forward and subsequent communications were carried out by the District team outside of the innovation platform.

5.5. Caltrans Exhibit at the 2016 California State Fair

In preparation for the 2016 California State Fair¹³, Caltrans representatives on a State Fair planning committee were asked for ideas for a multi-agency transportation exhibit. A ten day campaign was initiated to elicit ideas from Caltrans employees (Figure 5-9).

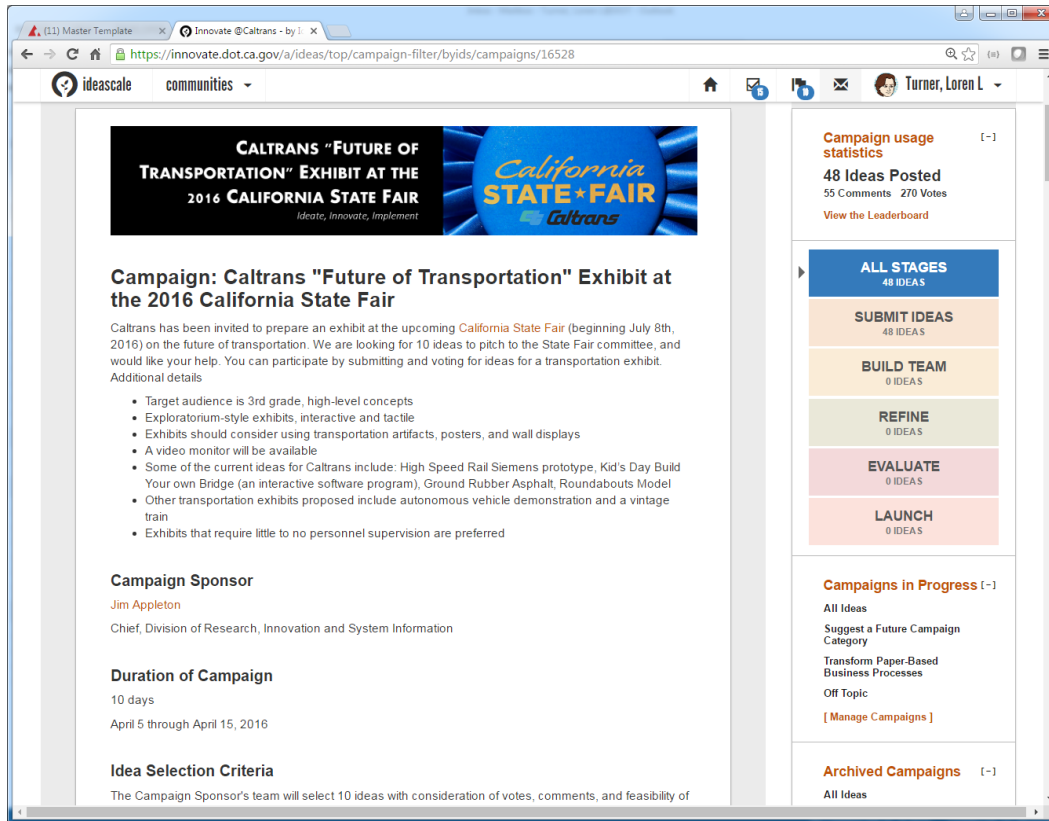


Figure 5-9 – “2016 California State Fair” campaign main page

5.5.1. Campaign Details

Details of the campaign are summarized in Table 5-11.

¹³ <http://www.castatefair.org/exhibits/>

Table 5-11 – Campaign Details

Title	Caltrans "Future of Transportation" Exhibit at the 2016 California State Fair
Description	<p>Caltrans has been invited to prepare an exhibit at the upcoming California State Fair (beginning July 8th, 2016) on the future of transportation. We are looking for 10 ideas to pitch to the State Fair committee, and would like your help. You can participate by submitting and voting for ideas for a transportation exhibit. Additional details</p> <ul style="list-style-type: none"> • Target audience is 3rd grade, high-level concepts • Exploratorium-style exhibits, interactive and tactile • Exhibits should consider using transportation artifacts, posters, and wall displays • A video monitor will be available • Some of the current ideas for Caltrans include: High Speed Rail Siemens prototype, Kid’s Day Build Your own Bridge (an interactive software program), Ground Rubber Asphalt, Roundabouts Model • Other transportation exhibits proposed include autonomous vehicle demonstration and a vintage train • Exhibits that require little to no personnel supervision are preferred
Duration	10 days, April 5 through April 15, 2016
Sponsor(s)	Jim Appleton, Chief, Division of Research, Innovation and System Information

5.5.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-12.

Table 5-12 – Employee Participation

Ideas Posted	48
Votes	270
Comments	55

5.5.3. Campaign Outcomes

The Caltrans community came up with 48 ideas over the course of the short campaign. These ideas were considered along with those put forth by the other transportation partner agencies. The organizing committee used the collective pool of ideas from the partners to develop the exhibit, which was renamed, *“California on the Move: Air, Land and Sea.”* The exhibit included the displays: *“A Transit in Time,” “High Speed Rail, Bicycles: From the Past to the Future,” “Google Self Driving Car,” “Caltrans History,” “Autonomous Flying Vehicles,” “The Future of Transportation,”* in addition to an electric vehicle display.

5.6. Suggest a Future Campaign Category

As the innovation process was structured around time-limited, focused campaigns, a catch-all “suggestion box” feature wasn’t implemented to capture those ideas that didn’t fit under active campaigns. The decision to omit this feature was intentional, as staff resources necessary to manage an open-ideation suggestion box and associated processes were not available. Consultation with IdeaScale representatives and other organizational users suggested that an “open suggestion box” feature could potentially cause community failure by inundating the platform. In order to address this need, a separate ongoing campaign was set up (Figure 5-10). Employees were encouraged to submit ideas for future campaign categories, rather than a specific issue and/or solution. Specifically, these ideas were to be more general, high level topic areas (categories), intended to inspire lots of related ideas from other employees.

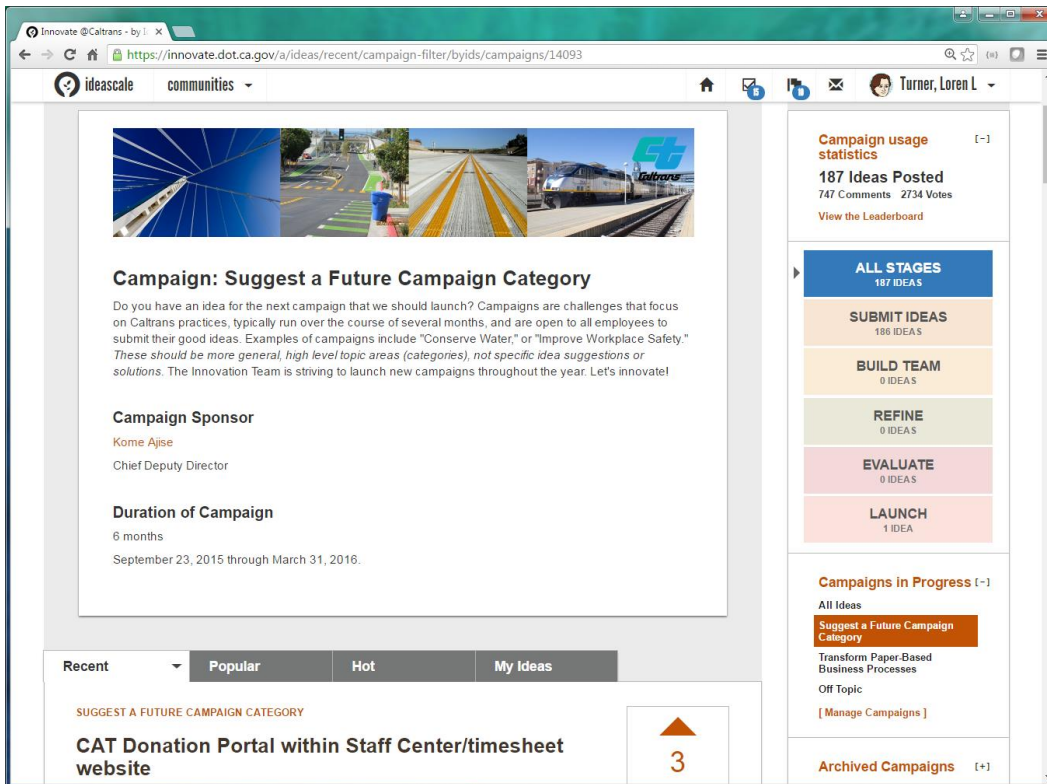


Figure 5-10 – “Suggest a Future Campaign Category” campaign main page

5.6.1. Campaign Details

Details of the campaign are summarized in Table 5-13.

Table 5-13 – Campaign Details

Title	Suggest a Future Campaign Category
Description	Do you have an idea for the next campaign that we should launch? Campaigns are challenges that focus on Caltrans practices, typically run over the course of several months, and are open to all employees to submit their good ideas. Examples of campaigns include "Conserve Water," or "Improve Workplace Safety." These should be more general, high level topic areas (categories), not specific idea suggestions or solutions. The Innovation Team is striving to launch new campaigns throughout the year. Let's innovate!
Duration	Ongoing
Sponsor(s)	Kome Ajise, Chief Deputy Director

5.6.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-14.

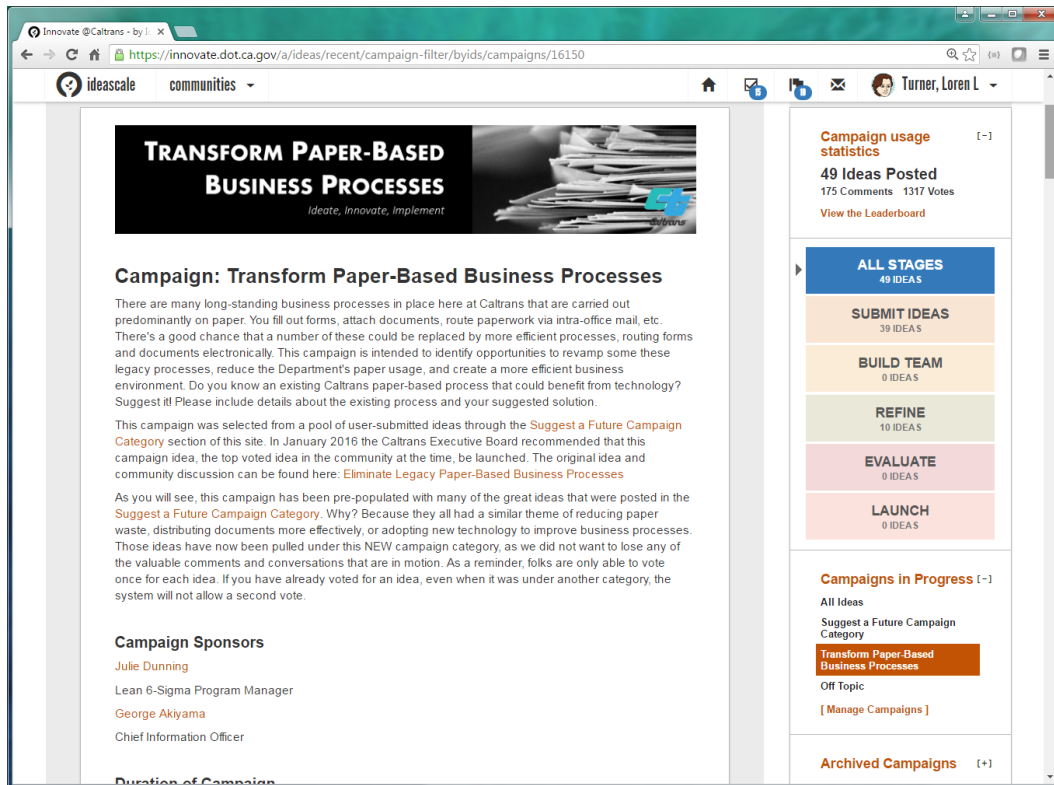
Table 5-14 – Employee Participation

Ideas Posted	187
Votes	2734
Comments	747

5.6.3. Campaign Outcomes

This campaign elicited a wide range of ideas from employees. While the vast majority of the 187 ideas submitted were very specific in nature, there were a small subset of suggestions that were more aligned with the intent of the campaign to come up with more general campaign ideas. In January 2016 the highest voted idea, titled "*Campaign Idea: Eliminate Legacy Paper-Based Business Processes,*" was selected by the Innovation Leadership Team to move forward as a stand-alone campaign. This campaign was launched in February 2016 and several ideas from the *Suggest a Future Campaign Category* with similar focus were moved into this new campaign at launch.

5.7. Transform Paper-Based Business Processes



5.7.1. Campaign Details

Details of the campaign are summarized in Table 5-15.

Table 5-15 – Campaign Details

Title	Transform Paper-Based Business Processes
Description	<p>There are many long-standing business processes in place here at Caltrans that are carried out predominantly on paper. You fill out forms, attach documents, route paperwork via intra-office mail, etc. There's a good chance that a number of these could be replaced by more efficient processes, routing forms and documents electronically. This campaign is intended to identify opportunities to revamp some these legacy processes, reduce the Department's paper usage, and create a more efficient business environment. Do you know an existing Caltrans paper-based process that could benefit from technology? Suggest it! Please include details about the existing process and your suggested solution.</p> <p>This campaign was selected from a pool of user-submitted ideas through the Suggest a Future Campaign Category section of this site. In January 2016 the Caltrans Executive Board recommended that this campaign idea, the top voted idea in the community at the</p>

	<p>time, be launched. The original idea and community discussion can be found here: Eliminate Legacy Paper-Based Business Processes</p> <p>As you will see, this campaign has been pre-populated with many of the great ideas that were posted in the Suggest a Future Campaign Category. Why? Because they all had a similar theme of reducing paper waste, distributing documents more effectively, or adopting new technology to improve business processes. Those ideas have now been pulled under this NEW campaign category, as we did not want to lose any of the valuable comments and conversations that are in motion. As a reminder, folks are only able to vote once for each idea. If you have already voted for an idea, even when it was under another category, the system will not allow a second vote.</p>
Duration	3 months, February 23 through May 22, 2016
Sponsor(s)	Julie Dunning, Lean 6-Sigma Program Manager George Akiyama, Chief Information Officer

5.7.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-16.

Table 5-16 – Employee Participation

Ideas Posted	49
Votes	1317
Comments	175

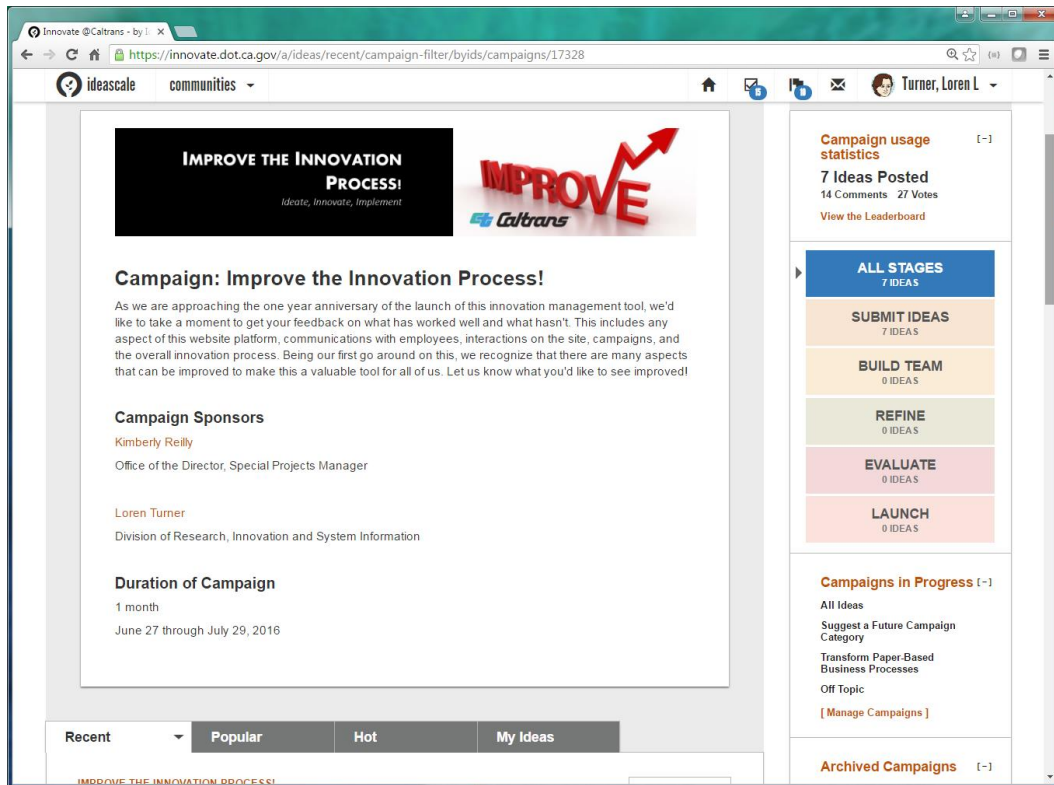
5.7.3. Campaign Outcomes

At the time of this report preparation, the idea submission, voting, and commenting period had closed. The top 10 ideas with 25 or more votes had been identified (Table 5-17), and Campaign Sponsors were in the process of identifying teams of Subject Matter Experts to carry out the refine stage process.

Table 5-17 – Voting summary

Idea	Votes
Streamline Pay Warrant Process	202
Centralized Document Portal	94
Electronically route and sign the Division of Accounting T-Memo document	90
Why aren't Caltrans employees able to submit Travel Expense Claims (TECs) electronically?	77
E-Signature for Interoffice Documents	74
Electronic Submittal of Travel Expenses Claims (TEC) with Electronic Signatures	50
Ways to reduce waste and increase efficiency with new technology	49
Issue Ipads/Tablets to construction field inspectors	44
Paperless Travel Expense Claims (TECs)	41
Training, Training, Training!	37

5.8. Improve the Innovation Process!



5.8.1. Campaign Details

Details of the campaign are summarized in Table 5-18.

Table 5-18 – Campaign Details

Title	Improve the Innovation Process!
Description	As we are approaching the one year anniversary of the launch of this innovation management tool, we'd like to take a moment to get your feedback on what has worked well and what hasn't. This includes any aspect of this website platform, communications with employees, interactions on the site, campaigns, and the overall innovation process. Being our first go around on this, we recognize that there are many aspects that can be improved to make this a valuable tool for all of us. Let us know what you'd like to see improved!
Duration	1 month, June 27 through July 29, 2016
Sponsor(s)	Kimberly Reilly, Office of the Director, Special Projects Manager Loren Turner, Division of Research, Innovation and System Information

5.8.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-19.

Table 5-19 – Employee Participation

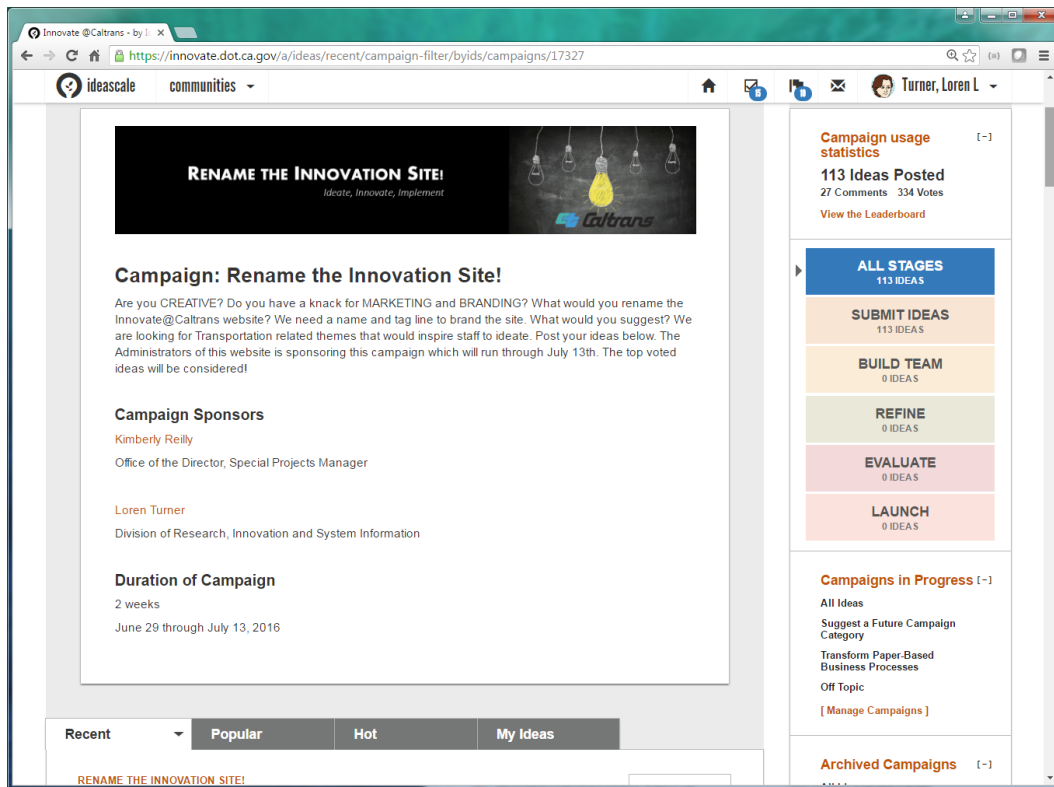
Ideas Posted	7
Votes	27
Comments	14

5.8.3. Campaign Outcomes

Although this campaign only generated a handful of ideas from the community, one notable suggestion was to provide a “more user friendly website.” In August 2016 the innovation site was migrated to a new innovation management software platform from *BrightIdea*¹⁴. Although the comment from the employee did not drive the platform switch, it echoed similar feedback received from the community.

¹⁴ <http://www.brightidea.com/>

5.9. Rename the Innovation Site!



5.9.1. Campaign Details

Details of the campaign are summarized in Table 5-20.

Table 5-20 – Campaign Details

Title	Rename the Innovation Site!
Description	Are you creative? Do you have a knack for marketing and branding? What would you rename the Innovate@Caltrans website? We need a name and tag line to brand the site. What would you suggest? We are looking for Transportation related themes that would inspire staff to ideate. Post your ideas below. The Administrators of this website is sponsoring this campaign which will run through July 13th. The top voted ideas will be considered!
Duration	2 weeks, June 29 through July 13, 2016
Sponsor(s)	Kimberly Reilly, Office of the Director, Special Projects Manager Loren Turner, Division of Research, Innovation and System Information

5.9.2. Employee Participation

Statewide Caltrans employee participation (i.e. idea submissions, votes cast, and commenting in the discussion threads) in this campaign is summarized in Table 5-21.

Table 5-21 – Employee Participation

Ideas Posted	113
Votes	334
Comments	27

5.9.3. Campaign Outcomes

The campaign generated a great deal of interest within the Caltrans community with numerous idea submissions. The top voted ideas were presented to the Innovation Leadership Team in August 2016, and the final outcome was a combination of ideas from multiple entries: *“Innovation Station: Where Ideas Take Off.”*

Graphics design services were obtained through a contract with *99designs*¹⁵, a company that uses a crowdsourcing approach to elicit design ideas from an international community of graphic designers. The final design was selected following a review process with the Innovation Leadership Team and subsequent iteration with the graphic designers (Figure 5-11).



Figure 5-11 – New innovation logo, name, and tag line

¹⁵ <https://99designs.com/>

(This page intentionally left blank.)

6. OUTREACH AND EMPLOYEE PARTICIPATION

Over the course of 12 months (September 2015 through August 2016), nine campaigns were carried out through the innovation crowdsourcing website. Over 3300 Caltrans employees engaged with the innovation program, approximately 18% of statewide employees with computer access.

6.1. Outreach and Communications

A wide variety of outreach mechanisms were used to raise awareness of the innovation website, campaigns, and new processes, including:

- Presentation of the website at the Director's Town Hall Meeting on innovation and updates at subsequent Town Hall Meetings
- Presentations in the Districts at senior staff meetings
- Presentations at Caltrans leadership training academies
- Presentations at a variety of Division all-staff meetings
- Posters in the lobby of Caltrans office buildings (Figure 6-1)
- All-employee email announcements when launching new campaigns (Figure 6-2)
- Distribution of informational postcards statewide (Figure 6-3)



Figure 6-1 – Innovation poster in the TransLab building lobby

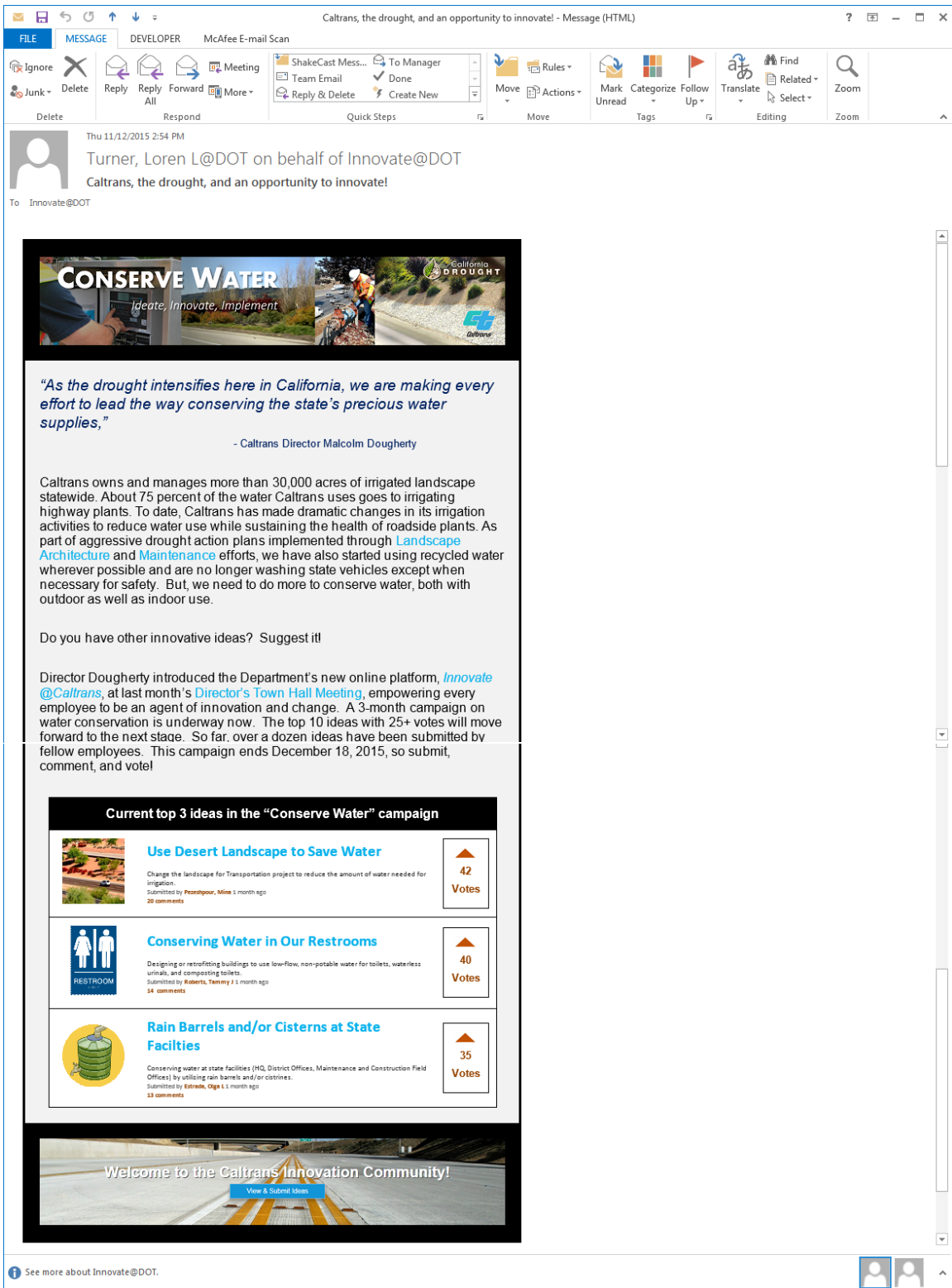


Figure 6-2 – Email outreach

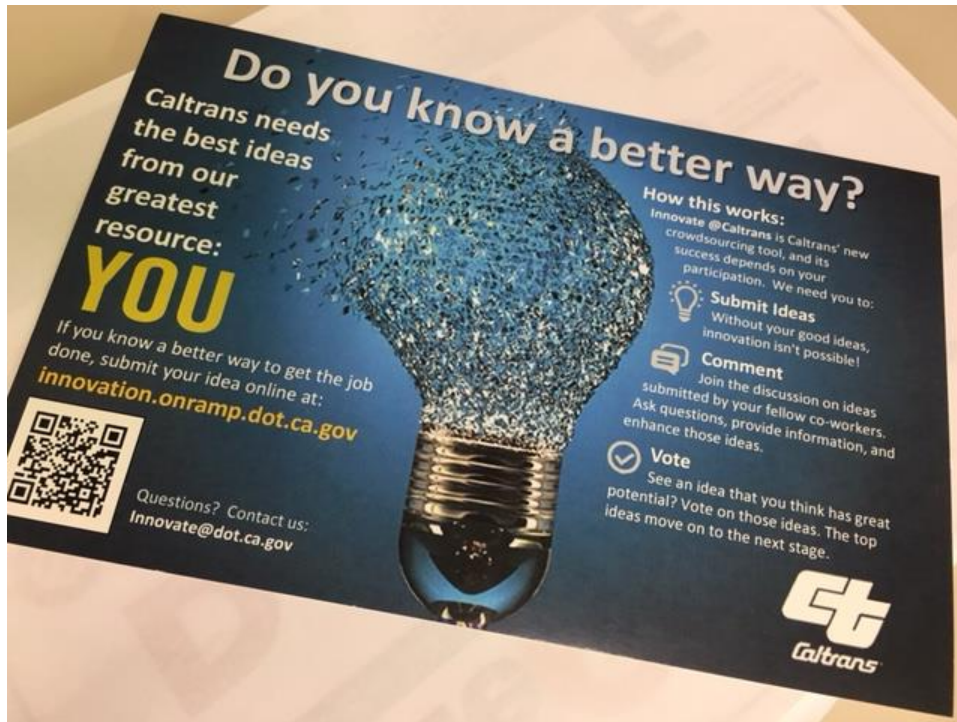


Figure 6-3 -- Postcards

6.2. Activity Summary

As of August 2016, the cumulative activity on the innovation website was as follows:

- 9 Campaigns
- 547 Ideas Posted
- 1508 Comments
- 7290 Votes
- 3359 Users

6.3. Participation by District and Headquarters

Participation by Caltrans employees in the Districts and Headquarters over the course of September 2015 through August 2016 is shown in Figure 6-4 and in a more detailed breakdown by unit in Figure 6-5.

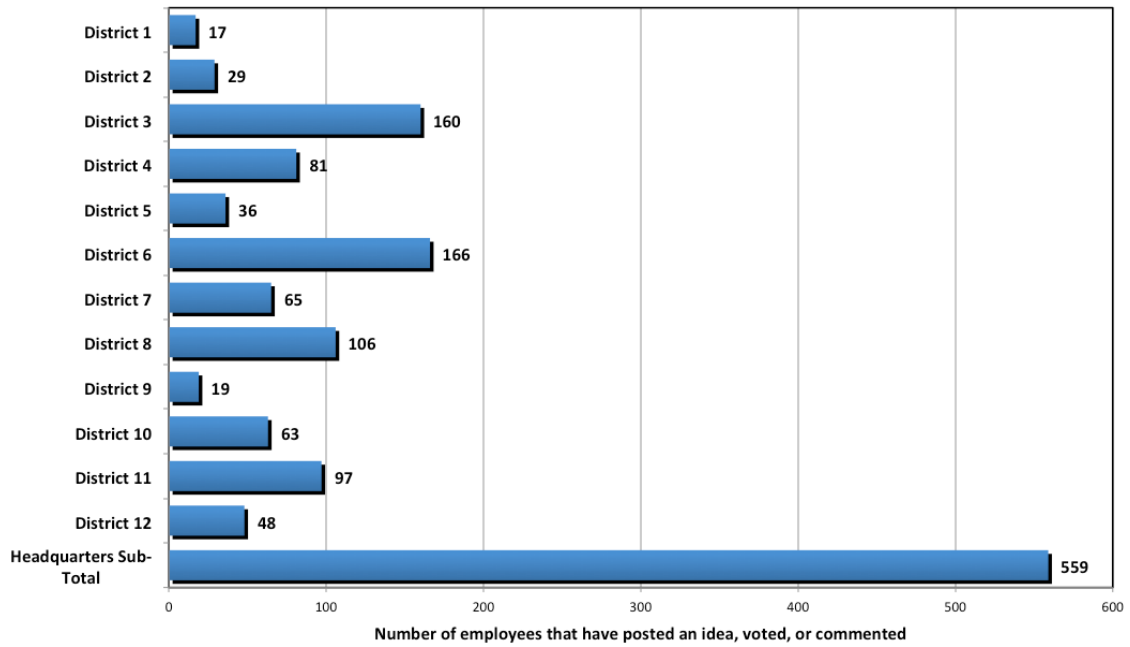


Figure 6-4 – Employee participation by District and Headquarters

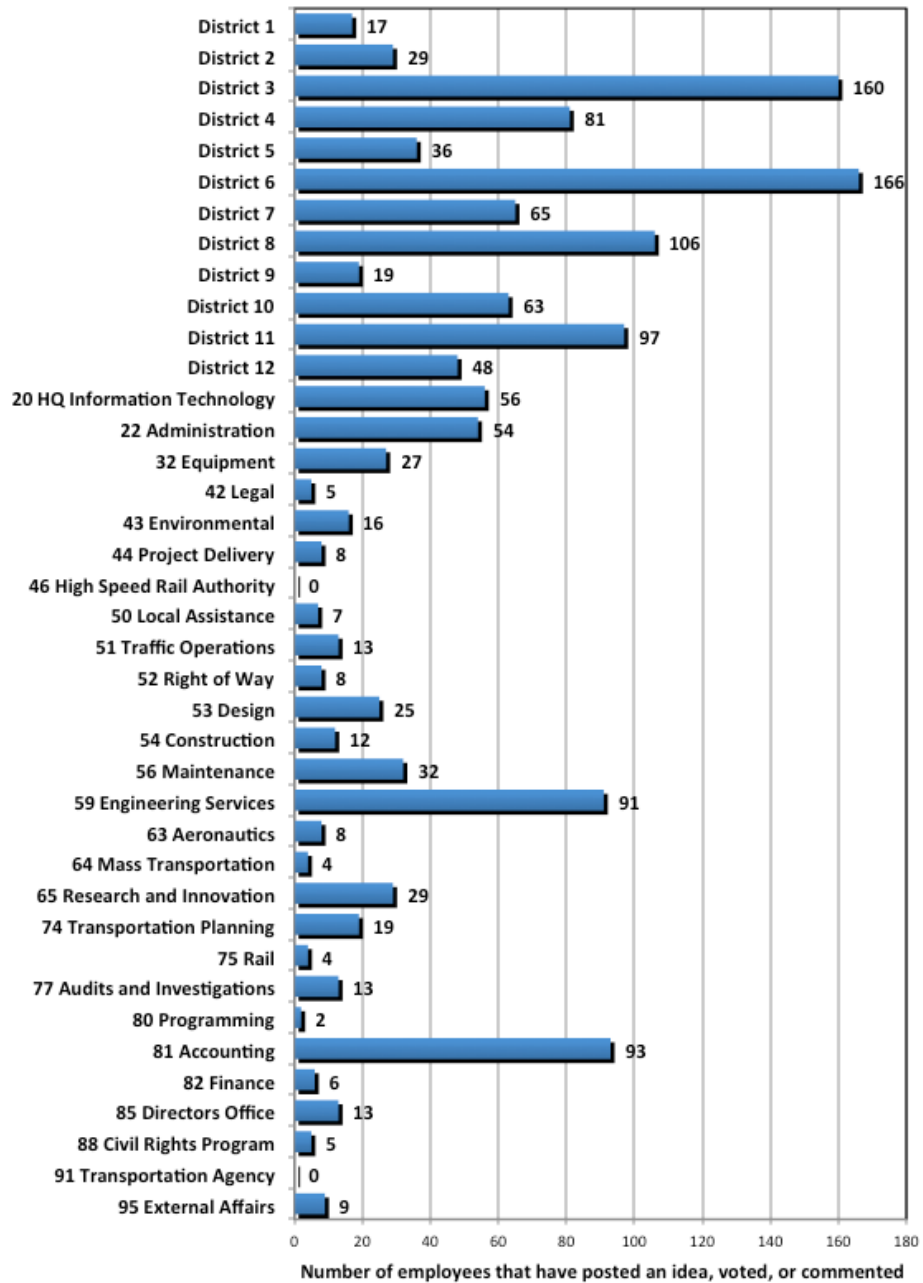


Figure 6-5 – Participation by District and Headquarters Units

6.4. Campaign Status

The status of the nine campaigns as of August 2016 is presented in Table 6-1.

Table 6-1 – Summary of campaigns and status

Campaign	Stage	Ideas	Votes	Comments	Notes
Improve Workplace Safety (Sept 23, 2015 – Dec 18, 2015)	Closed	54	802	202	Campaign Sponsors provided recommendations to the Innovation Mgmt Team
Conserve Water (Sept 23, 2015 – Dec 18, 2015)	Closed	36	711	159	Campaign Sponsors provided recommendations to the Innovation Mgmt Team
Suggest a Future Campaign Category (Sept 23, 2015 – Aug 18, 2016)	Ongoing	187	2734	747	
Field Maintenance Employee Ideas (Feb 5 – April 2, 2016)	Closed	41	1047	120	Campaign Sponsors selected two ideas to implement
District 11 Innovation Expo (Nov 18 – 24, 2015)	Closed	12	48	9	
Transform Paper-Based Business Processes (Feb 23 – May 22, 2016)	Refine	49	1317	175	Subject Matter Expert teams being formed to refine ideas
Caltrans "Future of Transportation" Exhibit at the 2016 California State Fair (April 5 – 15, 2016)	Closed	48	270	55	
Improve the Innovation Process! (June 27 – July 29, 2016)	Closed	7	27	14	
Rename the Innovation Site! (June 29 – July 13, 2016)	Closed	113	334	27	Ideas were used by the Innovation Leadership Team to develop new site name and tag line
Totals		547	7290	1508	

6.5. Timeline of Activity

Monthly activity on the innovation website for new users, idea submissions, commenting, and voting are presented in Figure 6-6, Figure 6-7, Figure 6-8, and Figure 6-9. Peaks in participation of all types generally followed instances of outreach and communications activity. For example, when emails were sent to all employees announcing a new campaign, hundreds of new users would visit the site with a corresponding jump in the number of idea submissions, comments, and votes.

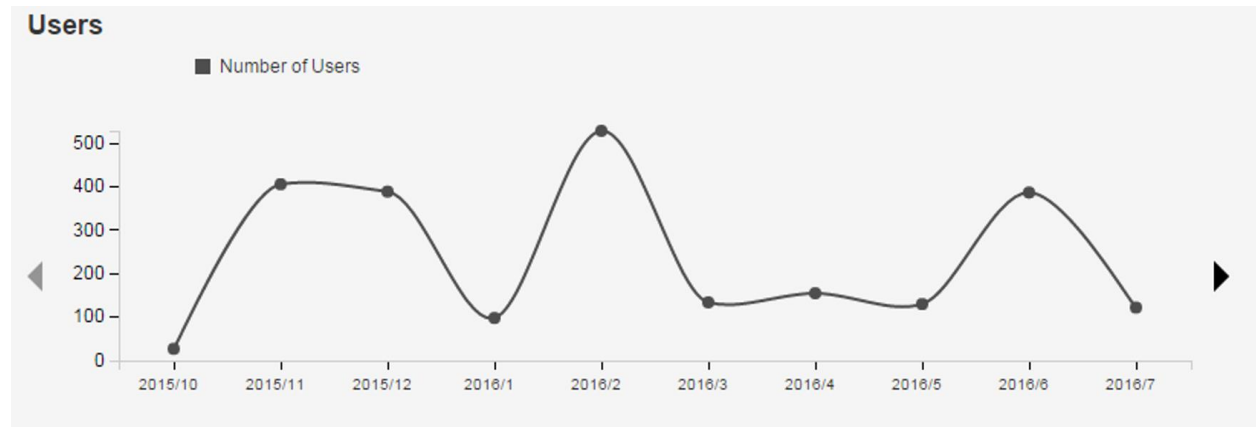


Figure 6-6 – Number of new users visiting the site over 12-month period

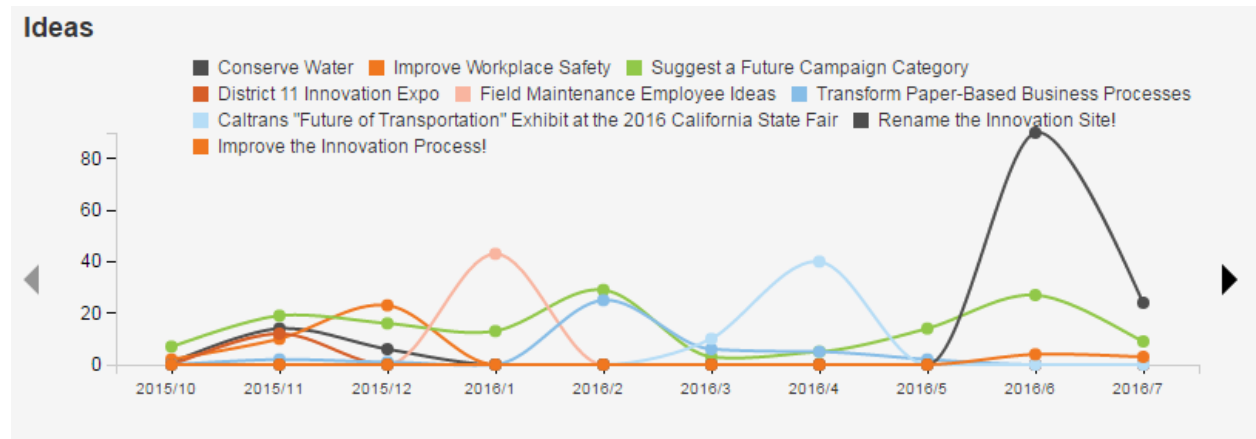


Figure 6-7 – Ideas submitted under campaigns during 12-month period

Comments

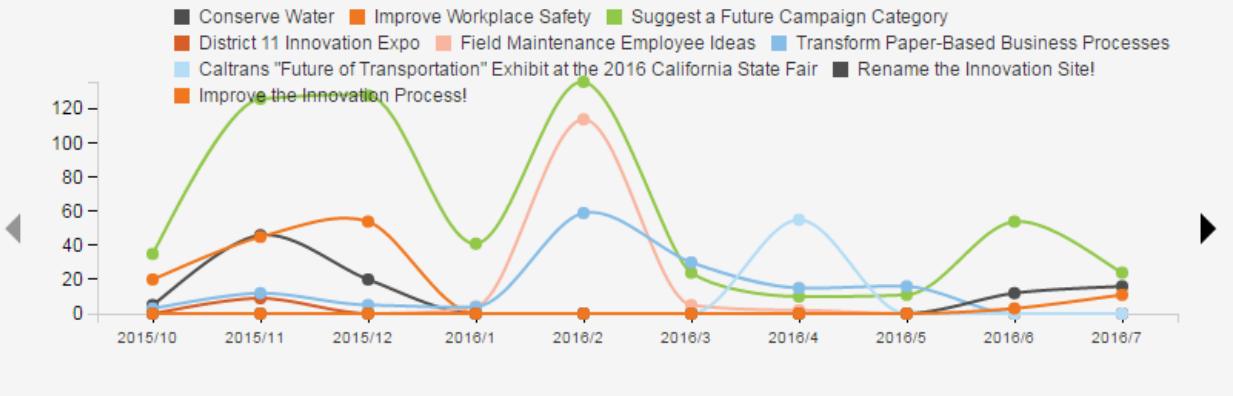


Figure 6-8 – Comments submitted to ideas during 12-month period

Votes

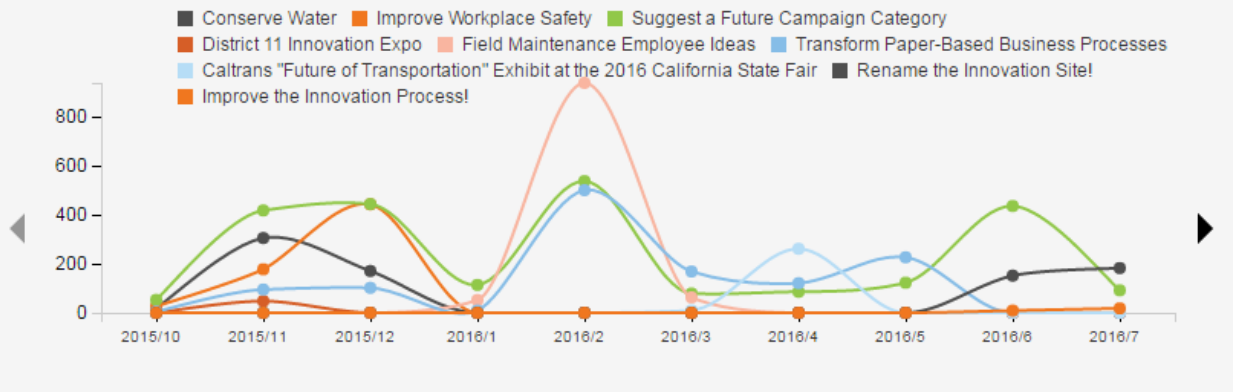


Figure 6-9 – Votes cast for ideas during 12-month period

6.6. Campaign Statistics

Statistics for employee participation by campaign are presented in the following figures. Figure 6-10 shows the distribution of an aggregated metric representing overall employee participation, combining the three primary components of participation – idea submission, commenting, and voting. Figure 6-11 shows the distribution of unique users and any one component of participation within each campaign. Figure 6-12, Figure 6-13, and Figure 6-14 shows the breakdown of idea submissions, votes, and comments by campaign respectively.



Figure 6-10 – Breakdown of aggregate employee participation by campaign



Figure 6-11 – Breakdown of employee participants by campaign

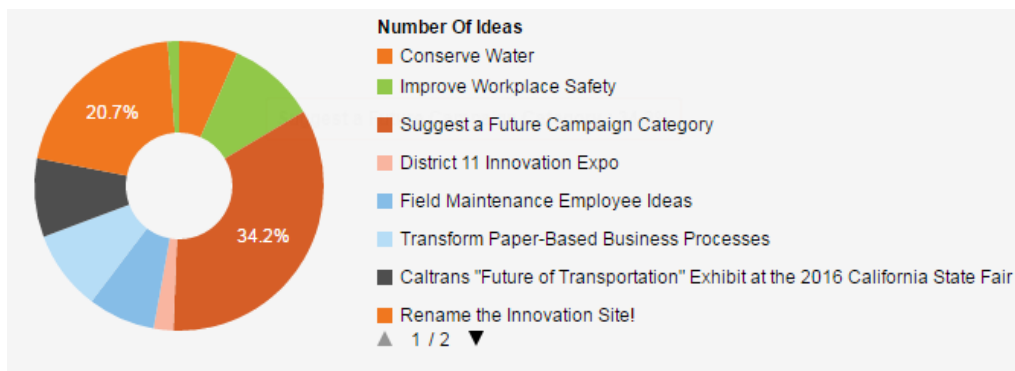


Figure 6-12 – Breakdown of idea submissions by campaign

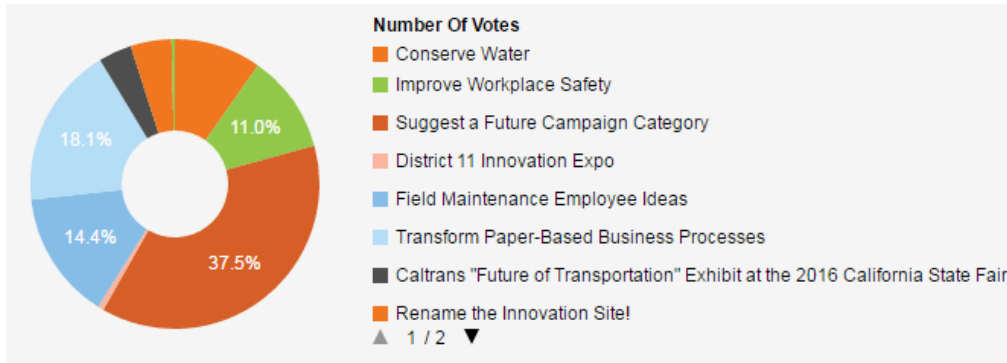


Figure 6-13 – Breakdown of votes by campaign



Figure 6-14 – Breakdown of comments by campaign

(This page intentionally left blank.)

7. LESSONS LEARNED

Using the experience of the past year of administering a crowdsourcing innovation tool, this report serves as a milestone and provides an opportunity to reflect on what has worked well and what hasn't. The lessons learned and recommendations provided in this section are intended help inform the Innovation Leadership Team and future system administrators of best practices. As a new innovation platform is being launched in September 2016, the innovation processes are anticipated to further evolve.

7.1. Breaking Down Organizational Barriers

The use of an innovation management tool accessible by all employees was a new concept when introduced at Caltrans last year. The tool enabled several key innovations in employee interactions throughout the Department, notably:

- Employees were empowered to share their ideas and thoughts with everyone else in the Department. The lowest ranks of employees could share ideas with top management and vice versa.
- The barriers associated with conventional email communications were reduced. Discussions about ideas that might have taken place in isolated meetings or in email threads were now taking place in an environment and at a scale where any employee could engage if interested.
- Organizational “silos” that can often impede the sharing of ideas were eliminated. In a crowdsourcing platform ideas need not move up through a conventional chain-of-command within a branch or division.

Though difficult to quantify, the benefits associated with using the innovation tool to foster communications across the Department can be inferred from the discussions and exchanges of ideas between employees that would otherwise not have had an opportunity to interact. Continued use of the innovation management tool is recommended.

7.2. Increasing Participation

To date, approximately 23% of Caltrans employees that have computer access (~ 15,000) have visited the innovation website. Of those, less than half have actively participated in idea submission, voting, and/or commenting (Figure 7-1). In early conversations with *IdeaScale* representatives during the launch of the site, an expectation of 20-30% employee participation was cited as “typical.” Although the Caltrans experience appears to be approaching the participation levels observed at other organizations, a better understanding of employee participation patterns and identifying mechanisms to increase participation are needed.

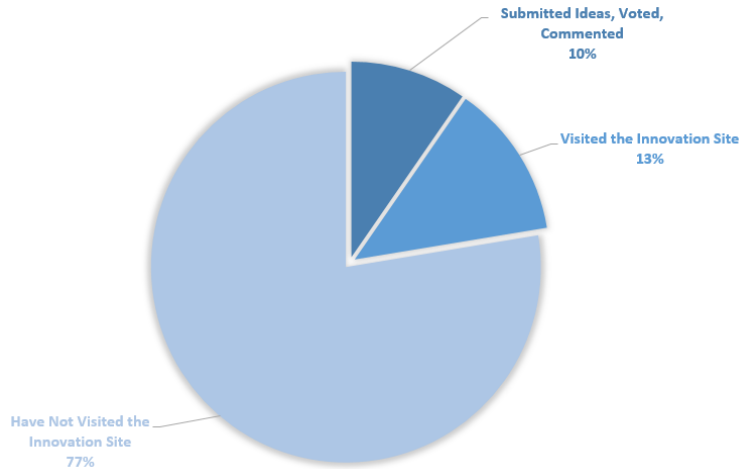


Figure 7-1 – Employee participation on the innovation website

Periodic email communications from the innovation team to community members, moderators, and all employees were observed to be very effective in spurring new activity on the innovation website. Taking the advice of *IdeaScale* representatives, emails were sent to all employees at the launch of the campaign, at least once during the campaign idea submission stage, and again at the closing of the campaign. The initial launch usually generated new activity on the site – employees that had not visited the site before were observed to have logged in; idea submission, voting, and commenting activity increased. The mid-campaign emails (example shown in Figure 6-2) were also observed to be successful in generating activity. For example, emails were sent in late November and early December to employees for two campaigns underway. The day after each email, voting activity surged from an average of tens of votes per day to over 300 on each day (Figure 7-2).

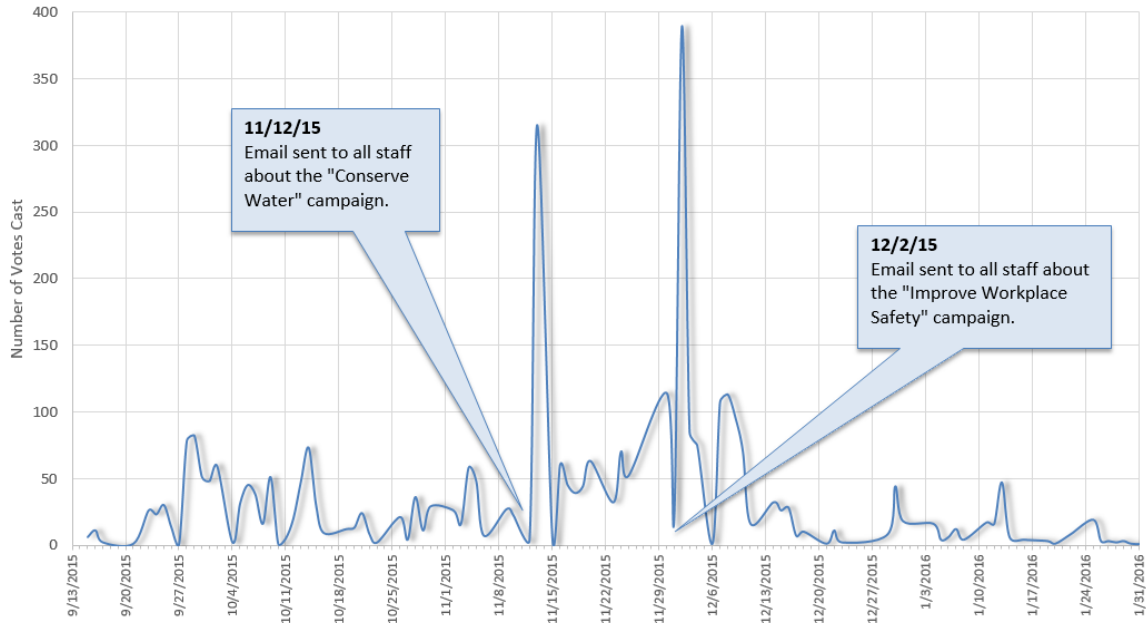


Figure 7-2 – Voting activity on the innovation website following all-employee emails

7.3. Shortening Campaign Stages

The relatively long duration to carry out campaign stages has been a challenge to site administrators. While some of this time could be attributed to launching a new process, the full year it has taken for ideas in the two initial campaigns to progress through the process exceeded many community member expectations. Moving forward, it will be important to consider mechanisms and practices to significantly shorten the duration of campaign stages in order to retain continued interest of campaign participants.

Over the past year, nine campaigns have progressed through the new innovation process comprised of four primary stages – idea submission, build teams, refine, and evaluate. Figure 7-3 shows a breakdown of time spent within each of the four campaign stages for the nine campaigns. Of the nine campaigns, three utilized the full process while the remaining six used only the initial ideate stage to elicit submissions.

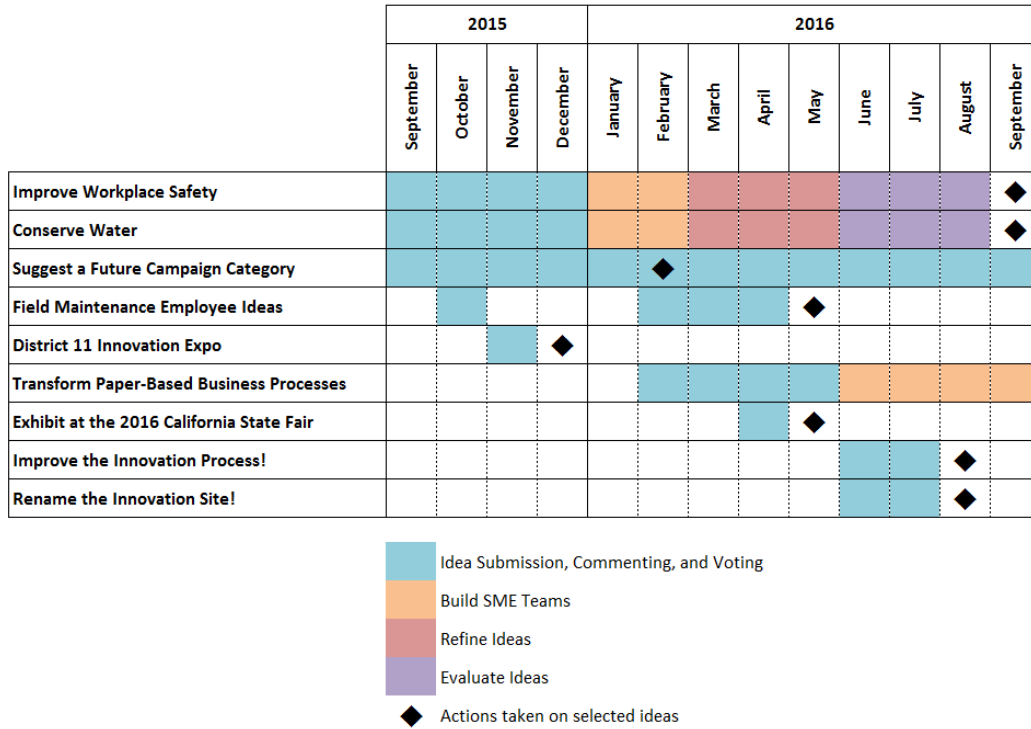


Figure 7-3 – Time spent in campaign stages

Significant observations and recommendations:

- For the three campaigns that went through (or are in the process of going through) the full process, it was observed that the time spent in the *Build Teams* stage was two to four months. In the future, it is recommended that the Campaigns Sponsors identify the teams of Subject Matter Experts earlier in the process, ideally during the final weeks of the prior *Ideate* stage. This change in practice would eliminate two to four months of delay in the process.
- The *Refine* stage took three months to carry out in two of the campaigns. This is likely the most important stage in the process, as it relies on teams of experts to carry out fact finding and provide the necessary background for decision makers to consider in subsequent stages. Although weeks may be needed under certain circumstances to study complex ideas, a significant portion of the time for these two was spent in organizing the team’s work and facilitating the posting of findings on the innovation website rather than the fact finding work itself. It is recommended that moving forward, a structured set of guidance and training materials be developed and provided to SME teams to assist in this stage. The new innovation platform will likely help foster a more efficient process, with the use of email reminders and tasking functions. A target timeframe closer to 1 month should be pursued.
- Similar to the *Refine* stage, the *Evaluate* stage took three months to carry out. The fact that this was a new process to key participants was likely the most significant contributing factor.

Training materials, raising awareness of procedural stages, and frequent engagement with Campaign Sponsors should contribute to a shortened timeframe for this stage in the future.

7.4. Enlisting Proactive Moderators

Frequent moderator activity within the campaigns – posting comments and asking questions – was observed to significantly increase employee engagement on the innovation website. In instances where moderators asked basic leading questions (e.g. “Can you tell me more?,” “Can you expand on this?”), others tended to jump in on the discussion thread, often leading to a more constructive understanding of the issue.

Initially, over 35 employees statewide were invited to participate on the site in a moderator role. Over the course of the year, however, the number of active moderators decreased, leaving a small group of a half dozen or so moderators carrying out the bulk of the work. New ideas submissions were often left with little or no moderator follow up, leading to an overall decline in activity in the campaigns.

The success and growth of a crowdsourcing tool is highly dependent on participation from the community. Moderators play a key role in stimulating discussion and sustaining interest in the ideation process. Moving forward, the following recommendations are presented for further consideration:

- Formalize a process to enlist proactive moderators statewide – for example, request that each District and/or Division nominate candidates.
- Establish a clear set of expectations for moderators – for example, moderators should check the site each work day and contribute at least two comments per day.
- Set up mechanisms to more regularly communicate with moderators and acknowledge their contributions to the innovation efforts.

7.5. Sustaining an Innovation Program

To date, the day-to-day work associated with the implementation of the tool (e.g., contracting, site administration, site configuration, management, marketing, training, outreach, discussion moderation) has been carried out by two Caltrans staff from the Innovation Leadership Team. Although this strategy has been highly effective during the initial launch to successfully establish new processes, a longer-term staffing strategy is needed to insure a sustainable innovation tool.

Based on experience to date with administering the tool, the total annual hours associated with key activities are summarized in Table 7-1.

Table 7-1 – Estimate of resources

Activity	Hours/Year	Notes and Calculation Assumptions
Develop campaigns to launch	160	10 campaigns, 16 hrs/campaign
Stage 1, Submit Ideas	500	2 Admins, 1 hr/day each
Stage 2, Build Team	100	10 campaigns with 10 teams per campaign, 1 hr/team
Stage 3, Refine	200	10 campaigns with 10 teams per campaign, 2 hr/team
Stage 4, Evaluate	40	10 campaign sponsor teams, 4 hrs/team
Procurement, Contract Management	120	3 weeks based on initial procurement
Outreach, Marketing, Training, Presentations, etc	800	4 days/month, 2 persons
Innovation Program Development Activities	800	1 person, 16 hr/week
Total Annual Hours	2720	

The total hours represent the equivalent of approximately 1.5 person years (PYs), using estimates to date from two staff and projections of future activity. It is recommended that three staff be assigned to administer the innovation program, one person full time at 1 PY and two others sharing the remaining 0.5 PY. This level of resourcing would insure that future activity (e.g., number of annual campaigns, outreach activities, etc.) remains consistent with the activity to date. This would also ensure a sufficient number of staff with expertise in administering the innovation management software.

8. SUMMARY

Caltrans launched and successfully demonstrated the benefits of operating a crowdsourcing innovation management tool for all employees. Over the course of a year, nine campaigns were carried out using the tool, resulting in several innovative ideas being either implemented or assigned to teams for further study.

Through the experience of establishing workflow processes and operating an innovation tool, the administrative team offered several key recommendations to insure a successful and sustainable innovation program moving forward. Regular periodic communications about campaign activity were found to be very effective in directing employees to the site and the campaigns and should continue. Similarly, having active Moderators on the site, interacting with the community on a daily basis, had a significant impact on the level of employee engagement. A mechanism to enlist and support active Moderators is needed. To retain employee interest in the campaigns and their outcomes, efficiencies need to be instituted to shorten the duration of the campaign stages. Finally, in order to maintain and sustain a full-featured innovation management tool, adequate staffing resources are necessary.