Council Agenda Report

Department Name: Public Works
Cost Center: 5010
For Agenda of: December 4, 2018
Placement: Study Session
Estimated Time: 45 minutes

FROM: Daryl Grigsby, Director of Public Works
Prepared By: Jake Hudson, Transportation Manager
Adam Fukushima, Active Transportation Manager

SUBJECT: BOB JONES TRAIL (CALLE JOAQUIN TO OCEANAIRE) PREFERRED ALTERNATIVE SELECTION

RECOMMENDATION

Active Transportation Committee Recommendation:
The Active Transportation Committee (ATC) reviewed this project at their November 15, 2018 meeting and made the following recommendations.

1. Recommended Alternative 1 for further evaluation due to the more positive interaction with agriculture operations and lower cost; and
2. Recommended to consider other alternatives of the project that are likely to increase bicycle transportation while remaining eligible for developer mitigation funds since the existing alternatives are more likely to increase bicycling for recreation than transportation.

Staff Recommendation:
1. Receive the Project Study Report for the Bob Jones Trail Connector (Oceanaire to Calle Joaquin).
2. Provide feedback and identify a preferred alternative to proceed into environmental review and further project development.

OR

As suggested by the Active Transportation Committee, direct staff to evaluate other route alternatives which are not consistent with the Bicycle Transportation Plan as part of the planning of the forthcoming Active Transportation Plan.

DISCUSSION

Over the last year, the project consultant has been working with City staff on a Project Study Report (Attachment B) to help evaluate the alignment alternatives, identify the constraints and opportunities, and further the project readiness. Staff will present the report and ask the City Council to select a preferred alternative to begin environmental analysis.

Background

The Bob Jones Trail Oceanaire to Calle Joaquin Connector is a project identified in the Bicycle Transportation Plan (Attachment C) and the Agricultural Master Plan for the Calle Joaquin Agricultural Reserve (Attachment D). The facility is intended to provide a parallel off-street alternative to Los Osos Valley Road for bicycle and pedestrian travel as well as access to the County portion of the Bob Jones Trail. The project is also centrally located to the San Luis Ranch, Froom, and Avila Ranch development areas and thus may serve as a key bicycle and pedestrian connector in the area. In the 2017-19 Financial Plan, funding for project development work was allocated. Now that three viable route alternatives have been identified the next step is to select a preferred alternative that will undergo more rigorous environmental review.

As identified in the Project Study Report, the consultant has explored three alternatives for study. Alternative 1 is the alignment identified in the Bicycle Transportation Plan, while Alternative 2 is the alignment found in the Calle Joaquin Agricultural Master Plan. Given the partial creek orientation of Alternative 2, the consultant also explored an alignment that would fully utilize the riparian area for the trail user experience. This is included in Alternative 3.

Alternatives Assessment

Alternative 1:

Estimated Cost: $2,911,500
Route Length: Class I (.48 Miles)
Class II (.23 Miles)
Class III (.14 Miles)
Total (.85 Miles)

This alignment includes an on-street class II & III facility along Calle Joaquin Road. The alignment then continues north parallel to Highway 101, turns west through the Agricultural Reserve Area, then crosses Prefumo Creek behind Target and connects with Froom Ranch Road at Oceanaire.

Given the access road that will be built by San Luis Ranch just north of the Agricultural Reserve property and the existing access road, the interface of the trail path would require further refinement to ensure minimal interface among trail users, agricultural vehicles and construction vehicles. Should this be selected as the preferred alternative, staff would be committed to minimizing the interface as much as possible.

PROS: This alignment has the least level of conflict with existing terrain and vegetation, poses the least impacts to the creek, and would require only one bridge. The overall cost of Alternative 1 is mid-range, approximately 30% less than Alternative 3 and 22% more than Alternative 2. In addition, the City's full design standards for Class I facilities can be accommodated along this alignment. Because this alignment is further from Prefumo Creek and heavily vegetated areas,

the level of permitting, security concerns, and overall project costs are lower as compared to the shortest and most direct route. Both Alternative 1 & 2 bisect the agricultural area, however Alternative 1 would have the least impact on agricultural operations. Both Alternatives 1 & 2 are longer than the shortest most direct route (Alternative 3), however Alternative 1 is approximately 4% shorter than alternative 2.

CONS: Both Alternatives 1 & 2 are up to 20% longer than Alternative 3 and almost half of the route is Class II & III on-street facilities, therefore these alternatives would be expected to have a lower effect on bicycle and pedestrian mode split as compared to Alternative 3. In addition, the creek crossing is longer for this alternative than for the creek crossing identified in Alternative 2 and thus has a higher cost.

Alternative 2:

Estimated Cost: $2,270,200
Route Length: Class I (.52 Miles)
Class II (.23 Miles)
Class III (.14 Miles)
Total (.89 Miles)

This alignment is indicated in the Agricultural Master Plan for the Calle Joaquin Agricultural Reserve. From Froom Ranch Way, it crosses Prefumo Creek and parallels the creek for 1,100 ft before crossing the agricultural reserve and wraps around the BMW dealership before connecting to Calle Joaquin Road.

PROS: This alignment has a higher level of conflict with existing terrain and vegetation than Alternative 1 but less than Alternative 3 and would still only require one bridge. The overall cost of this alternative is also 45% less than Alternative 3, making it the least expensive alternative. This alignment would yield more of a riparian experience for trail users than Alternative 1. With this alternative, City full design standards for Class I facilities can be accommodated.

CONS: This alignment would bifurcate a small area of the agricultural reserve area, due to the small size of area bifurcated this alternative could result in limited agricultural use of that area. Due to the flood plain, the trail alignment would require a close proximity to the wall of the BMW property to take advantage of that property's higher elevation as well as minimize encroachment into the agriculture reserve area. This alignment would also create corners with tight turn radii and the site distance around corners would be tighter and may create a rider perception of backtracking. As with Alternative 1, this alternative would require bicycling on the street without a dedicated bicycle facility on Calle Joaquin and therefore is not anticipated to have as great an effect on increasing the bicycle mode share as Alternative 3. Given the proximity to the creek, this alternative would require a higher level of permitting and environmental mitigation than Alternative 1 but less than Alternative 3.

Paths along creek corridors do have a higher propensity for attracting illicit behavior and transient encampments, however this can be somewhat mitigated with lighting, increased public use, emergency response amenities, and improved access for police patrols.

Alternative 3:

Estimated Cost: $4,137,300
Estimate Route Length: Class I / Class IV (.7 Miles)
Total (.7 Miles)

This alternative follows the same alignment as Alternative 2 for the first 1,100 feet but then continues along the creek and crosses the creek again before joining with Calle Joaquin behind the AAA building.

PROS: This alignment would provide the shortest and most direct route with virtually all the route featuring an off-street facility. Therefore, this alternative is anticipated to have the greatest effect on increasing pedestrian and bicycle use. The alternative also provides a secondary benefit of enhancing the creek corridor and providing better access for maintenance and enforcement crews. The alternative does not bisect current or future agricultural areas as do alternatives 1 & 2.

CONS: This alignment is the most expensive of the alternatives, estimated at $4.1 million due to the more difficult terrain, heavy vegetation, and the need for two bridges as opposed to one under the other alternatives. Due to the terrain constraints, design exceptions from the minimum City width standards would be needed at pinch points in the route, however minimum State width standards could be met. The route would also require a higher level of regulatory agency permitting and environmental mitigation given its proximity to the creek corridor as impacts to Biological Resources could be significant.

Paths along creek corridors do have a higher propensity for attracting illicit behavior and transient encampments, however this can be somewhat mitigated with lighting, increased public use, emergency services enhancements, and improved access for police patrols.

Other Alternatives not Consistent with the Bicycle Transportation Plan

The ATC has concerns that the route alignment as adopted in the Bicycle Transportation Plan will serve only a recreation purpose. With council's approval, staff could evaluate alternative alignments that are not consistent with the Bicycle Transportation Plan but may provide a higher degree of utility. If the council directs staff to further investigate other alternatives, it is recommended that the project be deferred or combined with the effort for the forthcoming Active Transportation Plan and any alternatives be adopted through that effort.

PUBLIC ENGAGEMENT

The project is included in the Bicycle Transportation Plan approved by Council and was included as part of the public engagement for that Plan.

Staff met with Steven Marx, President of the non-profit group Central Coast Grown, which leases the agricultural reserve area. Mr. Marx expressed concern for security along the creek with Alternative 3 and for the interaction with agricultural operations with Alternative 1.

POLICY CONTEXT

This portion of the Bob Jones Trail is identified in the Bicycle Transportation Plan and the Master Plan for the Calle Joaquin Agricultural Reserve. The intent of the project it to connect the County's portion of the trail (planned to begin at the Octagon Barn) with the neighborhoods of Laguna Lake & San Luis Ranch and provide an off-street alternative to Los Osos Valley Road. The Environmental Impact Report for the San Luis Ranch development identified traffic impacts to Los Osos Valley Road and consequent mitigations through contributions to this portion of the Bob Jones Trail.

CONCURRENCES

The Active Transportation Committee reviewed the Project Study Report at their November 15th, 2018 meeting and made the aforementioned recommendations.

NEXT STEPS

The next step is to begin the environmental analysis. Depending on the preferred alternative, the timeframe for alternatives 1 and 2 is between 4 to 6 months. For alternative 3, 1 ½ years is expected. Design work can also begin concurrently and would last 6 months to a year depending on the alternative selected.

Since this project is not fully funded, this project would require prioritizing in future financial plans and/or submitting applications for outside grants.

ENVIRONMENTAL REVIEW

No environmental determination is necessary to select a preferred alternative for further study. Once a preferred alternative is selected, the environmental review will begin. If that environmental review determines an environmental impact report (EIR) is required, the EIR would be required to look at and evaluate alternative designs and identify the environmentally-preferred project.

FISCAL IMPACT

Budgeted: Partially
Funding Identified: Partially

Budget Year: 2017-19

Fiscal Analysis:

Funding Sources	Current FY Cost	Annualized On-going Cost	Total Project Cost
General Fund			
State			
Federal			
Fees	$156,000		$249,507
Other: 25% Transportation Impact Fees 16% San Luis Ranch			
Total	$156,000		$2.3 - $4.1 million

Project development work to date has been funded through Air Quality Mitigation fees provided as part of the development of the Target Center (Prefumo Creek Commons). The developer contributed $249,507 in Air Quality Mitigation fees to the City for this project. $156,000 of these fees have been allocated to study and design of this project.

Based on fair share analysis conducted as part of the City AB1600 Capital Facilities fee program and the San Luis Ranch EIR, the project is to be funded at 25% from the Citywide Transportation Impact Fee Program, 16% from the San Luis Ranch Development, and 59% from other sources such as the general fund or grants.

Construction for this section of the Bob Jones Trail was originally estimated at approximately $1.2 million based on the best information available at the time. However, more recent and accurate estimates now range from $2.3 million to $4.1 million depending on which alignment alternative is ultimately selected. Once an alignment is formally adopted staff will return to Council with appropriate updates to the City's Capital Facilities Fee program.

ALTERNATIVE

The City Council may decide not to select a preferred alternative or direct staff to evaluate other options at this time. This alternative is not recommended as it would hold any progress on this connection and not further the City's multimodal goals.

Attachments:

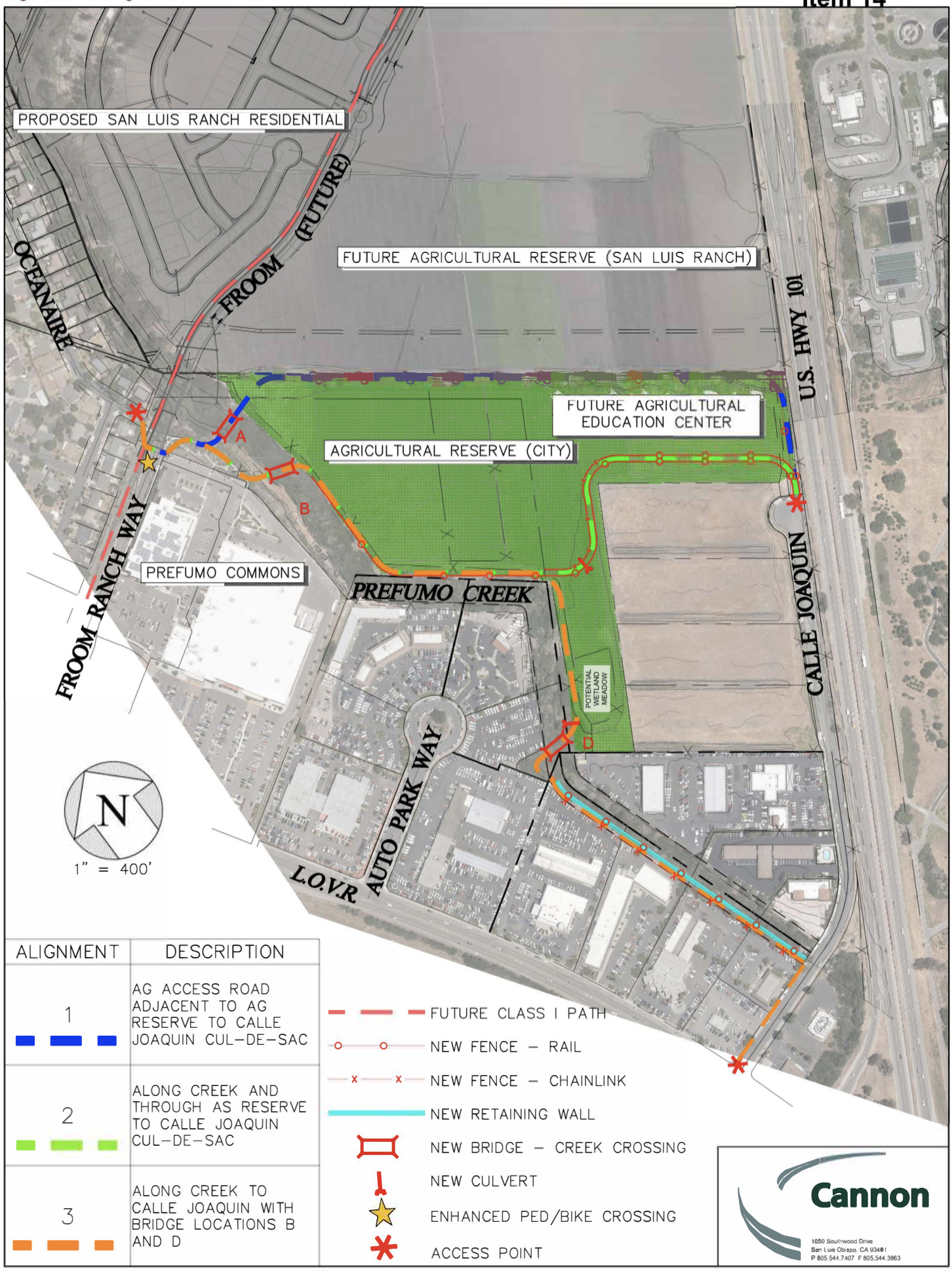
a - Plan Map

b - Project Study Report

c - Council Reading File - Bicycle Transportation Plan

d - Council Hearing File - Calle Joaquin Agricultural Master Plan

Figure 3: Trail Alignment Alternatives



Project Study Report
Bob Jones Trail Oceanaire to Calle Joaquin Connection

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Project Study Report

Bob Jones Trail Oceanaire to Calle Joaquin

Administrative Draft

November, 2018

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Table of Contents

List of Figures

List of Tables

1 Introduction

1.1 Project Overview

The Bob Jones Trail is a regional pathway intended to connect the City of San Luis Obispo's downtown core to Avila Beach. The Bob Jones Trail is comprised of numerous segments within the City of San Luis Obispo and unincorporated County of San Luis Obispo. As a critical piece in the City's 2013 Bicycle Transportation Plan (City Bike Plan) as well as the County Bikeways Plan, the Trail provides a transportation and recreation corridor and a connection to the state-legislated California Coastal Trail. Several segments of this trail have been constructed and several more are in the planning and design phase. The Bob Jones Trail segments within the City of San Luis Obispo are highlighted in *Figure 1* below.

The extension of the Bob Jones Trail along Prefumo Creek from the end of Oceanaire Avenue (Segment 4), near Froom Ranch Way, to the northern end of Calle Joaquin is identified in the 2013 Bicycle Transportation Plan, as well as the Agricultural Master Plan (Ag Plan) for the Calle Joaquin Agricultural Reserve. However, both documents indicate differences in the alignment of the trail; depending on which alignment is constructed the trail will be approximately 2,500 to 3,500 feet long. Near Oceanaire Avenue the trail will cross Froom Ranch Road and then cross over Prefumo Creek via a proposed bikeway/pedestrian bridge. From the creek crossing, the trail will generally follow the creek or existing agricultural dirt roads until it connects to Calle Joaquin.

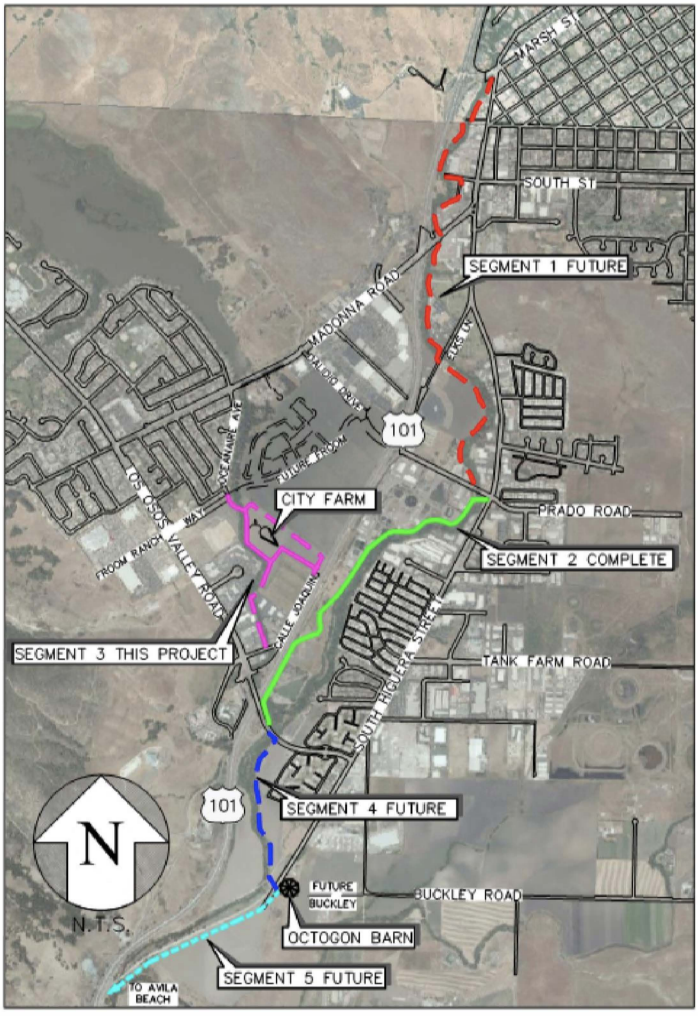


Figure 1: Bob Jones Trail City of San Luis Obispo Overview

Segment 1: Marsh Street to Prado Road
Segment 2: Prado Road to Los Osos Valley Road
Segment 3: Calle Joaquin to Oceanaire Ave/Froom Ranch Way
Segment 4: L.O.V.R. to South Higuera (City Octagon Barn Connection)
Segment 5: Octagon Barn to Avila Beach (County of San Luis Obispo)

1.2 Purpose and Scope

The goals of this project study report are to evaluate alignment alternatives, review constraints and opportunities, and select a preferred alignment for the extension of the Bob Jones Trail from Calle Joaquin to Oceanaire. The report also presents a concept design for the preferred alternative to further the "readiness" of this project to compete for grants funding for final design and construction, and help inform the environmental documentation of the project. An effort has been made to analyze how the trail alignment interfaces with potential future development in the area, which will include the extension of Froom Ranch Way over Prefumo Creek.

1.3 Project Study Area

The specific focus of this project study is from the southern end of Oceanaire Drive to Calle Joaquin. The proposed route starting from Oceanaire going south traverses through City-owned land and right-of-way dedicated by the Prefumo Creek Commons development. Once the trail crosses the creek to the east bank, the trail will be within the City-owned agricultural reserve. The agricultural reserve is adjacent to Prefumo Creek and the proposed San Luis Ranch development, which includes an agricultural reserve dedication directly adjacent to the existing reserve. The San Luis Ranch development project may include a construction access road along the east border of the City reserve which may ultimately be dedicated as an access easement for a shared agricultural access road for both parcels. It is also important to note that this area is entirely contained within the 100-year flood plain and it is not feasible to fill within the area because of impacts to the floodplain and historical drainage path. The alternatives for a connection to Calle Joaquin are discussed in detail later in this report, but Alternative 3 crosses back to the west side of Prefumo Creek to follow the creek corridor through four private properties.

1.4 Trail Goals and Objectives

The goal of Trail Segment 4 of the City of SLO portion of the Bob Jones Trail is to provide a safe and convenient bicycle and pedestrian connection between Calle Joaquin through the agricultural reserve to the residential and commercial developments adjacent to Prefumo Creek to the south of Madonna Road. The trail should integrate with adjacent developments and the City's Bicycle Master Plan. Environmental, cultural, biological, and agricultural impacts as well as construction costs should be minimized as much as possible to increase the likelihood for funding and feasibility of construction.

Some additional overall objectives for the Bob Jones City-to-Sea Trail are listed below from the Bob Jones City-To-Sea Trail Preliminary Alignment Plan, 2002.

Trail Alignment Objectives

- 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
- Avoid encroachment into the creek channel and riparian habitat where possible.
- Look for opportunities to support and enhance recreational users.
- Look for important connections - align trail with other bike routes, urban uses and residential areas.
- Avoid vehicle and pedestrian conflicts to the greatest extent possible.
- Minimize creek and drainage crossings.
- Look for good connections for law enforcement and maintenance access.
- Utilize signalized intersections at street crossings where possible.
- Align trail to allow for logical placement of staging areas.
- Avoid areas of extreme topography.
- Maintain consistency with the Bicycle Transportation Plan.

Trail Design Objectives

- Provide secure and controlled access for:
  - Police and Fire Support
  - Trail Maintenance
- Reduce potential for vandalism, theft and trespass.
- Provide for directional and safety signage.
- Provide security lighting at staging areas and road crossings.
- Locate staging areas at appropriate locations along trail that provide:
  - Restrooms
  - Telephone
  - Drinking water
  - Bike racks and lockers
  - Trash receptacles
  - Shelter / seating
  - Information kiosks
- Provide Informational Kiosks at major staging areas for:
  - Rules of trail use and hours of operation, directional signing ("you are here")
  - Location map for nearby services, significant information references, and mapping
- Provide interpretive exhibits at appropriate locations along the trail corridor for:
  - Environmental and historical information
- Incorporate consistent design character for all areas of the trail corridor.
- Choose appropriate landscape materials, such as local native plants, for all new landscape and enhancement areas.
- Provide for physical buffers between trail and adjacent uses or habitats.
- Use fences and/or other barriers:
  - As a separation between the trail and sensitive riparian habitat
  - As a separation from adjacent land uses

2 Design Standards

2.1 City of San Luis Obispo Standards

The Trail design should be consistent with the City of San Luis Obispo Standards for Class I Bikeways, which generally provides for a 12' wide solid surface trail with two-foot shoulders on each side

2.2 California HDM

The trail should follow design guidelines provided by the California Highway Design Manual.

2.3 National Association of City Transportation Officials (NACTO) Design Guidance

The City has adopted NACTO as a primary design guide for development of bicycle facilities. The trail should use best practices from this design guidance as possible.

2.4 City of San Luis Obispo 2013 Bicycle Transportation Plan

The City's Bike Plan provides general route and design guidelines; some importance design guidance that applies to this project include:

- Where a bikeway extends along a creek, a four-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.
- Bikeways that cross or border agricultural land shall be fenced and signed to discourage trespassing onto adjoining areas.

2.5 Bob Jones City-To-Sea Trail Preliminary Alignment Plan, 2002

The Bob Jones Trail Plan describes a scenic bike path along the creek corridors from the City of San Luis Obispo to Avila Beach. The plan designates the "Bob Jones" standard as a 12' wide asphalt Trail outside the creek setback (or an 8' wide Trail within the creek setback) with two-foot shoulders.

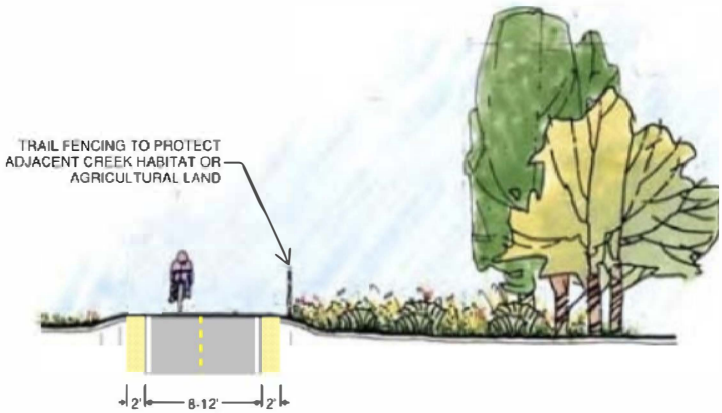
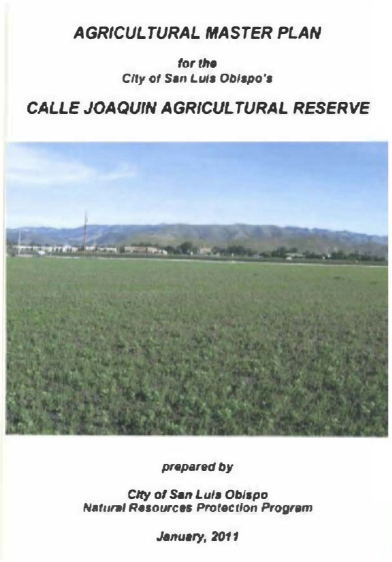


Figure 2: Bob Jones Trail Typical Section
Source: Adapted from Bob Jones City-To-Sea Preliminary Alignment Plan, 2002

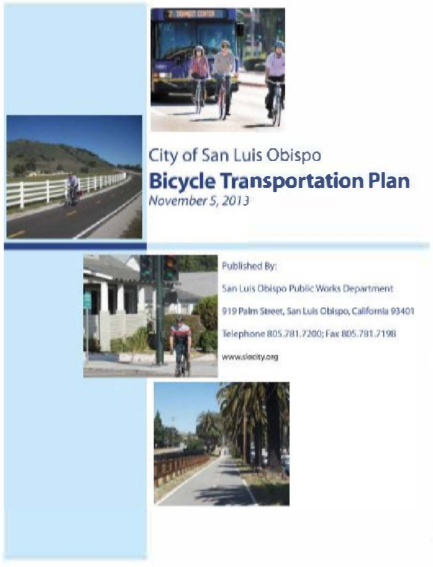
3 Existing Conditions, Opportunities and Constraints

3.1 Previous Studies

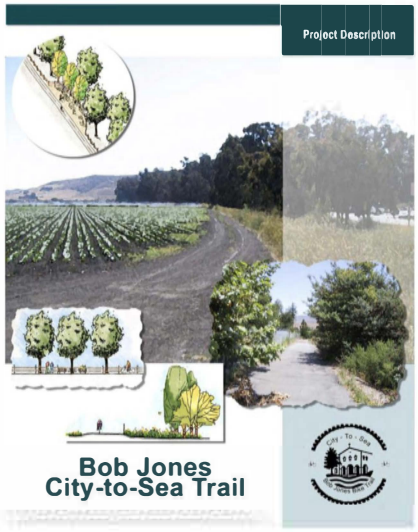
Previous studies for this project area include:



Agricultural Master Plan for the City of San Luis Obispo's Calle Joaquin Agricultural Reserve, 2011



City of San Luis Obispo Bicycle Transportation Plan, 2013



Bob Jones City-To-Sea Trail Preliminary Alignment Plan, 2002

Additional studies reviews for this project include:

- Environmental Impact Report for the San Luis Ranch Project, 2017

3.2 Land Use

Figure 3 shows the three trail alignment alternatives. Starting from the north end of the project, the trail begins at the south end of Oceanaire Drive, which services Low Density Residential to the North west of Prefumo Creek. The trail will cross City right-of-way dedicated for the extension of Froom Ranch Way and connect to City-owned property zoned for Conservation/Open Space dedicated as part of the

Prefumo Creek Commons commercial project to the west. This area is currently developed as a park and creek Open Space area. Once the trail crosses to the east of Prefumo Creek the Trail runs through City-owned property zoned for Conservation/Open Space bordered by Highway 101 to the east, Tourist Commercial to the South, Prefumo Creek to the East and residential/future Froom Ranch Right of Way to the North. Properties adjacent to the creek south of the City owned property area are zoned for commercial. At this time, the properties are mostly used for automotive sales, service, and associated businesses. The Bear Valley Center hosts a variety of commercial and retail services.

3.3 Agricultural Resources

A large portion of this trail will run through or adjacent to existing agricultural land. Agricultural operations in this area date back to approximately 1900. Most of this land is currently being cultivated for row crops. The soils where crops are currently planted are considered prime agricultural soils. The only constraint is that some soils may become unworkable in the wet season and the farm road on the eastern border of the City's agricultural reserve can become inaccessible with heavy rains. The Trail should be aligned to minimize impacts to cultivation and farming access.

The 25-acre existing Calle Joaquin Agricultural Reserve was dedicated to the City of San Luis Obispo as part of the preservation of agricultural land requirement when adjacent agricultural land was developed. With the development of the San Luis Ranch parcel, the agricultural reserve will more than double. The current plan for San Luis Ranch includes a shared farm access road to be constructed on the San Luis Ranch parcel for the benefit of the existing reserve and the reserve dedicated by that project. The Calle Joaquin Agricultural Reserve Master Plan includes provisions for the Bob Jones Trail along the creek corridor. Plans for the property are to lease 20 acres of cultivatable land to a nonprofit for production with plans for a light processing facility and an education center. Maintenance of the creek corridor, Bob Jones Trail, and other small areas will be maintained by the City. Since the master plan was developed, Central Coast Grown has secured a 20-year lease on the property and plans are developing as anticipated.

3.4 Biological Resources

Most of the alignment of the trail will run along the Prefumo Creek Corridor. In the vicinity of this project, Prefumo Creek is carrying water from Laguna Lake to San Luis Obispo Creek. Some man-made concrete structures, irrigation lines, storm drain outlets and other evidence of human management of this creek is present. Significant amounts of trash and evidence of human habitation within the creek corridor were observed during site visits for this project. It also appeared that stormwater runoff from some of the commercial properties on the south end of the project may be going directly into the creek. In a 2016 Biological Assessment Report for San Luis Ranch by Althouse and Meade Prefumo Creek's riparian corridor was described as "…dominated by arroyo willow but is invaded by non-native trees such as Canary Island date palm which have encroached from residential yards on the west side of the creek. The eastern creek bank is lined with mature blue gum eucalyptus. Prefumo Creek is an important connection between San Luis Obispo Creek and Laguna Lake. It is often seasonally dry, and water flow is subsurface during summer months."

In the Environmental Impact Report for San Luis Ranch, Rincon Environmental staff reported that the project site contains suitable habitat for sixteen special status animal species, but no special status plant species. The creek corridor is a potential habitat for some of the special status species, though none of these species were detected during the study. Other species, such as various birds and monarch butterflies identified within the report, are specific to grasslands and tree stands that are not within the bikeway project area. During the San Luis Ranch project study, as well as site visits for this project, standing pools of water were observed near the proposed bridge crossing of Froom Ranch Way. According to Althouse and Meade's report at the time they were observed in May 2016 the pools contained a sufficient amount of cover, protective canopy, and depth to support California red-legged frog breeding; and the California Natural Diversity Database (CNDDB) documents an occurrence of CRLF just north of the confluence of Prefumo Creek and San Luis Obispo Creek, approximately one-half mile downstream from the project site. In January 2018, the U.S. Fish and Wildlife Service stated that "San

Luis Ranch may affect but is unlikely to adversely affect the federally threatened California red-legged frog *(Rana draytonii)*."

The report also notes that Prefumo Creek is a federally-designated critical habitat for the south-central California Coast distinct population segment (DPS) steelhead. According to the 2011 Agricultural Master Plan for the San Joaquin Agricultural Reserve (Ag Plan), the water quality within the project vicinity is inferior and steelhead do not stay within this area; they only migrate through the area when the creek flows during the rainy season. In November 2017, the National Marine Fisheries Services stated that the San Luis Ranch Project would not have a direct effect to steelhead trout: "Because usable habitat for steelhead within the action area persists for only a few months during the wet season *(e.g.,* December through May) and no work would occur during this period or when water is present in the creek, no direct effects to steelhead are anticipated to occur from the proposed action."

The Prefumo Creek riparian zone (willow woodland vegetation) is considered Waters of the State on the banks, and Waters of the U.S. and the State below the ordinary high water mark in the channel and within adjacent wetlands that contain hydric soil, wetland vegetation, and exhibit wetland hydrology. Impacts to Waters of the State and outside of federal jurisdiction require authorization under the Porter Cologne Act and a Lake and Streambed Alteration Agreement under Fish and Game Code 1602.

Potential wetland habitat occurs on the east side of Prefumo Creek near the proposed bridge for Alignment 3. This habitat was identified in the Ag Plan as an area that is prone to flooding and would likely be a feature regulated as a Water of the State and Water of the U.S. (special aquatic site). This area is identified on *Figure 3*.

3.5 Cultural Resources

The alignment of this project is proposed to cross existing developed land, adjacent to a creek corridor, and through established agricultural land. There are no known major items of cultural or historical significance on the current City property. No disturbance to cultural resources is anticipated with this project, however areas within 150' of Prefumo Creek are considered sensitive archeological sites and so the City policy requires a Phase I Archeological Resources Inventory for permitting of construction within this area.

3.6 Trail Connection Opportunities

This section of the trail is a critical link in the City's Bob Jones City-to-Sea Trail which is intended to connect the west end of the downtown San Luis Obispo to the southwest corner of the city limits with connection to the County portion of the trail beyond, ultimately connecting to Avila Beach. This section is intended to connect the Laguna Lake (Oceanaire) residential neighborhood through the retail commercial area south of Froom Ranch Road to Calle Joaquin with a connection to the future extension of Froom Ranch Way East of Prefumo Creek. The Class I path will end at Calle Joaquin and the bikeway will continue via surface streets to another Class I connection planned to the Octagon Barn, which is the City's southernmost portion of the trail. Proposed development (San Luis Ranch) to the north east of the trail will provide a Class I connection to Madonna Road and ultimately a better connection to downtown San Luis Obispo. The proposed development will have a direct link to this section of the Bob Jones Trail at the proposed Froom Ranch Way bridge crossing.

3.7 Right of Way Constraints

Alignments 1 and 2 are contained within city property and right-of-way. Alignment 1 is proposed to run along the eastern border of the existing city-owned agricultural reserve. In this area there is a 10' PG&E pole line and Public Utility Easement that may restrict how close the path can be to the property line, which may push the bike path into the cultivatable land and cause an impact to the existing lease on the property. Alignment 2 will run adjacent to an existing landscape easement in favor of the adjacent commercial properties along Calle Joaquin.

Alignment 3 passes through five separate private properties. There is an existing drainage and Public Utility Easement that is 90' wide centered on the creek through these properties, so some of the

development is set back far enough to provide space for a trail between the developed facilities and the creek. However, there will be some impacts to existing facilities adjacent to the creek and easements will need to be obtained. Alternative 3 reaches Calle Joaquin on the inside of a roadway curve, and a safe connection will be needed to the intersection of Los Osos Valley Road. This connection can be contained within existing City right-of-way, but it may require relocation and reconstruction of some existing facilities.

4 User Needs

4.1 Bicycle and Walking Experience

According to a bicycle user survey conducted by the San Luis Obispo Council of Governments (SLOCOG), 64.5% of residents would use a bicycle more if there were more low-stress bicycle facilities that provide more separation from cars or lower traffic speeds. Each of the alternatives feature Class I multiuse paths where motor vehicle use would be prohibited. Also, by prohibiting motor vehicle use, each alternative provides separation from motor vehicle traffic and reduced traffic noise to the benefit of the walking experience.

4.2 Facilities, Activity Nodes and Destinations

This segment of the Bob Jones Trail serves a few different destinations including: three schools in the Laguna Lake area, commercial areas along Los Osos Valley Road and Madonna Road, the City Farm and education center on the agricultural reserve, and the Octagon Barn on South Higuera. The trail will be portion of a connection for residents from the east side of Highway 101 to businesses and schools on the west side and vice versa. For example, a student who lives in the Los Ranchos development may use the path along their way to C.L. Smith Elementary school. The trail could also be used by residents and workers from future development along the southern end of Calle Joaquin to access the Madonna Plaza, and someday destinations east of Highway 101 via the Prado Road Overpass. The path will help connect users to the City Farm, the Octagon Barn, and ultimately to Avila Beach via the County of San Luis Obispo's portion of the trail system.

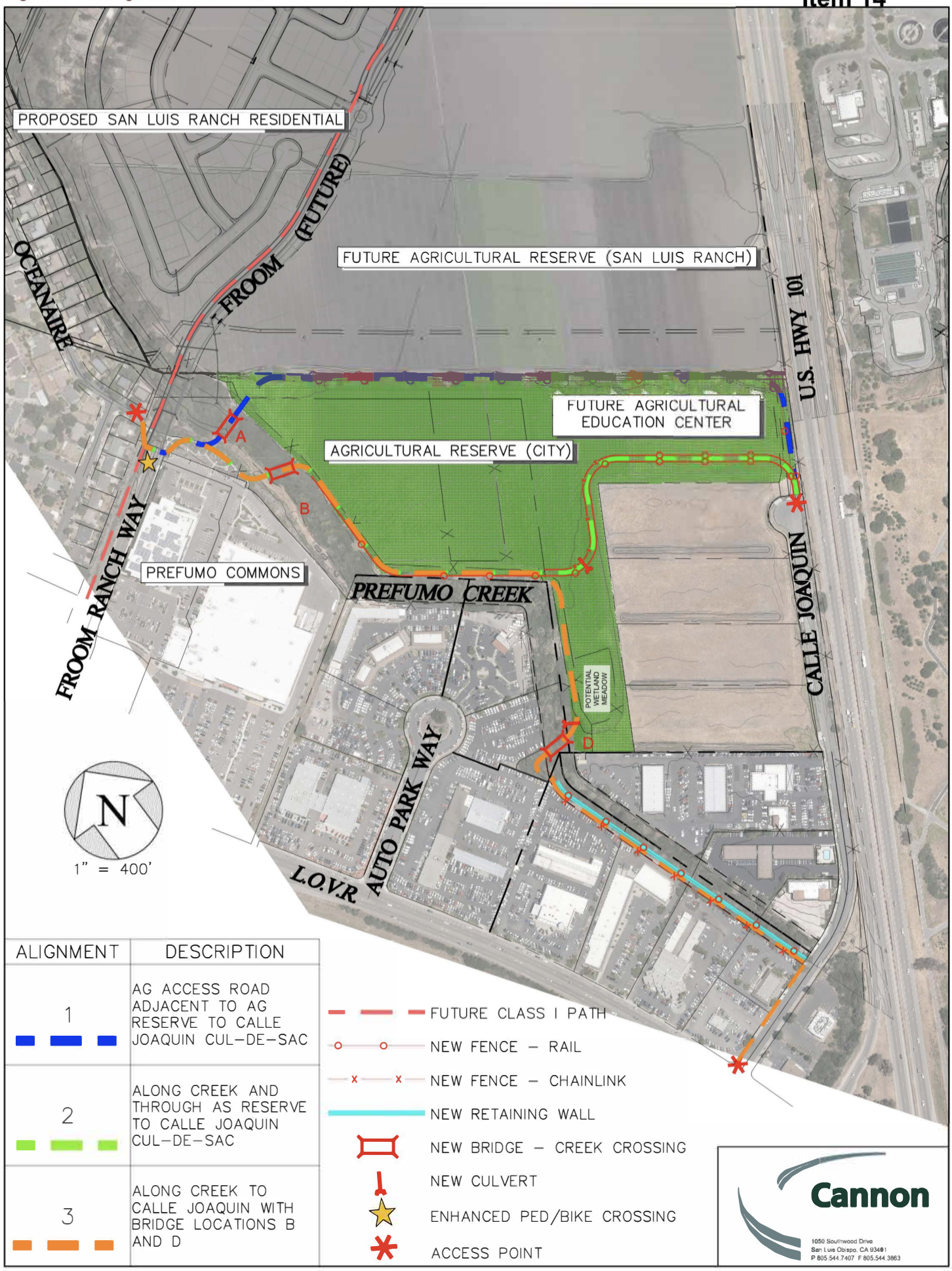
5 Analysis of Trail Alternatives

This section presents the alignments that were reviewed as a part of this analysis and the pros and cons of each of those alternatives. See *Figure 3* for the Trail alternatives.

5.1 Trail Alternatives

The alternatives presented here stemmed out of the two design documents, the City's 2013 Bicycle Transportation Plan and the Agricultural Master Plan for the Calle Joaquin Agricultural Reserve. Some potential new alignments became apparent upon preliminary review of the two published alternatives. All alternatives begin on the northern end at an existing connection to Oceanaire Drive. From here the Trail proceeds south across a proposed extension of Froom Ranch Way and through existing recreation facilities adjacent to the Prefumo Creek Commons development to a creek crossing location. The crossing location and the extension of the trail to Calle Joaquin has three main alternatives presented below. See *Table 2* for a matrix review of the alternatives. The alternatives within this report will be presented for public outreach and review by appropriate advisory bodies to help select the best one.

Figure 3: Trail Alignment Alternatives



5.1.1 Alternative 1: Trail Along Agricultural Access Road

This alignment was indicated in the City's 2013 Bicycle Transportation Plan. On the east side of Prefumo Creek the path follows an existing agricultural access road south-east on the north-eastern border of the Calle Joaquin Agricultural Reserve toward the north end of Calle Joaquin.

This alignment provides a fairly direct, flat and scenic route with one creek crossing. There appears to be adequate width to meet design recommendations for a 12' wide path. This route runs between two agricultural fields which may have more impact to agricultural operations and cause more exposure for the users of the path to agricultural equipment. The route likely has the least impact to the creek corridor, but it does not benefit from the shade of the trees along the creek. Some users may prefer to ride closer to the natural edge of the creek. The end of this path takes users right past the City Farm and provides good connectivity to that site, however the Trail does not align with the preliminary plans for developing the City Farm facilities. The Trail would run parallel to the eastern property line of the existing city agricultural reserve. There is an existing PG&E pole line and Public Utility Easement that spans this property line, so the trail may be pushed into agricultural operations in the existing leased property.

Alternative 1 would minimize impacts to riparian vegetation with a perpendicular crossing near the proposed Froom Ranch Way Bridge. State agency authorization for the bridge and approach ramps would be required from the California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB).

5.1.2 Alternative 2: Trail along Creek

This alignment is indicated in the Agricultural Master Plan for the Calle Joaquin Agricultural Reserve (Ag Plan). The path follows the same general alignment as Alternative 1 on the west side of Prefumo Creek at the Prefumo Commons, but it continues south to a creek crossing shown in the Agricultural Master Plan. From the bridge the path follows the creek south along the border of the riparian zone from the bridge crossing to the edge of the City's property. Alternative 2 would be placed on the edge of approximately 1100 feet of riparian habitat and would avoid permanent impacts to most of the riparian habitat. From the south side of City Farm, the path shown on the Ag Plan continues to generally follow the border of the property all the way to the cul-de-sac at the north end of Calle Joaquin.

This trail also provides a relatively flat and pleasant user experience with one creek crossing. This alignment also appears to provide adequate width to meet design recommendations for a 12' wide path, though as the design is developed there may be more challenges to providing a wide flat path adjacent to the creek bank. This option utilizes more of the existing recreation facilities adjacent to the Prefumo Creek Commons project, but it also requires more modification of the existing trail to provide adequate width for the trail. This trail is a little less direct, however the trail is consistent with the vision for the Bob Jones trail under the shade and along the creek corridor. To provide the most direct route possible and prevent shortcutting some agricultural land will be split by the path near the end. The existing operations of the City Farm and agricultural lease have provided for this alignment with a 20' buffer from the edge of agricultural operations to the edge of the creek riparian habitat and the trail will provide good access for the City Farm. State agency authorization would be required for biological impacts such as pruning to the edge of riparian for installation of the bike path (without removing riparian vegetation) and installation of the creek crossing at bridge site B.

5.1.3 Alternative 3: Trail along Creek all the way to Calle Joaquin

Alignment 3 follows the Alternative 2 toward the City Farm and diverges where Alternative 2 heads away from the creek and Alternative 3 continues along the creek corridor. As this alignment was developed it was determined that the west creek bank provided the most room for the trail. There is an existing drainage and Public Utility Easement that is 90' wide centered on the creek through these properties, so most of the development is setback far enough to provide space for a trail between the developed Not likely

facilities and the creek. However, there will be some impacts to existing facilities adjacent to the creek and easements will need to be obtained. The path crosses back over the creek where it follows the creek corridor out to Calle Joaquin through private property. Alternative 3 would be placed in or on the edge of approximately 2750 feet of riparian habitat. Along Calle Joaquin there is a potential to provide a trail out to Los Osos Valley Road by widening the sidewalk or possibly by providing a two-way cycle track.

This alternative provides the most direct and possibly the most pleasant user experience along the creek corridor. However, this alignment would require two creek crossings and the path would likely need to be narrowed to 8' to minimize impacts to the creek and adjacent properties. The City does not currently own the right-of-way for this entire trail and easements would be needed through five separate private properties. The trail could provide a potential benefit to adjacent property owners with fencing and lighting enhancements. There may also be the potential to reduce creek pollution by providing a buffer between adjacent properties and the creek bank. This trail is the most expensive of the three alternatives and it would also have the most impact to the creek and adjacent properties.

NO BRIDGES NECESSARY

5.2 Analysis of Existing Bridge Structure and Condition

The City currently has a bridge in storage that may be useful for this project. The bridge is in two pieces that are approximately 50' long each, together they could span 100'. The crossing proposed for Alternatives 2 and 3 may be able to use this bridge, however the cost associated with designing and constructing connections and abutments for this bridge versus a new bridge have not been evaluated at this time.

5.3 Cost Analysis

A preliminary costs analysis was completed for the three alternatives. The costs estimates are based loosely on the preliminary alignment length, bridge crossings, and preliminary design needs. Maintenance and right-of-way acquisition were not included in the estimates. See *Tables 3-6* for cost estimates for each alternative.

Table 1: Summary of Cost Comparison

	TOTAL TRAIL LENGTH (ft)	TOTAL COST
ALIGNMENT 1 - ALONG AG SERVICE ROAD WITH BRIDGE LOCATION A	4,480	$2,911,500
ALIGNMENT 2 - ALONG CREEK WITH BRIDGE LOCATION B	4,670	$2,270,000
ALIGNMENT 3 - ALONG CREEK TO CALLE JOAQUIN WITH BRIDGES A & B	3,320	$4,137,300

Note: See following pages for assumptions and exclusions

Table 2: Alignment Alternatives Matrix

Consideration		1 Agricultural Access Road adjacent to Ag Reserve to Calle Joaquin Cul-de-Sac	2 Along creek and through Ag Reserve to Calle Joaquin Cul-de-sac	3 Along creek to Calle Joaquin Bridges B & D
Pathway User Experience		• Moderate-High user experience: scenic, flat, straight, downside may be no shade • Good access and exposure to City Farm & Ag Center	• Moderate-High user experience: scenic, relatively flat, shaded, potential for bird watching and Creekside recreation • Good access and exposure to City Farm & Ag Center • DESIGN OPTION: Design shown slight modification from Ag Plan to prevent shortcutting • DESIGN OPTION: With Bridge at Location B, promotes use of previously installed improvements	• Moderate-High user experience: scenic, relatively flat, shaded, potential for bird watching and Creekside recreation • Appears to be most direct with potential for the longest separated low-stress path • DESIGN OPTION: Less exposure to Ag Center, but there may be an option to put a trail spur in
Pathway User Safety and Connectivity		• Moderate-High safety: good visibility • Potential exposure to agricultural sprays and agricultural equipment • High/Good connectivity on both ends	• Moderate-High safety: perception of safety may be decreased with narrow corridor in an area with high transient traffic; however, increased access for police patrol and increased number of users may reduce the transient use and may increase the overall safety of the creek corridor • Potential exposure to agricultural sprays, but separated from agricultural equipment • High/Good connectivity on both ends	• Moderate-High safety: perception of safety may be decreased with narrow corridor in an area with high transient traffic; however, increased access for police patrol and increased number of users may reduce the transient use and may increase the overall safety of the creek corridor • Potential exposure to agricultural sprays, but separated from agricultural equipment • Most direct connection
Potential Impact to Biological and Cultural Resources		• Minimal impacts to riparian habitat at creek	• Moderate potential for riparian habitat impact • Potential for CDFW to require maintenance permit with mitigation to prune riparian vegetation along the corridor. City could amend its existing LSAA for this purpose. • DESIGN OPTION: Depending on bridge location, may be able to minimize impact by avoiding mature stands of riparian trees	• High potential for riparian habitat impact • Potential for CDFW to require maintenance permit with mitigation to prune riparian vegetation along the riparian corridor • Jurisdictional agencies will likely not support two crossings over one
Potential Impact on Agricultural Resources and Operations		• Low-Moderate impact to useable agricultural land, some impact at bridge • Moderate potential impact to operations if route is needed for ag equipment. Creates a separation between two ag parcels. • Moderate potential impacts from off-leash animals	• Low-Moderate impact to usable agricultural land: 20' buffer has been set between cultivation and creek • Low-moderate impact to agricultural operations: some impact at bridge entrance • DESIGN OPTION: With shortcut there is the potential to cut off a portion of cultivatable land (not currently used)	• Low-Moderate impact to usable agricultural land: 20' buffer has been set between cultivation and creek • Low-moderate impact to agricultural operations: some impact at bridge entrance
Ease of Implementation		• Moderate-minimal difficulty • All City-owned land • Requires coordination with Ag Lease and agricultural equipment routing • DESIGN OPTION: Potential for coordination with San Luis Ranch grading access road and connection to development • DESIGN OPTION: Potential to use Sanitary Sewer Easement on SLR property to gain access for the City to manholes	• Moderate difficulty • All City-owned land • Requires more coordination with jurisdictional agencies (runs adjacent to more jurisdictional boundary) • Topography may be slightly more difficult to design a path through (curves and dips next to creek)	• Highest Difficulty • Requires lease or land acquisition from 5 property owners • Utility and Signage Relocation on sidewalk along Calle Joaquin
Environmental Permitting[1]	USACE CWA Section 404	Not Required	Not Required	Required if fill proposed in federal wetland feature
	USFWS	Consultation not required. "Take" of listed species (e.g. California Red-legged Frog not authorized). Avoidance required.	Consultation not required. "Take" of listed species (e.g. California Red-legged Frog not authorized). Avoidance required.	If a 404 permit is required, ESA consultation with USFWS will be requested by USACE
	NMFS	Consultation not required. "Take" of listed species (e.g. South-Central California Steelhead Distinct Population Segment not authorized). Avoidance required.	Consultation not required. "Take" of listed species (e.g. South-Central California Steelhead Distinct Population Segment not authorized). Avoidance required.	If a 404 permit is required, ESA consultation with NMFS will be requested by USACE
	RWQCB CWA Section 401	Not required	Not required	Required if fill proposed in federal wetland feature
	RWQCB NPDES Permit	Required for impacts to riparian zone	Required for impacts to riparian zone	Not required if a 401 is needed. An individual WDR would be applied for, not the streamline version, if more than 300 linear feet of riparian habitat is permanently impacted.

Table 2: Alignment Alternatives Matrix, Contd

Consideration		1 Agricultural Access Road adjacent to Ag Reserve to Calle Joaquin Cul-de-Sac	2 Along creek and through Ag Reserve to Calle Joaquin Cul-de-sac	3 Along creek to Calle Joaquin Bridges B & D
Environmental Permitting, Contd.	CDFW	Required for impacts to riparian zone	Required for impacts to riparian zone	Required for impacts to riparian zone and Waters of the State (e.g. federal/state wetland feature)
	Permit Timing	4 to 6 months (allow for approximately 45 days after CEQA document complete). The RWQCB strongly recommends that applicant makes initial telephone or personal contact with RWQCB regulatory staff to discuss a proposed new discharge before submitting application.	(Same as Alternative 1)	1.5 years if more than 400 linear feet of riparian zone impacted and a USACE 404 permit not required (allows for minimum of one hearing in front of the Water Board). If 404 required, allow approximately 6 to 12 months for a standard 404 and 401 plus LSAA. Provide alternatives analysis to demonstrate how this project is the least damaging project alternative. Compensatory mitigation for impacts to Waters of the U.S. would be required, and a conservation easement placed over the mitigation area.
	Partial List of Documents Required	Jurisdictional delineation of state and federal features, biological report that covers state and federally protected species, hydrologic analysis (for bridge crossings and any proposed fill on floodplain), and wetland/riparian mitigation and monitoring plan.	(Same as Alternative 2 with a compelling reason for impacts to riparian zone that are larger than Alternative 1).	Jurisdictional delineation of state and federal features, biological assessment with an effects analysis for federally listed species (for federal agencies) and biological report that covers state and federally protected species (for state agencies), hydrologic analysis (for bridge crossings and any proposed fill on floodplain), biological report that covers state and federally protected species (for state agencies), hydrologic analysis, cultural resources study, and wetland/riparian mitigation and monitoring plan.
Length of Trail (off road)		CLASS I: 2,560 LF CLASS II 1,200 LF (On Calle Joaquin, not in cost) CLASS III: 720 LF (On Calle Joaquin, not in cost) TOTAL: 4,480 LF	CLASS I: 2,750 LF CLASS II 1,200 LF (On Calle Joaquin, not in cost) CLASS III: 720 LF (On Calle Joaquin, not in cost) TOTAL: 4,670	CLASS I: 3,320 LF CLASS I/CLASS IV: 400 LF (On Calle Joaquin) TOTAL: 3,720 LF
Cost *Excludes Permitting and acquisition		$2,911,500 • BASELINE	$2,270,200 • BASELINE • DESIGN OPTION: Bridge location B may require demo of existing facilities on the west side of the creek to bring up to Class I standards	$4,137,300 • Addition of one bridge • Increased construction costs with retaining walls and constraints • Longest total path length • Additional cost for potential sidewalk or street reconfigure
Maintenance		• Moderate maintenance needed with potential crossing by agricultural equipment	• Moderate-Minimal maintenance, CDFW may require pruning mitigation	• Moderate-Minimal maintenance, CDFW may require pruning mitigation • Longer length for maintenance and pruning

1. Environmental Permitting Notes

USACE	US Army Corps of Engineers - Clean Water Act Section 404 (Nationwide Permit 14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation)
USFWS	US Fish and Wildlife Service - Endangered Species Act (ESA) Section 7 (or Section 10 if a federal permit nexus is not used)
NMFS	National Marine Fisheries Service - Endangered Species Act Section 7 (or Section 10 if a federal permit nexus is not used)
RWQCB	Regional Water Quality Control Board - Clean Water Act Section 401 (Water Quality Certification required to authorize federal 404 permit)
RWQCB	Regional Water Quality Control Board - NPDES Waste Discharge Requirement (WDR for STATE WATER RESOURCES CONTROL BOARD WATER QUALITY ORDER NO. 2004-0004-DWQ).
CDFW	California Department of Fish and Wildlife - Lake and Streambed Alteration Agreement (Fish and Game Code 1602)

Table 3: Alignment Alternatives Cost Comparison

OPINION OF PROBABLE LAND DEVELOPMENT COSTS				Sheet 1 of 4
PROJECT:	**Bob Jones Trail - Prefumo Creek to Calle Joaquin**	PROJ. NO.:	**170211**	Cannon
PHASE:	**ALIGNMENT ALTERNATIVES**	EST./CHK.:	**EL/CO**	
CLIENT:	**City of San Luis Obispo**	DATE:	**11/6/2018**	
DESCRIPTION:	**Alternatives Comparison**			

	TRAIL LENGTH (ft)	TOTAL COST
ALIGNMENT 1 - ALONG AG SERVICE ROAD WITH BRIDGE LOCATION A	**4,490**	**$2,911,500**
ALIGNMENT 2 - ALONG CREEK WITH BRIDGE LOCATION B	**4,670**	**$2,270,200**
ALIGNMENT 3 - ALONG CREEK TO CALLE JOAQUIN WITH BRIDGES A & B	**3,320**	**$4,137,300**

ASSUMPTIONS AND EXCLUSIONS

1. Based on SLO County Unit Costs and Bob Jones Pathway Octagon Barn Connection Study as applicable.
2. County unit costs have been escalated to 2017 Caltrans Cost Index as currently used by City of San Luis Obispo. Escalation between 2011 costs and 2017 is 1.73. Escalation between 2013 Bob Jones Trail Study to 2018 is 1.22.
3. Costs not included: Right of Way acquisition, maintenance, permits, environmental mitigation, site furniture, bike racks, etc.

THIS OPINION OF PROBABLE CONSTRUCTION COST HAS BEEN PREPARED USING STANDARD ENGINEERING ESTIMATE PROCEDURES AND IS BASED ON PLANS AND DOCUMENTS 10/4/2018. CANNON HAS NO CONTROL OVER ACTUAL CONTRACTOR COSTS, BIDDING, OR MARKET CONDITIONS.

Table 4: Alignment 1 Cost Estimate

OPINION OF PROBABLE LAND DEVELOPMENT COSTS				Sheet 2 of 4	
PROJECT:	**Bob Jones Trail - Prefumo Creek to Calle Joaquin**	PROJ. NO.:	**170211**	Cannon	
PHASE:	**ALIGNMENT ALTERNATIVES**	EST./CHK.:	**EL/CO**		
CLIENT:	**City of San Luis Obispo**	DATE:	**11/6/2018**		
ALIGNMENT 1 - ALONG AG SERVICE ROAD WITH BRIDGE LOCATION A			**CLASS I PATH LENGTH (LF)**		**2,570**
			CLASS II/III PATH LENGTH(LF)		**1,920**
DESCRIPTION:	**Site Preparation**	QUANTITY	UNIT	UNIT COST	TOTAL
	Mobilization Level 1	1	LS	$3,700.00	$ 3,700
	Clearing and Grubbing	41,200	SF	$0.03	$ 2,000
	Excavation	2,100	CY	$22.00	$ 46,200
				SUBTOTAL	**$ 51,900**
DESCRIPTION:	**SLO CITY CLASS I BIKEWAY (7040)**	QUANTITY	UNIT	UNIT COST	TOTAL
	4" AC	30,900	SF	$6.40	$197,800
	12" Class II base (under pavement)	30,900	SF	$4.32	$133,700
	16" Class II Base Shoulder	7,710	SF	$5.36	$41,400
	Flush Curb	5,200	LF	$27.68	$144,000
	13' Wide Geogrid	2,800	SF	$1.73	$4,900
	Chain Link Fence	0	LF	$35.00	$0
	42" Rail Fence	3,700	LF	$11.00	$40,700
	Striping (City 7040, 3 stripes)	7,710	LF	$2.08	$16,100
				SUBTOTAL	**$578,600**
DESCRIPTION:	**TRAFFIC CONTROL**	QUANTITY	UNIT	UNIT COST	TOTAL
	Signage (City 7210) - 1 at each end of trail	2	EA	$730.00	$1,500
	Enhanced Crossing with HAWK system and crosswalk at grade	1	LS	$158,000	$158,000
	Construction Signage	1	LS	$12,200	$12,200
				SUBTOTAL	**$171,700**
DESCRIPTION:	**MISC**	QUANTITY	UNIT	UNIT COST	TOTAL
	Bridge A	100	LF	$7,000.00	$700,000
	Culvert (3 x 18" Pipe)	0	LF	$103.79	$0
	Retaining Walls (3' tall)	0	SF	$28.00	$0
	Lighting (City 7905)	2	EA	$3,000	$6,000
	Reestablish Access Road (20' MIN width, 22" Base)	40,000	SF	$7.78	$311,357
				SUBTOTAL	**$1,017,357**
	TOTAL:				**$ 1,819,600**
				Construction Contingency (25%)	$ 454,900
				Survey and Design (10%)	$ 182,000
				Environmental Permitting (10%)	$ 182,000
				CM and Administration (15%)	$ 273,000
				Total Cost	**$ 2,911,500**

THIS OPINION OF PROBABLE CONSTRUCTION COST HAS BEEN PREPARED USING STANDARD ENGINEERING ESTIMATE PROCEDURES AND IS BASED ON PLANS AND DOCUMENTS 10/4/2018. CANNON HAS NO CONTROL OVER ACTUAL CONTRACTOR COSTS, BIDDING, OR MARKET CONDITIONS.

Table 5: Alignment 2 Cost Estimate

OPINION OF PROBABLE LAND DEVELOPMENT COSTS				Sheet 3 of 4	
PROJECT:	**Bob Jones Trail - Prefumo Creek to Calle Joaquin**	PROJ. NO.:	**170211**	Cannon	
PHASE:	**ALIGNMENT ALTERNATIVES**	EST./CHK.:	**EL/CO**		
CLIENT:	**City of San Luis Obispo**	DATE:	**11/6/2018**		
ALIGNMENT 2 - ALONG CREEK WITH BRIDGE LOCATION B				**CLASS I PATH LENGTH (LF)**	**2,750**
				CLASS II/III PATH LENGTH(LF)	**1,920**
DESCRIPTION:	**Site Preparation**	QUANTITY	UNIT	UNIT COST	TOTAL
	Mobilization Level 1	1	LS	$3,700.00	$ 3,700
	Clearing and Grubbing	44,000	SF	$0.03	$ 2,000
	Excavation	2,200	CY	$22.00	$ 48,400
				SUBTOTAL	**$ 54,100**
DESCRIPTION:	**SLO CITY CLASS I BIKEWAY (7040)**	QUANTITY	UNIT	UNIT COST	TOTAL
	4" AC	33,000	SF	$6.40	$211,300
	12" Class II base (under pavement)	33,000	SF	$4.32	$142,800
	16" Class II Base Shoulder	8,300	SF	$5.36	$44,600
	Flush Curb	5,500	LF	$27.68	$152,300
	13' Wide Geogrid	3,000	SF	$1.73	$5,200
	Chain Link Fence	530	LF	$35.00	$18,600
	Split Rail Fence	2,600	LF	$11.00	$28,600
	Striping (City 7040)	8,300	LF	$2.08	$17,300
				SUBTOTAL	**$ 620,700**
DESCRIPTION:	**TRAFFIC CONTROL**	QUANTITY	UNIT	UNIT COST	TOTAL
	Signage (City 7210) - 1 at each end of trail	2	EA	$730.00	$1,500
	Enhanced Crossing with HAWK system and crosswalk at grade	1	LS	$158,000	$158,000
	Construction Signage	1	LS	$12,200	$12,200
				SUBTOTAL	**$ 171,700**
DESCRIPTION:	**MISC**	QUANTITY	UNIT	UNIT COST	TOTAL
	Bridge B	80	LF	$7,000.00	$560,000
	Culvert (3 x 18" Pipe)	60	LF	$103.79	$6,227
	Retaining Walls (3' tall)	0	SF	$28.00	$0
	Lighting (City 7905)	2	EA	$3,000	$6,000
				SUBTOTAL	**$ 572,227**
	TOTAL:				**$ 1,418,800**
				Construction Contingency (25%)	$ 354,700
				Survey and Design (10%)	$ 141,900
				Environmental Permitting (10%)	$ 141,900
				CM and Administration (15%)	$ 212,900
				Total Cost	**$ 2,270,200**

THIS OPINION OF PROBABLE CONSTRUCTION COST HAS BEEN PREPARED USING STANDARD ENGINEERING ESTIMATE PROCEDURES AND IS BASED ON PLANS AND DOCUMENTS 10/4/2018. CANNON HAS NO CONTROL OVER ACTUAL CONTRACTOR COSTS, BIDDING, OR MARKET CONDITIONS.

Table 6: Alignment 3 Cost Estimate

OPINION OF PROBABLE LAND DEVELOPMENT COSTS				Sheet 4 of 4	
PROJECT:	**Bob Jones Trail - Prefumo Creek to Calle Joaquin**	PROJ. NO.:	**170211**	Cannon	
PHASE:	**ALIGNMENT ALTERNATIVES**	EST./CHK.:	**EL/CO**		
CLIENT:	**City of San Luis Obispo**	DATE:	**11/6/2018**		
ALIGNMENT 3 - ALONG CREEK TO CALLE JOAQUIN WITH BRIDGES A & B			**CLASS I PATH LENGTH (LF)**		**3,320**
DESCRIPTION:	**Site Preparation**	QUANTITY	UNIT	UNIT COST	TOTAL
	Mobilization Level 2 (includes streetside construction	1	LS	$4,900.00	$ 4,900
	Clearing and Grubbing	53,200	SF	$0.03	$ 2,000
	Excavation	2,700	CY	$22.00	$ 59,400
				SUBTOTAL	**$ 66,300**
DESCRIPTION:	**SLO CITY CLASS I BIKEWAY (7040)**	QUANTITY	UNIT	UNIT COST	TOTAL
	4" AC	39,900	SF	$6.40	$255,400
	12" Class II base (under pavement)	39,900	SF	$4.32	$172,600
	16" Class II Base Shoulder	10,000	SF	$5.36	$53,700
	Flush Curb	6,700	LF	$27.68	$185,500
	14' Wide Geogrid	3,900	SF	$1.73	$6,800
	Chain Link Fence	990	LF	$35.00	$34,700
	Split Rail Fence	2,000	LF	$11.00	$22,000
	Striping (City 7040, 3 stripes)	10,000	LF	$2.08	$20,800
				SUBTOTAL	**$ 751,500**
DESCRIPTION:	**TRAFFIC CONTROL**	QUANTITY	UNIT	UNIT COST	TOTAL
	Signage (City 7210) - 1 at each end of trail	2	EA	$730.00	$1,500
	Enhanced Crossing with HAWK system and crosswalk at grade	1	LS	$158,000	$158,000
	Construction Signage	1	LS	$12,200	$12,200
				SUBTOTAL	**$171,700**
DESCRIPTION:	**MISC**	QUANTITY	UNIT	UNIT COST	TOTAL
	Bridge B	80	LF	$7,000.00	$560,000
	Bridge C	100	LF	$7,000.00	$700,000
	Culvert (3 x 18" Pipe)	60	LF	$103.79	$6,300
	Retaining Walls (3' tall)	980	SF	$28.00	$27,500
	Lighting (City 7905)	2	EA	$3,000	$6,000
				SUBTOTAL	**$1,299,800**
DESCRIPTION:	**MULTI-USE PATH ALONG CALLE JOAQUIN**	QUANTITY	UNIT	UNIT COST	TOTAL
	Path Length	400	LF		
	Demo C&G	400	LF	$17.30	$7,000
	Demo Street	40	CY	$86.49	$3,500
	Driveway Approaches	384	SF	$15.57	$6,000
	Sidewalk (5')	2000	SF	$17.30	$34,600
	Stamped Concrete (2.5')	1000	SF	$25.95	$26,000
	Curb and Gutter	400	LF	$38.05	$15,300
	Relocate Utilities	1	LS	$100,000	$100,000
	New ADA Ramp	1	LS	$3,000	$3,000
	Striping (1 CL Stripe)	400	LF	$2.08	$1,000
	Signal Modification	1	LS	$100,000	$100,000
				SUBTOTAL	**$296,400**
	TOTAL:				**$ 2,585,700**
				Construction Contingency (25%)	$ 646,500
				Survey and Design (10%)	$ 258,600
				Environmental Permitting (10%)	$ 258,600
				CM and Administration (15%)	$ 387,900
				Total Cost	**$ 4,137,300**

THIS OPINION OF PROBABLE CONSTRUCTION COST HAS BEEN PREPARED USING STANDARD ENGINEERING ESTIMATE PROCEDURES AND IS BASED ON PLANS AND DOCUMENTS 10/4/2018. CANNON HAS NO CONTROL OVER ACTUAL CONTRACTOR COSTS, BIDDING, OR MARKET CONDITIONS.

6 Alignment Selection

6.1 Advisory Body Input and Community Input

Advisory body and community input will be engaged as this report is circulated.

7 Preferred Alignment

The preferred alignment should be chosen based on input from the consultants collaborating on this report, advisory body input, and community input. Only consultant recommendations are included at this time.

7.1 Consultant Recommendations

Alignment 2 appears to be the best option; Alignment 2 best balances user experience with impacts to agricultural and biological resources with the cost and ease of implementation. The trail along the creek will be shady with a pleasant nature-rich feel, which matches the original intent of the Bob Jones trail to provide a recreational connection between San Luis Obispo and Avila Beach via the drainage channel. The trail will provide better access to the creek for monitoring overgrowth, and according to some law enforcement officers, routes like this provide better “eyes on the creek” to report and prevent illegal activity. The route is already accommodated within the current lease on the city’s agricultural reserve and will provide good access to the City Farm and education center. This route has less of a potential for conflicts with farming equipment and less of an impact to cultivatable land than Alternative 1. The alignment with bridge location B leaves open the possibility of using the bridge the city currently has in storage.

Regarding using experience, none of the routes stood far above the rest in this analysis and any of the routes has the potential to create a great connection. Although Alignment 3 arguably provides the best user experience and most direct route, the implementation would be very difficult and costly. The cost could be double that of other routes.

Regarding biological impacts and permit costs, the clear leader is Alignment 1, with Alignment 2 close behind. Permit timing would require four to six months for the first two alternatives. Alignment 3 would significantly impact the Prefumo Creek riparian corridor on the west side of the creek and permitting would likely take over 1.5 years.

8 Next Steps

This report will be brought to the appropriate City advisory bodies to help select the best alternative. Once the alternative is selected, design drawings, environmental review, and any permitting and acquisitions can begin.

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Bob Jones Trail

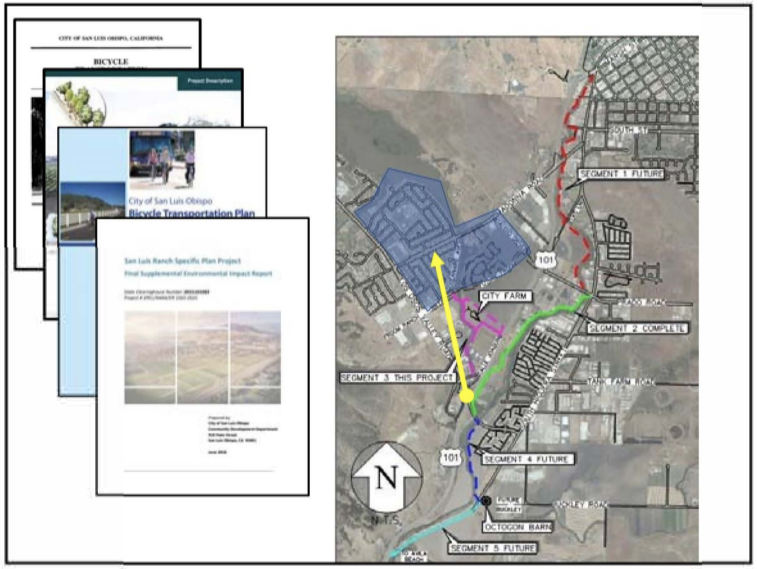
Calle Joaquin to Oceanaire Connection

City Council Study Session
December 4, 2018

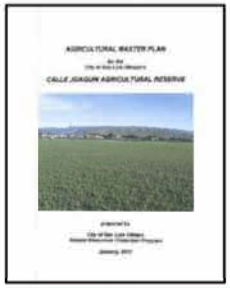
Jake Hudson
Transportation Manager

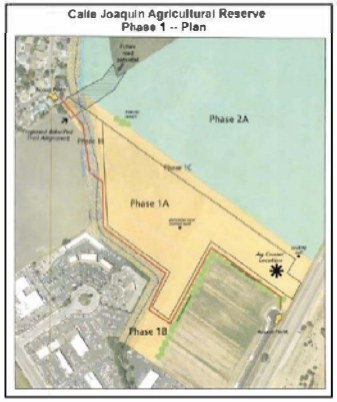
Adam Fukushima
Active Transportation Manager

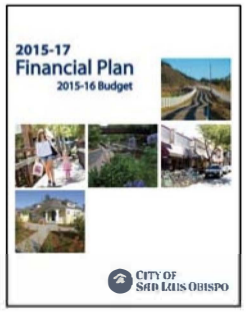
CITY OF SAN LUIS OBISPO

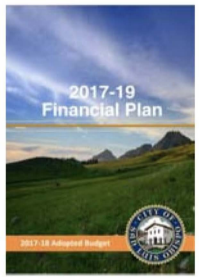


Calle Joaquin Agricultural Reserve

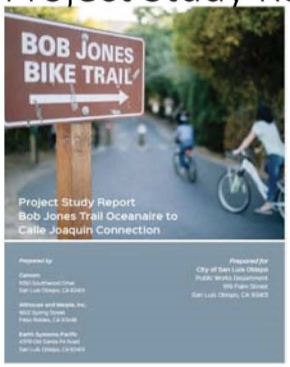








Project Study Report



Alternative 1: Bike Plan Alignment

New Class I Bike Path: .48 mile

Existing Class II Bike lane: .23 mile

Alternative 1

- Enviro Permitting: Regional Water Quality Control Board, Cal Fish & Wildlife approvals
- Expected Enviro Doc: MND
- Permit Timing: 4 to 6 months
- Total Length: .85 miles (.48 mi off street)

Estimated Cost: $2.92 million

Alternative 1: PROS and CONS

PROS:
- Least conflict with vegetation/creek
- Only one bridge
- No ROW needed
- Cost is 30% lower than most expensive alt
- Least concerns for security and enforcement
- Full City Design Standards possible

CONS:
- Middle length alt
- Lower bike/ped mode share expected
- Least riparian experience
- Potential agriculture impact

Alternative 2: Ag Master Plan Alignment

Alternative 2

- Enviro Permitting: (Same as Alt 1)
- Expected Enviro Doc: (Same as Alt 1)
- Permit Timing: 4-6 months (Same as Alt 1)
- Total Length: .89 miles (.52 mi off street)

Estimated Cost: $2.27 million

Alternative 2: PROS and CONS

PROS:
- Low conflict with vegetation/creek and terrain
- Only one bridge
- No ROW needed
- Lowest Cost
- Riparian experience

CONS:
- Bifurcate agriculture operations
- Awkward alignment next to BMW dealership
- Lower bike/ped mode share expected
- Concern for security and enforcement along creek

Alternative 3: Ag Plan Hybrid

Alternative 3

- Enviro Permitting: Army Corps of Engineers, US Fish & Wildlife, Regional Water Quality Control Board
- Expected Enviro Doc: EIR
- Permit Timing: 1 ½ years
- Two bridges
- Total Length: .7 miles (all Class I / Class IV)

Estimated Cost: $4.14 million (not including ROW)

Alternative 3: Pros and Cons

PROS:

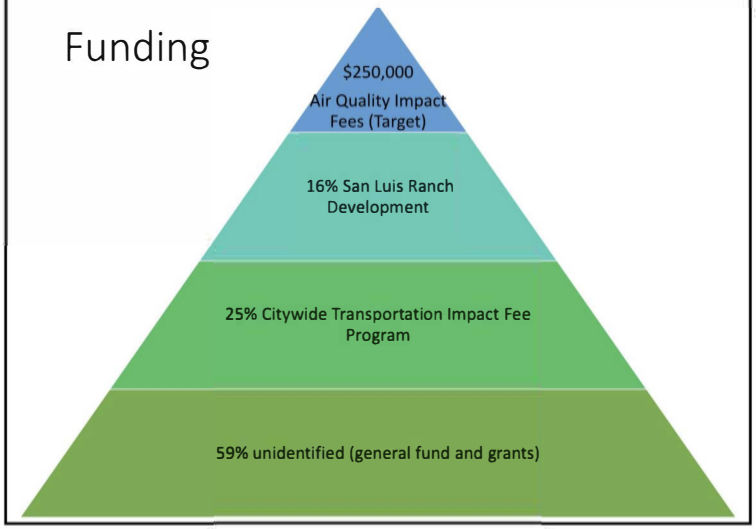
- Most direct route
- Highest expectation for bike/ped mode increase
- Most riparian experience
- Does not bisect agricultural operations

CONS:

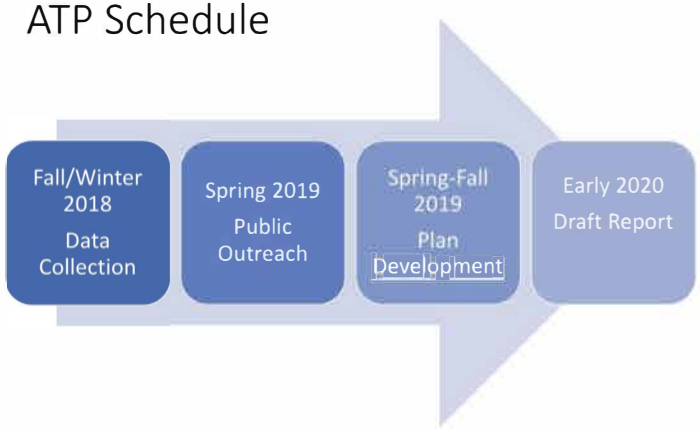
- Concern for security and enforcement along creek
- Highest cost
- Most impact to creek and vegetation
- Two bridges
- Not meet City design standards (state standards met)
- ROW needed
- Higher vegetation maintenance

	Alignment 1	Alignment 2	Alignment 3
Class I Length	.48 mile	.52 mile	.7 mile (Class I / IV)
Class II Length	.23 mile	.23 mile	x
Class III Length	.14 mile	.14 mile	x
Total Length	.85 mile	.89 mile	.7 mile
Total Cost	$2.91 million	$2.27 million	$4.14 million (Not including ROW)

Funding



ATP Schedule



Active Transportation Committee
November 15, 2018

1. Recommended Alt 1 due to the lower cost and lesser impact to agriculture (vote 5-2-0)

2. Unanimously recommended to consider other alternatives that are more likely to increase bicycle transportation rather than recreation while also remaining eligible for developer mitigation funds

Active Transportation Committee Other Input

1. Heavy traffic on Calle Joaquin / Los Osos Valley Road connection
2. Concern for Los Osos Valley Road Bridge over 101 (Caltrans)
3. Concern for cost and riparian impacts of Alt 3
4. Concern for overall transportation utility relative to other bicycle and ped projects

Staff Recommendation

1. Receive the Project Study Report
2. Provide feedback and identify a preferred alternative to begin environmental review

OR

As suggested by the ATC, direct staff to evaluate other alternatives not consistent with the Bicycle Transportation Plan as part of the forthcoming Active Transportation Plan

CITY OF SAN LUIS OBISPO

	Alignment 1	Alignment 2	Alignment 3
Class I Length	.48 mile	.52 mile	.7 mile (Class I / IV)
Class II Length	.23 mile	.23 mile	x
Class III Length	.14 mile	.14 mile	x
Total Length	.85 mile	.89 mile	.7 mile
Total Cost	$2.91 million	$2.27 million	$4.14 million (Not including ROW)



Or direct staff to explore other route options as part of the Active Transportation Plan effort