



SHOPP Asset Management Pilot Request Form

SHOPPCPR: Ver 3 11/14
 Submittal Date

Division of Transportation Programming
 State Highway Operation and Protection Program (SHOPP)

Project Manager
 Phone

Dist	County	Route	Prefix	PM	Prefix	PM	EA	PPNO	Project ID
<input type="text" value="04"/>	<input type="text" value="Santa Clara"/>	<input type="text" value="82"/>	<input type="text"/>	<input type="text" value="12.4"/>	<input type="text"/>	<input type="text" value="16.6"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Includes Multiple Locations (Complete Page 2 of this Form)

MPO:

Project Location/Description (Include the nearest city, town or landmark)

State Route 82, in Santa Clara County from PM 12.43 to PM 16.64 in City of Palo Alto, address improvement needs of multiple assets, construct Traffic Safety improvements, update existing sidewalk and curb ramps to current ADA standards, upgrade landscape and irrigation systems, construct bike and pedestrian improvements and repair pavement.

Need for project and proposed improvements (Elaborate using PID language)

SR 82 runs through Downtown Palo Alto and along the Stanford University campus, which attracts large number of cyclists and pedestrians. Existing sidewalks are often narrow and crossing distances at signalized intersections are too long. The last pavement resurfacing was completed in April of 2000. The project scope proposes to extend the service life of the pavement by digout repairs and resurfacing. Additional scope of work includes upgrading all exiting curb ramps and sidewalks to current ADA standards, installing traffic safety enhancements for motorist and pedestrians, providing a class II bike facility, and upgrading the existing landscape and irrigation systems. Additionally, project will have continuous coordination with current local VTA BRT proposed project and City of Palo Alto Projects.

PA&ED / M200
 PS&E / M380

R/W Cert / M410
 RTL / M460

CCA / M600
 END Project / M800

	Capital (\$1,000) (Escalated to FY of Programming)	
	FY	Cost
R/W	2020/21	\$200
Construction	2020/21	\$13,700
Total Capital		\$13,900

	Support (\$1,000)	
	FY	Cost
PA & ED	2020/21	\$695
PS & E	2020/21	\$1,390
R/W	2020/21	\$10
Construction	2020/21	\$2,075
Total Support		\$4,170

Legislative District Numbers (Separate multiple Districts with a comma)	
State Assembly	<input type="text" value="24,25"/>
State Senate	<input type="text" value="10,13"/>
Congressional	<input type="text" value="17"/>

Approved Denied

CAPITAL CONSTRUCTION COST ESCALATION RATE

District SFP (Print)	<input type="text" value="Doanh Nguyen"/>	District SFP (Sign)		Phone	<input type="text" value="(510) 286-6293"/>
District Director (Print)	<input type="text" value="Bijan Sartipi"/>	District Director (Sign)		Phone	<input type="text" value="(510) 286-5900"/>
SHOPP Exec. (Print)	<input type="text"/>	SHOPP Exec. (Sign)	<input type="text"/>	Phone	<input type="text"/>

Asset Management Pilot Project Nomination
El Camino Real Improvements in Palo Alto
SCL -82-PM 22.346/26.370
August 14, 2015

Project Background and Description

This pilot project proposes to address the improvement needs of multiple assets along State Route (SR) 82, also known as El Camino Real, in the City of Palo Alto (PM 22.346 to 26.370), Santa Clara County, in District 4.

The project location was determined based on pavement conditions, bicycle/pedestrian collision data, and the knowledge of local planning efforts, which allows for the opportunity to coordinate and combine projects. The idea is to deliver a paving project (pavement condition: moderate distress and bad ride) that includes access and safety improvements for bicycle and pedestrian circulation with a focus on upgrades to comply with ADA requirements. The project also proposes to upgrade existing landscaping and irrigation systems and to assess the potential for additional landscaping features.

Close collaboration between various D4 functional units (Traffic Safety, Maintenance, Landscape Design, System and Regional Planning, Advance Planning, Transit and Community Planning, and Program and Project Management) resulted in a project that incorporates ongoing local and D4 improvement efforts. Further coordination with local agencies to contribute funds for additional project elements, for example to accommodate the planned Bus Rapid Transit service, will take place during the PID phase.

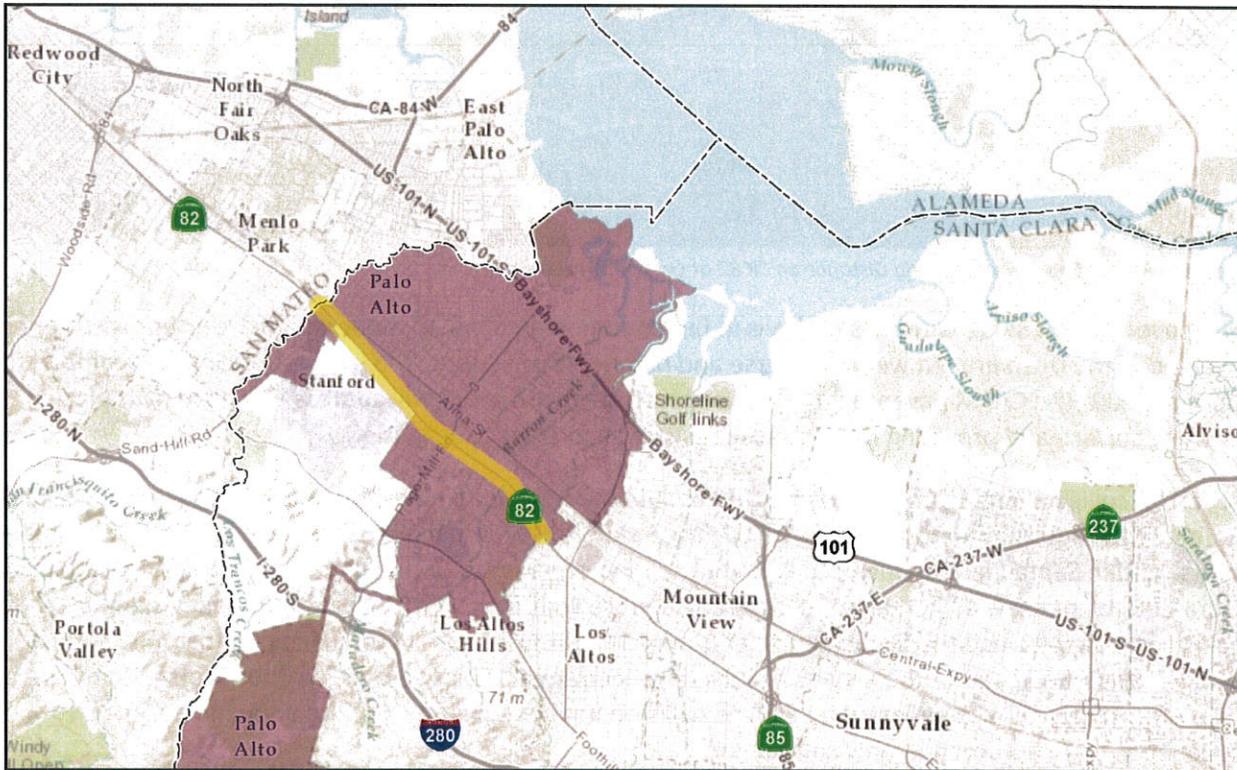


Figure 1: State Route 82 (El Camino Real) in Palo Alto, Santa Clara County

Source: District 4 GIS Unit

Project Need

Within the City of Palo Alto, SR 82 is a six-lane (plus parking lane in each direction) multi-modal conventional urban highway with a raised landscaped median that moves large volumes of cars, trucks and transit buses and has significant bicycle volumes and pedestrian use. 2014 AADT within the Palo Alto ranged between 47,000 (Charleston Road) and 38,500 (Embarcadero Road). 2013 truck volumes account for 2.6 – 4.6% of the AADT. SR 82 is designated as a MAP-21 National Highway System Principal Arterial and as a Terminal Access trucking route.

SR 82 runs through downtown Palo Alto and along the Stanford University campus, which attracts a large number of cyclists and pedestrians. Currently, only a few sections of the highway in Santa Clara County have bicycle facilities; there are none in Palo Alto. SR 82 presents a barrier for several intersecting local roads with bike facilities. There are sidewalks, but they are often narrow (less than 6 feet) and crossing distances at signalized intersections are long (six or sometimes eight lanes, narrow median, two parking lanes). Median landscaping and irrigation systems are outdated.



Figure 2: 8-Lane Pedestrian Crossing Distance on SR 82 at Oregon Expressway

The pavement on SR 82 within Palo Alto is in fair condition with low to moderate distress, but with general raveling of the open graded wearing course and bad ride throughout. The last resurfacing was completed in April of 2000. The CAPM pavement rehabilitation strategy proposed will address this need by replacing the wearing surface and providing for increased resistance to crack propagation.

Based on collision data compiled and plotted as shown on the map below by Nelson\Nygaard for the “State Route 82 Relinquishment Exploration Study”, the Palo Alto section of SR 82 has several bicycle collision hot spots. Within Santa Clara County, the Palo Alto section represents 28 percent of the length of SR 82 in Santa Clara County, but saw 43 percent of bicycle-automobile collisions, and 29 percent of pedestrian-automobile collisions. Palo Alto had the highest number of bicycle collisions, both in total and on a per mile basis in Santa Clara County, and of the eleven intersections identified as bicycle collision “hot spots”, four were in Palo Alto. There are also pedestrian-involved collision hot spots in the Palo Alto area and a higher concentration of automobile-only collisions.

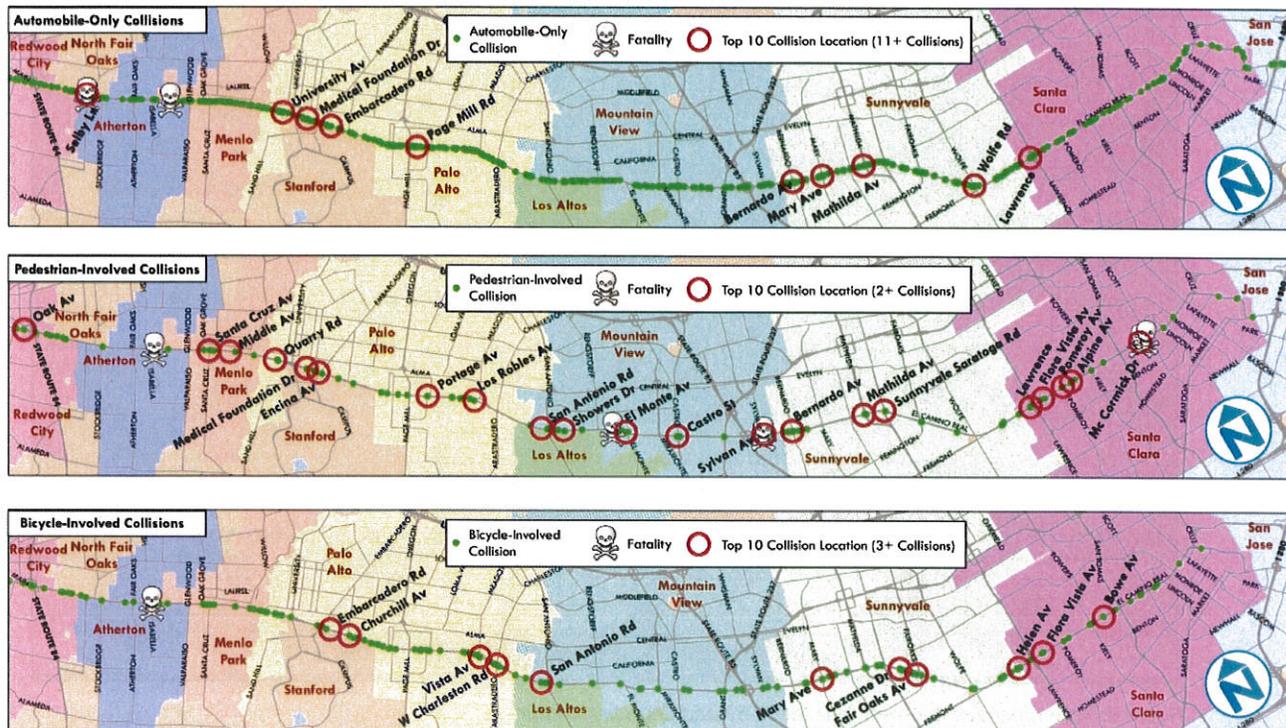


Figure 3: SR 82 Collision Hot Spots in Santa Clara County

Data Sources: Statewide Integrated Traffic Records System; Transportation Injury Mapping System, Safe Transportation Research and Education Center, UC Berkeley, 2014. (State Route 82 Relinquishment Exploration Study, Nelson Nygaard)

Project Purpose and Benefits

The purpose of the project is

- to extend the service life of the pavement, thus reducing life-cycle costs;
- to make SR 82 in Palo Alto fully ADA compliant;
- to improve the driving experience and safety for all vehicles including bicycles;
- to improve safety and opportunities for Active Transportation along and across SR 82 by increasing bicycle network connectivity and pedestrian access and crossing opportunities (Complete Streets);
- to provide streetscape enhancements that better integrate the highway into the overall urban experience and environment of Palo Alto and the Stanford University campus.

The proposed CAPM pavement rehabilitation strategy that replaces the wearing surface and provides for increased resistance to crack propagation, will bring the highway pavement up to a good condition.

The project proposes to provide safer bicycle opportunities to cross SR 82 at five critical locations as identified by the Palo Alto Bicycle and Pedestrian Master Plan (see Figure 4 for suggested improvements at the SR 82/Churchill Avenue intersection). For sections of SR 82 that are identified as critical bicycle network connections, the feasibility of adding bike lanes will be evaluated during the PID phase.

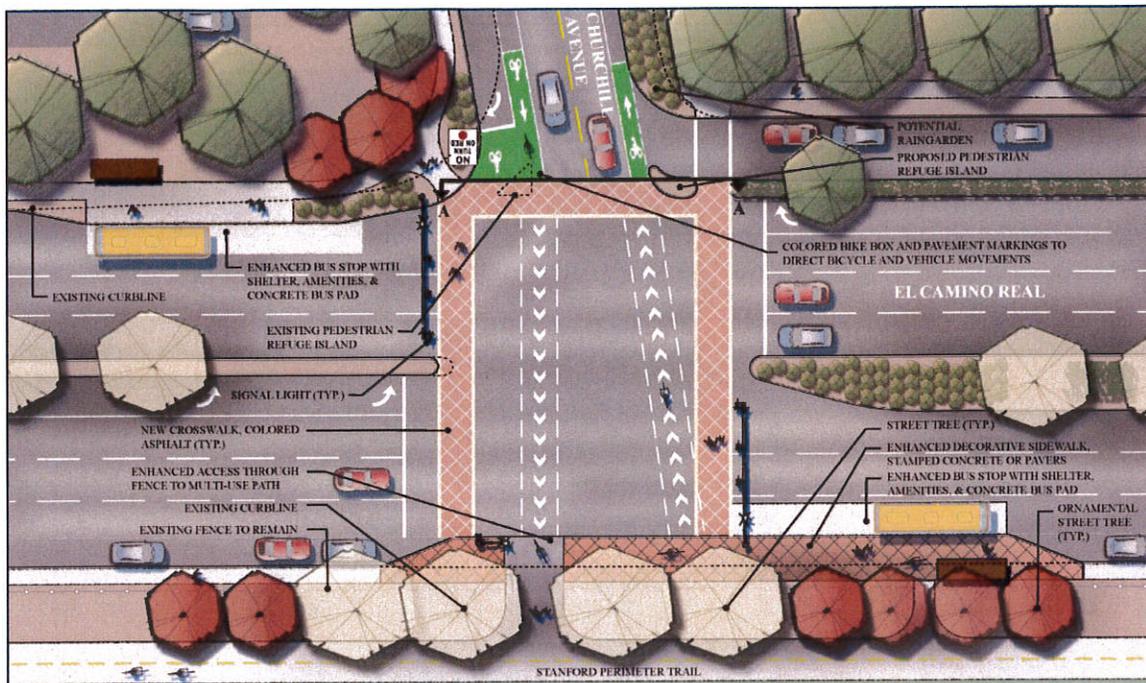


Figure 4: Recommended Improvements at SR 82 and Churchill Avenue

Source: City of Palo Alto (State Route 82 Relinquishment Exploration Study, Nelson/Nygaard)

D4 is currently working on several pedestrian access and safety improvement projects (see Attachment 1) to install Pedestrian Hybrid Beacons (PHBs), Audible Pedestrian Signals (APs) and Pedestrian Countdown Timers (PCTs), widen sidewalks, provide curb ramps and accessible pedestrian push buttons within the City of Palo Alto. Additional pedestrian safety improvements to reduce crossing distances (bulb outs, median refuge islands) at intersections with high pedestrian volumes and higher number of collisions will be evaluated for inclusion in the project. (It is recommended that the 2016 SHOPP project to install PHBs, listed under #1 in Attachment 1, proceed as scheduled as this project is already programmed.)

Project benefits are discussed within the framework of the Department’s Strategic Management Plan, in particular how the project addresses Strategic Management Goal areas – *Safety and Health; Stewardship and Efficiency; System Performance; Sustainability, Livability and Economy; and Organizational Excellence.*

Safety and Health

1. The proposed resurfacing will alleviate conditions resulting from raveling (poor ride quality and elevated ambient noise). A smooth riding surface has safety benefits particularly for cyclists, and reduced ambient noise levels have health benefits for residents and users of the corridor.
2. The installation of 138 Audible Pedestrian Signals and 234 Pedestrian Countdown Timers is estimated to reduce the total number of collisions by 57, per SHOPP Performance Measures developed for the 201.015 program in 2005.
3. While we do not have figures to quantify health and safety benefits from adding and improving bicycle and pedestrian infrastructure at this point, there is ample evidence that such facilities, if well designed and connected, will get people out of their cars and result in Active Transportation mode share growth (“Build it and they will come”), which in turn incentivizes a more physically active and healthier lifestyle. Other health benefits come from reduced air pollution and GHG emissions.

Stewardship and Efficiency

1. The proposed project treats 24.2 lane miles, of which 18.7 lane-miles (77%) are distressed. The existing condition of the pavement that triggers the need for a Capital Maintenance (CAPM) strategy is that of low to moderate distress with bad ride throughout. The CAPM pavement rehabilitation strategy proposed, that replaces the wearing surface and provides for increased resistance to crack propagation, will properly address this need. The strategy is to remove 0.1 feet of pavement and replace it with 0.1 foot rubberized Bonded Wearing Course or rubberized Hot Mix Asphalt. By providing a CAPM strategy while the pavement is still in fair condition, the life of the existing pavement will be extended approximately 10 years.
2. In addition to the planned paving project, one pedestrian safety and two ADA projects are planned and conceptually approved (see Attachment 1). Combining these four projects, which would cost \$14,500,000 if implemented separately (paving \$6,000,000; two ADA \$4,900,000; pedestrian safety \$3,600,000), we assume cost savings of around \$4,000,000 can be achieved through scoping these and all other proposed project elements in one document and one construction contract.
3. Scheduling and timing planned District projects and incorporating locally planned projects or project components will achieve efficiencies and minimize disruption to the public during project construction.

The table below lists and quantifies current conditions of physical assets included in the project and expected post-project conditions:

Asset	Total Quantity	Pre-Project Condition			Post- Project Condition		
		Good	Fair	Poor	Good	Fair	Poor
<i>Pavement</i>	24.2 lane miles	5.5	18.7		24.2		
<i>Curb ramps</i>	200	30		170	200		
<i>Sidewalks</i>	200 curb ramps,			200	200 curb ramps,	6,600 linear ft	11,4000 linear ft
	44,000 linear feet of sidewalks	11,400 linear ft	6,600 linear ft	26,400 linear ft	26,400 linear ft		
<i>Curb extensions and PPB</i>	300 curb extensions and PPB	new			300 curb extensions and PPB		
<i>APS &PCT</i>	138 APS & 234 PCT	new			138 APS & 234 PCT		
<i>Class II bike lanes</i>	1.3 miles	new			1.3 miles		
<i>Bike I/S improvements</i>	Bike lane marking and bike boxes at 5 I/S	new			Bike lane marking & bike boxes at 5 I/S		
<i>Transit</i>	8 bus stations	new			8 new bus stations		
<i>Landscaping</i>	Landscape buffer/rain gardens at six I/S	new			Landscape buffer/rain gardens at six I/S		
<i>Landscaping</i>	Upgrade 2 acres of landscaping plus irrigation crossovers			2 acres	2 acres		

Figure 5: Pre- and Post-Project Condition of Assets

Sustainability, Livability and Economy

See attached Sustainability Questionnaire (Attachment 2) for responses to the project's scoring in terms of the *Sustainability, Livability and Economy* goal area.

System Performance

The major system performance improvements refer to the Complete Streets elements of the proposal: 1.) Pedestrian facilities will be fully ADA compliant and 2.) safer bicycle crossing facilities at intersection will contribute to completing the bike network in Palo Alto. Extending the service life of the pavement, thus reducing life-cycle costs, is the other important performance upgrade.

Organizational Excellence

Close collaboration between various D4 functional units (Traffic Safety, Maintenance, Landscape Design, System and Regional Planning, Advance Planning, Transit and Community Planning, Program and Project Management) resulted in a project that incorporates ongoing D4 and local improvement efforts and desires. During this collaborative process, project ideas were generated and assessed in terms of how they align with Department and State goals and how they would rank in the competitive pilot project selection process.

This pilot project is a great opportunity to look at a corridor or corridor segment comprehensively in terms of needs and improvement opportunities by incorporating recommendations and findings from D4 and local planning work, in particular with regard to Complete Streets elements. The Palo Alto Bicycle and Pedestrian Transportation Plan (2012) was used as the resource to determine the bicycle elements for the project.

Another useful resource for SR 82 project scoping and development is the *Street Design Toolbox* (<http://grandboulevard.net/toolbox/>) that was developed for the Grand Boulevard Initiative (GBI) and approved by D4 for consistency with design standards. D4 Planning is and has been involved in the GBI for many years. This is a collaboration of 19 cities, counties, regional agencies, and Caltrans to improve the performance, safety and aesthetics of El Camino Real and improve it as a "place for residents to work, live, shop and play, creating links between communities that promote walking and transit and an improved and meaningful quality of life."

The project will serve to improve partnerships with the local agencies, the City of Palo Alto, Santa Clara County, and the Valley Transportation Authority. Further coordination with our local partners would take place during the PID phase, including opportunities to combine and add funds for additional project elements, for example to accommodate the planned Bus Rapid Transit service.

Performance Measures and Cost

A summary of the proposed project elements, associated performance measures and costs is provided in Figure 7 below. In addition to the planned paving project, two ADA and one pedestrian safety projects are planned and conceptually approved (see Attachment 1). Combining these projects (below in blue), which would cost \$14,500,000 if implemented separately (paving \$6,000,000; two ADA \$4,900,000; pedestrian safety \$3,600,000), we estimate that cost savings of around \$4,000,000 can be achieved, which in turn are available for additional project elements (below in green). We recommend that the project programmed for the 2016 SHOPP to install Pedestrian Hybrid Beacons proceed as scheduled.

Item (Program)	Performance Measures	Description of Work	Cost
Pavement (121)	24.2 lane-miles of distressed pavement	<i>Digout pavement repair, striping, traffic control, and remove 0.1 feet, replace with 0.1 foot rubberized Bonded Wearing Course</i>	\$6,000,000
ADA (#3 & 4 combined) (378) (conceptually approved)	200 curb ramps, 24,000 linear feet of sidewalks, 300 curb extensions and PPB	<i>Upgrade all existing curb ramps, sidewalks, curb extensions, and the accessibility of pedestrian push buttons (PPB) and provide pedestrian refuge island at selected locations in the City of Palo Alto</i>	\$3,900,000
Safety (015) (conceptually approved)	138 APS & 234 PCT; 57 collisions reduced	<i>Install Audible Pedestrian Signals (APS) and Pedestrian Countdown Timers (PCT) for all existing traffic signals on State highway intersections within City of Palo Alto</i>	\$600,000
Bike lanes (no existing program)	1.3 miles	<i>Provide Class II bike lanes</i>	\$50,000
Bike facilities (no existing program)	Bike lane marking and bike boxes at five I/S	<i>Provide bike through lane markings and bike boxes at major intersections with intersecting bicycle facilities in Palo Alto</i>	\$1,000,000
Transit facilities (no existing program)	8 bus stops/stations	<i>Provide enhanced bus stop/ bulb-outs for enhanced rapid transit service</i>	\$2,000,000
Landscaping (121 & 015)	Landscape buffer/rain gardens at six I/S	<i>Provide landscape buffer with flow-through planters/ (rain gardens) for storm water treatment and supplemental irrigation;</i>	\$300,000
Landscaping (121 & 015)	2 acres of landscaping plus irrigation crossovers	<i>Upgrade irrigation crossovers</i>	\$50,000
Total capital			\$13,900,000*
Total capital plus support (30%)			\$18,070,000

* Includes R/W capital

Figure 6: Performance Measures and Cost

Planned and Programmed Pedestrian Safety Projects along SR 82 in Palo Alto

2016 SHOPP (015 Safety) Project

1. *Install Pedestrian Hybrid Beacons (PHB) at all existing unregulated marked crosswalks, on all State conventional highway intersections, in San Francisco and Santa Clara Counties (EA 4H4501)*
Estimated cost of improvements within the City of Palo Alto - \$1,400,000 (Construction + ROW)
Currently in PA&ED phase; Ready To List by March 2017
Construction scheduled for 2017/18 fiscal year

2018 SHOPP (015 Safety) Project

2. *Install Audible Pedestrian Signals (APS) and Pedestrian Countdown Timers (PCT) for all existing traffic signals on State highway intersections within Santa Clara County (EA – TBD)*
Estimated cost of improvements within the City of Palo Alto - \$3,600,000 (Construction + ROW)
PID Phase (PSR is currently being developed by Advance Planning)
Construction anticipated for 2020/21 fiscal year

2018 SHOPP (378 ADA) Project

3. *Upgrade all existing curb ramps, sidewalks, and the accessibility of pedestrian push buttons in Santa Clara County, in the City of Palo Alto, on SR 82 (El Camino Real), from 0.05 mile north of the Kendall Avenue intersection to the San Mateo County Line (SCI-82-PM 23.5/26.4) (EA TBD)*
Estimated cost of improvements within the City of Palo Alto - \$3,300,000 (Construction + ROW)
PID Phase (PSR to be developed by Advance Planning)
Construction anticipated for 2020/21 fiscal year
4. *Upgrade all existing curb ramps, sidewalks, and the accessibility of pedestrian push buttons in Santa Clara County, on SR 82 (El Camino Real), from 0.12 mile north of the Clark Street intersection, in the City of Los Altos, to 0.05 mile north of the Kendall Avenue intersection, in the City of Palo Alto (SCI-82-PM 21.0/23.5) (EA TBD)*
Estimated total cost of improvements within the City of Palo Alto - \$1,600,000 (Construction + ROW)
Construction anticipated for 2020/21 fiscal year

SHOPP Sustainability Questionnaire

Sustainability Goal measures		Project Title: <i>El Camino Real Improvements in Palo Alto (SCL -82-PM 22.346/26.370)</i>	Yes/No	Description (of Yes responses)
Quality of Life				
Stimulate Sustainable Growth and Development (Envision QL 1.2)				
Intent: Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability.				
1	Prosperity	Will the project enhance the community's quality of life and economic prosperity?	Yes	Improved and safer pedestrian facilities and access to transit, business and housing along the corridor; SR 82 will be less of a barrier for pedestrian and cyclists to reach places on both sides of the corridor, in particular between DT Palo Alto and the Stanford University campus.
Improve Community Mobility and Access (Envision QL 1.2)				
Intent: Locate, design and construct the project in a way that eases traffic congestion, improves mobility and access, does not promote urban sprawl, and otherwise improves community livability.				
2	Access	Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, including appropriate wayfinding signage?	Yes	Improved and safer pedestrian facilities and access to transit, business and housing along the corridor; SR 82 will be less of a barrier for pedestrian and cyclists to reach places on both sides of the corridor, in particular between DT Palo Alto and the Stanford University campus.
3	Non-Auto Mode Share	Will the project encourage the use of transit and/or non-motorized transportation?	Yes	
4	Non-Auto Mode Share	Has the project team coordinated the design with other infrastructure assets to improve walkability and livability?	Yes	
Preserve Historic and Cultural Resources (Envision QL 3.1)				
Intent: Preserve or restore significant historical and cultural sites and related resources to preserve and enhance community cultural resources.				
5	Env	Will the project minimize impacts on historic and cultural resources? (Consulted the tribal, historic and cultural resource staff in Environmental (PQS)?)	No	
Enhance Public Space (Envision QL 3.3)				
Intent: Improve existing public space including parks, plazas, recreational facilities, or wildlife refuges to enhance community livability.				
6	Livability	Will the proposed project make meaningful enhancements to public space or address Section 4(f) properties, (examples include parks, plazas, recreational facilities, or wildlife refuges) to enhance community, livability, and quality of life?	Maybe	Easier non-motorized connection to Stanford University campus.
Leadership				
Foster Collaboration and Teamwork (Envision LD 1.3)				
Intent: Eliminate conflicting design elements, and optimize system by using integrated design and delivery methodologies and collaborative processes.				
7	Sustainable Corridor Master Plan (SCMP)	Are the project owner and the project team intending to take a Context Sensitive Solutions view of the project?	Yes	It is the intended to closely coordinate bike/ped and landscaping features with the City of Palo Alto and use the Design Toolkit developed for the corridor on behalf of the Grand Boulevard Initiative.
Improve Infrastructure Integration (Envision LD 2.2)				
Intent: Design the project to take into account the operational relationships among other elements of community infrastructure which results in an overall improvement in infrastructure efficiency and effectiveness.				
8	Livability	Will the project team seek input from local stakeholders regarding how the project impacts or enhances the community infrastructure?	Yes	It is the intended to closely coordinate bike/ped, transit and landscaping features with the City of Palo Alto and use the Design Toolkit developed for the corridor on behalf of the Grand Boulevard Initiative.
9	Freight	Will the project address the needs on the priority freight network included in the Freight Mobility Plan?	No	
Resource Allocation				
Use Recycled Materials (Envision RA 1.3)				
Intent: Minimize transportation costs and impacts and retain regional benefits through specifying local sources.				
10	Resource Consumption	Will the project team consider reuse of existing materials or recycled materials or use of materials from within 100 miles of the project site?	No	
Reduce Energy Consumption (Envision RA 2.1)				

Sustainability Goal measures		Project Title: <i>El Camino Real Improvements in Palo Alto (SCL -82-PM 22.346/26.370)</i>	Yes/No	Description (of Yes responses)
		Intent: Conserve energy by reducing overall operation and maintenance energy consumption throughout the project life cycle.		
11	Energy	Can the project incorporate reducing energy consumption or generating energy supply during the construction phase or after as a purpose for the project?	No	
Natural World				
		Preserve Prime Habitat and Species (<i>Envision NW 1.1</i>)		
		Intent: Avoid placing the project – and the site compound/temporary works – on land that has been identified as of high ecological value or as having species of high value.		
12	Env	Does the project concept incorporate solutions to preserve, improve or connect important natural resources (habitat, species needs, or fish and wildlife movement corridors)?	No	
		Protect Wetlands and Surface Water (<i>Envision NW 1.2</i>)		
		Intent: Protect, buffer, enhance and restore areas designated as wetlands, shorelines, and waterbodies by providing natural buffer zones, vegetation and soil protection zones.		
13	Water	Does the project concept address or enhance adjacent wetlands, hydraulic connection and waters functions, values, or existing deficiencies?	No	
		Preserve Prime Farmland (<i>Envision NW 1.3</i>)		
		Intent: Identify and protect soils designated as prime farmland, unique farmland, or farmland of statewide importance.		
14	Env	Does the project concept improve or enhance the existing farming conditions or associated interface with the transportation facility (water conveyance, quality, habitat preservation, weed management, farming operation, etc.)?	No	Project is located in a highly urbanized environment.
		Preserve Floodplain Functions (<i>Envision NW 1.5</i>)		
		Intent: Preserve floodplain functions by limiting development and development impacts to maintain water management capacities and capabilities.		
15	Water	Does the project concept allow for natural floodplain functions restored or rectified related to existing infrastructure impingements?	No	
		Manage Stormwater (<i>Envision NW 2.1</i>)		
		Intent: Minimize the impact of infrastructure on stormwater runoff quantity and quality.		
16	Water Quality	Can the project be designed to treat more than minimum stormwater treatment requirements, for example post construction or TMDL compliance units?	Yes	Rain gardens/ flow-through planters treat more than minimum stormwater treatment requirements.
		Roadside Vegetation Environment (<i>Envision NW 3.4</i>)		
		Intent: Use appropriate non-invasive species and control or eliminate existing invasive species.		
17	Env	Does the project concept incorporate improvements to roadside vegetation through restorative actions to native/appropriate vegetation to reduce/eliminate need for future management (maintenance, water use, pesticides, invasive species, etc.)?	Yes	Irrigation systems will be update and more efficient; replanting will be done with native drought-resistant vegetation.
Climate & Risk				
		Reduce Greenhouse Gas Emissions (<i>Envision CR 1.1</i>)		
		Intent: Conduct a comprehensive life-cycle carbon analysis and use this assessment to reduce the anticipated amount of net greenhouse gas emissions during the life cycle of the project, reducing project contribution to climate change.		
18	GHG	Based on a life-cycle carbon assessment, will the project be designed in a way that substantially reduces carbon emissions?	No	Focus on bike/ped improvements is likely to incentivize some mode shift, however, the data and resources are lacking to quantify this at this point.
		Assess Climate Threat (<i>Envision CR 2.1</i>)		
		Intent: Develop a comprehensive Climate Vulnerability Assessment and Adaptation Plan.		
19	Resiliency	Will the project address potential risks or vulnerability deficiencies identified in state, regional, local or site specific plans?	No	
		Manage Heat Island Effects (<i>Envision CR 2.5</i>)		
		Intent: Minimize surfaces with a high solar reflectance index (SRI) to reduce localized heat accumulation and manage microclimates.		
20	Green Infrastructure	Will the project be designed to include green infrastructure such as reducing heat island effects by reducing the percentage of low solar reflectance index (SRI) surfaces?	Yes	Landscaping components are expected to reduce the heat island effect; adding so called "rain gardens", although only at a few locations, will add permeable surfaces.