

PDOQ

WINTER 2015

PROJECT DELIVERY QUARTERLY

Construction • Design • Engineering Services •
Environmental • Project Management • Right of Way
and Land Surveys

Livability and Project Delivery





Livability and Project Delivery

IT IS WITH GREAT PRIDE in our professional achievements that I present the Winter 2015 issue of the *Project Delivery Quarterly* (PDQ), which focuses on livability and transportation. We find ourselves in an era of perhaps the greatest civic and public interest in transportation planning and design. There is a groundswell of enthusiasm for transportation infrastructure that supports multimodal travel options and improves local and regional quality of life. More than ever before, people seem to understand that as United States Secretary of Transportation, Anthony Foxx states: “Transportation is not just about getting from one point to another. Transportation connects people to opportunity. Transportation gives us a better quality of life.”

Transportation infrastructure that contributes to a high quality of life is said to improve “livability” by making positive contributions to travel experiences, public health, ecological integrity, economic conditions and community vitality. In other words, transportation facilities that improve livability are planned and designed with both *transportation outcomes* and *community outcomes* in mind.

Improving livability within our right of way requires a holistic assessment of corridors and an evaluation of desirable transportation and community outcomes at both the local and regional levels. Evaluating the transportation system at both a macro and micro scale can only be accomplished with collaborative input from a wide range of partners and stakeholders. The soon to be completed California Transportation Plan (CTP) 2040, represents the most recent Caltrans commitment to arriving at shared solutions at a system-wide level. The CTP is a powerful tool for Caltrans and our partners to develop shared sustainability and livability targets. The CTP sets forth a vision that integrates input from citizens,

Front cover: Octavia Boulevard in San Francisco, transformed to provide greater livability benefits to the transportation system and the local community. Photo by Steve Boland.

Creative Commons License:
<https://www.flickr.com/photos/sfcityscape/>



Caltrans Mission

Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and **livability.**

Livability, a component of sustainability, describes the degree to which the environment improves human quality of life. Transportation facilities improve livability when they support accessible multimodal travel options, economic development, ecological quality, social equity, public health and safety, and vibrant public spaces which encourage positive social interactions.

WINTER 2015 PDQ

This edition of the PDQ focuses on the concept of "livability." The first two articles provide greater definition of livability, followed by "Airspaces: Transformed Places," and "Building Livability" which highlight examples of Caltrans partnerships, activities and projects that improve livability for travelers and communities.

SUMMER 2014 PDQ

This past edition focused on Project Delivery's commitment to "sustainable investments," highlighting how economic sustainability principles are incorporated into our projects and processes.

SPRING 2014 PDQ

This edition provided a comprehensive definition of sustainability principles and outlined Caltrans activities related to sustainability.

private industry, and local and state government entities to provide a transportation system that improves quality of life for California's residents, businesses and visitors.

Caltrans is also actively involved in the Caltrans Improvement Project (CIP), a joint effort with the California State Transportation Agency (CalSTA). The CIP seeks to implement organizational and process improvements to increase our effectiveness and develop new strategies for sharing decision making and responsibility with our state and local partners.

One of the executive level teams is overseeing the development of the new Caltrans Strategic Goals, one of which includes the goal entitled "Sustainability, Livability and Economy."

This goal team is proposing objectives and performance measures that, with the help from our partners, will enable Caltrans to target investments towards efforts that yield the greatest sustainability and livability benefits. Some of the proposed performance measures are derived from measures that are also proposed in the CTP, highlighting the integrated efforts of different programs within Caltrans to measure and meet common goals.

Both the CTP and the goal teams are proposing measures that can assist with both local and

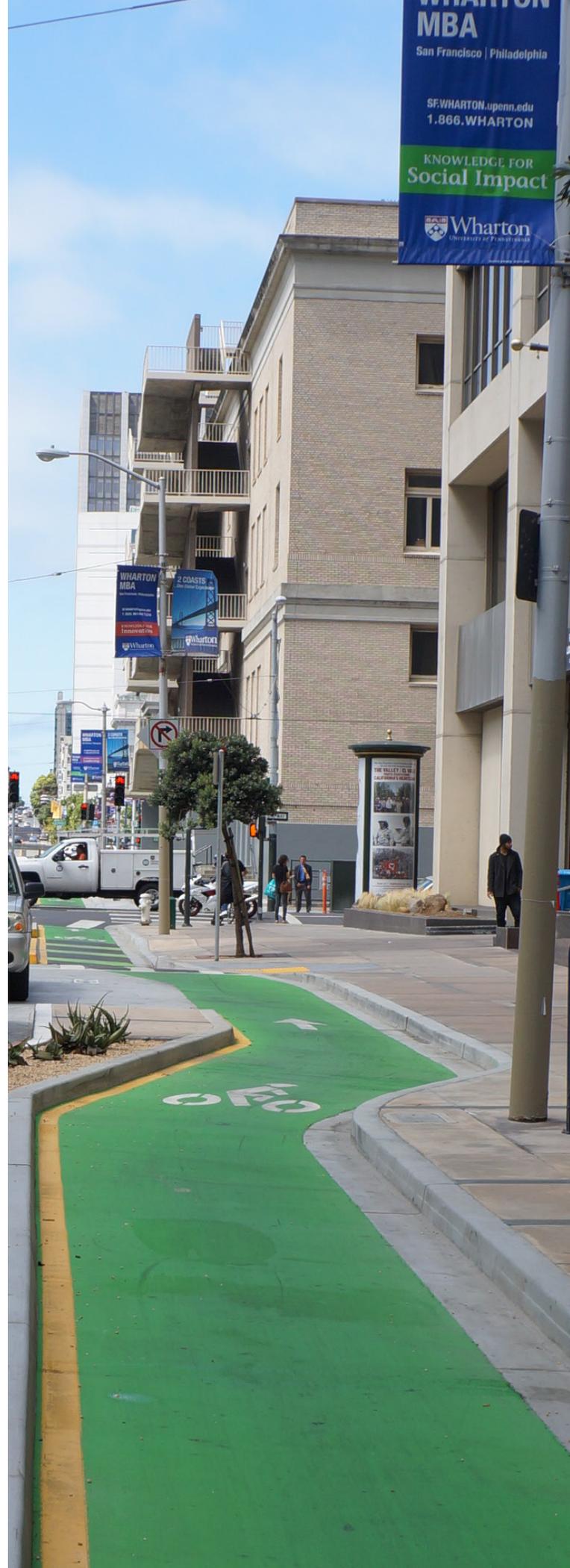
system level assessments of our progress. The proposed strategies for reaching sustainability and livability targets includes incorporating greater corridor analysis into our planning and design processes. Greater collaboration between our programs and our stakeholders streamlines efficient delivery and yields high quality projects that maximize desirable community and transportation outcomes.

Improving livability requires that multiple layers of public and private products and services operate in an integrated and complementary fashion. Maintaining our commitment to collaboration and innovation will help us to continue to improve quality of life for all Californians. I thank you for your dedication to state service and for your sustained efforts to help Project Delivery succeed.



Karla Sutliff
Project Delivery Deputy Director
(Chief Engineer)

Right: CalSTA and Caltrans executives recently toured transportation projects in San Francisco including this separated bike lane on Polk Street. Other visited sites are discussed in the article "Building Livability."



Livability Goals for Travelers and Communities

To improve livability, transportation resources must be directed towards solutions that produce widespread quality of life improvements, through assessing both *transportation* outcomes and desirable *community* outcomes.

Improved Quality of Life for Travelers:

Livable Transportation Outcomes

Livable transportation systems not only provide the freedom to choose the option to drive, walk, bike or take public transit but they provide *comfortable* travel conditions for multiple modes. Given the opportunity, people tend to seek out the travel option that provides the most positive experience. For example, people tend not to favor public transit trips that have less reliable travel times compared to driving, that lack overhead shelters for waiting in inclement weather, and that only offer cramped and dingy seating once aboard. Conversely, a transit trip that begins in a comfortable waiting environment, offers reliable travel times, and boasts spacious and attractive vehicle interiors can encourage riders to relax on their way to work, making transit a highly desirable commute option.

In the latter case of the appealing transit trip, both transportation infrastructure agencies and transit operator agencies are functioning symbiotically to improve both systems - roadway infrastructure supports the needs of passengers waiting for transit and provides roadway conditions that support reliable travel times; and transit operators have ensured the integrity and appeal of vehicles and schedules. It is unlikely that improvements to infrastructure or to transit operations alone would maximize the livability benefits that increased transit ridership can provide.

Dedicated efforts by all involved public agencies to prioritize and coordinate projects and investments, and to share responsibility for data collection and quality improvements related to performance measurement will yield transportation outcomes that provide livability benefits to riders, the local community and to the state.

Improved Quality of Life for All:

Livable Community Outcomes

Planning and designing transportation facilities to improve livability involves consideration of how the facility is experienced by travelers, as well as by other people who interact with the facility. A roadway, for example can provide a positive experience for drivers, while for people who live in proximity to the road, it may or may not provide a positive experience. Addressing this larger network of experiences is only possible with meaningful stakeholder input, and requires a wider set of performance measures to assess how effectively transportation facilities are providing benefits to the community (beyond those benefits that are related to travel alone).

Performance measures can quantify livability benefits of street and public realm improvements in various ways, such as by evaluating changes in property values, occupancy rates, and influx of new businesses. Livable streets for instance are often associated with higher property values when they include tree canopies for shade and seasonal beauty, and sidewalks wide enough to walk side by side with others. Local businesses such as restaurants often prefer to be located along attractive, walkable and well maintained streets that encourage patrons to stop and linger. An ever growing body of research shows that transportation infrastructure investments that support comfortable multimodal travel, and other community activities such as socializing and local shopping, can energize local and state economies.

Maximizing community livability outcomes requires interagency coordination, stakeholder engagement and shared responsibility for the life-cycle requirements involved with operating and maintaining high-quality public places. Only through coordinated planning, design, investment and performance monitoring efforts, can public agencies fully complement each other's goals of creating and maintaining the high quality of life that makes California a vibrant place to live, work and visit.



Livability describes the ability of people to thrive. The built environment is a powerful influence on human well-being. The following components of livability reflect how transportation facilities can improve quality of life by making measurable improvements to a wide range of essential human experiences.

Livability 101

Sense of Place Cities and towns are often compelling as a result of special visual, natural or cultural elements that can be experienced from within the public realm. We might seek out a particular vantage point in a city that provides views of a distinctive geographic feature such as a coastline, mountain range, or city skyline. Culturally and historically significant structures, monuments, and public parks and plazas can be meaningful destinations for residents and visitors alike. Often the most appealing visual elements of a community are best revealed by movement through a neighborhood – such as when a repeated local architectural style or a pattern of tree-lined streets becomes evident.

To preserve local character, communities generally rely on local ordinances to preserve historic districts and structures and to protect visual and environmental quality. Communities that wish to repair or create a unique sense of place look towards investments that will contribute to a high quality public realm.

Since the quality of public space is the result of accumulated planning and design decisions, adoption of new local form based codes and community oriented design guidelines is a common community strategy for ensuring that the appearance and scale of new buildings and street improvements will enhance the local sense of place.

Streets and travel facilities are one of the most dominant influences on the quality of the public realm since they provide the physical organizing structure for how communities are delineated. Transportation investments which support the local vision for high quality public spaces can help cities and towns create meaningful places that attract visitors, residents and new businesses.

Delivering transportation investments that support the local vision for sense of place requires early and sustained engagement of community members, interested stakeholders and multidisciplinary transportation professionals. Early dialogue should address long-range planning goals, evaluation of diverse environmental and travel scenarios, and analysis of corridor improvements that can provide positive community and transportation outcomes.

Ecological Health Protecting ecological health allows wildlife and natural systems to thrive, and directly affects the well-being of human communities. From clean air and water, to providing a meaningful connection to nature, preserving natural resources as important community assets helps define local sense of place and quality of life.

The transportation network can improve ecological health by encouraging travel options that minimize transportation related emissions, and by

including features such as green infrastructure which improves water quality, reduces urban heat islands and can help support local ecosystems.

Human Health Livable communities contribute to good health by providing environments in which people can thrive. Street networks can encourage active transportation such as bicycling and walking, which improves cardiovascular health. Landscaped and tree-lined streets can support emotional well-being by providing aesthetic enjoyment and a connection to nature. Comfortable public spaces such as wide sidewalks, plazas and parks can facilitate casual and easy interactions between people who live and work in the neighborhood. And a well-designed and well-maintained public realm is a powerful influence on encouraging people to spend restorative and recreational time outside with friends and family.

Safety Transportation environments make a fundamental contribution to livability by providing safe environments in which to work and travel. Traveler safety for all modes, and safe working conditions for maintenance and construction workers is a fundamental safety concern.

Livable communities also prioritize design that improves perceptions of safety - which is achieved by designing spaces to

be comfortable for all users at varying times of the day. This can include adequate street lighting to provide a comfortable nighttime environment, and traveling conditions that are comfortable for bicycling, walking and taking public transit. People rarely rely on statistical safety data to make traveling decisions, but they are extremely likely to make travel decisions based on which travel option *feels* the safest. Most people tend to bicycle, walk or take public transit only when they are confident that it is a safe and secure travel option.

Community Cohesion Within the context of transportation, livability is enhanced when travel routes are safe and supportive of human and ecological health. A high quality of life however, depends upon more than just physical well-being. To truly thrive, humans need positive interactions with other people. Transportation infrastructure can shape the quality of our daily social interactions.

Donald Appleyard famously documented in his 1981 book, “Livable Streets,” how people who lived on streets with low car traffic volume had three times more neighborhood friends than those that lived on streets with high traffic volumes in the same city. Having positive relationships within your community is often referred to as “community cohesion” which is associated with a higher quality of life. Community cohesion

has measurable physical and mental health benefits and is developed through frequent, but often spontaneous, social encounters. As infrastructure which physically defines public space, transportation facilities are powerful determinants of how easily and frequently these social interactions can occur.

Daily Activities Transportation infrastructure profoundly shapes our daily life. Transportation facilities can influence travel mode, frequency, duration and timing of where we travel, live, work or recreate. We may go out of our way to find an attractive pedestrian route, or one that avoids dark or deserted streets; senior citizens who are able to walk to markets, parks, and public transit stops can maintain independence long after they no longer drive; people may specifically choose to live in neighborhoods with nearby shops and restaurants on vibrant tree-lined boulevards.

Multimodal Travel Providing the option to travel comfortably by multiple travel modes allows individuals and groups to make travel decisions that enhance many aspects of quality of life. People may pursue active transportation for the sheer joy of it, or to save money, or to improve their health. People may make take public transit due to ecological concerns or because it allows them to catch up with reading or enjoy the scenery.

People may choose to drive selectively based on the length of the trip or to fulfill errands. Multimodal travel options help people make travel choices based on their quality of life goals, not because the infrastructure is restricting them to modes they would otherwise not select.

Inspiration, Reflection and Aesthetic Enjoyment The appearance and condition of our public realm can inspire, invigorate, frighten or deflate us. Livable communities provide spaces for solitary and communal reflection, celebration, activity and pause. We understand why beautiful and historically rich city and town plazas are often chosen for public celebrations, memorials or important civic speeches. Similarly, transportation infrastructure that is designed to be aesthetically rich and offer a variety of social and community experiences can become infused with personal and collective meaning.

Attention to the visual quality and aesthetics of building materials, surfaces, and design details communicates to people that they are inhabiting a valued public space. Sensory experiences such as the seasonal beauty of plants and trees, an auditory environment that enables people to socialize easily and the joy of appreciating public art, all contribute to making the public realm beautiful, meaningful and enriching.



Airspace: Transformed Places

Livability refers to the degree to which the public realm improves the quality of life for people who use public space. Caltrans, and the Division of Right of Way and Land Surveys Airspace Program, embraces the commitment to enhance the livability of California's communities.

Caltrans Right of Way Airspace Program is responsible for leasing and managing all property associated with a transportation facility that can safely accommodate a secondary use. A site identified as "airspace" is commonly associated with the space under highway structures, but "airspace" also denotes any Caltrans property that supports the functioning of the state highway system. Sites under a viaduct structure, within the loop of an interchange, between the main lanes, on- and off-ramps, within maintenance stations, and park-and-ride lots can all be considered airspace sites. Unoccupied airspace sites can be challenging and costly to maintain and secure. They often attract illegal dumping, graffiti, and encampments. When airspace sites can safely accommodate a desirable secondary use, it benefits the state and improves the livability of the local community.

*Photo above and next page:
An airspace location in San
Francisco was transformed
into a culinary destination
for people who live and work
nearby.*



In 2014, the city and county of San Francisco partnered with Caltrans to develop two airspace sites in the South of Market neighborhood (SoMa) into popular destinations where people now gather: SoMa West Skate Park and Dog Play Area, and G Food Lounge. “It is a win-win situation when unoccupied airspaces can be developed to secondary uses to bring communities together,” says Bijan Sartipi, Caltrans District 4 Director.

G Food Lounge

Food trucks, once thought to provide food of questionable quality, are now actively sought out by food connoisseurs. In keeping with the world famous food culture of the San Francisco Bay Area, the District 4 Airspace Program teamed up with local entrepreneurs to execute an airspace lease for a “food

truck lounge” that opened in January 2014 under the I-80 freeway between Bryant and Harrison Street. In an outdoor seating area with a lounge-room style décor, diners can enjoy varied selections from a rotating series of about 30 food trucks. According to cofounder Alok Dutt, “We have created a shared space where SoMa’s high tech community can socialize with friends and enjoy a sense of community. We believe the G Food Lounge sharing experience will become a popular way to connect, interact, and engage.” With a wide selection of international cuisines, this transformed space is now a culinary gathering place within Caltrans airspace. By developing projects like these in collaboration with local governments and neighborhood groups, Caltrans continues to enhance the livability of communities across California.





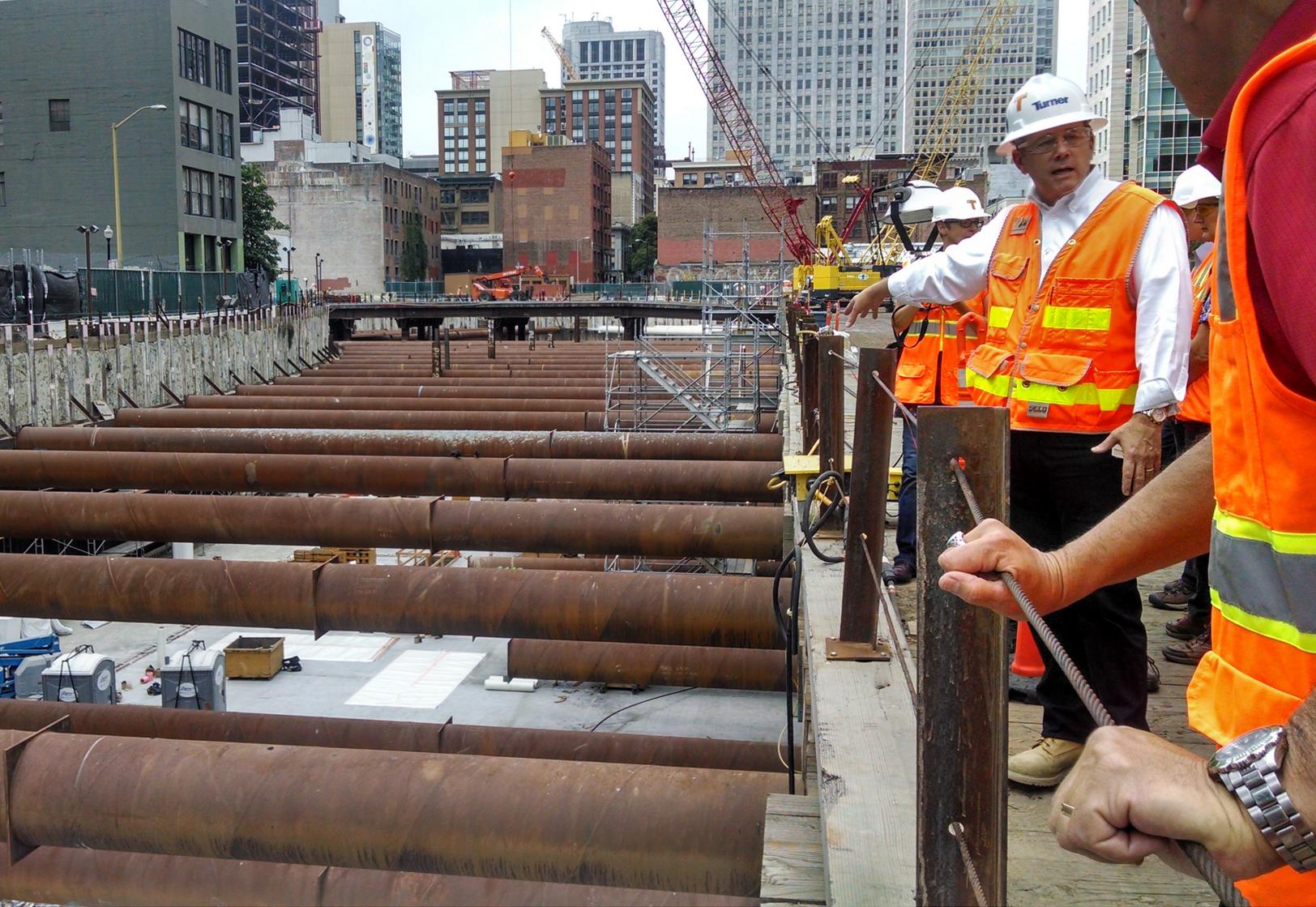
Above: The completed Skate Park features work by artist Jovi Schnell. The mural which spans several columns, was commissioned by the San Francisco Arts Commission. Photo by Ethan Kaplan with permission to publish from the San Francisco Arts Commission.

SoMa West Skate Park and Dog Play Area

In 2005, Caltrans reconstructed the San Francisco Central Freeway with a new touchdown on Market Street. After construction, the Mayor's Office of Economic and Workforce Development worked with Caltrans District 4 Right of Way and neighborhood groups to develop streetscape improvements that could transform the right of way under the Central Freeway into a vibrant public park space.

New Line Skateparks, one of the world's leading design and construction firms specializing in skateparks, presented conceptual designs for the transformation of a paved parking lot on Caltrans property under the Central Freeway into what is now the SoMa West Skate Park and Dog Play Area. Guided by community organizations and local residents, the final concept incorporated design elements from each of three initial proposals. Completed this year, the project is the result of a community-driven effort and the collaboration of state and local agencies to enhance public space in San Francisco, where open spaces for recreational use are scarce. The skatepark features a painted mural from San Francisco artist Jovi Schnell, inspired by the area's long-ago shuttered Woodward Gardens amusement park.

This converted airspace also includes the first designated dog play area in the neighborhood, featuring a play area for dogs, water fountains, artificial turf, irrigation, seating, and landscaping. There are also lighting improvements, parking, and a path that runs through the park from Stevenson Street to Valencia Street.



Building Livability

Throughout California, ambitious new projects are poised to provide dramatic livability benefits to travelers and local communities. Recently, the California State Transportation Agency (CalSTA) invited Caltrans executives and members of partner agencies to visit some of the most impressive transit, bike, and pedestrian transportation infrastructure improvement projects completed, or currently underway, in the city and county of San Francisco.



Above: A simulated rendering of the signature rooftop park planned for the Transbay Transit Center. Image from <http://transbaycenter.org/>

Photo previous page: The “train box” of the central zone of the construction site, from above on the trestle. The central zone is between First and Fremont Streets. Each of those big steel temporary reinforcement beams is holding back the city and its buildings on every side. The trains will come in the bottom level, over 60 feet below street level, and the center will rise up 5 stories, the top 3 above ground. This photo faces west.

Looking Ahead: The Transbay Transit Center

The first stop on the tour was the Transbay Transit Center construction site, managed by the Transbay Joint Powers Authority (TJPA). The TJPA is a collaboration of Bay Area government and transportation bodies charged with designing, building, operating and maintaining the new Transbay Transit Center. When completed, the center will provide a connection point for Caltrain, California High Speed Rail, and over half a dozen bus transit services.

The Transbay Transit Center will provide integrated transportation services for thousands of travelers per day, and like the famous Grand Central Station in New York City, it is envisioned to be a compelling destination in its own right. Being constructed in phases, the Transit Center will include retail, a 5.4 acre rooftop park and public art.

The project is part of a comprehensive redevelopment plan for the area that integrates transportation services with surrounding neighborhood improvements. The plan recognizes the tremendous livability benefits of colocating multimodal transportation infrastructure, housing and businesses within an inviting and aesthetically rich public realm.



Above: The removal of the Central Freeway above Octavia Boulevard at Haight Street in San Francisco transformed the public realm (see picture next page).

Looking Back: Octavia Boulevard

Later in the tour, CalSTA and Caltrans executives visited the former site of the Central Freeway structure which is now a vibrant multimodal neighborhood boulevard.

In 1989, the Loma Prieta earthquake severely damaged highway infrastructure in San Francisco, requiring that elevated structures along the Central Freeway be either reconstructed or demolished. In response to enthusiastic public support for a roadway network that provided greater community livability benefits, city and transportation officials developed the Octavia Boulevard Project.

The Octavia Boulevard Project encompasses the 22 parcels that the State transferred to the City in 2000; which roughly mirror the footprint of the old Central Freeway (Highway 101). Octavia Boulevard was reconfigured to create a street which is now widely hailed for accommodating a large volume of vehicle traffic while still supporting neighborhood vitality and bicycle and pedestrian travel.



Above: Octavia Boulevard, built in the footprint of the old Central Freeway structure, improved livability by facilitating comfortable conditions for multimodal travel and improved the quality of the public realm by including street trees, landscaping, pedestrian-scale street lighting, and attractive pedestrian and median paving. Photo taken during construction. The park located at the terminus of Octavia Boulevard is pictured on the back page of this document. More information is on the CalSTA blog: <https://calstablog.wordpress.com>

Octavia Boulevard now includes a center tree-lined median to separate lanes of opposing traffic. Side lanes buffer bicyclists, pedestrians and residences from the bulk of the traffic. The project also included a new park at the upper end of the boulevard, “Patricia’s Green” which is a treasured gathering space for neighborhood residents.

The transformation of the transportation facility was important for the neighborhood vitality, and it also resulted in measurable economic benefits. The Congress for New Urbanism reports that “before the destruction of the Central Freeway, condominium prices in the Hayes Valley neighborhood were 66% of San Francisco average prices. However, after the demolition and subsequent replacement with the new Octavia Boulevard, prices grew to 91% of city average.”

The transformation of Octavia Boulevard exemplifies how successful partnership between Caltrans, local agencies and community stakeholders allows transportation infrastructure to be transformed to make impressive gains in meeting modern travel and livability goals.

Photo: CalSTA, Caltrans and partners visit the park at the end of Octavia Boulevard in San Francisco, as discussed in the "Building Livability" article in this edition of the PDQ.



CALTRANS PROJECT DELIVERY is made up of several functional areas, which all provide a core purpose in solving transportation problems. Under the leadership of the Chief Engineer and the 12 District Directors, the functions of Project Management, Environmental Analysis, Design, Right of Way and Land Surveys, Engineering Services, and Construction work together to conceive, design, and build highways, bridges, and other transportation facilities for the traveling public.

<http://www.dot.ca.gov/hq/projdev/>