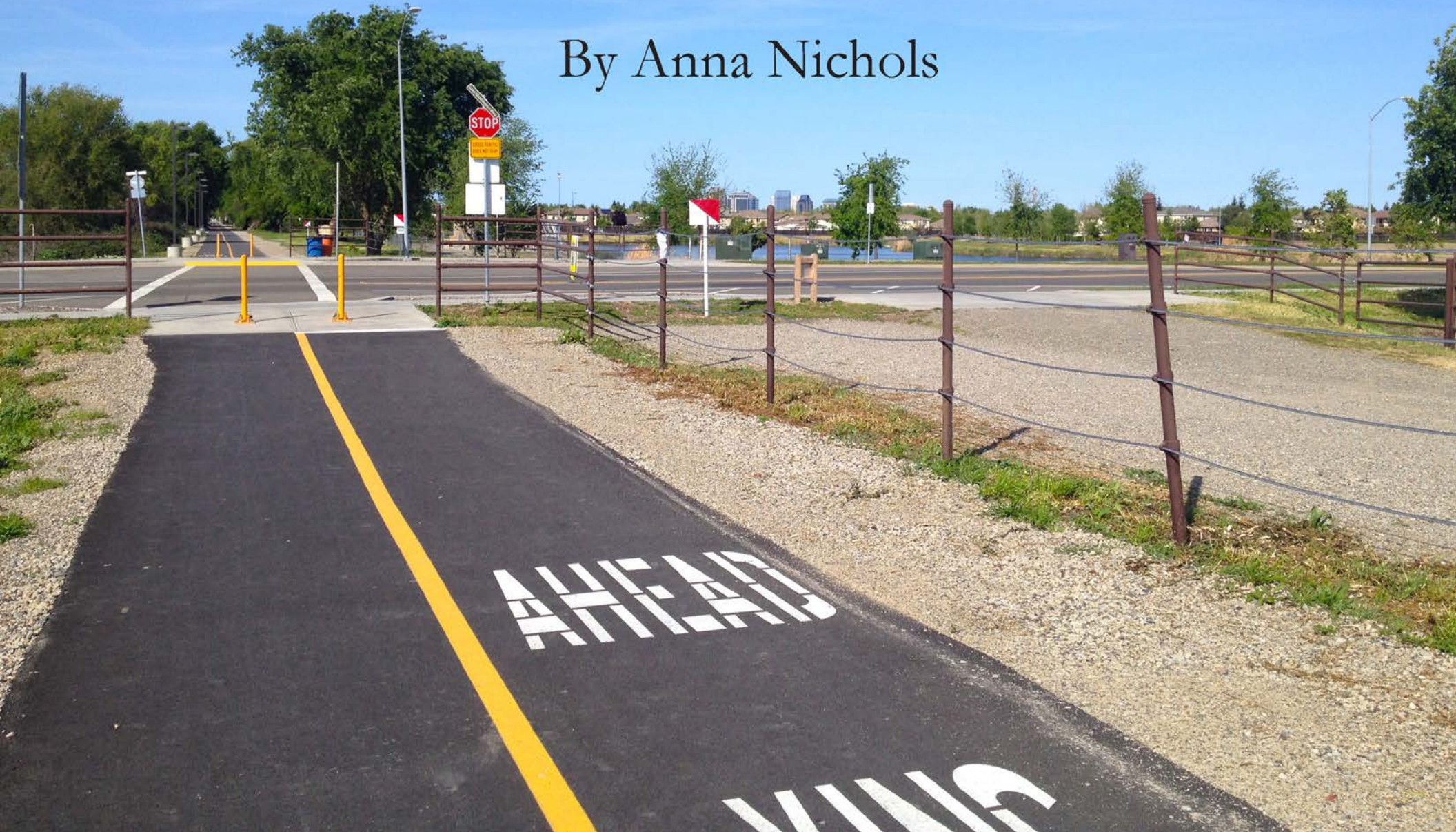


Celebrating Land Uses From West Sacramento To Clarksburg: An Illustrative Transect into the Delta

By Anna Nichols



Celebrating Land Uses from West Sacramento to Clarksburg: An Illustrative Transect into the Delta

Senior Undergraduate Thesis Project

By Anna Nichols

June 12, 2014

Official Project Submission as An Undergraduate
Requirement for the Bachelor of Science Degree in the program of
Landscape Architecture,
Department of Environmental Design,
College of Agriculture and Environmental Sciences,
University of California, Davis

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Senior Thesis

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June 12, 2014

Presented to the faculty of the Landscape Architecture program at the University of California, Davis, in partial fulfillment of the requirements for the degree of Bachelors of Science in Landscape Architecture.

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Abstract

The vision of the Delta as a destination has been a topic of interest for many in the past year whether people are for it, opposed to the idea, or unsure of their opinion, there is much curiosity of what the future of the Delta may look like. One proposal that has been in the spot light recently is the plan for the Great California Delta Trail system by the Delta Protection Commission. For the purpose of this project I will explore five unique nodes along a potential trail segment Between West Sacramento and Clarksburg in the Delta. The four nodes will explore a variety of different land use transitions from West Sacramento to Clarksburg while drawing

attention to local ammenities in the area. The proposed trail will follow the alignment of previously existing rail routes that run through West Sacramento and Clarksburg. It also has the potential to connect to a number of other existing river trail systems to provide a sense overall landscape cohesion. The specific topics of concern this project will cover include alternate forms of transportation, land use-conscious design, agricultural tourism, safety, sense of place, and way finding. The design intervention used in the sample nodes will be key to drawing attention and inviting people to explore, recreate, and learn about natural systems and activity in the Delta.



Figure 1: Western View from Clarksburg Trail

Acknowledgements

Thank you to my committee members for sharing your expertise on the topic of my project. The Delta was already an interesting topic to explore and all of the provided ideas and insights only made working on this project that much more interesting and fun.

Thank you also for the inspiring ideas, the encouragement, and for helping me refocus when I wanted to keep expanding my project(There's a lot of information out there). It was very inspiring to be surrounded by such distinguished scholars and professionals; it has truly been an invaluable experience working with you all.

Thank you to my family and friends for all of the support, encouragement. Thank you for the patience you have had with me during my late nights working on projects and the understanding of my random musings about the landscape during hiking trips or outdoor gatherings (the major makes us very observant !).

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Preface

The purpose of this project is to bring attention to this particular site and to propose a concept that could potentially be considered during the completion of this trail. These ideas are intended to be conceptual and as a useful tool for students or professionals who are interested in proposing a design for this site in the future. Any actual changes to this particular site should require the consultation of a professional Landscape Architect or other qualified professional.

The project at hand primarily relates to the social, environmental, and political factors, which relate to this particular segment of the trail.

The intent is to obtain a better understanding of aligning goals from a national to regional specific level related to trail planning, and to show how these goals can be interpreted into trail design using tools that have been obtained through the Landscape Architecture Program.



Figure 2: Clarksburg Trail Entrance

Project Focus

The primary goal of my project is to propose a plan for the extension of the Clarksburg Branch Line multi use trail, with emphasis on sample nodes showing site specific themes and transitions strategies.

Constraints

The selected case study sites were chosen based on their function as engaging and interactive trails. Because of time constraints, individuals were not surveyed at the selected case study sites.

Instead the sites were surveyed for design features that displayed engaging and interactive characteristics. This was used as a way to inform design decisions throughout the project. However, moving forward with design of this particular trail, I would highly encourage community interaction and participatory design. There is a mix of new housing areas, proposed housing developments, established homes in rural areas, and legacy communities along this short trail and it is integral to the success of the trail to incorporate values of each community along the way.

It is also important to note that transects such as mentioned in this project appear often throughout the delta region with the coexistence of agricultural, rural, and urban communities. So it is important to understand the dynamics between these communities and to allow for the existence of a variety of different land uses while following the goals of providing a high quality trail system that everyone can use.



Figure 3: UC Davis Arboretum

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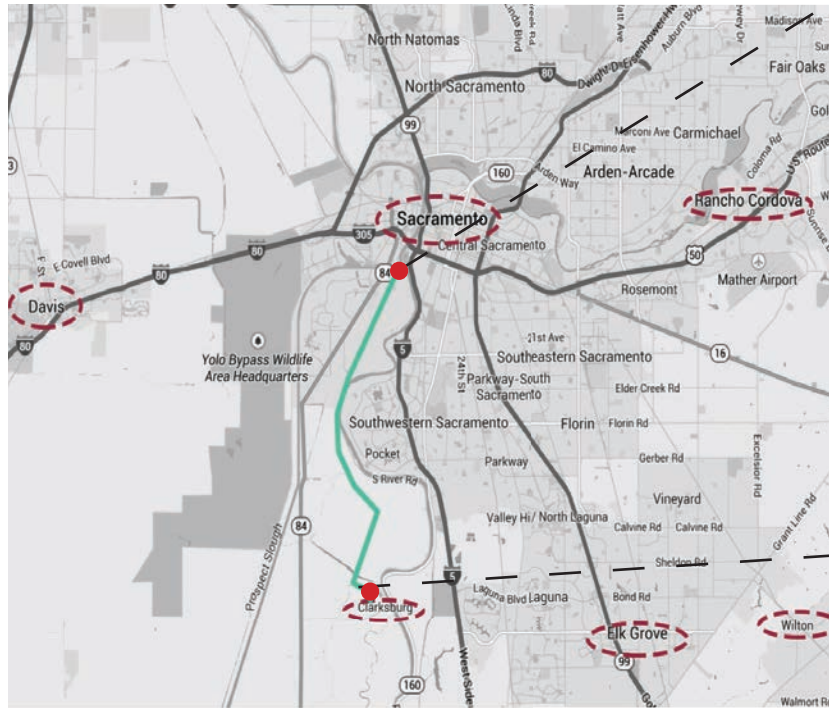
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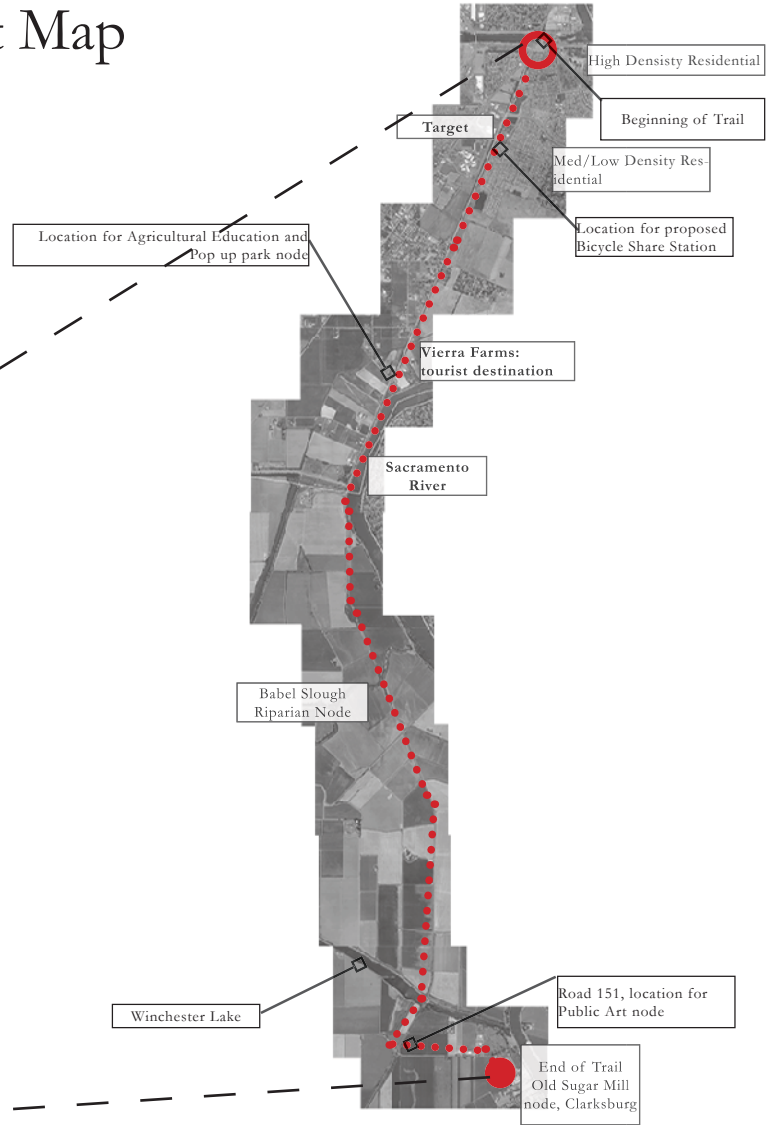
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Figure 4 : Regional Context Map
Base Map Image from Google Maps



Context Map

Figure # : Trail Context Map
Base Map Images from Google Maps



In a regional context the Clarksburg Branch Line Trail is relatively close to other cities, with Sacramento being the closest. This has implications for a potentially high user group that may have access to the trail. This also suggests potential for the trail to connect to other regional trail or bike systems that may be in other cities.

Introduction

The Delta



Figure 5: Agriculture and Natural Space in the Delta

The Sacramento-San Joaquin Delta is known as a vast region with a spectrum of ecological zones, communities, and industries. It is a place where many live, work, and play.

Because it is such a rich and diverse region, there is developing interest

in creating and maintaining an identity for the Delta as a destination for all to come and see just how unique and distinct it is. This is particularly important when considering that the Delta is more in the spot light at a national and international scale, as a National Heritage Area. With the anticipation of more frequent visitors to areas that strongly value the existing character, it is important to be sensitive to the values and concerns of the communities that exist in this region. For the purpose of this particular project, participatory design and community engagement are emphasized as a foundation for trail design in this area.

Relatively recent events have led the The California Delta Protection Commission to propose a plan for a future Delta Trail to be located in key areas

of the Sacramento-San Joaquin Delta. Topics of concern within the Delta region have to do with habitat preservation and restoration, the consideration of various different land uses, flood protection for public areas and property, and the coexistence of public and private land. Opportunities are related to climate change, economic value of the Delta, recreation, and sightseeing. This trail system has great potential to be a successful contribution in developing a sense of place and providing a healthy and safe environment to recreate, travel, live, and work.

It is also important to note that there are areas designated as Delta Primary and Secondary zones which are part of the legal Delta. This potentially affects the types of decisions that are made regarding planning and transportation. The project discussed for this assignment is actually partially located in the Secondary and Primary zones.

The West Sacramento-Clarksburg Branch Trail

West Sacramento

West Sacramento has a rich history of industrial land use, which is still evident today. It has in the past strived to develop a consistent identity being a city that has been subject to much change. West Sacramento's challenging past may have initially affected how people perceive the city and whether or not it was safe to be a pedestrian. The past land uses have resulted in heavy reliance on cars, trucks, and other motor vehicles

Furthermore, decreasing the reliance on cars as a primary form of transportation could pose as a challenge



Figure 8: South River Road and Jefferson Blvd.

for planners due to the city's relatively high percentage of households having multiple cars. For example, show Results from the

American Communities Survey,

which indicate that while the state of California had approximately 59% of respondents who owned 2 or more cars per household, West Sacramento had approximately 54% of households with 2 or more cars. Though the city has a slightly lower percentage of citizens which own 2 or more cars than the state as a whole, the percentage results many implications related to the efficiency of public utilities such as roads and highways

and the function of existing public transportation. It is evident that for some reason there is less preference for other modes of transportation.

However, with the introduction of major companies such as Ikea, the development of Raley Field, and the significant increase in desirable and ideally located homes close to the amenities of downtown Sacramento and the scenic river front, it is evident that West Sacramento has made major steps to display itself as a vibrant and welcoming place to live work and play. Because of how quickly the identity of West Sacramento is changing, it is fair to predict that the population will likely begin to increase at a rate far further than where it is today. With this increase in population comes concern for how to accommodate quickly growing number of people. Transportation is key to facilitate ideal circulation and providing opportunities for recreation is important for public health. If these topics of concern are properly addressed, West Sacramento has high potential as a destination city and with its close proximity to Delta communities, it has potential to be a gateway and access point for people to learn about the rich culture, incredible vistas, and so much more that the Delta has to offer.

Clarksburg

Clarksburg has a rich agricultural and rural history. It is different from West Sacramento in that it has maintained its historical identity over the years. What is unique about the issues that Clarksburg faces today related to population fluxuation is that it will now have to face new challenges as Agricultural Tourism becomes more popular and new visitors come to the area to learn about the charming heritage communities throughout the Delta. The smaller quaint communities are becoming more and more popular as destinations for travelers or city dwellers who are interested in stepping away from the busier urban areas. Particularly in Clarksburg, the Old Sugar Mill is a popular destination for visitors. Because of the projected population growth in West Sacramento and surrounding areas, along with the growing popularity for visitors to visit the rural communities, the means by which people arrive should be considered. It would be not only better for air quality and the environment, but also better for parking and traffic conjection to consider alternate means of transportation. The Clarksburg Branch Line Trail is an excellent way to tackle some of these challenges.

Clarksburg, CA

Subject	Estimate	Percent
VEHICLES AVAILABLE		
Occupied housing units	209	209
No vehicles available	0	0.0%
1 vehicle available	60	28.7%
2 vehicles available	65	31.1%
3 or more vehicles available	84	40.2%

Figure 9: Census Data - Clarksburg (vehicles per household)

West Sacramento, CA

Subject	Estimate	Percent
VEHICLES AVAILABLE		
Occupied housing units	17,184	17,184
No vehicles available	1,458	8.5%
1 vehicle available	6,220	36.2%
2 vehicles available	6,323	36.8%
3 or more vehicles available	3,183	18.5%

Figure 10: Census Data - West Sacramento (vehicles per household)

California

Subject	Estimate	Percent
VEHICLES AVAILABLE		
Occupied housing units	12,474,950	12,474,9
No vehicles available	983,168	7.9%
1 vehicle available	4,052,625	32.5%
2 vehicles available	4,671,551	37.4%
3 or more vehicles available	2,767,606	22.2%

Figure 11: Census Data - California (vehicles per household) Appendix F.

Another incentive to seek options for alternate forms of transportation relate to the cities heavy reliance on motor vehicles for transportation. American Communities Survey results for Clarksburg indicate that 71% percent of householders own 2 or more cars. This is significantly high compared to West Sacramento(54%) and even the results for the State of California (59%). In a rural community with agriculture as the primary source of income it is not so surprising that residents have a higher number of vehicles since they are farther away from resources and in many cases use vehicles for work purposes.

However, because there is already a perceived high usage of vehicles in the area it would be a good idea to provide alternate means of transportation for the visitors to the area to use to balance out the already high vehicle usage. The West Sacramento to Clarksburg trail has high potential to function in just this way.

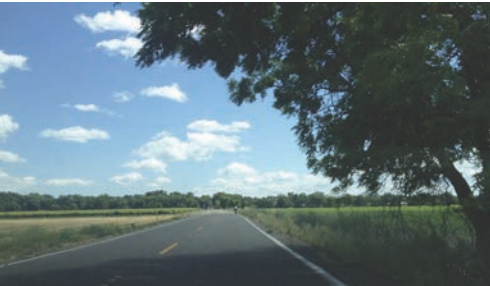


Figure 12: Cyclist in Clarksburg



Figure 13: Sacramento River from Clarksburg

types of intricately woven coexisting conditions.

Overall, there are a number of different challenges each city faces looking forward towards the future. The Clarksburg Branch Line Trail appears to relieve the effects of many of the challenges for both communities. The dynamics of the variety of land uses and the growing population were a significant part of why I chose this particular project. Furthermore,

this particular project is interesting and important because it represents the many other parts of the Delta where similar dynamics occur and it is an opportunity to provide some incite on how to approach these

Research

Literature Review

A number of different sources were consulted for literature review including various national, state, county, and regional planning documents, along with specialized literature on key issues addressed in this project, such as trail design and participatory design.

Research into planning documents was intended to gather a variety of different planning and policy related goals pertaining to the goals of developing trails on a variety of different scales from national to city and regional scales. What was found was that there were a number of aligning principles for alternate transportation, reducing reliance on cars, public health, and safety. The goals, which were found to be very similar on a variety of different scales, were selected from the documents and placed into an easy to read chart .

Case Studies

In addition to gathering information about what was already existing in today's policy and planning practices related to trail design, an additional goal was to provide a trail system that would encourage community engagement and active participation in the design and maintenance process.

With the previously mentioned goal in mind, research was conducted to find trail sites that displayed strong engaging and interactive qualities. The research resulted in three different sites that would be used as case studies for the purpose of this project. The first site was a 1.25 mile long strip of



Figure 14: American River Trail at CSUS

the American River Trail near the CSUS campus. This segment of the trail displayed similar conditions to the existing Clarksburg Branch Line Trail because it appeared to begin in an area that was more populated and then move into an area that was adjacent to residential land use and then it seemed to run into an area that was more rural in character. This site was also chosen due the association of the American River Parkway as a highly engaging trail which residents take part in maintaining and monitoring. A variety of different users occupy the trail at any given point in time and it is universally known.

The second case study site selected was the UC Davis Arboretum walkway, though this trail is not necessarily rural, though it is adjacent to agricultural land uses, it displays a large amount of community engagement and so it appeared to be an exemplary site to show as a model for community participation and interactive environments. A high amount of support for this walkway comes from volunteers and donors of funding and supplies. It is very unique that an environment was organized here that leaves visitors so invested in it that they are happy to give back with their free time or help via donations. Surveys are additionally conducted yearly to obtain feedback from users. The third site of interest was the existing part

of the Clarksburg Branch Line Trail. Following a number of visits to the trail, it was evident that residents in the area are using the trail frequently. At any given point in time there were a variety of different users, which



Figure 15: UC Davis Arboretum

only currently extends 1.25 miles (paved path). This has major implications for the size of a user group that may end up using the site in the future. Current popularity made it a great case study for potential future extension of the site.

At all of the above-mentioned sites there was a systematic data collection of existing site amenities related to design characteristics. Features such as benches, signage, different types of way finding devices, shading, lights, picnic areas, trail width, and any other additional amenities were taken into consideration.

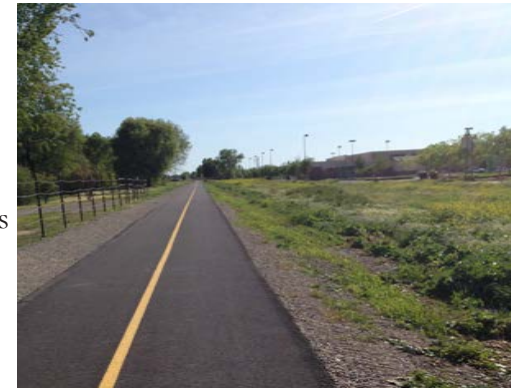


Figure 16: Existing Part of the Clarksburg Trail

Gathering Information and Selection of Nodes

Following literature reviews and study of the three case study sites, information was compiled and organized to inform the development of a design concept for five different nodes along the 10.88 mile strip from the beginning of the Clarksburg Branch Line Trail to the end in Clarksburg at the Old Sugar Mill. The five nodes along the trail have been selected based on visual analysis of landscape transition points and areas, which diverged from the appearance of other parts of the trail. For the purpose of this project the trail was intended to maintain alignments with the previously existing rail line, which ran to the Old Sugar Mill in Clarksburg.

Site Analysis

Soils

Soils are important to consider because they affect how living things can survive in an area. If soils are toxic or highly eroded certain wildlife and vegetation cannot survive, If soil is not well drained or does not retain enough moisture, plants that need well drained and moist soil conditions cannot survive . The important thing for designing a natural area is to understand the soils that exist and determine if there is a likeliness for vegetation or wildlife to endure . There are many plants which have the ability to reintroduce nutrients to soil that has potentially been depleted of nutrients from erosive forces or frequent disturbance. There are also a number of plants that can survive through frequent disturbance such as flooding and fires. Knowing the conditions to select the right things that

Soil Surveys for the West Sacramento Area show that much of the soils consist of Flood Basin and Stream Channel deposits which is common in the Greater Valley.

The soils in the area between the beginning of the Clarksburgh Branch Line Trail and the end consist primarily of silt-loam, silty- clay, and clay-like soils, this indicates that there are existing conditions for slow draining



Figure 17: Soil Along Clarksburgh Trail

soils. Additionally, due to the fact that the trail is aligned over a previously existing rail line , there is a high potential for moderate toxicity levels remnant from historic train activity. The nearby car activity of the freeway and Jefferson Blvd also provide an opportunity for air pollution to occur. Due to these conditions plants that function well in the slow draining soil conditions along with plants that sequester carbon, and plants that reintroduce nutrients to the soil have been suggested per node.

Trees

Trees are important to provide in a trail system that will facilitate a variety of different users. One particular benefit provided by trees is the reduction of the urban heat effect and providing cooler microclimates during warm weather. The central valley is known to have high temperatures in the summer and as a result of this trees are important for maintaining proper amounts of shade throughout the site.



Figure 18: Trees Along Existing Clarksburg Trail

Trees also have the added ability to capture excess water during storm events and reduce the amount of water that may end up potentially gathering on the trail surface.

When water gathers on pavement it creates the potential for erosive

forces to break down the surface and result in potentially costly maintenance issues or make the trail less accessible.

There are also a number of social and economic benefits of trees. Trees are thought to encourage social interaction and outdoor activity and could even add to the value of a property.

Throughout this particular trail Valley Oak has been proposed in the various nodes. Valley Oak has the ability to sequester and store carbon. This is a topic of concern in an area that may have higher amounts of air pollution related to car traffic.

The existing trees along the trail are primarily clustered around riparian areas and housing. It is possible that since there is a large percent of agricultural land between West Sacramento and Clarksburg, the previous remnant trees from the upland riparian forest have been removed. As a part of the suggested design for all of the nodes, larger riparian forest trees have been proposed to restore some of the riparian forest. This would potentially result in the added benefit of providing habitat for migratory wildlife and pollinators as well.

Overall, there are many studies that show that trees provide a wide variety of social ecosystem services and therefore they are an integral part of trail design.

Tree Research

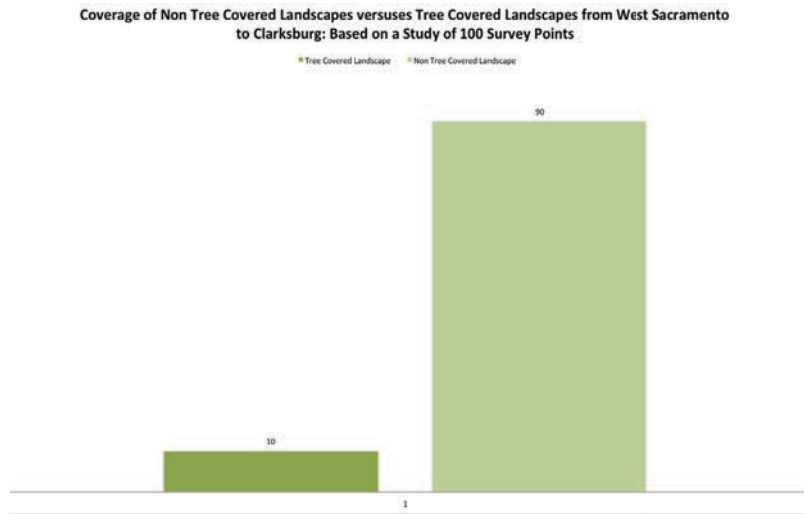


Figure 19: Survey of existing Trees from West Sacramento to Clarksburg; Information gathered using tools from i-Tree.org (canopy)

In order to picture the way trees currently function along the trail from West Sacramento to Clarksburg, a survey of 100 points was taken to see the amount of tree covered landscape compared to the amount of non-tree covered landscape (This information was conducted through tools provided on itree.org). The results of this survey indicated that there are currently very few trees along this particular trail. Through a variety of different courses taken throughout my time as a Landscape Architecture student, we have learned of the many benefits of trees. amongst many

other benefits, trees have the ability to facilitate cleaner air, shaded surfaces, ideal soil quality, stormwater management, and the attraction of beneficial wildlife and pollinators. Trees overall, if properly placed and planted, could be a significant contribution to a trail system. This is one of the primary reasons why trees were selected as a topic of interest for this particular project.

Land uses

The Clarksburg Branch Line Trail travels through a variety of different land uses between West Sacramento and Clarksburg. In West Sacramento, it begins in this area that is primarily residential, then moves through a brief area that is commercial, and continues through an area that is rural residential. As the trail continues outside of the city limits of West Sacramento it is adjacent to land uses, which are Agricultural and eventually moves back into a more rural residential land use in the town of Clarksburg (North to South).

This transect is an example of many conditions which show up in areas



Figure 20: Residential Housing Along Existing Parts of the Clarksburg Trail

throughout the Delta so making land use-conscious design decisions are important. Throughout this proposed trail, nodes that are in areas of particular land uses have been selected. As will be discussed in further explanation of design, each node is color coded

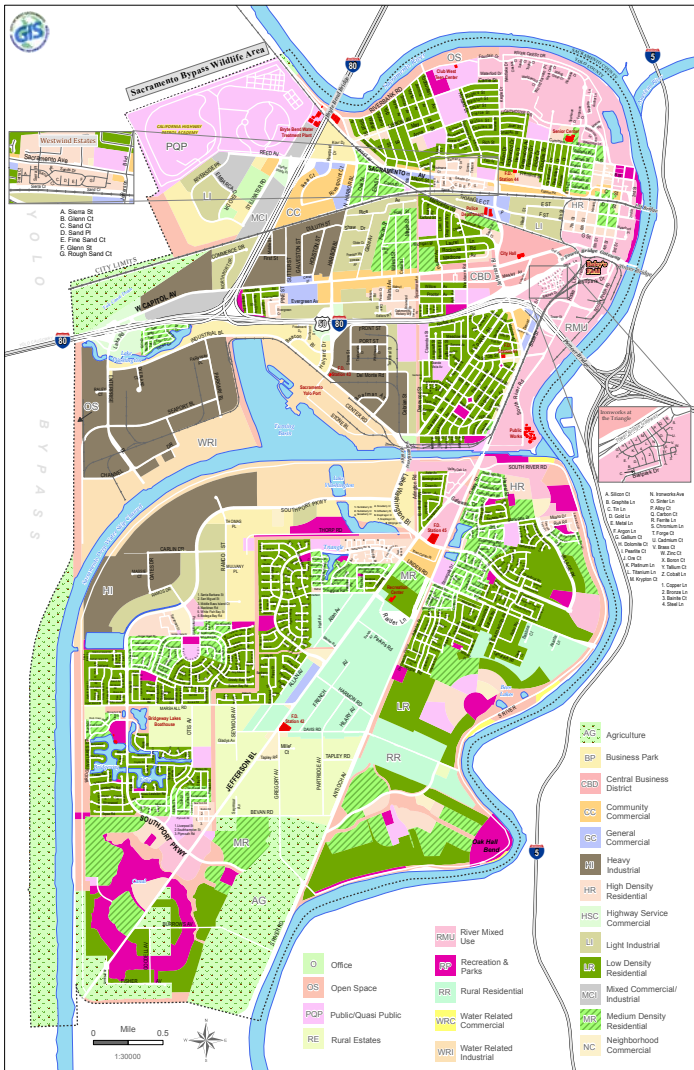
according to the land use it is in or adjacent to. In addition, each node is

designed based on consideration of goals and existing usages related to the land use. For example, the agricultural education and pocket park node is in an area that is surrounded by agricultural land use. It is also in an area that seemingly has enough open space to provide space for groups of people and in close proximity to an access road for produce vendors and visitors of all kinds to access it. It is additionally in close proximity to an existing agricultural tourism site.

Parks and Bicycle Paths

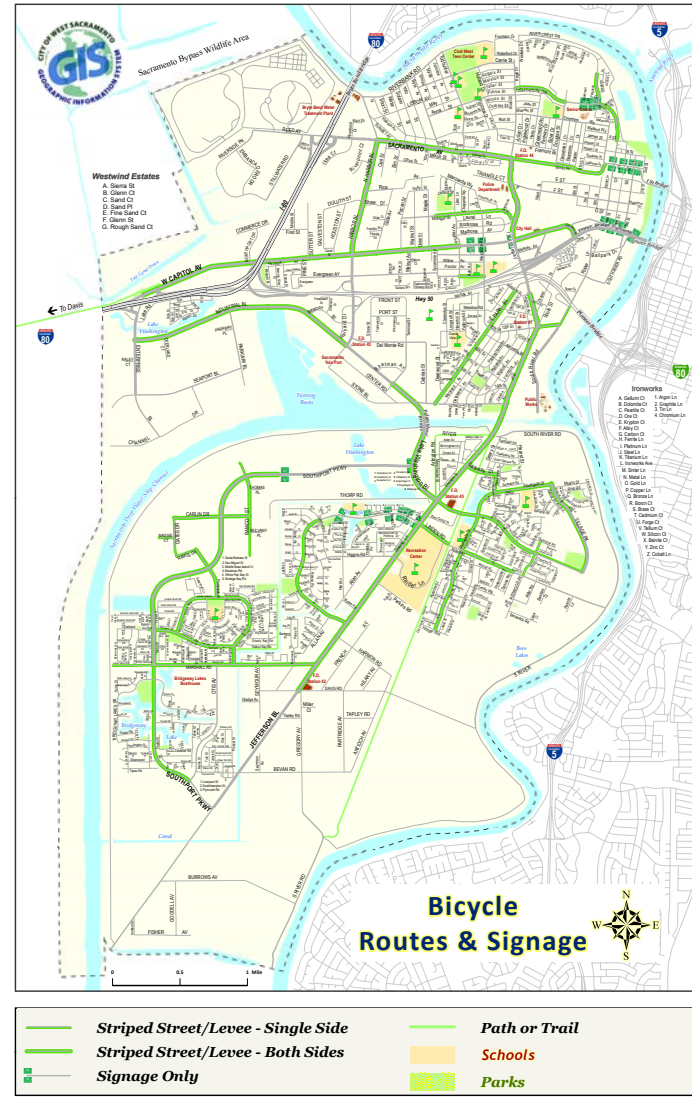
Parks that exist on the eastern side of Jefferson Blvd. are located within housing developments. There are few, if any, parks that are accessible or visible from Jefferson Blvd. The proposed trail would be a way to provide opportunities for people to gather and exercise outdoors. The proposed trail is specifically important to cyclists because the existing bike trails are often unmarked or small parts of a shared road which cars frequent. For example, Jefferson Blvd. has a marked bicycle trail, however, in its existing condition it is not functioning as a traffic calming mechanism. It is still evident that it is a car-dominated road. This poses as a safety concern for cyclists. The proposed trail will run parallel to Jefferson Blvd. and S. River Road and provide a safer route.

CITY OF WEST SACRAMENTO - LANDUSE



F:\CD Engineering\MAPPING\DEPARTMENT\SC\CD\PLANNING\CURRENT\PROJECTS\COWS_LANDUSE_ZONEING_MAPS\COWS Landuse Map.pdf City of West Sacramento August 2009 I.T. Division (916) 617-4529

Figure 21: City of West Sacramento Land Use Map from http://www.cityof-west Sacramentos.org/services/gis/map_library.asp



City of West Sacramento March 2010 I.T. Division (916) 617-4529

Figure 22: City of West Sacramento Bicycle Routes Map from http://www.cityofwestsacramento.org/services/gis/map_library.asp

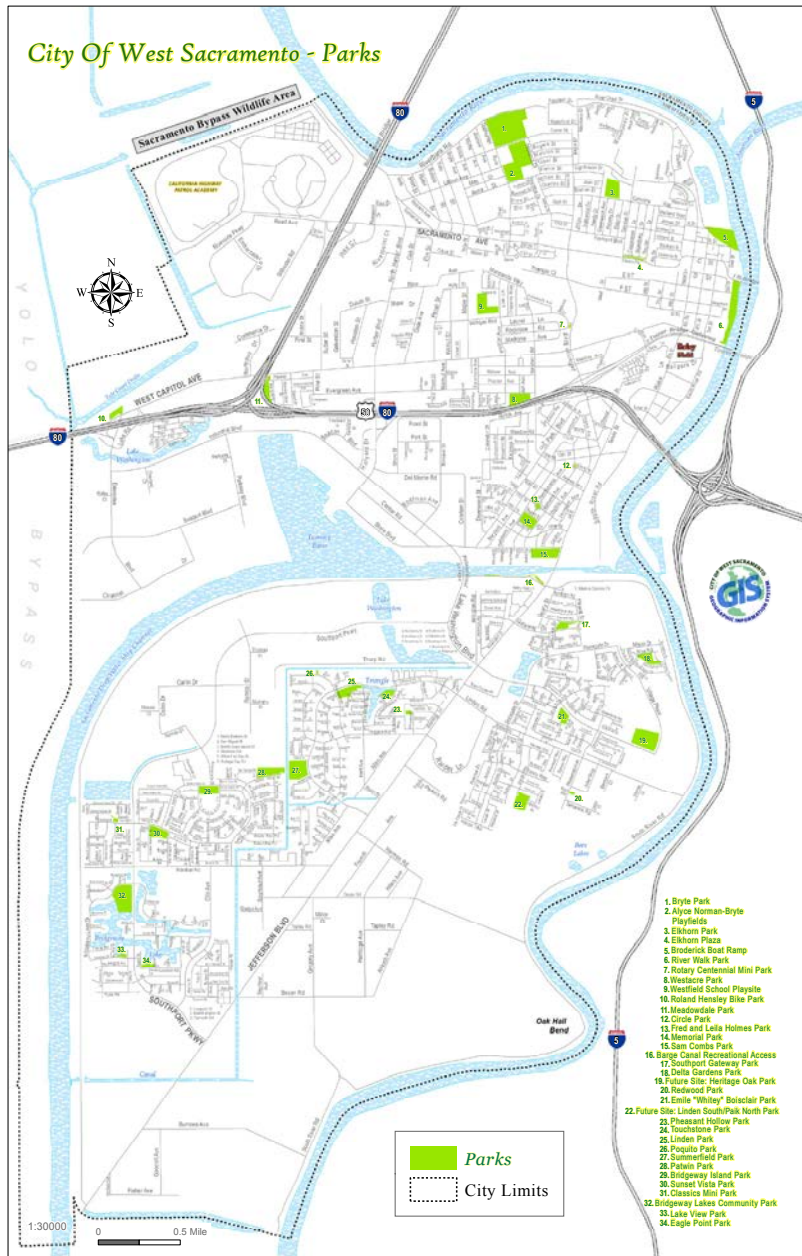


Figure 23: City of West Sacramento Parks from http://www.cityofwestsacramento.org/services/gis/map_library.asp

Transect of Land Use



Figure 24: Land Use Diagram

The Clarksburg Branch Trail Line begins in an area that is primarily residential. Specifically medium and low density housing with a small area dedicated to high density housing at the northern end, according to West Sacramento Land Use Maps.

The trail continues through areas that are primarily residential and runs into a small commercial dominated area when it runs parallel to the Southport Shopping center off of Jefferson Blvd.

Beyond the Southport Shopping center, the trail quickly becomes more rural in nature. Particularly in the area around the intersection between the Clarksburg trail and Davis Rd., the houses become significantly more rural in character.

Land uses begin to become more agricultural as the trail moves out of the city limits. This is in the area where the Agricultural Education Node is proposed and where the trail briefly runs along S. River Rd.

Where the trail intersects Rd 151 it begins to move back into an area that is more rural residential. Though there is still a great amount of open space, it begins to move into an area where residential homes are more apparent. The Old Sugar Mill is also less than a mile away from the central area of the town of Clarksburg.

Opportunities and Constraints

West Sacramento

Davis

Sacramento



Figure 25: Opportunities and Constraints Diagram



Existing Conditions

Existing features of the trail give an idea of how people already use it. Informal pathways through fields from parking lots indicate popular circulation routes and the orientation of existing signs gives an idea of the way visitors are encouraged to use the system. For example, in many areas of the existing trail, stop signs are currently oriented towards pedestrians using the trail instead of car traffic at street intersections.



Signage along Clarksburg Branch Line Trail



Trail Street Intersections where cars currently do not have to stop for pedestrian cross traffic



South Port Shopping Center and major Trail Entry Point



Point where paved trail ends



Informal pathway to shopping center from trail



The only picnic table or place to sit along the current trail



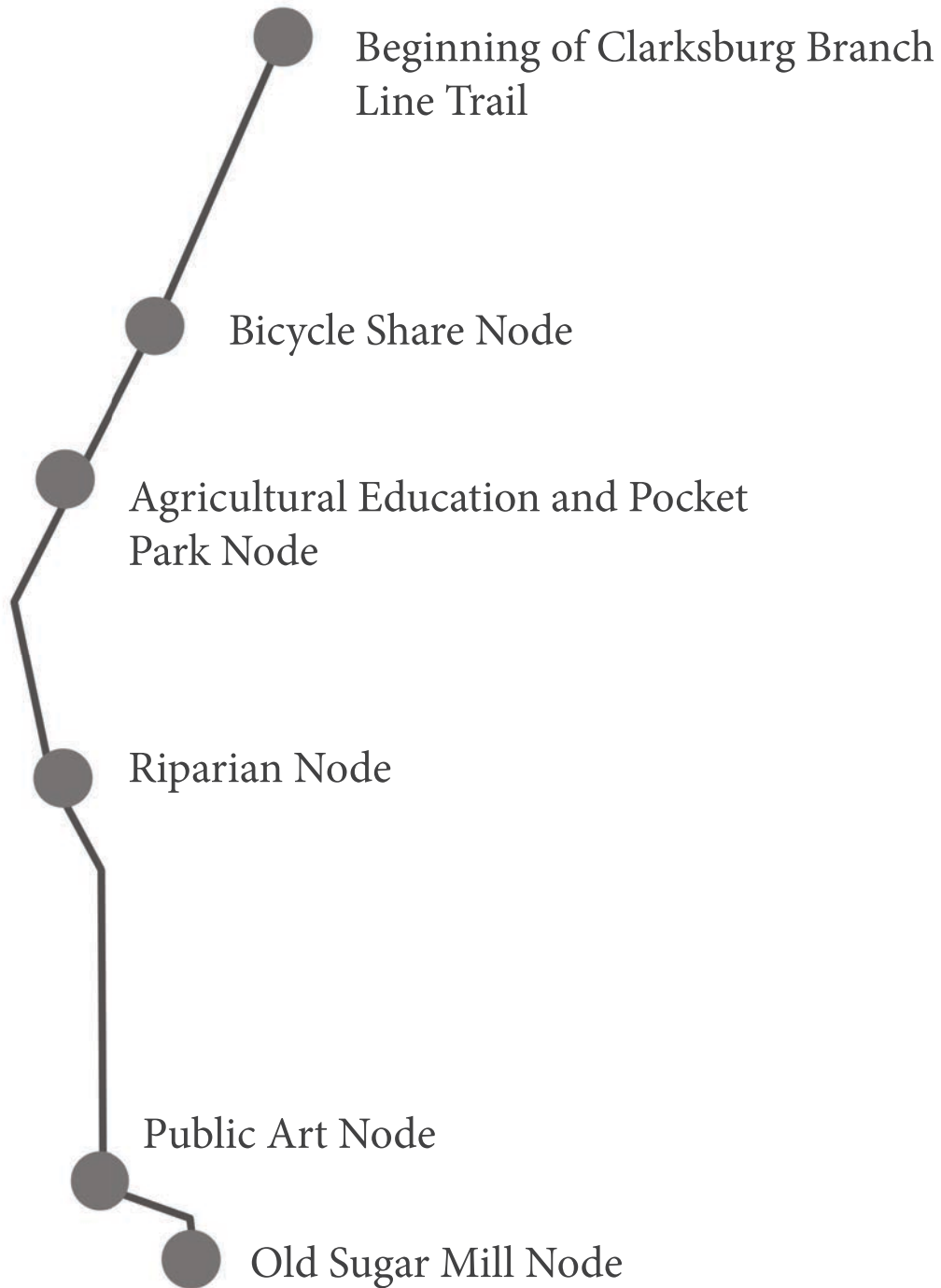
Informal pathway to shopping center from trail



School located adjacent to existing Trail

Figure 26: Existing Conditions Pictures

Design



Cohesion in the Landscape

Framework

Design intervention in related to this project is based on three general strategies related to land use, community engagement, aligning regional, state, and national transportation goals

The primary idea that guides design intervention is preservation of character and identity of the area through providing uses that correspond and acknowledge the existing land use.

The proposed trail travels through a variety of different land uses that have historical and cultural significance. It is important to preserve the heritage of the area and be aware of the way the area is already being used. Many areas throughout the Delta have families and industries that have existed there for generations, it is important to be conscious of this when providing a means for public access to an area. This could also be an opportunity to showcase the richness of the area by educating the public about the natural and social history of a site. Mechanisms that facilitate these ideas are intended to be implemented in all of the proposed nodes.

The secondary idea which guides design intervention is the development

of uses that encourages and allow for community engagement and interaction with the landscape. Along with land use –conscious design, spaces are designed to provide a unique and engaging interaction with the landscape in each node. Opportunities are provided in each node that will allow a user to interact with the landscape in a variety of different ways. For example, the bicycle share node allows one the opportunity to interact with the



Figure 27: Fruit Tree

environment through transportation via bicycle, the agricultural education node allows users to enjoy the fresh local produce of the area while educating the public of the agricultural industries in the area and how agriculture plays a role in the cultural heritage of the area, the riparian habitat area allows visitors to feel immersed in the natural environment while enjoying interesting sites, the public art node provides a space for people to relax and enjoy possible art installations that provides an element of surprise, and the old sugar mill node provides visitors with a popular tourist destination and an opportunity to learn more about one of the many interesting historic Delta

The tertiary idea that guides design intervention is the support of planning goals that address issues related to transportation, public health, and safety. Following review of a variety of different planning documents related to trail design and the Delta, a comparison was made to the existing population habits through the use of census data. The census data had many implications of the vehicle use and growth patterns of the existing population that support many of the overlapping goals in planning policies for trail design in the Delta.

Community Engagement

Community engagement is essential because it provides an opportunity for people who may be affected by this trail have an opportunity to be apart of the maintenance and design of the trail.

Through a review of the three case studies it was clear that community engagement was a fundamental part of each site. Residents and visitors are an important part of each site related to volunteer work, funding, maintenance, and advocacy. The case studies, with the exception of the new Clarksburg branch trail, have all existed and sustained for generations, most likely in a large part due to this outside support.

Because a majority of the case studies have sustained and obtained support over the years, they are an exceptional model for the new Clarksburg branch trail. The hope for this trail is that it too will last generations and become an interwoven part of the community.



Figure 28: Example of Trail Signs to Facilitate Community Engagement

Similar to what is conducted at the UC Davis Arboretum, it may ultimately be good to have a comprehensive visitor survey asking people what could be incorporated to better facilitate users through the site.

Interpretive/educational signs are also key related to this trail to better connect visitors with the cultural and natural history of the site.

Wayfinding

Through research and observations made at my three case study sites, I found that there are a variety of different wayfinding devices other than signs that can be used in a public trail system to engage visitors. A few of the methods observed are discussed below.



Figure 30: Signage Along Existing Clarksburg Trail

Vegetation can indirectly signal to trail visitors where the edge of the trail is and where is not safe to walk. In a number of the different case studies there were changes in vegetation, which indicated accessible areas of a trail or path. Vegetation can also contribute to creating a sense of safety. For example if the vegetation is too high and too crowded around a multiuse path, it can interfere with range of sight and create a sense of potential danger. On the other hand if the vegetation is lower around the edges of the pathway it may create a better sense of security and indirectly generate a feeling of safety.

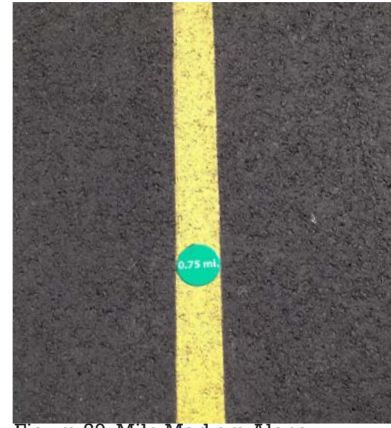


Figure 29: Mile Markers Along

Another method that I observed in a number of the case studies had to do with how signage was implemented. For example, the UC Davis Arboretum has a variety of different types of signs throughout the trail system to indicate different types of information. There are signs which show maps, there are others that show information about donators and volunteers, and there are others that creatively show educational components about natural systems around the waterway or unique uses for vegetation planted in a certain section (ex. Native American historical uses for certain plants). The American River Parkway trail had many signs related to safety of pedestrians, cyclists, and those using the trail by horse. There were also signs in different forms, for example, there were mile marker signs made of wood and there was information painted directly on to the trail pavement.

1

Bicycle Share Node

Gateway to the Delta and Facilitation of
Interaction with the Landscape

Located near the Southport shopping center off of Jefferson Blvd, this node is considered to be a primary place where a variety of different people will have the opportunity to access the Clarksburg Trail. There is much opportunity to showcase an interesting public amenity in this location that will attract curious visitors to the Trail.

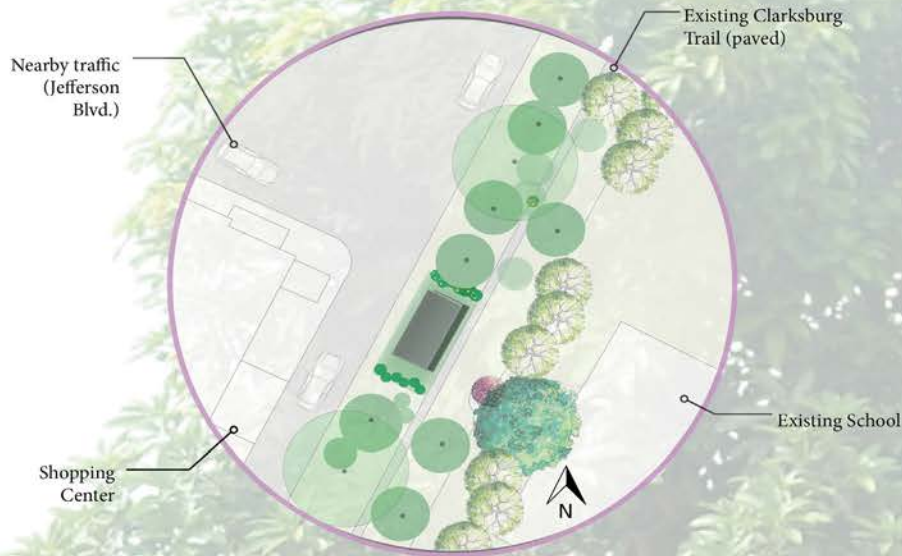
Figure 31: Bicycle Share Node

Celebrating Land Uses From West Sacramento to Clarksburg: An Illustrative Transect into the Delta

Mile
0.82



Site Plan: Bicycle Share Node



Vignette: Bicycle Share

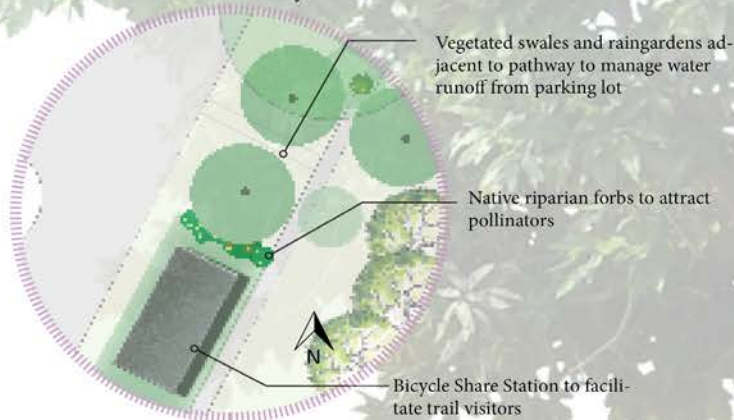


Bicycle Share Node

1. Shade Structure for bicycle parking, (close proximity to commercial area)
2. Location for a bicycle share program which will provide an option for people to use the trail.
3. Introducing vegetation, such as, California Poppy, Lupine, and Valley Oak, which will work with existing remnant riparian vegetation and potentially contribute to facilitating wildlife and attracting native pollinators.
4. The proposed use of permeable pavers under bicycle parking area to reduce the introduction of impervious surfaces and manage stormwater.
5. Recommended seating for trail users.
6. Introduction of shade trees.
7. Vegetation and wayfinding mechanisms for visitors from commercial area.

Appendix A.

Detailed Site Plan: Bicycle Share Node



Plant Palette: Recommendations for Node



California Poppy
Eschscholzia californica



Lupine
Lupinus sp.



Valley Oak
Quercus lobata

2

Agricultural Education & Pocket Parks Node

The Potentials of Landscapes

This selected node is located in an area that is just within the city boundary. This is significant because this is an area of West Sacramento that is possibly one of the most agriculturally focused areas in the city. It provides an opportunity for the city to celebrate the agricultural landscape through providing an outdoor classroom setting where workshops and classes can be hosted along with seasonal markets. There are also a number of landscape opportunities in this area to create small scale parks (pocket or popout parks). These amenities would potentially complement some of the existing agricultural tourism in the area (e.g. Vierra Farms).

Celebrating Land Uses From West Sacramento to Clarksburg: An Illustrative Transect into the Delta



Site Plan: Pocket Park and Agricultural Education Node



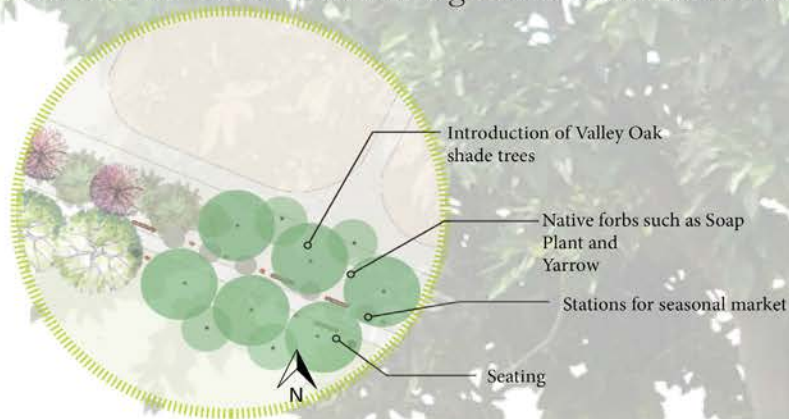
Vignette: Agricultural Education and Pocket Park



Pocket Park and Agricultural Education Node

1. Fruit/ Vegetable stands for seasonal markets. Close proximity to Vierra Farms, a local tourist destination. 2. Seating for cyclists and pedestrians. 3. Traffic calming strategies should be implemented here due to the trail sharing space with the existing road. 4. Provide shade for pedestrians and cyclists (Trees also function as traffic calming mechanisms) 5. Permeable pavers in fruit/ vegetable stand area. 6. Perennial grasses and native riparian forbs. Appendix B.

Detailed Site Plan: Pocket Park and Agricultural Education Node



Plant Palette: Recommendations for Node



Soap Plant
Chlorogalum sp.



Yarrow
Achillea millefolium



Valley Oak
Quercus lobata

3

Riparian Habitat Node

Wildlife and Human Interface

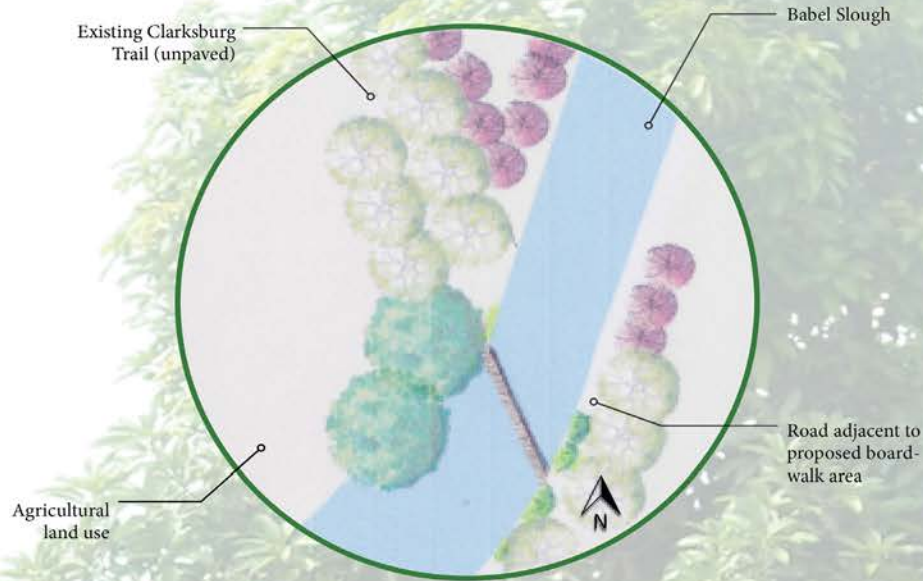
Babel slough provides opportunity for this node to be a key location to focus on the conservation of riparian habitat. This node has potential to be a primary habitat for migratory birds and native pollinators. The implementation of a boardwalk in this area will allow nature and human activity to coexist. The boardwalk would also facilitate safe movement across the slough.

Figure 33: Riparian Node

Celebrating Land Uses From West Sacramento to Clarksburg: An Illustrative Transect into the Delta



Site Plan: Riparian Habitat Node



Vignette: Riparian Site

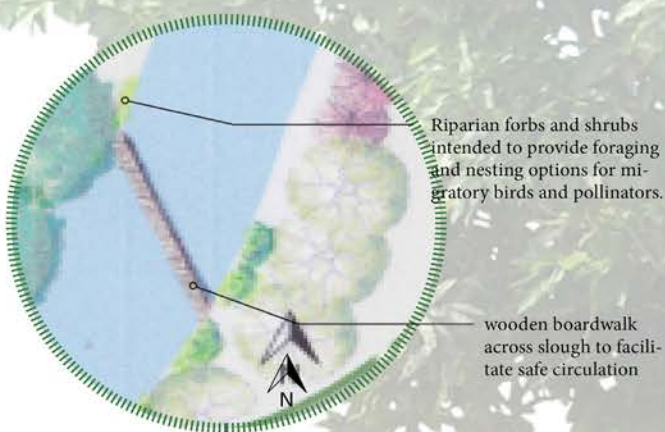


Riparian Habitat Node

1. Proposed wooden boardwalk for trail users to safely cross the existing Slough. 2. Maintain existing vegetation which contributes to the function of the riparian habitat. Seek a plan to eradicate invasive plants around riparian area. 3. Provide shelter and foraging space for migratory birds. 4. Provide safe access for users which are biking and walking. Signage would be useful to indicate that there is a nearby road. 5. Proposed introduction of riparian plants which complement the existing vegetation. 6. This area is more open than other parts of the trail. This leaves opportunity for potential alternative recreational opportunities such as hot air balloon rides (e.g Winters, CA). This would also provide additional potential surveillance and interesting views along the trail. 7. The addition of shade trees to provide shade along the trail.

Plant Palette: Recommendations for Node

Detailed Site Plan: Riparian Habitat Node



California Buckeye
Aesculus californica



Ceanothus 'Blue Blossom'
Ceanothus thyrsiflorus



Milkweed
Asclepias speciosa



Public Art Node

Natural Systems and Unexpected Sites

Located within close proximity to the Old Sugar Mill, this node provides an opportunity to display installation art possibly from art classes offered by local artists at the Old Sugar Mill. This site is also relatively open with a few remnant oak trees. In its existing condition, this area already attracts many different birds and is also a great spot to rest and enjoy the refreshing Delta breeze. Design intervention would only be a means to complement what already works well in this area.

Celebrating Land Uses From West Sacramento to Clarksburg: An Illustrative Transect into the Delta

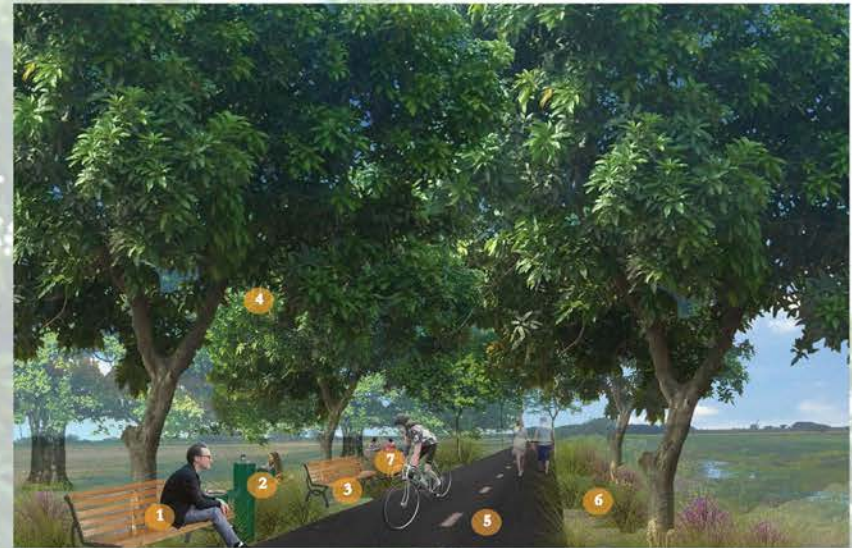
Mile
9.74



Site Plan: Public Art



Vignette: Public Art



Public Art and Riparian Restoration Node

1. Introduction of seating in this area is key to allow access for a variety of different users. 2. Water fountains are proposed due to the multi use intentions of the path. 3. A variety of tree species will allow for adequate shade and habitat for migrating animals. 4. A variety of different canopy sizes and shapes will allow for diverse habitat for native pollinators to forage and nest. 5. A minimum 10' wide bicycle path will allow safe pedestrian movement and room for pedestrians and cyclists to use the path. 6. Native grasses will provide foraging areas for small animals and native pollinators while providing a complementary soft surface compared to surrounding path and agricultural land. 7. small patches of open space is suggested in this node for the installation of temporary or permanent art or for picnic or gathering space Appendix D.

Plant Palette: Recommendations for Node



Valley Oak
Quercus lobata

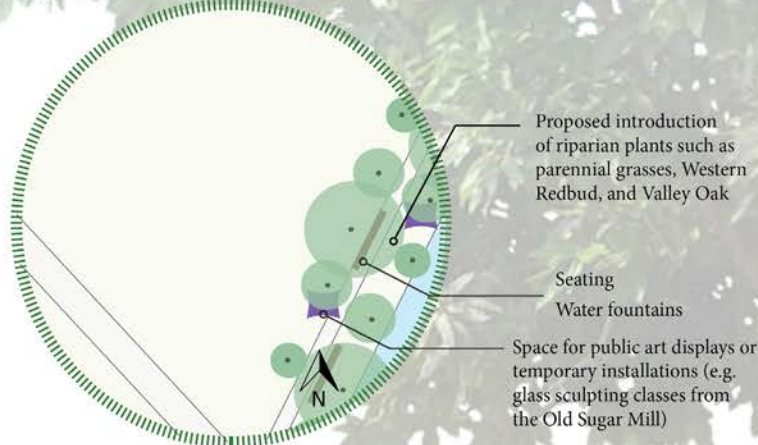


Parnennial Grasses



Western Redbud
Cercis occidentalis

Detailed Site Plan: Public Art



5

Old Sugar Mill Node

Celebrating Local Heritage

With the Delta region considered as a National Heritage area, it is even more important to celebrate the local heritage of individual communities throughout the region. The Old Sugar Mill is an important part of the local heritage in Clarksburg. This node presents opportunity to provide educational material or interpretive signs. Additionally, the Old Sugar Mill is a place that is frequently visited by the public for various reasons including wine tasting, art classes, and it is even a popular place as a wedding venue.

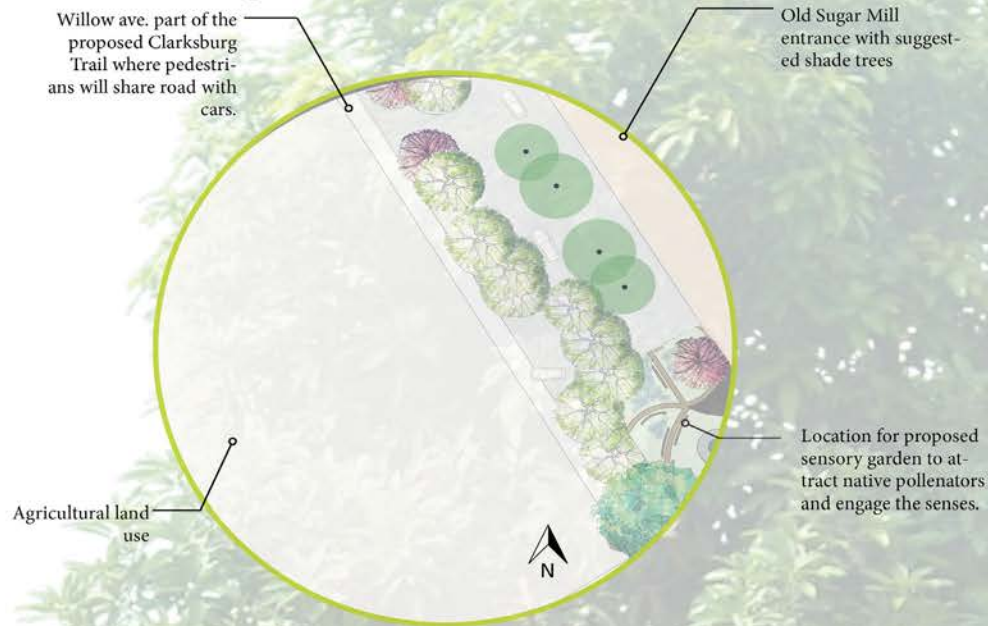
Figure 35: Old Sugar Mill Node

Celebrating Land Uses From West Sacramento to Clarksburg: An Illustrative Transect into the Delta

Mile
10.90



Site Plan: Old Sugar Mill



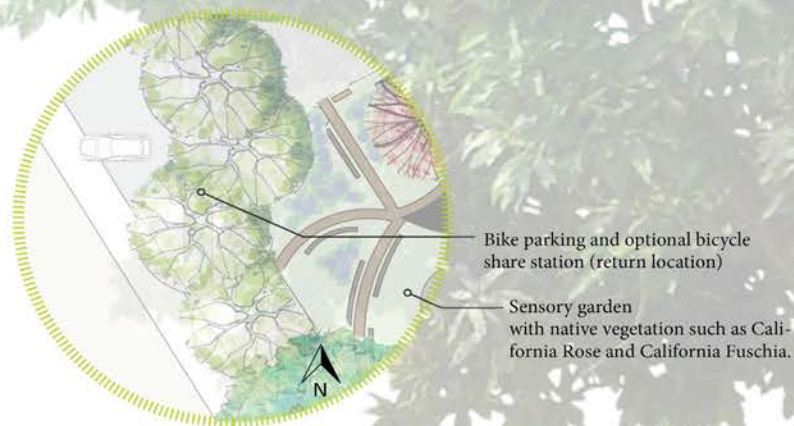
Site Plan: Old Sugar Mill



Old Sugar Mill

1. Use of permeable pavers to facilitate stormwater runoff 2. Bicycle Share Station to drop off bicycles from West Sacramento 3. Forbs and Flowering vegetation to attract native pollinators. This could be a continuation of vegetation used in proposed garden 4. Seating for visitors and cyclists 5. Lighting for safety and to allow bicycle station to be visible at night. Appendix F.

Detailed Site Plan: Old Sugar Mill



Plant Palette: Recommendations for Node



Monkey Flower
Mimulus aurantiacus



California Rose
Rosa californica



California Fuschia
Epilobium canum

Trail Map

Making the Connections

Trail Map

B



C



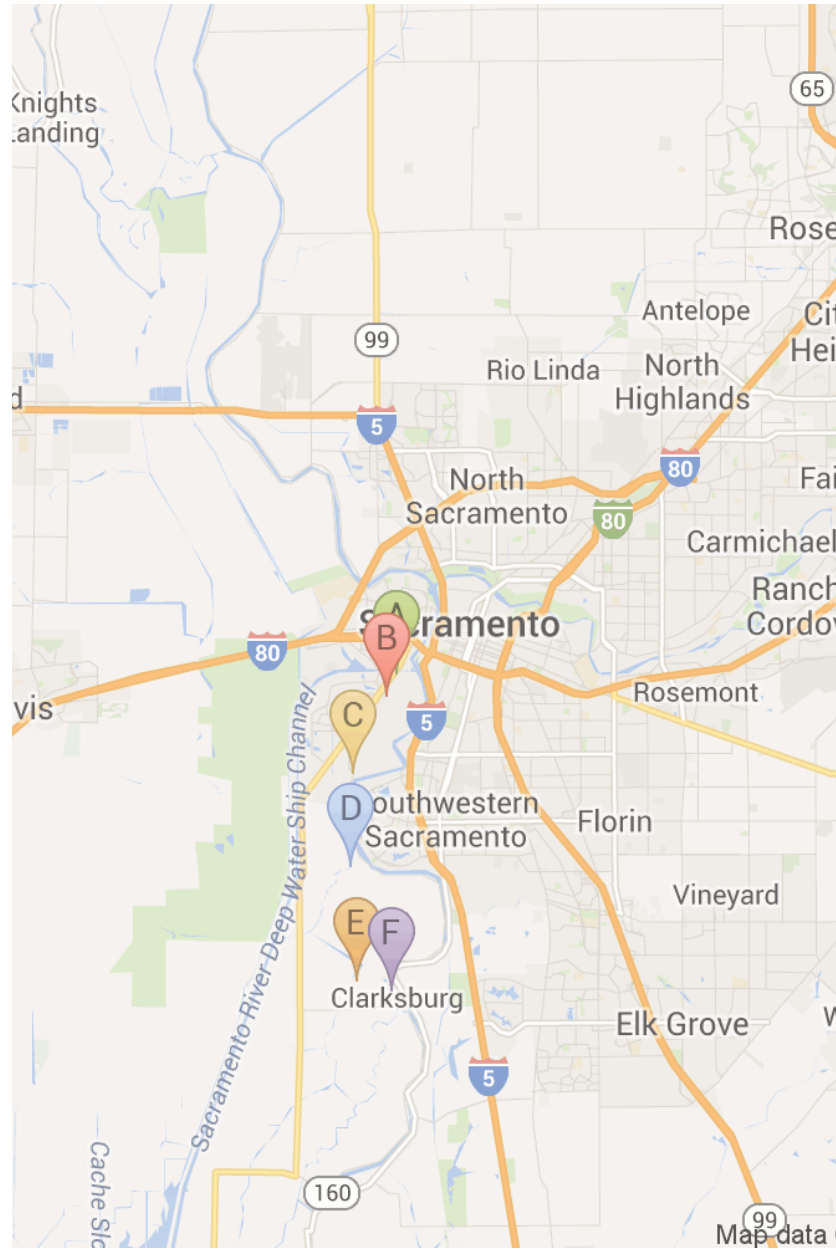
D



E



F



A

Trail Beginning
Mile 0

B

Bicycle Share Node
Mile 0.82

C

Agricultural Education
and Pocket Park Node
Mile 3.25

D

Riparian Habitat Node
Mile 6.18

E

Public Art Node
Mile 9.74

F

Old Sugar Mill
Mile 10.90

Figure 36: Trail Map

Conclusion

Challenges

Overall, I think the missing element of surveys contributed to the, at times decrease in focus. The overall project may have been even more focused if it were specifically tailored to what the public indicated they would like to see in their own communities

I think that there is potential in the design and program I have recommended. I was sure to seek information from a variety of different sources to come up with a holistic approach. However, I think that surveys would have more heavily guided the design. I am learning more and more about how intricate the community involvement process can be. It is not always easy to put together material and obtain a sufficient sample of responses for a sufficient survey. Engaging with the public is an important part of this process but it should also be something that is thoughtfully done. I think that moving forward with a project such as this should incorporate some kind of user survey to get an idea of what people might like to see or experience. This would also be a way to see if there are any major con-

cerns that could be addressed. It was not thoroughly completed for this project due to the allowed time.

Opportunity

The topic of trail design could incorporate many different themes, as there are a variety of different approaches to trail design one could make. Even when I wanted to focus on trails that involve community members, I found myself pulling information from a variety of different topics. For example, trees became a topic of interest because of the many health and social benefits, this is a way to facilitate public gathering along the trail and community engagement. It was ultimately very rewarding to work on this project that is really close to where I grew up in Sacramento.

Despite the elements that I think may have helped the project a little more, I think that this project could be a useful tool to introduce the general public to the site. Through various visits to the exist part of the trail, I observed that many people were already using it. I think that if more people knew about the trail the user group could potentially be larger. The Clarksburg Trail has much potential to contribute to regional transportation goals while at the same time providing an exceptional public amenity. With its close proximity to other highly used public places such as Raley Field, Old Town Sacramento, and the State Capitol, it has the potential to bring in users from a variety of different areas while complementing these existing destinations. The primary purpose of this project is to advertise this future trail and provide suggestions for a sustainable future of this trail as part of the larger Delta region. Being aware of the land uses in the covered areas of this project are important particularly because it is part of the Delta Primary zone. This makes land use –conscious design an important topic to consider moving forward and this idea is one of the ideas that was intended to be illustrated in my proposed program and design. Overall, I can see that this could be a local attraction for a variety of different users from cycling enthusiasts to local families just wanting to enjoy the infamous Delta breeze.

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Tables Used

Selected Housing Characteristics for California – 2012 ACS 3-year estimates

Selected Economic Characteristics for California - 2012 ACS 3-year estimate

Selected Housing Characteristics for West Sacramento– 2012 ACS 5-year estimates

Selected Economic Characteristics for West Sacramento - 2012 ACS 5-year estimate

Selected Housing Characteristics for Clarksburg – 2012 ACS 5-year estimates

Selected Economic Characteristics for Clarksburg - 2012 ACS 5-year estimate

i-Tree

<http://www.itreetools.org/canopy/index.php>

Appendix



A. Bicycle Share Node



B. Agricultural Education and Pocket Park Node



C. Riparian Habitat Node



D. Public Art Node



E. Old Sugar Mill Node

F. Census Data gathered
from American Communities Survey

West Sacramento, CA

Subject	Estimate	Percent
VEHICLES AVAILABLE		
Occupied housing units	17,184	17,184
No vehicles available	1,458	8.5%
1 vehicle available	6,220	36.2%
2 vehicles available	6,323	36.8%
3 or more vehicles available	3,183	18.5%

Clarksburg, CA

Subject	Estimate	Percent
VEHICLES AVAILABLE		
Occupied housing units	209	209
No vehicles available	0	0.0%
1 vehicle available	60	28.7%
2 vehicles available	65	31.1%
3 or more vehicles available	84	40.2%

California

Subject	Estimate	Percent
VEHICLES AVAILABLE		
Occupied housing units	12,474,950	12,474,950
No vehicles available	983,168	7.9%
1 vehicle available	4,052,625	32.5%
2 vehicles available	4,671,551	37.4%
3 or more vehicles available	2,767,606	22.2%

Site Inventory Analysis
 Site:
 Date:
 Distance of Transect:

G. Site Inventory Form
 Used to Gather Specific Data from
 Case Study Sites

Amenity	Y	N	Quantity	Notes
Lights				
Benches				
Picnic Tables				
Riparian vegetation				
Water fountains				
Shelter				
Bathrooms				
Signage Education Safety				
Garbage Cans				
Recycling Cans				
Close proximity to housing/ Pathways to housing				
Close proximity to roads/ Intersections				
Etc				