

Connected

Summer 2015

A Quarterly Newsletter for Connected Corridors Stakeholders

Welcome Samson!



Caltrans is pleased to announce Samson Teshome as the first Corridor Manager under Caltrans' innovative reorganization plan. Samson will oversee day-to-day operations for the I-210 corridor. More information will be included in the Fall 2015 edition of the Connected newsletter.

Call for Projects Application Recommended For Funding

LA Metro recently released the list of projects recommended for funding, which includes the I-210 Connected Corridors Pilot! While none of the projects are considered funded until the Metro Board approves the list in September, this is GREAT news for the Pilot. The funding will support the arterial components of the project and will supplement the SHOPP funding discussed on page 3. Some of the project elements include Bluetooth readers and air quality sensor stations for all jurisdictions, controller firmware and communication improvements, signal detection upgrades, interfaces with transit systems, new traffic

signals, and upgrades to existing ramp signal detection systems.

The team applied for a total of \$6.704 million and we are very hopeful that the full amount will be awarded. A HUGE thanks to all of our stakeholders for your time and energy preparing the application, including staff from System Metrics Group; LA County Public Works; the cities of Pasadena, Arcadia, Monrovia, and Duarte; Pasadena Transit and Foothill Transit; and Caltrans District 7 (the lead agency). Your commitment and support of the Pilot is what makes this project unique and will continue to be instrumental to its success.



THANK YOU TO ALL THE I-210 PILOT STAKEHOLDERS FOR YOUR COMMITMENT TO THE PROJECT

New Strategic Management Plan Lays Out Roadmap for Caltrans' Future

In April, Caltrans released its new 2015-2020 Strategic Management Plan, a roadmap of how Caltrans will meet the bold goals it has set in order to be a high-performance, efficient, innovative, and modern state department of transportation. The department will report to the public on its progress through its quarterly Mile Marker, a plain-language periodical which accounts for where Caltrans is succeeding and where it needs additional improvement.

“Adopting a new mission, vision, and goals was only the beginning of helping Caltrans better focus on improved department performance, accountability, and communications,” said Caltrans Director Malcolm Dougherty. “The Strategic Management Plan takes it to the next level by laying out the specific performance measures we will use to communicate honestly and transparently about our progress in meeting our department’s goals.”

The Strategic Management Plan describes Caltrans’ five goals and their corresponding objectives, adding performance measures connected to each goal. These performance measures will be used by Caltrans as tools to manage from the Plan.

The Plan also has very specific objectives related to integrated corridor management and even the I-210 Connected Corridors Pilot. In addition to the System Performance targets listed in the next paragraph, other ICM-related targets include:

- By 2018, complete five ICM implementation plans.
- By 2020, implement three ICM corridors.
- By 2020, improve buffer time index (BTI) reliability ranking by one level on four commute directions

(SR-57, US-110, I-80 and I-210). The BTI expresses the amount of extra “buffer” time needed to be on-time 95 percent of the time (late one day per month).

The five goals and a sample of performance measure targets include:

System Performance: Utilize leadership, collaboration, and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.

- Improve the travel time reliability on four major corridors in the commute direction (SR-57 in Orange County, I-110 in Los Angeles, I-80 in portions of the Bay Area and I-210 in Los Angeles).
- Reduce rate of growth in Daily Vehicle Hours of Delay (DVHD) to 6% on top four integrated corridors.

Safety and Health: Provide a safe transportation system for workers and users, and promote health through active transportation and reduced pollution in communities.

- Less than 0.5 fatalities for every 100 million miles traveled on state highways. (Baseline for calendar year 2012: 0.61)
- Reduce the number of fatalities for bicycling, pedestrian, and transit trips by 10 percent each year.

Stewardship and Efficiency: Responsibly manage California’s transportation-related assets.

- Increase the miles of roads with good pavement to no less than 88 percent of the total highway system. (As of 2013 Pavement Condition Survey: 84 percent)

○ Continued on page 6



\$24.8 Million of SHOPP Funds Secured for Connected Corridors

Last December, Caltrans District 7 successfully secured \$24.8 million of SHOPP (State Highway Operation and Protection Program) funding for the first and second phases of the I-210 Pilot. The funds will be used to “install 47 transportation management system elements, upgrade 20.22 miles of fiber [optics] and 163 transportation management system elements.” This includes installing and/or replacing multiple CCTV cameras, loop detectors, and changeable message signs (CMS), and upgrading the existing communications system to all fiber

optics. This is especially important given the expense and frequency of copper theft throughout California.

The team was notified that the SHOPP funding was approved just weeks before the Connected Corridors team submitted an application to LA Metro for the 2015 Call for Projects. If approved, funding from the Call will supplement the SHOPP funding to support Phase 1 arterial improvements, including signal detection upgrades, new Bluetooth readers to monitor travel times, and upgrades to the IEN to improve system interfaces.

The Metro Board is scheduled to officially approve the recommended applications and the final funding amount in September 2015. Together, these two funding sources will enable the CC team to implement and upgrade a variety of system management elements for both the freeway and arterials to support a comprehensive ICM program. The team continues to seek out additional funding sources to further expand Phase 1, and eventually Phase 2, of the I-210 Pilot.

Project Charter Signed by All Key Stakeholders

In June, the Project Charter was signed by all stakeholders for the I-210 Pilot. The purpose of the Project Charter is to establish a mutual understanding concerning the Connected Corridors I-210 Pilot and define the roles and responsibilities of key stakeholders for planning and implementing the initial phase of the Project.

The Pilot stakeholders include regional agencies, local jurisdictions, and transit operators, all of whom play a crucial role in the success of the I-210 Pilot. In addition to outlining the collective vision, goals, and key performance measures for the Pilot, the Project Charter signatories agree to a number of responsibilities, including:

- Participate in regularly-scheduled meetings and planning sessions
- Seek funding for local assets and provide Letters of Support as appropriate

- Provide comments on various project documents and reports
- Actively provide input on project goals and direction
- When possible, collect data and monitor corridor conditions within the agency/jurisdiction
- Participate in the development of a Memorandum of Understanding (MOU)

For a complete list of roles and responsibilities, please see the signed Project Charter on the Connected Corridors website at: connected-corridors.berkeley.edu.

A big THANK YOU to all of our stakeholders for your time and commitment to the Pilot and getting the Charter signed on behalf of your agencies. In the coming months, the team will be pursuing the next major milestone: the drafting and signing of an MOU. We look forward to continuing our partnership and making the I-210 Pilot a resounding success.

I-210 Pilot Stakeholders

Caltrans Headquarters
Caltrans District 7
UC Berkeley/PATH
LA Metro
Los Angeles County DPW
City of Pasadena
City of Arcadia
City of Monrovia
City of Duarte
Metro Rail
Metro Bus
Foothill Transit
Pasadena Transit
San Gabriel Valley Council of Governments
Southern California Association of Governments
USDOT/FHWA

Q & A with CC Pilot Partners

In this second installment of the Question and Answer series, we asked Sheik Moinuddin, Caltrans' new System Management Principal, to share his perspective with us regarding the I-210 Connected Corridors Pilot and Caltrans' leadership role in corridor management. A special thanks to Mr. Moinuddin for his time.

1. Tell us a little bit about your background and how it has prepared you for your new role as System Management Principal in District 7.

I feel my advanced education in transportation, over 18 years of experience in operations and safety on the state highway system, and my strong relationship with local partners have definitely prepared me to take on this new role. Also, I like to accept challenges, taking calculated risks as well as embarking on new ideas to help mitigate ever-increasing congestion on our highway systems. The Dynamic Lane Management (DLM) system introduced at the northbound Route 5 connector to northbound Route 110 in 2010 is one such example. This project reduced the collision rate by 54% and delays by 60%, relying solely on ITS strategies.

I earned my bachelor's degree in Civil Engineering from the University of Louisiana, and a master's degree in Transportation/Environmental Engineering from the California State University at Long Beach. Currently, I am pursuing a Ph.D. at UCLA.

2. What is your long-term vision for how Caltrans manages transportation corridors?

We can no longer build our way out of congestion. Therefore, we have to take a holistic approach to how we reduce congestion and move people and goods from point A to point B. We have to assess congestion from a macro level, using a corridor approach. Therefore, my vision is to take on the leadership role and work closely with our partners in Los Angeles and Ventura Counties to make this concept a reality.

3. How do you see Caltrans shift towards corridor management impacting future partnerships with regional and local agencies?

I do envision a very positive partnership with regional and local agencies as we move towards a corridor management concept. Everyone is beginning to realize that it is no longer "their" problem, it is "our" problem. Everyone has a huge stake in it, and we all have to work together to make this concept work. Caltrans will have to take the leadership role and form partnerships based on trust and mutual benefit. We're going to strive for a

shared vision and shared goals of reducing congestion and gas emissions throughout this region.

4. What do you think will be the most important task of the Corridor Managers and how do you envision your relationship with them?

Their most important task will be to maintain, and improve, the safety and operations of the corridor. They will be the 'know-it-all' person for their assigned corridor. They will manage day-to-day operations, maintain relationships with local partners, and thoroughly understand the health of their corridor.

We will also have a Systems Performance and Evaluation office, and their main function will be to look at all the data and provide real-time information to the Corridor Managers. Accurate and reliable information is necessary for each Corridor Manager to maintain and improve operations and safety in their assigned corridor.

My expectation is that they take ownership of their corridors and work closely with local partners, as well as internal partners, to keep each corridor in good health.

5. Where do you see the Connected Corridors program in ten years?

We do envision the Connected Corridors program will have a significant impact in managing traffic in real time and in collaboration with our partners. Therefore, this program is anticipated to be rolled out to other corridors within District 7, starting with the most highly congested and highly unreliable corridors, in the coming years.



DLM System on NB Route 110

Major Milestone: Planning Phase Complete

With the final approval of the Concept of Operations, the signing of the Project Charter, funding for the freeway improvements, and likely funding for the arterial improvements, the Connected Corridors I-210 Pilot reaches a major milestone: the completion of the planning phase. Since the project is following the Systems Engineering Process, as shown in the Vee Diagram (below), the Pilot will now move into Phase 2: System Definition and Design. This phase includes the development of the system requirements documents, high-level design documents, and detailed design documents. Work on the systems requirements documents is already underway, with final drafts anticipated by the end of 2015. Phase 2, which overlaps with the Development and Implementation Phase (Phase 3), will continue through 2016.

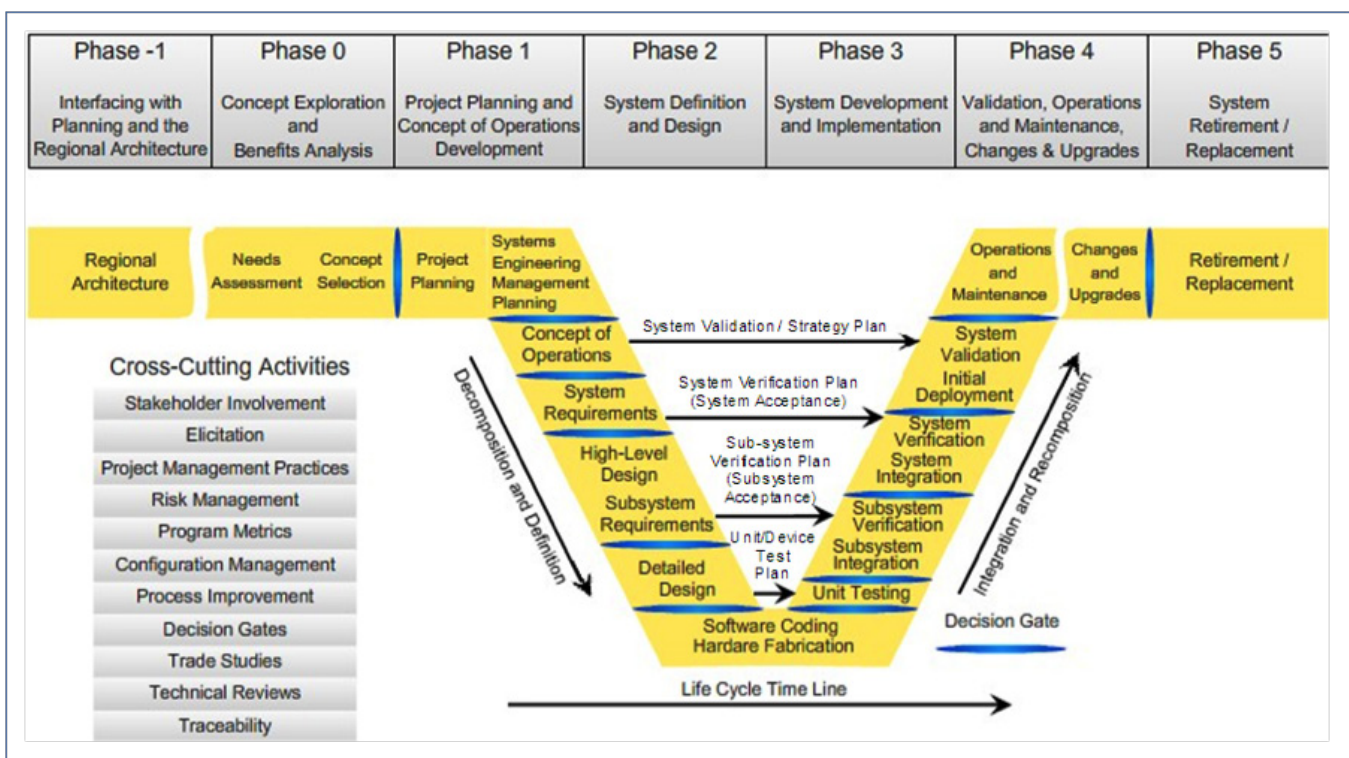
Since all stakeholders have had an opportunity to review and submit comments on the Concept of Operations (ConOps), it is now considered complete. However, it is important to note that the ConOps is a living document and therefore could be changed in the future. One such change could be to expand the ConOps to include additional details on the integration with transit and/or parking management. The ConOps, plus the User Needs information, will form the basis of the high-level and detailed design documents.

Another important document that has now been delivered is the Analysis, Modeling, and Simulation (AMS) Phase I report. Since this report is for specific types of projects, it is not listed in the broader Systems Engineering Process. However, the AMS process, and subsequent reports, is essential for evaluating the corridor, developing the design documents, and possibly testing the system in later phases.

The Systems Engineering Management Plan, or SEMP, has also been drafted and is now under review. In addition to detailing the project's scope, schedule, and costs, the SEMP's primary purpose is to outline the *process* that will be used to support the design, implementation, verification, and eventual operation of the proposed system.

As the Pilot progresses into Phase 2, the team will first focus on defining the system requirements, which specify what the system must do. The system requirements, including the response strategies, will be discussed in future stakeholder meetings. Once the requirements are defined and the team has an accurate picture of the current system architecture, the focus will change to designing a system to fulfill all of the defined requirements.

We look forward to continuing our close partnership with all stakeholders as the Pilot progresses through this very important phase.



● Strategic Management, continued from page 2

- Deliver 100 percent of planned projects for each fiscal year so they can begin construction. (For fiscal year 2013-14: 98 percent)

Sustainability, Livability and Economy:

Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

- By 2020, triple the amount of trips taken via bicycle, and double the amount taken via walking or transit.
- Deep cuts in transportation system-related air pollution, including:
 - 15 percent cut (from 2010 levels) of greenhouse gas emissions to achieve 1990 levels by 2020.
 - 85 percent reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020.

Organizational Excellence: Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability.

- Expand the percentage of Caltrans employees who indicate that they work in a positive environment.
- Increase the percentage in the number of partners

who agree or strongly agree that Caltrans is a collaborative partner.

In many cases, Caltrans is currently in the process of determining and developing baselines for all performance measures. These ICM targets, as well as other emissions-related targets and system performance targets, reiterate Caltrans' strong commitment to the Connected Corridors program. "The strategies for this brand new Caltrans goal (System Performance) aim to achieve highly performing corridors that provide reliable travel times for all through collaboration and strategic partnerships," said Joan Sollenberger, Traffic Operations Statewide Connected Corridors Program Manager.

The Connected Corridors leadership team is very supportive of the steps Caltrans is taking to become a transportation system management and operations (TSM&O)-focused agency and remain a world-class leader in transportation.

*Article Information Courtesy of the California
Department of Transportation*

Contacts

If you have questions about the status of the I-210 Pilot or any of the information discussed in this newsletter, please do not hesitate to contact us.

Sam Esquenazi
Caltrans District 7
323.259.1764
sam.esquenazi@dot.ca.gov

Lisa Hammon
Connected Corridors/PATH
510.642.5923
lisahammon@berkeley.edu

Reinland Jones
LA Metro
213.922.2231
JonesRE@metro.net

About

Connected Corridors is a collaborative effort to research, develop, test, and deploy a framework for corridor transportation system management in California. Our aim is to fundamentally change the way the state manages its transportation challenges for years to come. Starting with a pilot on Interstate 210 in the San Gabriel Valley, the Connected Corridors program will expand to multiple corridors throughout California over the next ten years. As an Integrated Corridor Management (ICM) program, Connected Corridors looks at the entire multi-modal transportation network and all opportunities to move people and goods in the most efficient manner possible.

CONNECTED is a quarterly newsletter with updates and stories about the Connected Corridors program. For more information on the program or the newsletter, please visit our website at connected-corridors.berkeley.edu.