City of San Luis Obispo
Bob Jones Pathway
Octagon Barn Connection Study

DRAFT
June 2013

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City of San Luis Obispo

Draft Bob Jones Pathway Octagon Barn Connection Study

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1 Executive Summary

1.1 Project Overview and Alignment Alternatives

The goal of this planning effort is to develop a pathway corridor study (Study) for a half-mile segment of the Bob Jones Pathway between the Octagon Barn Complex in San Luis Obispo County and the south side of the US Highway 101/Los Osos Valley Road (City's Bob Jones US 101/LOVR) interchange in City of San Luis Obispo. The approximately 11-mile Bob Jones City-to-Sea Bike Pathway (Bob Jones Pathway) is an important regional pathway connecting San Luis Obispo and Avila Beach that serves both recreational and transportation purposes. The completion of the Bob Jones Pathway has been identified as a major goal for the City of San Luis Obispo (City) in addition to being designated in City's transportation plans and various County of San Luis Obispo (County) planning documents. Route planning has been approved or is currently in process for all sections of the pathway with the exception of the Octagon Barn to LOVR section, which is the focus of this planning effort.

This Study reviews multi-use pathway alignment alternatives and identifies a preferred pathway alignment based on site analysis and public input gathered through various outreach efforts. The Study Area sits along the City/County boundary and includes properties between the southern end of the City's planned Bob Jones Pathway alignment located north of the US 101/LOVR interchange and the northern end of the County's planned Bob Jones Pathway Extension #2 project which ends at the Octagon Barn.

This Study presents alignment-specific pros and cons and potential solutions, associated with three potential pathway alignments: an along San Luis Obispo Creek, and along agricultural and residential lands, and along LOVR and S. Higuera Street (see **Figure 1-1**).

This study is funded by a California Department of Transportation (Caltrans) Community-Based Transportation Planning (CBTP) grant.

1.2 Policy Context

The City's and County's regulatory documents support the development of the pathway and protection of agricultural and environmental resources. The City's Bicycle Transportation Plan and San Luis Obispo Council of Government's 2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy include a Class I pathway connection between LOVR and S. Higuera Street. The City's Bicycle Transportation Plan also calls for bike lanes on South Higuera Street. One of the themes of the General Plan is to maintain a network of paths, sidewalks, and bikeways that connect neighborhoods with major activity centers and with County pedestrian and bicycle facilities. The County's Parks and Recreation Element identifies the proposed Bob Jones Pathway, stating it is to connect the City of San Luis Obispo to the community of Avila Beach in the vicinity of San Luis Obispo Creek. The City's Bicycle Transportation Plan and Bob Jones City-to-Sea Trail Preliminary Alignment Plan, as well as the County's 2011 Public Improvement Standards include pathway and on-street bikeway design standards applicable to the Bob Jones Pathway.

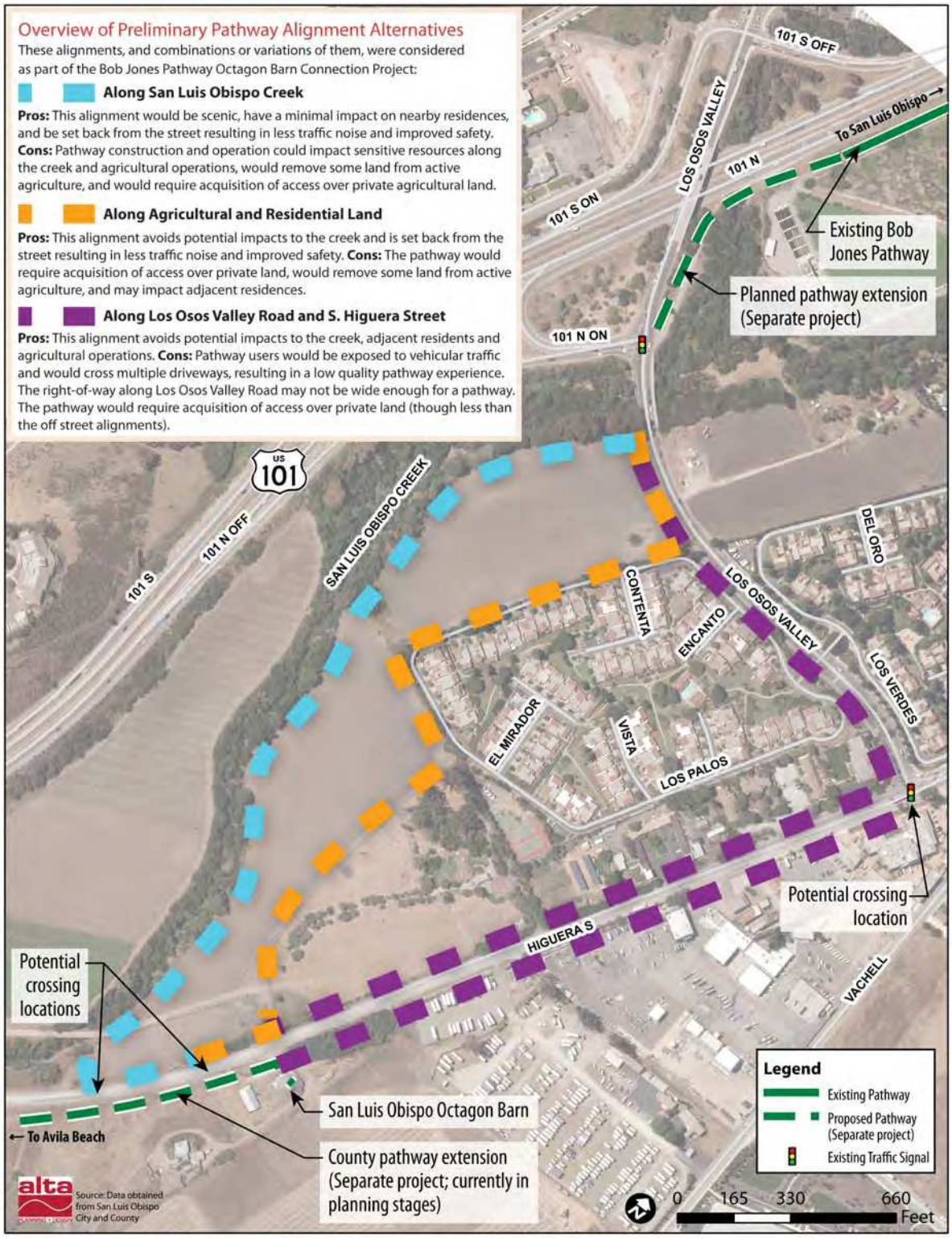


Figure 1-1: Bob Jones Pathway Preliminary Alignment Alternatives

Planning documents that speak to agricultural resource protection include the County's General Plan, "Right-to-Farm" Ordinance, and Agricultural Buffer Policy. County policy stipulates that access trails shall stay as far away as reasonable from production agriculture, commercial activities and residences (County Parks and Recreation Element Policy 3.8) and shall not conflict with agricultural resources (County General Plan Policy AGP 32). Additionally, the City's General Plan includes resource protection policies.

Environmental resource protections include the City's Zoning Regulations and the County's General Plan, which include grading and building setback requirements for the creek. These documents also protect riparian vegetation.

1.3 Existing Land Uses, Opportunities and Constraints

1.3.1 Land Uses within the Study Area

Land use categories in the Study Area include Agriculture within the County and Open Space, Interim Open Space, Low Density Residential (7 dwelling units/acre), Medium Density Residential (12 dwelling units/acre), and Services and Manufacturing within the City (see **Figure 1-2**). Development includes agricultural areas, residences, and commercial/retail development. The preferred pathway alignment may traverse Agriculture (County), Interim Open Space (City), Open Space (City), and/or Service Commercial (City and County) land use categories. Recreational facilities, such as pathways, are an allowed use within these land use designations.

The Study Area includes portions of LOVR, S. Higuera Street, and northbound US 101 on and off ramps (see **Figure 1-2** and **Figure 1-3**). LOVR has a northwest-southeast alignment connecting S. Higuera Street in San Luis Obispo and the unincorporated community of Los Osos on the coast. Within the Study Area, LOVR is a two- to three-lane arterial roadway with a 35 mile per hour speed limit. LOVR includes an interchange with US 101 at the north end of the Study Area. South Higuera Street has a northeast-southwest alignment and links the western end of Downtown San Luis Obispo with US 101 south of the City/County limit. Within the Study Area, S. Higuera Street is a two- to four-lane arterial roadway with 45 MPH and 55 MPH speed limits in the City and County, respectively. Class II bike lanes are designated on both roadways. Both roadways include intermittent sidewalks and bike lanes.

San Luis Obispo Creek and its confluence with Froom Creek are located within the western portion of the Study Area. San Luis Obispo Creek includes dense riparian vegetation. A portion of the Study Area is within the floodplain for San Luis Obispo Creek and flooding has occurred during wet years. Study Area topography is nearly flat to gently sloping.

The Study Area includes properties with important farmland classifications, including Prime Farmland, Farmland of Statewide Significance, Farmland of Local Importance, and Grazing Land (**see Figure 1-4**). Existing agricultural uses include row crops.

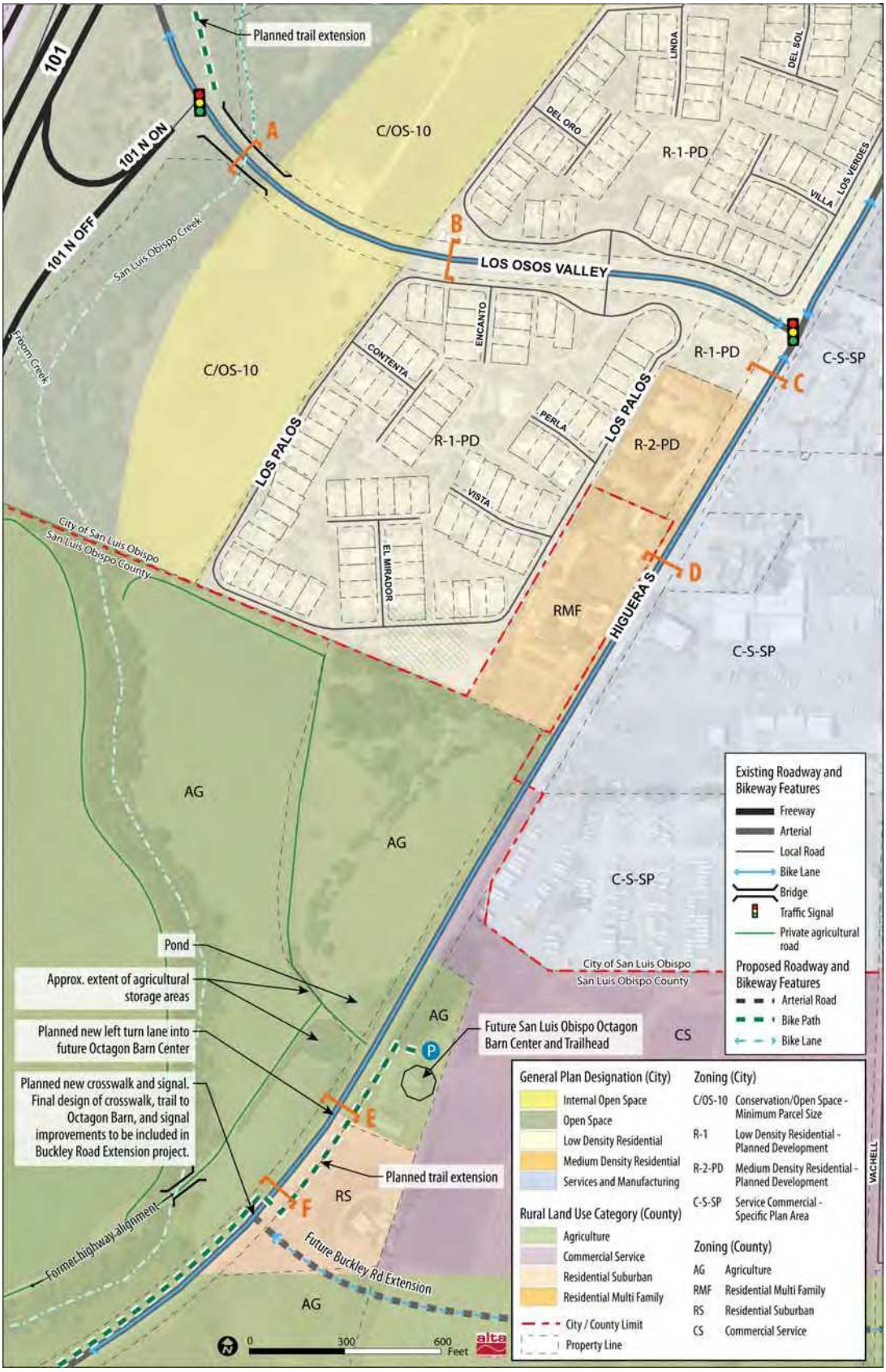
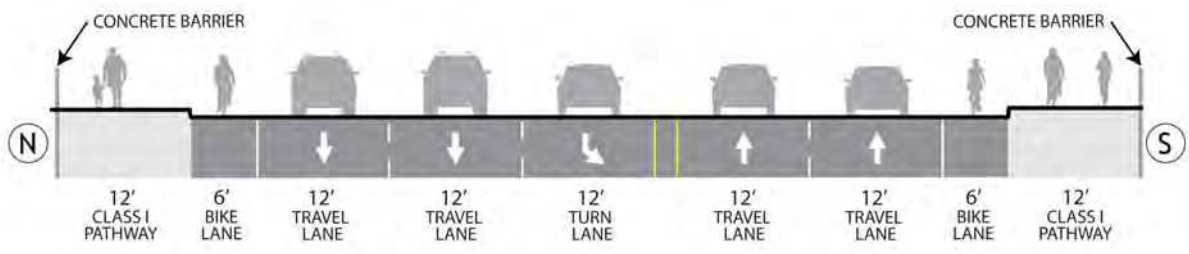
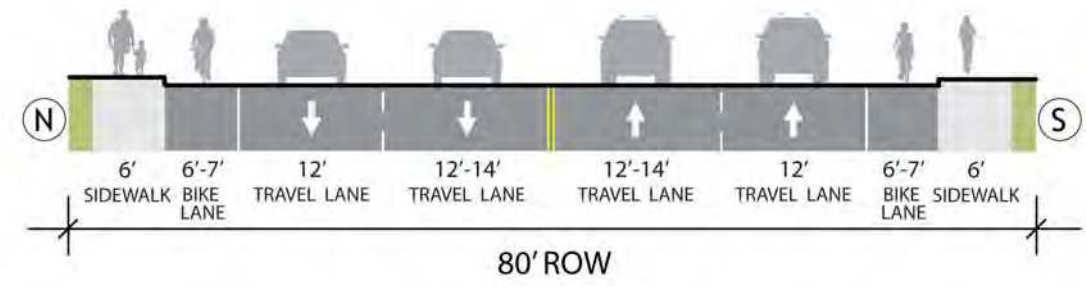


Figure 1-2: Land Use Designations and Circulation in the Study Area

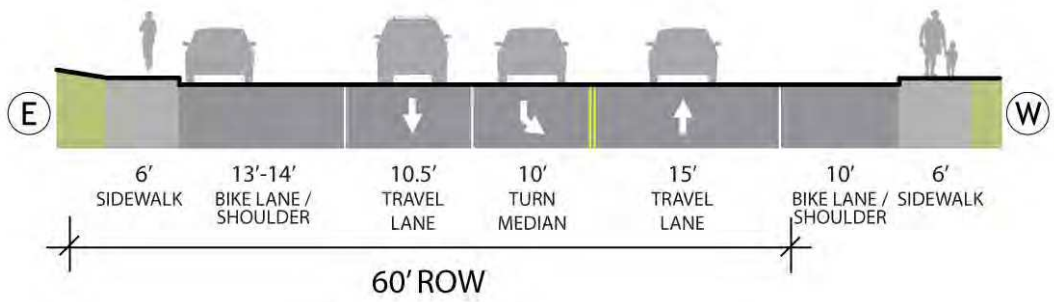
Figure 1-3: LOVR and S. Higuera Street Cross Sections A Through F



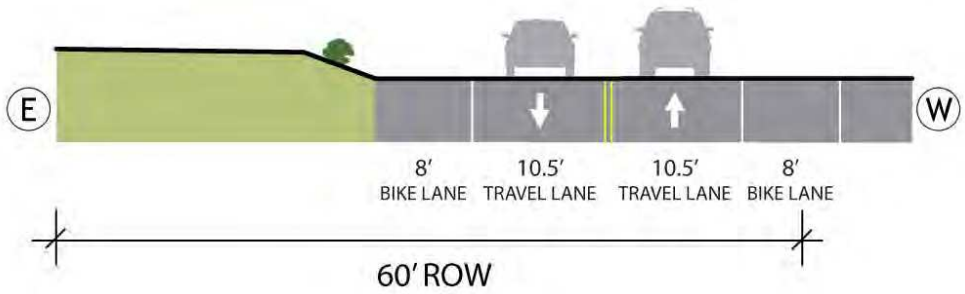
Section A: Planned LOVR Improvements (facing east)



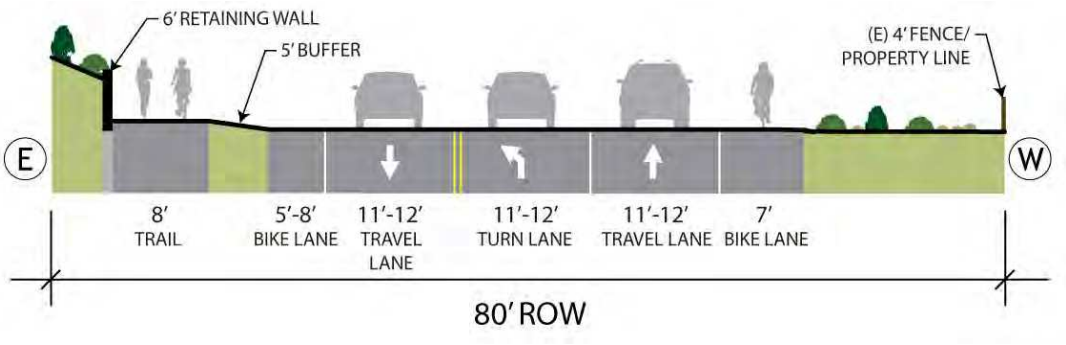
Section B: Planned LOVR Improvements (facing east)



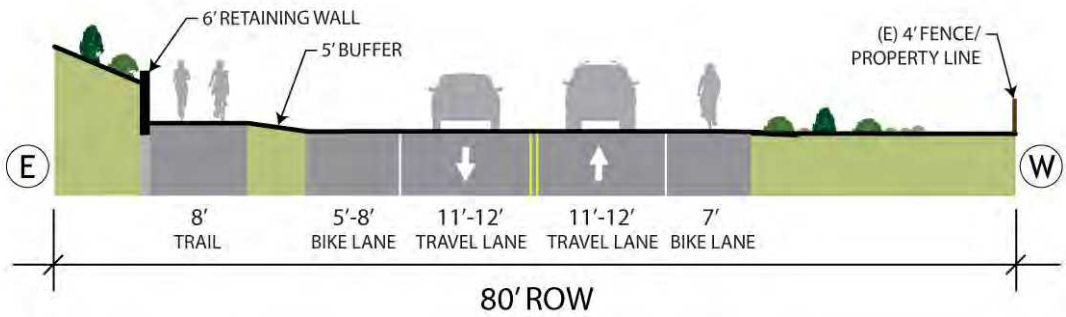
Section C: Planned S. Higuera Street Improvements (facing south)



Section D: S. Higuera Street Existing Conditions (facing south)



Section E: S. Higuera Street Planned Left Turn Lane and Pathway Alignment (facing south)



Section F: S. Higuera Street Planned Pathway Alignment (facing south)

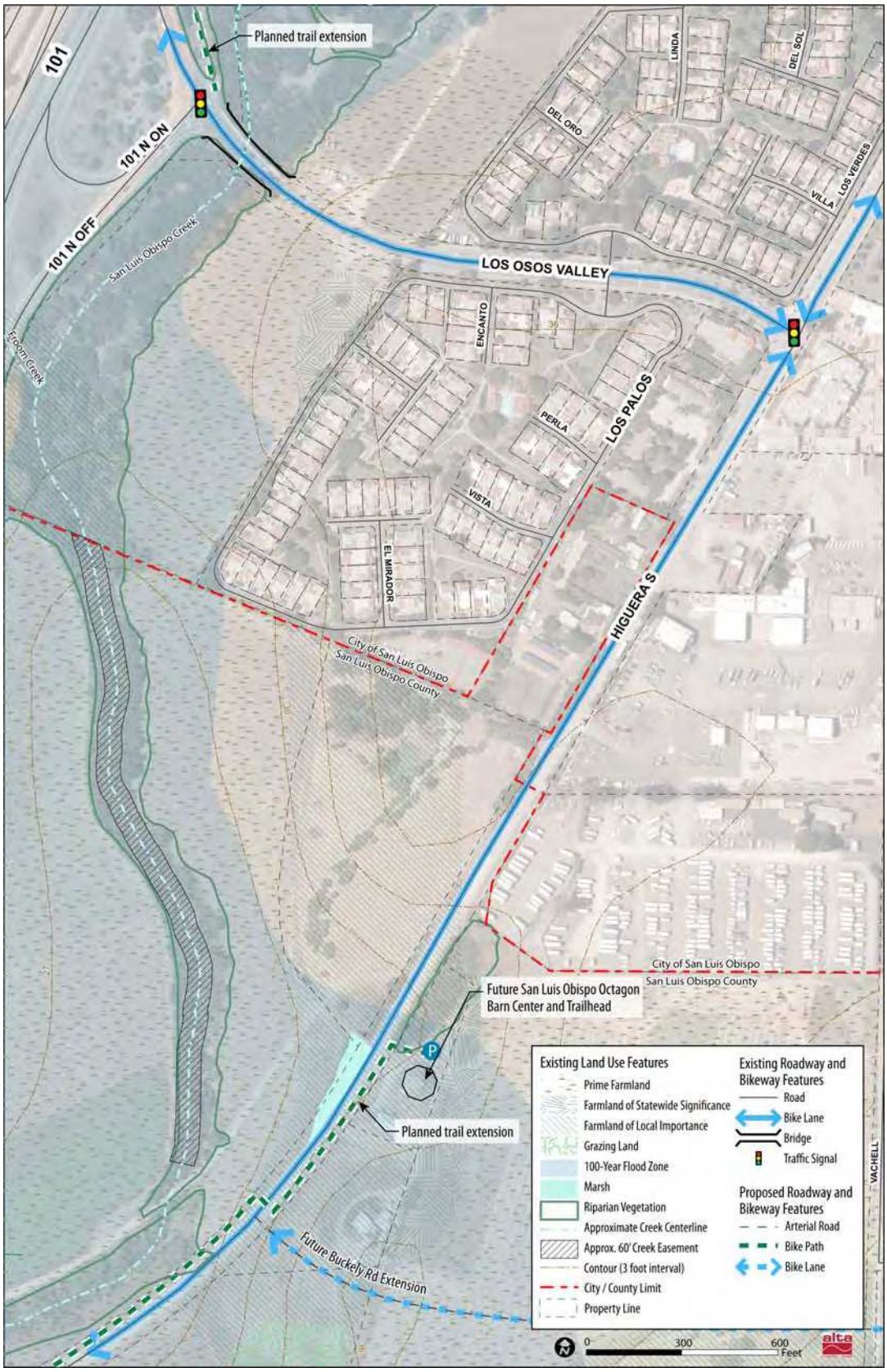


Figure 1-4: Argicultural and Biological Resources within the Study Area

1.3.2 Planned Improvements

Several projects are in planning stages in the Study Area, including:

- **US 101/ LOVR Interchange.** This project will widen LOVR from 2 to 4 through lanes from South Higuera St. to west of Calle Joaquin and construct wide sidewalks and Class II bike lanes along both sides of LOVR to remove gaps.
- **Octagon Barn Center and Staging Area.** The Octagon Barn Center will include a Bob Jones Pathway Trailhead, restrooms, and 112 parking spaces. The project includes a southbound center left-turn lane on S. Higuera Street into the project site.
- Buckley Road Extension. This project would extend Buckley Road from Vachell Lane to S. Higuera Street and include a new, signalized intersection at S. Higuera Street. At this time, neither jurisdiction is pursuing the roadway extension, which will most likely be development driven.
- **City's Bob Jones Pathway.** The 2008 Bob Jones City-to-Sea Trail Preliminary Alignment Plan establishes the preferred alignment for a design of a Class I bicycle pathway within the City of San Luis Obispo north of LOVR.
- **County's Bob Jones Pathway #2.** Extension #2 is intended to go from Ontario Road to S. Higuera Street, terminating at the Octagon Barn.

1.3.3 Public Access Acquisition

Each pathway alignment alternative requires public access acquisition. Lead agencies seeking to implement a pathway on private land (or another agency's land) have several options to offer the potential seller to allow access to the portion of the property needed for the pathway. These options include fee purchase, easement, license, bargain sale and donation. They offer a range of conditions for control of the land and assumed liability. Where payment for access is involved, the City and County are required to pay fair market value.

1.3.4 Pathway User and Property Owner Concerns

- **Loss of Privacy.** Pathway implementation may result in some loss of privacy for adjacent residential landowners. Careful siting of the pathway, supplemented by existing or planned vegetation, combined with adequate fencing and signage, and a program for public information, maintenance and management could help protect the privacy and security of adjacent land owners.
- **Security Considerations**. Some meeting participants voiced concerns that the pathway would enable the homeless to come closer to their properties and encourage other undesirable activities, including crime. While these concerns are understandable, studies and local observations show that providing public pathway access to an area that is otherwise only accessible by trespassing on private property actually reduces the incidence of crime and trespass beyond the pathway. The "Rail-Trails and Safe Communities" study found that trail managers often utilize design and maintenance strategies (e.g., fencing and patrols) to

reduce the potential for crime. Careful siting of the pathway combined with adequate fencing and 'No Trespassing' signs would help protect the privacy and security of nearby landowners.

- **Pathway User Safety and Emergency Access.** A well-developed policy and practice for pathway maintenance and use management may be the best means to protect public safety and avoid use-related issues. This Study recommends lighting at roadway crossings to improve visibility between pathway users and motorists.
- **Private Property Owner Liability.** In California, the California Recreational Use Statute (RUS) (Cal.Civ.Code § 846.1) is available to private landowners under certain circumstances. The California RUS protects private landowners who allow the public to use their land for recreational purposes.

1.3.5 Agricultural Resources

Important Agricultural Soil

Soil characteristics are critical for agriculture. All soils within the Study Area are identified as Important Agricultural Soils (that is, those soils in the county particularly worthy of conservation and protection) by the County. Soils within the Study Area are either currently under agricultural production, are located along the edge of agricultural fields, or are disturbed by urban development.

Pathway projects can result in direct conversion of soils (generally limited), but also indirectly result in a loss of soils if they bisect a parcel in such a way that leaves agricultural production infeasible. County policy discourages the conversion of these soils to other uses or loss of these soils through erosion or other disturbances.

Existing Agricultural Improvements

Based on a field survey along area roadways and use of aerial photos no barns or other agricultural accessory structures are present along the preliminary pathway alignments; however, the Study Area has a long history of agricultural production and is served by agricultural roads and wells. The former alignment and bridge for S. Higuera, originally the state highway, is used on the parcel in the County as an agricultural road and features electrical panels and other infrastructure.

Conversion of Agricultural Land and Impacts to Agricultural Operations

Pathways can impact agricultural lands through the conversion of agricultural land to non-agricultural uses and through introduction of land use incompatibilities. Pathways typically occupy narrow (e.g. 20 foot wide) linear corridors. Land use incompatibilities occur when land uses affect the normal operations on agricultural land, including grading, plowing, use of heavy equipment, and legal application of pesticides and other chemicals. This may also occur due to complaints regarding dust, noise, and odors. In addition, when recreational pathways are located near agricultural areas, there is at least a perceived threat of increased trespass, theft, or disturbance of the crops. Many examples of well-used pathways along agricultural lands exist throughout the country. The pathway

design and alignment should include measures to minimize conversion of agricultural lands and potential incompatibilities.

1.3.6 Biological Resources

Sensitive Habitats and Species

Three sensitive habitats exist in the San Luis Obispo USGS quadrangle: Coastal and Valley Freshwater Marsh, Northern Interior Cypress Forest and Serpentine bunchgrass. Northern Interior Cypress Forest and Serpentine bunchgrass habitats were not observed in the Study Area; however, one small Coastal and Valley Freshwater Marsh area was identified on the east side of S. Higuera Street, just across the street from the Octagon Barn entrance. Willow riparian forest habitat was observed along San Luis Obispo Creek and its tributaries, just north of the Octagon Barn. A potential wetland feature was also observed between San Luis Obispo Creek and the southwest corner of Los Verdes #2.

The Study Area is within the south-central California coast region for steelhead trout (*Oncorhynchus mykiss*) and also within the range of the California red-legged frog (*Rana draytonii*), both listed as federally threatened species by the Endangered Species Act. San Luis Obispo Creek is considered critical habitat for steelhead trout. San Luis Obispo Creek is known to support western pond turtle (*Emys marmorata*) and Coast Range newt (*Taricha torosa*), both California species of special concern. The Study Area also has the potential to support nesting migratory birds/raptors during the typical nesting season (March-September) and roosting bats, including pallid bat (*Antrozous pallidus*). No special-status plant surveys were conducted as part of this assessment; however, surveys are recommended during the typical blooming season. Special-status plant species with potential to occur in the Study Area (based on soil, elevation, habitats, and SWCA's experience in the area) include marsh sandwort (*Arenaria paludicola*), Obispo Indian paintbrush (*Castilleja densiflora ssp. obispoensis*), La Graciosa thistle (*Cirsium loncholepis*), and adobe sanicle (*Sanicula maritima*).

1.3.7 Cultural Resources

As part of this Study, SWCA conducted a cultural resources records search, archival and literature review, and initial Native American consultation in order identify the presence of known resources and the general sensitivity of the Study Area for the presence of previously undocumented cultural resources. The records search revealed the presence of three previously identified cultural resources within a 0.25-mile radius of the pathway alignments; however, none of the three are within the three proposed pathway alignment options as currently defined.

1.3.8 Public and Stakeholder Input

Figure 1-5 presents the timeline of the outreach efforts, which includes property owner outreach, a Stakeholder Group, public workshops, and a public opinion survey.

Figure 1-5: Outreach Efforts

Property Owner Outreach

Between October and December 2012, City staff and consultants made initial contact with property owners potentially impacted by a pathway alignment. The intent of these meetings was to discuss the project, request participation in the planning process, and gain initial feedback on location of the pathway near their property and/or the acquisition of public access rights over their property for the pathway. The property owners showed varying degrees of support and shared the following comments:

- Los Verdes #2 residents generally support the offstreet pathway alignments and have asked for a buffer between the pathway and Los Verdes #2.
- One property owner has communicated strong opposition to both offstreet pathway alignments. Principal concerns include loss of privacy and the potential for the pathway to enable the homeless population to come closer to their home.
- The property owner of the agricultural parcel within the County, communicated he believes the pathway would make the eastern portion of his 46.28-acre property (approximately 12.5 acres) unsuitable for the type of commercial farming currently conducted there, stating safe food requirements make it difficult to have a pathway along agricultural lands. The property owner also states that farming of a different crop which requires less spraying may be feasible in conjunction with a pathway. Agricultural access must be maintained. Of the two offstreet pathway alignments, he believes the alignment along the creek would have the lesser impact on agricultural operations.
- One property owner expressed concern that additional right-of-way purchase or a pathway route along S. Higuera Street may impact their business operations.

Workshops and Stakeholder Group Meeting

First Public Workshop and Encore Workshop

The City hosted a stakeholder group meeting, public workshop, and encore presentation of the public workshop in early December 2012. The project stakeholder group consists of owners of adjacent or potentially involved property owners, as well as cycling and agriculture advocacy organizations. At the stakeholder group meeting and workshops, City staff and consultants discussed the history of the Pathway Study and presented an overview of existing site conditions, opportunities, and constraints to constructing the pathway segment. Attendees were asked to share their opinions about the pathway under study and take a public opinion survey to relate their preferences regarding the future pathway connection. Participants reviewed three preliminary pathway alignments: one along San Luis Obispo Creek, one along agricultural and residential lands, and one along LOVR and S. Higuera Street for discussion.

In general, attendees expressed support for the pathway and a preference for the alignment along the creek stating this alignment would be the most scenic, have the best pathway experience and most direct alignment, would not impact as many residents as the alignment along agricultural and residential lands, and allows for a more direct connection with the planned, signalized intersection at Buckley Road.

Second Public Workshop

The City hosted a second public workshop on April 8, 2013 to present the pathway alignment alternatives, public and stakeholder comments received to date, and the draft preferred alignment along San Luis Obispo Creek. Approximately 40 people attended. Attendees were asked to share their opinions on the draft preferred alignment and ways to improve all the alignments. In general, attendees expressed support for the draft preferred alignment and S. Higuera Street crossing with a pedestrian-actuated beacon. Attendees support a 12-foot wide path with post and cable or wood and wire fencing along the creek and stouter fencing along the agricultural parcels.

Public Opinion Survey

The City distributed a survey at the first stakeholder group meeting, public workshop, encore public workshop, and at a Saturday farmers market to assess public preferences regarding the half-mile future pathway connection. City staff also mailed copies of the survey to residents within one mile of the Study Area. Approximately fifty-five responses were received as of May, 2013. Below is a summary of the collected responses.

- The considerations of highest importance include pathway connectivity and safety (75% of respondents stated this as one of their top two considerations), pathway experience (67% of respondents stated this as one of their top two considerations), and environmental resources (47% of respondents stated this as one of their top two considerations).
- 75% of respondents stated the pathway should be a high priority for the City.
- 76% stated they would use the pathway segment under study if it were built.

- Most respondents use the existing Bob Jones Pathway monthly (49%) or weekly (16%).
- The most popular uses of the pathway include walking/running (64 % of respondents stated they walk/run on the pathway), bicycling (51%), dog walking (13%) and with kids and strollers (9%).
- 22% of respondents use the pathway for commuting or other non-recreational trips whereas 78% do not.

1.4 Alternatives Analysis

1.4.1 Pathway Alignment Alternatives

Figure 1-6 through **Figure 1-8** present opportunities and constraints associated with the pathway alignment alternatives. **Table 1-1** lists the pros and cons related to the pathway alignment alternatives, including estimated costs.

1.4.2 Roadway Alignment Alternatives

The Study Area includes three potential pathway/roadway crossings: at the US 101/LOVR interchange, at the LOVR/S. Higuera Street intersection, and in the vicinity of the Octagon Barn.

US 101/LOVR Interchange

The US 101/LOVR interchange crossing is outside the scope of this Study. A number of participants involved in this Study have stated their preference for a pedestrian/bicycle undercrossing of LOVR southeast of the on/off ramps to eliminate the need to cross at-grade. This option is not included in the approved LOVR interchange design. Should funding become available, this option could be implemented as the interchange has been designed to not preclude a future undercrossing. Caltrans has communicated that input regarding an underpass should be gathered during this planning process and provided to Caltrans. Comments received will be forwarded to Caltrans for review.

S. Higuera Street

Both off street pathway alignments would need a crossing of S. Higuera Street within the County right-of-way near the Octagon Barn. South Higuera Street is a two-lane roadway at this location. **Table 1-2** presents a summary of the pros and cons associated with the crossing options.

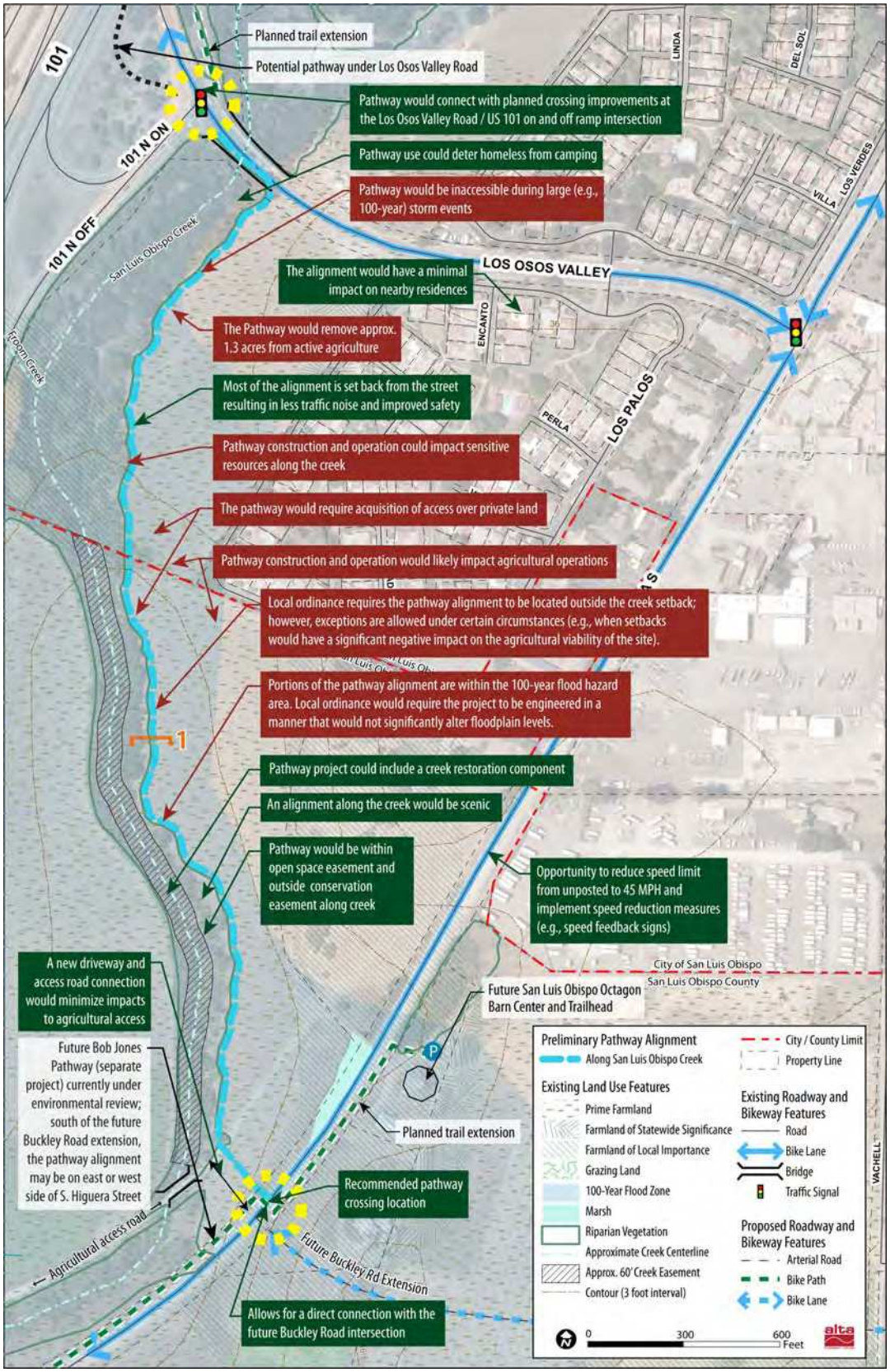


Figure 1-6: Opportunities and Constraints Associated with a Pathway Alignment along San Luis Obispo Creek

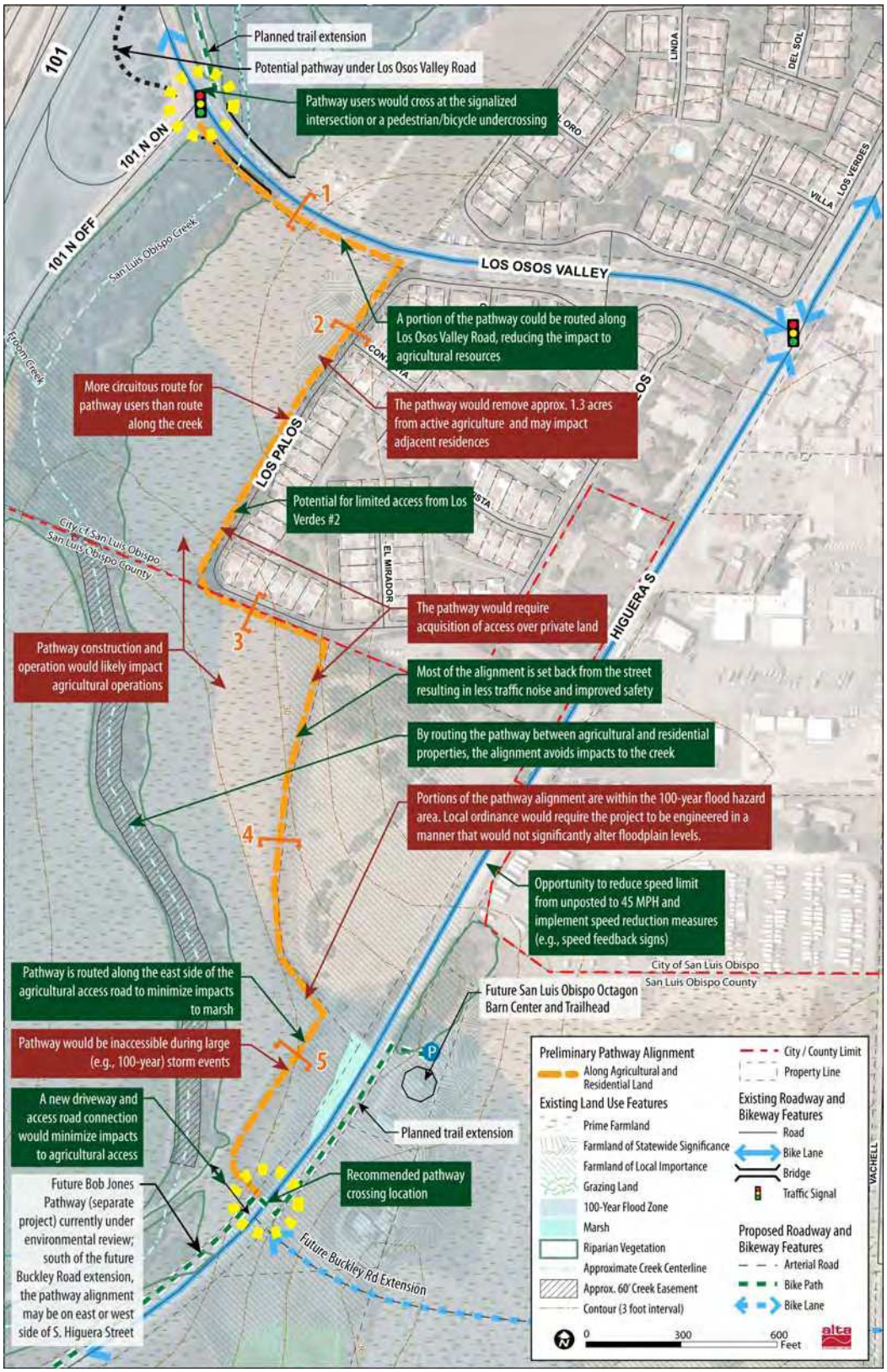


Figure 1-7: Opportunities and Constraints Associated with a Pathway Alignment along Agricultural and Residential Lands

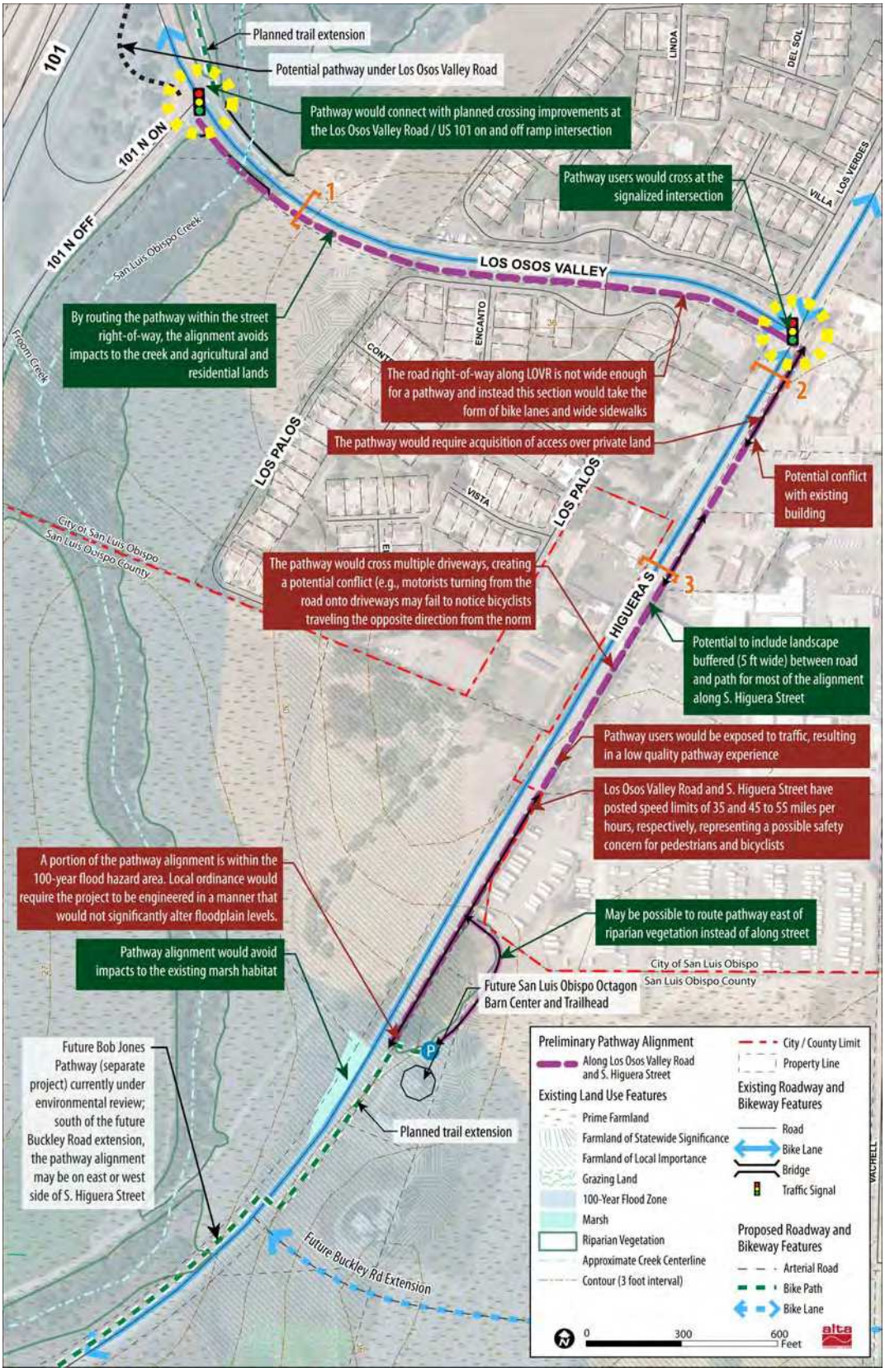


Figure 1-8: Opportunities and Constraints Associated with a Pathway Alignment along LOVR and S. Higuera Street

Table 1-1: Pathway Alignment Alternatives Matrix

Consideration	Pathway Alignment Alternatives		
	Along San Luis Obispo Creek	**Along Agricultural and Residential Properties**	**Along LOVR and S. Higuera Street**
Impact on Agricultural Lands and Operations	• Loss of approx. 1.3 acres of agricultural lands (20 feet wide x 2,800 linear feet) • Will likely impact agricultural operations	• Loss of approx. 1.3 acres of agricultural lands (20 feet x 2,800 linear feet along agricultural/residential border and 5 feet x 475 feet along LOVR) • Will likely impact agricultural operations	• No loss of agricultural lands or impacts to agricultural operations
Pathway User Experience	• Very high/pleasant pathway user experience (e.g., very scenic, removed from vehicular noise and exhaust)	• High/pleasant pathway user experience (e.g., scenic, removed from vehicular noise and exhaust)	• Low/poor pathway user experience (e.g., exposed to vehicular noise and exhaust)
Pathway User Safety and Connections	• Improved pathway user safety associated with separation from vehicular traffic • Pathway users may be exposed to chemicals during spraying of agricultural fields • Most direct connections with planned pathway segments to north and south • Most direct connection with future S. Higuera St./Buckley Rd. intersection	• Improved pathway user safety associated with separation from vehicular traffic • Pathway users may be exposed to chemicals during spraying of agricultural fields • Slightly more circuitous than route along creek	• Less pathway user safety associated exposure to vehicular traffic and multiple driveway crossings • May have a slightly less direct connection with planned pathway segments north and south of the Study Area
Private Property Impacts	• Minimal impact on nearby residents and businesses • Requires acquisition of public access rights over private property	• May impact adjacent residential uses • Requires acquisition of public access rights over private property	• Minimal impact on nearby residents and businesses • Requires some acquisition of public access rights over private property
Potential Biological and Cultural Resource Impacts	• Potential impacts to sensitive resources (e.g., biological and cultural) along the creek	• Potential impacts to sensitive resources (e.g., biological) south of Los Verdes #2 • Potential for undiscovered cultural resources	• Potential impacts to sensitive resources (e.g., biological) • Minimal potential impacts to cultural resources
Cost Estimate (Pathway only)	• $648,400 (not including costs for public access)	• $671,300 (not including costs for public access)	• $846,200 (not including costs for public access)
Cost Estimate (Pathway and S. Higuera St. Crossing)	• $778,400 – $6,648,400 (not including costs for public access)	• $801,300 – $6,671,300 (not including costs for public access)	• $976,200 (not including costs for public access)

Table 1-2: S. Higuera Street Crossing Alternatives Matrix

Consideration	Roadway Crossing Alternatives		
	Future S. Higuera Street/ Buckley Road Surface Crossing	S. Higuera Street Overcrossing	S. Higuera Street Undercrossing
Pathway User Experience	• Low pathway user experience (e.g., exposed to vehicular noise and exhaust, pathway users must wait for signal or beacon)	• High quality pathway user experience (e.g., views)	• Moderate quality pathway user experience
Pathway User Safety and Connections	• Beacon improves safety of crossing • Buckley Road extension project may not occur for some time, requiring an interim crossing • Less pathway user safety associated exposure to vehicular traffic • An at-grade crossing is the most direct connection with the planned pathway segment south of the Study Area	• Improved pathway user safety associated with separation from vehicular traffic • Less direct connection with the planned pathway segment south of the Study Area (if on the east side of S. Higuera Street) and the Octagon Barn	• Improved pathway user safety associated with separation from vehicular traffic • Potential safety issue given reduced visibility of undercrossing • Less direct connection with the planned pathway segment south of the Study Area (if on the east side of S. Higuera Street) and the Octagon Barn north of the Study Area
Private Property Impacts	• None	• May require additional right-of-way on S. Higuera St., depending on ramp configuration	• May require additional right-of-way on S. Higuera St., depending on ramp configuration
Potential Biological and Cultural Resource Impacts	• May impact sensitive resources (e.g., biological) along the street	• May impact sensitive resources (e.g., biological) along the street	• May impact sensitive resources (e.g., biological) along the street
Visual Impacts	• Minimal potential impact	• Potential visual impact in rural agricultural setting	• Minimal potential impact
Utility Impacts	• Minimal potential impact	• Potential overhead utility conflicts	• Potential overhead utility conflicts
Cost Estimate	• $0 (if included in Buckley Rd extension project) • $130,000 for crossing with HAWK beacon	• $4.5 – 6.0 million	• $1.5 – 3.0 million

1.5 Preferred Alignment

1.5.1 Alignment Scoring

A set of symbols was developed to score the pathway alignments based on City, County, property owner, and public-identified considerations discussed in *Chapters 3 and 4*. Each consideration was scored according to the symbols listed in the table to the right.

Symbol	Associated Scoring Level
●	High score
◐	Moderate score
○	Low score

Table 1-3 presents the pathway alignment consideration scores. This Study finds the pathway alignment along the creek to be the preferred alignment. The creek alignment would remove some land from agricultural use and would likely impact agricultural operations; however, this alignment can be configured to allow the continuation of agriculture and is anticipated to result in a lower impact to agricultural resources than the alignment along agricultural and residential lands. The creek alignment is anticipated to have the least impact on non-agricultural, private properties as it is located away from residential and commercial properties and would not include driveway crossings. The pathway alignment is beyond the edge of the predominant riparian vegetation, lessening the potential for adverse impacts to environmental resources. This alignment provides a more direct connection with the Octagon Barn and US 101/LOVR interchange than the alignment along LOVR and S. Higuera Street and it is generally separated from motor vehicle traffic, thereby providing high pathway connectivity and safety. The alignment is anticipated to have a high quality pathway experience because it would be in more scenic setting and generally away from vehicular noise and exhaust.

Table 1-3: Pathway Alignment Scoring

Consideration	Pathway Alignment Alternatives		
	Along San Luis Obispo Creek	Along Agricultural and Residential Properties	Along LOVR and S. Higuera Street
Avoids Impact on Agricultural Resources and Operations	○	○	●
Minimizes Adjacency to or Impact on Residential and Commercial Properties	●	◐	◐
Avoids Impact on Natural Resources	◐	◐	●
Provides Pathway Connectivity and Safety	●	●	○
Provides a Positive User Experience	●	●	○

1.5.2 Preferred Alignment Description

Pathway Alignment

Figures 1-9 and **1-10** show the preferred pathway alignment and cross sections. From north to south, the preferred pathway alignment would connect with the south side of the US 101/LOVR interchange as part of the planned interchange improvements, continue along a 12 foot wide Class I pathway on the south side of LOVR. At the south end of the bridge, the pathway would turn southwest to continue along the creek. The preferred alignment follows the creek, outside the edge of the riparian vegetation and within the creek setback. Near the former Highway 1 alignment (now an agricultural access road), the pathway turns southeast toward S. Higuera Street. The preferred S. Higuera Street crossing location is at the future S. Higuera Street/Buckley Road extension intersection.

Public Access Acquisition

The concept for acquisition of access for the pathway is to purchase easements on a willing-seller basis to allow for the construction of the pathway on the two private properties. The terms of the purchase of such an easement are not a part of this Study, and would be negotiated separately with the owners. The objective would be to support the continuation of agriculture on the properties. Another option would be for the project sponsors to purchase the subject parcels at fair market value and lease or sell the parcels to an agricultural operator, retaining an access easement for the pathway. Such an arrangement to assure the continuation of agriculture to the maximum extent feasible would be an inherent element of the pathway project, in order to address the policy consistency and possibly as an environmental mitigation.

Pathway Cross Section

The pathway would comply with City and County standards. In the City, the pathway would be 12 feet wide with 2 foot wide graded shoulders and located within a 20 foot wide access easement. A 3 inch thick asphalt surface over a 12 inch class II base with 13 foot wide biaxial geogrid is recommended.

Pavement Markings and Signage

A centerline stripe on the path approach would help to organize path user traffic. Consistent with a Bob Jones Pathway segment north of the Study Area, a solid yellow line may be used to separate the two directions of travel where passing is not permitted (e.g., around curves) and a broken yellow line may be used where passing is permitted. Additionally, two four-inch wide solid white lines centered six inches from each edge of the pathway are recommended.

Entrance signs should include regulations, hours of operation (if any), and path speed limit. Multi-use path signing and markings should follow the guidelines in the CA MUTCD and the City's Bob Jones City-to-Sea Trail Preliminary Alignment Plan. The final striping, marking, and signing plan for the path should be reviewed and approved by a licensed traffic engineer or civil engineer.

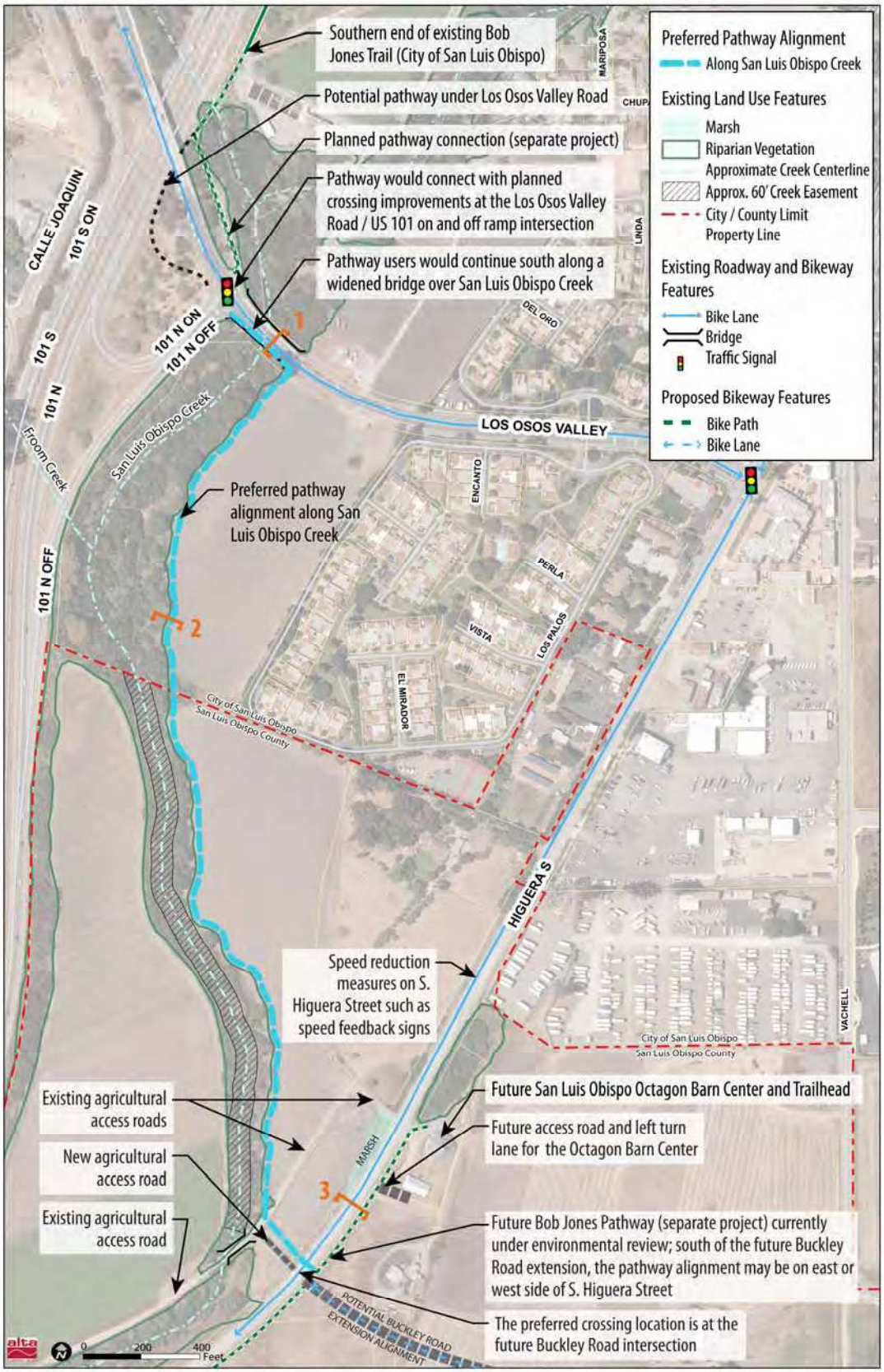
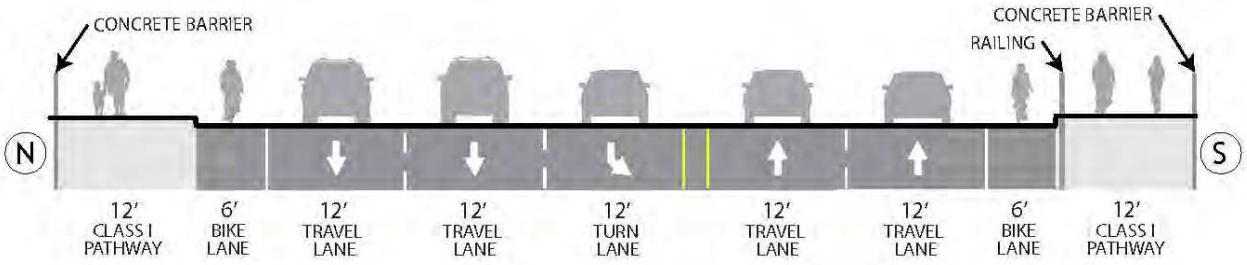
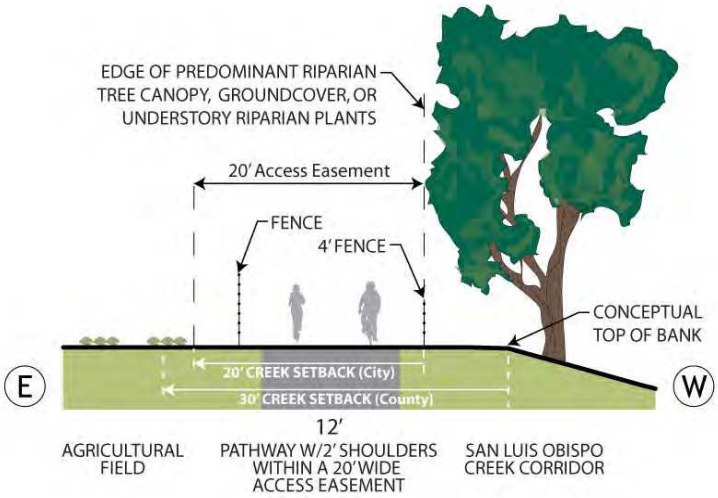


Figure 1-9: Preferred Pathway Alignment

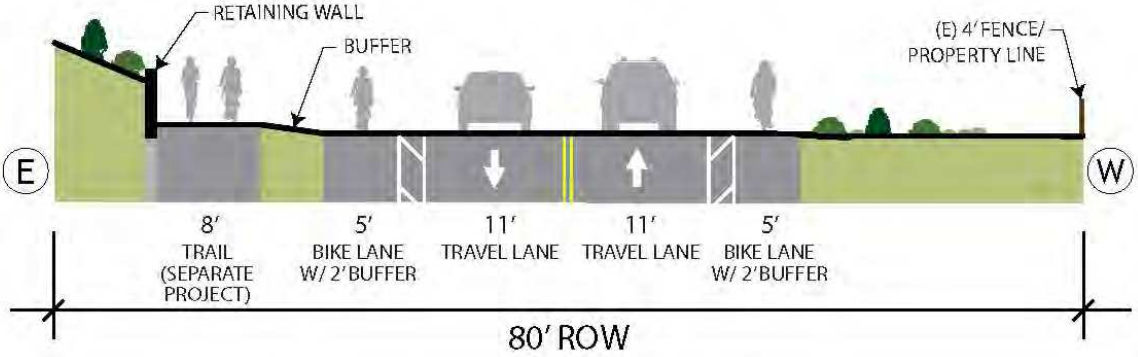
Figure 1-10: Preferred Pathway Cross Sections



Section 1: Along LOVR over San Luis Obispo Creek (facing east)



Section 2: Along San Luis Obispo Creek (facing south)



Section 3: Along S. Higuera Street (facing south)

Fencing

Fencing is typically used to separate a pathway from adjacent private property and land uses. Much of the preferred alignment is along privately-owned farmland and a creek. The pathway would need to be fenced to deter users from wandering onto these areas. Fencing should be placed on the edge of the pathway corridor. A four foot high fence is proposed along the creek side of the path (see **Figure 1-11**). The fence type on the agricultural side is subject to negotiation with the property owners and may include a six foot high stock fence with a four foot high panel of "hog wire" square mesh at the bottom to deter dogs from entering the agricultural lands.

City of San Luis Obispo Typical Riparian Corridor Fencing: 4-foot high split rail (top) and wood and wire (bottom) fences

Railing

Given high anticipated user volumes along the pathway, a 42 inch high pedestrian railing is recommended between the pathway and roadway along the LOVR bridge over San Luis Obispo Creek. The railing is recommended to prevent pathway users from making undesirable or unintended movements from the pathway to the roadway.

Potential fence type along agricultural properties (6-foot high stock fence); fence design is subject to negotiation with agricultural property owners

Figure 1-11: Fencing Recommendations

S. Higuera Street Crossing Recommendations

The preferred crossing treatment at S. Higuera Street is an at-grade crossing at the future Buckley Road extension intersection. A grade-separated crossing of S. Higuera Street was studied, but is not financially feasible or environmentally suitable. As of June 2013, the Buckley Road extension alignment and S. Higuera Street intersection location are to be determined such that the exact pathway crossing location will be determined at final design. **Figure 1-12** shows the preferred crossing location and a potential future configuration of S. Higuera Street that includes the planned left turn pocket serving the Octagon Barn staging area (separate project). The County's Bob Jones Pathway extension project (also a separate project) is shown on the east side of S. Higuera Street.

To improve pathway user and motorist safety at the S. Higuera Street crossing until a traffic signal is installed, the following improvements are recommended:

- Reduce the speed limit along S. Higuera Street from unposted to 45 MPH, consistent with the posted speed limit within the City portion of the Study Area

- Implement speed reduction measures along S. Higuera Street, such as speed feedback signs, buffered bike lanes (including bike lane signs and pavement markings), and speed limit pavement markings
- Install a pedestrian hybrid beacon (HAWK) or similar user-actuated flashing beacon to improve visibility of the crossing[1]
- Install a high visibility crosswalk, PATH XING pavement markings, and advance warning crossing signage to alert motorists of the crossing
- Install stop signs along the path at the crossing to communicate that path users must yield to oncoming motorists

A pedestrian hybrid beacon (also known as the High intensity Activated crossWalK (or HAWK)) is a treatment that provides positive stop control in areas without the high pedestrian traffic volumes that typically warrant the installation of a signal
Photo source: http:// fhwa.dot.gov

- Install nighttime lighting at the crossing location to improve visibility of pathway users

[1] The HAWK is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings. The beacon head consists of two red lenses above a single yellow lens. The beacon head is "dark" until the pedestrian desires to cross the street. At this point, the pedestrian will push an easy to reach button that activates the beacon. Automated pedestrian detectors may be used in conjunction with push buttons. After displaying brief flashing and steady yellow intervals, the device displays a steady red indication to drivers and a "WALK" indication to pedestrians, allowing them to cross a major roadway while traffic is stopped. After the pedestrian phase ends, the "WALK" indication changes to a flashing orange hand to notify pedestrians that their clearance time is ending. The hybrid beacon displays alternating flashing red lights to drivers while pedestrians finish their crossings before once again going dark at the conclusion of the cycle.

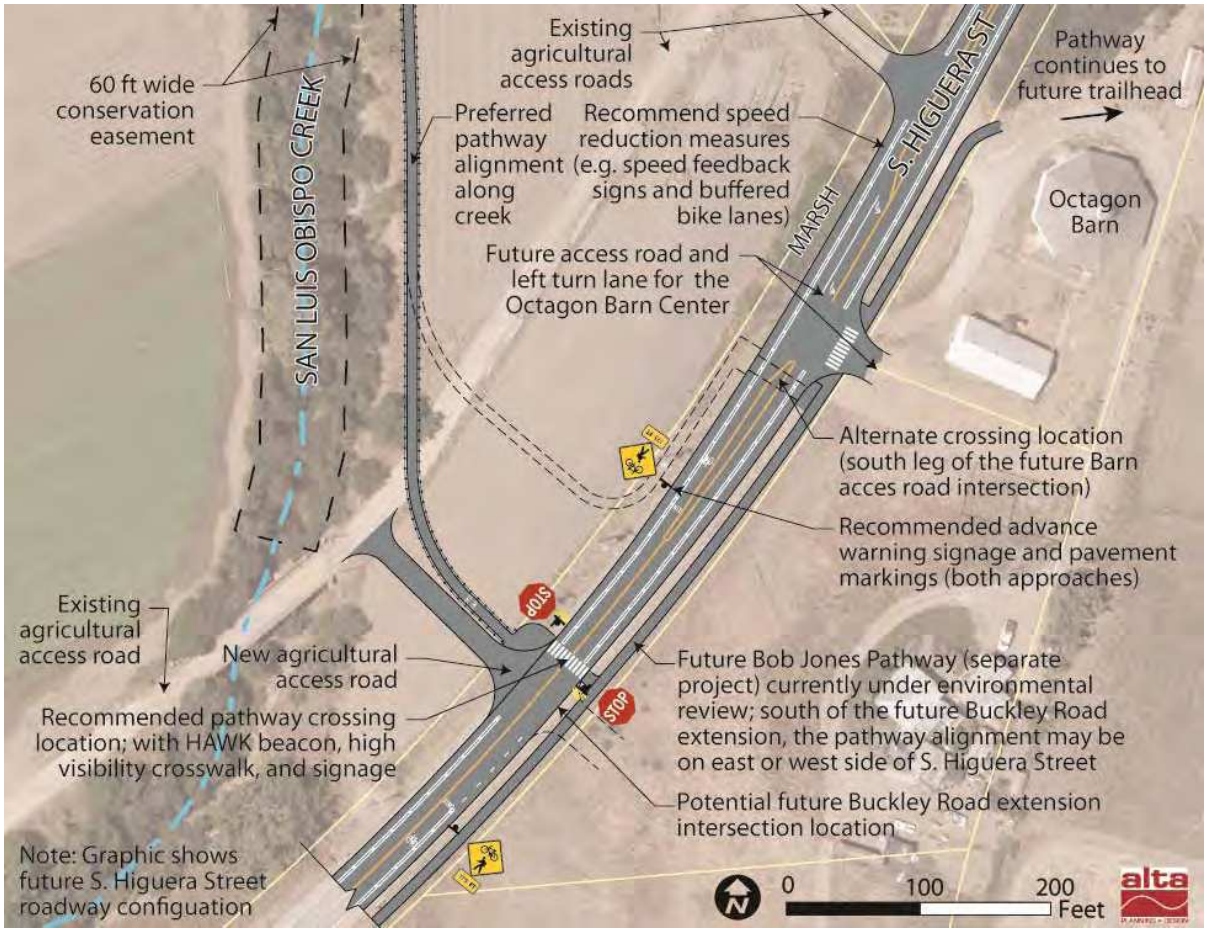


Figure 1-12: Preferred S. Higuera Street Crossing Location

1.6 Construction and Maintenance Costs

1.6.1 Construction Cost Estimate

As **Table 1-4** shows, the preferred alignment along San Luis Obispo Creek and S. Higuera Street crossing improvements are anticipated to cost approximately $778,400. Cost estimates do not include costs associated with right-of-way acquisition.

Table 1-4: Preliminary Cost Estimate – Pathway Along San Luis Obispo Creek and At-Grade S. Higuera Street Crossing Improvements

No.	Item	Quantity	Unit	Unit Price	Total
SITE PREPARATION					
1	Mobilization	1	LS	$ 3,000.00	$3,000
2	Clearing and Grubbing	46,400	SF	$ 0.03	$1,400
3	Excavation	3,440	CY	$ 15.00	$51,600
SLO CITY CLASS I BIKEWAY (7040)					
4	3" AC	34,800	SF	$ 2.90	$100,900
5	12" Class II base (under pavement)	34,800	SF	$ 2.50	$87,000
6	15" Class II base shoulder	11,600	SF	$ 3.13	$36,300

No.	Item	Quantity	Unit	Unit Price	Total
7	16' Wide Geogrid	46,400	SF	$ 0.25	$11,600
8	Fence	5,800	LF	$ 9.00	$52,200
9	Striping (City 7040)	8,700	LF	$ 0.60	$5,200
TRAFFIC CONTROL					
10	City Removable Bollard (7335)	6	EA	$ 360.00	$2,200
11	City Crosswalk Striping (7350)	800	SF	$ 1.25	$1,000
12	Sign (City 7210)	8	EA	$ 600.00	$4,800
13	HAWK Beacon System	1	EA	$ 60,000.00	$60,000
14	Construction Area Signs	1	LS	$ 5,000.00	$5,000
MISCELLANEOUS					
15	LID Mitigation (4 foot vegetated strip)	11,600	SF	$ 0.03	$300
16	Access Gate (16' swing gate)	2	EA	$ 1,000.00	$2,000
17	New Agricultural Road	83	CY	$ 0.58	$48
18	City Bike Path Lighting (7905)	1	EA	$ 1,900.00	$1,900
19	Drainage (18" Culvert)	50	LF	$ 60.00	$3,000
				Subtotal Construction Cost	**$429,400**
				25% Contingency	$107,400
				Total Construction Cost	$536,800
				10% Survey, technical studies, design, permitting	$53,700
				20% Environmental Analysis and Documentation and Related Permits	$107,400
				15% Construction Management / Administration Cost	$80,500
				Total Cost	**$778,400**

1.6.2 Operation and Maintenance Cost Estimate

The City and County would maintain the pathway and any associated facilities (e.g., fencing, signage) within their respective jurisdictions. Routine maintenance costs for the half-mile paved pathway are estimated at approximately $9,200 per year (see **Table 1-5**). Routine maintenance of the Bob Jones Pathway would include: litter and trash removal, brush clearance, safety patrol, sign work, special project and event work, and vandalism repair.

The above operation and maintenance cost estimate does not include costs associated with the S. Higuera Street roadway crossing, which is estimated at $3,280 annually. Operation and maintenance activities include sign and pavement marking repair and placement and lighting and HAWK beacon maintenance.

Costs would increase if the City or County were to contribute to a reserve fund for pathway repair. The Bob Jones Pathway is planned to have an asphalt surface, which will need periodic maintenance over the lifetime of the project. As shown in **Table 1-5,** periodic surface maintenance costs for a 12-foot wide A.C. pathway and costs to reconstruct the pathway after 50 years are estimated at approximately $313,620, or $6,250 per year.

Table 1-5: Anticipated Operation and Maintenance Costs

Item	Cost		Notes
Routine Pathway Operation and Maintenance[1]			
Park Ranger II	$3,550	Annually	Cost to maintain a half-mile long pathway
Park Ranger Specialist	$550	Annually	Cost to maintain a half-mile long pathway
Supervising Ranger	$300	Annually	Cost to maintain a half-mile long pathway
Temp Staff	$1,250	Annually	Cost to maintain a half-mile long pathway
Supplies and services	$3,550	Annually	Cost to maintain a half-mile long pathway
Total Annual Routine Pathway Maintenance Costs	**$9,200**	**Annually**	
Roadway Crossing Operation and Maintenance			
Sign replacement/repair	$2,400	Every 5-15 years	Assumes signs will be replaced during this interval
Pavement marking replacement	$400	Every 5-15 years	Assumes pavement marking will be replaced during this interval
HAWK beacon maintenance	$2,200	Annually	Cost to maintain the HAWK beacon, including signs, striping and electricity
Lighting at pathway crossing	$520	Annually	Annual electrical costs of $170/light fixture plus $99 annual repair and maintenance per light
Total Annual Roadway Crossing Operation and Maintenance Costs	**$3,280**	**Annually**	
Pathway Surface Maintenance[2]			
Microsurface	$9,500	at Year 10	$0.30 per SF
Microsurface	$9,500	at Year 20	$0.30 per SF
Overlay	$95,040	at Year 30	$3.00 per SF
Microsurface	$9,500	at Year 40	$0.30 per SF
Reconstruct	$190,080	at Year 50	$6.00 per SF
Total Pathway Surface Maintenance Cost over 50 Year Period	**$313,620**		
Average Annual Investment for Pathway Surface Maintenance	**$6,250**		

[1] County of San Luis Obispo, 2013.

[2] City of San Luis Obispo, 2013. Assumes 12-foot wide asphalt pathway.

1.7 Next Steps

Next steps after Study approval include public right-of-way research and property negotiations, partnership agreements, site survey, preliminary design, technical studies, environmental studies and documentation, funding, easement/access acquisition, permits, construction documents, bidding and contracting, and construction.

1.8 Funding Options

The federal transportation law, MAP-21 (Moving Ahead for Progress in the 21st Century), signed into law in July of 2012 and replacing the longstanding SAFETEA-LU transportation bill, is the largest source of pedestrian and bicycle facility funding in the United States. The federal government funds transportation projects and programs in part through taxes and fees related to use of the transportation system.

The most likely funding sources for the Bob Jones Pathway Octagon Barn Connection include: Federal funding (MAP-21), Bicycle Transportation Account, and TDA Article 3, and General Funds. Most funding sources are competitive and provide funding for up to 80 percent of construction costs.

2 Introduction

2.1 Project Overview

The approximately 11-mile Bob Jones Pathway is an important regional pathway connecting San Luis Obispo and Avila Beach that serves both recreational and transportation purposes. The completion of the Bob Jones Pathway has been identified as a major goal for the City in addition to being designated in City's transportation plans and various County planning documents. The Bob Jones Pathway will serve as a connector to the State's Coastal Pathway as well as providing a pathway connecting the City of San Luis Obispo to the community of Avila Beach and the City of Pismo Beach. Route planning has been approved or is currently in process for all sections of the pathway with the exception of the Octagon Barn to LOVR section, which is the focus of this planning effort.

This Study is funded by a Caltrans Community-Based Transportation Planning grant.

2.2 Purpose and Scope

The goal of this planning effort is to develop a Study for a half-mile segment of the Bob Jones Pathway between the Octagon Barn Complex in San Luis Obispo County and the south side of the US Highway 101/LOVR interchange in City of San Luis Obispo. This Study reviews multi-use pathway alignment alternatives and identifies a preferred pathway alignment based on site analysis and public input gathered through various outreach efforts. Utilizing an extensive public outreach planning process, the effort seeks to identify a community-supported preferred route that completes the planning for this regional non-motorized transportation system. Final design and construction will be part of future phases to follow this planning effort.

2.3 Project Study Area

The Study Area sits along the City/County boundary and includes properties between the southern end of the City's planned Bob Jones Pathway alignment located north of the Highway 101/LOVR interchange and the northern end of the County's planned Bob Jones Pathway Extension #2 project which ends at the Octagon Barn. Development within the Study Area includes agricultural areas, residences, and commercial/retail development. The Land Conservancy of San Luis Obispo County is working to establish an environmental education facility, activity center and a staging area with parking for the pathway at the Octagon Barn site. San Luis Obispo Creek and its confluence with Froom Creek are located within the western portion of the Study Area. A portion of the Study Area is within the floodplain for San Luis Obispo Creek and flooding has occurred during wet years.

The Study Area includes portions of LOVR, S. Higuera Street, and northbound US 101 on and off ramps. LOVR has a northwest-southeast alignment connecting S. Higuera Street in San Luis Obispo and the unincorporated community of Los Osos on the coast. Within the Study Area, LOVR is a two- to three-lane arterial roadway with a 35 mile per hour speed limit. LOVR includes an interchange with US 101 at the north end of the Study Area. South Higuera Street has a northeast-southwest alignment and links the western end of Downtown San Luis Obispo with US 101 south of the City/County limit. Within the Study Area, S. Higuera Street is a two- to four-lane arterial roadway

with 45 MPH and 55 MPH speed limits in the City and County, respectively. Class II bike lanes exist on both roadways. Both roadways include intermittent sidewalk facilities. *Chapter 4* of this Study includes a more detailed description of the Study Area.

2.4 Pathway Goals and Objectives

City and County Bob Jones Pathway studies, General Plans and Bicycle Transportation Plans present goals for the pathway. This section presents goals from those previous studies specific to the Bob Jones Pathway. *Section 3.1* and Appendix A present additional City, County and San Luis Obispo Council of Governments (SLOCOG) goals, policies and guidelines for bicycle and pedestrian facilities.

City of San Luis Obispo Bob Jones City-to-Sea Trail Preliminary Alignment Plan (2008) Goals:

- A. Locate the trail outside creek setback areas wherever possible.
- B. Minimize trail encroachment into creek setback areas. Encroachment should only occur where physical constraints prevent placement outside of the setback area, or where encroachment into the setback area is deemed the most appropriate location for the trail facility.
- C. Protect and minimize impacts to environmentally sensitive habitats along the trail through fencing, landscaping, and appropriate trail placement.
- D. Incorporate habitat restoration and enhancement provisions.
- E. Provide a functional facility that serves major and minor destinations, provides relatively direct connections in the City, and follows routes already identified in the Bicycle Transportation Plan.
- F. Provide an alternative to heavily traveled parallel roadways.
- G. Design and plan for a trail that will serve both commuter and recreational cyclists (a Class I bikeway), walkers, and bladers.
- H. Design and plan for a multi-use trail that will be affordable to implement.
- I. Establish an alignment that connects with existing Class II and planned Class I and II bikeways wherever possible.
- J. Minimize impacts to adjacent properties by appropriate design and operation of the facility, including fencing, landscaping, and other improvements.
- K. Identify alternative alignments where constraints cannot be overcome in either the short- or long-term.
- L. Design the facility to meet state and federal standards, and where feasible, the Americans with Disabilities Act.
- M. Design grade crossings at roadways to maximize trail user safety and convenience, while minimizing negative impacts to traffic operations.

- N. Integrate historical and educational elements into the trail design.
- O. Provide for user needs by including rest stops, benches, staging areas, trail access points, and directional signage.
- P. Collaborate with ongoing Zone 9 flood studies such that the trail can be integrated with flood protection improvements where possible.
- Q. Maximize the user experience by careful alignment and avoidance of offensive visual, auditory, and other negative adjacencies.
- R. Provide an attractive recreational facility that encourages community residents and visitors to use non-motorized forms of transportation.

County of San Luis Obispo Bob Jones Pathway Phase II Feasibility Study (2003)

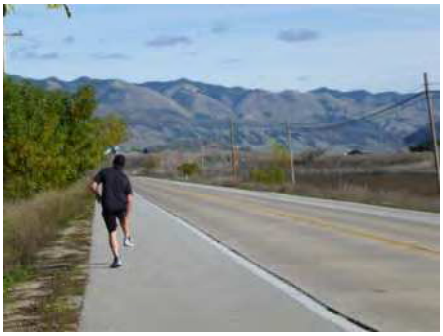
- Goal 1: The project should improve bicycle and pedestrian recreation, education, and connectivity in San Luis Obispo County and complete a major gap in the Bob Jones Pathway.
    - Objective A: Recreation Amenity. Provide an enjoyable and educational recreational experience along the route, including improved access to recreational amenities, especially the stream corridor and public open spaces.
    - Objective B: Transportation. Ensure that the facility serves a viable transportation function in its alignment and design.
    - Objective C: Connectivity. Provide links and improve access to connector trails and important destinations along the corridor including future connections into the City of San Luis Obispo.
- Goal 2: The project should provide maximum benefits to the public.
    - Objective A: Safety. Improve safety conditions for bicyclists and pedestrians in the corridor by minimizing potential conflicts with motor vehicles, and minimizing potential safety problems related to flash floods.
    - Objective B: Range of User Groups. Maximize the range of potential users of any new facility or service, including users of all ages and abilities. Understand the needs, capabilities, and interests of each user group, and consider this in the design of any solution(s).
    - Objective C: Function. Maximize the functional aspects of any recommendation in terms of convenience, gradients, availability, directness, access, cost, and connectivity to major destinations.
    - Objective D: Cost Effectiveness. The project should represent the best combination of quality with initial and long term maintenance cost effectiveness for the County.
    - Objective E: Aesthetics. The project should offer users the best possible environment in which to ride or walk, away from the noise and fumes from local roads and highways.

  - Objective F: Education. The project should provide educational opportunities to pathway users such as affording views of the riparian corridor, providing background on agriculture's role in san Luis Obispo County, and educational displays which discuss cultural resources found along San Luis Obispo Creek.

- Goal 3: The project should minimize negative impacts to the environment and local property owners.
  - Objective A: Environment. Design the project so it does not result in significant negative environmental impacts in terms of direct construction impacts (water quality, cultural resources, etc.) and indirect impacts (increased demand on local resources that are already over capacity, public financial resources, etc.).
  - Objective B: Property Impacts. Avoid or minimize impacts to private property.
  - Objective C: Visual Impacts. Design the project so it does not result in significant impacts to the visual resources of the corridor.
- Goal 4: The project should be consistent with adopted policies, standards, and goals.
  - Objective A: Consistency: Design the project to be consistent with the local, County, and State adopted standards, policies, and goals, such as Caltrans and ADA.

3 Policy Context and Design Standards

Planning and policy documents relevant to the Bob Jones Pathway are summarized briefly below. **Appendix A** provides the relevant goals, policies, plans, programs and standards from each plan.



Runner along S. Higuera Street (looking north)

3.1 Policy Summary

3.1.1 City of San Luis Obispo

The City's General Plan, Zoning Regulations, and Municipal Code support the development of the pathway and protection of agricultural and environmental resources.

City of San Luis Obispo General Plan (2007)

The City of San Luis Obispo's General Plan provides a set of directives and guidelines regarding future development in San Luis Obispo. One of the themes of the General Plan is to maintain a network of paths, sidewalks, and bikeways that connect neighborhoods with major activity centers and with County pedestrian and bicycle facilities. The City encourages public access to open space resources when doing so is consistent with protection of the resources, and with the security and privacy of affected landowners and occupants. Public access to or through productive agricultural land, or through developed residential lots, is considered only if the owner agrees. The City considers allowing passive recreation (e.g., hiking, nature study, bicycle use) where it will not degrade or significantly impact open space resources and where there are no significant neighborhood compatibility impacts.[1]

Resource protection and neighborhood compatibility are also General Plan themes. The primary parcels in the Study Area are designated as Open Space, Agriculture, Service Commercial and Residential. Lands designated Open Space should be used for purposes which do not need urban services, major structures, or extensive landform changes (e.g., cultivated crops and passive recreation). Lighting, paving, and alterations to the landforms should be minimized. The City's Land Use Element includes policies for protection of agricultural resources. It is the City's policy to encourage preservation of economically viable agricultural operations and land within the urban reserve and city limits. Per City policy, prime agricultural land, productive agricultural land, and potentially productive agricultural land should be protected for farming. Development of prime

[1] City of San Luis Obispo General Plan – Circulation Element Policies 4.01 Bicycle Use, 4.0.3. Continuous Network, and 5.0.2 Sidewalks and Paths. City of San Luis Obispo General Plan – Conservation and Open Space Element. Open Space. 8.5.1 Public Access and 8.5.5 Passive Recreation.

agricultural land may be permitted, if the development contributes to the protection of agricultural land in the urban reserve or greenbelt.

The General Plan promotes the use of creeks as part of a citywide and regional network of pathways (where appropriate) as a means of fostering understanding, enjoyment, and protection of the natural landscape and wildlife. Regarding cultural resources, the City shall provide for the protection of both known and potential archaeological resources. Development within an archaeologically sensitive area shall require a preliminary site survey by a qualified archaeologist knowledgeable in Native American cultures, prior to a determination of the potential environmental impacts of the project. [2]

Los Osos Valley Road (LOVR) Bypass

As part of its Land Use and Circulation Element update, the City is studying the potential for a bypass that would realign LOVR from west of US Highway 101 to connect with a new S. Higuera Street/Buckley Road intersection and traffic signal timing at the LOVR/S. Higuera Street intersection. The existing LOVR overcrossing and the San Luis Obispo Creek culvert crossing would be replaced. The severed portion of LOVR that provides access to Los Verdes would be either extended to intersect LOVR or converted to a cul-de-sac. A LOVR Bypass alternative was considered in the LOVR/US 101 Interchange Improvements Project Initial Study/Mitigated Negative Declaration (IS/MND), but rejected from further consideration because of its higher environmental impacts and high cost.

If the City and County pursue the LOVR Bypass, the Bypass project would require purchase of properties along the route and environmental review. If the Bypass is approved and the pathway is not yet constructed, the Bob Jones Pathway would align with the Bypass and include separation from the roadway. If built before the Bypass is approved, the pathway would be alignment such that the pathway is beyond the future roadway extent.

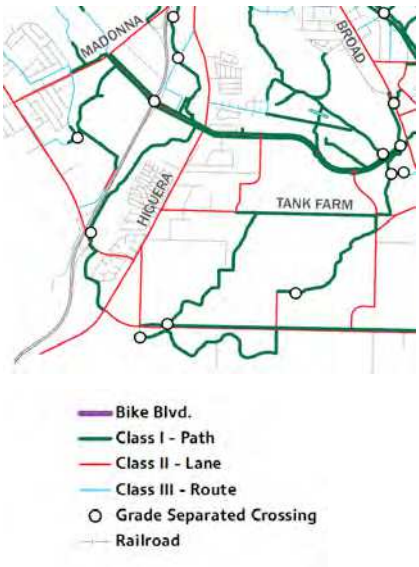


Figure 3-1: Bicycle Transportation Plan Existing and Proposed Bikeways
(Figure 2C) (2007)

Bicycle Transportation Plan (2007)

The Bicycle Transportation Plan establishes policies and standards for locating bikeways in sensitive habitat areas. The Bicycle Plan includes a Class I pathway connection between LOVR and S. Higuera Street and Class II bike lanes along LOVR and S. Higuera Street (see **Figure 3-1**). Pathway standards are derived from the Bob Jones City-to-Sea Bike

[2] City of San Luis Obispo General Plan – Land Use Element. Resource Protection. 6.1 Open Space Policies. 6.1.2 Open Space Uses. 6.4 Creeks, Wetlands and Flooding Policies. 6.4.1 Creek and Wetlands Management Objectives and 6.4.2 Citywide Network. City of San Luis Obispo General Plan – Conservation and Open Space Element. Cultural Heritage. 3.1 Goals and Policies. 3.4 Archeological Resources. 3.5 Policies. 3.5.1 Archaeological Resource Protection and 3.5.4 Archaeologically Sensitive Areas.

Pathway Preliminary Alignment Plan (November 2002).

City of San Luis Obispo Zoning Regulations (2012)

These regulations are intended to guide the development of the City based on the adopted General Plan. The Zoning Regulations identify allowed uses in each zone, including:

- The Conservation / Open Space (C/OS) Zone. This zone is generally applied to areas which are most suitable for open space uses because of topography, geology, vegetation, soils, wildlife habitat, scenic prominence, agricultural value or flood hazard. The C/OS zone is intended to prevent exposure of urban development to unacceptable risks posed by natural hazards and to protect natural resources from disruptive alterations. It is further intended to prevent the subdivision of such lands.
- The Service-Commercial (C-S) Zone. This zone is intended to provide for services, limited retail, and other business service uses that may be less appropriate in the City's other commercial zones, as well as accommodating certain storage, transportation, wholesaling and light manufacturing uses. The C-S zone is intended to be applied primarily to areas with more public exposure on arterial streets than those reserved for manufacturing.

The Zoning Regulations also identify terms and regulations for development within floodplains. Floodplain Management Regulations apply to areas of special flood hazard identified by the Federal Emergency Management Agency (FEMA). The Floodplain Management Regulations require all new nonresidential construction to either be elevated one foot above the base flood elevation (i.e., the 100-year flood line) or have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Within an adopted regulatory floodway, the City prohibits encroachments, including new construction, unless certification by a registered civil engineer is provided demonstrating that the proposed encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.[3]

The City's Zoning Regulations define creek setback requirements. Creek setbacks are intended to protect scenic resources, water quality, and natural creekside habitat. A 20-foot setback is required along all creeks within the city limits. Creek setbacks are measured from the existing top of bank or from the edge of the predominant pattern of riparian vegetation, whichever is farther from the creek flow line (see **Figure 3-2**). Paving and structures are not permitted within the creek setback. The City allows discretionary exceptions to creek setback standards where there is no practicable alternative to the exception. Each discretionary exception must meet certain findings, including the finding that redesign of the project would deny the property owner reasonable use of the property.[4]

[3] City Zoning Regulations Chapter 17.84: Floodplain Management Regulations.

[4] City Zoning Regulations Section 17.16.025 Creek Setbacks. A. Purpose. C. Measurement of Creek Setbacks. F. Items Prohibited within Setbacks.

The County General Plan establishes a 30-foot setback from top of bank (see *Section 3.1.2*). A pathway segment along San Luis Obispo Creek within the City limit would be subject to the City's creek setback requirement. A pathway along the creek in unincorporated San Luis Obispo County would be subject to the County's creek setback requirement.

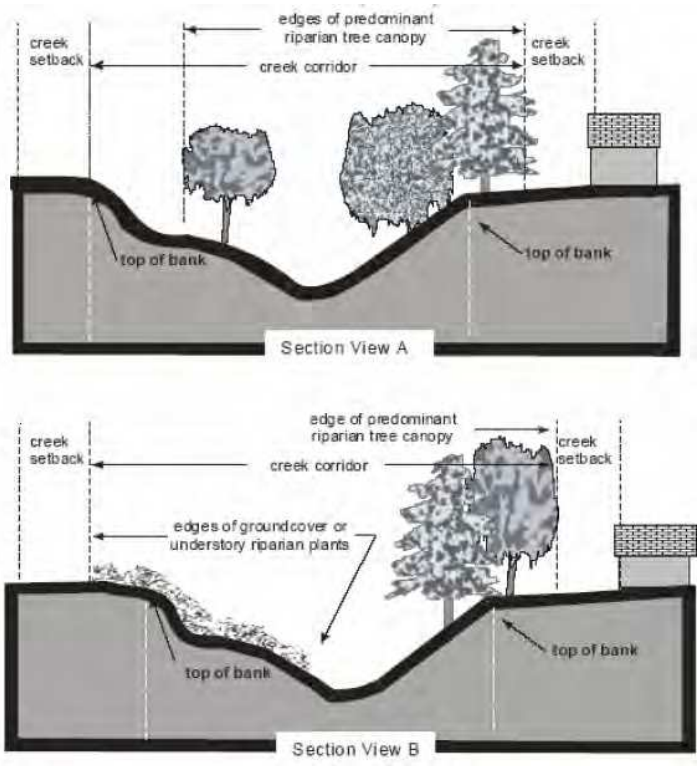


Figure 3-2: City of San Luis Obispo Creek Corridor and Setbacks
Source: San Luis Obispo General Plan Conservation and Open Space Element, 2006

City of San Luis Obispo Municipal Code (2012)

The City Municipal Code states that open space lands where public access is permitted shall be open to the public from dawn to dusk. It is unlawful to enter or remain within such lands between one hour after sunset and one hour before sunrise of the following day.[5]

3.1.2 County of San Luis Obispo

County of San Luis Obispo General Plan (2010)

The San Luis Obispo County General Plan expresses the County's development goals. The 2006 Parks and Recreation Element identifies the proposed Bob Jones Pathway, stating it is to connect the City of San Luis Obispo to the community of Avila Beach in the vicinity of San Luis Obispo Creek, and provide restoration and nature appreciation along the route. The Parks and Recreation Element does not map the proposed pathway alignment.

The General Plan discourages the conversion of agricultural lands to non-agricultural uses. The General Plan encourages recreational uses on privately-owned lands on a case-by-case basis where such uses are compatible with on- and offsite agriculture and with scenic and environmentally sensitive resources. New buildings, access roads, and structures are to be located so as to protect agricultural land. The County aims to provide sufficient policing and maintenance so that pathways do not result in trespass or in damage to sensitive resources, crops, livestock, other personal property, or individuals.[6]

[5] Chapter 12.22 Open Space Regulations. 12.22.050 Rules and regulations applicable in city open space lands.

[6] County of San Luis Obispo Agriculture Element AGP18: Location of Improvements. AGP31: Recreational Use of Agricultural Lands. AGP32: Trail Access to Public Lands.

The General Plan defines creek setback requirements, including a 30-foot grading and building setback from the top of the stream bank and prohibitions on the removal of riparian vegetation within 30 feet of the top of the stream bank. The County allows for adjustments when such setbacks would have a significant negative impact on the agricultural viability of a site and the adjustments are acceptable to the Regional Water Quality Control Board.[7]

Development projects must include conditions and/or mitigation measures to ensure the protection of sensitive resources and to achieve "no net loss" of sensitive habitat acreage, values, and function.

County Bikeways Plan (2010)

The Bikeways Plan identifies and prioritizes bikeway facilities throughout the unincorporated area of the County, including the Bob Jones Pathway. Chapter 2 – Bikeways, includes design standards (width, signage, striping).

County of San Luis Obispo Land Use Ordinance (2006)

These regulations are intended to guide the development of the County based on the adopted General Plan. The Zoning Regulations identify allowed uses in each zone, including:

- Agriculture Zone. Permitted uses in the Agriculture zone include agricultural processing, agriculture accessory structures, crop production and grazing, forestry, nursery specialties, outdoor sports and recreation facilities. Dwellings in the Agriculture land use category, including primary housing and farm support quarters are allowed accessory uses on the same site as an agricultural use. A parcel in the Agriculture category may be used for two primary dwellings. [8]
- Residential, Suburban Zone. This zone allows a number of residential uses, including caretaker quarters, home occupations, and agricultural accessory structures.
- Commercial, Service Zone. This zone allows for retail trade uses (e.g., farm equipment and supply sales, furniture sales, grocery stores, and general retail) and services (e.g., auto repair, business support services, and storage facilities).

The Flood Hazard (FH) combining designation is applied to areas where terrain characteristics would present new developments and their users with potential hazards to life and property from potential inundation by a 100-year frequency flood or within coastal high hazard areas. Drainage plan approval is required where any portion of the proposed site is located within a Flood Hazard combining designation, in addition to all other permits required by this Title, state and Federal law. No construction or grading can limit the capacity of the floodway or increase flood heights on existing structures.[9]

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[7] County of San Luis Obispo Agriculture Element AGP26: Streams and Riparian Corridors.

[8] San Luis Obispo County Code Section 22.30.480 - Residential Uses in the Agriculture Land Use Category.

[9] County of San Luis Obispo Land Use Ordinance 22.14.060 - Flood Hazard Area (FH).

County Municipal Code (2011)

Per the Municipal Code, it is unlawful for any person to travel outside of designated paths.[10]

San Luis Obispo County "Right-to-Farm" Ordinance

The San Luis Obispo County "Right-to-Farm" Ordinance states that the use of real property for agricultural operations is a high priority and favored use. The County Code states:

"Where non-agricultural land uses occur near agricultural areas, agricultural operations frequently become the subjects of nuisance complaints due to lack of information about such operations. As a result, agricultural operators may be forced to cease or curtail their operations. Such actions discourage investments in farm improvements to the detriment of agricultural uses and the viability of the County's agricultural industry as a whole" (Title 5 Chapter 5.16).

The right-to-farm ordinance advises purchasers of residential and other property types adjacent to existing agricultural operations of the inherent potential problems associated with the purchase of such property. Concerns may include the noise, odors, dust, chemicals, smoke, and hours of operation that may accompany agricultural operations.

Agricultural Buffer Policy (2005)

With its Agricultural Buffer Policy, the County aims to protect lands designated Agriculture and lands in agricultural production by using natural or man-made buffers where such lands are adjacent to non-agricultural land uses. Buffers affect the location of proposed occupied structures, including pathways.[11] It is County policy that pathways are located 200 feet from irrigated row crops.

3.1.3 San Luis Obispo Council of Governments (SLOCOG)

SLOCOG's 2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy describes the Bob Jones Pathway as a regional multi-use path that will connect the City of San Luis Obispo to the Community of Avila Beach and Port San Luis. This Plan identifies construction funds for two segments of the Bob Jones trail (in the City and County) (see **Figure 3-3**).

Figure 3-3: SLOCOG's 2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy (Map 6-3)

[10] County Municipal Code Chapter 12.23 Creeks, Tributaries and Riparian Corridor Regulations. 12.23.030 Prohibited Activities and Conditions.

[11] Agricultural Buffer Policies and Procedures.

3.2 Roadway and Pathway Design Standards

3.2.1 Roadway Standards

View of LOVR looking east toward S .Higuera Street

The City and County utilize the State of California, Department of Transportation (Caltrans) Highway Design Manual (HDM) design standards, which require The minimum lane width on two-lane and multilane highways, ramps, collector roads, and other appurtenant roadways to be 12 feet. A minimum 11 foot wide lane width (12 feet preferred) is allowed along conventional State highways with posted speeds less than or equal to 40 miles per hour and AADTT (truck volume) less than 250 per lane that are in urban, city or town centers (rural main streets).

View of S. Higuera Street looking north toward the Octagon Barn

The minimum shoulder width for two-lane frontage roads is four feet on roads without curb and gutter and five feet on roads with curb and gutter. On-street bikeways are typically included within the shoulder. On-street parking areas in urbanized areas are also typically included in the shoulder.

3.2.2 Pathway Standards

The City's Bicycle Transportation Plan Appendix M sets standards for various Class I bikeway widths, range from 8 feet (within the creek setback) to 10 to 14 feet (outside the creek setback and depending on anticipated peak hour use). **Figure 3-4** presents the City's design standard for the Bob Jones Pathway north of the Study Area from the City's 2002 Bob Jones City-To-Sea Trail Preliminary Alignment Plan.

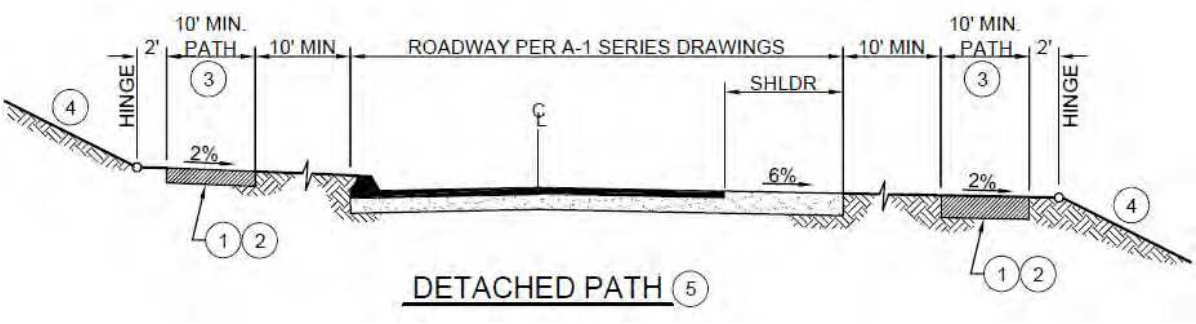
Where Class I bikeways are located along roads, Caltrans HDM requires a minimum 5-foot wide separation between the paved pathway edge and the edge of the shoulder of a parallel road. Per the American Association of State Highway and Transportation Officials (AASHTO), where the separation is less than five feet, a physical barrier or railing should be provided between the pathway and the roadway. Such barriers or railings serve both to prevent pathway users from making undesirable or unintended movements from the pathway to the roadway

The City's Bob Jones pathway standard is a 12 foot wide asphalt pathway outside the creek setback (or an 8 foot wide pathway if within the creek setback) with 2 foot wide shoulders

Figure 3-4: City's Bob Jones Pathway Standard
(Source: Bob Jones City-To-Sea Trail Preliminary Alignment Plan, 2002)

and to reinforce the concept that the pathway is an independent facility.[12]

The County's 2011 Public Improvement Standards multi-use pathway standard includes a minimum 10-foot wide pathway with 2 foot wide shoulders. Pathways along rural roads with prevailing speeds of 45 MPH or greater and an ADT of 3,000 or greater must be detached from the roadway by a minimum 10 foot horizontal separation. **Figure 3-5** presents the County's multi-use trail standard for detached pathways.



The County trail standard is a 10 footwide pathway with two foot wide shoulders

Figure 3-5: County Pathway Standard

[12] AASHTO Guide for the Development of Bicycle facilities, 4th Edition, 2012

4 Existing Conditions, Opportunities and Constraints

This Chapter describes the relevant conditions and issues associated with pathway implementation in the Study Area.

4.1 Land Uses within the Study Area

4.1.1 Land User Designations

Figure 4-1 presents General Plan and Zoning designations for properties within the Study Area. Land use categories include Agriculture within the County and Open Space, Interim Open Space, Low Density Residential (7 dwelling units/acre), Medium Density Residential (12 dwelling units/acre), and Services and Manufacturing within the City. Development includes agricultural areas, residences, and commercial/retail development. The preferred pathway alignment may traverse Agriculture (County), Interim Open Space (City), Open Space (City), and/or Service Commercial (City and County) land use categories. Recreational facilities, such as pathways, are an allowed use within these land use designations.

Development of the project will require approvals from multiple agencies (federal, state, and local), compliance with various policies and programs, and compliance with land use standards. The project would need to demonstrate that it would not be incompatible with agricultural operations, result in downstream flooding, or impede floodwaters.

4.1.2 Roadways

The Study Area includes portions of LOVR, S. Higuera Street, and northbound US 101 on and off ramps. LOVR has a northwest-southeast alignment connecting S. Higuera Street in San Luis Obispo and the unincorporated community of Los Osos on the coast. Within the Study Area, LOVR is a two- to three-lane arterial roadway with a 35 mile per hour speed limit. LOVR includes an interchange with US 101 at the north end of the Study Area. South Higuera Street has a northeast-southwest alignment and links the western end of Downtown San Luis Obispo with US 101 south of the City/County limit. Within the Study Area, S. Higuera Street is a two- to four-lane arterial roadway with 45 MPH and 55 MPH speed limits in the City and County, respectively. Class II bike lanes are designated on both roadways. Both roadways include intermittent sidewalks and bike lanes. **Figure 4-2** presents cross sections for Study Area roadways.

The 2010 traffic study for the Octagon Barn Center found average daily traffic (ADT) volumes along S. Higuera Street adjacent to the Barn Center property to be approximately 6,800 on a weekday and 4,330 on a weekend. The County's 2006 data indicates that daily traffic volumes along S. Higuera Street south of LOVR were approximately 8,900 ADT in June (Thursday) and 7,500 ADT in July (Tuesday) of that year. The difference between the 2006 and 2009 data may be partially attributable to the count location and economic recession.

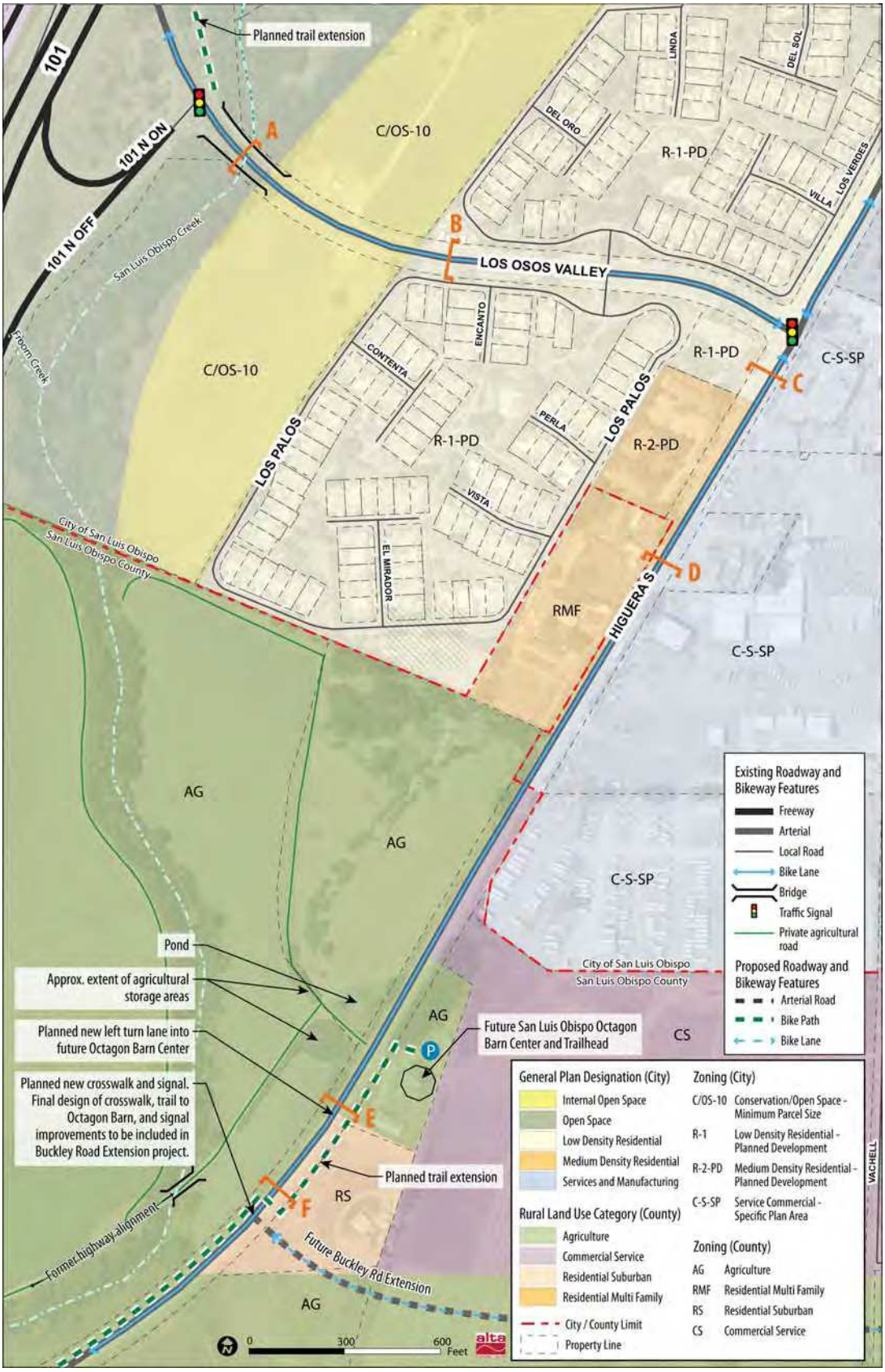
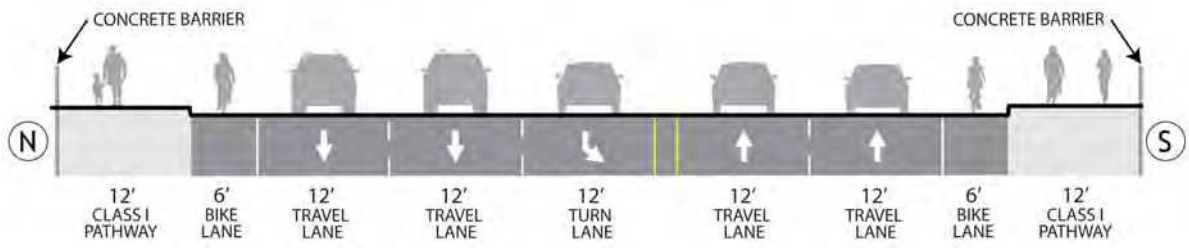
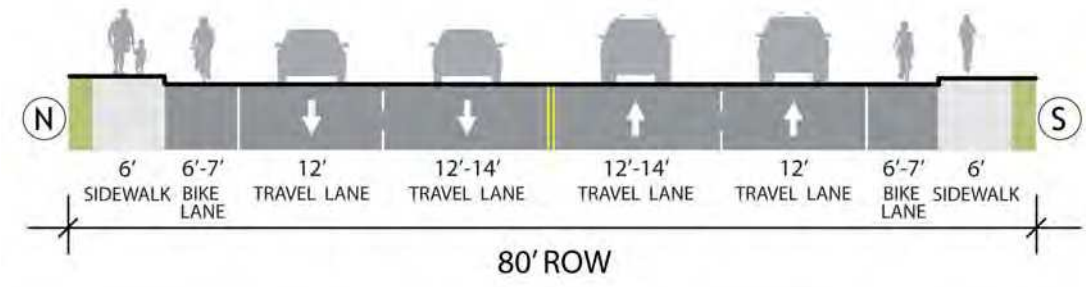


Figure 4-1: Land Use and Circulation in the Study Area

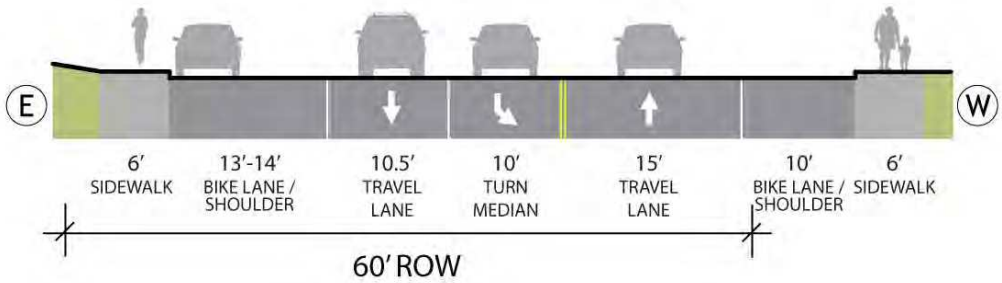
Figure 4-2: LOVR and S. Higuera Street Cross Sections A Through F



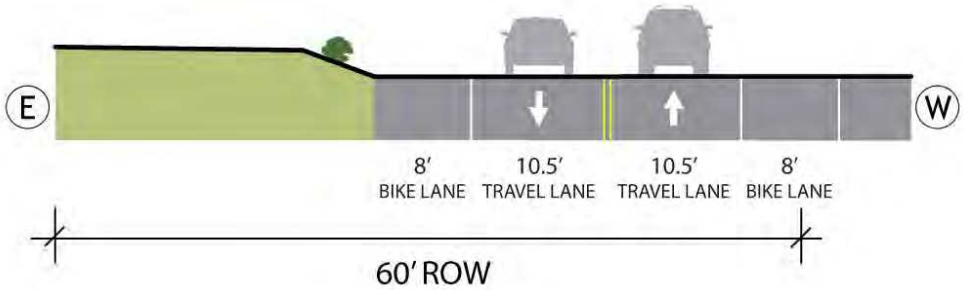
Section A: Planned LOVR Improvements (facing east)



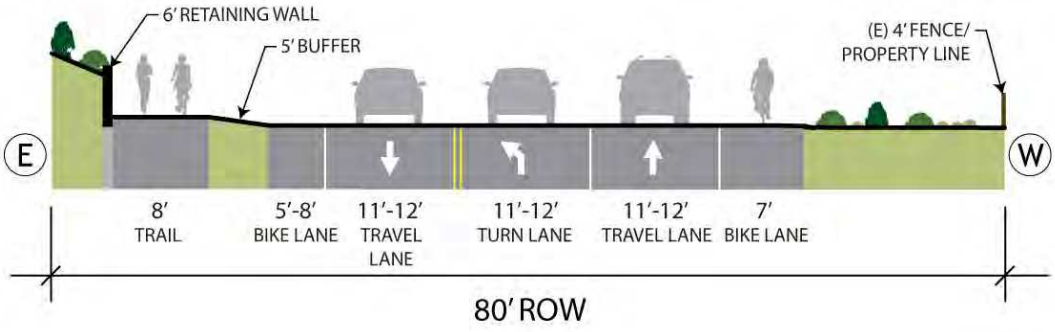
Section B: Planned LOVR Improvements (facing east)



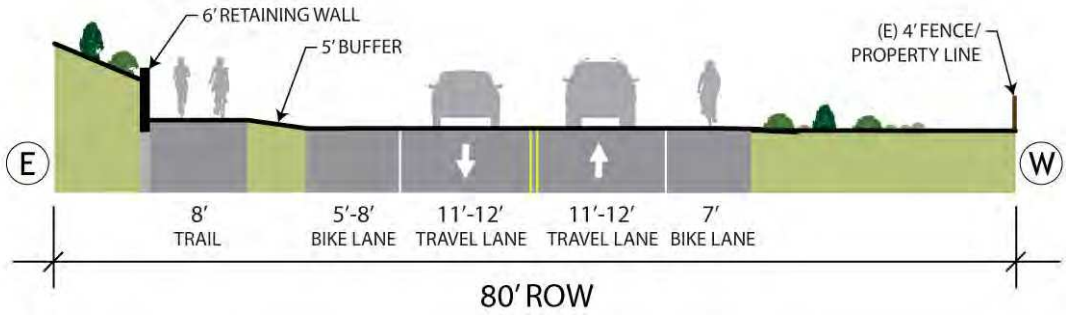
Section C: Planned S. Higuera Street Improvements (facing south)



Section D: S. Higuera Street Existing Conditions (facing south)



Section E: S. Higuera Street Planned Left Turn Lane and Pathway Alignment (facing south)



Section F: S. Higuera Street Planned Pathway Alignment (facing south)

The traffic study for the Octagon Barn Center found the 85th percentile speed in the northbound direction to be 54 mph, while the 85th percentile in the southbound direction is 59 mph. Average speeds (50th percentile) in the northbound direction were recorded at 48 mph and 53 mph in the southbound direction. The traffic study for the Octagon Barn Center concluded that stopping sight distance for traffic traveling on S. Higuera Street is adequate for the 85th percentile speeds adjacent to the Octagon Barn Center driveways.

4.1.3 Other Features

San Luis Obispo Creek and its confluence with Froom Creek are located within the western portion of the Study Area. San Luis Obispo Creek includes dense riparian vegetation. A portion of the Study Area is within the floodplain for San Luis Obispo Creek (see **Figure 4-3**) and flooding has occurred during wet years. New development within this area would be subject to either the City's Floodplain Management Regulations or the County's Flood Hazard combining designation regulations. Combining designations and regulations within the Study Area establish standards for development, including, but not limited to, setbacks from creek habitats and other natural resources and requirements for development within a flood zone. Study Area topography is nearly flat to gently sloping.

The Study Area includes properties with important farmland classifications, including Prime Farmland, Farmland of Statewide Significance, Farmland of Local Importance, and Grazing Land (see **Figure 4-3**). Existing agricultural uses include row crops. None of the properties within the Study Area are under Williamson Act contract or within an Agricultural Preserve.

The Study Area includes notable historic uses. The Pacific Coast Railway traversed the Study Area roughly along the current US 101 alignment. The rail line ran from Port Harford northeast to San Luis Obispo then southeast to connect with Santa Maria, Palmer, Los Olivos and several other destinations.[13] The property at4435 S. Higuera Street includes a segment of the former highway including a bridge over San Luis Obispo Creek that is currently used for agricultural operations (see **Figure 4-1**). The majority of the former highway alignment is south of the Study Area.

The Study Area includes a homeless encampment located along San Luis Obispo Creek near the northbound US 101 on and off ramps. Dispatch of law enforcement to encampments in the area, including incidence response and proactive enforcement, is a weekly occurrence. Illegal activities such as fights, alcohol use and drug use have been observed.[14]

[13] http://www.slorrm.com/pix_history/pcry_map.pdf

[14] Phone conversation with Captain Staley on February 8, 2013.

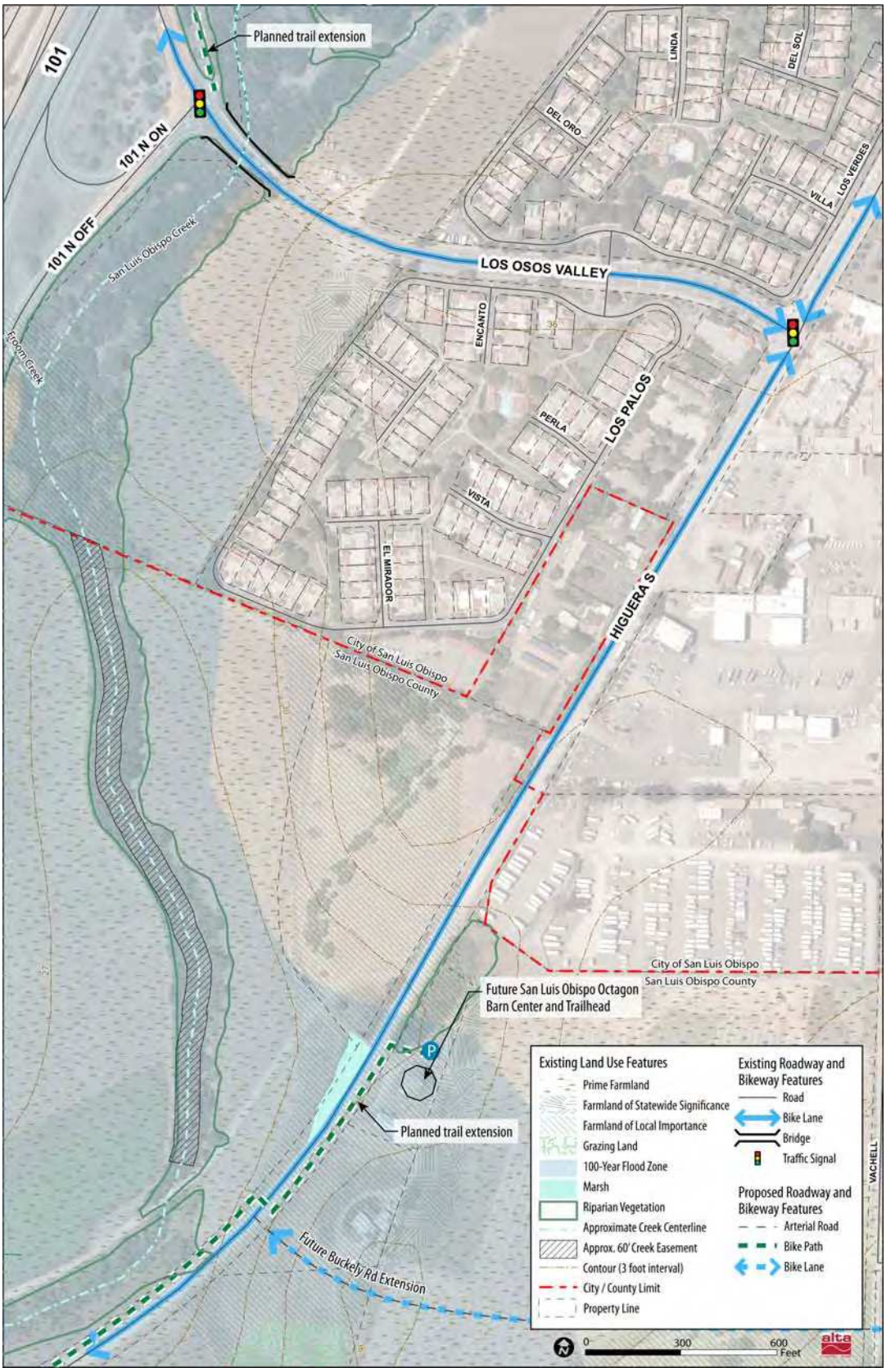


Figure 4-3: Argicultural and Biological Resources within the Study Area

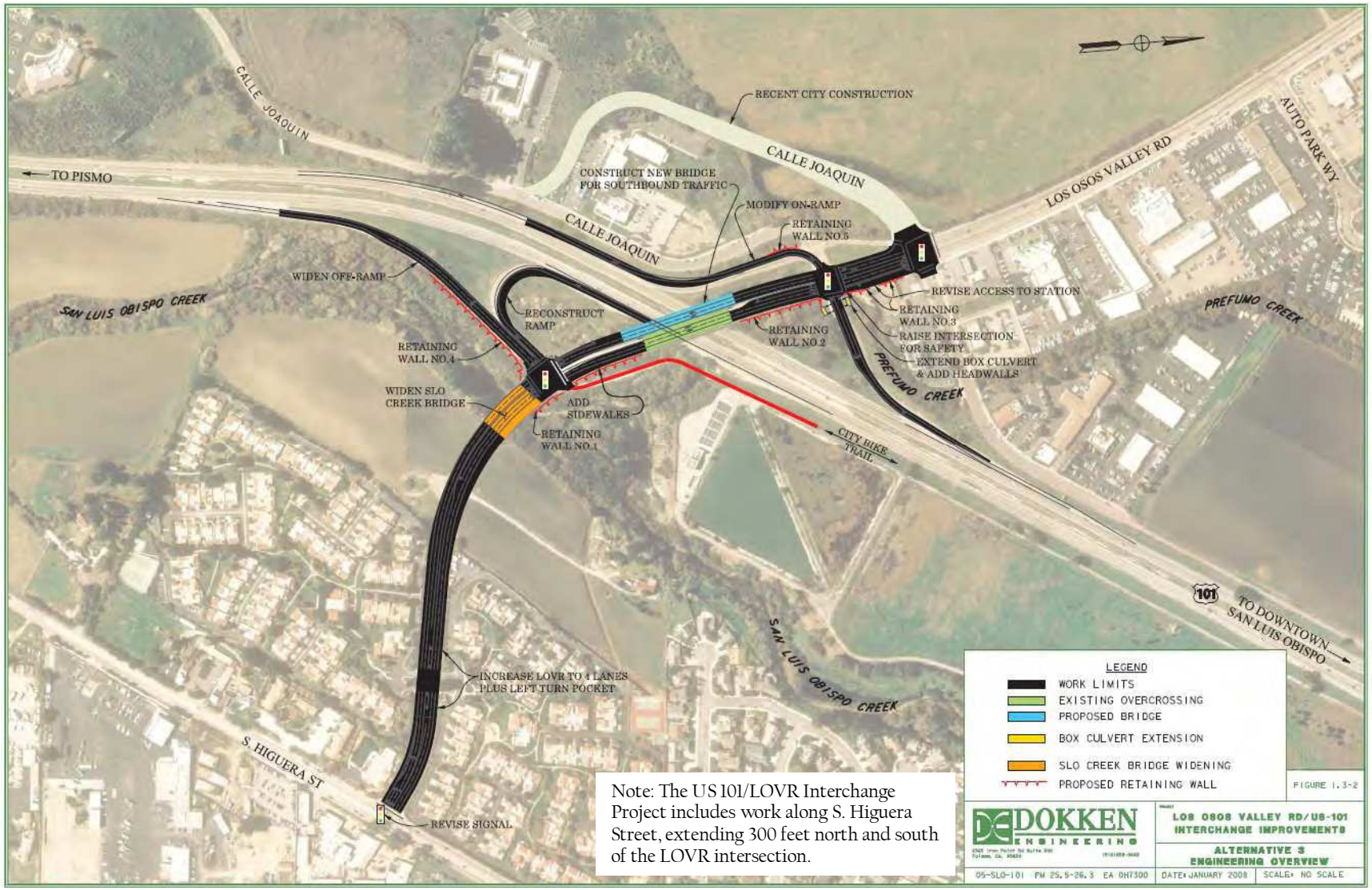
4.2 Planned Improvements

4.2.1 US 101/ LOVR Interchange

The City's US 101 / LOVR Interchange Reinvestment/Improvement Project proposes to widen LOVR between the LOVR/Calle Joaquin intersection west of US 101 and the Los Verdes Park community east of US 101 to four lanes, including the existing LOVR Overcrossing structure, and San Luis Obispo Creek culvert crossing (see **Figure 4-4**). Interchange construction is scheduled to begin in 2014. The project includes the following elements:

1. Widen LOVR from 2 to 4 through lanes from South Higuera St. to west of Calle Joaquin.
2. Construct wide sidewalks and Class II bike lanes along both sides of LOVR to remove gaps. The sidewalks would connect to existing 6-foot wide sidewalks in front of the Los Verdes Parks I and II developments.
3. Modify existing signals at LOVR/US 101 ramp intersections and interconnect with City signals for system coordination and management. Construct new energy efficient street lighting along LOVR and interchange ramps.
4. Restripe on S. Higuera Street to optimize the capacity of the S. Higuera Street/LOVR intersection given the widening of LOVR.
5. Include pedestrian crossing controls at all signalized intersections unless specific movements are determined unsafe or detrimental to traffic conditions.
6. Further widen San Luis Obispo Creek Bridge to handle a future Class I bicycle pathway on either shoulder of the structure.
7. Outside of state right-of-way, use imprinted asphalt concrete for crosswalks for increased visibility within project limits.
8. Place bicycle detector loops (subsurface connected to traffic signals) at signalized intersections.

As shown in **Figure 4-4**, the City's planned Bob Jones Pathway passes through the project, providing bikeway access to connect to LOVR at the northbound on- and off-ramp intersection. Safety device placement, striping, and Class I pathway signs would be completed once the location and alignment of the Bob Jones Pathway is determined south of the interchange. The interchange design would not preclude connection of the Prefumo Creek pathway extension to the future Bob Jones Pathway, including possible extension of the pathway under or over LOVR.



Note: The US 101/LOVR Interchange Project includes work along S. Higuera Street, extending 300 feet north and south of the LOVR intersection.

Figure 4-4: US 101 / LOVR Interchange Reinvestment/Improvement Project (Alternative 3) showing the City's planned Bob Jones Pathway segment (solid red line) and new crosswalks at the LOVR / US 101 northbound on- and off-ramp intersection

4.2.2 Octagon Barn Center and Staging Area

In May of 2012, the County granted the Land Conservancy of San Luis Obispo County (LC) a Conditional Use Permit (CUP) for the Octagon Barn Center. LC holds a lease on the property with the Octagon Barn. The Octagon Barn Center will provide for local private and public events, a Bob Jones Pathway Trailhead, and a place local residents, school groups, and area visitors to learn about the importance of agriculture in San Luis Obispo County. The CUP allows for site grading, a bicycle path segment, permission to hold events within the Barn Center, restrooms, and 112 parking spaces (see **Figure 4-5**). The project includes a southbound center left-turn lane on S. Higuera Street into the project site. The Center is scheduled to open in 2014.

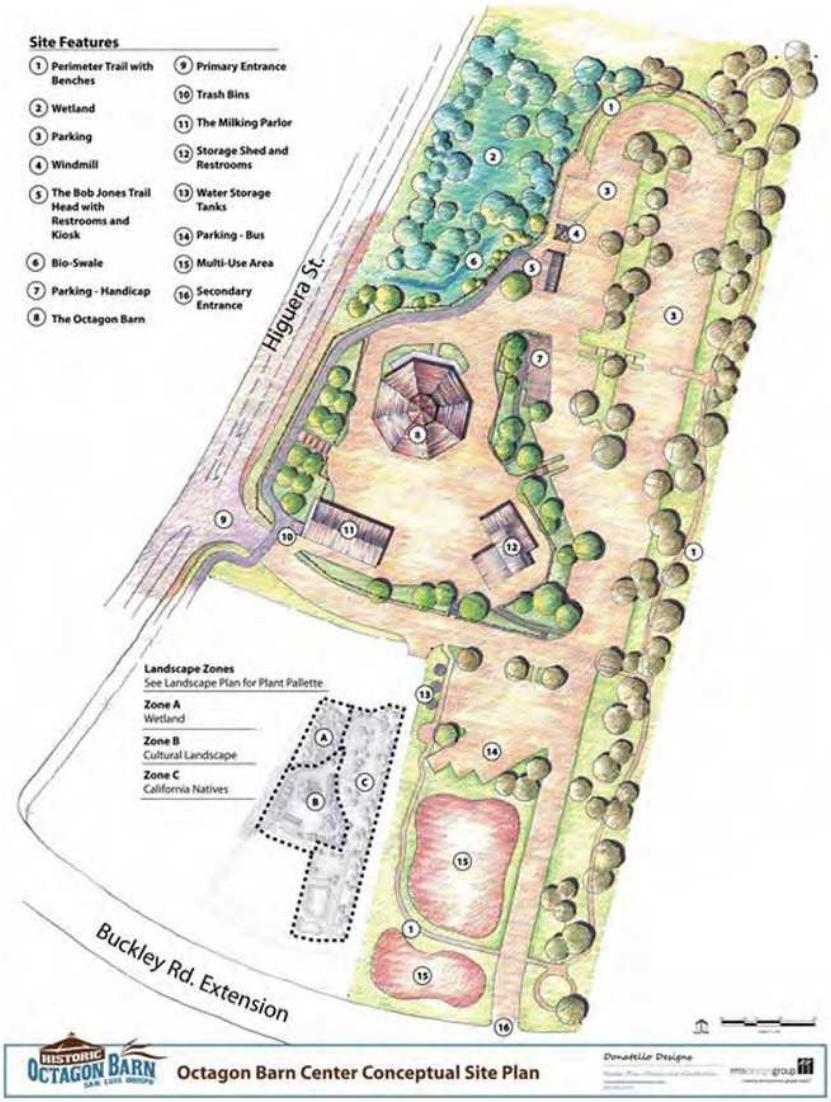


Figure 4-5: Barn Concept Design (2010)
(Source: The Land Conservancy of San Luis Obispo County)

4.2.3 Buckley Road Extension

The Buckley Road extension project would extend Buckley Road from Vachell Lane to S. Higuera Street. Timing of the Buckley Road extension project is tied to buildout of the Avila Ranch Industrial Subdivision and Planned Development. Approved by the County in 2002, the Avila Ranch Industrial Subdivision and Planned Development site is located east of Vachell Lane and north of Buckley Road. The project approval included subdivision of 121 acres into 19 industrial lots and a planned development. As of May 2013, construction of Avila Ranch has not yet begun and neither jurisdiction is pursuing the roadway extension, which will most likely be development driven. The roadway extension will be studied as part of the City's Land Use and Circulation Element update process currently underway.

4.2.4 Bob Jones Pathway Projects

City of San Luis Obispo

The 2008 Bob Jones City-to-Sea Trail Preliminary Alignment Plan establishes the preferred alignment for a design of a Class I bicycle pathway within the City of San Luis Obispo north of LOVR. The pathway connects to the existing Class II bike lanes on LOVR at the north end of the Study Area. From here, the pathway alignment extends north along the existing utility service road and travels east along US 101. As of 2012, the existing segment of the Bob Jones Pathway in San Luis Obispo does not connect through to Avila Beach and dead ends after 0.8 miles.

The design standards call for a paved pathway wide enough to accommodate multiple uses. The preferred alignment for the Bob Jones Pathway has been designed to run outside of the creek setback to the greatest extent possible. Where no practicable alternative exists, the pathway will be located within the setback for limited distances. Outside the creek setback, the pathway is proposed to be 12-feet wide with 2-foot wide shoulders. Inside the creek setback, the pathway would be 8-feet wide with 2-foot wide paved shoulders. The design includes fencing where the pathway is located along the creek to direct or limit pathway access. The 4-foot tall fence should be placed on the edge of the pathway shoulder. The Bob Jones Pathway is not proposed to have continuous lighting. Where the pathway crosses public roads at grade, supplemental lighting should be incorporated into existing street lighting. Along Prado Road, the proposed facility would be onstreet and includes 5-foot wide bike lanes.

County of San Luis Obispo

The County's Bob Jones Bike Pathway Extension #2 project is undergoing environmental review. The County anticipates a public review draft of the analysis will be available mid-2013. Extension #2 is intended to go from Ontario Road to S. Higuera Street, terminating at the Octagon Barn. This project would be constructed in roughly three phases which will be designed and constructed as funding becomes available. Construction of the entire path would be anticipated to occur within six years of the start of Phase 1. Within the Study Area, the pathway would be 8-feet wide with 2-foot wide shoulders.

4.3 Easements and Public Access

4.3.1 Available Right-of-Way along LOVR and S. Higuera Street

LOVR

The right-of-way along LOVR is approximately 80 to 92 feet wide.[15] The US 101/LOVR interchange project proposes 10 to 18 foot wide travel lanes, 5 to 9 foot wide bike lanes and 6 foot wide sidewalks. In constrained locations, an additional 2 feet of right-of-way beyond the back of sidewalk is available

[15] LOVR/US 101 Interchange Project Construction Plans, June 9, 2011.

for pedestrian and bicycle improvements. **Figure 4-2** Sections A and B present planned roadway configurations along LOVR. **Figure 4-1** shows the cross section locations.

The available right-of-way and existing development would not allow for a pathway meeting Caltrans Class I bikeway standards. A pathway alignment along LOVR within the Study Area would need to take the form of Class II bike lanes and sidewalks.

S. Higuera Street

The right-of-way along S. Higuera Street is alternatively 65 feet or 80 feet. **Figure 4-2** Sections C through F present planned roadway configurations along S. Higuera Street. **Figure 4-1** shows the cross section locations. Within the City, S. Higuera consists mainly of two minimum 10.5 foot wide travel lanes with varying shoulder widths and 6 foot wide sidewalks, where present. South of the intersection with LOVR, S. Higuera widens to include a westbound turn lane. Onstreet parking is allowed along portions of the street. In constrained locations, the property line is located within the shoulder. Within the County, S. Higuera consists of two 10.5 foot wide travel lanes and 8 foot wide shoulders.

The City's General Plan calls for widening of S. Higuera Street from two to four lanes from Madonna to the City Limits. The City's Bicycle Plan calls for bike lanes on S. Higuera Street. Per the County General Plan, S. Higuera Street should be improved to four travel lanes with two bike lanes from the southern city limits to the proposed intersection with Buckley Road. The roadway should be maintained as two-lanes with two bike lanes from Buckley Road to Ontario Road. The City and County intend to widen the lanes to 11 or 12 feet and maintain 5 to 8 foot wide shoulders.

The available right-of-way and existing easements would not allow for a pathway meeting Caltrans Class I bikeway standards along the entire length of S. Higuera Street from LOVR to the Octagon Barn within the existing public right-of-way such that acquisition of access over private property would be needed.

Sidepath Considerations

Sidepaths are paths that run adjacent to the road where right-of-way and other physical constraints dictate (as illustrated by Sections E and F in **Figure 4-2**). Two-way sidepaths can create operational concerns, especially for longer path segments on urban and suburban streets with many driveways and street crossings, including:

- At driveways, motorists entering or crossing the road often will not notice bicyclists approaching from their right, as they do not expect bicyclists from this direction. Motorists turning from the road onto the cross street may likewise fail to notice bicyclists traveling the opposite direction from the norm.
- Bicyclists traveling on sidepaths are apt to cross driveways at unexpected speeds (i.e., speeds that are significantly faster than pedestrian speeds).
- Motorists waiting to enter the road from a driveway may block the sidepath crossing as drivers pull forward to get an unobstructed view of traffic (this is also the case at many sidewalk crossings).

- Attempts to require bicyclists to yield or stop at driveways are inappropriate and typically not effective.

Pathway users on a sidepath along the east side of S. Higuera Street would need to cross five driveways before reaching the Octagon Barn Center. Pathway users on a sidepath along either side of LOVR would need to cross two driveways; one at the Los Verdes developments and one agricultural property driveway.

4.3.2 Access on Private Property

This Study includes review of potential pathway alignments on private property, including two agricultural parcels owned by different parties (see the properties with APNs 076-081-026 and 053-161-014 in **Figure 4-6**). Consideration of access on private property is a sensitive issue and is generally undertaken only as a last resort and on a "willing seller" basis.

Background research included review of title reports for properties with the following APNs : 076-081-026 and 053-161-014. The property with APN 076-081-026 includes an open space easement and building restriction for agricultural and recreational purposes and for scenic preservation over the majority of the 46.28-acre parcel (the area roughly corresponding to the 100-year floodplain). No structural development is allowed within this area without amending the open space easement. Due to this easement, the property has little to no development potential for uses other than agricultural and recreational. The property also includes a 60-foot conservation easement centered along San Luis Obispo Creek. The easements do not include public access.

4.3.3 Options for Acquisition of Public Access

Lead agencies seeking to implement a pathway on private land (or another agency's land) have several options to offer the potential seller to allow access to the portion of the property needed for the pathway. These options include fee purchase, easement, license, bargain sale and donation. They offer a range of conditions for control of the land and assumed liability. Where payment for access is involved, the City and County are required to pay fair market value.

Fee Purchase

Public agencies may purchase a parcel of land (fee title) for a pathway. Fee purchase of the land gives the buyer clear title to the property. It provides the simplest, and sometimes the most feasible approach toward acquiring access to land. Pathway and greenway lands are often marginally developable and unsuitable for most development activity. The liability of these lands from a real estate tax perspective creates an opportunity for some developers to reduce their tax burden by selling or deeding the property to an agency for a pathway.

Easement

Easements provide the general public with the right to use a specific parcel of property, usually through a defined corridor. Easements come in variety of forms that all involve the landowner's

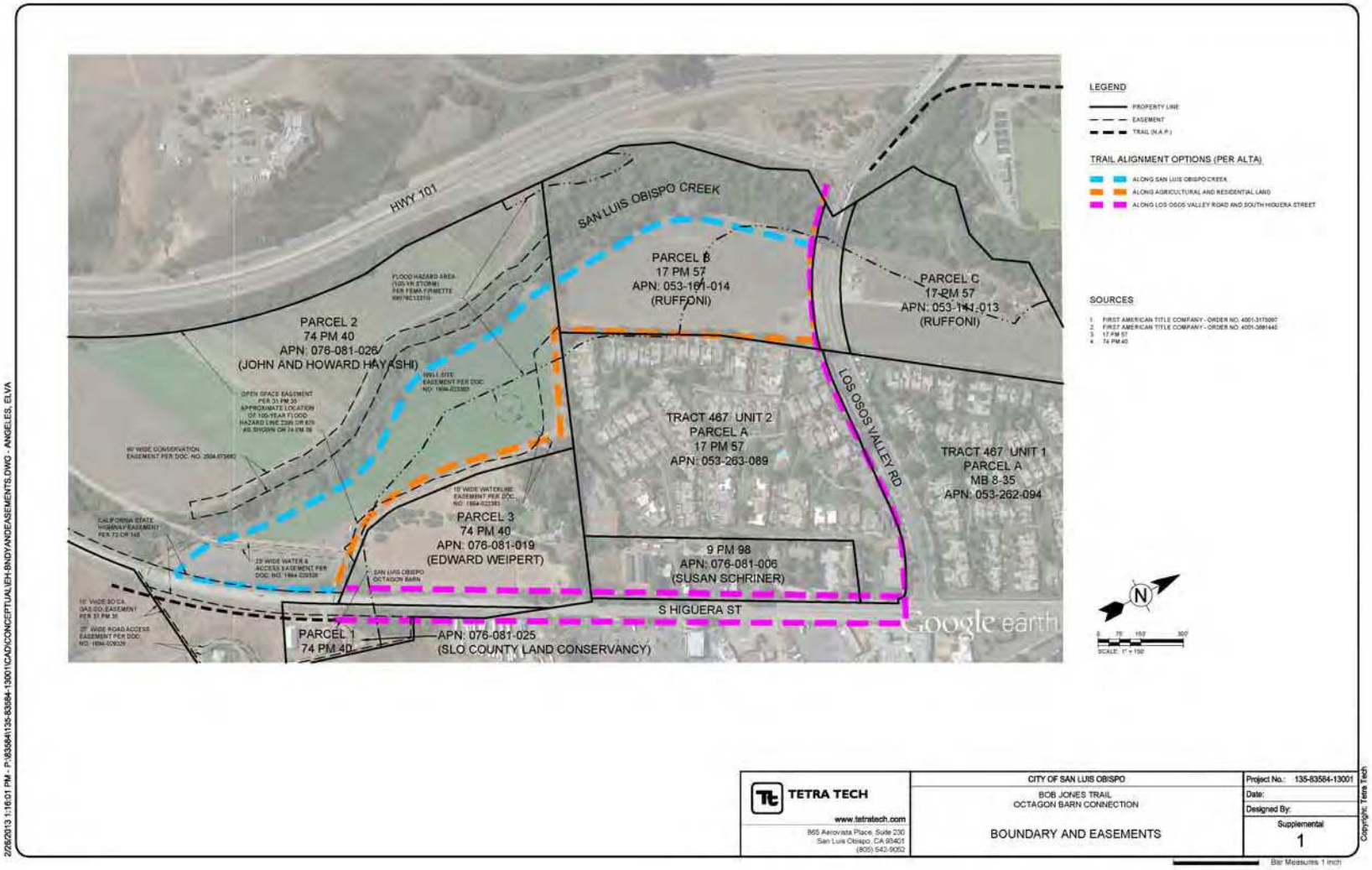


Figure 4-6: Existing Easements over Private Property

willingness to forego the use of a portion of their property and/or development rights for an agreed upon timeframe. Under most circumstances, landowners relinquish liability and management of that portion of the property and the public agency purchases the right of access and the right to construct and maintain the pathway on the property or a portion of the property. Easements are a more affordable option than fee purchase. They typically "run with the land," meaning the easement stands regardless of a change in ownership.

Dedication

The County and City have adopted bicycle and pedestrian circulation plans, which include the Bob Jones Pathway. The City's Bicycle Transportation Plan includes a proposed Class I pathway generally along the creek between the LOVR/Highway 101 interchange and the future Buckley Road extension. If a property owner along the proposed route submits a development permit request to the City or County, they may potentially be required to dedicate an easement for the pathway as a condition of approval of the development. However, in order to require this, there must be an "essential nexus" between a legitimate public interest (e.g., bicyclist and pedestrian safety or reduced traffic congestion) and the permit requirement, and the City or County must make an individualized determination that the required dedication is related both in nature and extent to the proposed development's impact.

Bargain Sale

A property owner may sell property or an easement at a price less than the appraised fair market value of the land or easement. Sometimes the seller can derive the same benefits as if the property were donated. Bargain sales are attractive to sellers when the seller wants cash for the property, the seller paid a low cash price and thus is not liable for high capital gains tax, and/or the seller has fairly high current income and could benefit from a donation of the property as an income tax deduction. The lost capital gain, which is the appraised value less the sales price, is taken as a tax deduction.

Donation

Donations typically include full transfer of property or an easement to an agency or non-profit for a specific use or purpose such as a pathway, that may be simple or complicated by extensive conditions. Financial incentives in the form of tax credits are available in most cases. The receiving entity agrees to receive title to a parcel of land or easement at virtually no cost. In most cases, the donor is eligible to receive federal and state deductions on personal income, as describe under bargain sales. In addition, property owners may be able to avoid inheritance taxes, capital gains taxes, and recurring property taxes.

4.4 Pathway User and Property Owner Concerns

Safety and security concerns are often raised in conjunction with proposed pathways through areas that were not previously accessible to the public. A number of concerns were mentioned at stakeholder and public meetings (see *Section 4.8, Public and Stakeholder Input*), including loss of privacy, security considerations, provisions for the safety of pathway users and emergency access, and

lighting design and pathway access after dark. A large homeless encampment currently exists along the creek near the LOVR/US 101 interchange, and persons in this encampment use part of the pathway route under study to access it. Several landowners voiced concerns the pathway would enable the homeless to come closer to their properties.

4.4.1 Loss of Privacy

Pathway implementation may result in some loss of privacy for adjacent residential landowners. Careful siting of the pathway, supplemented by existing or planned vegetation, combined with adequate fencing and signage, and a program for public information, maintenance and management could help protect the privacy and security of adjacent land owners. Clearly-identifiable access points, landscaping, fencing, and signage can direct pathway users to locations where access is designated.

At public meetings for this Study, some adjacent property-owners stated they would like screening or fencing to separate pathway users from the adjacent properties. Some adjacent property-owners stated a preference for the pathway to be located closer to San Luis Obispo Creek than to the adjoining residential land uses. Other adjacent property owners expressed interest in controlled access to the pathway. Provision of fences with gates is one way to address privacy impacts to residential property owners and allow controlled access.

4.4.2 Security Considerations

Some meeting participants voiced concerns that the pathway would enable the homeless to come closer to their properties and encourage other undesirable activities, including crime. While these concerns are understandable, studies show that providing public pathway access to an area that is otherwise only accessible by trespassing on private property actually reduces the incidence of crime and trespass beyond the pathway. The Rails-to-Trails Conservancy surveyed management agencies overseeing 372 trails throughout the United States for their 1998 report titled "Rail-Trails and Safe Communities."[16] This effort documents the level of crime on trails and identifies mitigation measures used by trail designers and managers to minimize the potential for crime.

Correspondence from law enforcement agencies across the U.S. consistently reported that rail-trails do not encourage crime. To the contrary, many agencies found that heavy trail usage is a crime deterrent in areas that were isolated prior to implementation of the trail. This has been experienced on other types of trails. For example, the City of Santa Cruz staff have reported a reduction in illegal homeless-related use of that City's Pogonip Park since work on a multiuse trail through the park began in 2012. The trail was proposed in 2010 in part to help push out illegal activities in the park.[17]

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[16] *Rail-Trails and Safe Communities: The Experience on 372 Trails.* Rails-to-Trails Conservancy. Washington, D.C.: National Park Service. 1998.

[17] http://www.santacruzsentinel.com/localnews/ci_21338834/volunteers-cut-new-trail-pogonip-1-5-mile?source=most_viewed

The City of San Luis Obispo Police Department has observed a similar occurrence along the railroad corridor pathway. This area included homeless camps before the pathway was constructed approximately five years ago. Today, most of the camps are gone and the Police Department receives few complaints along the pathway; changes they attribute to high use of the pathway. The Police regularly patrol the Bob Jones Pathway segment near Prado Road to respond to complaints and as proactive enforcement. This pathway segment experiences high transient use and regular incidents involving alcohol use, drug use, and fights. The Police Department believes this is partly because the pathway is unfinished and dead ends. They believe connecting the pathway will help reduce this behavior.[18]

Several other studies of pathway impacts on neighborhood quality and crime conclude that pathways have a negligible effect on crime (the most common issues include illegal motorized use of the pathway, litter and unleashed pets) and that neighbors to a pathway are either satisfied or neutral in their level of satisfaction with a pathway once in operation.

Increased property values near regional pathways demonstrate that their benefits outweigh their impacts. A study of property values along the Mountain Bay Trail in Wisconsin shows that lots adjacent to the trail sold faster and for an average of nine percent more than similar property not located next to the trail. Review of homes sales in the seven Massachusetts towns through which the Minuteman Bikeway and Nashua River Rail Trail run found that homes near these rail trails sold at 99.3% of the list price as compared to 98.1% of the list price for other homes sold in these towns. Homes near the trails sold in an average of 29.3 days as compared to 50.4 days for other homes. Some of the best-known and heaviest used pathways in the country bisect wealthy residential neighborhoods and are considered community assets.[19]

The "Rail-Trails and Safe Communities" study found that trail managers often utilize design and maintenance strategies (e.g., fencing and patrols) to reduce the potential for crime. Careful siting of the pathway combined with adequate fencing and 'No Trespassing' signs would help protect the privacy and security of nearby landowners. While crime or vandalism have not proven to be a common problem along most multi-use paths, fencing may still be a desirable feature to separate the pathway from residential and agricultural areas. Pathway fencing practices in these settings vary widely. The standard on the Bob Jones Pathway is a four foot high wood and wire or split rail barrier to delineate the boundary with sensitive areas. Some regional pathways through residential and agricultural areas function very well without fencing. In other cases regional pathways are bordered by formidable agricultural-type barbed wire fences or chain link fence. Considerations in whether a fence is needed, and what type, include the extent to which it secures the adjacent area; if a trespasser can simply walk around the fence or enter at a different location the fence has little real

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[18] Phone conversation with Captain Staley on February 8, 2013.

[19] *Economic Benefits of Trails and Greenways*, Rails-to-Trails Conservancy. *The Impacts of Rail-Trails, A Study of Users and Nearby Property Owners from Three Trails*, National Park Service, Rivers, Trails and Conservation Assistance Program, 1992. *Evaluation of Burke-Gilman Trail's Effect on Property Values and Crime*, Seattle Engineering Department, 1987.

security value, but may have value as a boundary delineator. Other considerations include cost of installation and maintenance, visual impact and user experience (that is, avoiding a pathway that seems like a security corridor). Finally, adjacent residents often want direct access to the pathway, and/or there is need for utility or emergency access. It is important that these strategies are incorporated into pathway design and management, as discussed in more detail in the section on Alternatives.

4.4.3 Pathway User Safety and Emergency Access

A well-developed policy and practice for pathway maintenance and use management may be the best means to protect public safety and avoid use-related issues. The City and County will be responsible for operation and maintenance of the Bob Jones Pathway segment within their jurisdiction. They depend on a combination of staff, local law enforcement, volunteers, and partnering entities and/or landowners to identify and address operations and maintenance issues. Pathway design and any access controls should be coordinated with emergency service providers to ensure access in case of an emergency. Posting pathway rules and the reasoning behind them is an important means to reinforce safe behavior. Peer pressure to abide by the rules is key to successful pathway operation and maintenance.

Lighting Design and Pathway Access after Dark

Pathways in the County and City are generally not lit, except at roadway crossings. The City is, however, adding lighting to the Railroad Safety Pathway for commuting cyclists. This Study recommends lighting at roadway crossings to improve visibility between pathway users and motorists, which is consistent with the pathway design north of the Study Area.

4.4.4 Private Property Owner Liability

All public facilities require a careful effort to maximize public safety and minimize exposure to liability. The best practice to minimize potential legal actions is to manage the pathway in a coordinated program that identifies safety issues and acts to remedy them efficiently. For the Bob Jones Pathway, this includes high-quality design, operation and maintenance. It also includes private landowner liability protection provided by existing statute.

In California, the California Recreational Use Statute (RUS) (Cal.Civ.Code § 846.1) is available to private landowners under certain circumstance. The California RUS protects private landowners who allow the public to use their land for recreational purposes (e.g., hiking, riding, viewing or enjoying scenic or natural sites) provided they do not charge a fee. A person injured on land made available to the public for recreational use must prove that the landowner deliberately intended to harm him or her. RUSs are intended to limit landowners' liability to encourage them to make their land available for public recreation. For statutory protection to apply, the injured party must have entered the land for recreational purposes. If the party who was injured entered the land for purposes other than recreational, the statute's protection will not apply.

There are three circumstances for which the California RUS does not apply: the landowner must not 1) commit a willful or malicious failure to warn or guard against dangerous condition, 2) charge a fee

to use their property or 3) extend an express invitation to the injured party to use their property. As long as landowners do not engage in any of these three circumstances, they may be confident they will not be held responsible for an injury sustained by others on their property who entered for a recreational purpose.

4.5 Agricultural Resources

Agricultural production within the Study Area includes irrigated vegetable and fruit row crops. As discussed in Section 3.1: Policy Summary, City and County policy encourage conservation of agricultural lands and important agricultural soils.

4.5.1 Important Agricultural Soil

Soil characteristics are critical for agriculture. All soils within the Study Area are identified as Important Agricultural Soils (that is, those soils in the county particularly worthy of conservation and protection) by the County. These soils include Cropley clay (0-2 percent slopes), Conception loam (2-5 percent slopes), and Salinas silty clay loam (0-2 percent slopes). In addition, Cropley Clay and Salinas silty clay loam are considered Prime Farmland and Conception loam is classified as Farmland of Statewide Importance. Soils within the Study Area are either currently under agricultural production, are located along the edge of agricultural fields, or are disturbed by urban development.

Pathway projects can result in direct conversion of soils (generally limited), but also indirectly result in a loss of soils if they bisect a parcel in such a way that leaves agricultural production infeasible. For example, a pathway project that bisects a 20-acre parcel in such a way that it creates a 1-acre and a 19-acre piece has effectively resulted in the conversion of the entire 1-acre remainder (this is referred to as an "orphaned parcel").

County policy discourages the conversion of these soils to other uses or loss of these soils through erosion or other disturbances. The County evaluates proposed conversion of agricultural lands to non-agricultural uses against applicable General Plan policies. One such policy encourages recreational uses on privately-owned lands where such uses are compatible with on- and offsite agriculture.

4.5.2 Existing Agricultural Improvements

Based on a field survey along area roadways and use of aerial photos no barns or other agricultural accessory structures are present along the preliminary pathway alignments; however, the Study Area has a long history of agricultural production and is served by agricultural roads and wells. The former alignment and bridge for S. Higuera, originally the state highway, is used as an agricultural road and features electrical panels and other infrastructure. **Figure 4-1** shows the approximate extent of agricultural roads and agricultural storage areas within the agricultural parcels.

4.5.3 Conversion of Agricultural Land and Impacts to Agricultural Operations

Pathways can impact agricultural lands through the conversion of agricultural land to non-agricultural uses and through introduction of land use incompatibilities. Pathways typically occupy

narrow (e.g. 20 foot wide) linear corridors. Land use incompatibilities occur when land uses affect the normal operations on agricultural land, including grading, plowing, use of heavy equipment, and legal application of pesticides and other chemicals. This may also occur due to complaints regarding dust, noise, and odors. In addition, when recreational pathways are located near agricultural areas, there is at least a perceived threat of increased trespass, theft, or disturbance of the crops. Many examples of well-used pathways along agricultural lands exist throughout the country. The pathway design and alignment should include measures to minimize conversion of agricultural lands and potential incompatibilities.

California Leafy Greens Marketing Agreement

The LGMA is a voluntary, model program that was created in 2007 to protect public health and establish a culture of food safety on leafy green farms. Although this is not currently a state regulation, the LGMA has an effect on land use planning when participating members are affected by pathways and other development located near production agriculture. In late 2012, crops observed on the agricultural lands in the Study Area included zucchini and pumpkins. However leafy greens are assumed to be a potential crop. The LGMA collaborates between the government and farming communities, and incorporates science-based food safety practices and mandatory government inspections in an effort to assure safe leafy green products. These standards may include buffers from riparian areas and pathways.

Over 100 handlers, representing approximately 99% of the volume of California leafy greens, are LGMA members. LGMA membership requires verification of compliance with the accepted food safety practices through mandatory audits. Fourteen leafy green products are covered by the LGMA, including arugula, butter lettuce, chard, escarole, iceberg lettuce, red leaf lettuce, spinach, baby leaf lettuce, cabbage (green, red and savoy), endive, green leaf lettuce, kale, romaine lettuce, and spring mix.[20] The LGMA regulates water use, soil amendments, environmental factors (e.g., proximity to urban settings, animals, worker hygiene), worker practices, and field sanitation (e.g., non-vegetative debris in the field).

The LGMA does not have established setbacks from land uses that could jeopardize compliance with food safety practices. However, the 2011 LGMA Audit Checklist includes the following questions which communicate potential restrictions:

- Is the adjacent land free from grazing lands/domestic animals within 30 feet from the edge of the crop? If not, are the topographical or climate features that include that the 30 foot recommendation should be modified?
- Is the adjacent land free from uses or conditions that pose a food safety risk to crops?
- Are production blocks free from a history of flooding within the last 60 days? [21]

[20] http://www.caleafygreens.ca.gov

[21] http://www.caleafygreens.ca.gov/sites/default/files/Audit%20Checklist%20California%207-22-11.pdf

Although the properties are not currently being used for leafy green crops, if such crops were planted and if operation of the pathway were to result in non-compliance with the California Leafy Greens Marketing Agreement (LGMA), the agricultural viability of those properties would be limited.

4.6 Biological Resources

This section discusses existing biological resources within the Study Area. SWCA conducted a biological assessment of the pathway alignment options on November 19, 2012. The purpose of the assessment was to identify special-status plant and animal species constraints to a pathway alignment and sensitive habitats, including wetlands that have the potential to occur on or in the vicinity. SWCA conducted a literature review of the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) to generate lists of special-status species with documented occurrences in the area. SCWA queried the California Native Plant Society (CNPS) database as part of the assessment (see **Figure 4-7**). The results were evaluated to determine the potential for occurrence of sensitive resources within the Study Area. The elevation range, soil types, and habitat preferences of the identified species was evaluated to determine which species have potential to occur on the site.

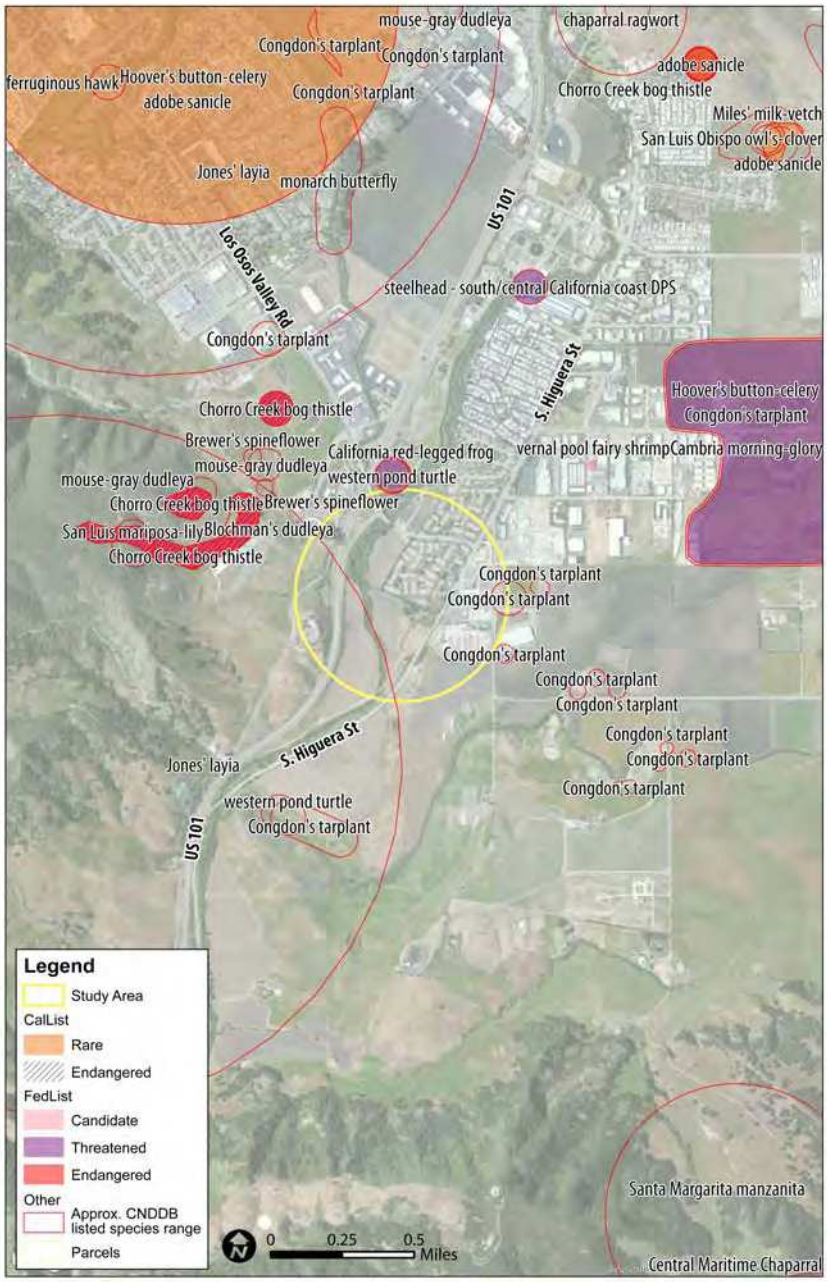

Figure 4-7: Sensitive Species in the Study Area
(*Source California Natural Diversity Database, 2012*)

4.6.1 Sensitive Habitats and Species

The CNDDB database search identified three sensitive habitats in the San Luis Obispo USGS quadrangle:

Coastal and Valley Freshwater Marsh, Northern Interior Cypress Forest and Serpentine bunchgrass. Northern Interior Cypress Forest and Serpentine bunchgrass habitats were not observed in the Study Area; however, one small Coastal and Valley Freshwater Marsh area was identified on the east side of S. Higuera Street, just across the street from the Octagon Barn entrance. Willow riparian forest habitat was observed along San Luis Obispo Creek and its tributaries, just north of the Octagon Barn. The riparian and freshwater marsh areas are regulated by the U.S. Army Corps of Engineers (USACE) and are connected by existing culverts below S. Higuera Street (immediately north and 500 feet south of the Octagon Barn), LOVR, and Highway 101. A potential wetland feature was also observed between San Luis Obispo Creek and the southwest corner of Los Verdes #2. Stormwater flows travel down Los Palos Road and leave the neighborhood via a small spillway. The area was observed to be saturated and vegetated from the spillway west to the riparian edge of San Luis Obispo Creek.

View of S. Higuera Street (looking south), including the roadside ditch that feeds the two willow riparian forest areas

View of a spill way located at the southwest corner of the neighborhood located south Los Verdes #2. The area below the spill way and riparian area was wet during the survey. Note invasive giant reed located between the spill way and the riparian area.

The Study Area is within the south-central California coast region for steelhead trout (*Oncorhynchus mykiss*) and also within the range of the California red-legged frog (*Rana draytonii*). Both of these species are listed as federally threatened by the Endangered Species Act and are also known to inhabit San Luis Obispo Creek. San Luis Obispo Creek is considered critical habitat for steelhead trout. No other federally listed wildlife species are expected to occur within the Study Area. However, it should also be noted that San Luis Obispo Creek is known to support western pond turtle (*Emys marmorata*) and Coast Range newt (*Taricha torosa*), both California species of special concern. The Study Area also has the potential to support nesting migratory birds/raptors during the typical nesting season (March-September) and roosting bats, including pallid bat (*Antrozous pallidus*). No special-status plant surveys were conducted as part of this assessment; however, surveys are recommended during the typical blooming season. Special-status plant species with potential to occur in the Study Area include marsh sandwort (*Arenaria paludicola*), Obispo Indian paintbrush (*Castilleja densiflora ssp. obispoensis*), La Graciosa thistle (*Cirsium loncholepis*), and adobe sanicle (*Sanicula maritima*).

4.6.2 Federal, State, and Local Policies and Regulations

Project activities proposed within or immediately adjacent to creeks, marshes, and wetlands require permit authorization from the following federal and state agencies: United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game. Depending on the alignment, pathway construction would be required to comply with the following

federal and state policies and regulations that protect biological resources: Section 404 of the Clean Water Act of 1977, Section 401 of the Clean Water Act of 1977, Federal Endangered Species Act of 1973, Migratory Bird Treaty Act of 1918, California Endangered Species Act, Section 1602 of the Fish and Game Code, Other Sections of the Fish and Game Code. Pathway alignments along creeks within the City must meet the Standard Mitigation for Class I Bikeways Adjoining Creeks contained in the Bicycle Transportation Plan, which includes requirements for fencing and rare plant surveys.

4.7 Cultural Resources

As part of this Study, SWCA conducted a cultural resources records search, archival and literature review, and initial Native American consultation in order identify the presence of known resources and the general sensitivity of the Study Area for the presence of previously undocumented cultural resources.

4.7.1 Records Search and Literature Review

On November 8, 2012, SWCA requested a cultural resources records search at the Central Coast Information Center (CCIC) located at the University of California Santa Barbara. The CCIC houses records of the California Historical Resources Information System (CHRIS) for San Luis Obispo County. The purpose of the records search was to identify prehistoric or historic archaeological sites or historic buildings and structures (i.e. built environment) previously recorded within the Study Area and 0.25-mile radius. CCIC staff reviewed the National Register of Historic Places, Archaeological Determinations of Eligibility, and Historic Property Directory. These records were reviewed to (1) identify cultural resources within the Study Area and surrounding area, (2) identify and determine the adequacy of previous cultural resources studies in the Study Area, and (3) assess what additional cultural resources studies would need to be undertaken for the proposed project. In addition, relevant sources (e.g. books, maps, journal, various studies) on file with SWCA were reviewed that potentially contained information regarding cultural resources in the project vicinity.

Native American Heritage Commission Contact

SWCA contacted the California Native American Heritage Commission (NAHC) by facsimile on November 8, 2012, requesting a review of the Sacred Lands File. The NAHC responded on November 13, 2012, indicating that the search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the Study Area. The NAHC provided a list of 26 Native American contacts that may have additional information about the Study Area. SWCA mailed a letter requesting information concerning cultural resources in the area to each of these contacts on November 19, 2012. To date, three responses have been received. A copy of this correspondence is on file with SWCA. One respondent had no comment. Two respondents requested that ground disturbing activities be carefully monitored and cultural resources avoided, if encountered.

4.7.2 Cultural Resources Constraints

The project corridor is within the territory historically occupied by the Obispeño Chumash, the northernmost of the Chumash Hoken speaking peoples of California (Greenwood 1978). Pre-historic

marriage patterns and post mission settlement patterns have also identified Salinan people living in the northern portions of San Luis Obispo County (Gibson 1983, Mason 1912). Archaeological evidence has revealed that the ancestors of the Obispeño settled in San Luis Obispo County over 9,500 years ago.

The records search revealed the presence of three previously identified cultural resources within a 0.25-mile radius of the pathway alignments; however, none of the three are within the three proposed pathway alignment options as currently defined. The three sites are described below.

1. CA-SLO-1002H is the Santa Fe Dairy Octagon Barn, located at 4435 South Higuera Street. The Octagon Barn has an estimated construction date from the 1890s to very early 1900s and was operated by Antonio Stornetta. The structure is unique as it is one of less than a half dozen known historic-period round barns remaining in California; it clearly appears eligible under National Register of Historic Places Criteria C (California Register of Historical Resources Criterion 3) as a significant example of type, period, and method of construction (JRP 2006).
2. CA-SLO-1365 is a five-meter x five-meter bedrock mortar with two 10-centimeter diameter cups, recorded in 1988 by Robert Gibson. No artifacts (e.g. flaked stone tools or debitage) were noted. The site has not been formally evaluated for inclusion in the either the NRHP or CRHR.
3. CA-SLO-1780 is the remnants of a historic homestead including a debris scatter, concrete and other structural features, and cypress trees recorded by John Parker in 1996. Parker indicates that the homestead was likely occupied from 1880-1910. The site has not been formally evaluated for inclusion in the either the NRHP or CRHR.

4.7.3 Federal and State Policies and Regulations

Pathway construction would be required to comply with the following federal and state policies and regulations that protect cultural resources:

- National Historic Preservation Act
- California Environmental Quality Act

4.8 Public and Stakeholder Input

This section presents a summary comments received at the first Public workshop, Encore Public Workshop, first Stakeholder Group meeting, and from the public opinion survey. **Figure 4-8** presents the timeline of the outreach efforts. Identified

Figure 4-8: Outreach Efforts

opportunities and constraints have been folded into *Sections 4.1* through *4.7*.

4.8.1 Property Owner Outreach

Between October and December 2012, City staff and consultants made initial contact with property owners potentially impacted by a pathway alignment. The intent of these meetings was to discuss the project, request participation in the planning process, and gain initial feedback on location of the pathway near their property and/or the acquisition of public access rights over their property for the pathway. The property owners showed varying degrees of support and shared the following comments:

- Los Verdes #2 residents would support the offstreet pathway alignments. The pathway alignment along LOVR and S. Higuera Street is viewed to have safety concerns along S, Higuera Street as well as noise and air quality problems for users. They and have asked for a buffer between the pathway and Los Verdes #2.
- One property owner has communicated strong opposition to both offstreet pathway alignments. Principal concerns include loss of privacy and the potential for the pathway to enable the homeless population to come closer to their home. This property owner has access rights over a neighboring property which must be maintained if an offstreet alignment is pursued. They stated preference for a pathway alignment along LOVR and S. Higuera Street.
- The property owner of the agricultural parcel within the County, communicated he believes the pathway would make the eastern portion of his 46.28-acre property (approximately 12.5 acres) unsuitable for the type of commercial farming currently conducted there, stating safe food requirements make it difficult to have a pathway along agricultural lands. The property owner also states that farming of a different crop which requires less spraying may be feasible in conjunction with a pathway. He feels he could continue farming the portion of the property west of the creek as long as the pathway does not adversely impact vehicular access. Of the two offstreet pathway alignments, the property owner believes the alignment along agricultural and residential properties would have the greater impact on agricultural operations because his property would be bordered by the creek on one side and pathway on the other. If the pathway were constructed within or near his land, the property owner believes the only viable use of his property would be housing. The property owner states the pathway along the creek is the alignment most in the spirit of the pathway.
- One property owner expressed concern that additional right-of-way purchase or a pathway route along S. Higuera Street may impact their business operations.

4.8.2 Workshops and Stakeholder Group Meeting

First Public Workshop and Encore Workshop

The City hosted a stakeholder group meeting, public workshop, and encore presentation of the public workshop in early December 2012. The project stakeholder group consists of owners of adjacent or potentially involved property owners, as well as cycling and agriculture advocacy organizations. At the stakeholder group meeting and workshops, City staff and consultants

discussed the history of the Pathway Study and presented an overview of existing site conditions, opportunities, and constraints to constructing the pathway segment. Attendees were asked to share their opinions about the pathway under study and take a public opinion survey to relate their preferences regarding the future pathway connection. Meeting facilitators collected notes on maps that showed three preliminary pathway alignments: one along San Luis Obispo Creek, one along agricultural and residential lands, and one along LOVR and S. Higuera Street for discussion.

Figure 4-9 presents a summary of comments received at the meeting and workshops. In general, attendees expressed support for the pathway and a preference for the alignment along the creek stating this alignment would be the most scenic, have the best pathway experience and most direct alignment, would not impact as many residents as the alignment along agricultural and residential lands, and allows for a more direct connection with the planned, signalized intersection at Buckley Road.

Second Public Workshop

The City hosted a second public workshop on April 8, 2013 to present the pathway alignment alternatives, public and stakeholder comments received to date, and the draft preferred alignment along San Luis Obispo Creek. Approximately 40 people attended. Attendees were asked to share their opinions on the draft preferred alignment and ways to improve all the alignments. In general, attendees expressed support for the draft preferred alignment and S. Higuera Street crossing with a pedestrian-actuated beacon. Attendees support a 12-foot wide path with post and cable or wood and wire fencing along the creek and stouter fencing along the agricultural parcels.

4.8.3 Public Opinion Survey

The City distributed a survey in December 2012 at the stakeholder group meeting, public workshop, encore public workshop, and at a Saturday farmers market to assess public preferences regarding the half-mile future pathway connection. City staff also mailed copies of the survey to residents within one mile of the Study Area the week of December 3, 2012. Respondents were asked to rank six considerations in order of importance and share information on their current pathway use. The survey is available on the project website (www.bobjonestrailconnection.com) and is ongoing. Approximately fifty-five responses were received as of January 31, 2013. Below is a summary of the collected responses. **Appendix B** includes the full text of the survey and a more detailed summary.

- The considerations of highest importance include pathway connectivity and safety (75% of respondents stated this as one of their top two considerations), pathway experience (67% of respondents stated this as one of their top two considerations), and environmental resources (47% of respondents stated this as one of their top two considerations). Other considerations that did not rank as highly include agricultural protection, neighborhood/residential concerns, and private property rights.
- 75% of respondents stated the pathway should be a high priority for the City.
- 76% stated they would use the pathway segment under study if it were built.
- Most respondents use the existing Bob Jones Pathway monthly (49%) or weekly (16%).

- The most popular uses of the pathway include walking/running (64 % of respondents stated they walk/run on the pathway), bicycling (51%), dog walking (13%) and with kids and strollers (9%).
- 22% of respondents use the pathway for commuting or other non-recreational trips whereas 78% do not.

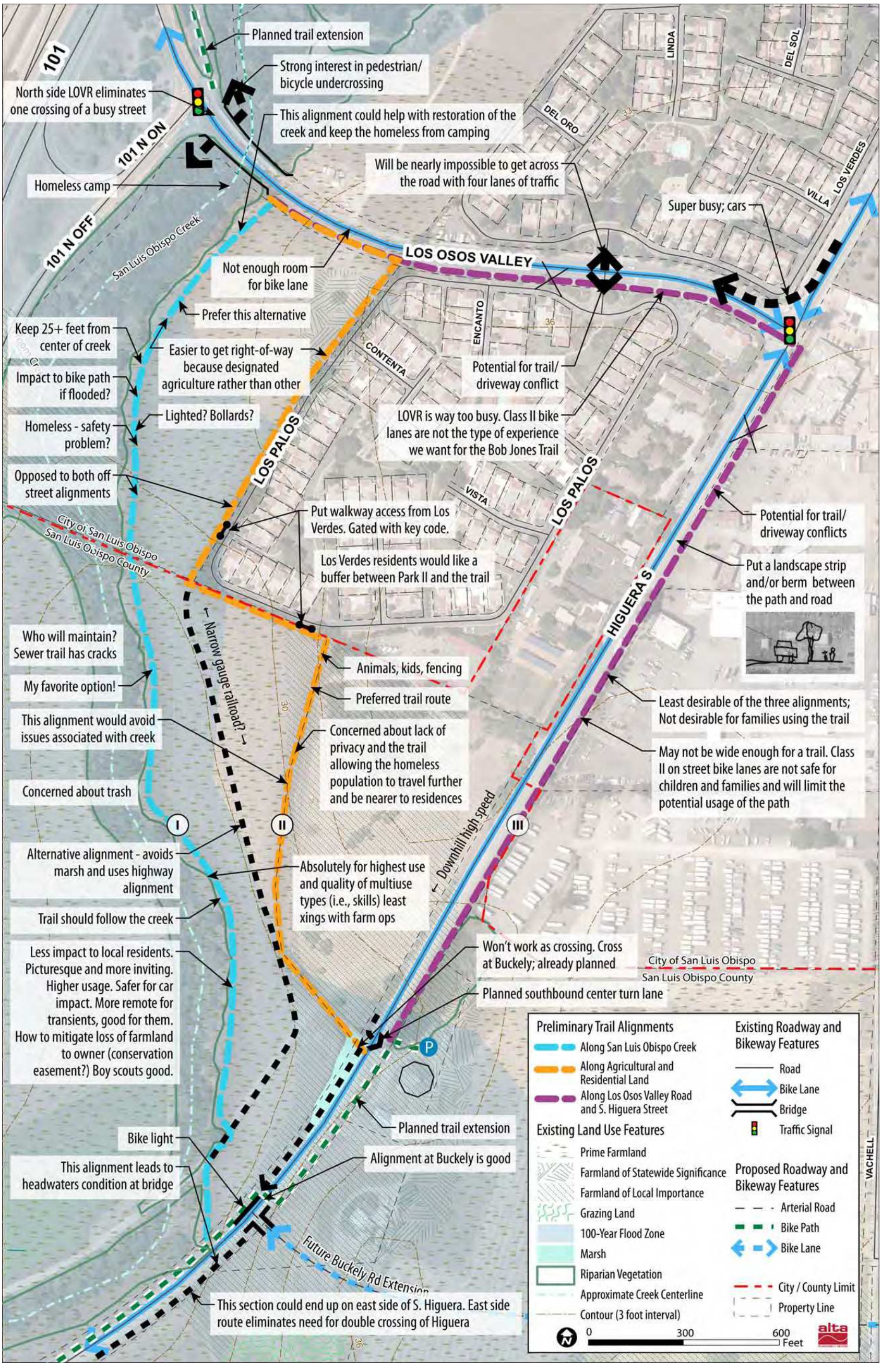

Figure 4-9: Public Input from First Public Workshop, Workshop Encore Presentation and First Stakeholder Meeting

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5 User Needs

This chapter provides descriptions of potential pathway user groups and a summary of bicycle and pedestrian counts in the Study Area. Understanding user group needs and anticipated use levels is key to designing a facility that meets those needs.

5.1 Pedestrian and Bicycle User Groups

Characteristics of current Bob Jones Pathway users can help inform planning and design of the potential Octagon Barn Connection segment. The public opinion survey conducted as part of this study suggests that the existing segments of the Bob Jones Pathway almost exclusively serve recreational users. Approximately 22% of survey respondents use the trail for commuting or other non-recreational purposes. None of the respondents stated they use the trail daily, and only 16% use it at least once a week. Approximately half of respondents stated they use the pathway monthly. Many (64%) of the survey respondents walk or jog on the pathway and approximately half (51%) bicycle along the pathway.

This section provides an overview of the pedestrian and bicyclist user needs. The pathway would be accessible for a range of users, from families with strollers to tourists and bicycle commuters to bladers. The existing on-street Class II bike lanes and shoulders would continue to serve as the high-speed bicycle corridor whereas the proposed pathway would serve pedestrians and slower moving bicyclists. This section discusses the range of anticipated users.

5.1.1 Pedestrian Needs

Pedestrians using the proposed pathway need unimpeded and pleasant access to adjacent land uses, connecting pathways and walkways, intersection crossings, transit stops and adjacent attractors such as the future Octagon Barn Center. Pedestrians are the most vulnerable user of the local transportation network and should be separated from other high-speed travel modes to the fullest extent feasible.

Providing for pedestrian safety in a multi-modal context requires clear delineation of non-motorized only areas versus areas where all transportation modes cross and users should exercise caution. Pedestrians are deterred from pathways when they are adjacent to traffic and speeding bicyclists. Therefore the design of the pathway should buffer pedestrians from traffic and attempt to slow bicyclists on the pathway.

Regulatory design requirements for pedestrian walkways are described in the Americans with Disabilities Act (ADA) guidelines and associated documents. Design guidelines and specifications for walkways include but are not limited to pathway width, longitudinal and cross slopes, obstacles and gaps, curb ramp configurations, street crossings, crossing times, accessible pedestrian signals and detectable wayfinding. As this project moves into detailed design development, environmental review, final design and construction, ADA compliance is a recommended element of the project. ADA guidelines change rapidly and it will be the job of the project designer and City/County staff to ensure current ADA compliance at the time of construction.

5.1.2 Recreational Bicyclist Needs

Recreational use generally falls into one of three categories: exercise, travel to non-work destinations (such as shopping or libraries), and sightseeing. Recreational bicyclists can be a varied user group since the term encompasses a broad range of skill and fitness levels from a racer who rides 100-miles each weekend to a family with young children who are bicycling while on vacation. Regardless of the skill level of recreational users, directness of route is typically less important than being in scenic surroundings, having amenities like restrooms and water fountains, and being on routes with few traffic conflicts. Visual interest, shade, protection from wind, moderate gradients, and artistic or informational features also have a much higher value to recreational users. Also, a smooth surface is important.

All recreational corridor users require some basic amenities to have a comfortable experience. Amenities include dedicated facilities (such as pathways, sidewalks or bike lanes), clear destination and intersection signage, and even surfaces. The aesthetic component of a facility is very important to most recreational users. In other words, most people prefer to walk or bicycle in pleasing surroundings. For families and children, most often these are facilities separate from vehicle traffic. All of these recreational bicyclists provide a commercial resource to local businesses. They stop for food and drinks and other shopping needs.

The Bob Jones Pathway corridor has different levels of recreational needs. First is the need to provide a dedicated continuous and direct facility that connects north to south for recreational sport bicyclists. The needs for these users are much like commuters. They prefer facilities that are on-street, direct, and with traffic. This facility is provided in the Study Area by the existing bike lanes and shoulders on both LOVR and S. Higuera Street. The other need is providing a facility for slower moving bicyclists and pedestrians, such as tourists or families with children.

5.1.3 Bicycle Commuter and Utility Trip Needs

Commuters and utility trip trail users consist of employed adults and students of all ages. These trips are between work and home as well as to other locations with specific purposes, such as a store or a park. Typically these types of trips account for about one-third of all weekday person trips. This represents a substantial opportunity for bicycle and pedestrian usage because of the link to commercial, residential, and transportation destinations in San Luis Obispo, as well as to surrounding communities. Common commute characteristics are as follows:

- Commuter trips usually range from several blocks to ten miles.
- Commuters typically seek the most direct and fastest route available.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with motor vehicles.
- Major commuter concerns include changes in weather (rain and heavy fog), riding in darkness, personal safety and security.
- In general, a primary concern to all bicycle commuters are intersections with no control signs (i.e. stop or yield signs) or signal controls.

- Commuters generally prefer routes where they are required to stop as few times as possible, thereby minimizing delay.

5.1.4 Current Bicycle and Pedestrian Trends

In recent years, both the City and County of San Luis Obispo have made bicycling an important part of the transportation network. Significant investments in infrastructure, education, encouragement, and enforcement have resulted in making the County and its principal city more bicycle-friendly. Bicycle count data reflect this commitment. The total number of bicycle riders observed at official count sites in the City of San Luis Obispo has increased year after year; the 2008 bicycle count saw a 44% increase in riders from 2006. Unsurprisingly, the greatest number of cyclists were counted around the California Polytechnic State University (Cal Poly) campus to the northeast of the Downtown area. Significant increases were seen in the number of cyclists at most count sites, including a 210% increase at the intersection of Madonna Road and LOVR near the Study Area.[22] The count made no distinction between recreational and commute cyclists.

San Luis Obispo County commuters who currently drive to the City of San Luis Obispo and the beach communities for work face parking shortages and likely face traffic delays. Greater use of the bikeways in San Luis Obispo County may encourage some commuters who currently drive to instead walk or bicycle to their workplace, thereby offering commuters saved resources and less traffic congestion.

5.2 Facilities, Activity Nodes and Destinations

5.2.1 Pedestrian and Bicycle Facilities

Both the City and County of San Luis Obispo describe bicycle and pedestrian facilities in their General Plans and circulation elements. While sidewalks are not present along every segment of every road in San Luis Obispo, the City has adopted a policy calling for a continuous network of sidewalks and separated pedestrian pathways connecting major activity centers and residential areas, with safe and comfortable crosswalks, median islands, and crossing controls, where appropriate.[23]

The City and County contain a variety of bikeways, including Class I trails that are physically separated from motor vehicle traffic; Class II on-street bike lanes along major arterial and collector streets; clearly signed Class III "bike routes" on low-volume, low-speed streets with wide lanes; and "bicycle boulevards" located along local or collector streets that prioritize bicycles over

[22] City of San Luis Obispo. "2008 Bicycle Count Data." http://www.slocity.org/publicworks/documents/bikevol2008.pdf

[23] City of San Luis Obispo. 1994. "Circulation Element." http://www.ci.san-luis-obispo.ca.us/publicworks/download/94circele.pdf

automobiles.[24] Existing facilities in the immediate vicinity of the proposed Octagon Barn Connection are further discussed in *Section 4.1 Land Uses within the Study Area*.

5.2.2 Activity Nodes and Destinations

A completed Bob Jones Pathway would connect several major destinations in the Study Area. A brief description of four such activity nodes is below.

Octagon Barn Center

Scheduled to open in 2014, the Octagon Barn Center will provide a space for local residents, school groups, and visitors to learn about the important role of agriculture in the county. In addition, the Center will be available for private and public events. Finally, the site will serve as trailhead for the Bob Jones Pathway, including parking.

Downtown San Luis Obispo

Central San Luis Obispo is a historic pedestrian-friendly retail and entertainment district encompassing about seven blocks. The county's chief government offices are also located here. The City's downtown attracts both nearby residents and outside visitors. Cal Poly, with its daily population of over 20,000 students and employees, is adjacent to the Downtown core.

Avila Beach

Located about 10 miles south of San Luis Obispo, Avila Beach enjoys an intimate connection with its larger neighbor. The coastal community itself has just over 1,600 residents, but it draws many visitors from the surrounding area. Avila Beach's three piers attract tourists and locals alike to stroll, fish, or simply linger.

Pismo Beach

Another coastal community south of San Luis Obispo, Pismo Beach (population: 7,655) is also a popular regional destination. Though not directly on the Bob Jones Pathway, Pismo Beach is accessible from the pathway via local streets that parallel US 101. Pedestrians and cyclists can turn to the south where Ontario Road meets the Bob Jones Pathway in Avila Beach and travel five more miles to the Pismo Beach pier.

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[24] City of San Luis Obispo. "2007 Bicycle Transportation Plan." http://www.ci.san-luis-obispo.ca.us/publicworks/documents/bikeplan/plan051507.pdf

6 Alternatives Analysis

This chapter presents alignment-specific pros and cons and potential solutions, associated with three potential pathway alignments. Chapter 4 includes a discussion of opportunities and constraints applicable to all pathway alignments.

6.1 Pathway Alignment Alternatives

The pathway alignments discussed here were presented as preliminary alignments at initial outreach efforts then refined based on public input and further review of opportunities and constraints.

6.1.1 Pathway Alignment along San Luis Obispo Creek

Alignment Overview

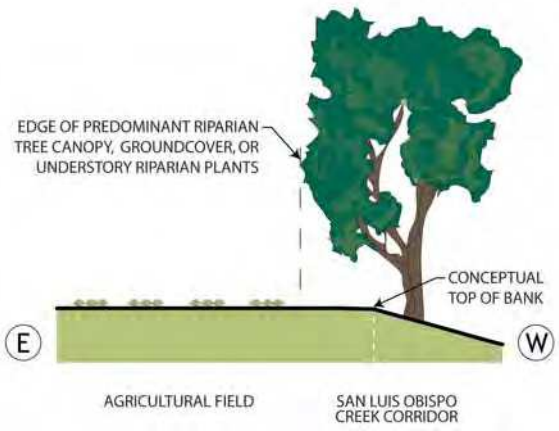
The pathway alignment along San Luis Obispo Creek and agricultural lands would traverse the east side of the creek outside the riparian edge between the US 101/LOVR interchange and the future S. Higuera Street/Buckley Road intersection (see Section 1 below, which illustrates the existing and proposed cross section along the creek). **Figure 6-1** presents the pathway alignment and gives an overview of opportunities and constraints associated with this alignment. The pathway is recommended to be twelve feet wide. Four foot high wood and wire or split rail fences are the standard for Bob Jones Pathway segments along creeks in the City, but other fence types may be appropriate to consider on this alignment, as discussed in *4.4 Pathway User and Property Owner Concerns*. Public access rights would be needed for the pathway.

This alignment received the most public support, many believing this would be the most scenic and pleasant of the alignment options. The alignment is generally consistent with the alignments included in the City's Bicycle Transportation Plan and SLOCOG's Regional Transportation Plan.

The alignment has agricultural resource constraints. The alignment would result in the conversion of agricultural lands to non-agricultural uses and would likely impact agricultural operations. County policy states that access trails shall not conflict with agriculture or environmentally sensitive resources.

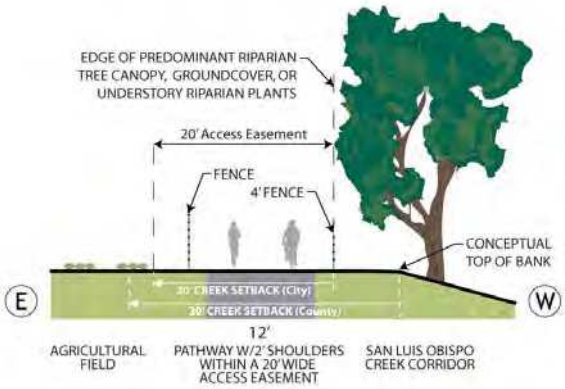
The pathway is proposed to be located within the County and City creek setbacks. The edge of the creek bank through the Study Area has not been surveyed, such that the location of the creek setback from top of bank is depicted conceptually in the cross sections following **Figure 6-1**. Although City and County policies include creek setbacks for pathways (see *Section 3.1 Policy Summary*), they allow for exceptions to the setback requirement in certain circumstances. Encroachment into the City's creek setback is permitted where there is no practical alternative, to allow reasonable development of a parcel consistent with the Conservation and Open Space Element. Encroachment into the County's creek setback is allowed when the setback would have a significant negative impact on the agricultural viability of the site.

Figure 6-1: Opportunities and Constraints Associated with a Pathway Alignment along San Luis Obispo Creek



Section 1: Existing Cross Section Along San Luis Obispo Creek (facing south)

The location of the top of bank shown in this graphic is conceptual. Determination of the actual top of bank would require a site survey.



Section 1: Conceptual Pathway Cross Section Along San Luis Obispo Creek (facing south)

City and County creek setback requirements are discussed in Section3.1. Policy Summary. The conceptual pathway location would encroach into the creek setback (defined by the City as 20 feet beyond the top of bank or predominant riparian vegetation, whichever is further, and by the County as 30 feet from the top of bank) to minimize impacts on agricultural lands.

The alignment would require a new crossing of S. Higuera Street. The optimal crossing location is at the future Buckley Road extension signalized intersection; however, funding for and timing of the roadway extension project is uncertain. Crossing alternatives are discussed in *Section 6.2*.

Agricultural Resources and Operations

A primary concern raised in relation to the Bob Jones Pathway is its potential impact on agriculture.

Loss of Agricultural Land

County policy stipulates that access trails shall stay as far away as reasonable from production agriculture, commercial activities and residences (County Parks and Recreation Element Policy 3.8) and shall not conflict with agricultural resources (County General Plan Policy AGP 32). This Study assumes a conflict would result if implementation of the pathway precludes agricultural use of either agricultural property. Pathways through and along agricultural lands exist throughout the country. The owner and operator of the agricultural parcel within the County has stated a pathway either along the creek or along the residential property lines would make the eastern portion of his property (approximately 12.5 acres) unsuitable for the type of commercial farming currently conducted there. This property owner also states that farming of a different crop which requires less spraying may be feasible in conjunction with a pathway. Of the two offstreet pathway alignments, this property owner believes the alignment along agricultural and residential properties would have the greater impact on agricultural operations as his field would be located between the pathway and creek.

If the City and County pursue this pathway alignment, one option that could allow for pathway construction and continued farming of the affected parcels would be for the City or County to purchase the property and look for a farmer or farmers to sublet the irrigated land for farming. The outcome could be similar to what the City and farm advocacy group called Central Coast Grown is planning at Calle Joaquin Agricultural Reserve or SLO City Farm, 21 acres of farmland leased from the City in San Luis Obispo.[1]

As shown, the pathway alignment would not comply with the County's Agricultural Buffer policy, which includes a 200 foot buffer between irrigated row crops and pathways. The County's Agricultural Buffer policy has never been applied and residences exist less than 200 feet from active row crops in the Study Area. In order for this alignment to move forward, the County's buffer policy cannot be applied in full. There are measures that could reduce the setback distance (e.g., fencing, closing the trail during spraying, etc.). Along a Bob Jones Pathway segment in Avila Beach, the separation between the pathway edge and trees in an adjoining orchard is approximately 30 feet. The County's Bob Jones Bike Pathway Extension #2 project, which also involves agricultural impacts, is undergoing environmental review. Once certified, this document should provide a clearer understanding of the associated impacts and mitigation measures in the County.

One agricultural property owner has stated concerns related to possible need for a buffer zone between the pathway and crops in order to satisfy food safety standards regarding proximity of public access. If a buffer is required by the County or through the LGMA, the viability of the agricultural lands within the buffer could be limited. The LGMA aims to protect food safety by minimizing the potential for contamination from urban uses, wildlife, and flooding. Aligning the pathway along the creek and within the 100-year floodplain (areas of LGMA concern) would lessen the impact on the viability of adjacent agricultural lands.

This pathway alignment is located along San Luis Obispo Creek within the applicable jurisdictions' creek setback and beyond the edge of the predominate riparian vegetation. Assuming a 20 foot wide access easement, the proposed project would result in the conversion of approximately 1.3 acres of agricultural lands to recreational uses, consisting of 0.5 acres of the agricultural parcel in the City (APN 053-161-014) and 0.8 acres of the agricultural parcel in the County (APN 076-081-026).

City and County policy allow for encroachment into the creek setback if certain conditions are met. The City allows encroachment into the creek setback where there is no practical alternative, to allow reasonable development of a parcel, consistent with the Conservation and Open Space Element.[2] Exceptions for pedestrian and bicycle pathways are granted if there are no options for avoiding encroaching into the creek setback.[3] The County allows for adjustments when the applicant demonstrates that such setbacks would have a significant negative impact on the agricultural

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[1] http://centralcoastgrown.org/site/

[2] City of San Luis Obispo General Plan – Conservation and Open Space Element Policy 7.7.9 Creek Setbacks

[3] City Zoning Regulation 17.16.025 Creek Setbacks. G. Exceptions to Creek Setbacks

viability of the site, or where alternatives are infeasible or more environmentally damaging, and the adjustments are acceptable to the Regional Board.[4]

Alternatives to pathway placement within the creek setback include pathway placement immediately outside the setback and placement along LOVR and S. Higuera Street. See *Section 6.1.3* for pros and cons associated with a pathway alignment along LOVR and S. Higuera Street. If the pathway were located outside the creek setback, additional agricultural land "take" would be required because the land between the pathway and creek would be too narrow to farm. A pathway outside the creek setback would result in the conversion of approximately 1.8 to 2.8 acres of agricultural lands to recreational uses, consisting of 1.0 acres of the agricultural parcel in the City (APN 053-161-014) and 0.8 to 2.0 acres of the agricultural parcel in the County (APN 076-081-026).[5] The agricultural land "take" can be minimized if the pathway is located as close as possible to the creek.

Any future use of the two agricultural properties would need to be consistent with the applicable land use and zoning designations and property-specific land use controls. The property in the County is designated Agriculture and includes a conservation easement over the majority of the property. The property in the City is designated Internal Open Space.

Wire mesh fencing along this Class I bike path along Arundell Barranca Channel in Ventura County deters path users from entering the adjacent agricultural lands and drainageway

Impact on Farm Operations

A pathway alignment in this location would introduce public access where it is not currently authorized. The increased presence of people and domestic animals on the pathway adjacent to agricultural lands may interfere with normal agricultural management activities. Users would potentially be exposed to pesticides or introduce new contaminants. The potential for pathway users to introduce new contaminants is somewhat reduced in this case because users of the homeless encampment, and potentially other trespassers, are using at least parts of the same route. The same agricultural fields are in close proximity to existing roads and residential development,

Chain link fencing along a Bob Jones Pathway segment in Avila Beach deters path users from entering the adjacent orchard

[4] County of San Luis Obispo Agriculture Element AGP26: Streams and Riparian Corridors.

[5] Assumes a 20 foot wide access easement for the pathway, a 20 foot wide creek setback from the riparian edge on the agricultural property in the City and a 0 to 30 foot wide creek setback from the riparian edge on the agricultural property in the County. Assumes the top of bank does not extend beyond the edge of the predominant riparian vegetation.

so the pathway would not be a major new exposure of the public to agricultural operations, and vice-versa.

Fencing between the pathway and agricultural lands could offer additional separation, but could impede agricultural vehicular circulation. Both offstreet pathway alignments would cross an agricultural access road. Constructing a second driveway onto S. Higuera Street would allow unimpeded agricultural access to the western portion of the agricultural property (see **Figure 6-2**). The existing driveway on S. Higuera Street would continue to provide agricultural access to the eastern half of the property and private access to the existing private well site.

Double gates, such as these along the Cowell-Purisima Trail in San Mateo County, could be installed to restrict trail use when the agricultural road is in use

If a fenced pathway corridor is a potential solution and a second driveway on S. Higuera Street is not permitted, double gates could be installed at the agricultural access road/pathway crossing to restrict pathway use when the agricultural access road is in use. To minimize maintenance requirements of the pathway where it would cross agricultural roads, pavement specifications and the intersection design should anticipate use by agricultural machinery and vehicles. One agricultural property owner has stated opening and closing a gate would not provide adequate security to prevent pathway/agricultural conflicts.

Conflict between pathway access and typical farming practices such as spraying can potentially be addressed in several ways. First, by providing pathway users with adequate warning about the risks they are assuming. For example, in order to prevent nuisance claims triggered by the spraying of pesticides, warning signs and a spraying schedule may be posted at trailheads and along the pathway to notify pathway users of the risks associated with pathway use. With adequate lead time, the pathway managers or volunteer pathway patrol members could be responsible for this based on a phone call from the farmer. Trailheads should also include signage describing the importance of the local agricultural lands and providing information to the public that would reduce conflicts, including, but not limited to: staying on designated pathways, maintaining control of domestic animals, minimizing litter/waste, and not picking produce. Case law pertaining to the California Recreational Use Statute includes a finding that warning signs are sufficient to show the absence of willful or malicious conduct on part of the land owner.[6]

Additionally, pathways can be closed during periods of spraying and during other agricultural operations. This can be through set timeframes that are part of an easement or other access arrangement or can be based solely on operational needs. In addition to signs, in some cases this is accomplished by pathway access gates controlled by the farmer, by the pathway manager or by a pathway patrol.

[6] California Recreational Trail Use Statute and Liability Handbook (Bay Area Ridge Trail Council, 1998).

To reduce the impacts of dogs on agricultural lands, the pathway managers should provide bag dispensers and disposal cans for waste at trailheads. "Hog wire" fence panels or other fence designs can be employed to physically prevent dogs from getting into adjacent areas.

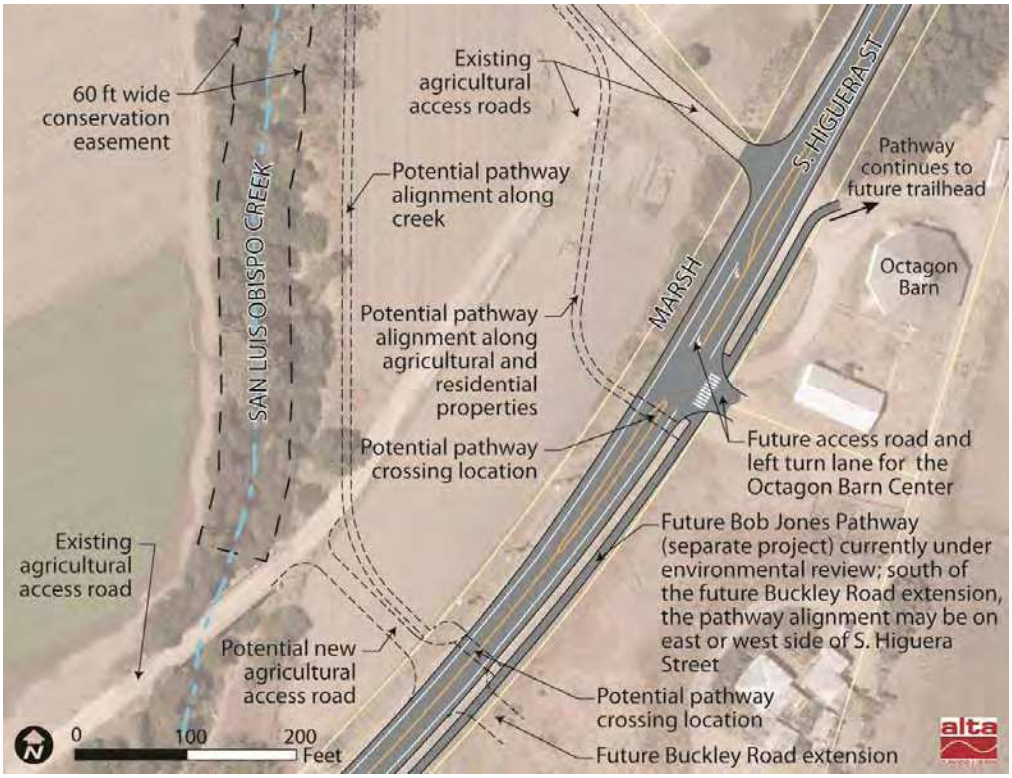


Figure 6-2: Potential Agricultural Access Road and Pathway Configurations (Showing the Planned Octagon Barn Center Access Road and Turn Lane and the County's Bob Jones Pathway)

Neighborhood/Residential Concerns

This alignment is anticipated to result in fewer neighborhood and residential concerns than the alignment along agricultural and residential lands as it is located along the creek and further from existing residential uses. Provisions for neighborhood and private property owner concerns include a well-developed policy and practice for pathway maintenance and use management, as discussed in *Section 4.4 Pathway User and Property Owner Concerns.*

The City Bicycle Transportation Plan states where a bikeway extends along a creek, a 4-foot tall split rail or wood and wire fence shall be installed at the inside edge of the bikeway to discourage trail users from entering the creek. The Bicycle Transportation Plan also states bikeways that cross or border agricultural land shall be fenced and signed to discourage trespassing onto adjoining areas. Depending on the placement and design of any fencing or access gates, the fencing or access gates could deter from the open quality of the Study Area.

Environmental Resources

Potential Biological Resource Constraints

Central coast arroyo willow riparian forest and wetland habitats associated with San Luis Obispo Creek potentially present a biological constraint to the pathway alignment because these habitat types are regulated by environmental agencies, as discussed in *Chapter4 Existing Conditions, Opportunities, and Constraints.* The potential wetland feature, identified at the southwest corner Los Verdes #2 and extending to the creek, may also be subject to agency jurisdiction and associated permitting requirements.

Potential Cultural Resources Constraints

Issues and requirements for cultural resources are similar for all three alternatives, as discussed in *Chapter 4 Existing Conditions, Opportunities, and Constraints.*

Pathway Connectivity and Safety

This alignment would be generally consistent with the alignment identified in the City's Bicycle Transportation Plan. It is consistent with the vision for the Bob Jones Pathway: a pathway separate from roadways that serves both commuter and recreational cyclists (a Class I bikeway), walkers, and bladers that provides an alternative to heavily traveled parallel roadways. Consistent with the County Parks and Recreation Element, it would connect the City of San Luis Obispo to the community of Avila in the vicinity of San Luis Obispo Creek and provide restoration and nature appreciation along the route. It is also consistent with the alignment in SLOCOG's 2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy.

This alignment offers the most direct connection between the planned pathway segments north and south of the Study Area (0.59 miles), minimizing out of direction travel for pathway users. The alignment is also set back from the street and has the least potential for pathway user/vehicular conflicts. Additional provisions for pathway user safety include operation of a well maintained pathway, as discussed in *Section 4.4 Pathway User and Property Owner Concerns.*

Pathways, like roadways, are commonly constructed in flood zones. All pathway entry points should include signage stating "Subject to Flooding: Use at Your Own Risk" and "Do Not Enter if Flooded." Flash flood conditions are not considered severe or fast enough to be a safety consideration on the proposed alignments since users would be warned not to enter any pathway that is currently flooded and it is extremely unlikely that water would rise fast enough not to allow someone on the pathway to walk to higher ground if water did come onto the pathway. In the event of a major flood, the City and County should place wooden barriers at the entry points to the flooded sections with a sign reading "Trail Closed."

Pathway Experience

This alignment is anticipated to have a very high or very enjoyable pathway user experience as it would be separated from vehicular traffic, subjected to minimal traffic noise, and along the creek

which offers visual interest and shade. Pathway users may be exposed to agricultural spraying and/or occasional pathway closures association with agricultural operations.

6.1.2 Route along Agricultural and Residential Lands

Alignment Overview

The pathway alignment along agricultural and residential lands would traverse the south side of LOVR, west and south sides of Los Palos Drive, and along agricultural access roads to the future S. Higuera Street/Buckley Road intersection (see Sections 1 through 5 below and *Section 4.1 Land Uses within the Study Area*, which illustrate the existing and proposed cross sections along this alignment). **Figure 6-3** presents the pathway alignment and gives an overview of opportunities and constraints associated with this alignment. The pathway is recommended to be twelve feet wide and along agricultural edge to minimize conversion of agricultural lands. Six foot high fences are proposed along the pathway corridor. Public access rights would be needed for the pathway.

This alignment received slightly less public support than the alignment along the creek and many believe traveling along this alignment would be scenic and pleasant. The alignment is generally consistent with the alignments included in the City's Bicycle Transportation Plan and SLOCOG's Regional Transportation Plan.

The alignment also has agricultural resource constraints and is anticipated to have a greater impact on agricultural operations than the alignment along the creek. The alignment would result in the conversion of agricultural lands to non-agricultural uses.

The alignment would require a new crossing of S. Higuera Street. Crossing alternatives are discussed in *Section 6.2*.

Agricultural Resources and Operations

This pathway alignment would be located along the eastern edge of agricultural fields. Assuming a 20 foot wide access easement, the proposed project would result in the conversion of approximately 1.3 acres of agricultural lands to recreational uses, consisting of 0.4 acres of the agricultural parcel in the City (APN 053-161-014) and 0.9 acres of the agricultural parcel in the County (APN 076-081-026). Not all the land within the pathway alignment is suitable to agricultural use (e.g., along the slope south of Los Palos Drive). The issues and potential solutions are similar to the proposed segment along San Luis Obispo Creek.

Neighborhood/Residential Concerns

This alignment runs along the edge of residential properties. Neighborhood concerns are similar to the proposed segment along San Luis Obispo Creek, but are enhanced because the alignment is immediately adjacent to the residential development. The pathway corridor would be separated from the Los Verdes #2 residences by Los Palos Drive and an existing landscaped buffer. The buffer along a portion of the roadway features a grade difference and more dense vegetation on the south side of the development (see Section 3 below) that would help to screen and separate the pathway from the residences. The Los Verdes #2 community has requested an additional vegetative buffer if

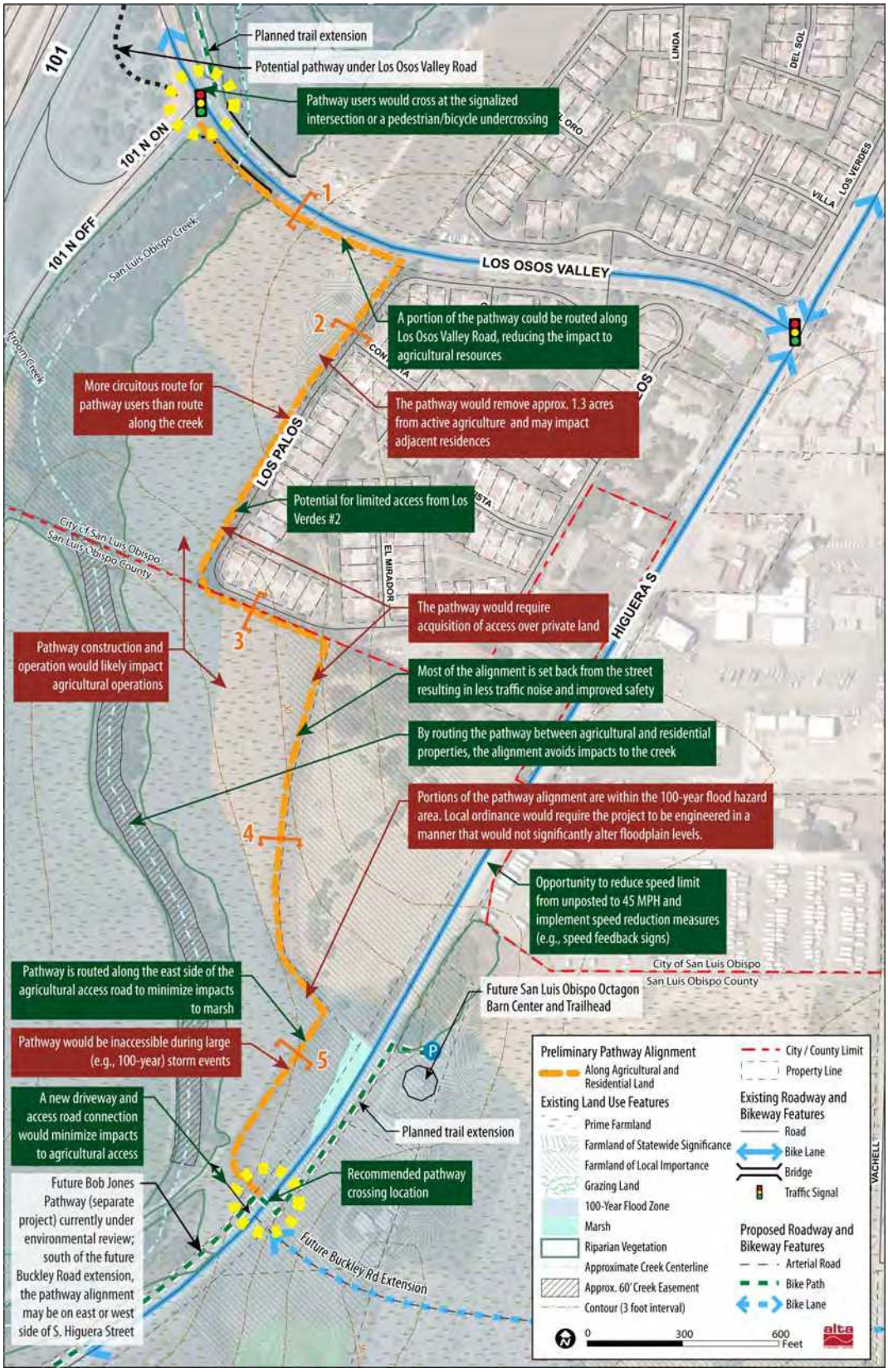
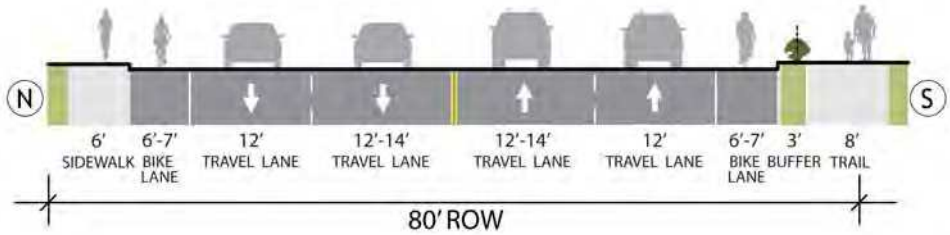
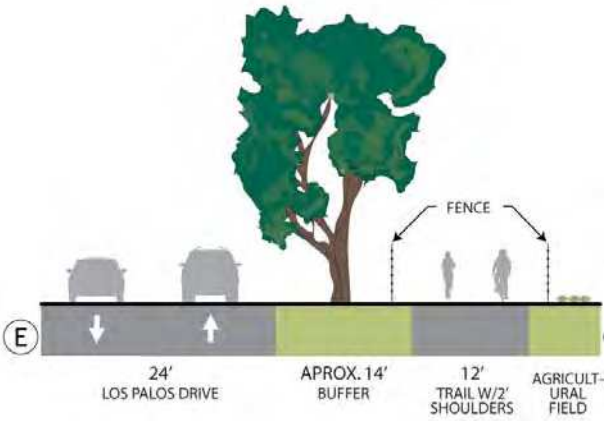


Figure 6-3: Opportunities and Constraints Associated with a Pathway Alignment along Agricultural and Residential Lands

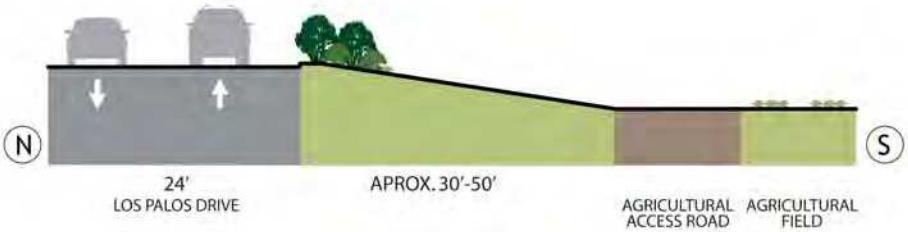


Section 1: Conceptual Cross Section along LOVR with South Side Pathway (facing east)

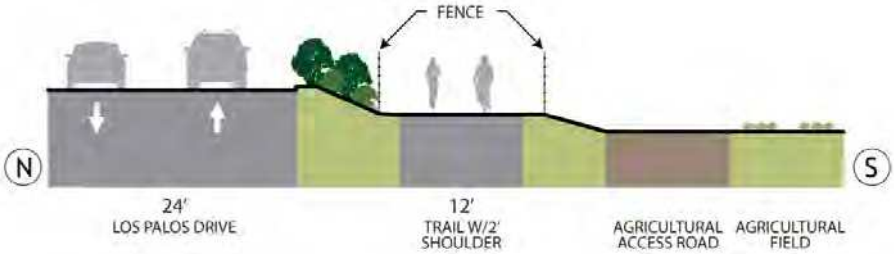
Section 2: Existing Cross Section Along Los Palos Drive (facing south)



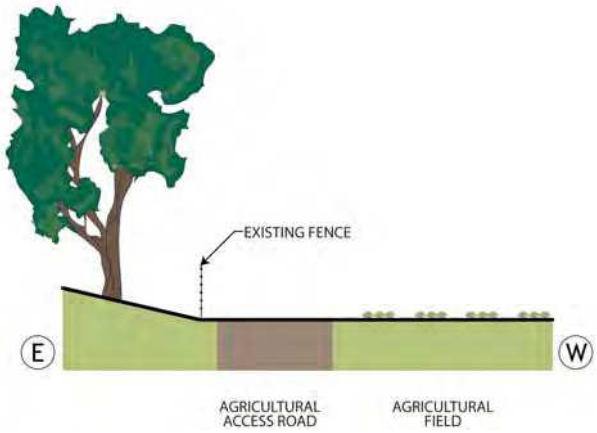
Section 2: Conceptual Cross Section Along Los Palos Drive with Pathway (facing south)



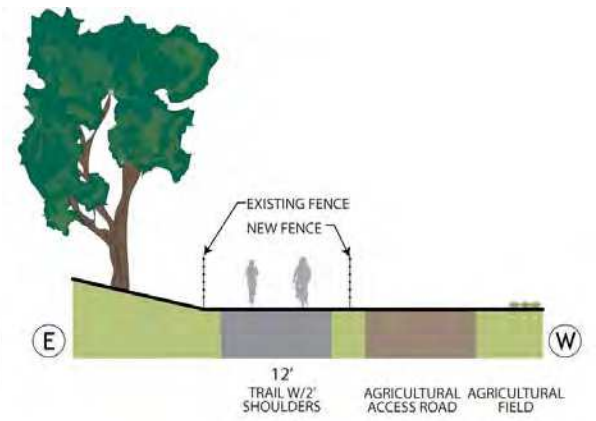
Section 3: Existing Cross Section Along Los Palos Drive (facing east)



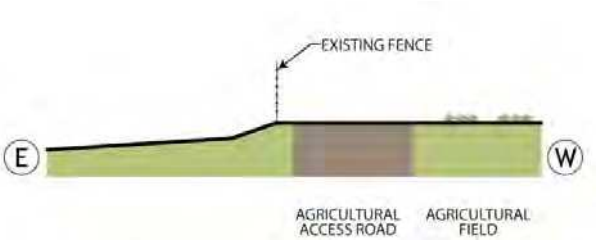
Section 3: Conceptual Cross Section Along Los Palos Drive with Pathway (facing east)



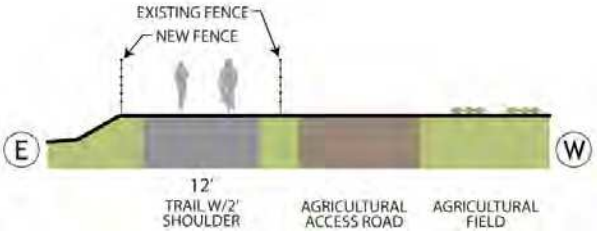
Section 4: Existing Cross Section Along Agricultural Access Road (facing south)



Section 4: Conceptual Cross Section Along Agricultural Access Road with Pathway (facing south)



Section 5: Existing Cross Section Along Agricultural Access Road (facing south)



Section 5: Conceptual Cross Section Along Agricultural Access Road with Pathway (facing south)

this pathway alignment is pursued. Some residents have requested that the pathway be fenced off from the residences if it is located on this alignment; potentially with a stouter fence than the standard four foot high wood and wire fence. City precedent is to provide landscaping at focal points, but not along the pathway. The City's Bob Jones City-to-Sea Trail Plan for the segment north of the Study Area specifies security fencing along private property which consists of 6-foot high metal posts support mesh panels, posts (8-foot) on center, and flowering vines to screen views. An existing private accessway within one of the agricultural properties would need to be maintained.

Environmental Resources

Potential Biological Resource Constraints

This pathway alignment would cross the potential wetland feature identified at the southwest corner of Los Verdes #2. Although this option may affect noted biological resources, a majority of the alignment is located in areas that are disturbed and it does not affect sensitive habitat areas such as San Luis Obispo Creek.

Potential Cultural Resources Constraints

Issues and requirements for cultural resources are similar for all three alternatives, as discussed *Chapter 4 Existing Conditions, Opportunities, and Constraints.*

Pathway Connectivity and Safety

This alignment would be generally consistent with the City's Bicycle Transportation Plan and SLOCOG's 2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy.

This alignment presents a slightly less direct route (totaling 0.67 miles) between the planned pathway segments north and south of the Study Area than the alignment along the creek. Similar to the creek alignment, this alignment is also set back from the street and has minimal potential for pathway user/vehicular conflicts.

Pathway Experience

This alignment would have a high or enjoyable pathway user experience as it would be separated from vehicular traffic and subjected to minimal traffic noise. Pathway users may be exposed to agricultural spraying and/or occasional pathway closures associated with agricultural operations.

6.1.3 Route along LOVR and S. Higuera Street

Alignment Overview

This pathway alignment follows the south side of LOVR and the east side of S. Higuera Street from the US 101/LOVR interchange to the future Octagon Barn Center (see Sections 1 through 3 below, which illustrate the proposed cross sections; *Section 2.1 Land Uses within the Study Area* presents the existing cross sections, including planned LOVR / US 101 improvements). **Figure 6-4** presents the pathway alignment and gives an overview of opportunities and constraints associated with this alignment. Existing rights-of-way along the streets are not wide enough to accommodate planned roadway improvements and a pathway meeting Caltrans Class I bikeway standards. The LOVR / US 101 interchange project planned pedestrian and bicycle facilities include 6 foot wide sidewalks and bike lanes. This Study proposes widening the sidewalk along the South side of LOVR to eight feet and construction a Class I pathway along the east side of S. Higuera Street from the LOVR intersection to the Octagon Barn Center. The pathway would require right-of-way acquisition from several property owners along S. Higuera Street. **Figure 6-5** illustrates the approximate need for additional right-of-way associated with a pathway along the east side of S. Higuera Street. Right-of-way needs are based on an 8-foot wide pathway along the northern portion of S. Higuera Street where a building exists at or near the City's plan line. South of this building, the pathway widens to 10 feet. The sections following **Figure 6-4** show potential future roadway cross sections. Travel lanes would vary from 10 to 12 feet wide in the City. Travel lanes in the County would be 12 feet wide. Six-food wide bike lanes are shown. This alignment would not require a new crossing of S. Higuera Street as pathway users could cross at the signalized intersection with LOVR.

This alignment received the least public support. Common concerns included safety of pathway users/exposure to traffic, user experience, and exposure to noise and vehicular exhaust.

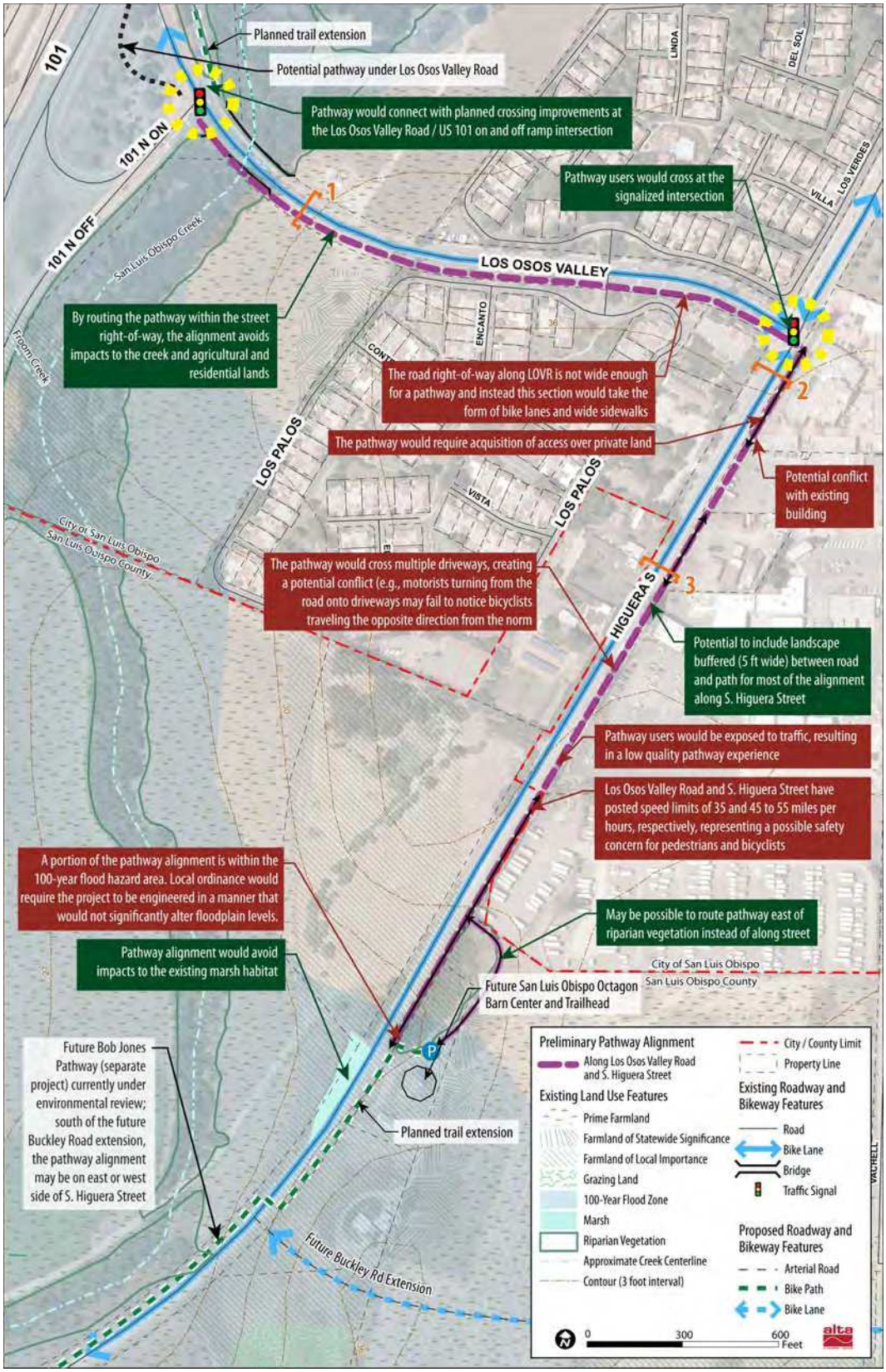
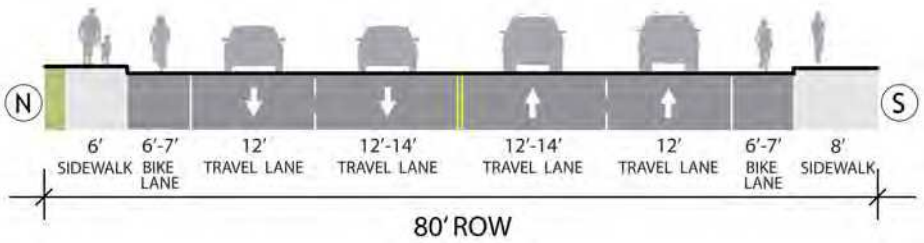
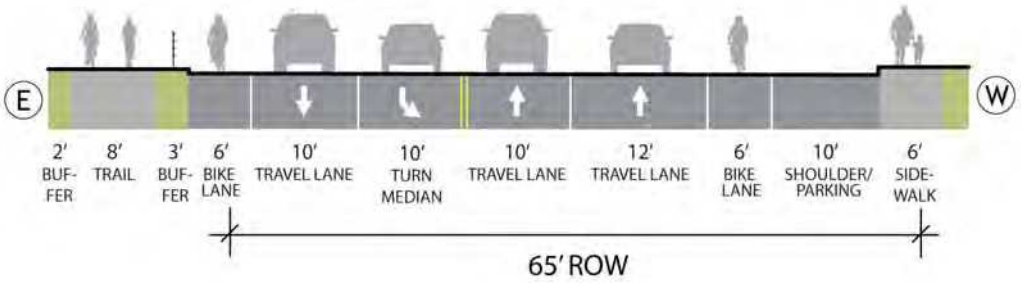


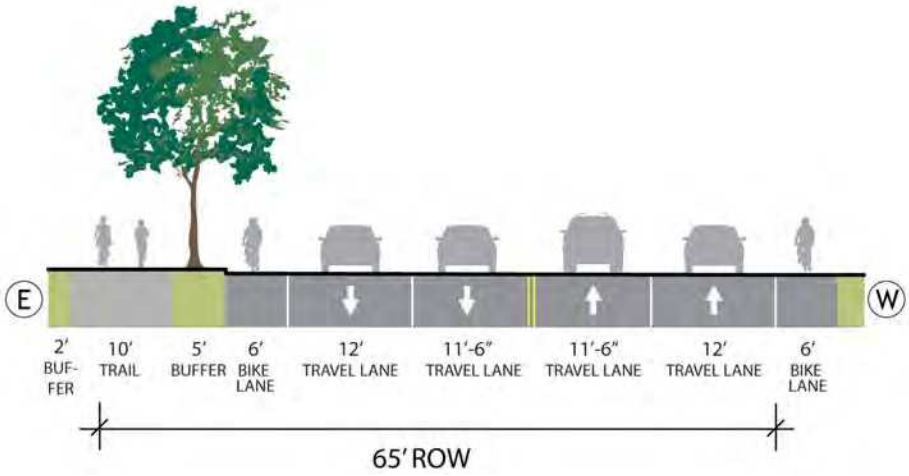
Figure 6-4: Opportunities and Constraints Associated with a Pathway Alignment along LOVR and S. Higuera Street



Section 1: Conceptual Cross Section Along LOVR with South Side 8' Wide Sidewalk (facing east)



Section 2: Conceptual Cross Section Along S. Higuera Street with East Side Pathway (facing south)



Section 3: ConceptualProposed Cross Section Along S. Higuera Street with East Side Pathway (facing south)

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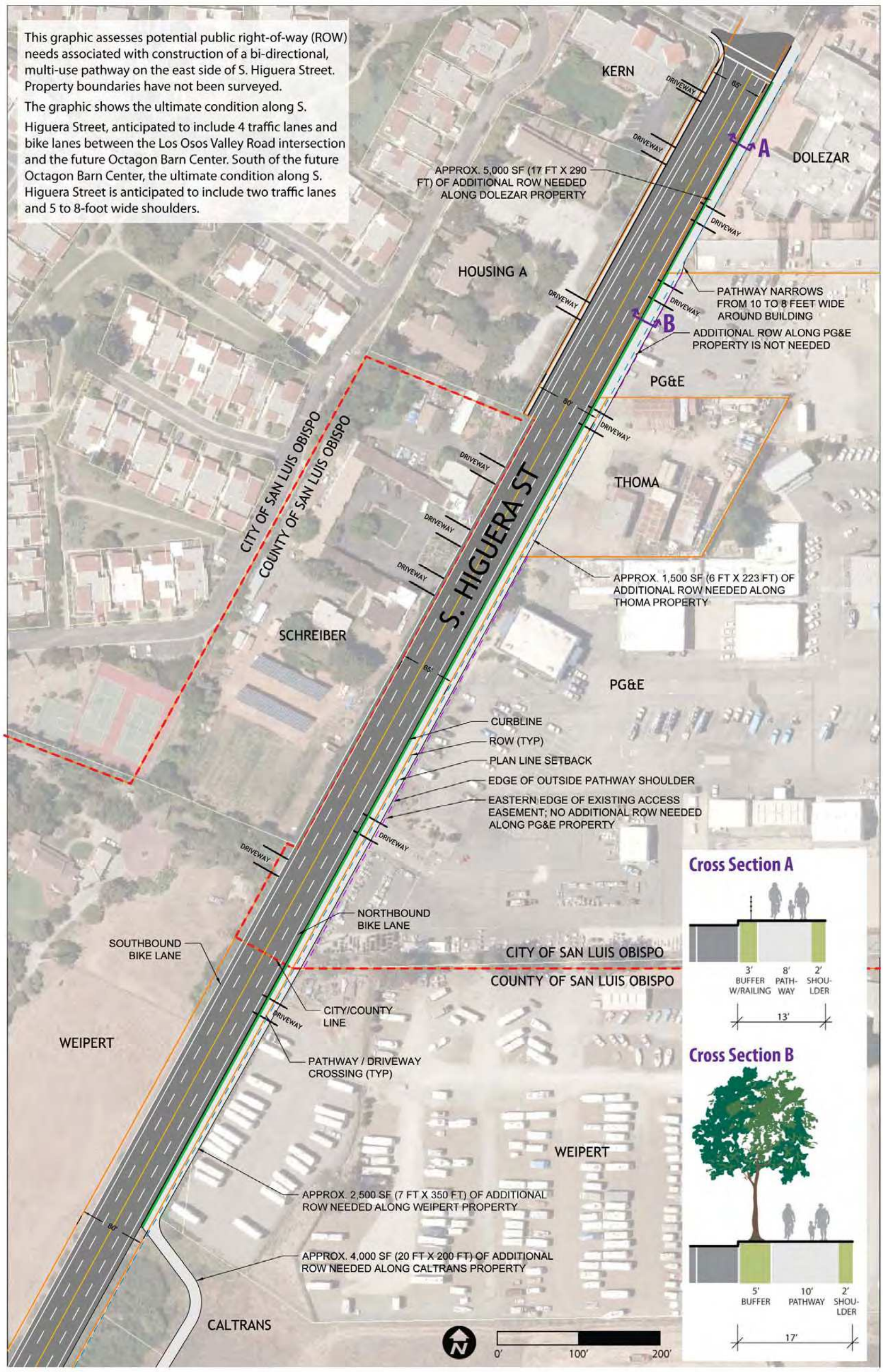

Figure 6-5: Potential Right-of-Way Needs Associated with a Pathway along S. Higuera Street

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Agricultural Resources and Operations

This pathway alignment would be generally located along LOVR and S. Higuera Street and does not utilize any agricultural land. Although conflict issues may occur due to the proximity of the agricultural areas, the potential is minor because the route would be primarily adjacent to an existing roadway and developed areas.

Neighborhood/Residential Concerns

The pathway alignment would be generally within the public right-of-way which currently includes pedestrian and bicycle facilities for much of its length. The potential concerns would be from the owners of the parcels adjacent to the improvements, related to impact on their parking or access, or temporary construction impacts.

Depending on the future roadway cross section along S. Higuera Street, the pathway project may require right-of-way acquisition along up to four properties. **Figure 6-5** shows the right-of-way needs associated with a pathway with a 13- to 17-foot wide pathway envelope located on the east side of S. Higuera Street. The assessment is based on a "worst-case" scenario in which S. Higuera Street widens from two to four lanes. If the roadway does not widen to this extent, less right-of-way acquisition is anticipated.

Environmental Resources

Potential Biological Resource Constraints

This pathway alignment would generally result in the least potential disturbance of sensitive biological resources, since the majority of the route occupies disturbed and developed areas. Routing the pathway behind the riparian vegetation near the Octagon Barn could minimize impacts associated with the pathway.

Potential Cultural Resources Constraints

Issues and requirements for cultural resources are similar for all three alternatives, as discussed in the *Chapter 4 Existing Conditions, Opportunities, and Constraints*.

Pathway Connectivity and Safety

Existing development along LOVR limits the potential for a Class I bikeway along the roadway. This alignment does not fulfill the vision for the Bob Jones Pathway as a facility generally along the creek and separated from the roadway. This alignment is not consistent with the Bob Jones Pathway alignment included in the City's Bicycle Transportation Plan or SLOCOG's 2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy.

The alignment requires more travel than the creek alignment for pathway users traveling between the planned pathway segment north of the Study Area and the Octagon Barn site (0.83 miles). This alignment has the highest potential for pathway user/vehicular conflicts as it is located along the streets and includes several street and driveway crossings. Per the City's Bicycle Transportation Plan, all bikeways shall meet or exceed minimum standards set forth in the California HDM (Fifth

Edition) (Policy 1.3). Compliance with applicable Caltrans standards will improve safety conditions along the pathway.

Pathway Experience

This alignment is anticipated to have a low or less pleasant pathway user experience as it would be along busy streets and pathway users would be exposed to traffic noise and vehicular exhaust. Unlike the other alignments, this pathway alignment has minimal potential for exposure to agricultural spraying or closure associated with flooding.

6.1.4 Pathway Alignment Alternatives Matrix

Table 6-1 lists the pros and cons related to the pathway alignment alternatives, including estimated costs.

Table 6-1: Pathway Alignment Alternatives Matrix

Consideration	Pathway Alignment Alternatives		
	Along San Luis Obispo Creek	Along Agricultural and Residential Properties	Along LOVR and S. Higuera Street
Impact on Agricultural Lands and Operations	• Loss of approx. 1.3 acres of agricultural lands (20 feet wide x 2,800 linear feet) • Will likely impact agricultural operations	• Loss of approx. 1.3 acres of agricultural lands (20 feet x 2,800 linear feet along agricultural/ residential border and 5 feet x 475 feet along LOVR) • Will likely impact agricultural operations	• No loss of agricultural lands or impacts to agricultural operations
Pathway User Experience	• Very high/pleasant pathway user experience (e.g., very scenic, removed from vehicular noise and exhaust)	• High/pleasant pathway user experience (e.g., scenic, removed from vehicular noise and exhaust)	• Low/poor pathway user experience (e.g., exposed to vehicular noise and exhaust)
Pathway User Safety and Connections	• Improved pathway user safety associated with separation from vehicular traffic • Pathway users may be exposed to chemicals during spraying of agricultural fields • Most direct connections with planned pathway segments to north and south • Most direct connection with crossing at future S. Higuera St./Buckley Rd. intersection	• Improved pathway user safety associated with separation from vehicular traffic • Pathway users may be exposed to chemicals during spraying of agricultural fields • Slightly more circuitous than the route along the creek	• Less pathway user safety associated exposure to vehicular traffic and multiple driveway crossings • May have a slightly less direct connection with planned pathway segments north and south of the Study Area
Private Property Impacts	• Minimal impact on nearby residents and businesses • Requires acquisition of public access rights over private property	• May impact adjacent residential uses • Requires acquisition of public access rights over private property	• Minimal impact on nearby residents and businesses • Requires some acquisition of public access rights over private property
Potential Biological and Cultural Resource Impacts	• Potential impacts to sensitive resources (e.g., biological and cultural) along the creek	• Potential impacts to sensitive resources (e.g., biological) south of Los Verdes #2 • Potential for undiscovered cultural resources	• Potential impacts to sensitive resources (e.g., biological) • Minimal potential impacts to cultural resources
Cost Estimate (Pathway only)	• $648,400 (not including costs for public access)	• $671,300 (not including costs for public access)	• $846,200 (not including costs for public access)
Cost Estimate (Pathway and S. Higuera St. Crossing)	• $778,400 – $6,648,400 (not including costs for public access)	• $801,300 – $6,671,300 (not including costs for public access)	• $976,200 (not including costs for public access)

6.2 Roadway Crossing Alternatives

The Study Area includes three potential pathway/roadway crossings: at the US 101/LOVR interchange, at the LOVR/S. Higuera Street intersection, and in the vicinity of the Octagon Barn.

6.2.1 US 101/LOVR

The US 101/LOVR interchange crossing is outside the scope of this Study. The information in this section is provided for informational purposes only. The Study does not include selection of a preferred pathway crossing of this interchange; the Study Area begins south of the US 101/LOVR interchange. The City may wish to pursue a feasibility study of pedestrian and bicycle undercrossing options as a separate project.

A number of participants involved in this Study have stated their preference for a pedestrian/bicycle undercrossing of LOVR southeast of the on/off ramps to eliminate the need to cross at-grade. This option is not included in the approved LOVR interchange design. Should funding become available, this option could be implemented as the interchange has been designed to not preclude a future undercrossing. Caltrans has communicated that input regarding an underpass should be gathered during this planning process and provided to Caltrans. Comments received will be forwarded to Caltrans for review.

Planned At-Grade Crossing

A pathway crossing at the US 101/LOVR ramps intersection would be within Caltrans right-of-way. This intersection does not currently include a crossing. As of May 2013, the design phase of the US 101/LOVR Interchange project is nearing completion.

An at-grade pathway crossing at the US 101/LOVR interchange would include a two-stage, signalized crossing (see **Figure 6-6**). From the City's planned Bob Jones Pathway segment, pedestrians and bicyclists would be directed to cross the north leg of LOVR then the US 101 on and off ramps, connecting

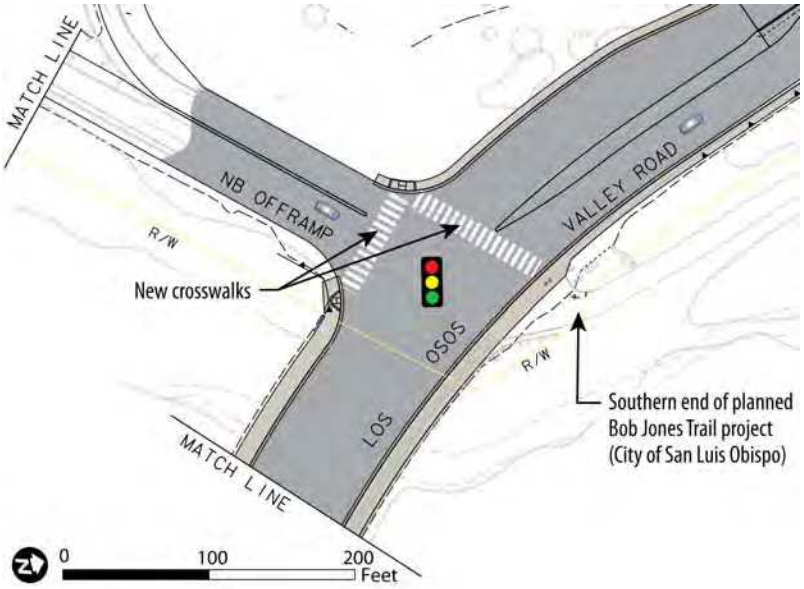

Figure 6-6: LOVR At-Grade Crossing

Source: Adapted from State of California Department of Transportation Project Plans for Construction on State Highway in San Luis Obispo County in San Luis Obispo from 0.4 MI south of Los Osos Valley Road OC to 0.2 MI north of Los Osos Valley Road OC, June 2011

with a new sidewalk on the south side of LOVR. Crosswalks in these locations would minimize impacts to vehicular traffic along LOVR.

Advantages of an at-grade crossing include cost savings, avoiding potentially adverse impacts to sensitive resources along the creek (including riparian vegetation), loss of flood capacity, and loss of agricultural land. Disadvantages of an at-grade crossing include longer travel times for pedestrians and bicyclists and potential safety impacts associated with exposure to vehicular traffic.

LOVR South Leg At-Grade Crossing Option

An at-grade crossing of the south leg of LOVR would include a single-stage, signalized crossing. The crossing could include a bicycle signal, an electrically powered traffic control device that may be used in combination with an existing traffic signal. Bicycle signals may be implemented only at locations that meet Caltrans' Bicycle Signal Warrants. An engineering study is recommended to determine the impact of a south leg crossing on traffic flows along LOVR and whether the crossing would meet Caltrans' Bicycle Signal Warrants.

The advantages and disadvantages of the south leg crossing option are similar to those for the planned at-grade crossing; however, as this is a single-stage crossing, pathway users would be exposed to less traffic, potentially improving pedestrian/bicycle safety and shortening the crossing time. Costs depend on the complexity and size of the intersection. In general, costs are comparable to the installation of conventional traffic signals (e.g. controller boxes, detection devices, mast arms, etc.), which are estimated at $30,000 to $140,000.

Pedestrian and Bicycle Undercrossing along US 101

The City is considering a pathway undercrossing under LOVR (see **Figure 6-7**). The undercrossing would connect with the existing Bob Jones Pathway at its southern terminus, run parallel to US 101 under LOVR, then connect with the US 101/LOVR intersection to cross the northbound US 101 on and off ramps at grade.

An undercrossing that meets Caltrans design standards would measure a minimum 10 foot wide with 8 feet of vertical clearance (10 feet is desirable).[7] Ramps meeting ADA and Caltrans standards would be needed on either side of the bridge connecting with street level. Caltrans recommends ramps with a maximum 5% running slope to enable use for persons with a wide range of abilities. An undercrossing at LOVR is anticipated to cost approximately $1.5 to $3.0 million.

[7] 2012 Caltrans Highway Design Manual Section 1003.1 Class I Bikeways (Bike Paths)

Advantages of a pedestrian and bicycle undercrossing under LOVR include improved user safety compared to an at-grade crossing because users would be separate from vehicular traffic and a faster connection for pathway users as they would not cross LOVR at the signalized intersection. Construction of an undercrossing is anticipated to have minimal impacts to biological and cultural resources as this area was largely disturbed during construction of US 101.

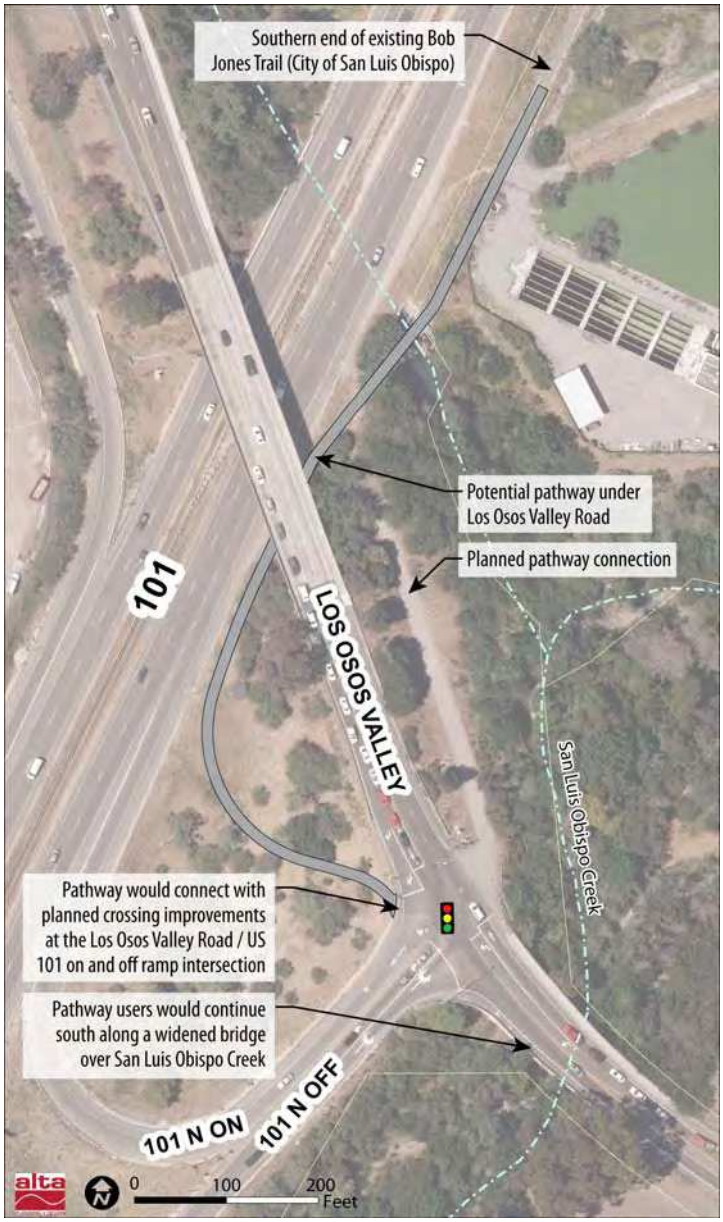

Figure 6-7: Conceptual LOVR Pedestrian and Bicycle Undercrossing Alignment along US 101

Note: Existing condition for LOVR/US 101 interchage shown. Any undercrossing of LOVR would be designed to connect with planned future improvements for that interchange.

Pedestrian and Bicycle Undercrossing along San Luis Obispo Creek

The existing bridge over San Luis Obispo Creek includes three arches that convey flood waters (see **Figure 6-8**). Each opening measures approximately 37 to 38 feet at its widest point and approximately 20 feet from top of pier footing to structural plate. The LOVR/US 101 Interchange project includes construction of a new bridge south of the existing bridge or widening of the existing bridge, and excavation below the existing ground level.

A pedestrian and bicycle undercrossing at this location would need to cross San Luis Obispo Creek either along the existing bridge or include construction of a new bridge (see **Figure 6-9**). An undercrossing that meets Caltrans design standards would measure a minimum 10 foot wide with 8 feet of vertical clearance (10 feet is desirable). Ramps meeting ADA and Caltrans standards would be needed on either side of the bridge connecting with street level.

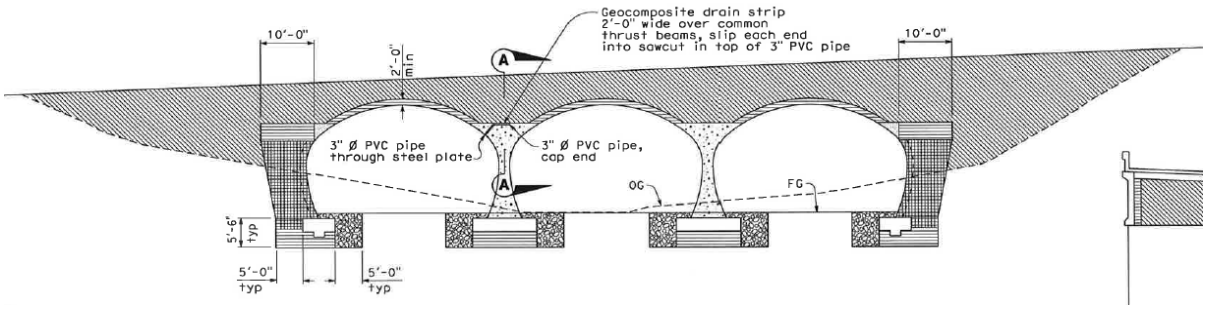

Figure 6-8: San Luis Obispo Creek Bridge

Source: State of California Department of Transportation Project Plans for Construction on State Highway in San Luis Obispo County in San Luis Obispo from 0.4 MI south of Los Osos Valley Road OC to 0.2 MI north of Los Osos Valley Road OC, June 2011

Any undercrossing design would need to be coordinated with the City Public Works Department, County Flood Control & Water Conservation District, and Caltrans. The hydraulic analysis conducted for the US 101/LOVR Interchange Improvement Project[8] indicates an undercrossing would flood during a 10 year storm, the smallest storm event modeled. A hydraulic analysis is recommended to determine the largest storm event the undercrossing could sustain without flooding and potential flood water displacement in the event of a range of storm events and undercrossing designs. An undercrossing at LOVR is anticipated to cost approximately $1.5 to $3.0 million.

A pedestrian and bicycle undercrossing include improved user safety compared to an at-grade crossing because users would be separate from vehicular traffic and a more direct and faster connection for trail users. Construction of an undercrossing may flood during minor storm events and could result in adverse impacts to sensitive resources along the creek (including riparian vegetation), loss of flood capacity, and loss of agricultural land.

[8] Wreco, 2010

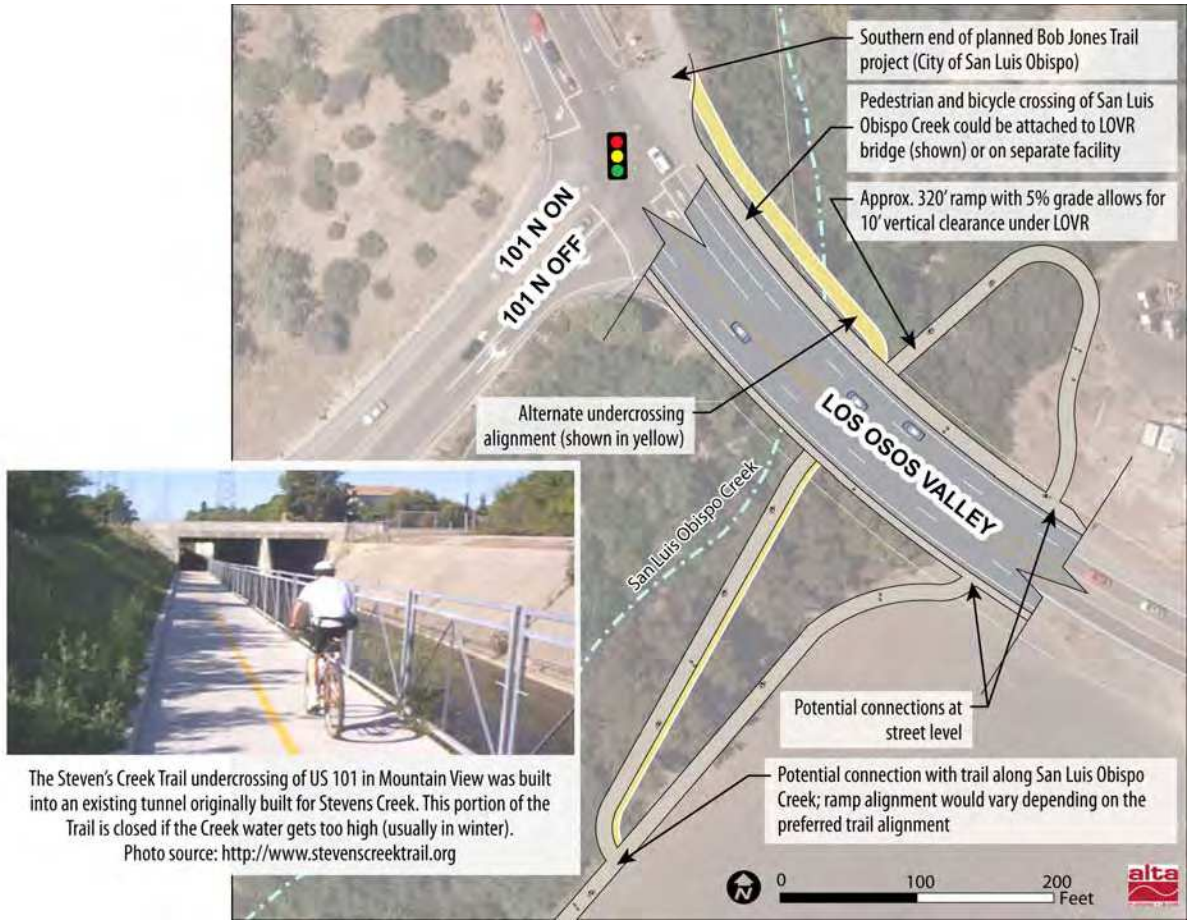

Figure 6-9: Conceptual LOVR Pedestrian and Bicycle Undercrossing Alignment

6.2.2 LOVR/S. Higuera Street Intersection

The LOVR/S. Higuera Street intersection is a signalized intersection in the City's jurisdiction. Existing traffic patterns show that most motorists traveling east on LOVR turn left onto northbound S. Higuera Street. The reverse pattern is also observed. A pathway crossing at the south leg of this intersection would create less obstruction to motorists and remove pathway users from the more significant traffic movements.

A bicycle signal could improve safety and circulation through the intersection. A bicycle signal is an electrically powered traffic control device that is used in combination with a traffic signal. The green and red bike lights alongside pedestrian and traffic lights indicate that bikes are expected at the intersection and when they should cross.

6.2.3 S. Higuera Street

Both off street pathway alignments would need a crossing of S. Higuera Street within the County right-of-way near the Octagon Barn. South Higuera Street is a two-lane roadway at this location. **Table 6-2** presents a summary of the pros and cons associated with the crossing options.

At-Grade Crossing

Future Buckley Road Intersection

A signalized at-grade crossing at the future Buckley Road intersection would allow for a direct, protected connection with the future Octagon Barn Center. However, no agency is currently pursuing the Buckley Road extension and its timeline for implementation is unknown. The County of San Luis Obispo is currently conducting environmental review for the Bob Jones Pathway segment from the Octagon Barn to Ontario Road. South of the Study Area, the County is considering two pathway alignments: on the north and south sides of S. Higuera Street. **Figure 6-10** shows a pathway crossing on the north side of the future, signalized Buckley Road intersection associated with a pathway alignment on the north side of S. Higuera Street. If the County pursues the pathway alignment along the south side of S. Higuera Street, this crossing would not be included with that project.

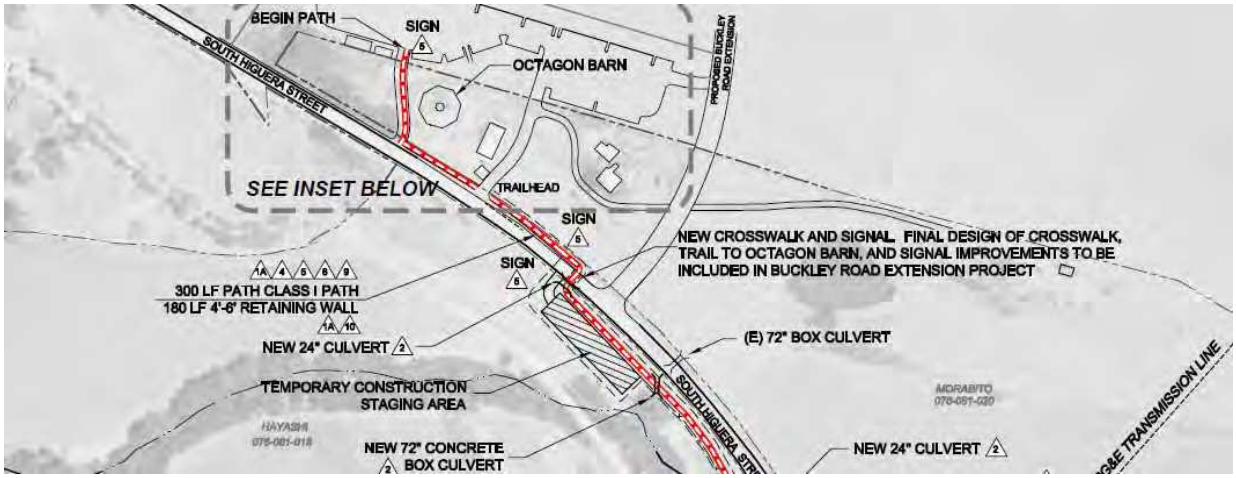

Figure 6-10: At-Grade S. Higuera Street Crossing Option at Future Buckley Road Extension Signalized Intersection

Source: County of San Luis Obispo Preliminary Plan for Bob Jones Pathway San Luis Obispo to Ontario Road, 2010

Mid-Block Crossing

Figure 6-2 shows two potential at-grade crossing locations: one on the south side of the planned Octagon Barn Center driveway and one at the future Buckley Road extension intersection. The signalized intersection closest to these potential crossing locations is approximately 2,000 feet to the northeast (at Los Osos Valley Road and S. Higuera Street). The County's preference is for a single crossing of S. Higuera Street in the vicinity of the Octagon Barn.

The County's 2011 Public Improvement Standards state that the marking of a crosswalk at a location that is not controlled by traffic signals, yield signs or stop signs shall be done only after an engineering study is performed and has determined if marked crosswalks are appropriate. In addition to the crosswalk, proper signage, warning devices, ADA compliance and lighting may need to be installed to support the marked crosswalk. The engineering study must evaluate pedestrian demand,

collision history, traffic volumes, site geometry, sight distance and visibility conditions at night. The following guidelines shall be used when marking crosswalks between intersections (midblock):

1. The crossing location is greater than 600-feet from the nearest intersection on a through highway; and
2. There is a reasonable demand (40 pedestrians per hour) by pedestrians, as demonstrated by a survey of the street within the concentrated area; and
3. The crossing is more than 300-feet from the nearest signal or stop-controlled intersection; and
4. There is a high pedestrian volume generator nearby.

The County Traffic Engineer may authorize the installation of a marked crosswalk that does not satisfy all the criteria in this section if it is deemed that, based on the analysis, other unique circumstances warrant the installation of a marked crosswalk in a midblock location.

High-speed roadways present added problems for pedestrians and thus require more substantial treatments in many cases. The general consensus among transportation planners is that crossings of roads with higher speed limits (higher than 40 MPH) should include a marked crosswalk and enhanced crossing treatments (e.g., traffic-calming treatments, traffic and pedestrian signals when warranted, or other substantial improvement).[9]

Per the County's Public Improvement Standards, the installation of sign-mounted warning light systems, which incorporate flashing systems based on pedestrian demand, shall be considered only if all the following requirements from the County's Public Improvement Standards are met:

1. At least 40 pedestrians regularly use the crossing during each of any two hours (not necessarily consecutive) during a 24-hour period.
2. The vehicular volume through the crossing exceeds 200 vehicles per hour in urban areas.
3. The 85th percentile approach speed is 45 mph or less.
4. The roadway has more than 2 lanes but not more than 5 lanes in both directions.
5. The crosswalk is not controlled by a traffic signal, stop or yield sign.

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[9] *California Manual on Uniform Traffic Control Devices*, FHWA's MUTCD 2009 Edition as amended for use in California, 2012. *Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines* FHWA-RD-01-075, U.S. Department of Transportation Federal Highway Administration, 2002. *Driver and Pedestrian Behavior at Uncontrolled Crosswalks in the Tahoe Basin Recreation Area*, Research Reports, Safe Transportation Research & Education Center, Institute of Transportation Studies (UCB), UC Berkeley, 2010. *Guidelines for the installation of Marked Crosswalks*, Virginia Department of Transportation Traffic Engineering Division.

A pedestrian hybrid beacon (also known as the High intensity Activated crossWalK (or HAWK)) is a special type of hybrid beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.[10] Per Caltrans MUTCD, pedestrian hybrid beacons must be used in conjunction with signs and pavement markings to warn and control traffic at locations where pedestrians enter or cross a street or highway. A pedestrian hybrid beacon may only be installed at a marked crosswalk. A minimum of two pedestrian hybrid beacon faces should be installed over the roadway on approaches having posted or statutory speed limits or 85th-percentile speeds in excess of 35 mph. A HAWK beacon costs approximately $60,000, for a total estimated crossing improvement cost of $130,000.

A pedestrian hybrid beacon (also known as the High intensity Activated crossWalK (or HAWK)) is a treatment that provides positive stop control in areas without the high pedestrian traffic volumes that typically warrant the installation of a signal
Photo source: http://safety.fhwa.dot.gov

Conclusions

If an at-grade crossing option is pursued, this option will require an engineering study and further assessment as the County's Bob Jones Path Extension #2 project and environmental assessment move forward. The requirements in the County's Public Improvement Standards would need to be met in order for any new crossing to be installed.

Overcrossing

A pedestrian and bicycle overcrossing is another option for crossing S. Higuera Street. An overcrossing could improve pathway user safety and vehicular flows as pathway users would cross separate from vehicular traffic. A pedestrian and bicycle overcrossing at this location that meets Caltrans design standards would allow for a minimum 10 foot wide travelway with 8 feet of vertical clearance (10 feet is desirable). Caltrans Highway Design Manual (HDM) Section 309.2 requires a minimum vertical clearance of 15 feet for major structures over crossing conventional highways, parkways, and local facilities. The HDM requires pedestrian overcrossings have an additional two feet of clearance. Therefore, the design for a pedestrian and bicycle overcrossing over S. Higuera Street must provide a minimum vertical clearance of 17 feet above the street. If the ultimate bridge

[10] The HAWK is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings. The beacon head consists of two red lenses above a single yellow lens. The beacon head is "dark" until the pedestrian desires to cross the street. At this point, the pedestrian will push an easy to reach button that activates the beacon. Automated pedestrian detectors may be used in conjunction with push buttons. After displaying brief flashing and steady yellow intervals, the device displays a steady red indication to drivers and a "WALK" indication to pedestrians, allowing them to cross a major roadway while traffic is stopped. After the pedestrian phase ends, the "WALK" indication changes to a flashing orange hand to notify pedestrians that their clearance time is ending. The hybrid beacon displays alternating flashing red lights to drivers while pedestrians finish their crossings before once again going dark at the conclusion of the cycle.

design requires falsework for construction over the street, additional design height may be required to meet the minimum falsework clearances.

Figure 6-11 presents one potential overcrossing alignment. If pursued, the ultimate overcrossing location and alignment should reflect the preferred pathway alignment. The design objectives include: meet Caltrans and ADA design guidelines, provide a direct connection with the future Octagon Barn Center, and minimize impacts on biological resources (e.g., the freshwater marsh) and agricultural lands. A standard overcrossing at S. Higuera Street is anticipated to cost approximately $4.5 to $6.0 million. Signature overcrossings can cost approximately $7 to $14 million or more, depending on the design.

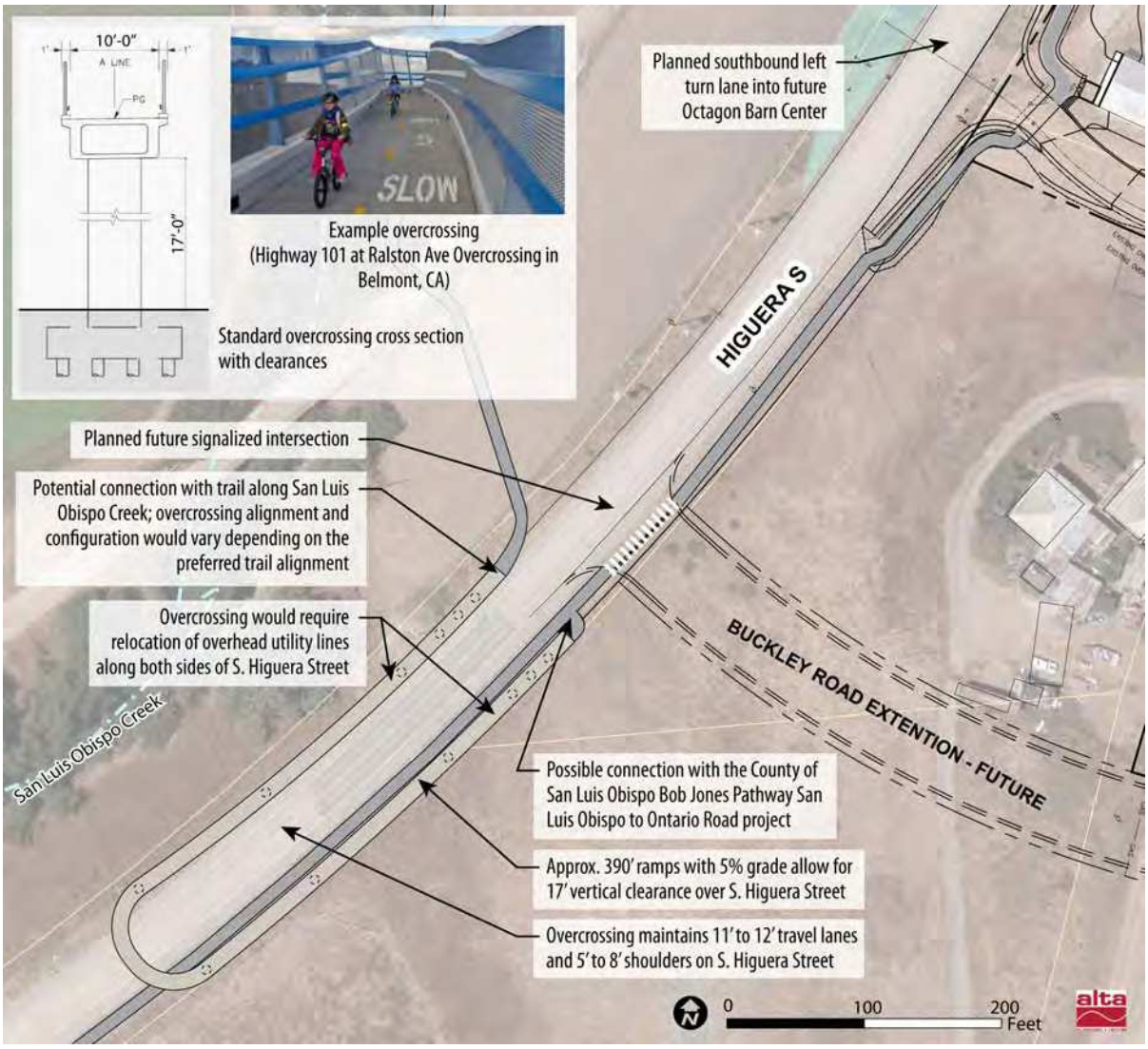


Figure 6-11: Conceptual S. Higuera Street Pedestrian and Bicycle Overcrossing Alignment

Undercrossing

Similar to an overcrossing, an undercrossing at S. Higuera Street could improve pathway user safety and vehicular flows as pathway users would cross separate from vehicular traffic. A pedestrian and

bicycle undercrossing at this location that meets Caltrans design standards would measure a minimum 10 feet wide with 8 feet of vertical clearance (10 feet is desirable). **Figure 6-12** presents one potential undercrossing alignment. If pursued, the undercrossing location and alignment should reflect the preferred pathway alignment. The design objectives for the undercrossing are the similar to those for the overcrossing. An undercrossing at S. Higuera Street is anticipated to cost approximately $1.5 to $3.0 million.

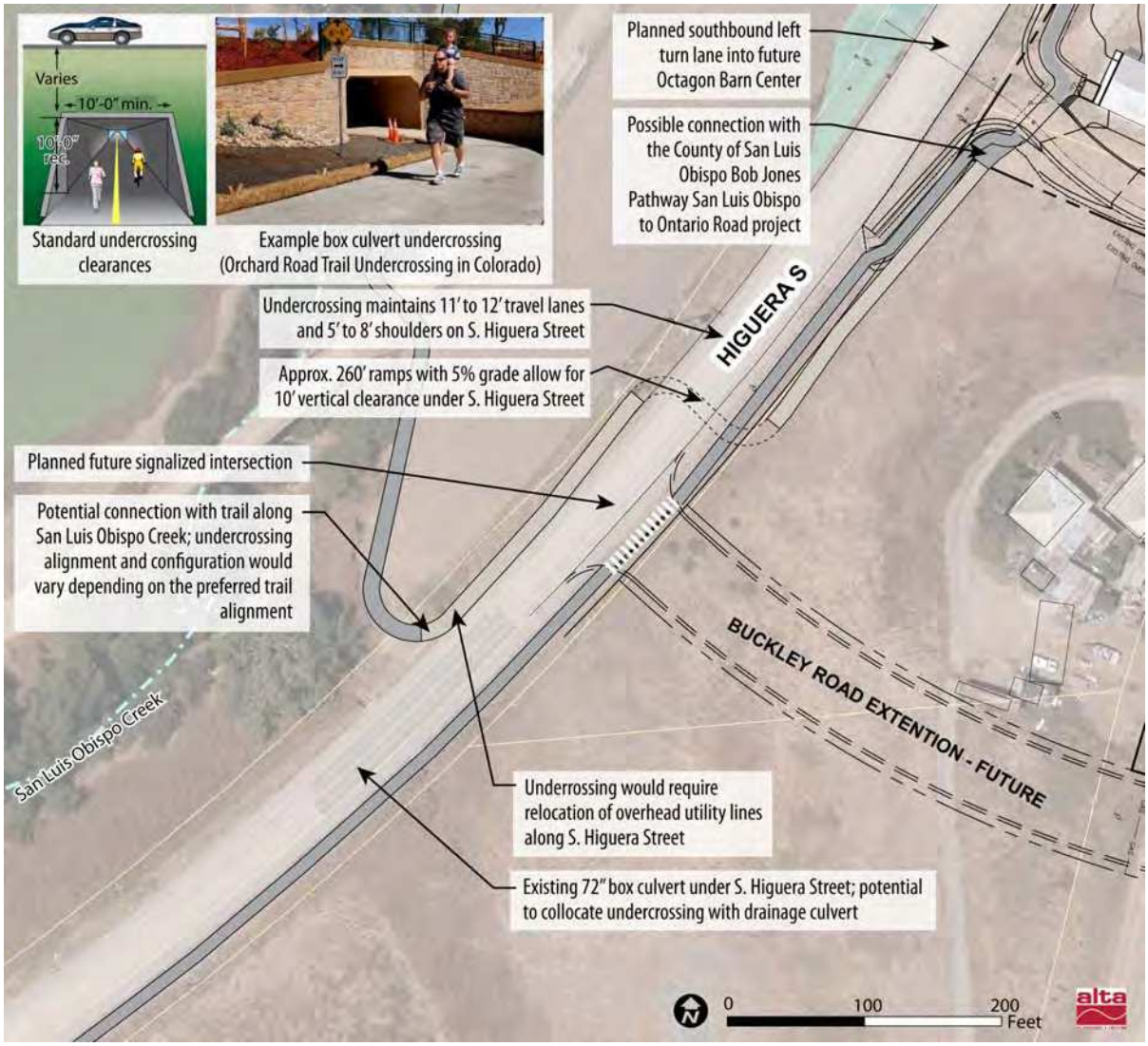


Figure 6-12: Conceptual S. Higuera Street Pedestrian and Bicycle Undercrossing Alignment

6.2.4 Roadway Crossing Alternatives Matrix

Table 6-2 lists the pros and cons related to crossing alternatives, including estimated costs.

Table 6-2: S. Roadway Crossing Alternatives Matrix

Consideration	Roadway Crossing Alternatives		
	Future S. Higuera Street/ Buckley Road Surface Crossing	S. Higuera Street Overcrossing	S. Higuera Street Undercrossing
Pathway User Experience	• Low pathway user experience (e.g., exposed to vehicular noise and exhaust, pathway users must wait for signal or beacon)	• High quality pathway user experience (e.g., views)	• Moderate quality pathway user experience
Pathway User Safety and Connections	• Beacon improves safety of crossing • Buckley Road extension project may not occur for some time, requiring an interim crossing • Less pathway user safety associated exposure to vehicular traffic • An at-grade crossing is the most direct connection with the planned pathway segment south of the Study Area	• Improved pathway user safety associated with separation from vehicular traffic • Less direct connection with the planned pathway segment south of the Study Area (if on the east side of S. Higuera Street) and the Octagon Barn	• Improved pathway user safety associated with separation from vehicular traffic • Potential safety issue given reduced visibility of undercrossing • Less direct connection with the planned pathway segment south of the Study Area (if on the east side of S. Higuera Street) and the Octagon Barn north of the Study Area
Private Property Impacts	• None	• May require additional right-of-way on S. Higuera St., depending on ramp configuration	• May require additional right-of-way on S. Higuera St., depending on ramp configuration
Potential Biological and Cultural Resource Impacts	• May impact sensitive resources (e.g., biological) along the street	• May impact sensitive resources (e.g., biological) along the street	• May impact sensitive resources (e.g., biological) along the street
Visual Impacts	• Minimal potential impact	• Potential visual impact in rural agricultural setting	• Minimal potential impact
Utility Impacts	• Minimal potential impact	• Potential overhead utility conflicts	• Potential overhead utility conflicts
Cost Estimate	• $0 (if included in Buckley Rd extension project) • $130,000 for crossing with HAWK beacon	• $4.5 – 6.0 million	• $1.5 – 3.0 million

7 Preferred Alignment

7.1 Alignment Scoring

A set of symbols was developed to score the pathway alignments based on City, County, property owner, and public-identified considerations discussed in *Chapters 3 and 4*. Each consideration was scored according to the symbols listed in the table to the right.

Symbol	Associated Scoring Level
●	High score
◐	Moderate score
○	Low score

Table 7-1 presents the pathway alignment consideration scores. This Study finds the pathway alignment along the creek to be the preferred alignment. The creek alignment would remove some land from agricultural use and would likely impact agricultural operations; however, this alignment can be configured to allow the continuation of agriculture and is anticipated to result in a lower impact to agricultural resources than the alignment along agricultural and residential lands. The creek alignment is anticipated to have the least impact on non-agricultural, private properties as it is located away from residential and commercial properties and would not include driveway crossings. The pathway alignment is beyond the edge of the predominant riparian vegetation, lessening the potential for adverse impacts to environmental resources. This alignment provides a more direct connection with the Octagon Barn and US 101/LOVR interchange than the alignment along LOVR and S. Higuera Street and it is generally separated from motor vehicle traffic, thereby providing high pathway connectivity and safety. The alignment is anticipated to have a high quality pathway experience because it would be in more scenic setting and generally away from vehicular noise and exhaust.

Table 7-1: Pathway Alignment Scoring

Consideration	Pathway Alignment Alternatives		
	Along San Luis Obispo Creek	Along Agricultural and Residential Properties	Along LOVR and S. Higuera Street
Avoids Impact on Agricultural Resources and Operations	○	○	●
Minimizes Adjacency to or Impact on Residential and Commercial Properties	●	◐	◐
Avoids Impact on Natural Resources	◐	◐	●
Provides Pathway Connectivity and Safety	●	●	○
Provides a Positive User Experience	●	●	○

7.2 Preferred Alignment Description

7.2.1 Pathway Alignment

Figures 7-1 and **7-2** show the preferred pathway alignment and cross section. From north to south, the preferred pathway alignment would connect with the south side of the US 101/LOVR interchange as part of the planned interchange improvements, continue along a 12 foot wide Class I pathway on the south side of LOVR. At the south end of the bridge, the pathway would turn southwest to continue along the creek. The preferred alignment follows the creek, outside the edge of the riparian vegetation and within the creek setback. Near the former Highway 1 alignment (now an agricultural access road), the pathway turns southeast toward S. Higuera Street. The preferred S. Higuera Street crossing location is at the future S. Higuera Street/Buckley Road extension intersection.

Public Access Acquisition

The concept for acquisition of access for the pathway is to purchase and easement on a willing-seller basis that allows for the construction of the pathway on the two private properties. The terms of the purchase of such an easementare not a part of this Study, and would be negotiated separately with the owners. The objective would be to support the continuation of agriculture on the properties. Another option would be for the project sponsors to purchase the subject parcels at fair market value and lease or sell the parcels to an agricultural operator, retaining an access easement for the pathway. Such an arrangement to assure the continuation of agriculture to the maximum extent feasible would be an inherent element of the pathway project, in order to address the policy consistency and possibly as an environmental mitigation.

Pathway Cross Section

The pathway would comply with City and County standards. In the City, the pathway would be 12 feet wide with 2 foot wide graded shoulders and located within a 20 foot wide access easement. A 3 inch thick asphalt surface over a 12 inch class II base with 13 foot wide biaxial geogrid is recommended.

Pavement Markings and Signage

A centerline stripe on the path approach would help to organize and warn path users. A solid yellow line may be used to separate the two directions of travel where passing is not permitted (e.g., around curves) and a broken yellow line may be used where passing is permitted. Additionally, two four-inch wide solid white lines centered six inches from each edge of the pathway are recommended.

Entrance signs should include regulations, hours of operation (if any), and path speed limit. Multi-use path signing and markings should follow the guidelines in the CA MUTCD and the City's Bob Jones City-to-Sea Trail Preliminary Alignment Plan. The final striping, marking, and signing plan for the path should be reviewed and approved by a licensed traffic engineer or civil engineer.

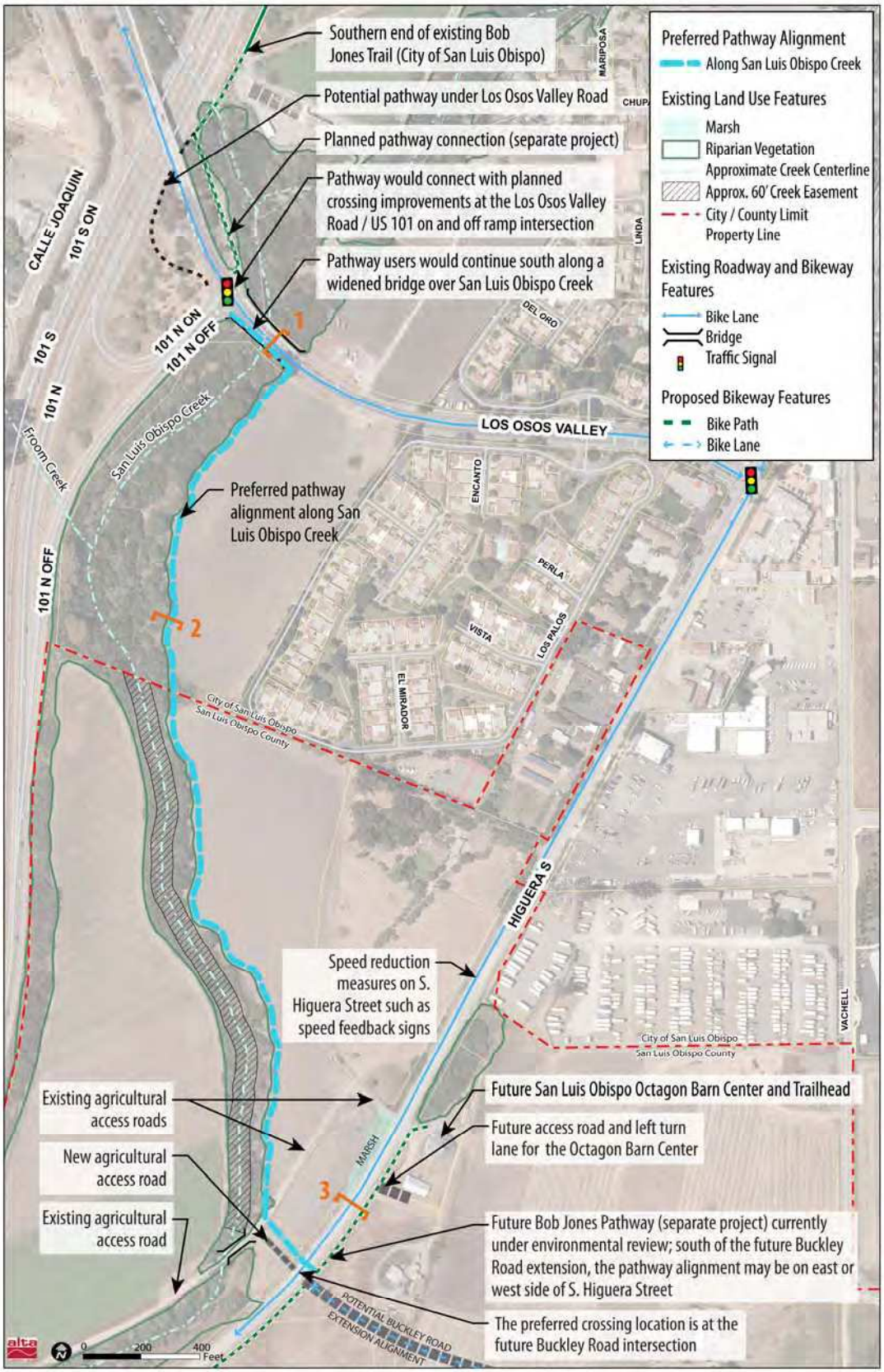
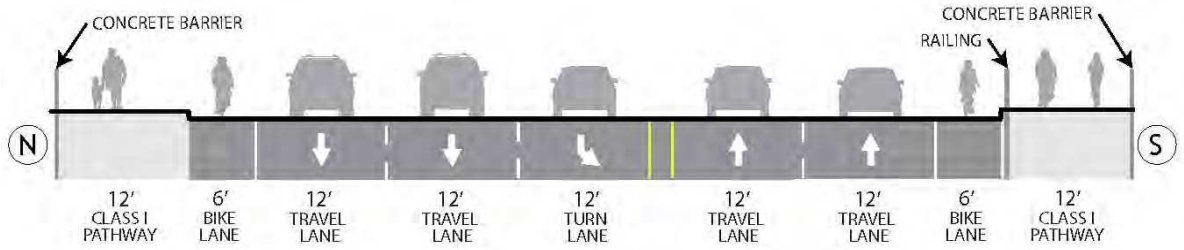
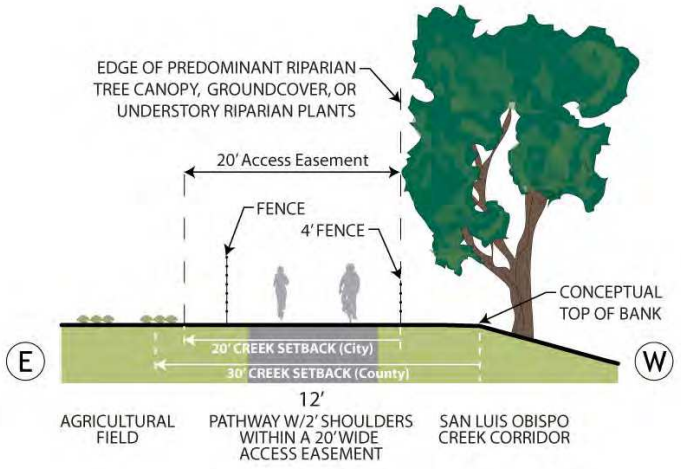


Figure 7-1: Preferred Pathway Alignment

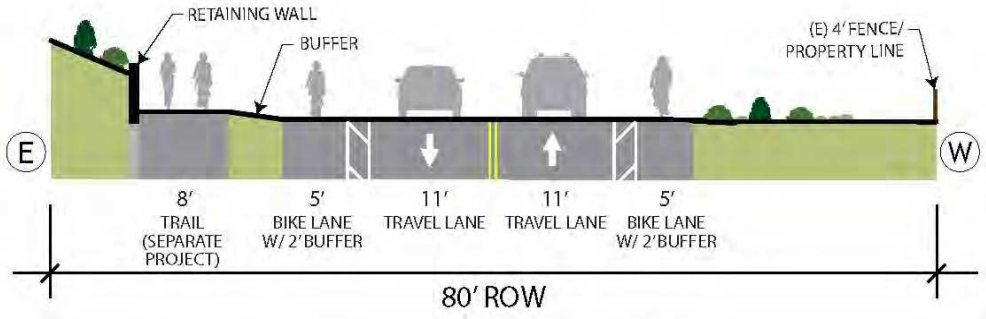
Figure 7-2: Preferred Pathway Cross Sections



Section 1: Along LOVR over San Luis Obispo Creek (facing east)



Section 2: Along San Luis Obispo Creek (facing south)



Section 3: Along S. Higuera Street (facing south)

Fencing

Fencing is typically used to separate a pathway from adjacent private property and land uses. Much of the preferred alignment is along privately-owned farmland and a creek. The pathway would need to be fenced to deter users from wandering onto these areas. Fencing should be placed on the edge of the pathway corridor. A four foot high fence is proposed along the creek side of the path (see **Figure 7-3**). The fence type on the agricultural side is subject to negotiation with the property owners and

may include a six foot high stock fence with a four foot high panel of "hog wire" square mesh at the bottom to deter dogs from entering the agricultural lands.

Railing

Given high anticipated user volumes along the pathway, a 42 inch high pedestrian railing is recommended between the pathway and roadway along the LOVR bridge over San Luis Obispo Creek. The railing is recommended to prevent pathway users from making undesirable or unintended movements from the pathway to the roadway.

City of San Luis Obispo Typical Riparian Corridor Fencing: 4-foot high split rail (top) and wood and wire (bottom) fences

Potential fence type along agricultural properties (6-foot high stock fence); fence design is subject to negotiation with agricultural property owners

Figure 7-3: Fencing Recommendations

7.2.2 S. Higuera Street Crossing Recommendations

The preferred crossing treatment at S. Higuera Street is an at-grade crossing at the future Buckley Road extension location. A grade-separated crossing of S. Higuera Street was studied, but is not financially feasible or environmentally suitable. The pathway crossing should utilize the final approved location of the future Buckley Road extension intersection. As of June 2013, the Buckley Road extension alignment and S. Higuera Street intersection location is to be determined such that the exact pathway crossing location will be determined at final design. The graphic also shows a potential future configuration of S. Higuera Street that includes the planned left turn pocket serving the Octagon Barn staging area (separate project). The County's Bob Jones Pathway extension project (also a separate project) is shown on the east side of S. Higuera Street.

To improve pathway user and motorist safety at the S. Higuera Street crossing until a traffic signal is installed, the following improvements are recommended (see **Figure 7-4**):

- Reduce the speed limit along S. Higuera Street from unposted to 45 MPH, consistent with the posted speed limit within the City portion of the Study Area
- Implement speed reduction measures along S. Higuera Street, such as speed feedback signs, buffered bike lanes (including bike lane signs and pavement markings), and speed limit pavement markings

- Install a pedestrian hybrid beacon (HAWK) or similar user-actuated flashing beacon to improve visibility of the crossing
- Install a high visibility crosswalk, PATH XING pavement markings, and advance warning crossing signage to alert motorists of the crossing
- Install stop signs along the path at the crossing to communicate that path users must yield to oncoming motorists
- Install nighttime lighting at the crossing location to improve visibility of pathway users

A pedestrian hybrid beacon (also known as the High intensity Activated crossWalK (or HAWK)) is a treatment that provides positive stop control in areas without the high pedestrian traffic volumes that typically warrant the installation of a signal
Photo source: http:// fhwa.dot.gov

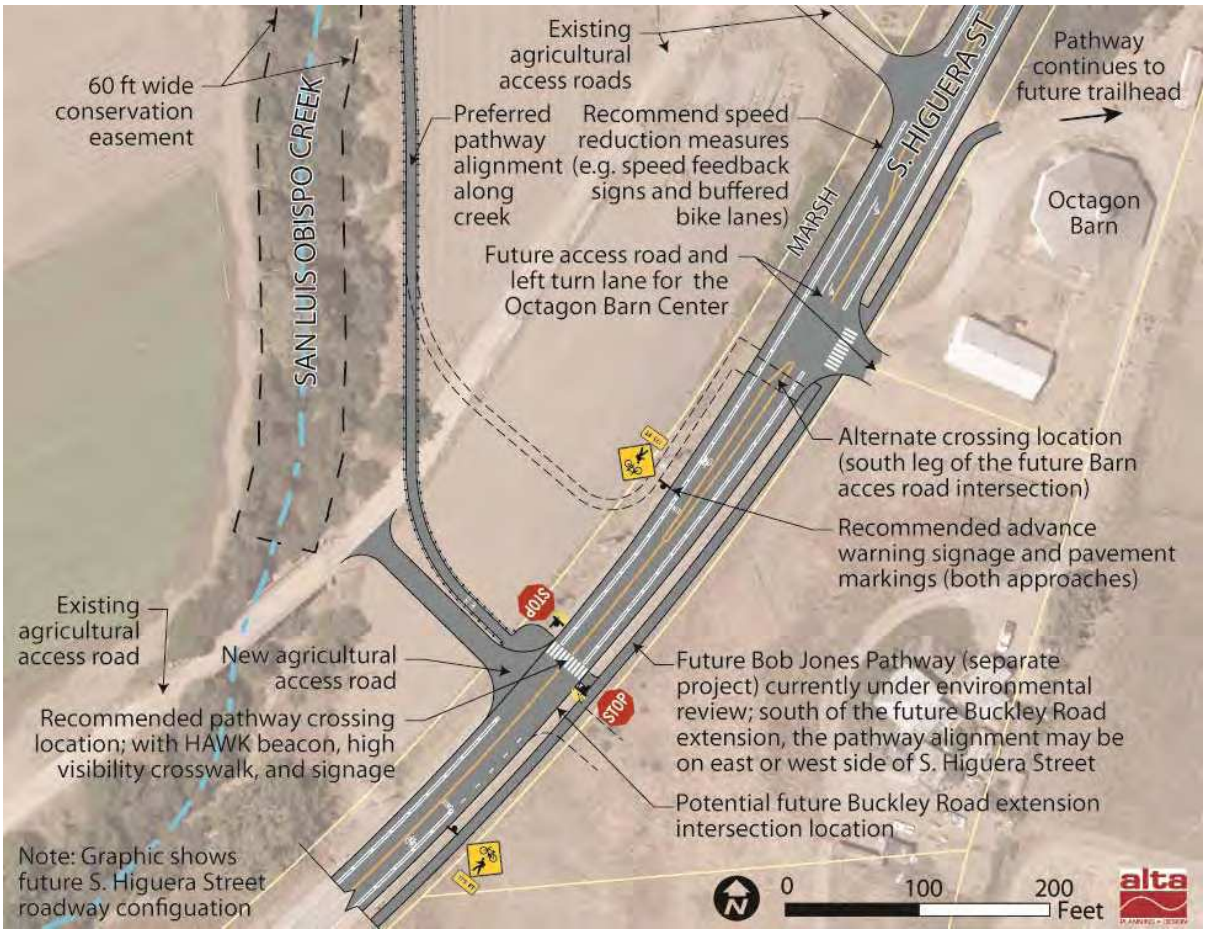


Figure 7-4: Preferred S. Higuera Street Crossing Location

8 Implementation Costs and Strategy

8.1 Preliminary Cost Estimates

Table 8-1 presents the planning level unit costs used to estimate costs for the preliminary pathway alignments and at-grade crossing improvements. These unit costs (and the cost estimates based on them) are intended for planning purposes only and actual construction costs can be determined after the preferred alignment has undergone more detailed feasibility and engineering design work.

Table 8-1: Unit Costs

No.	Item	Unit	Cost
1	Caltrans Class I Bikeway (Total for 12' wide pathway)	MI	$556,300
1A	3" AC	SF	$2.90
1B	12" Class II base (under pavement)	SF	$2.50
1C	15" Class II base shoulder	SF	$3.13
1D	16' Wide Geogrid	SF	$0.25
2	4' Post and cable fence	LF	$8
3	6' Agricultural fence	LF	$15
4	42" Rail fence	LF	$9
5	Pathway striping (dashed centerline and solid edgelines)	LF	$0.60
6	Removable bollard	EA	$360
7	Crosswalk striping	SF	$1.25
8	Sign	EA	$600
9	HAWK beacon	EA	$60,000
10	Bicycle signal phase	EA	$60,000
11	4' wide vegetation strip	SF	$300
12	Access gate	EA	$1,000
13	Agricultural road	CY	$48
14	Bike Path Lighting (at road crossing)	EA	$1,900
15	Drainage (18" culvert)	LF	$60

Tables 8-2 through **8-4** present preliminary cost estimates for the three pathway alignments. The Estimates for the two offstreet pathway alignments include costs associated with S. Higuera Street at-grade crossing improvements. Costs for the potential roadway crossings are presented separately in **Table 8-5**. Cost estimates are for physical improvements only and do not include costs associated with acquisition of public access. The preliminary cost estimates include cost "placeholders" (also called contingencies) to account for each stage of project implementation, based on factors of the construction cost, include:

- Construction – 25 percent
- Survey, technical studies, design, permitting – 10 percent
- Environmental analysis and documentation and related permits – 10 to 20 percent[1]

[1] Costs for environmental review will vary, depending on the level of review required.

- Project administration during planning design, and construction – 4 percent

The alignment along San Luis Obispo Creek is anticipated to have the lowest construction cost, approximately $778,400, including at-grade roadway crossing improvements. The alignment along LOVR and S. Higuera Street has the highest cost (approximately $846,200) due in part to utility relocation associated with that alignment.

Table 8-2: Preliminary Cost Estimate – Pathway Along San Luis Obispo Creek and At-Grade S. Higuera Street Crossing Improvements

No.	Item	Quantity	Unit	Unit Price	Total
SITE PREPARATION					
1	Mobilization	1	LS	$ 3,000.00	$3,000
2	Clearing and Grubbing	46,400	SF	$ 0.03	$1,400
3	Excavation	3,440	CY	$ 15.00	$51,600
SLO CITY CLASS I BIKEWAY (7040)					
4	3" AC	34,800	SF	$ 2.90	$100,900
5	12" Class II base (under pavement)	34,800	SF	$ 2.50	$87,000
6	15" Class II base shoulder	11,600	SF	$ 3.13	$36,300
7	16' Wide Geogrid	46,400	SF	$ 0.25	$11,600
8	Fence	5,800	LF	$ 9.00	$52,200
9	Striping (City 7040)	8,700	LF	$ 0.60	$5,200
TRAFFIC CONTROL					
10	City Removable Bollard (7335)	6	EA	$ 360.00	$2,200
11	City Crosswalk Striping (7350)	800	SF	$ 1.25	$1,000
12	Sign (City 7210)	8	EA	$ 600.00	$4,800
13	HAWK Beacon System	1	EA	$ 60,000.00	$60,000
14	Construction Area Signs	1	LS	$ 5,000.00	$5,000
MISCELLANEOUS					
15	LID Mitigation (4 foot vegetated strip)	11,600	SF	$ 0.03	$300
16	Access Gate (16' swing gate)	2	EA	$ 1,000.00	$2,000
17	New Agricultural Road	83	CY	$ 0.58	$48
18	City Bike Path Lighting (7905)	1	EA	$ 1,900.00	$1,900
19	Drainage (18" Culvert)	50	LF	$ 60.00	$3,000
				Subtotal Construction Cost	**$429,400**
				25% Contingency	$107,400
				Total Construction Cost	$536,800
				10% Survey, technical studies, design, permitting	$53,700
				20% Environmental Analysis and Documentation and Related Permits	$107,400
				15% Construction Management / Administration Cost	$80,500
				Total Cost	**$778,400**

Table 8-3: Preliminary Cost Estimate – Pathway Along Agricultural and Residential Lands and At-Grade S. Higuera Street Crossing Improvements

No.	Item	Quantity	Unit	Unit Price	Total
SITE PREPARATION					
1	Mobilization	1	LS	$ 3,000.00	$3,000
2	Clearing and Grubbing	49,600	SF	$ 0.03	$1,500
3	Excavation	3,674	CY	$ 15.00	$55,100
SLO CITY CLASS I BIKEWAY (7040)					
4	3" AC	37,200	SF	$ 2.90	$107,900
5	12" Class II base (under pavement)	37,200	SF	$ 2.50	$93,000
6	15" Class II base shoulder	12,400	SF	$ 3.13	$38,800
7	16' Wide Geogrid	49,600	SF	$ 0.25	$12,400
8	Fence	4,800	LF	$ 9.00	$43,200
9	Striping (City 7040)	9,300	LF	$ 0.60	$5,600
TRAFFIC CONTROL					
10	City Removable Bollard (7335)	6	EA	$ 360.00	$2,200
11	City Cross Walk Striping (7350)	800	SF	$ 1.25	$1,000
12	Sign (City 7210)	8	EA	$ 600.00	$4,800
13	HAWK Beacon System	1	EA	$ 60,000.00	$60,000
14	Construction Area Signs	1	LS	$ 5,000.00	$5,000
MISCELLANEOUS					
15	LID Mitigation (4 foot vegetated strip)	12,400	SF	$ 0.03	$400
16	Access Gate (16' swing gate)	3	EA	$ 1,000.00	$3,000
17	Relocate/Reconstruct Ag Road	550	CY	$ 0.58	$300
18	City Bike Path Lighting (7905)	1	EA	$ 1,900.00	$1,900
19	Drainage (18" Culvert)	50	LF	$ 60.00	$3,000
				Subtotal Construction Cost	**$442,100**
				25% Contingency	$110,500
				Total Construction Cost	$552,600
				10% Survey, technical studies, design, permitting	$55,300
				20% Environmental Analysis and Documentation and Related Permits	$110,500
				15% Construction Management / Administration Cost	$82,900
				Total Cost	**$801,300**

Table 8-4: Preliminary Cost Estimate – Pathway Along LOVR and S. Higuera Street

No.	Item	Quantity	Unit	Unit Price	Total
SITE PREPARATION					
1	Mobilization	1	LS	$ 4,000.00	$4,000
2	Clearing and Grubbing	17,160	SF	$ 0.03	$500
3	Excavation	1,000	CY	$ 15.00	$15,000
4	Concrete Removal	11,400	SF	$ 3.25	$37,100
5	Relocate Existing Utilities	1	LS	$ 250,000.00	$250,000
6	Street Trees	20	EA	$ 700.00	$14,000
SLO CITY CLASS BIKEWAY (7040)					
7	3" AC	29,000	SF	$ 2.90	$84,100
8	12" Class II base (under pavement)	29,000	SF	$ 2.50	$72,500
9	15" Class II base shoulder	2,360	SF	$ 3.13	$7,400
10	16' Wide Geogrid	29,000	SF	$ 0.25	$7,300
11	Fence	700	LF	$ 9.00	$6,300
12	Striping (City 7040)	9,900	LF	$ 0.60	$5,900
TRAFFIC CONTROL					
13	Bicycle Signal Phase (LOVR/S. Higuera St. Intersection)	1	EA	$ 60,000.00	$60,000
14	City Removable Bollard (7335)	2	EA	$ 360.00	$700
15	City Curb Ramp (4440)	120	SF	$ 13.00	$1,600
16	Construction Area Signs	1	LS	$ 10,000.00	$10,000
MISCELLANEOUS					
17	City Bike Path Lighting (7905)	1	EA	$ 1,900.00	$1,900
18	LID Mitigation (4' vegetated strip)	5,200	SF	$ 0.03	$200
				Subtotal Construction Cost	**$578,500**
				25% Contingency	$144,600
				Total Construction Cost	$723,100
				10% Survey, technical studies, design, permitting	$72,300
				10% Environmental Analysis and Documentation and Related Permits	$72,300
				15% Construction Management / Administration Cost	$108,500
				Total Cost	**$976,200**

Both off street pathway alignments would need a crossing of S. Higuera Street within the County right-of-way near the Octagon Barn. *Section 6.2* discusses pros and cons associated with an at-grade and grade-separated (i.e., over and under S. Higuera Street) crossings at this location. **Table 8-5** presents preliminary construction cost estimates associated with each option.

Table 8-5: S. Higuera Street Crossing Option Preliminary Cost Estimates

Item	Cost
At-Grade Crossing with HAWK Beacon	$130,000
Overcrossing	$4.5 to $6 Million
Undercrossing	$1.5 to $3 Million

8.2 Next Steps

Next steps after Study approval include public right-of-way research and property negotiations, partnership agreements, site survey, preliminary design, technical studies, environmental studies and documentation, funding, easement/access acquisition, permits, construction documents, bidding and contracting, and construction.

Right-of-Way Research and Property Negotiations

The concept for acquisition of access for the pathway is to purchase an easement on a willing-seller basis that allows for the construction of the pathway on the two private properties. If the addition of the pathway deterred the current agricultural owner/operator, the project sponsors would seek to purchase the property (or properties) at fair market value and lease or sell the property (or properties) to an agricultural operator, retaining an access easement for the pathway.

Acquisition or permission for use of property for the pathway will need to be secured, at least tentatively, before significant study or design work can begin, and typically must be finalized before preliminary design or at least before preparation of construction documents.

Partnership Agreements

The City and County should enter into partnership agreements identifying pathway operation and maintenance roles, responsibilities and frequencies.

Site Survey - Base Maps and Information

Detailed CAD base maps with right-of-way/property lines, topography (contour lines and/or spot elevations) and features such as roads, trees, buildings and fences must be prepared by a land surveyor or civil engineer covering the pathway route and adjacent areas. Pertinent codes, policies, adjacent plans, utilities, and other background information must be researched and analyzed for its relevance to the project.

Preliminary Design

More detailed plans would be developed, typically by a team including a landscape architect, a pathway planner, and a civil engineer. These plans would have relatively accurate locations, dimensions, materials and features, to allow a correspondingly detailed preliminary cost estimate, but they would not have all the information required for bidding and constructing the project. The preliminary plans would be the basis for environmental documents and public and agency review of the project.

Technical Studies

The Study's analysis of conditions, resources, and requirements is intended to help configure the pathway improvement concepts to avoid "fatal flaws," but the feasibility of some solutions can only be determined through detailed site-specific studies. They often include site-specific studies of biological and cultural resources, creek bank condition, hydrology, traffic, soil borings and geotechnical studies for design or foundations for bridges or other factors critical to design and/or

project approval. These may be completed before, during or after Preliminary Design, depending on the purpose and type of study.

Environmental Studies and Documentation

State and federal law and nearly all grant programs require environmental studies of a project, and findings by a responsible public agency to comply with the California Environmental Quality Act (CEQA). If federal funds or interests are involved the document may also need to address the National Environmental Policy Act (NEPA), which has slightly different process and document requirements. The environmental document must review and address a broad range of potential issues.

Funding - Grant Applications

The City and County can begin applying for grant funds immediately. Funding will be needed for detailed design, surveying, property or easement acquisition, environmental documents, preparation of construction and permit documents, and for construction. Often the funding is phased, covering only a part of the implementation process. The project description, cost estimates, and graphics in this Study may support a grant application and to compete for public or private funding. The pathway concepts in this Study provide good starting material for preparing grant applications and project funding proposals. Funding for the pathway could come from any level of government and from non-government organizations. *Section 8.2* presents potential funding sources for the pathway and summarizes the grant criteria and application requirements.

Easement/Access Acquisition

The easement or access acquisition process can be completed by the City and County in negotiations with private property owners.

Permits

Project sponsors may need to obtain several types of permits and agreements. Preparation of permit applications and requests for permit approvals from the DFG, RWQCB, and other entities can be initiated.

Construction Documents

The preliminary plan drawings and descriptions will need to be translated into detailed construction plans, specifications and estimate that can be used to obtain permits that require such detail, and for bidding by contractors.

Bidding and Contracting

Contract bid documents for the project must be prepared, and the project must be advertised for public bid. The bids must be analyzed, and the sponsoring agency must award a construction contract to the lowest responsible bidder.

Construction

In addition to the work of the contractor, construction of a public project entails responsible agency and/or consultant staff to oversee the contractor and administer the project, including any grant-imposed procedures or paperwork.

8.3 Potential Funding Sources

The federal transportation law, MAP-21 (Moving Ahead for Progress in the 21st Century), signed into law in July of 2012 and replacing the longstanding SAFETEA-LU transportation bill, is the largest source of pedestrian and bicycle facility funding in the United States. The federal government funds transportation projects and programs in part through taxes and fees related to use of the transportation system.

The most likely funding sources for the Bob Jones Pathway Octagon Barn Connection include: Federal funding (MAP-21), Bicycle Transportation Account, and TDA Article 3, and General Funds. Most fund sources are competitive and provide funding for up to 80 percent of construction costs.

8.3.1 Federal Funding (MAP-21)

MAP-21 is a newly enacted transportation bill, replacing the repeatedly re-authorized SAFETEA-LU transportation bill, which was established by the Intermodal Surface Transportation Efficiency Act (ISTEA) (1991). MAP-21 authorizes $105 billion over the 2013 and 2014 fiscal years for surface transportation programs. MAP-21 consisted of a significant realignment of funding rules and allocations over previous iterations of the SAFETEA-LU bill. The Transportation Enhancements (TE) program, federal Safe Routes to School (SRTS) program and Recreational Trails account have been consolidated under MAP-21 into a single account: the Transportation Alternatives (TA) account. The total amount of funding allocated to Transportation Alternatives in the two authorized years of MAP-21 is $808 million, a 33% decrease over the combined funding allocated to the previous three programs under SAFETEA-LU.

MAP-21 divides TA funding between statewide and local agencies for allocation to transportation projects. Half of TA funding is to be administered on the local level, with Metropolitan Planning Organizations (MPO's) controlling distribution of funding. The MPO body administering local TA funding for San Luis Obispo is SLOCOG. The other half of TA funding is to be administered by Caltrans. Caltrans, under MAP-21 rules, is empowered to "flex" funding from the TA account to other surface transportation programs. Caltrans has preliminarily agreed not to "flex" away their portion of TA funding. MAP-21 rules also preserve a level of funding for the Recreational Trails account. States must opt into a set-aside for Recreational Trails that matches the previous level of funding for that program, or lose the corresponding amount of funding.

Caltrans administers federal funding and provides project oversight including the issuance of National Environmental Protection Agency (NEPA) clearance for projects. Caltrans works with the MPO to identify projects for funding that are selected through a competitive process. SLOCOG has administered funding for past and current Bob Jones Pathway projects in the City and County.

8.3.2 State Funding

The State of California uses both funds from federal sources that it is responsible for administering and funds from its own budget to implement transportation projects, including bicycle and pedestrian projects and programs. With the passage of MAP-21, the state of California has decided to consolidate state funding with federal funding into a single account: the Active Transportation Program (ATP).

Active Transportation Program (ATP)

With the consolidation of federal funding sources in MAP-21, the governor's office recommended the consolidation of numerous state-funded programs centered on alternative transportation into a single account. The resulting Active Transportation Program (ATP) will be administered by the Business, Transportation & Housing (BTH) Agency within the governor's office. The BTH will work with Caltrans to administer the ATP.

The ATP consolidates funding from the MAP-21 TA program, the statewide Safe Routes to School (SR2S) program, the Bicycle Transportation Account (BTA), the state Recreational Trails Program (RTP), and the Environmental Enhancement and Mitigation Program (EEMP). The funding allocated to the ATP in the 2013 governor's budget is $134 million. The combined funding of the consolidated federal and state programs (under 2012 levels) would have reached $147 million, meaning the ATP is funded at 91% of previous levels.

The BTH has until the end of the 2012 fiscal year (June 30th, 2013) to establish governing rules for the distribution of funding through the ATP. As of the writing of this feasibility study, the BTH had not yet provided specifics on funding allocation and project prioritization.

Bicycle Transportation Account (BTA)

The Bicycle Transportation Account is an annual program providing counties and cities with funding to improve safety and convenience for bicycle commuters, including students bicycling to school. Local agencies applying for BTA funding must first have an approved Bicycle Transportation Plan. The City's Bicycle Transportation Plan and the County Bikeways Plan make the San Luis Obispo County and City eligible for funding. Applicants must provide a 10% match.

Caltrans, BTA: http://www.dot.ca.gov/hq/LocalPrograms/bta/btawebPage.htm

State Highway Operations & Protection Program

The State Highway Operations and Protection Program (SHOPP) is a Caltrans funding source with the purpose of purpose of maintaining and preserving the investment in the State Highway System and supporting infrastructure. Projects typically fall into the following categories: collision reduction, major damage restoration, bridge preservation, roadway preservation, roadside preservation, mobility enhancement and preservation of other transportation facilities related to the state highway system. In the past, SHOPP funds have been used to construct bicycle projects, including curb ramps, overcrossings, bike paths, sidewalks, and signal upgrades to meet ADA requirements. Jurisdictions work with Caltrans' districts to have projects placed on the SHOPP list.

The total amount available for the four-year SHOPP period between 2010/11 and 2013/14 fiscal years is $6.75 billion, which is a reduction in funding from prior SHOPP programs. Past project awards have ranged from approximately $140,000 to $4.68 million.

The American Recovery and Reinvestment Act (ARRA) granted funding to this program in California.

Online resource: www.dot.ca.gov/hq/transprog/shopp.htm

8.3.3 Local Funding Sources

TDA Article 3

TDA Article 3 funds are state block grants awarded annually to local jurisdictions for transit and bicycle projects in California. Funds originate from the Local Transportation Fund (LTF), which is derived from a quarter-cent of the general state sales tax. LTF funds are returned to each county based on sales tax revenues.

Eligible bicycle projects include: construction and engineering for capital projects; maintenance of bikeways; bicycle safety education programs (up to five percent of funds); and development of comprehensive bicycle facilities plans. TDA funds may be used to meet local match requirements for federal funding sources. Two percent of the total TDA apportionment is available for bicycle and pedestrian funding.

Online resource: www.mtc.ca.gov/funding/STA-TDA/

Development Impact Fees

Development impact fees, also referred to as public facility fees, are one-time fees typically paid when a building permit is issued and imposed on development projects by local agencies responsible for regulating land use (cities and counties). The City has a transportation impact fee program.

General Funds

One of the local revenue sources of cities and counties available for use on bicycle improvements are general funds resulting from sales taxes, property taxes and other miscellaneous taxes and fees. There are generally few restrictions on the use of these funds, which are utilized for a large variety of local budget needs. As such, there is typically high demand for these funds for numerous government services. In some cases, a component of local general funds can be dedicated to transportation improvements including the construction, maintenance, and repair of bicycle and pedestrian facilities.

Private Donations

Private donations can come in the form of liquid investments (i.e. cash, stock, bonds), land, materials, labor or equipment use. Municipalities typically create funds to facilitate and simplify a transaction from private donations to the given municipality. Donations are mainly received when a widely

supported capital improvement program is implemented. Such donations can improve capital budgets and/or projects.

Volunteers

The City of County may engage volunteers to assist with regular maintenance activities, such as sweeping, picking up trash, and clearing the right-of-way of minor obstructions where needed. Volunteers act as eyes and ears on the ground, can help reduce agency costs by monitoring trail usage and performing light maintenance duties.

9 Operation and Maintenance Plan and Estimate

Operation activities for the pathway consist mainly of monitoring and security. Costs for maintenance and operations vary significantly depending on the level of services provided. Cost estimates provided here are conservative and intended to provide a maximum cost that the City and County could expect for maintenance of the pathway.

9.1 Roles, Responsibilities, and Costs

The City and County would maintain the pathway and any associated facilities (e.g., fencing, signage) within their respective jurisdictions. Routine maintenance costs for the half-mile paved pathway are estimated at approximately $9,200 per year (see **Table 9-1**). Routine maintenance of the Bob Jones Pathway would include the following regular activities:

- Litter and trash removal
- Brush clearance
- Safety patrol (e.g., ensure safety of trail users concerning speed, keep right, safety gear, parking area crime and vandalism) (Typically a dual effort during maintenance rounds)
- Sign work
- Special project and event work
- Vandalism repair

The City and County will monitor accidents when they occur, including identifying the primary cause and rectifying any physical deficiencies. The local police department typically is responsible for collecting accident information, while the City and County identify and improve physical or operational conditions that may have contributed to the accident. The City and County typically also have the responsibility for making the determination to warn pathway users of problems, and to close the pathway when conditions warrant.

The above operation and maintenance cost estimate does not include costs associated with the S. Higuera Street roadway crossing, which is estimated at $3,280 annually. Operation and maintenance activities include sign and pavement marking repair and placement and lighting and HAWK beacon maintenance. The City and County could seek volunteers to assume some of the maintenance responsibilities, such as litter and trash removal, to reduce agency costs.

Costs would increase if the City or County were to include landscaping or contribute to a reserve fund for pathway repair. The Bob Jones Pathway is planned to have an asphalt surface, which will need periodic maintenance over the lifetime of the project. As shown in **Table 9-1,** periodic surface maintenance costs for a 12-foot wide A.C. pathway and costs to reconstruct the pathway after 50 years are estimated at approximately $313,620, or $6,250 per year.

Table 9-1: Anticipated Operation and Maintenance Costs

Item	Cost		Notes
Routine Pathway Operation and Maintenance[1]			
Park Ranger II	$3,550	Annually	Cost to maintain a half-mile long pathway
Park Ranger Specialist	$550	Annually	Cost to maintain a half-mile long pathway
Supervising Ranger	$300	Annually	Cost to maintain a half-mile long pathway
Temp Staff	$1,250	Annually	Cost to maintain a half-mile long pathway
Supplies and services	$3,550	Annually	Cost to maintain a half-mile long pathway
Total Annual Routine Pathway Maintenance Costs	**$9,200**	**Annually**	
Roadway Crossing Operation and Maintenance			
Sign replacement/repair	$2,400	Every 5-15 years	Assumes signs will be replaced during this interval
Pavement marking replacement	$400	Every 5-15 years	Assumes pavement marking will be replaced during this interval
HAWK beacon maintenance	$2,200	Annually	Cost to maintain the HAWK beacon, including signs, striping and electricity
Lighting at pathway crossing	$520	Annually	Annual electrical costs of $170/light fixture plus $99 annual repair and maintenance per light
Total Annual Roadway Crossing Operation and Maintenance Costs	**$3,280**	**Annually**	
Pathway Surface Maintenance[2]			
Microsurface	$9,500	at Year 10	$0.30 per SF
Microsurface	$9,500	at Year 20	$0.30 per SF
Overlay	$95,040	at Year 30	$3.00 per SF
Microsurface	$9,500	at Year 40	$0.30 per SF
Reconstruct	$190,080	at Year 50	$6.00 per SF
Total Pathway Surface Maintenance Cost over 50 Year Period	**$313,620**		
Average Annual Investment for Pathway Surface Maintenance	**$6,250**		

[1] County of San Luis Obispo, 2013.

[2] City of San Luis Obispo, 2013. Assumes 12-foot wide asphalt pathway.

Appendix A. Existing Goals, Policies, Plans, Programs and Standards

This appendix presents planning and policy documents relevant to the Bob Jones Pathway Octagon Barn Connection. The overview examines plans and policies from the City of San Luis Obispo and County of San Luis Obispo.

The purpose of this review is twofold: (1) to document existing goals, policies and programs that give support or guidance to the trail currently being studied and (2) to ensure consistency between this study and previously adopted City and County planning documents which could affect implementation of a new walking and bicycling trail through the City and County of San Luis Obispo.

Table A-1: Consistency with Plans and Policies

Goals, Policies, Plans, Programs and Standards
City of San Luis Obispo
City of San Luis Obispo General Plan – Land Use Element
Community's Goals. Environment. 3. Protect, sustain, and where it has been degraded, enhance wildlife habitat on land surrounding the city, at Laguna Lake, along creeks and other wetlands, and on open hills and ridges within the city, so that diverse, native plants, fish, and animals can continue to live within the area.
Community's Goals. Environment. 6. Protect and restore natural landforms and features in and near the city, such as the volcanic morros, hillsides, marshes, and creeks.
Community's Goals. Society and Economy. 25. Provide a wide range of parks and sports and recreational facilities for the enjoyment of our citizens.
Community's Goals. Society and Economy. 36. Provide a safe and pleasant place to walk and ride a bicycle, for recreation and other daily activities.
Growth Management Policies. 1.7 Greenbelt. 1.7.1 Open Space Protection. Within the City's planning area and outside the urban reserve line, undeveloped land should be kept open. Prime agricultural land, productive agricultural land, and potentially productive agricultural land should be protected for farming. Scenic lands, sensitive wildlife habitat, and undeveloped prime agricultural land should be permanently protected as open space.
Growth Management Policies. 1.7 Greenbelt. 1.7.2 Greenbelt Uses. Appropriate greenbelt uses include: watershed; wildlife habitat; grazing; cultivated crops; parks and outdoor recreation (with minimal land or landscape alteration, building, lighting, paving, or use of vehicles, so rural character is maintained); and home sites surrounded by land of sufficient size and appropriately located with respect to topography and vegetation to maintain the open character.
Growth Management Policies. 1.7 Greenbelt. 1.7.6 Wildlife Habitat. Continuous wildlife habitat – including corridors free of human disruption – shall be preserved, and, where necessary, created.
Growth Management Policies. 1.7 Greenbelt. 1.7.7 Trees. Significant trees, particularly native species, shall be preserved.
Growth Management Policies. 1.8 Prime Agricultural Land. 1.8.1 Agricultural Protection. It is the City's policy to encourage preservation of economically viable agricultural operations and land within the urban reserve and city

Goals, Policies, Plans, Programs and Standards

limits. The City should provide for the continuation of farming through steps such as provision of appropriate general plan designations and zoning.

Growth Management Policies. 1.8 Prime Agricultural Land. 1.8.2 Prime Agricultural Land. Development of prime agricultural land may be permitted, if the development contributes to the protection of agricultural land in the urban reserve or greenbelt by one or more of the following methods, or an equally effective method: acting as a receiver site for transfer of development credit from prime agricultural land of equal quantity; securing for the City or for a suitable land conservation organization open space easements or fee ownership with deed restrictions; helping to directly fund the acquisition of fee ownership or open space easements by the City or a suitable land conservation organization. Development of small parcels which are essentially surrounded by urbanization need not contribute to agricultural land protection.

Growth Management Policies. 1.9 Residential Clustering for Open Space Protection. 1.9.3 Public Access. Areas preserved for open space should include public trail access, controlled to protect the natural resources, to assure reasonable security and privacy of dwellings, and to allow continuing agricultural operations. Public access through production agricultural land will not be considered, unless the owner agrees.

Resource Protection. 6.1 Open Space Policies. 6.1.2 Open Space Uses. Lands designated Open Space should be used for purposes which do not need urban services, major structures, or extensive landform changes. Such uses include: watershed protection; wildlife and native plant habitat; grazing; cultivated crops; and passive recreation. Buildings, lighting, paving, use of vehicles, and alterations to the landforms and native or traditional landscapes on open space lands should be minimized, so rural character and resources are maintained. Buildings and paved surfaces, such as parking or roads, shall not exceed the following: where a parcel smaller than ten acres already exists, five percent of the site area; on a parcel of ten acres or more, three percent. (As explained in the Conservation and Open Space Element, the characteristics of an open space area may result in it being suitable for some open space uses, but not the full range.) Parcels within Open Space areas should not be further subdivided.

Resource Protection. 6.1 Open Space Policies. 6.1.3 Agriculture. Agriculture is generally open land where there has been a history of agricultural cultivation or keeping of livestock, which remains generally open and in such use.

Resource Protection. 6.4 Creeks, Wetlands and Flooding Policies. 6.4.1 Creek and Wetlands Management Objectives. The City should manage its lake, creeks, wetlands, floodplains, and associated wetlands to achieve the multiple objectives of:

M. Maintaining and restoring natural conditions and fish and wildlife habitat;

N. Preventing loss of life and minimizing property damage from flooding;

O. Providing recreational opportunities which are compatible with fish and wildlife habitat, flood protection, and use of adjacent private properties.

P. Recognizing and distinguishing between those sections of creeks and Laguna Lake which are in previously urbanized areas, such as the downtown core, and sections which are in largely natural areas. Those sections already heavily impacted by urban development and activity may be appropriate for multiple use whereas creeks and lakeshore in a more natural state shall be managed for maximized ecological value.

Resource Protection. 6.4 Creeks, Wetlands and Flooding Policies. 6.4.2 Citywide Network. The lake, creeks, and wetlands should be part of a citywide and regional network of open space, parks, and -- where appropriate -- trails, all fostering understanding, enjoyment, and protection of the natural landscape and wildlife.

Resource Protection. 6.4 Creeks, Wetlands and Flooding Policies. 6.4.3 Amenities and Access. New public or private developments adjacent to the lake, creeks, and wetlands must respect the natural environment and incorporate the natural features as project amenities, provided doing so does not diminish natural values. Developments along creeks should include public access across the development site to the creek and along the creek, provided that wildlife habitat, public safety, and reasonable privacy and security of the development can be maintained, consistent with the Conservation and Open Space Element.

Resource Protection. 6.4 Creeks, Wetlands and Flooding Policies. 6.4.4 Open Channels. All open channels should be kept open and clear of structures in or over their banks. When necessary, the City may approve structures

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within creek channels under the limited situations described in the Conservation and Open Space Element.
Resource Protection. 6.4 Creeks, Wetlands and Flooding Policies. 6.4.5 Porous Paving. The City encourages the use of porous paving to facilitate rainwater percolation. Parking lots and paved outdoor storage areas shall, where practical, use one or more of the following measures to reduce surface water runoff and aid in groundwater recharge: porous paving; ample landscaped areas which receive surface drainage and which are maintained to facilitate percolation; drainage detention basins with soils that facilitate percolation.
City of San Luis Obispo General Plan – Circulation Element
Bicycle Transportation. 4.0 Policies. 4.0.1 Bicycle Use. Bicycle transportation should be encouraged.
Bicycle Transportation. 4.0 Policies. 4.0.3 Continuous Network. The City shall complete a continuous network of safe and convenient bikeways that connect neighborhoods with major activity centers and with county bike routes as specified by the Bicycle Transportation Plan.
Walking. 5.0 Policies. 5.0.2 Sidewalks and Paths. The City should complete a continuous network of sidewalks and separated pedestrian paths connecting housing areas with major activity centers and with trails leading into city and county open areas that avoid sensitive areas.
City of San Luis Obispo General Plan – Housing Element
Goal 7. Neighborhood Quality. Maintain, preserve and enhance the quality of neighborhoods, encourage neighborhood stability and owner occupancy, and improve neighborhood appearance, function and sense of community.
Policy 7.4. Within expansion areas, new residential development should be an integral part of an existing neighborhood or should establish a new neighborhood, with pedestrian and bicycle linkages that provide direct, convenient and safe access to adjacent neighborhoods, schools and shopping areas.
Policy 7.7. The physical design of neighborhoods and dwellings should promote walking and bicycling and preserve open spaces and views.
City of San Luis Obispo General Plan – Safety Element
Flooding. 2.0 Policies. C. No new building or fill should encroach beyond, or extend over, the top-of-bank of any creek.
Flooding. 2.0 Policies. F. Creek alternations shall be considered only if there is no practical alternative, consistent with the Conservation and Open Space Element.
Flooding. 2.0 Policies. G. Development close to creeks shall be designed to avoid damage due to future creek bank erosion. Property owners shall be responsible for protecting their developments from damage caused by future bank loss due to flood flows.
Earthquakes and Other Geologic Hazards. 5.7 Policy S: Avoiding Liquifaction Hazards. Development may be located in areas of high liquefaction potential only if a site-specific investigation by a qualified professional determines that the proposed development will not be at risk of damage from liquefaction. The Chief Building Official may waive this requirement upon determining that previous studies in the immediate area provide sufficient information.
Hazardous Trees. 9.0 Policy S: Hazardous Trees. Minimize danger to people and property from trees that are weakened and susceptible to falling or limb loss during storms.

Goals, Policies, Plans, Programs and Standards

City of San Luis Obispo General Plan – Conservation and Open Space Element

Cultural Heritage. 3.1 Goals and Policies. 3.4 Archeological Resources. 3.5 Policies. 3.5.1 Archaeological Resource Protection. The City shall provide for the protection of both known and potential archaeological resources. To avoid significant damage to important archaeological sites, all available measures, including purchase of the property in fee or easement, shall be explored at the time of a development proposal. Where such measures are not feasible and development would adversely affect identified archaeological or paleontological resources, mitigation shall be required pursuant to the Archaeological Resource Preservation Program Guidelines.

Cultural Heritage. 3.1 Goals and Policies. 3.4 Archeological Resources. 3.5 Policies. 3.5.2 Native American Sites. All Native American cultural and archaeological sites shall be protected as open space wherever possible.

Cultural Heritage. 3.1 Goals and Policies. 3.4 Archeological Resources. 3.5 Policies. 3.5.4 Archaeologically Sensitive Areas. Development within an archaeologically sensitive area shall require a preliminary site survey by a qualified archaeologist knowledgeable in Native American cultures, prior to a determination of the potential environmental impacts of the project.

Cultural Heritage. 3.1 Goals and Policies. 3.4 Archeological Resources. 3.5 Policies. 3.5.5 Archaeological Resources Present. Where a preliminary site survey finds substantial archaeological resources, before permitting construction, the City shall require a mitigation plan to protect the resources. Possible mitigation measures include: presence of a qualified professional during initial grading or trenching; project redesign; covering with a layer of fill; excavation, removal and curation in an appropriate facility under the direction of a qualified professional.

Cultural Heritage. 3.1 Goals and Policies. 3.4 Archeological Resources. 3.5 Policies. 3.5.8 Protection of Native American Cultural Sites. The City will ensure the protection of archaeological sites that may be culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance; sites that may have religious value, even though no artifacts are present; and sites that contain artifacts which may have intrinsic value, even though their archaeological context has been disturbed.

Natural Communities. 7.1 Goals and Policies. 7.7.7 Preserve Ecotones. Condition or modify development approvals to ensure that "ecotones," or natural transitions along the edges of different habitat types, are preserved and enhanced because of their importance to wildlife. Natural ecotones of particular concern include those along the margins of riparian corridors, marshlands, vernal pools, and oak woodlands where they transition to grasslands and other habitat types.

Natural Communities. 7.1 Goals and Policies. 7.7.8 Protect Wildlife Corridors. Condition development permits in accordance with applicable mitigation measures to ensure that important corridors for wildlife movement and dispersal are protected. Features of particular importance to wildlife include riparian corridors, wetlands, lake shorelines, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.

Natural Communities. 7.1 Goals and Policies. 7.7.9 Creek Setbacks. As further described in the Zoning Regulations, the City will maintain creek setbacks to include: an appropriate separation from the physical top of bank, the appropriate floodway as identified in the Flood Management Policy, native riparian plants or wildlife habitat and space for paths called for by any City-adopted plan (Figure 4). In addition, creek setbacks should be consistent with the following:

A. The following items should be no closer to the wetland or creek than the setback line: buildings, streets, driveways, parking lots, aboveground utilities, and outdoor commercial storage or work areas.

B. Development approvals should respect the separation from creek banks and protection of floodways and natural features identified in part A above, whether or not the setback line has been established.

C. Features which normally would be outside the creek setback may be permitted to encroach where there is no practical alternative, to allow reasonable development of a parcel, consistent with the Conservation and Open Space Element.

D. Existing bridges may be replaced or widened, consistent with policies in this Element. Removal of any existing bridge or restoration of a channel to more natural conditions will provide for wildlife corridors, traffic

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circulation, access, utilities, and reasonable use of adjacent properties.

Open Space. 8.3 Policies. 8.3.2 Open Space Buffers. When activities close to open space resources within or outside the urban area could harm them, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations and other agencies to follow this policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional and shall complement the protected area's habitat values. Buffers shall be required in the following situations:

A. Between urban development -- including parks and public facilities—and natural habitats such as creeks, wetlands, hillsides and ridgelines, Morros, scenic rock outcrops and other significant geological features, and grassland communities, to address noise, lighting, storm runoff, spread of invasive, nonnative species, and access by people and pets (see also the Safety Element for "defensible space" next to wildland fire areas).

B. Between urban development and agricultural operations, to address dust, noise, odors, chemical use, and access by people and pets.

C. Between agricultural operations and natural habitat, to address noise, chemical use, sediment transport, and livestock access.

D. Between new development and cultural resources, to address visual compatibility and access by people. E. Between new development and scenic resources or the greenbelt, to address view blockage, lighting and noise, and visual transition from urban character to rural character.

E. Urban development or uses located adjacent to the Urban Reserve Line (URL) to provide a transition to open space or greenbelt areas. Transition areas should add to the preservation of open space lands or resources. At a minimum, a 50 foot transition area (preserved in essentially a natural state) shall be provided within the project along the project boundary with the URL, unless the transition area is defined elsewhere in this Element.

Open Space. 8.4.2 GOAL: Open Spaces Access and Restoration. The City intends to allow public access to open space that fosters knowledge and appreciation of open space resources without harming them and without exposing the public to unacceptable risk. The main goal is to protect open space and wildlife habitat, with a secondary goal of providing passive recreation where it will not harm the environment.

Open Space. 8.5.1 Public Access. Public access to open space resources, with interpretive information, should be provided when doing so is consistent with protection of the resources, and with the security and privacy of affected landowners and occupants. Access will generally be limited to non-vehicular movement, and may be visually or physically restricted in sensitive areas. Public access to or through production agricultural land, or through developed residential lots, will be considered only if the owner agrees (Land for active recreation is typically designated "Park" in the General Plan Land Use Map). The City shall also designate open space areas that are not intended for human presence or activity.

Open Space. 8.5.2 Creekside Trails. Creekside trails shall not be established in or across from existing, substantially developed residential areas of the City (such as the San Luis Drive area) where such trails could create a compatibility or privacy conflict with surrounding land uses.

Open Space. 8.5.5 Passive Recreation. The City will consider allowing passive recreation where it will not degrade or significantly impact open space resources and where there are no significant neighborhood compatibility impacts, in accordance with an approved open space conservation plan. Passive recreation activities may include: hiking, nature study, bicycle use, rock climbing, horseback riding or other passive recreational activities as permitted and regulated in the Open Space Ordinance.

City of San Luis Obispo General Plan – Parks and Recreation Element

3.20 Open Space Services and Programs. Policy 3.20.1. Open space shall be managed so as to provide appropriate public access and enhances the natural environment, consistent with the Conservation and Open Space

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Element.

3.20 Open Space Services and Programs. Policy 3.20.2. Public trails shall be provided where appropriate to provide public access to City-owned open space. Use of trails for hiking, mountain biking or equestrian activity shall be determined as posted.

3.20 Open Space Services and Programs. Policy 3.20.6. Open space and parks shall be connected where possible by trails or bike paths.

City of San Luis Obispo Bicycle Transportation Plan

Policy 1.7 Class I Bikeways shall be located outside of creek setbacks except where otherwise allowed or as provided for in the Conservation & Open Space Element.

Policy 1.8 Where setback encroachments cannot be avoided, their extent shall be minimized and existing riparian vegetation shall be reinforced with native plants to create landscaped buffers between the bikeway and the riparian canopy. (Other mitigation measures are described in Appendix M.)

Policy 1.9 Bikeway encroachments into the creek setback shall be subject to the exception process of the Creek Setback Regulations contained in the Municipal Code.

Policy 1.10 The number of bicycle-pedestrian bridges over creeks shall be minimized. Bridges shall:

a) Be of a “clear span” design
b) To the greatest extent possible, be located to avoid removal of native trees and streamside habitat or impacts to important aquatic habitat areas
c) Minimize grading of creek banks or changes to the channel alignment
d) Include a smooth riding surface to minimize noise

City of San Luis Obispo Zoning Regulations

17.16.025 Creek Setbacks. A. Purpose. Creek setbacks are intended to:

1. Protect scenic resources, water quality, and natural creekside habitat, including opportunities for wildlife habitation, rest, and movement.
2. Further the restoration of damaged or degraded habitat, especially where a continuous riparian habitat corridor can be established.
3. Allow for natural changes that may occur within the creek corridor.
4. Help avoid damage to development from erosion and flooding.
5. Enable implementation of adopted City plans.

17.16.025 Creek Setbacks. B. Waterways Subject to Setbacks. Creek setback requirements shall apply to all creeks as defined in the Open Space Element and shown on that element’s Creek Map, and only to those creeks.

17.16.025 Creek Setbacks. C. Measurement of Creek Setbacks. Creek setbacks shall be measured from the existing top of bank (or the future top of bank resulting from a creek alteration reflected in a plan approved by the City), or from the edge of the predominant pattern of riparian vegetation, whichever is farther from the creek flow line (Figure 5). The Community Development Director may determine the predominant pattern of riparian vegetation, where the edge of the vegetation varies greatly in a short length along the creek, in a way unrelated to topography (for example, the Director will not base the setback line on individual trees or branches extending out from the channel or on small gaps in vegetation extending toward the channel). Where riparian vegetation extends over a public street, no creek setback is required on property which is on the side of the street away from the creek.

17.16.025 Creek Setbacks. D. Plan Information. The location of top of bank and of riparian vegetation shall be shown on all project plans subject to City approval. The location of these features is subject to confirmation by the

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Community Development Director, based on observation of actual conditions and, as needed, the conclusions of persons with expertise in hydrology, biology, or geology.

17.16.025 Creek Setbacks. E. Creek Setback Dimensions. Different setback dimensions are established in recognition of different parcel sizes and locations of existing structures for areas within the city in comparison with areas which may be annexed, and in response to different sizes of the creek channels and tributary drainage areas.

1. Creeks within the 1996 City Limits. Along all creeks within the city limits as of July 1, 1996, the setback shall be 20 feet, except as provided in parts E.3, E.4 or G below. Where the city limit follows a creek, the setback on the side within the 1996 city limits shall be 20 feet and the setback on the annexed side shall be as provided in part 2 below.
2. Creeks in Areas Annexed After 1996. Along any creek in an area annexed to the City after July 1, 1996, the following setbacks shall be provided, unless a specific plan or development plan approved by the City Council provides a larger or smaller setback, consistent with the purpose of these regulations and with General Plan policies.
   a. Fifty-foot Setbacks. The setback along the following shall be 50 feet: San Luis Obispo Creek (all of main branch); San Luis Obispo Creek East Fork, from San Luis Obispo Creek (main branch) to the confluence with Acacia Creek; Stenner Creek.
   b. Thirty-five-foot Setbacks. The setback along the following shall be 35 feet: Prefumo Creek; Froom Creek; Brizzolara Creek; San Luis Obispo Creek East Fork tributary, from the confluence with Acacia Creek to Broad Street (Highway 227); Acacia Creek and its tributaries west of Broad Street (Highway 227); the segment of the tributary of Acacia Creek which flows generally parallel to and on the easterly side of Broad Street (Highway 227), from Broad Street to Fuller Road.
   c. Twenty-foot Setbacks. The setback along all creeks except those listed in parts “a” and “b” immediately above shall be 20 feet. (Informational map is available in the Community Development Department.)
3. Larger Setbacks. To mitigate potentially significant environmental impacts in compliance with the California Environmental Quality Act, or to implement adopted City plans, when approving a discretionary application the City may require setbacks larger than required by parts 1 and 2 above, or further limitations on the items which may be placed within setbacks. (Also, other City regulations may restrict or prevent development in a floodway or floodplain.)
4. Prior Approvals. Where the City has explicitly approved a creek setback smaller than required by this section, prior to adoption of this section, by action on a tract or parcel map (whether or not a vesting map), architectural review application, use permit, Planned Development zoning, or Special Considerations zoning, that smaller setback shall remain in effect so long as the approval is in effect.

17.16.025 Creek Setbacks. F. Items Prohibited within Setbacks.

The following shall not be placed or constructed within a creek setback, except as provided in part G below: structures; paving; parking lots; in nonresidential zones, areas used for storing or working on vehicles, equipment, or materials.

17.16.025 Creek Setbacks. G. Exceptions to Creek Setbacks.

1. Entitled Replacement Structures. Where a structure lawfully existed on or before October 3, 1996, within a creek setback required by this chapter, the following shall apply. This part is not intended to allow replacement of paving that existed on or before October 3, 1996, with new paving or a building, unless a discretionary approval is obtained pursuant to part 17.16.025.G(4).
   a. Any structure built in replacement of such a structure may occupy the same footprint, within the creek setback, as the previous structure, without obtaining a discretionary exception. (See also Section 17.16.020(E)(1)(d).)
   b. Additional floor area shall not be added to the encroaching part of the structure (for example, by adding stories).
   c. The part of a structure that is nonconforming due solely to the creek setback encroachment may be remodeled without regard to the limits of Section 17.14.020(B) and (C) of this title.
2. Entitled Accessory Structures and Uses. The following items may be located within the required creek setback, without obtaining a discretionary exception, provided that they: do not extend beyond the top of bank into the creek channel; will not cause the removal of native riparian vegetation; will not reduce any

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flooding capacity pursuant to the city's flood damage prevention regulations; in total occupy not more than one-half of the setback area; are consistent with other property development standards of the zoning regulations.

a. Walls or fences provided that in combination with buildings they enclose not more than one-half of the setback area on any development site.

b. For a single-family dwelling: uncovered parking spaces, patios, and walkways. (Pedestrian paths and bicycle paths require a discretionary exception as provided in part 4.)

c. Decks, stairs, and landings which are no more than thirty inches in height.

d. One-story, detached buildings used as tool and storage sheds, play houses, and similar uses, provided the projected roof area does not exceed one hundred twenty square feet.

e. Garden structures such as trellises, arbors, and gazebos, provided they are constructed using an open lattice design and lightweight materials.

3. Entitled Architectural Features. The following architectural features may extend into the setback up to thirty inches: cornices, canopies, eaves, buttresses, chimneys, solar collectors, shading louvers, water heater enclosures, and bay or other projecting windows that do not include usable floor space.

4. Discretionary Exception.

a. Intent. Discretionary exceptions to creek setback standards are intended to allow reasonable use of sites that are subject to creek setbacks, where there is no practicable alternative to the exception. Generally, such exceptions are limited to small parcels that are essentially surrounded by sites that have been developed with setbacks smaller than those in subsection E of this section. In the case of pedestrian paths, bicycle paths, and bridges, the site may be large, but there are no options for avoiding a crossing of the creek or encroaching into the creek setback.

b. Application Type. A creek setback smaller than required by subsection E of this section may be approved by city action on a plan for public facilities approved by the city council or on a specific plan, development plan under planned development zoning, land division, use permit, or architectural review. Where one of these types of applications is not otherwise required for the proposed feature, an exception request shall be in the form of an administrative use permit.

c. Public Notice. Public notice for a project involving a creek setback exception, regardless of application type, shall include a clear description of the feature or features proposed to receive the exception, and the extent of the exception.

d. Findings. Each discretionary exception shall be subject to each of the following findings, regardless of the type of project application under which the request is considered.

i. The location and design of the feature receiving the exception will minimize impacts to scenic resources, water quality, and riparian habitat, including opportunities for wildlife habitation, rest, and movement; and

ii. The exception will not limit the city's design options for providing flood control measures that are needed to achieve adopted city flood policies; and

iii. The exception will not prevent the implementation of city-adopted plans, nor increase the adverse environmental effects of implementing such plans; and

iv. There are circumstances applying to the site, such as size, shape or topography, which do not apply generally to land in the vicinity with the same zoning, that would deprive the property of privileges enjoyed by other property in the vicinity with the same zoning; and

v. The exception will not constitute a grant of special privilege –an entitlement inconsistent with the limitations upon other properties in the vicinity with the same zoning; and

vi. The exception will not be detrimental to the public welfare or injurious to other property in the area of the project or downstream; and

vii. Site development cannot be accomplished with a redesign of the project; and

viii. Redesign of the project would deny the property owner reasonable use of the property. ("Reasonable use of the property" in the case of new development may include less development than indicated by zoning. In the case of additional development on an already developed site, "reasonable development" may mean no additional development considering site constraints and the existing development's scale, design, or density.)

e. Biological Survey. A biological survey by a qualified, independent person shall be required for each

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discretionary exception request, to provide the basis for making finding subsection (G)(4)(d)(i) of this section, unless waived by the community development director upon determining that no purpose would be served by such a survey because no biological resources could be affected by the exception.

f. Application Contents. In addition to any other information required for a project application, a request for creek setback exception shall include the following:

i. A description of the feature or features proposed for exception and the extent of the exception.

ii. A description of potential design changes for the project which would eliminate or reduce the need for the exception.

iii. A statement why an exception is deemed necessary by the applicant.

iv. Mitigation proposed to offset any harmful effects of the exception.

17.84.020 Definitions.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. Also referred to as "regulatory floodway."

17.84.050 Provisions for flood hazard reduction.

A. Standards of Construction. In all areas of special flood hazards the following standards are required:

1. Anchoring. All new construction and substantial improvements of structures, including manufactured homes, shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
2. Construction Materials and Methods. All new construction and substantial improvements of structures, including manufactured homes, shall be constructed:
   a. With flood resistant materials, and utility equipment resistant to flood damage for areas below the base flood elevation;
   b. Using methods and practices that minimize flood damage;
   c. With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and
   d. Within zones AH or AO, so that there are adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
3. Elevation and Floodproofing.
   b. Nonresidential Construction. All new construction or substantial improvements of nonresidential structures shall either be elevated to conform with subsection (A)(3) of this section or:
      i. Be floodproofed, together with attendant utility and sanitary facilities, below the elevation recommended under subsection (A)(3) of this section, so that the structure is watertight with walls substantially impermeable to the passage of water;
      ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
      iii. Be certified by a registered civil engineer or architect that the standards of subsection (A)(3) of this section are satisfied. Such certification shall be provided to the floodplain administrator.

F. Floodways. Since floodways are extremely hazardous areas due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

3. Within an adopted regulatory floodway, the city of San Luis Obispo shall prohibit encroachments, including fill, new construction, substantial improvements, and other development, unless certification by a registered civil engineer is provided demonstrating that the proposed encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.

City of San Luis Obispo Municipal Code

Chapter 12.22 Open Space Regulations. 12.22.050 Rules and regulations applicable in city open space lands.

The following rules and regulations apply in all open space lands within or under the control of the city of San Luis

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Obispo, unless expressly stated otherwise elsewhere in this chapter.

A. Resources Protected. All natural and cultural resources (including, but not limited to, all naturally occurring plants and animals, prehistoric and historic artifacts, structures, and remains of structures) within city open space lands are protected, and no person shall collect, gather, or otherwise disturb any natural or cultural resources found therein, except for pruning or removal of materials in conjunction with city-sponsored activities, such as trail construction or maintenance or for collection of specimens for research or educational purposes as permitted in advance by the city.

B. Presence in Open Space Lands Restricted to Certain Hours—No Overnight Usage. Open space lands where public access is permitted shall be open to the public from dawn to dusk. It shall be unlawful to enter or remain within such lands between one hour after sunset and one hour before sunrise of the following day without approval from the director.

C. Authority to Close. Any section or part of the city's open space lands may be declared closed to the public by the director at any time and for any interval of time, either temporarily or at regular and stated intervals (daily or otherwise), and either entirely or merely to certain uses, as the director finds reasonably necessary.

D. Operation of Vehicles and Bicycles.

1. No person shall drive or otherwise operate a vehicle on city open space lands or upon surfaces other than those maintained for purposes of vehicular travel, except upon temporary parking areas as may be designated from time to time by the director. Vehicles in the service of the city while upon their official duties are exempt. The provisions of the California Vehicle Code are applicable in the city open space lands which is publicly maintained and open to the use of the public for purposes of vehicular travel. All violations of the Vehicle Code shall be enforced and prosecuted in accordance with the provisions thereof.
2. Use of bicycles on city open space lands is restricted to areas and trails designated for bicycle use.

E. Solicitation Prohibited. No person shall practice, carry on, conduct, or solicit for any occupation, business, or profession in any city open space land, or sell or offer for sale any merchandise, article, or anything whatsoever. This subsection shall not apply to any person acting pursuant to a contract with the city or under an authorization granted by the director.

F. Restrictions Upon Animals in Open Space Lands.

1. No person shall cause, permit, or allow any animal owned or possessed by him or her or any animal in his or her custody or control to be present in open space lands except:
   a. Equine animals being led or ridden under reasonable control upon any bridle paths or trails; provided, that they are designated and identified for such purposes;
   b. Equine or other animals which are hitched or fastened at a place expressly designated for such purpose;
   c. Dogs or cats when led by a cord or chain not more than six feet long;
   d. Dogs which have been specially trained and are being used by blind or disabled persons to aid and guide them in their movements;
   e. Small pets which are kept on the person of the possessor at all times;
   f. In connection with activities authorized in writing by the director;
   g. Animals in the open space for grazing purposes pursuant to an agreement approved by the city council.
2. The director may prohibit animals in certain posted areas in city open space lands in the interest of public health, safety, comfort, and welfare, or for purposes of habitat protection.

G. Duty to Care for and Control Animals. It shall be the mandatory duty of all persons owning, possessing, in control of, or otherwise responsible for a dog, a cat, or an equine animal in city open space lands to exercise proper care and control of such animal so as not to molest or menace any other person, domestic animal, wildlife, or livestock in or upon city open space lands.

P. Travel Generally Restricted to Designated Trails—No Trail Construction without Authorization. Travel in city open space lands is generally restricted to trails designated for such travel, and off-trail travel is prohibited in places where it is unsafe to so travel, or where such travel can result in erosion problems or resource damage. Furthermore, construction of new trails is prohibited except where authorized by the director as part of a trail improvement program for a given open space land. However, city open space lands are open to off-trail travel in areas where it is safe to do so and such travel is not damaging to the environment. (Ord.

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1332 § 1 (part), 1998)

Chapter 12.23 Creeks, Tributaries and Riparian Corridor Regulations. 12.23.030 Prohibited Activities and Conditions. It shall be unlawful and a violation of this chapter for any person to engage in or maintain, or for any property owner to allow or maintain, any of the following activities or conditions in regulated areas:

A. Collecting, gathering, or disturbance of any natural or cultural resources, except for pruning, removal of materials or any other activities authorized under appropriate permits from state and/or federal agencies or in conjunction with permitted city-sponsored activities.

B. Staying or camping overnight.

C. Entering into or remaining within regulated areas that are open to the public between one hour after sunset and one hour before sunrise of the following day without approval from the city manager or his or her designee.

D. Entering into or remaining within property to which public access is prohibited or restricted.

E. Driving or otherwise operating a vehicle, except as authorized in conjunction with otherwise permitted activity.

F. Using bicycles in regulated areas not explicitly labeled as areas and/or trails designated for bicycle use.

G. Possessing or consuming alcoholic beverages.

H. Disposing of, depositing, throwing, keeping or accumulating trash, litter, rubbish, rubble, garbage, debris or other solid waste, dirt, green waste or animal waste.

I. Traveling outside of designated paths.

J. Posting any sign on a tree, tree-stake or guard, or fastening any wire, cable or rope to any tree, tree-stake or guard unless otherwise authorized by the city.

K. Urinating or defecating.

L. Making any excavation or unauthorized encroachment.

M. Possessing or discharging of weapons, firearms, paintballs, fireworks, or building fires.

N. Any act in a regulated area constituting a violation of any provision of CESA, ESA, the California Public Resources Code, or any regulation of the California Department of Fish and Game, or of any permit or approval issued by any federal, state or local agency having jurisdiction over the regulated area shall also be a violation of this chapter. (Ord. 1541 § 1 (part), 2010)

County of San Luis Obispo

County of San Luis Obispo Agriculture Element

AGP17: Agricultural Buffers.

a. Protect land designated Agriculture and other lands in production agriculture by using natural or man-made buffers where adjacent to non-agricultural land uses in accordance with the agricultural buffer policies adopted by the Board of Supervisors (see Appendix C).

Appendix C – Buffer Policies:

Irrigated vegetables and berries: 200 – 600 feet

Irrigated forage and field crops: 100 – 400 feet

Dry farm field crops, orchards, and vineyards: 100 – 200 feet

Rangeland/pasture: 50 – 200 feet

AGP18: Location of Improvements.

a. Locate new buildings, access roads, and structures so as to protect agricultural land.

AGP24: Conversion of Agricultural Land.

a. Discourage the conversion of agricultural lands to non-agricultural uses through the following actions:

1. Work in cooperation with the incorporated cities, service districts, school districts, the County Department

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of Agriculture, the Agricultural Advisory Liaison Board, Farm Bureau, and affected community advisory groups to establish urban service and urban reserve lines and village reserve lines that will protect agricultural land and will stabilize agriculture at the urban fringe.

2. Establish clear criteria in this plan and the Land Use Element for changing the designation of land from Agriculture to non-agricultural designations.
3. Avoid land redesignation (rezoning) that would create new rural residential development outside the urban and village reserve lines.
4. Avoid locating new public facilities outside urban and village reserve lines unless they serve a rural function or there is no feasible alternative location within the urban and village reserve lines.

AGP26: Streams and Riparian Corridors.

The following policies apply to watercourses shown by a solid or broken blue line ("blue line" streams) on the latest U.S. Geological Survey (USGS) quadrangle maps and their associated riparian vegetation.

b. For new development requiring a discretionary permit and for land divisions, protect streams and riparian habitat affected by the proposal through the following measures:
   1. Consistent with the requirements of the Regional Water Quality Control Board's Basin Plan, establish a grading and building setback of 30 feet from the top of the steam bank. Locate buildings and structures outside the setback. Do not remove riparian vegetation within 30 feet of the top of the stream bank. Provide for adjustments when the applicant demonstrates that such setbacks would have a significant negative impact on the agricultural viability of the site, or where alternatives are infeasible or more environmentally damaging, and the adjustments are acceptable to the Regional Board.
   2. Require appropriate erosion control measures during and following construction.
   3. Consistent with state and federal requirements, allow steam alterations for water supply and flood control projects, road maintenance, maintenance of existing channels, or improvement of fish and wildlife habitat if there are no practical alternatives.
   4. Consistent with state and federal requirements, assure that stream diversion structures protect habitats.
   5. When significant impacts to stream or riparian resources are identified, the landowner shall implement county-approved mitigation measures consistent with the existing requirements of CEQA.

AGP31: Recreational Use of Agricultural Lands.

a. Encourage recreational uses on privately-owned lands on a case-by-case basis where such uses are compatible with on- and offsite agriculture and with scenic and environmentally sensitive resources.

AGP32: Trail Access to Public Lands.

a. In accordance with the County Parks and Recreation Element, access trails shall not conflict with agriculture or environmentally sensitive resources.
b. Provide sufficient policing and maintenance so that trails do not result in trespass or in damage to sensitive resources, crops, livestock, other personal property, or individuals.

County of San Luis Obispo Conservation and Open Space Element

Policy BR 1.1 Protect Sensitive Biological Resources

Protect sensitive biological resources such as, wetlands, migratory species of the Pacific flyway, and wildlife movement corridors through:

1) environmental review of proposed development applications, including consideration of cumulative impacts,
2) participation in comprehensive habitat management programs with other local and resource agencies, and
3) acquisition and management of open space lands that provide for permanent protection of important natural habitats.

Policy BR 1.2 Limit Development Impacts

Regulate and minimize proposed development in areas that contain essential habitat for special-status species, sensitive natural communities, wetlands, coastal and riparian habitats, and wildlife habitat and movement corridors as

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necessary to ensure the continued health and survival of these species and protection of sensitive areas.

Policy BR 1.4 No Net Loss

Require that development projects are approved with conditions and mitigation measures to ensure the protection of sensitive resources and to achieve "no net loss" of sensitive habitat acreage, values, and function. Give highest priority to avoidance of sensitive habitat. When avoidance is not feasible, require provision of replacement habitat onsite through restoration and/or habitat creation. When onsite mitigation is not feasible, provide for offsite mitigation that reflects no net loss.

Policy BR 1.12 Development Impacts to Corridors

Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits. Provide linkages and corridors as needed to connect sensitive habitat areas such as woodlands, forests, and wetlands.

Policy BR 1.14 Wildlife and Roadways

Include the need for wildlife movement in designing and expanding major roadways and stream crossings.

Policy BR 1.15 Restrict Disturbance in Sensitive

Habitat during Nesting Season

Avoid impacts to sensitive riparian corridors, wetlands, and coastal areas to protect bird-nesting activities.

Policy BR 2.6 Development Impacts to Listed Species

Ensure that potential adverse impacts to threatened, rare, and endangered species from development are avoided or minimized through project siting and design. Ensure that proposed development avoids significant disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species. When avoidance is not feasible, require no net loss of sensitive natural plant communities and critical habitat areas.

Policy BR 3.1 Native Tree Protection

Protect native and biologically valuable trees, oak woodlands, trees with historical significance, and forest habitats to the maximum extent feasible.

Policy BR 3.5 Non-native Trees

Protect healthy and non-hazardous, non-native trees (e.g., eucalyptus groves) and forests that provide raptor nesting or roosting sites or support colonies of monarch butterflies.

Policy BR 4.1 Protect Stream Resources

Protect streams and riparian vegetation to preserve water quality and flood control functions and associated fish and wildlife habitat.

Policy BR 4.4 Vegetated Treatment Systems (Low Impact Development Techniques)

Promote use and maintenance of engineered, vegetated treatment systems such as constructed wetlands, vegetated swales, or vegetated filter strips where they will reduce nonpoint source pollution from private and public development.

Policy BR 5.1 Protect Wetlands

Require development to avoid wetlands and provide upland buffers.

Policy BR 5.2 No Net Loss of Wetlands

Ensure that all public and private projects avoid impacts to wetlands if feasible. If avoidance is not feasible, ensure no net loss of wetlands, consistent with state and federal regulations and this Element.

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Policy BR 6.1 Avoid Impacts to Fisheries

Require all proposed discretionary land use projects and land divisions to avoid impacts to freshwater and saltwater fisheries and wildlife habitat to the maximum extent feasible. When avoidance is not feasible, offset potential losses of fisheries and wildlife.

Policy CR 4.2 Protection of Native American Cultural Sites

Ensure protection of archaeological sites that are culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance. Protect sites that have religious or spiritual value, even if no artifacts are present. Protect sites that contain artifacts, which may have intrinsic value, even though their archaeological context has been disturbed.

Policy CR 4.4 Development Activities and Archaeological Sites

Protect archaeological and culturally sensitive sites from the effects of development by avoiding disturbance where feasible. Avoid archaeological resources as the primary method of protection.

Policy CR 4.5 Paleontological Resources

Protect paleontological resources from the effects of development by avoiding disturbance where feasible.

Policy CR 4.6 Resources-Based Sensitivity

Protect archaeological resources near streams, springs and water sources, rock outcrops, and significant ridgetops, as these are often indicators of the presence of cultural resources.

Policy SL 1.2 Promote Soil Conservation Practices in All Land Uses

Require erosion and sediment control practices during development or other soil-disturbing activities on steep slopes and ridgelines. These practices should disperse stormwater so that it infiltrates the soil rather than running off, and protect downslope areas from erosion.

Policy SL 3.1 Conserve Important Agricultural Soils

Conserve the Important Agricultural Soils mapped in Figure SL-1 and listed in Table SL-2. Proposed conversion of agricultural lands to non-agricultural uses shall be evaluated against the applicable policies in this COSE and in the Agriculture Element, including policies such as Policies AGP 18 and AGP 24.

County of San Luis Obispo Parks and Recreation Element

Trails Objective C: Provide a viable multi-use trail system which is protective of private property interests and public resources, and consistent with Chapter 8 Parks and Recreation Project List.

Trails Policy 3.7 County Parks shall consider as the highest priority those trail projects which:

1. Are on land owned or operated by the County, including public rights of way.
2. Connect urban communities or provide access to recreation areas.
3. Complete a trail corridor, where only small portions are missing.
4. Will be popular due to their length or location.
5. Offer alternative transportation.
6. Solve a safety concern.
7. Include a funding source.
8. Minimize costs of development and maintenance.

Trails Policy 3.8 To protect the interests of adjacent land uses (both public and private) and the environment, trail projects shall:

1. Be consistent with the standards in the General Plan including the County's Agriculture and Open Space Element.

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2. Stay as far away as reasonable from production agriculture, commercial activities and residences.
3. Be built to minimize impacts to sensitive resources.
4. Provide signs that identify permitted trail uses; directions to relevant public areas; and, provide for safety and protection of trail users and adjacent private property.
5. Provide trail fencing where necessary to discourage trespass onto neighboring land and to protect sensitive resources.
6. Impose enforceable limitations on the trail use, as appropriate.
7. Be designed and constructed consistent with the trails standards contained in Appendix B of this document.

Trails Policy 3.11 Eminent domain will not be used for trail establishment.

Trails Policy 3.12 Where public lands are not available or adequate to accommodate a public trail, a trail dedication in easement or fee across private property shall be considered and may be obtained only in the following instances:

1. From a willing seller or donor.
2. As part of a New Town or Specific Plan that would create urban uses.
3. As a condition of a project approval, subject also to Policy 3.13:
   a. For land designated Agriculture when:
      i. a general plan amendment would change the land use category from Agriculture to another land use category; or
      ii. a discretionary project that would convert agricultural land to uses not related to agriculture; or
      iii. a cluster subdivision would create eight or more residential parcels.
   b. For land not designated Agriculture, but in production agriculture, when a discretionary project including a subdivision would convert land to uses11 not related to production agriculture as determined by the County Agricultural Commissioner's Office.
   c. For all other land not excluded under (a) and (b) above, for any discretionary project (parcel map, tract map, development plan, minor use permit, conditional use permit, etc.)

Trails Policy 3.15 The County shall fully indemnify, protect and hold harmless (including all costs and attorney fees) private property owners who dedicate or grant a public trail easement from, and against, those risks and damages that arise out of the usage of the trail easement by the public and which, in good conscience, should not be borne by the private property owner.

County of San Luis Obispo Transportation Plan

Objectives

To officially encourage the use of bicycles as a pleasant means of travel and recreation embodying physical, environmental, economic, safety, convenience, and social benefits.

To provide for the related facilities and services necessary to encourage bicycle trail to assume a significant role as a form of transportation and recreation.

County of San Luis Obispo Land Use Ordinance

22.10.040 - Archeological Resources

In the event archeological resources are unearthed or discovered during any construction activities, the following standards apply:

A. Construction activities shall cease, and the Department shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.

B. In the event archeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County Coroner shall be notified in addition to the Department so proper disposition may be accomplished.

Goals, Policies, Plans, Programs and Standards

22.14.030 - Airport Review Area (AR)

B. Limitation on use. Developments within areas covered by land use plans adopted by the San Luis Obispo County Airport Land Use Commission are limited to those identified in the plans as "compatible" and "conditionally approvable." Projects that are conditionally approvable may be granted a permit only when in compliance with all conditions of the applicable airport land use plan or its implementing rules.

22.14.060 - Flood Hazard Area (FH)

C. Flood Hazard Area permit and processing requirements. Drainage plan approval is required where any portion of the proposed site is located within a Flood Hazard combining designation, in addition to all other permits required by this Title, state and Federal law.

22.108.020 – Areawide Standards (San Luis Obispo Planning Area)

D. Production agricultural areas. New development shall be designed to minimize the loss of existing and potential production agricultural areas by the placement of buildings and new parcels outside the most agriculturally capable areas. For the purposes of this standard, production agricultural areas consist of prime soils (Class I and II irrigated soils according to the U.S. Natural Resource Conservation Service) and other areas capable of agricultural production which primarily consist of Class III and IV soils, but may also include productive areas with Class VI soils.

22.108.030 - Combining Designations

A. Airport Review Area (AR). The following standards apply within the Airport Review Area combining designation, which is the unincorporated area covered by the San Luis Obispo County Airport Land Use Plan.

1. Review for compliance with Airport Land Use Plan. All land use permits, land divisions and General Plan amendments must be found consistent with the San Luis Obispo County Airport Land Use Plan adopted by the San Luis Obispo County Airport Land Use Commission.

San Luis Obispo Inland Area Plan

Land Use Goal 1. Plan compact communities. Urban communities should be compact, and rural areas maintained in a largely undeveloped state. The more compact a community is, the lower its vehicle trips and miles traveled, and the easier it is for people to walk, bike or take public transit to meet their transportation needs.

Circulation Goal: Provide for an area-wide bikeway system to enable efficient and safe transportation for bicyclists riding to work, school, shopping, or for recreation.

Circulation Objective e. Develop class I bike paths along selected riparian routes or other appropriate corridors where possible to link residential areas with important destinations (no dead-end routes) while avoiding impacts to agricultural and environmentally sensitive areas.

Circulation Objective f. Provide for the safe and separate uses of the roads for bicycle and other vehicular traffic, including slow agricultural vehicles, through separate bike lanes.

Appendix B. Public Opinion Survey Response Summary

Figures B-1 and **B-2** present the public opinion survey. The purpose of the survey was to assess public preferences regarding the half-mile trail segment. The survey was made available at the beginning of December 2012 and distributed as follows:

- At the San Luis Obispo farmers market on December 1, 2012
- At the first stakeholder meeting on December 4, 2012
- At the first public workshop on December 5, 2012
- At the encore public workshop on December 12, 2012
- Online beginning in early December 2012 and ongoing
- Mailed to residents within one mile of the Study Area the week of December 3, 2012.

Table B-1 presents a summary of the public opinion survey responses received as of January 31, 2013. Approximately 55 responses have been received. According to respondents, the most important considerations for the trail are trail experience, trail connectivity and safety, and environmental resources.

Bob Jones Trail Octagon Barn Connection Project
Public Opinion Survey

Background and Purpose for the Survey

The 24-mile Bob Jones City to Sea Bike Trail is an important regional trail connecting San Luis Obispo and Avila Beach that serves both recreational and transportation purposes. The City and County of San Luis Obispo are conducting a study to determine the preferred alignment for a key half-mile trail segment between the Los Osos Valley Road (LOVR)/Highway 101 interchange and the planned San Luis Obispo Octagon Barn Center. The map on the reverse side shows the study area. The Land Conservancy of San Luis Obispo County is working to establish an environmental education facility, activity center and a staging area for the trail at the Octagon Barn site. This Project is funded by a California Department of Transportation (Caltrans) Community-Based Transportation Planning grant.

The purpose of this survey is to assess public preferences regarding the half-mile future trail connection. There are a number of potential trail routes for this connection, each with pros and cons. Along with input from a stakeholders group, public workshops, public committee meetings, and technical studies by consultants, this survey will help project sponsors choose which option(s) to pursue.

Overview of Trail Alignment Options

Please see the map on the back of this survey for preliminary alignment options.

Survey Questions

Please rank the considerations given in questions A through F in order of importance with 1 being most important and 6 being least important. Please rank each project consideration once.

	Ranking: 1 (Most Important)	2	3	4	5	6 (Least Important)
A. Private Property Rights: The trail should only be on public properties.	O	O	O	O	O	O
B. Agricultural Protection: The trail should avoid impacts to agricultural lands.	O	O	O	O	O	O
C. Neighborhood/Residential Concerns: The trail should be separated from residences.	O	O	O	O	O	O
D. Environmental Resources (e.g., along San Luis Obispo Creek): The trail should avoid impacts to natural habitats.	O	O	O	O	O	O
E. Trail Connectivity and Safety: The trail should be separated from existing roadways and should allow for the most direct connection to adjoining trails.	O	O	O	O	O	O
F. Trail Experience: The trail should be planned for the most scenic and enjoyable experience.	O	O	O	O	O	O

Your response to questions G through L will help us understand how you currently use the trail and may use the future trail segment.

G. The trail connection should be a high priority for the City. Do you agree or disagree? Agree O Disagree O

H. How often do you use existing sections of the Bob Jones Trail? Annually O Monthly O Weekly O Daily O Never O

I. Which segment(s) do you typically use? _____

J. How do you typically use the trail? Check all that apply: Bicycling O Walking/Running O Dog walking O With kids/strollers O With a mobility assistive device O

K. Do you use the trail for commuting or other non-recreational trips? Yes O No O

L. Would you use the segment under study if it were built? Yes O No O Unsure O

Thank you for completing the survey. For additional information on the project and ways to get involved, please contact Bryan Wheeler, City Transporation Enginner, at (805) 781-7178 or visit the project website at http://bobjonestrailconnection.com.

Optional: If you would like to be contacted regarding upcoming public meetings and the availability of draft documents for review and comment, please enter your contact information below:

Name:_____ Email: _____

Figure B-1: Public Opinion Survey (front)

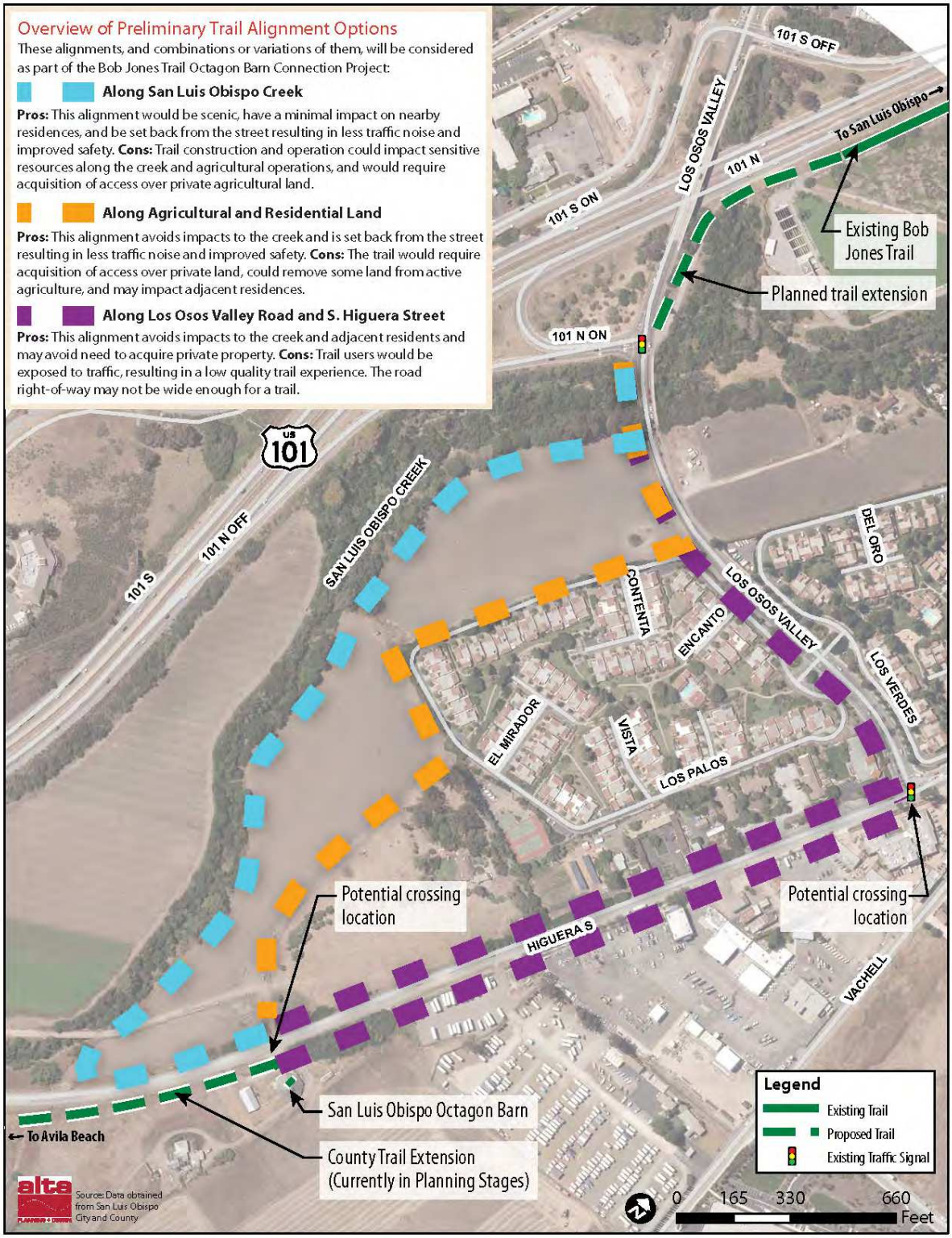

Figure B-2: Public Opinion Survey (back)

Table B-1: Public Opinion Survey Response Summary

Question		Number of Responses per Ranking Option							
		1	2	3	4	5	6	No Response	
		Most Important					Least Important		Totals
A.	Private property rights - Trail should only be on public property	9	4	12	2	6	18	4	55
B.	Agricultural protection - Trail should avoid impacts to agriculture	5	12	9	11	8	10	0	55
C.	Neighborhood/residential concerns - Trail should be separated from residences	13	5	13	9	7	8	0	55
D.	Environmental resources - Trail should avoid impacts to natural habitat	12	14	7	7	6	8	1	55
E.	Trail connectivity/Safety - Trail should be separated from existing roadways, direct connection to other trails	23	18	4	2	2	2	4	55
F.	Trail experience - Trail should be scenic and enjoyable	25	12	9	1	1	6	1	55
		Agree	Disagree					No Response	
G.	The trail connection should be a high priority for the City	41	9					5	55
		Annually	Monthly	Weekly	Daily	Never		No Response	
H.	How often do you use existing sections of the trail	10	27	9	0	9		0	55
		Avila	Madonna	Both	None			No Response	
I.	Which segment(s) do you typically use	34	1	3	6			11	55
		Bike	Walk	Dog walk	Kids strollers	Mobility Assistance		No Response	
J.	How do you typically use the trail	28	35	7	5	0		4	55
		Yes	No					No Response	
K.	Do you use the trail for commuting or other non-rec?	9	43					3	55
		Yes	No	Unsure				No Response	
L.	Would you use the segment under study if built?	42	5	8				0	55