



THE RIVER

WHEN LOST
JUST FOLLOW

By KAREN LOMAS-GUTIERREZ
SENIOR CAPSTONE PROJECT, 2018

1

**REACTIVATING UNDERUSED
CONCRETE-ENCASED CANAL**

2

**PROVIDING BETTER ACCESS
TO QUALITY OPEN SPACES FOR
UNDER-SERVED COMMUNITIES**

3

**ENHANCING CULTURE IDENTITY
AND COMMUNITY ENGAGEMENT
THROUGH DESIGN INTERVENTIONS**

4

**IMPROVING CONNECTIVITY
AND BRINGING COMMUNITIES
TOGETHER**

WHEN LOST
JUST FOLLOW

The **RIVER**

BRIDGING COMMUNITIES TOGETHER
THROUGH RIVER REVITALIZATION

By Karen Lomas-Gutierrez
Senior Capstone Project, 2018



When Lost Just Follow the River:

Bridging Communities Together

Through River Revitalization

By Karen Lomas-Gutierrez

Submitted in partial satisfaction of the requirements for the degree of

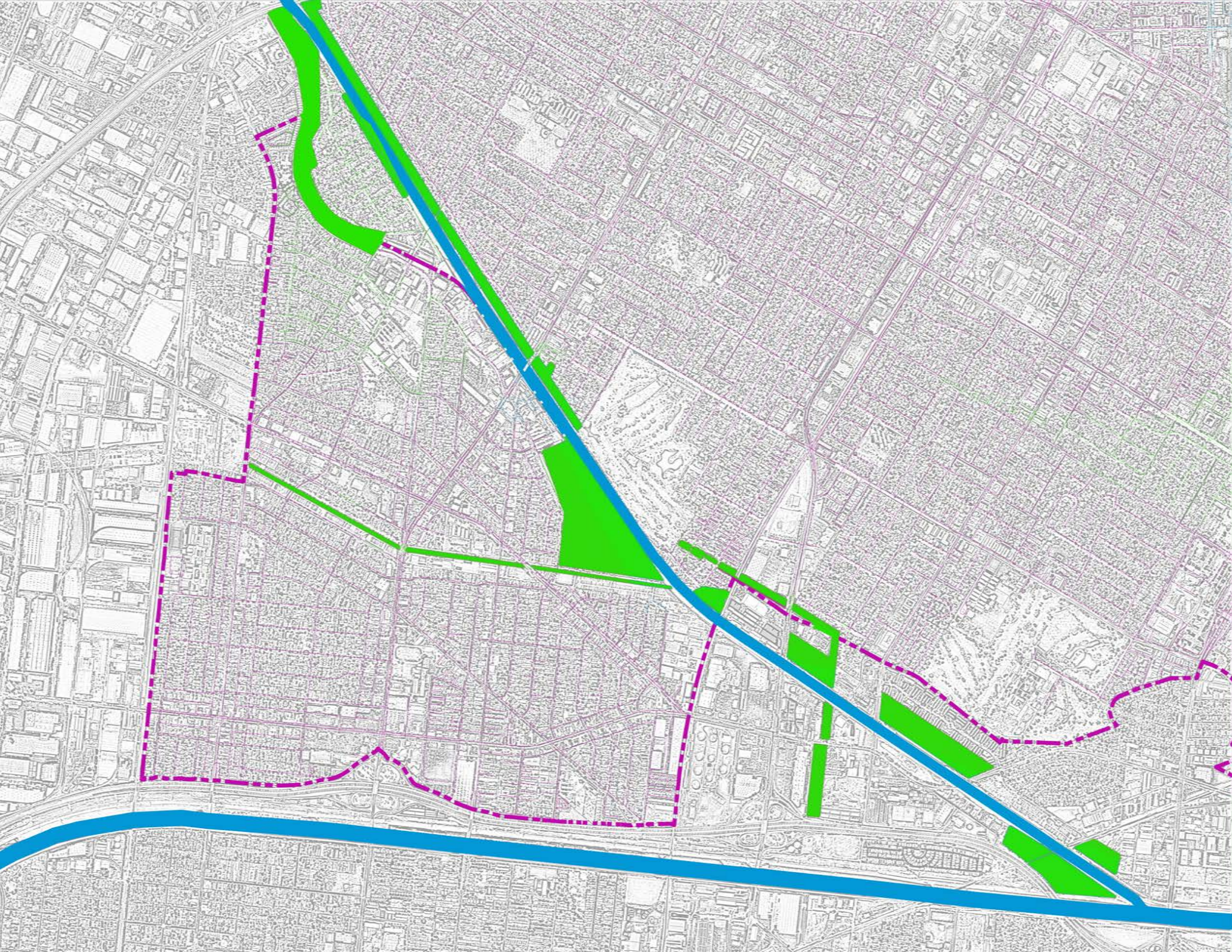
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ABSTRACT

Urban rivers present an eminent challenge for planners and designers. It becomes a balancing act between nature and urbanization. Rivers should provide identity and introduce place-making to their surroundings, but in reality the opposite tends to happen. Many cities have decided to bury and restrain rivers under tons of concrete, stripping them away from their vitality, exuberance, and identity, which is the case of Los Angeles River and most of its tributaries, including Rio Hondo. Projects such as the L.A. River Revitalization Master Plan aim to change the perception of the L.A. River in the community through design. However, urban planning is usually based on elitism, and under-served communities are usually ignored during the planning process.

This research project explores the potential to reactivate Rio Hondo, a channelized river tributary to Los Angeles river. It focuses on the segment that runs along the city limit of Bell Gardens, a low-income community, and Downey, a more affluent city. Community participation was a prominent factor driving the development of design interventions that improve the current conditions of the site, reactivate under-used spaces, provide better access to quality open spaces, enhance the cultural identity of the community, and transform the canal from a dividing landscape element to a social hot spot where two communities come together.

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**"GRATITUDE MAKES SENSE OF OUR PAST, BRINGS PEACE
FOR TODAY, AND CREATES A VISION FOR TOMORROW"**

-MELODY BEATTIE

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Figure 1 :Los Angeles River at Bell Gardens. Source: theguardian.com. Photography by: Lane Barden

INTRODUCTION

1

"LOS ANGELES RIVER DOES NOT SWEEP MAJESTICALLY PAST ITS CITY IN UNCHALLENGED SUPREMACY. EVER SINCE IT WAS BURIED UNDER TONS OF CONCRETE IN THE LATE 1930'S, THE LOS ANGELES RIVER HAS ALL BUT LOST ITS IDENTITY"

- PATT MORRISON

INTRODUCTION

Rivers are a force of nature. A source of essential resources for survival. They are ecologically necessary for the sustainment and preservation of natural habitats and ecosystems, contributing to the well-being of countless species. They are largely used for navigation and connectivity. They turn into influential landscape landmarks and topographic features. However, urban rivers present a different challenge for planners and designers. It's a balancing act between nature and urbanization, between wanting to preserve and protect the natural habitat and environment, but at the same time offer protection, comfort, and infrastructure services to the overall population. Rivers are fundamental physical attributes, but they can be much more than just 'a stream of fresh water flowing along a definite course'. When appreciated and respected, rivers become a fundamental part of society, a detonator of cultural values and social behavior.

I was grooved to respect and praise the river. My mother grew up in a small town located on the banks of one of the largest rivers in Mexico: the Nazas River. Being a primarily agricultural community, the river was an essential component for their well-being, providing the perfect setting and conditions for crops. The river became a part of my mom, the source of her memories and identity. Even though she eventually moved out and constructed a life somewhere else, we always went back every year to her river, and as a kid I always looked forward to summer days spent with family and friends eating watermelons and tamales next to



Figure 2 : Nazas River. Source: canoekayak.com. Photography by: Eric Ellman

the river. I grew up in a culture where rivers are seen as attractions, an asset to the community. People spend their weekends next to rivers in company of good food, music, and family. It is almost a sacred experience bonding with nature and loved ones.

When I moved to Los Angeles, the first time I laid eyes on Los Angeles River I could not fathom how all those tons of concrete were once a free running exuberant river. In his book *Rio L.A.* tales from the Los Angeles River, Patt Morrison mentions that 'Los Angeles River does not sweep majestically past its city in unchallenged supremacy. Ever since it was buried under tons of concrete in the late 1930's, the Los Angeles River has all but lost its identity'(Morrison, 2001). I couldn't comprehend how a river could have its vitality, identity, and abundance stripped away. Cities should be praising and enhancing rivers and their habitats, instead of restraining them and diminishing their potential. And still, people around me didn't seem to care. Los Angeles River was part of the landscape, but no one used to really acknowledge its presence. Los Angeles is better characterized and known by its freeways than by its River. Everyone knows where interstate 5 is, but no one provides directions in relationship to the River. The River has lost its spatial force and distinction. It is unfortunate how something that was a prominent feature of the landscape, a source of life, was reduced to a characterless and static pile of concrete. I was elated when I discovered that the city was working on a plan to revitalize and reactivate the L.A. River.

I knew from early on that I wanted to focus this research project on reactivation of urban rivers, but from a social perspective on how revitalization affects or improves life quality for the communities involved. I strongly believe that rivers should provide identity and introduce place-making to their surroundings. In a city like Los Angeles, the launching of the L.A. River Revitalization Master Plan is a significant and outstanding step towards the future of ecology, planning, and landscape architecture. This master plan aims to increase access to quality open spaces, enhance natural habitats, restore ecosystems, and improve connectivity for cities adjacent to the L.A. River. However, the effort should not stop there. It becomes imperative to examine other communities that are not directly adjacent to the L.A. River, and understand how they can benefit or be affected by this new development. Not only large cities, but also smaller municipalities should consider re-framing their general plans and urban planning practices to take full advantage of the potential urban rivers present. Because of their morphology, rivers create a natural connectivity network that can be utilized to provide equal access to services and amenities for the whole population. This research project explores urban rivers, not only as physical connection, but as social liaison, and its influence on social justice and cultural values.

SITE SELECTION AND RESEARCH QUESTION

Cultural and socio-economic values, circumstances, and priorities change over time. In the 1930's, when the Army Corps of Engineers decided to channelize Los Angeles River and its tributaries it seemed like an innovative and practical solution for flood control. Now days, it is acknowledged that perhaps it was not the most effective way to address the issue. Unfortunately, it was done, and it is not possible to go back in time and change those actions. However, it is feasible to control the present, and



Figure 3 : Channelization of L.A. River. Source: waterandpower.org

any changes made now will benefit or affect future generations. "The physical integrity of the world's freshwater ecosystems is now an important issue and supported by many international, national and regional programs and legislation" (Findlay & Taylor, 2006). It is now known that channelizing the river under tons of concrete was not the most environmentally responsible decision, and irreparable damage was done to the ecology and natural habitats of the area. For instance, none of the native fish species of the L.A. river survived after channelization (Elrick, 2007). It would be almost impossible to restore the river back to its grandeur, to what it used to be. Instead, it can be improved, and reactivated in order to enhance what is left. In an effort to do so, The city of Los Angeles has adapted a long-term master plan to revitalize Los Angeles River, which will change the public perspective of the River and provide access to new improved open spaces for many communities neighboring the River.

Even though I reside in Los Angeles area, my community is not adjacent to Los Angeles River, and would not directly benefit from this ambitious revitalization project. These often neglected and under-served communities should also have the opportunity to participate in revitalization projects and see their community conditions improved. Their opinions and concerns should also be heard and taken into consideration for future urban planning. A sense of belonging should be diffused through design, creating spaces where community members feel comfortable and accounted

for, rather than mere spectators. Inclusive design practices should be promoted to successfully design spaces that are accessible for all types of people.

Improving quality of life and enhancing cultural values are the main principles driving this research project. It is heavily based on a social component and it aims to address social issues but still remain within the context of urban rivers, which leads the following research question:

CAN CULTURAL IDENTITY BE ENHANCED, AND SOCIAL EQUALITY PROMOTED THROUGH THE REVITALIZATION OF URBAN RIVERS?

Downey and Bell Gardens, the communities this project is based on are not located adjacent to the L.A. River. However, they are adjacent to another channelized river: Rio Hondo, which is tributary to Los Angeles river. It presents a great opportunity for design intervention. The truth is that the L.A. river is an important waterway, but it is not the only one. There are many other smaller creeks and rivers that can also be addressed and encompassed in an overall vision to transform the entire L.A. area into an interconnected network of trails and pathways that can take you anywhere in the city, promoting equal access to all types of amenities and services. Rio Hondo introduces the perfect setting for this research project, offering the opportunity to address the concerns of a low-income, overlooked community, in the context of urban river reactivation.

Before engaging in the design portion of this research project, it was crucial to identify and acknowledge the needs, concerns, and desires of the community. It required a more immersive approach, and an effective communication with the community. Local schools were involved in community engagement activities and students from different age groups were very helpful in providing feedback and inspiration for this project. It was enlightening listening to their opinions and needs, learning from them to successfully design for them. Visits and communication with the city's planning department and public works were also necessary in order to obtain more information about the site. A large portion of the design development of this project was based on the findings and results from community participation.

The end design for this project transforms Rio Hondo into a more pleasant and functional corridor that promotes connectivity to bridge communities together. It improves the current conditions and reactivates this canal as urban space, promoting equal access to quality open spaces for all, and enhancing the cultural values and identity of the community.



Figure 4: House falling into Los Angeles River after flood. Source: Los Angeles Public Library

HISTORICAL CONTEXT

"THE YEAR 1938 IS REMEMBERED AS THE YEAR OF THE GREAT FLOOD WHICH DESTROYED 1,500 HOMES, LEFT ABOUT 3,700 RESIDENTS HOMELESS, TOOK THE LIFE OF 688 VICTIMS AND LEFT 127 MORE MISSING"

-TED ELRICK

HISTORICAL CONTEXT

LOS ANGELES RIVER AND TRIBUTARIES

In California there are 190 identified watersheds. The Los Angeles River watershed covers an area of about 824 square miles from which 324 square miles are covered by forest or open space land. Los Angeles River flows for approximately 51 miles through Los Angeles County, from Canoga Park to Long Beach and into the Pacific Ocean. Classified as a Mediterranean-type ecosystem, it covers only 2% of the Earth's land surface but includes 20% of all known plant species. Bell Creek, Browns Canyon Wash, Aliso Creek, Tujunga Wash, Verdugo Wash, Arroyo Seco, Rio Hondo, Arroyo Calabasas, and Compton Creek are all tributaries to Los Angeles River.

As documented in the book Los Angeles River by Ted Elrick, Los Angeles River and its tributaries used to run free, unrestrained and exuberant through Los Angeles county. Over 100 years ago, the Tongva, a Native American Indian community, established a settlement on the banks of various rivers in the area. The River was their main source of water and food. In 1769, Spanish newcomers started settling along the river, and eventually the city of Los Angeles was founded in 1781. At the beginning, farmland, agricultural fields, orchards and vineyards used to dominate the city fabric, but eventually urbanization started taking over and farmlands were replaced by residential zones. A series of devastating inundations raised concerns for the public safety. In 1815 the Los Angeles River floods washed away the original Pueblo

LOS ANGELES RIVER ILLUSTRATED PROGRESSION

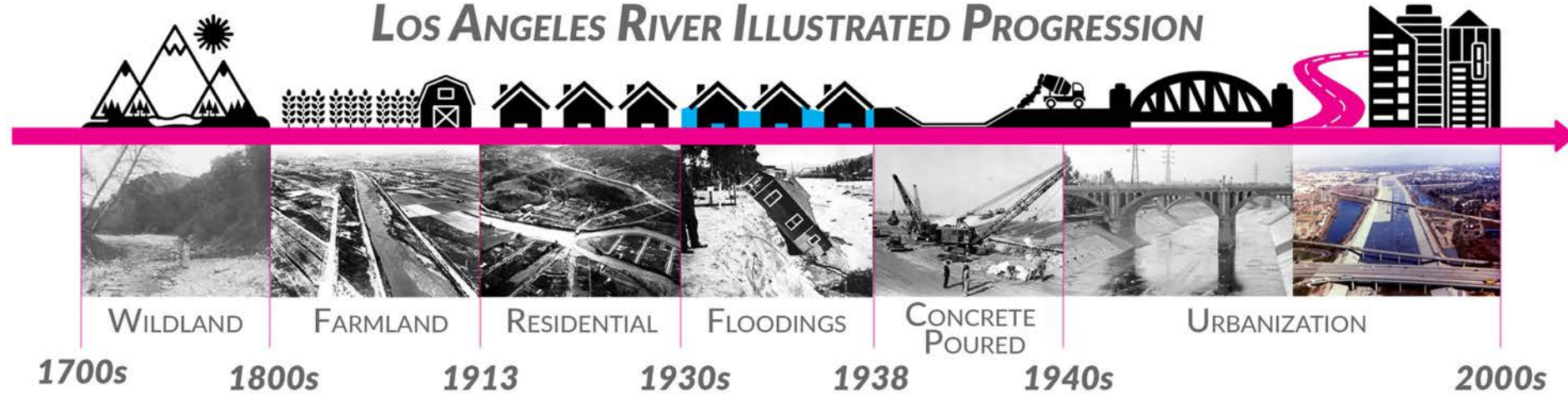


Figure 5 :Illustrated History of Los Angeles River and its Tributaries. Photography Source: Los Angeles Public Library



Figure 6 : Context Maps and Access to Los Angeles River Master Plan map. Maps Source: Los Angeles County GIS Data Portal

de Los Angeles. The 1914 flood caused \$10 million in damages. Unpredictable and devastating floods continued to disturb the area until the 1930s. Residents were urging the local government to do something about this issue. In 1915, Los Angeles County Flood Control District was formed. The Army Corps of engineers were assigned to come up with a solution to exert water flood control in the entire area. The engineers determined that in order

to make a statement and elevate the performance of Los Angeles city, they needed to adopt and execute an ambitious plan to encase in concrete the L.A. river in its entirety along with many of its tributaries, including Rio Hondo. The year 1938 is remembered as the year of the great flood which destroyed 1,500 homes, left about 3,700 residents homeless, took the life of 688 victims and left 127 more missing. After such devastation, the Army Corps of

Engineers took a lead role in channelizing the River and some of its main tributaries, which began in 1938 and was completed by 1960. (Elrick, 2007).

At first sight, the encasement of Los Angeles River in concrete seemed as a way to implement flood control strategies and protect the population from future damages caused by heavy rain seasons. However, this channelization also intended to encourage urbanization and economic growth with no regard for the natural morphology and ecology of the River. Over time, the River became delineated by rail yards, warehouses, and other industrial uses that eventually resulted in the isolation of the River from most people and communities (Los Angeles River Revitalization Master Plan, 2007). Now dry for most part of the year, the urban rivers in Los Angeles county slowly lost their vitality, presence and importance. As described in the article ‘Every River Tells a Story’, they first ‘disappeared’ into a concrete channel for flood control reasons; and now they have vanished from the public consciousness. (Desfor & Keil, 2000).

LOS ANGELES RIVER REVITALIZATION MASTER PLAN

Over the last few decades the L.A. river has started making a comeback thanks to environmental groups such as Friends of the Los Angeles River founded in 1986 and has as an objective to protect and restore the natural and historic heritage of the river

(Elrick, 2007, p. 93). Los Angeles communities, with many local, state, and federal government agencies and nongovernmental organizations, have engaged in efforts to revitalize the Los Angeles River and its watershed. Many nonprofit groups, including the Friends of the Los Angeles River (FoLAR), Tree People, North East Trees, The River Project, the Los Angeles and San Gabriel Rivers Watershed Council, the Trust for Public Land, and others have also worked tirelessly to raise public and civic awareness of the River’s potential and to implement revitalization projects (Los Angeles River Revitalization Master Plan, 2007)

In 1996, Los Angeles County began efforts to implement the Los Angeles River Master Plan. In June 2002, the L.A. City Council approved establishment of the Ad Hoc Committee to focus on revitalization efforts of the Los Angeles River and its tributaries, and to coordinate with other organizations and partners in order to implement design interventions. In 2007, the city of Los Angeles creates and adopts the L.A. River Revitalization Master Plan which takes on the task of transforming the River and focuses on the first 32 miles of Los Angeles River. The Plan provides a long-term vision and framework for implementation of revitalization projects. It is organized around four main principles: Revitalize the River, Green the Neighborhoods, Capture Community Opportunities, and Create Value (Los Angeles River Revitalization Master Plan, 2007).

Several Design competitions have taken place and a variety of design firms are collaborating to make this project a reality. So far,



Figure 7 :L.A. Master Plan Revitalization Design Rendering. Source: MLA



Figure 8 :L.A. Master Plan Revitalization Design Rendering. Source: AECOM

7 firms are in charge of designing different sections of the river: Gruen Associates, WSP, CH2M, Chee Salette, MLA, AECOM, and Tetra Tech. This is one of the most ambitious projects that city of Los Angeles has undertaken (Los Angeles River Revitalization Master Plan, 2007).

The L.A. River Revitalization Master Plan has started a new movement in the area, and many other communities are following this example and extending the effort to other areas in Los Angeles county.

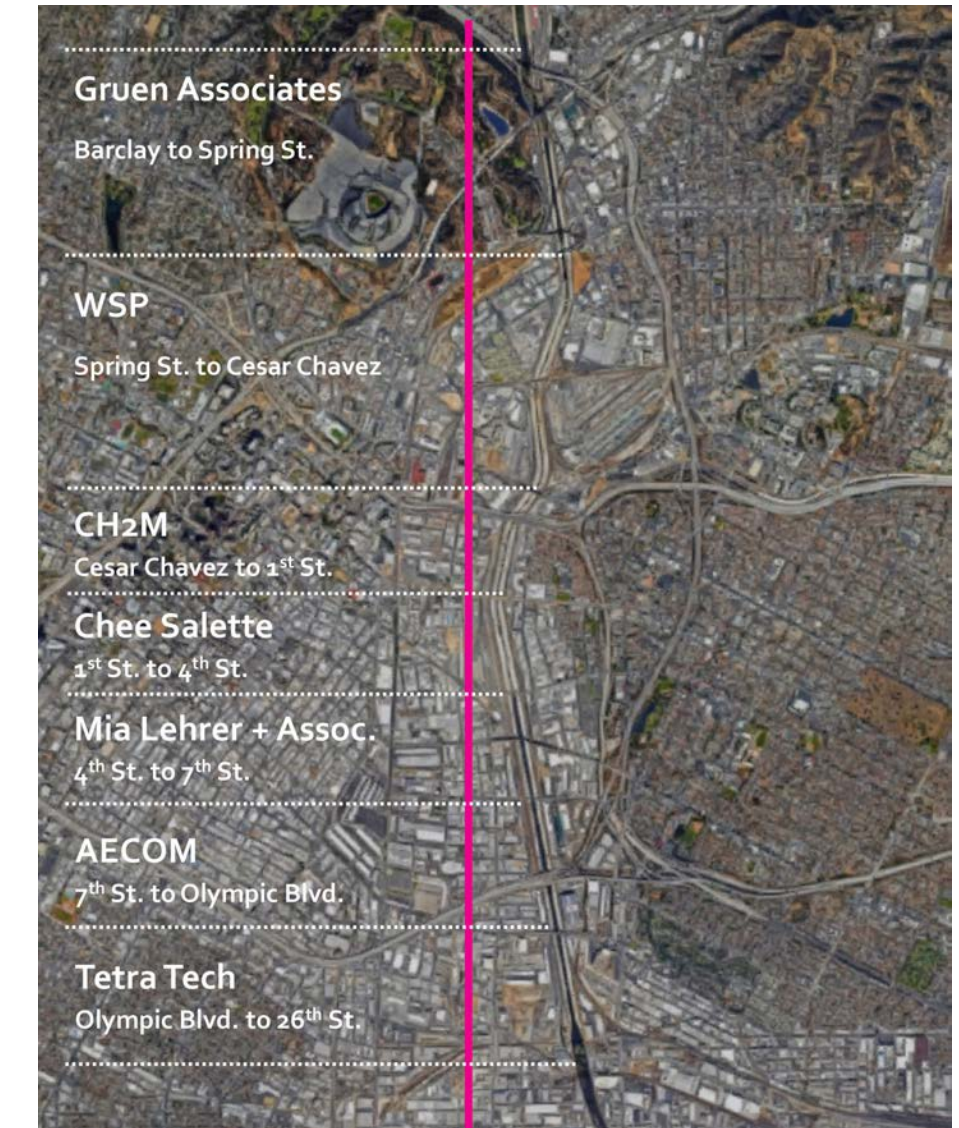


Figure 9 : Design Intervention Map by Firm. Source: L..A. River 3D. Downtown Design Dialog

RIO HONDO AND THE EMERALD NECKLACE

Tributary to Los Angeles River, Rio Hondo runs for about 16.4 miles long from its source Santa Anita Creek in Irwindale, to South Gate where it meets the L.A. River. Just like many of the other L.A. River tributaries, most of the Rio Hondo was transformed into a concrete-lined channel to serve its primary flood control function and was completed approximately in 1951. Its morphology, ecology, and identity were permanently modified.

Rio Hondo shares some rich history with the San Gabriel

River, since they used to be the same river once upon a time. As mentioned in the book History of Downey, a decisive battle took place along its shores during the Mexican-American War in January of 1847, known as “The Battle of Rio San Gabriel” when a crew of soldiers from United states marched through the area in an attempt to win California for the United States. A bronze plaque now marks the exact location where this event took place (Quinn, 1973). San Gabriel River used to flow along these banks but a flood in 1867 caused the San Gabriel to change course. The old San Gabriel was renamed the Rio Hondo after this flood. Because of this event, in Downey, California, the Rio Hondo was

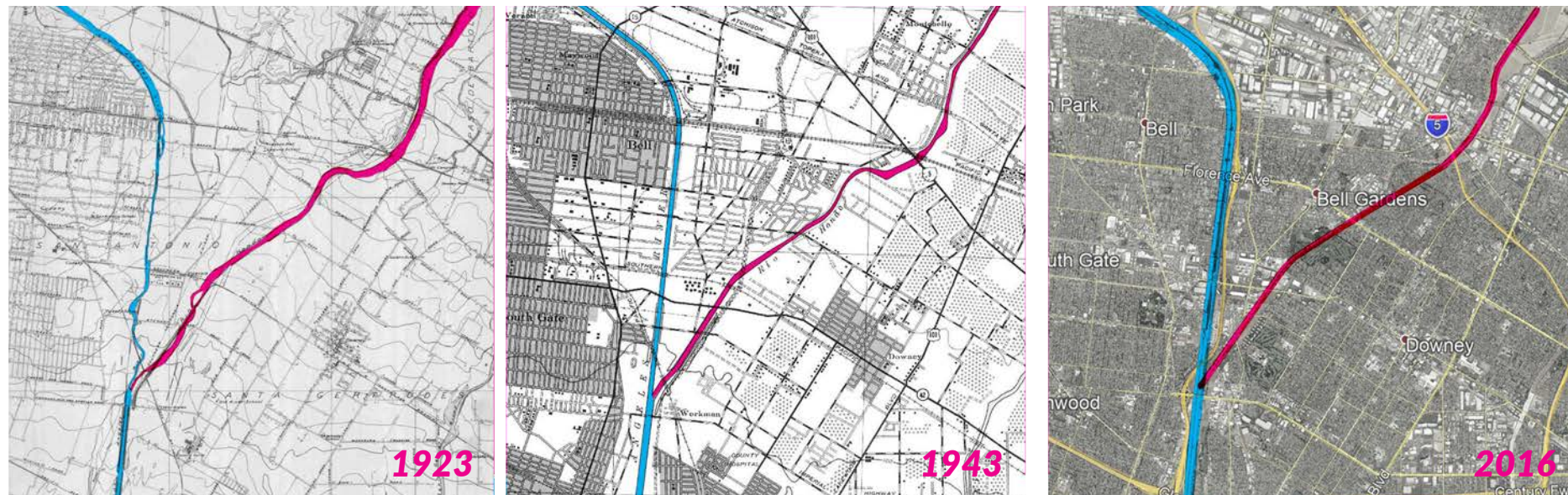


Figure 10 : Historic Morphology of Rio Hondo. Map Sources: USGS, Google Earth

once known as the “Old River”. Rio Hondo and the San Gabriel River now run parallel to each other, both of them functioning as dam outflow for the Whittier Narrows Dam.

The Rio Hondo has been part of a revitalization program called the Emerald Necklace. In 2005, Amigos de los Rios introduced the Emerald Necklace Vision Plan which intends to develop a 17-mile loop of beautiful multi-benefit parks and greenways connecting 10 cities and nearly 500,000 residents along the Rio Hondo and San Gabriel Rivers. This plan aims to provide desperately needed recreational areas for communities suffering from extreme density and urban decay, and the associated social and health issues (Emerald Necklace Forest to Ocean Expanded Vision Plan: Towards a Common Vision, 2014) . The Emerald Necklace Vision Plan has defined eight regional goals:

1. Promote Active Transportation - Walking, Biking, and Alternative Mobility Options
2. Create Functional and Multi-Purpose Natural (Green) and Built (Grey) Environment Networks.
3. Improve Public Health by Expanding Access to Nature and Outdoor Recreation.
4. Treat Water as a Precious Resource and as a Multi-Benefit Amenity.

5. Design and Build Resilient Communities that Adapt to and Mitigate the Current and Projected Impacts of Climate Change
6. Enhance Regional Wildlife and Natural Area Anchors.



Figure 11 : Emerald Necklace Proposed Extent. Source: Emerald Necklace Forest to Ocean Expanded Vision Plan

7. Celebrate Culture and Foster Environmental Awareness Through Education, Outreach, and Workforce Training

8. Foster a Green Economy that Creates Jobs and Spurs Investment in Local Multi-Benefit Projects

(Emerald Necklace Forest to Ocean Expanded Vision Plan: Towards a Common Vision, 2014)

As part of the Emerald Necklace Vision Plan, 10 projects have already been completed in 5 different communities: El Monte, South El Monte, Baldwin Park, Whittier, and Irwindale (Emerald Necklace Forest to Ocean Expanded Vision Plan: Towards a Common Vision, 2014). However, there is still a lot of work left to do, and multiple sites that present potential opportunities to be transformed and designed under the framework of this visionary plan. For instance, the cities of Bell Gardens and Downey are also adjacent to Rio Hondo, but since they are further south, the Emerald Necklace Vision has not reached this area yet.

The city of Bell Gardens is also adjacent to Los Angeles river, but has been left out of the L.A. River Master Plan as well. Bell Gardens has a very special condition being framed by two rivers: Los Angeles River and Rio Hondo. This offers a tremendous potential for river reactivation and redevelopment that would connect Bell Gardens to other neighboring communities such as Downey, which would result in improved access to amenities and services for its residents. However, Bell Gardens, being a low-

income immigrant community, has been ignored, marginalized and isolated for years. But history shows that this was not the case all the time, Bell Gardens used to be the home of prominent Spanish Families.

BELL GARDENS

The City of Bell Gardens is located southeast of Los Angeles, nestled in between the cities of Pico Rivera, Downey, South Gate, Cudahy and Bell. According to the 'History of Bell Gardens' section in the City of Bell Gardens, California website, the city has a rich history dating back to the late 1700's. It was once a bustling agricultural center for immigrants escaping the Mexican government.

In 1771 Antonio Lugo was a 35-year-old corporal in the Spanish army and was given a land grant of more than 29,514 acres, which today is known as the cities of Bell Gardens, Maywood, Vernon, Huntington Park, Walnut Park, Cudahy, South Gate, Lynwood and Commerce. While stationed at San Antonio de Padua Mission near Salinas, California, Antonio Lugo's son Don Antonio Maria Lugo was born in 1783. Using this large amount of undeveloped territory given to his father, Don Antonio Maria Lugo built one of the largest ranches in the history of the state of California, named Rancho San Antonio. Lugo raised cattle and became one of the most respected members of the community, and eventually he was

given a term as Mayor of Los Angeles. One of the adobe houses, built about 1810, is the oldest house in Los Angeles County and is still standing at 7000 Gage Ave.

Although he sold some of the land, the majority of it was lost when California became a part of the union in 1850. Yankees, who wanted Don Antonio's valuable land and the property of dozens of other Spanish land grantees, relied on politicians to pass decrees that eventually stole not only the land, but also the livelihoods of California's founding families. Some of the last remaining Lugo property, a 27-acre parcel was transferred to Henry T. Gage, a lawyer who married one of Don Antonio's great granddaughters.

One of Bell Gardens most well-known citizens was Henry Tift Gage who served as California's 29th Governor from 1898-1903.

The Bell Garden's school system began in 1867 when the San Antonio School was built where Bell Gardens Elementary stands today, which was one of the earliest educational institutions in the County of Los Angeles.

Because of the rich soil and abundant land, many Japanese immigrant gardeners leased land and farmed to produce quality vegetables for the marketplace. With some of the richest agricultural land in the country, Bell Gardens remained a farming community until the 1930's. In 1927 Firestone Tire Company bought some of the land at \$7,000 an acre.



Figure 12 : Gage Mansion built by Don Antonio Maria Lugo in 1810. Said to be the oldest standing house in L.A. County, currently located in a mobile house park. Source: Skyscraperpage.com

In 1930, O.C. Beck purchased property and begins to build affordable homes for those suffering through the depression era.

Since its incorporation on August 1, 1961, Bell Gardens has grown from a population of approximately 4,000 to nearly 45,000. The median age is 23.8. There are six elementary schools, two intermediate schools, one high school and two adult schools. Bell Gardens is one of the six cities in Los Angeles county to allow casino gambling ("History of Bell Gardens,")

Bordering on the southeast is the city of Downey, on the other side of Rio Hondo. Downey is a more affluent city with more resources and services available to residents. Its history in agricultural farms and its participation in the space program have positively influenced the urban growth of Downey and has made it a more economically stable and prosperous city. Improving and encouraging its connection to Bell Gardens would improve the life quality of Bell Gardens residents.

DOWNEY

The city of Downey is located southeast of Downtown Los Angeles, nested between the cities of Bell Gardens, Pico Rivera, Santa Fe Springs, Norwalk, Bell Flower, Paramount, Lynwood, and South Gate.

As documented in the book History of Downey, during the Spanish occupation of California in the 1700s, land was granted to

early Spanish settlers and soldiers that participated in exploration activities. Manuel Nieto was a former soldier that in 1784 was granted a large piece of land by the then Governor Pedro Fages. His land was delimited by the Santa Ana River on the east and Rio Hondo on the west, and from the mission highway on the north to the Pacific Ocean on the south. It was one of the largest grants approved. The area now includes the cities of Norwalk, Downey, Pico Rivera, Long Beach and Lakewood. Manuel Nieto retired from the army in 1795 to focus his attention in the development of Rancho Los Nietos. Upon his death in 1804, the land was passed on to his four children who in 1833 petitioned the division and distribution of the property. The grant was divided in six parts, one of them being Rancho Santa Gertrudes (now Downey-Norwalk), awarded to Josefa Cota, widow of one of Manuel Nieto's sons. It became a center of social life and political activity. (Quinn, 1973)

In 1832, Lemuel Carpenter, native from Kentucky, arrived to Rancho Santa Gertrudes in a quest to explore California land. He established a soap factory on the banks of the San Gabriel River (Now Rio Hondo). He was welcomed in the social life of Los Nietos, and eventually married Maria de los Angeles Dominguez, niece of Josefa Cota. In 1843 he purchased rancho Santa Gertrudes. (Quinn, 1973)

After the Mexican-American war, many Americans married into Spanish families in California. The economy changed drastically in California with the Gold Rush. Many Dons from ranchos started



Figure 13 : 19940's Aircraft production line at Vultee in Downey. Source: airfields-freeman.com



Figure 14 : 1960s prototype of Apollo Command Module inside Downey's building. Source: airfields-freeman.com



Figure 15 : 1970s full-scale Space Shuttle mockup inside Downey's building. Source: airfields-freeman.com

borrowing large amounts of money they could not pay back, Carpenter being one of them. In 1859 Rancho Santa Gertrudes was auctioned and bought by John G. Downey and James McFarland. In that same year Downey was elected Lieutenant-Governor. He helped build the economic foundation of Southern California, effecting a transition from open cattle range to an agricultural district of small farms.(Quinn, 1973)

The southern Pacific railroad arrived in 1873, and the building of the railroad station marked the beginning of Downey city, an area with a favorable climate, fertile soil and abundant water sources.

The city of Downey remained mainly an agricultural community characterized as an "orange-grove town" until the development of the local aircraft industry during and after World War II, when Vultee Aircraft was Downey's main industry and largest employer. Industry and tract homes replaced orange groves and farms. Downey was the birthplace of the Apollo Space program and the Shuttle space program when the NASA awarded the contract to the Space Division at Downey. (Quinn, 1973)

On December 17, 1956 incorporation documents were filed at Los Angeles County Recorder's office making Downey a general law City. (Quinn, 1973)



Figure 16: View of Rio Hondo Channel. Source: Google Earth

SITE ANALYSIS

THE RIO HONDO CANAL FOR NOW ACTS AS A BARRIER, SEPARATING BOTH CITIES. THE AIM OF THIS PROJECT IS TO FORMULATE A WAY TO UTILIZE RIO HONDO SITE NOT TO DIVIDE, BUT TO BRIDGE THESE TWO COMMUNITIES

SITE ANALYSIS



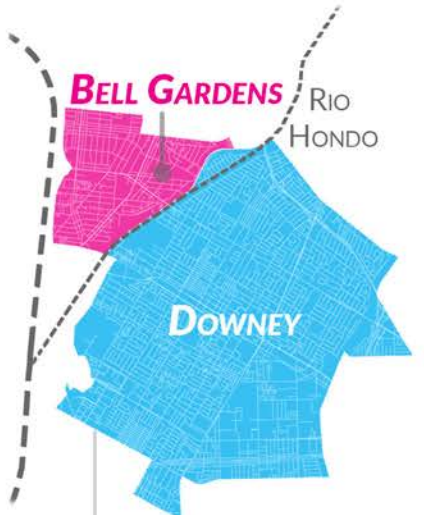
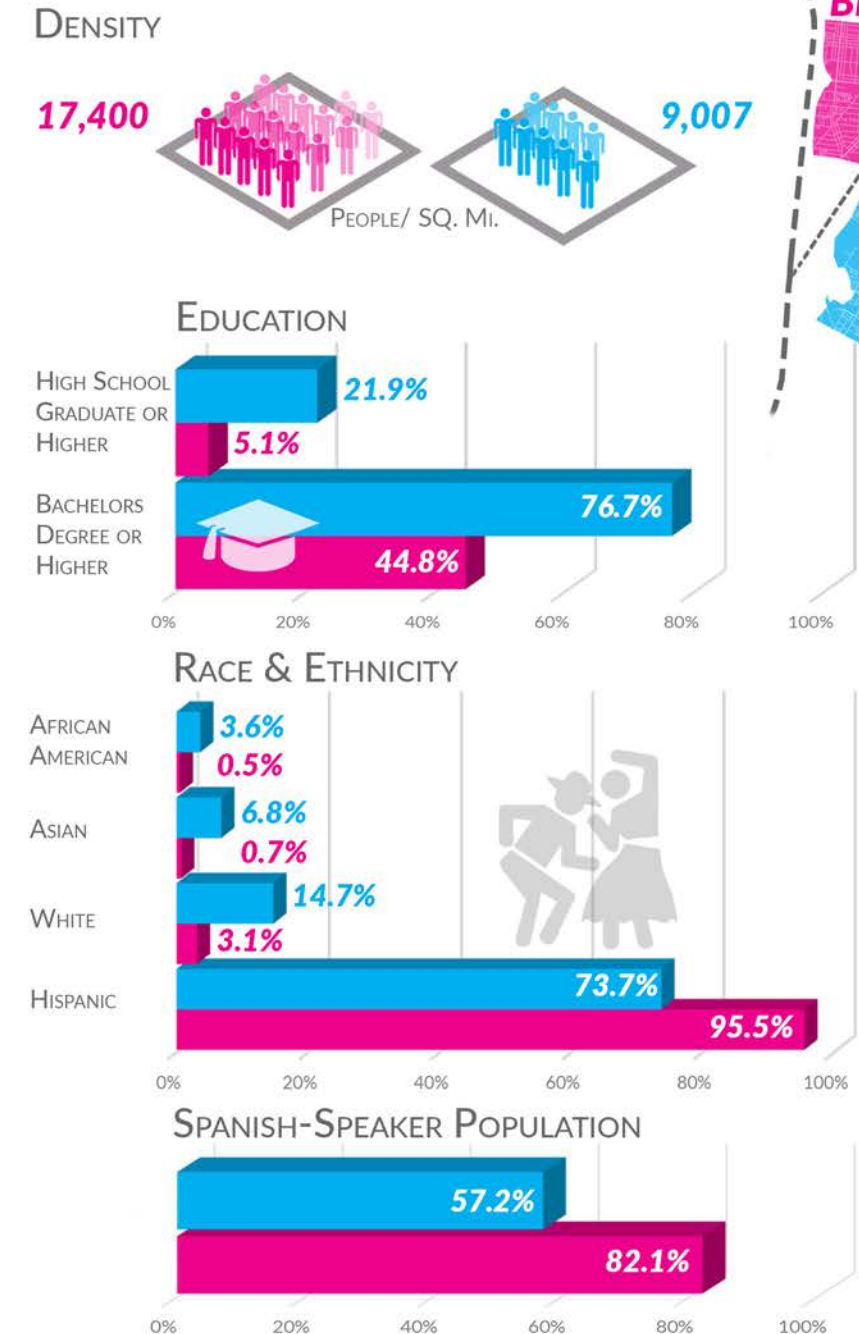
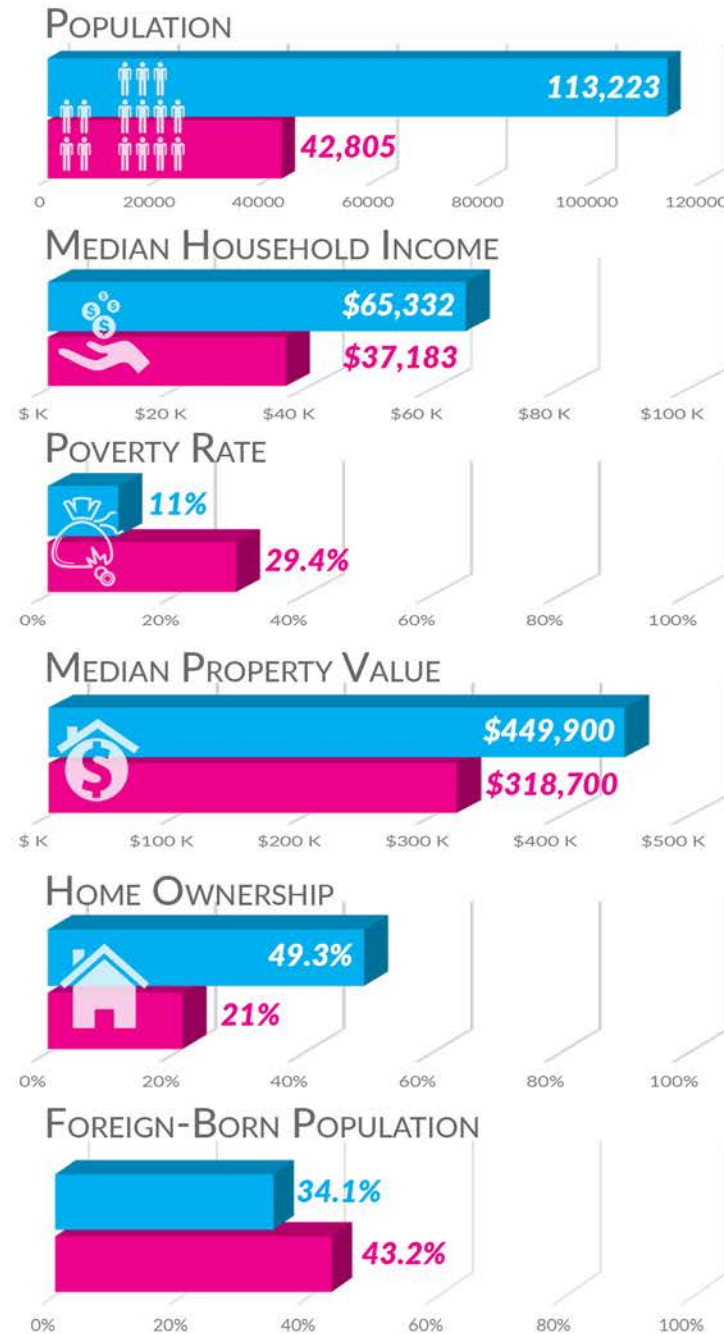
Figure 17 : Plan view of typical block in Bell Gardens. Source: Google Earth

Figure 18 : Plan view of typical block in Downey. Source: Google Earth

This project primarily focuses on the section of the Rio Hondo Canal that runs along the city limits of Bell Gardens and Downey. This section is about 4 miles long. Even though a bike path is currently in place along the Rio Hondo channel, this site has the potential to be redeveloped into a more ecologically sustainable green corridor and to include better recreational spaces for the adjacent communities. Bell Gardens is a low-income, predominantly immigrant community, while Downey is a better established and more affluent city. The Rio Hondo Canal for now acts as a barrier, separating both cities. I chose this specific portion of the canal because I find the relationship and differences between the two cities enticing.

DEMOGRAPHICS

According to Data USA, Bell Gardens is about 2.46 sq.mi. in size with an estimated population of 42,805 ("Bell Gardens, CA," 2016), while Downey is about 12.57 sq.mi. in size and has a population of 113,223 ("Downey, CA," 2016). Therefore, Bell Gardens has an approximate density of 17,400 people per square mile, while Downey has a density of 9,007 people per square mile, almost half of Bell Gardens density. The median household income in Bell Gardens is \$37,183 compared to \$65,332 in Downey. Poverty rate is almost three times more in Bell Gardens than Downey. Economically, there is a significant difference between both cities, Downey being a more established and prosperous community, while Bell Gardens is a low-income struggling community. Perhaps this difference is the result of education level since in Downey 76.7% of the population holds a bachelor's degree or higher, but in Bell Gardens is only 44.8%. However, both communities are prominently Hispanic, with 95.5% of Bell Gardens population and 73.7% of Downey population identifying themselves as Hispanic or Latino. They also have a high index of foreign-born population and Spanish-speakers. Based on this information it is safe to conclude that Latino culture is prominent in this area. (All demographics data was retrieved from Data USA)

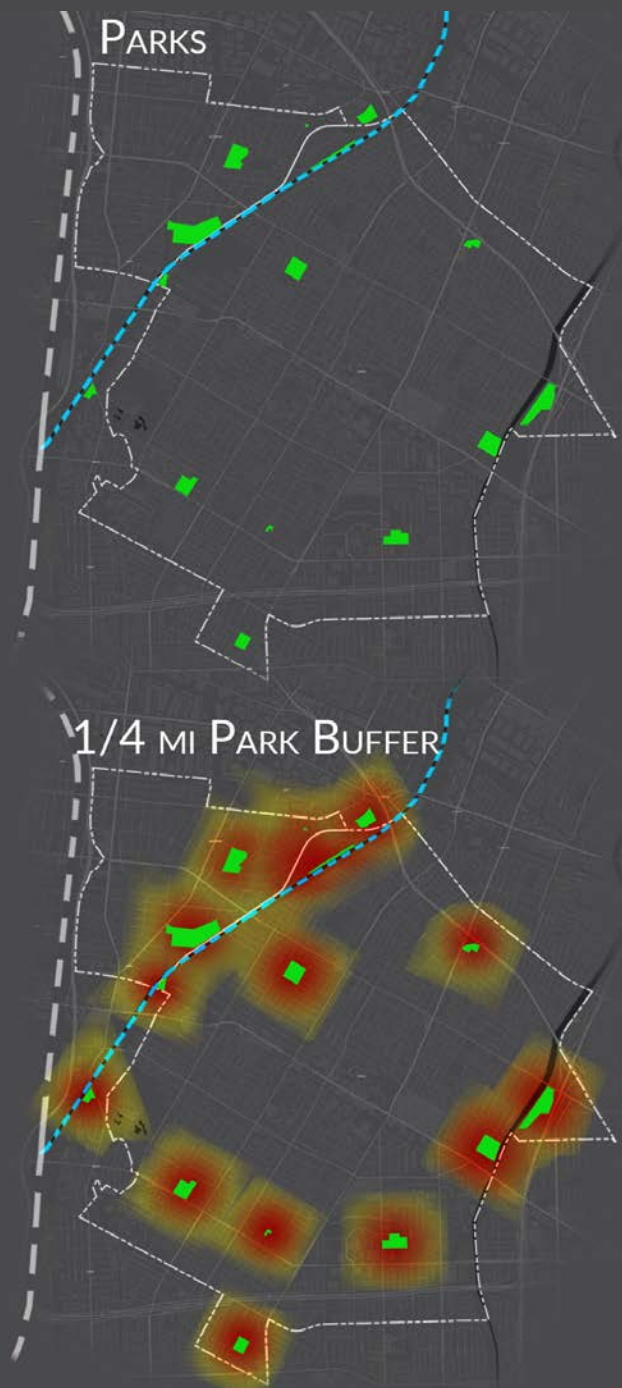


RIO HONDO RUNS ALONG THE CITY LIMITS OF DOWNEY AND BELL GARDENS CURRENTLY DIVIDING INSTEAD OF UNITING

BELL GARDENS 2.46.Sq. Mi. INCORPORATED IN: AUGUST 1, 1961

DOWNEY 12.57.Sq. Mi. INCORPORATED IN: DECEMBER 17, 1956

Figure 19 : Bell Gardens and Downey demographics graphs. Data Source: Data USA



LAND USE

In terms of land use, both cities have a proportional amount of commercial zones in regard to city size, however Downey has larger shopping centers and malls compared to Bell Gardens. Industrial zoning seems to be more prominent and spread out in Bell Gardens than Downey, again relative to the size of the city. There is a good distribution of schools in both cities, even though Downey has its own school district, while schools in Bell Gardens belong to the Montebello School District. In reference to medical care, there are currently no hospitals in the city of Bell Gardens, while Downey offers access to three different hospitals to its residents. There is a general lack of parks and open spaces in both cities. Proximity to parks was calculated based on a ¼ mile radius since that is the average comfortable walking distance according to public transit consultant Jerry Walker (Walker, 2011). Based on this diagram, it is noticeable that there are neglected areas in both cities that have no immediate access to open spaces. The development of quality open spaces should be a priority in the general plan for both cities.

Figure 20 : Bell Gardens and Downey land use analysis.
GIS Source: Los Angeles County GIS Data Portal

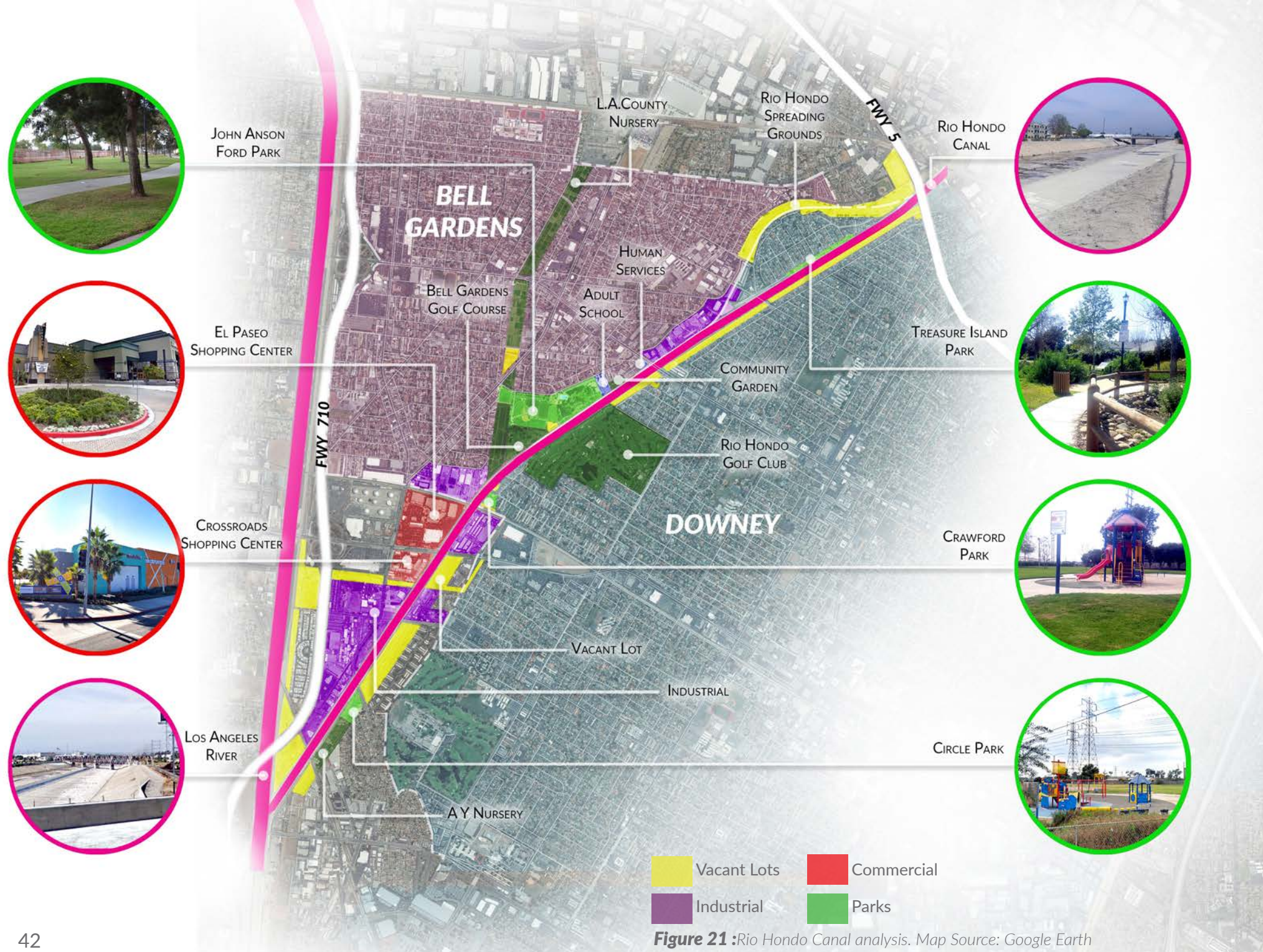


Figure 21 :Rio Hondo Canal analysis. Map Source: Google Earth

RIO HONDO CANAL

The aim of this project is to formulate a way to utilize Rio Hondo site not to divide, but to bridge these two communities. The objective is to help establish connections and determine what these communities have in common, while still enhancing their unique identities. Just like the L.A. River, the Rio Hondo Canal is buried under tons of concrete. Even though is not a very pleasant site, aesthetically, it is still a highly utilized commuting route. A lot of people in Bell Gardens cannot afford a car, therefore they rely on public transit and biking for mobility. This site offers an efficient route for bicyclists. However, there is a record of cases where bicyclists are attacked at night, which raises safety concerns for commuters.

I believe this site has the potential to become something more than just a fare thorough. It can be redeveloped into a more engaging recreational area, connecting different amenities and vacant lots along the canal. There are adjacent parks at both sides of the canal that can become a continuous and fluid extension of it, rather than being separated and fragmented by a fence. There are commercial areas neighboring the canal that could be connected and integrated in order to encourage the flow of pedestrians and bicyclists through the canal. There are also several empty and vacant lots along the way that pose an excellent opportunity for design interventions. Multiple power line towers frame the

space, with large portions of underutilized space underneath than can easily be redeveloped as an open space for the public realm. Accessibility to the canal can definitely be improved. As for now, there are limited and far apart access points, which results in this site being very secluded. This isolation, and the lack of proper public lighting make this site propense to criminal activity and homelessness. In the current conditions, the site doesn't feel inviting and safe. It has the potential to become a place where people can go walk and exercise, but a lot of residents are fearful to find themselves walking alone in the site. Concrete bike paths take up most of the space next to the canal, however there is still some room for new planting material. Vegetation in this site is very limited, and that in combination with a very warm climate results in a high heat island effect, which makes the site very hot and uncomfortable to be in.

There are also other issues that could easily be improved with better maintenance practices. There is a lot of trash everywhere which gives a bad appearance and doesn't make this site inviting. Fences around the site are old and rusty. Signage and wayfinding could use an upgrade. Overall, this site has the potential to become a place designed for the community, and for a larger target audience.

One of the biggest constraints in developing this project is that currently Rio Hondo Canal is under the jurisdiction of Los Angeles County Public Works Department, therefore neither Downey nor

Bell Gardens have any power or authority over the site. Based on my personal interactions with city officials, they are not even interested on having anything to do with the canal. That is part of the problem and the reason why this site has been neglected for a long time which has resulted in the present poor conditions of the canal. None of the cities wants to have any responsibility regarding Rio Hondo. However, as it will be exemplified in the precedent case study for Chicano Park in San Diego, the community has the power to come together, demand better conditions and reclaim under-used land that can be turned into an asset for the community.



Figure 22 : Rio Hondo Canal is prominently encased in concrete. Photography by: Karen Lomas-Gutierrez



Figure 23 : Potential to develop vacant lots adjacent to river, especially land under power lines. Photography by: Karen Lomas-Gutierrez



Figure 24 : View of the only pedestrian designated crossing currently in site. Photography by: Karen Lomas-Gutierrez



Figure 25 : Homeless camp on site. Homelessness is a critical issue to consider. Photography by: Karen Lomas-Gutierrez



Figure 26 : Evident lack of vegetation and shade along Rio Hondo. Photography by: Karen Lomas-Gutierrez

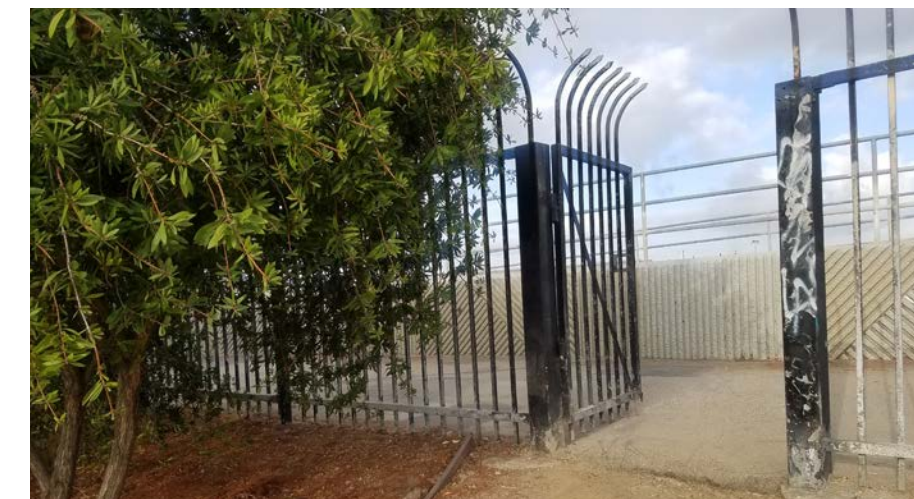


Figure 27 : Access gate from Crawford Park in Downey. Access to site is very limited. Photography by: Karen Lomas-Gutierrez

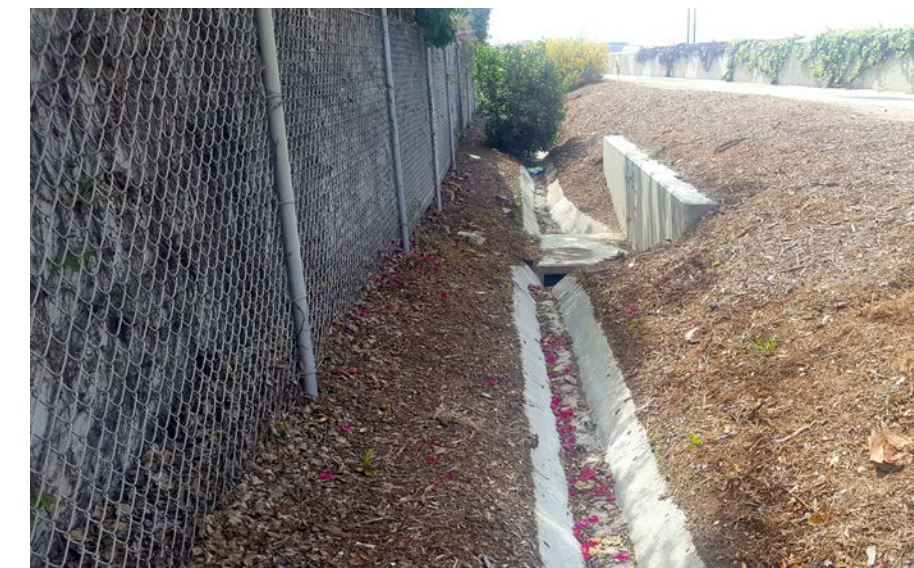


Figure 28 : Inefficient and not sustainable drainage system along Rio Hondo. Photography by: Karen Lomas-Gutierrez



Figure 29 : Murals at Chicano Park, San Diego.
Source: everintransit.com

PRECEDENTS

PRECEDENTS ALLOW TO ANALYZE AND DEFINE MISTAKES AND ACHIEVEMENTS FROM THE PAST IN ORDER TO IMPROVE THE FUTURE

PRECEDENTS

At the beginning of every project it is essential and good practice to perform some research and look into other projects that relate to the one at hand. Precedent case studies can offer some insights regarding how to address constraints and opportunities. They allow to analyze and define mistakes and achievements from the past in order to improve the future. The following projects provide a valuable basis and foundation for this senior project.

CHEONGGYECHEON RIVER LINEAR PARK

Location: Seoul Korea

Size: 3.6-mile long, 100 acres

Completed: 2005

Designer: SeoAhn Total Landscape

Client: Seoul Metropolitan Government

Project Type: Park/Open Space ; Stream Restoration

Budget: \$380 million USD

Cheonggyecheon River is a great example of river restoration, transforming a concrete-paved industrial looking channel to a more natural and ecological recreational public space. This used to be a site that was not very accessible to the public, characterized by a freeway built over the concrete waterway that created uninviting spaces underneath, alienated from the public. There were safety

concerns related to this site due to the creation of hidden and inaccessible spaces that encouraged criminal activities. In the 2000's, Mayor Lee Myung-Bak initiated the process to redevelop and revitalize this river. The overpass freeway was eliminated, opening up the space and creating new design opportunities. Now, this is a multifunctional linear park that attracts thousands of visitors daily. This project has increased biodiversity, reduced heat island effect, increased public transportation, and encouraged economic development. (Wang, 2014)

The restoration created a green corridor for bicyclists and pedestrians. Connectivity was improved, both social and ecological. Visitors have access to water levels. Construction materials were reused from the previous structure. However, this project has also received some criticism since it is not completely sustainable. Due to the lack of natural water flow for most part of the year, treated water is used to feed the stream, instead of recycled water. One of the challenges included concerns about removing the existing overtop freeway, and potentially create major traffic problems and vehicular congestion. Many local businesses initially opposed the removal of the freeway. In response to these, bridges were improved and created to connect both sides of the stream and mitigate for congestion. This project also included a plan to discourage the use of cars by significantly improving public transportation. Business owners were taken into consideration and were very involved during the design process. They also received economic incentives



Figure 30 : Cheonggyecheon River Linear Park Master Plan. Source: landscapeperformance.org, Plataforma Urbana

and special protection agreements. (Robinson, 2001)

Some lessons to learn from this project are that all type of users must be taken into consideration during the design development process. For this project specifically, there was a lack of accessibility for disabled people. Elevators had to be incorporated after completion of project due to the increase of complains. The ecological performance can also be improved, (Robinson, 2001)

Cheonggyecheon River Linear Park is relevant to this senior project since it also deals with revitalization and restoration of concrete paved rivers. However, the difference in scale and location can be an issue when trying to apply the same concept to the proposed site at Rio Hondo.

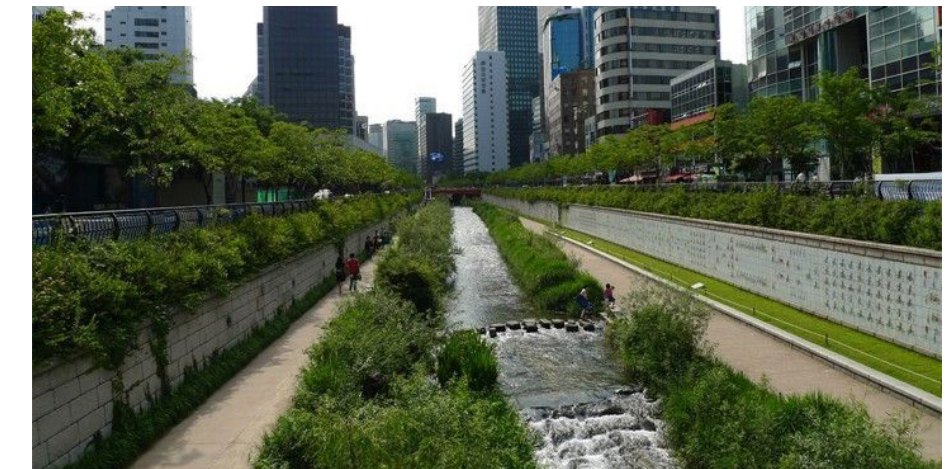


Figure 31 : Pedestrian walkways along Cheonggyecheon River Linear Park. Source: landscapeperformance.org. Photography by: Alexander Robinson

SAN ANTONIO RIVER IMPROVEMENT PROJECT

Location: San Antonio, Texas

Size: 13.5 miles of river corridor

Completed: 2011, 2013

Designer: SWA

Client: San Antonio River Authority, City of San Antonio, Bexar County Texas, San Antonio River Oversight Committee

Project Type: River Restoration

Budget: \$384.1 million USD

Bexar County, the City of San Antonio, and the San Antonio River Authority came together to form the San Antonio River Oversight Committee (SAROC) in 1998, which is an association that aims to enhance the San Antonio River. Conformed by a diverse group of citizens, their job is to oversee preservation and restoration projects along the San Antonio River. Due to the large scale of this project, a master plan was created to outline and keep track of all the goals and objectives. (SWA, 2001)

This project was divided in two parts: Northern and Southern. The Northern side is called the Museum Reach. This has been subdivided in the “urban” reach and the “park” reach. The Southern part is referred to as the Historical Mission reach. The entire project measures about 13 miles. (SWA, 2001)

SWA was chosen in 2000 to prepare the master plan and come up with design guidelines. Their vision was to create both natural and urban spaces. The Historic Mission reach would remain more natural and retain some of the organic elements of the river, while the Museum reach would be more urban and contemporary. Everything is connected by continuous pedestrian trails. Some of the main goals were to provide more and improve access to the river. They were looking to increase recreational uses of the river. It was also important to improve water quality and enhance ecological processes. Safety and maintenance were also a top priority. One of the main challenges was for the river to maintain its identity and character, but at the same time be allowed to change due its natural processes. (SWA, 2001)

The San Antonio River was designed by army engineers to serve as a flood control mechanism, but unfortunately, like in the case of many other rivers, this design was not aesthetically or ecologically appealing. Instead of being an abandoned scar in the landscape, they wanted to revitalize it and convert it into the “spine” of the city.

Just as this senior project, the San Antonio River Project also deals with concrete channels and extensive revitalization plans. Connectivity was one of the main principles for this project, and connectivity will be crucial for Rio Hondo as well. It is very convenient the fact that they implemented very simple but successful design interventions (SWA, 2001).

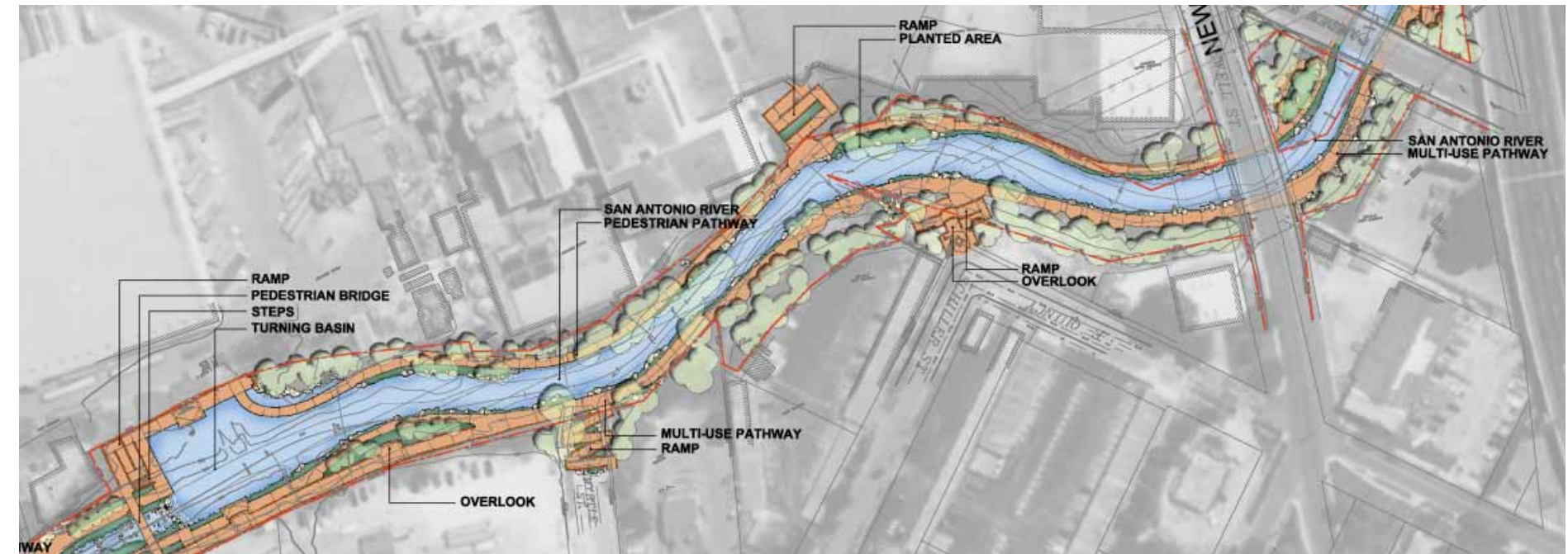


Figure 32 : San Antonio River Improvement Project Master Plan. Source: SWA Group,

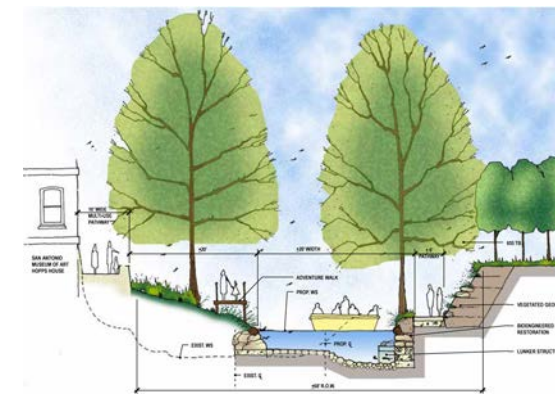


Figure 33 : San Antonio River Proposed Cross-section. Source: SWA Group

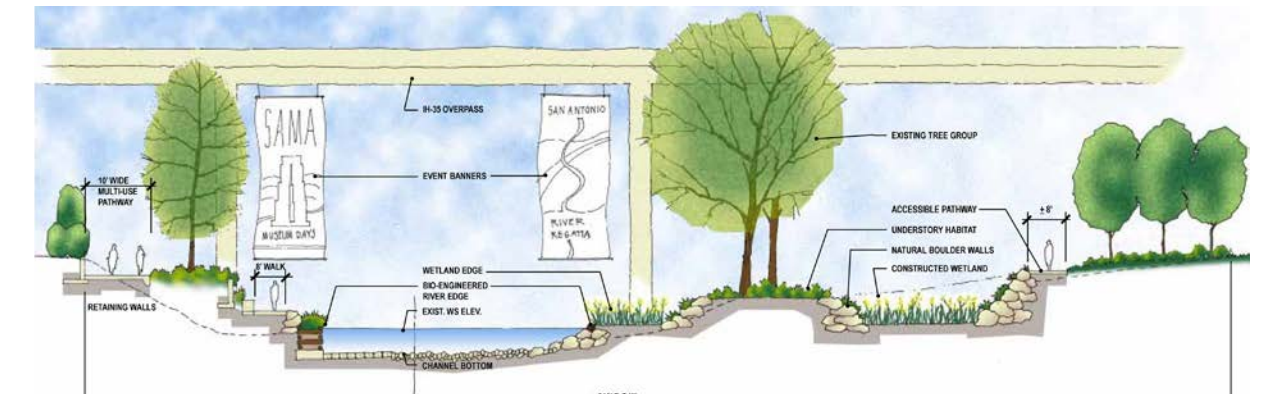


Figure 34 : San Antonio River Proposed Cross-section at Interstate 35 overpass. Source: SWA Group

CHICANO PARK, SAN DIEGO

Location: San Diego, CA

Size: 1.85 acres

Completed: First Mural Phase 1974, Second Mural Phase 1975,
Third Mural Phase 1977

Designer: Salvador Torres, Los Toltecas en Aztlan, El Congreso
de Artistas Chicanos en Aztlan, various participating
artists

Client: Barrio Logan, San Diego

Project Type: Cultural Community Park, Reclaimed land

Barrio Logan in southeast San Diego has a rich history dating back to the 1800s, according to the 'History of Chicano Park' website. An increased migration of Mexican settlers from 1910 to 1920 made Barrio Logan a prominent Mexican-American community in the west coast. The physical attributes and connectivity of Barrio Logan started to change when the U.S. navy moved to the San Diego shore in the 1930's, restricting access to waterfront for Barrio Logan residents. After that, the community slowly became more fragmented and marginalized first by the zoning laws changing from residential to industrial in the 1950s allowing for factories and auto junkyard to encroach in the community, then in 1963 the construction of freeway 5 intersected the community.

In 1969, the construction of Coronado Bay Bridge resulted in the placement of concrete pylons in the heart of Barrio Logan. All these events caused the economy of the area to suffer and resulted in the drastic decrease of population (Robles, Griswold del Castillo, & SDSU).



Figure 35 : Community public manifestation against construction of highway station. Source: Sandiegohistory.org

Unfortunately, as is the case of many minority communities, residents were not aware of their right to oppose these changes and developments and to express their opinions to City Council, therefore they just accepted what was being imposed on them and didn't do anything to stop it. At some point, tired of being marginalized, community leaders started spreading a sense of empowerment in the community and started demanding a neighborhood park under the pylons of Coronado Bay Bridge. The city and the state eventually granted the land for the community park in 1969, but the efforts to reclaim the land under the bridge did not end there. It would take years, more civic demands and demonstrations, a takeover of the park by the community, and multiple negotiations with the city, to finally see some action and get the community park built.

Salvador Torres, an artist and resident of Barrio Logan had a vision to express the community's values and culture through a collection of murals, and he is usually "referred to as the architect of the dream of Chicano Park" (Robles et al.) He continued in open communication with the city's authorities and eventually got the approval to get the murals painted on the concrete pylons supporting the bridge. About 300 people participated the first day the murals started being painted, which strengthened the new-found sense of control and empowerment in the community. The first collection of murals was painted by local San Diego Artists in 1974. For the second group of murals that were painted in 1975, Chicano artists from Los Angeles and Sacramento were invited.



Figure 36 : Barrio Logan kids planting trees during park takeover. Source: Sandiegohistory.org



Figure 37 : Chicano Park under bridge murals. Source: blog.sandiego.org

The third group of murals were painted in 1977 and non-Chicano artists were invited to participate (Robles, Griswold del Castillo, & SDSU).

Chicano Park is now designated a historical site and is internationally recognized. It displays the largest collection of outdoor murals in the country. As mentioned in the 'History of Chicano Park' website, Chicano Park is of cultural importance because it represents the "rebirth of Latino pride in Mexican culture and a newfound sense of political consciousness on the part of local Mexican-Americans as exemplified by the actions undertaken by the community in demanding the creation of the Park" (Robles et al.).

Chicano Park in San Diego is a great example of what happens when community is not taken into consideration during the urban planning, and it demonstrates that it is possible to speak out and oppose urban development that does not adhere to community needs and values. There is no limit to what the community can achieve if all its residents join forces and work towards a common goal. Chicano Park illustrates how to develop and establish cultural identity in open public spaces, and give people a sense of belonging, and for that reason it serves as a suitable precedent study for this research project.



Figure 38 : Chicano Park murals. Source: latimes.com . Photography by: Christopher Reynolds

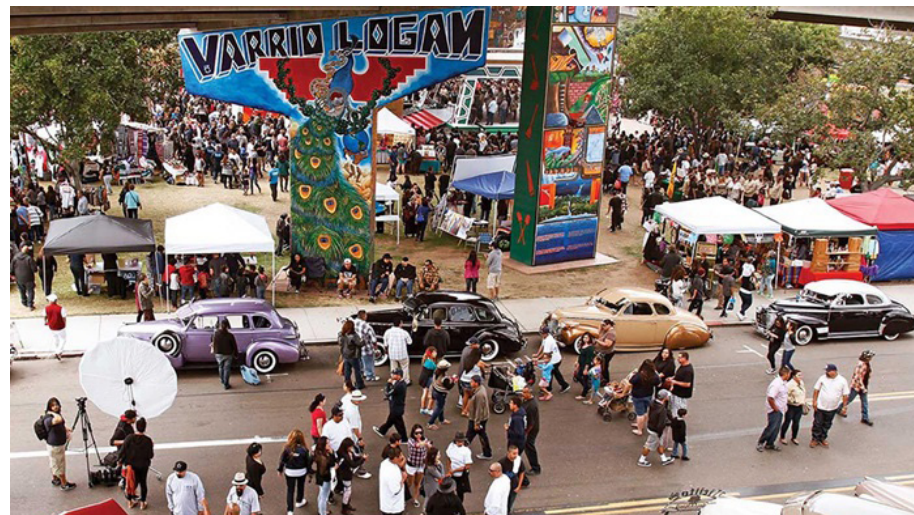


Figure 39 : 48th Chicano Park Day Celebration. Source: sandiego.or

CITY OF DAVIS, CA

In terms of urban planning, it is always valuable to analyze what other cities are doing right. It is wise to identify strategies that are successful and efficient, and then implement them in our own communities. After living for three years in this city, in comparison with other communities I've lived in before, Davis is very progressive and innovative in terms of urban planning, with a clear emphasis in open spaces. Davis has a lot to offer to its residents, and according to Livability.com, it ranked number 18 in the 2018 list of '100 Top Best Places to Live', due to the high quality of life community members experience (Handy, 2018). The following strategies make Davis unique and one of the most desirable places to live:

- **GREENBELT SYSTEM**

The city of Davis has enforced and supported the development of a greenbelts and parks that bridge and bring the whole community together. The green belt is a continuous system of trails that connect different amenities and parks throughout the city of Davis, including: 37 neighborhood and community parks, 65 play areas, 12 large picnic areas and many small ones, 33 tennis courts, and many other facilities such as basketball courts and exercise stations ("Davis Bike and Pedestrian Infrastructure," 2018). According to the City of Davis 'Parks and Recreation Facilities

Master Plan', at least "10 percent of new residential development should be dedicated to greenbelt" (Parks and Recreation Facilities Master Plan, 2012). Greenbelts are a critical element in the city's infrastructure since they provide easy access to facilities for all community members. Some of the elements that make this greenbelt system successful are:

- o **Connectivity and access:** As mentioned before, greenbelts are the spine connecting all open spaces, however, it wouldn't be successful if residents wouldn't have easy access to them. Entry way and access points become crucial, and in Davis you can find a way to enter the greenbelt almost in every street and neighborhood.



Figure 40 : Access to Greenbelt from residential cul-de-sac. Photography by Karen Lomas-Gutierrez

o **Signage:** Even inside the greenbelt system, location and spatial awareness is essential, especially for users that utilize the greenbelts for commuting and moving from place to place. Therefore, signage becomes a critical feature. Signs with street names and other relevant information can be found along the trails, which makes it effortless to navigate and find your way around Davis.



Figure 41 : Sign in greenbelt trail indicating exit to nearby street. Photography by: Karen Lomas-Gutierrez

o **Decks and Seating Areas:** Benches, picnic tables and viewing decks are easily accessible anywhere in the greenbelts. The presence of these elements upgrades the functionality of the greenbelt system from a simple thoroughfare utilized only for mobility to a recreational space where people can stay and enjoy the surroundings characterized by nature and wildlife.



Figure 42 : Typical bench available on site (top) and observation deck (bottom). Photography by: Karen Lomas-Gutierrez

o **Spreading instead of condensing:** One of the strategies that I personally find more effective is the fact that amenities along the greenbelt are spread out instead of condensed in one place. Small playground areas can be found at various points of the greenbelt instead of only having one large playground area. In the same way, work out stations are dispersed along the way, which makes the greenbelt an improved exercising amenity that offers more than just trails for running or hiking.



Figure 43 : Several exercising stations (top) and small playgrounds (bottom) are available along trails. Photography by: Karen Lomas-Gutierrez

o **Art:** Just like hidden gems, pieces of art can be found not only along the green belts, but all over Davis. These art pieces add color and vitality to their surroundings and make a stroll by the trails a lot more interesting and fun.



Figure 44 : Examples of public art found along greenbelt: Domino sculpture nearby Quail st (top) and 'Winged Furry' dog sculpture (bottom). Photography by: Karen Lomas-Gutierrez

o Nature and vegetation: Most of the greenbelt system is located among residential zones, therefore privacy becomes essential for neighboring residents. Vegetation plays an important role in this issue. Trees, shrubs and vines are frequently utilized to form vegetative screening that offers more privacy to residents and at the same time make the trails more comfortable and pleasant.

The greenbelt is a prominent feature in Davis that has proven to be very efficient in connecting residents to the city, however the bike culture is still what Davis is most characterized for.



Figure 45 : Covell Greenbelt section adjacent to residences. Photography by: Karen Lomas-Gutierrez

- **BICYCLE CULTURE**

Davis is internationally known for its bike culture and is often considered the bicycle capital of the U.S. ("Davis Bike and Pedestrian Infrastructure," 2018), and is also home to the United States Bicycle Hall of Fame (Handy, 2018). Davis' flat topography and warm climate provide the perfect setting for bicycling. The city of Davis has been a pioneer in providing biking facilities (Handy, 2018), developing one of the most complete and efficient bicycle infrastructures which includes: 50 miles of bike lanes, 2



Figure 46 : Cycle track nearby a middle school . Source: santamonicanext.org. Photography by: Gary Kavanagh

miles of bicycling boulevards, 1 mile of cycle track, and 2 miles of buffered bike lanes ("Davis Bike and Pedestrian Infrastructure," 2018). Also, by designating 75% of the roads with a speed limit of 25 mph, designing bicycle-oriented intersections, building multiple overpasses and underpasses, and having bike only traffic signals ("Davis Bike and Pedestrian Infrastructure," 2018), Davis has become a very safe place for bicycle riders, which encourages the thriving bike culture in the city.

- **UC DAVIS ARBORETUM**

The Arboretum is a botanical garden located south of UC Davis main campus. It is open to the public 24 hours, every day of the year, and there is no entry fee. Founded in 1936 by faculty members of UC Davis to support research and teaching ("UC Davis Arboretum,"). The Arboretum is now one of the most popular locations on campus and a gem for the community. It covers 100 acres of land along the old north channel of Putah Creek, and it exhibits documented plant collections that include 22,000 trees and plants organized in different gardens that represent different geographic regions ("UC Davis Arboretum,"). The UC Davis Arboretum is a living museum that serves as learning grounds for researchers, students, community members, and visitors.

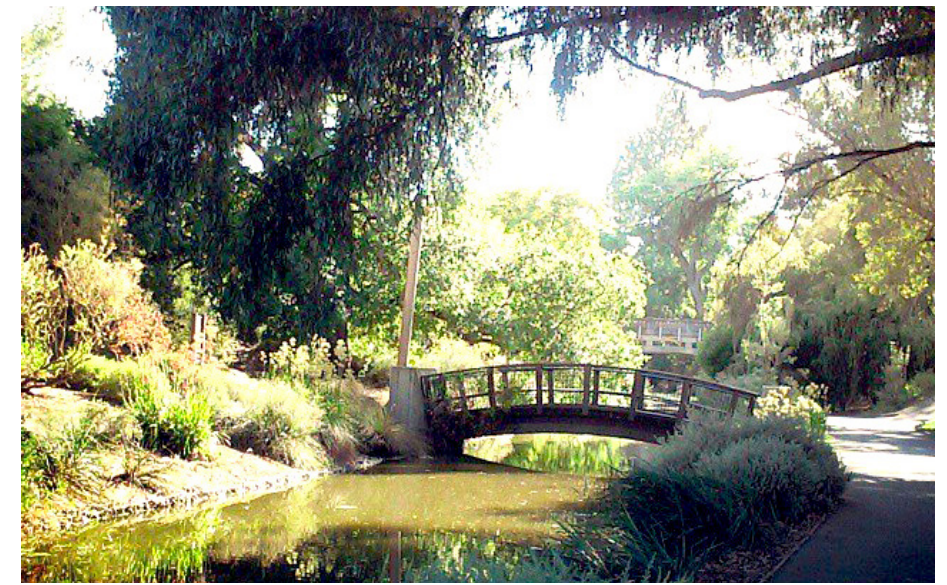


Figure 47 : Views of UC Davis Arboretum . Photography by: Karen Lomas-Gutierrez

- **FARMERS MARKET**

Davis is home to one of the most popular Farmers Market in the region. Davis Farmers Market is open on Wednesdays and Saturdays in Central Park in Davis. Farmers Market offers a platform for local vendors and farmers to offer their products directly to community members. It represents an effective way to boost and encourage local economy and offers a unique shopping experience for residents and visitors. It provides access to a variety of organic fresh fruits and vegetables, and good quality gourmet food ("Community," 2018). On Wednesdays evenings, 'Picnic in the Park' is an exceptional and enjoyable experience where the community comes together to enjoy good food from farmers market and great live music and entertainment in company of friends and family. Farmers market is a great way to connect community members to the city and to each other, and to promote the use of open spaces.



Figure 48 : Covell Greenbelt section adjacent to residences. Photography by: Karen Lomas-Gutierrez

- **PUBLIC ART PROGRAM**

The city of Davis has shown a strong appreciation for the arts by supporting community-based art projects, encouraging arts education, and implementing a public art program ("Arts and Culture," 2018). The 'Art in Public Places Program' was created in 1973 in order to enhance the quality of Davis environment ("Arts and Culture," 2018). Since then, 1% of public funds is set apart and used to purchase art and commission local artists for improvement projects ("Arts and Culture," 2018). You can find art pieces in the form of sculptures, paintings, murals, tile work, and functional objects in every direction you look and "more than \$200,000 of publicly owned art can be seen in a walk around downtown Davis" ("Community," 2018). Public art adds a fresh and unique style to the city, helps develop community identity and promotes placemaking.



Figure 49 : 'I am Quercus Lobata' mural by Caryl Yasko. Source: davisartwalk.com

Many other cities, including Bell Gardens and Downey should imitate Davis nontraditional approaches. Because of all these strategies and elements, Davis represents a great example of how to build a sense of community identity. The combination of efficient infrastructure and effective urban planning practices increases the quality of life, brings community members together, and makes Davis a desirable and comfortable place to live.



Figure 50 : 'In the Key of Davis' painted piano by Will Durkee. Source: cityofdavis.org



Figure 51 : 'Papilionidae Albino' mosaic bench by Tom Arie Donch. Source: davisartwalk.com



Figure 52 : 'Shovel Gateway' by Christopher Fennel. Source: davisartwalk.com



Figure 53 : 'Taking the Scenic Route' mosaic art by Mark Rivera. Source: davisartwalk.com



Figure 54 : Presentation and Community Engagement at Bell Gardens Intermediate School. Photography by: Kate Lomas

5

COMMUNITY ENGAGEMENT

"THE MOST SATISFACTORY ASPECT, FROM THE DESIGNER'S POINT OF VIEW, IS THE KNOWLEDGE THAT A SCHEME PRODUCED IN A COLLABORATIVE MANNER IS GOING TO HAVE A FAR GREATER CHANCE OF LONG-TERM SUCCESS THAN ONE WHICH HAS SIMPLY BEEN IMPOSED"

-IAN THOMPSON

COMMUNITY ENGAGEMENT

Due to the strong social component and background of my research question, community engagement activities were crucial in the development and design process for this senior project. In his book *Ecology, Community and Delight : Sources of Values in Landscape Architecture*, Ian Thompson encourages and defines benefits of community participation based design:

From the social perspective, the consultative process should increase the probability of the users' needs being met and thus reduce the likelihood of resources being squandered on inappropriate work. The individuals [benefit by a] sense of empowerment... the most satisfactory aspect, from the designer's point of view, is the knowledge that a scheme produced in a collaborative manner is going to have a far greater chance of long-term success than one which has simply been imposed. (Thompson, 2000, p. 106)

Through community participation, the designer can get a more honest and unique perspective of the site and the needs and wants of the end-user, which would result on a more appropriate design approach and a more successful result.

My main objectives in conducting community engagement activities were:

- Raise public awareness about the current conditions of Rio Hondo.

- Obtain first-hand recounts and experiences of the community environment and site.

- Develop a better understanding of the community needs, values, and desires.

- Collect data about the current social patterns of community members in terms of use of open spaces and alternative transportation modes.

- Determine how the community defines their cultural identity.

- Spread knowledge about the profession of Landscape Architecture and the importance of public open spaces.

- Strengthen my own personal connection and relationship with my community.

Due to time and location constraints, I had very limited access to the community. Therefore, I had to prioritize and approach this portion of my senior project strategically in order to maximize the time I spent conducting this immersive research. I decided to focus on community youth because I believe kids tend to share honest opinions and they usually spend more time outdoors than adults. I also believe that kids can be a moving force that induce parents and other family members and friends to utilize open spaces. I also believe that the tendency to be outside and appreciate designed open spaces is a learned social behavior. The earliest kids are exposed to principles of landscape architecture, the more aware

they will be of their surroundings and they will grow up valuing and respecting open spaces and their communities.

I started by contacting local schools in both cities, Bell Gardens and Downey. I wanted a diverse arrange of subjects, so I contacted different levels of educational institutions: elementary, middle and high schools. Most schools had a very positive and encouraging response and showed enthusiasm in participating in this project. In general, schools in Bell Gardens felt more approachable and were faster in replying to my emails. Even the principal at Bell Gardens Middle school got very involved, which surprised me in a positive way.

Schools in Downey were more cautious and hesitant when communicating with me. A particular high school in Downey made it complicated for me to go and present to its students. I needed to follow a more formal and bureaucratic request process that needed to be approved by the district before I could obtain any type of data from the students. Unfortunately, because of time constraints I couldn't obtain the approval on time. But I definitely found interesting that schools in Bell Gardens are more open and eager to have kids exposed to professional careers, compared to Downey where they act more judicious and don't let just anyone to get close to the students.

At the end, I was able to arrange presentations for five classes in three different schools. The participating schools were:

Bell Gardens Intermediate School, Bell Gardens High School, and Stauffer Middle School in Downey. A total of 130 students between the ages of 11 and 18 participated in these community engagement activities.

I organized this participatory activity curriculum in three parts:

- **Short 20-minutes Slide Presentation:** The first step was to introduce and expose kids to the concept of landscape architecture. I found out that most of these kids do not understand what landscape architects do and many of them are not even aware of the existence of this profession at all. It was important to



Figure 55 : Presentation at Bell Gardens High School. Photography by: Maria Comparan

educate them in basic terms and principles, so they could better understand my project and what I was trying to do. During this portion of the curriculum I also introduced my project site and what I was intending to do and asked them about their personal opinions regarding Rio Hondo. I was surprised to find out that most kids in Bell Gardens knew about my project site and even utilized it to ride bicycles. However, in Downey, not one of the kids (not even the teacher that grew up in the area) were aware of this site. I deduced that there is a clear disconnection of Downey from the canal.

- **Survey:** For the second part of the curriculum, I prepared a survey and tried to make it as simple and easy to understand as possible, with most of the questions being multiple choice, only a few being open ended questions. I learned a lot about the community based on this survey. I learned that most kids get to schools by someone driving them there or by walking. Very few use public transportation and none of the participating students bike to school. I was shocked by this finding, but it makes sense since these cities are not bicycle friendly and I can understand



Figure 56: Presentation at Stauffer Middle School in Downey. Photography by: Maria Comparan



Figure 57: Students filling out survey. Photography by: Kate Lomas

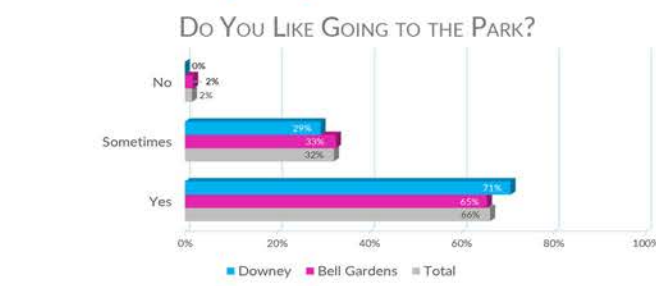
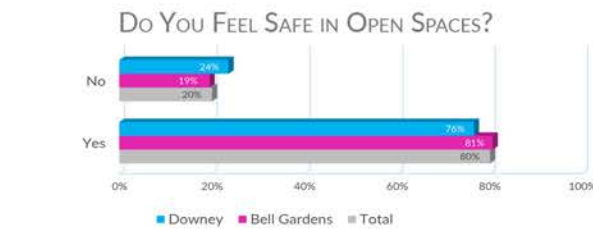
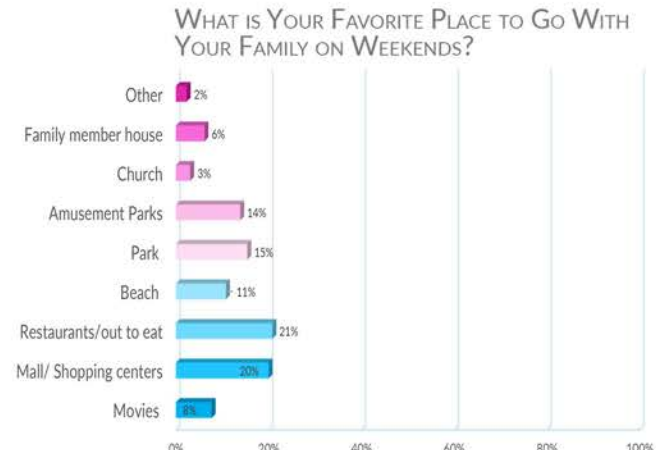
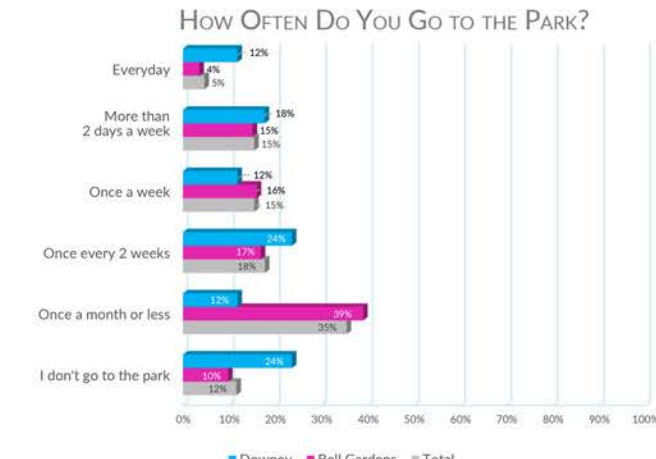
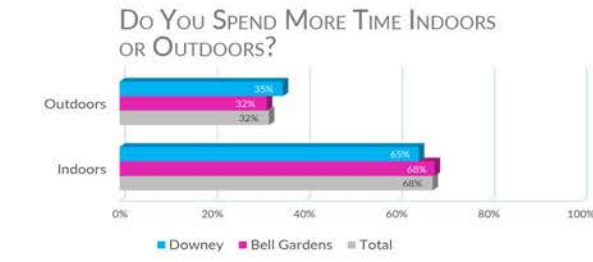
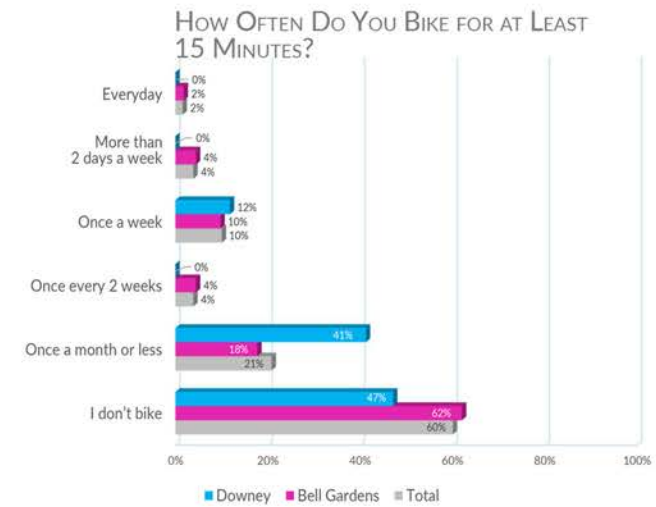
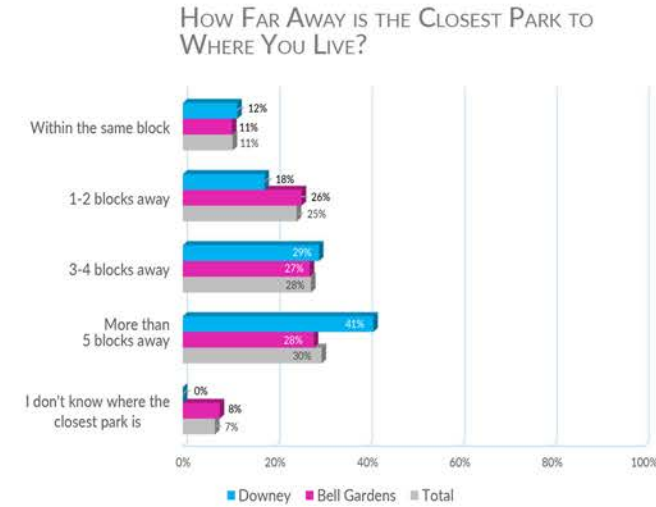
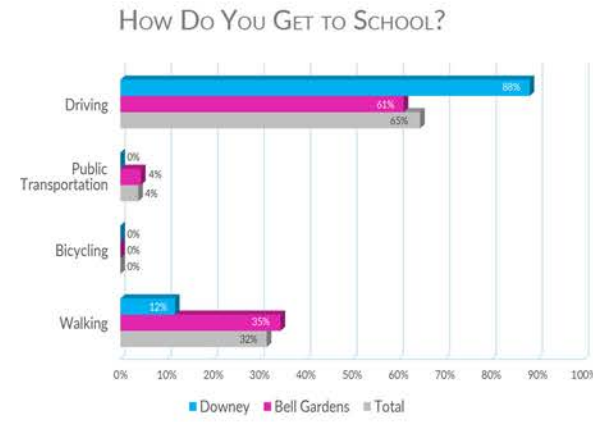


Figure 58: Survey Data Graphs

how kids don't feel safe riding a bike.

I also learned that in general most kids go to the park once a month or less, but in Downey kids tend to go to the park more frequently than kids in Bell Gardens. Only 2% of the participating students said they don't like going to the park, 32% said they sometimes like going to the park, and 66% said they like going to the park. Which made me question what's really stopping these kids from spending more time outdoors. Actually, 68% of kids spend more time indoors than outdoors.

It was more complicated to analyze data from open ended questions since there were many different answers, but I tried to group similar answers together. When asked what places they usually go to with their families on the weekends, the more popular answers were to restaurants or out to eat, followed by malls and shopping centers. When asked to name something they think is missing from their city, the more popular answers were dog parks and safety, followed by parks and then color.

One of the most important and interesting questions in the survey was for the kids to write down three words that they believe describe their culture. Again, there were a wide array of answers, but the more prominent ones were Music, Food, Colorful, Fun and Family. However, I was very surprised to see words such as Judged, Unsafe, Trashy, Dangerous, Oppressing, and Violent used by kids to describe their own culture. It was sad to realize that



Figure 59 : Words that describe survey participants culture.



Figure 60 : Student at Bell Gardens High School designating his priorities by placing stickers on poster. Photography by: Maria Comparan

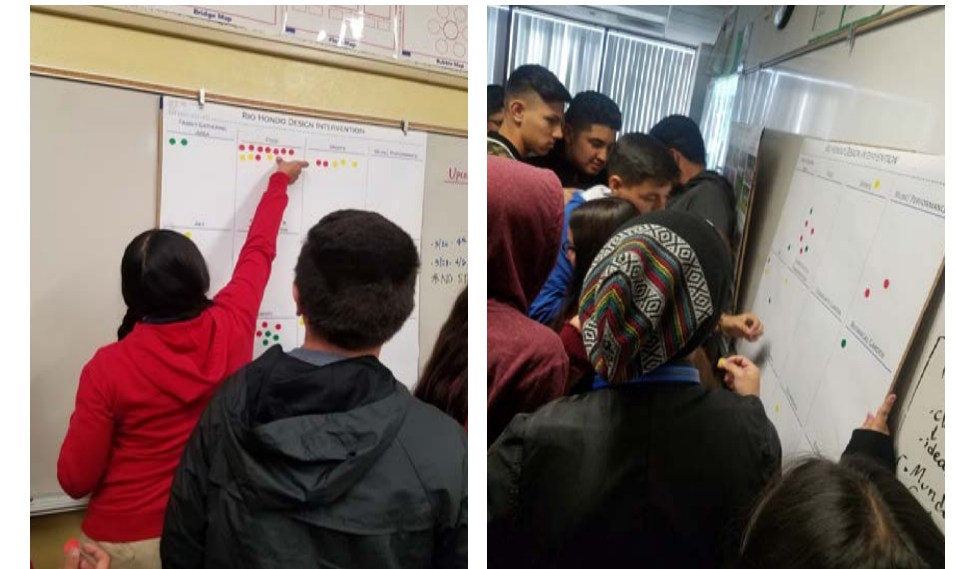
kids might have a negative opinion of their own culture instead of embracing it. (See Appendixes A-C for more detailed information on survey sheet and collected data)

- **Priorities Sticker Poster:** The third and final phase of the community participation curriculum involves a more dynamic and fun activity. I created a poster with 12 different options for programming and function. I second poster with pictures and examples of the programming was displayed for reference in case kids were not familiar with some terms. Each student was given three different stickers: red, green, and yellow. The objective of



Figure 61 : Students designating their priorities by placing stickers on poster. Photography by: Maria Comparan

this activity was for the kids to define their priorities. They would place the red sticker under the activity the they found was the most important and of highest priority for them, the green sticker was for their second option, and the yellow sticker for their third option. This activity created a quick visual tool that helped me understand community priorities and helped me interact with the students in a more personal level. Based on these posters, I realized that in general the highest priorities were to provide a safe space and have food available on site. (Refer to Appendix D for the collection of priorities posters)



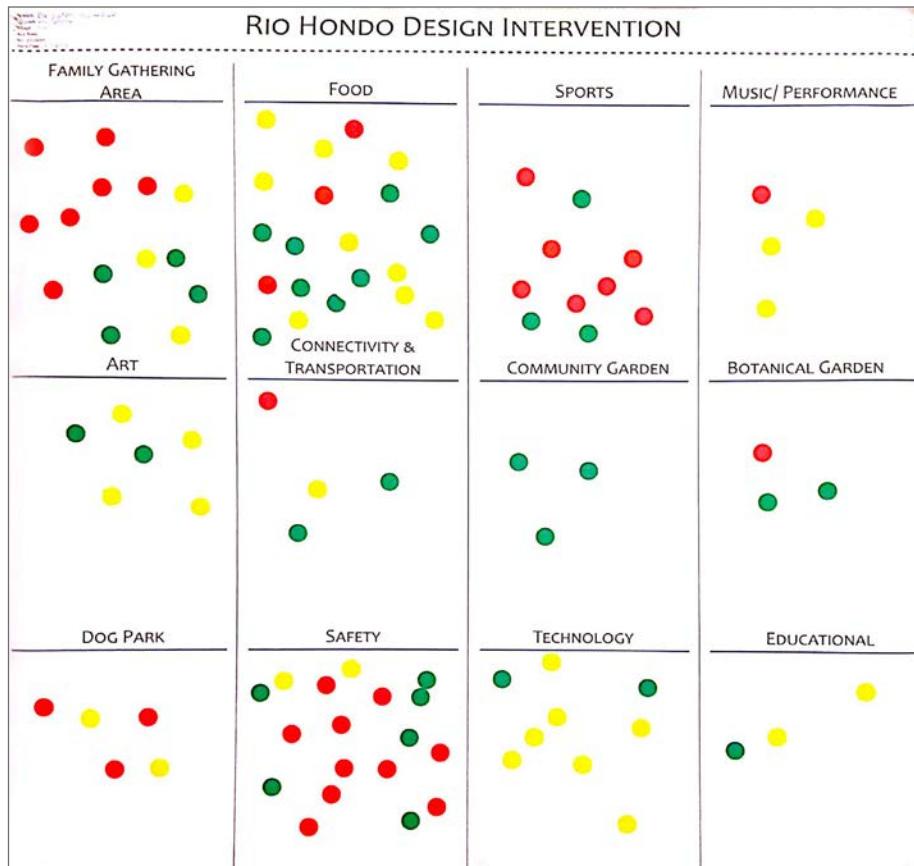


Figure 62 : Example of a filled out priorities poster

Some of the takeaways from this experience are:

- Coordinate with involved parties with enough time in advance, don't leave it for the last minute since it requires a lot of communication and coordination.
- Be aware of who your audience is. Find out in advance how much time will be available for the planned activities, conditions of location, and whether a projector and computer are available.
- Have copies of the presentation file in different flash drives, in your computer, and in the cloud. If anything goes wrong, you will have access to your information through different methods.
- Create different iterations of the survey. It is never perfect the first time and there are always ways to improve it. Ask friends or family members to fill it out and give you feedback on ways to improve it. Print out at least two surveys in one sheet of paper in order to maximize resources. It can be double-sided.
- Aim for a diverse audience and sample groups.
- Have friends or co-workers help you out. It is a lot of work for one person.
- If kids are involved taking candy is a must. Ask in advance if it is allowed.
- Do it more than once. There is always something to learn from the first run, and it helps improve the following presentations.
- Have fun.

In general, these community participation activities were a very useful learning experience for me, and a very fulfilling one. I realized I really like working with kids and I would like to continue doing this type of activities in my professional career. I want to keep exposing kids to landscape architecture and teach them to be more aware of their surroundings and appreciate open spaces. I learned that kids are very grateful and ecstatic when someone asks for their opinion and get genuinely excited about participating in these types of projects. I also noticed that there is a real lack of outreach programs in the field of landscape architecture, and there is definitely the potential to implement them, especially in under-served communities.

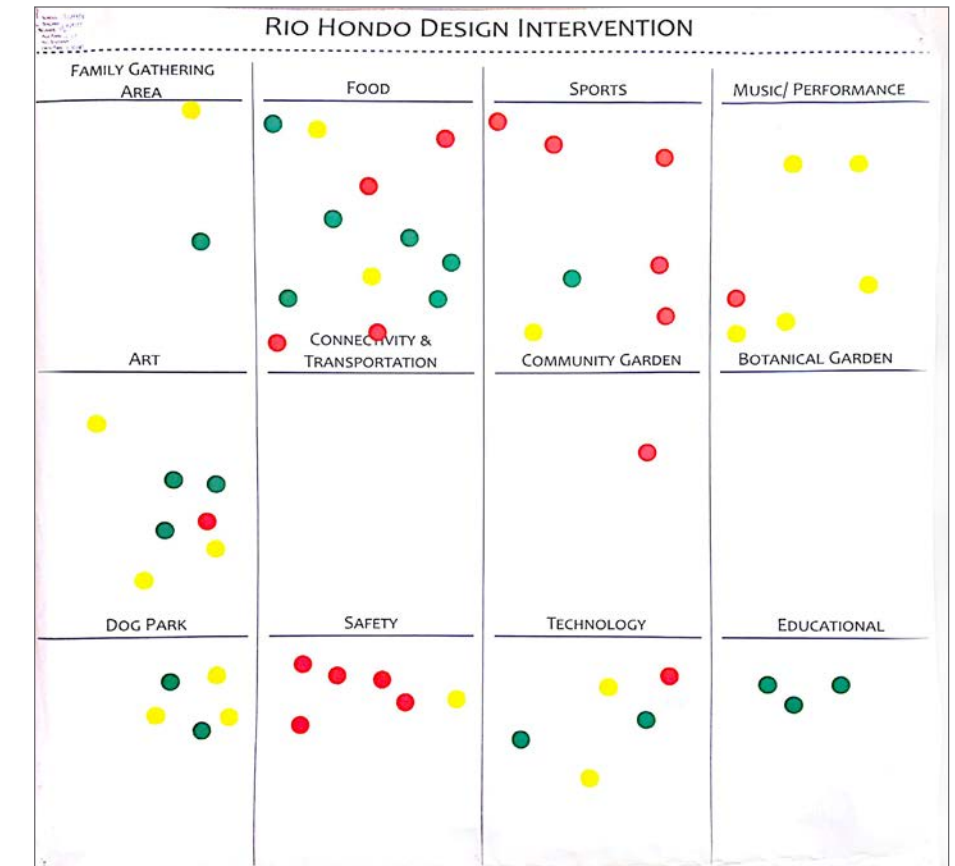


Figure 63 : Example of a filled out priorities poster



1

**REACTIVATING UNDERUSED
CONCRETE-ENCASED CANAL**

2

**PROVIDING BETTER ACCESS
TO QUALITY OPEN SPACES FOR
UNDER-SERVED COMMUNITIES**

3

**ENHANCING CULTURE IDENTITY
AND COMMUNITY ENGAGEMENT
THROUGH DESIGN INTERVENTIONS**

4

**IMPROVING CONNECTIVITY
AND BRINGING COMMUNITIES
TOGETHER**

DESIGN PRINCIPLES

"SUSTAINABLE DEVELOPMENT IS THE PATHWAY TO THE FUTURE WE WANT FOR ALL. IT OFFERS A FRAMEWORK TO GENERATE ECONOMIC GROWTH, ACHIEVE SOCIAL JUSTICE, EXERCISE ENVIRONMENTAL STEWARDSHIP AND STRENGTHEN GOVERNANCE"

BAN KI-MOON

DESIGN PRINCIPLES AND STRATEGIES

Three main concepts are the foundation of this senior project: Urban River Reactivation, Social Equality, and Cultural Identity. The end goal is to utilize Rio Hondo to bridge communities together by improving the current conditions, reactivating it as an urban space, promoting equal access to quality open spaces for all, and enhancing the cultural values and identity of the community.

RIVER REACTIVATION

"SUSTAINABLE DEVELOPMENT IS THE PATHWAY TO THE FUTURE WE WANT FOR ALL. IT OFFERS A FRAMEWORK TO GENERATE ECONOMIC GROWTH, ACHIEVE SOCIAL JUSTICE, EXERCISE ENVIRONMENTAL STEWARDSHIP AND STRENGTHEN GOVERNANCE"

-BAN KI-MOON

Before moving forward, it is important to understand the different terms that can be utilized in terms of river management:

- **Reactivate:** to bring or come back into action or use (dictionary.com)
- **Revitalize:** to give new life, to restore to an active or fresh condition (dictionary.com)
- **Rehabilitate:** elements of the natural biophysical system are returned, but not all (Findlay & Taylor, 2006)

- **Remediate:** manage to develop along a different vector of ecosystem improvement. Although this process does not result in total restoration of a system, it promotes improvement in terms of increased ecosystem function and species richness (Findlay & Taylor, 2006)

- **Restore:** return of a system to a fully recovered natural ecosystem (Findlay & Taylor, 2006)

In this case, the goal is to reactivate and revitalize Rio Hondo canal through rehabilitation and remediation. This means that in order to transform this canal into a more active urban space, to increase its use by residents, and to give it a new perspective and new uses it is necessary to improve the current conditions, enhance ecological systems, and bring back some of the natural elements that used to characterize this river. Unfortunately, it would be almost impossible to fully restore the river ecosystem. After so many years buried under concrete it does not possess the same morphology or natural conditions. Still, great efforts can be allocated into improving the current natural ecosystems and processes, and to make this place more sustainable and ecologically friendly.

This project enhances the overall conditions of the Rio Hondo canal by ensuring the efficient and harmonious intersection of three different types of functions and uses: hydrological, ecological, and social.

- **HYDROLOGICAL FUNCTIONS** relate to improving overall water conditions, including flow, infiltration and quality, and contributing to a healthy watershed and water table. Some strategies that will be implemented regrading site hydrology are:

- o Retain flood control function of spreading grounds as a infiltration basin and maximizing the quantity of water that gets recharged to the water table by removing concrete and improving water infiltration.

- o Improve water infiltration by enforcing the use of green infrastructure such as retrofitting current water outlets and transforming them in bioswales and rain gardens.

- o Implement a system of terraces where plants filter water before it moves to the next terrace in order to achieve a cleaner water quality



Figure 64 : Rio Hondo Spreading Grounds functions as water recharge basin. Image Source: Google Earth



Figure 65 : Example of Rain Garden. Source: esf.edu



Figure 66 : Example of water filtration and cleaning through terrace system. Source: Pinterest

- o Make smart material choices that allow for better water infiltrations such as permeable pavers, permeable asphalt, pebbles, decomposed granite.



Figure 67 : Example of permeable pavers. Source: Temron.com

- o Include infiltration trenches and bioswales in parking lot design



Figure 68 : Example of infiltration bioswale in parking lot. Source: atconsulting.ca

● **ECOLOGICAL FUNCTIONS** in this project refers to strategies that help improve the ecology and natural process of the site and aim to enhance wildlife habitats. Some ways that ecological function will be implemented are:

- o Increase vegetation cover to enhance CO2 sequestration and improve air quality.
- o Increase canopy cover to reduce heat island effect.
- o Encourage the use of native plant species
- o Introduce xeriscape design to encourage the use of low water need plants



Figure 69 : Example of Xeriscape Garden. Source: landscapingnetwork.com



Figure 70 : Example of Hummingbird Garden. Source: welcomewildlife.com

- o Include gardens that create wildlife habitats such as hummingbird gardens or pollinator gardens.

● **SOCIAL FUNCTIONS** relate to how people experience the space and strategies should be utilized to make Rio Hondo more inviting and comfortable, such as:

- o Improve safety by installing better public lighting and new emergency button towers.
- o Provide shade structures where conditions do not allow for tree planting



Figure 71 : Emergency button tower in UC Davis. Source: UC Davis Police Twitter



Figure 72 : Landscape Forms 'Torres' lighting collection. Source: Landscapeforms.com

- o Improve signage for easier navigation and way finding
- o Utilize vegetation screening to provide privacy for adjacent residential zones
- o Connectivity is a crucial condition that needs to be improved. According to the book The Social Connectivity of Urban Rivers, "the simplification of formerly complex, irregular banks and beds, into straight, uniform shipping channels has resulted in a loss

of lateral and vertical connectivity” (Kondolf & Pinto, 2017). This is the case of Rio Hondo. There is only one designated pedestrian bridge connecting both sides in the 4-mile section this project focuses on, all other bridges are for vehicles, which do have a side walk, but raise safety concerns. It is a priority to build more bridges and overpass parks and establish a better lateral connectivity, and ramps and stepped terraces to encourage vertical connectivity.

- o Develop more programming and activities that boost the use of these urban open spaces.

By implementing all these strategies, a new river culture can be established, and a successful reactivation and revitalization of Rio Hondo can be achieved.



Figure 73 : Vancouver Land Bridge. Source: Land8.com. Photography by Bruce Forster

SOCIAL EQUALITY

"WHEN YOU'RE FIGHTING FOR ECONOMIC AND SOCIAL JUSTICE, YOU'RE ALWAYS FIGHTING FOR THE MINORITY"

-BOB KERREY

According to the 'Journal of Socialomics' website "Social equality is a state of affairs in which all people within a specific society or isolated group have the same status in certain respects, often including civil rights, freedom of speech, property rights, and equal access to social goods and services" ("Social Equality,").

This research project addresses social equality in two ways: urban planning process and improved access quality open spaces for all.

During the urban planning process, usually the stakeholders who hold higher positions of power have a significant influence on the decision-making process, with little regard for the other parties involved. In his book Ecology, community and delight : sources of values in landscape architecture, Ian Thompson describes "Social life is not just a competition between individuals, or even between groups. It is a game played on an uneven field , in which those with higher social positions are able to maintain control of the best situations" (Thompson, 2000). People in low-income and under-served communities, usually composed primarily of minority

social groups, do not usually get involved during the planning process of their own cities. Their voices, opinions and concerns constantly go unheard and are not taken into account. The end users end up having no input in the design and development of the spaces that will be part of their daily lives, the places where they will create new memories, where they will raise their families and shape new generations. Without the community input, these places frequently become unsuccessful and under-used spaces that can never establish a real connection with the community. For that reason, it is important to start changing and reshape the way cities approach urban planning. A diverse amount of community members must be involved during the planning and decision-making processes. Therefore, community participation is an important factor for this research project, and a large portion of the design development was based on findings from community survey and what they expressed to be their priorities.

In this case, social equality is also interpreted in terms of access to services and amenities, and more specifically, access to quality open spaces. By redeveloping and rehabilitating channelized rivers, their physical morphology creates a natural connectivity network that can be utilized to allow for pedestrian and bicycle use, creating corridors that run through the city connecting different amenities and places, and offering a safer and more efficient mobility thoroughfare suitable for alternative and more sustainable methods of transportation. Designing for

all also includes being aware of the Americans with Disabilities Act guidelines, and making sure that the designed spaces are ADA accessible.

By rethinking the planning and design processes and providing a more efficient and pleasant pedestrian corridor, community members will perceive an improvement in their quality of life and will feel closer and more connected to their community.

CULTURAL IDENTITY

"CULTURE MAKES PEOPLE UNDERSTAND EACH OTHER BETTER. AND IF THEY UNDERSTAND EACH OTHER BETTER IN THEIR SOUL, IT IS EASIER TO OVERCOME THE ECONOMIC AND POLITICAL BARRIERS. BUT FIRST THEY HAVE TO UNDERSTAND THAT THEIR NEIGHBOR IS, IN THE END, JUST LIKE THEM, WITH THE SAME PROBLEMS, THE SAME QUESTIONS"

- PAULO COELHO

As described in the 'Communication Theory' website, "Culture is the values, beliefs, thinking patterns and behavior that are learned and shared and that is characteristic of a group of people. It serves to give an identity to a group, ensures survival and enhances the feeling of belonging" ("Cultural Identity Theory,").

As mentioned before, this project aims to bring two adjacent communities together that are currently disconnected from each other and divided by the Rio Hondo Canal. Through river revitalization, new spaces can be designed and integrated that attract both communities and becomes nodes of interaction. But to successfully achieve this, it is necessary to first identify what Bell Gardens and Downey have in common, and that is that both communities are predominantly Hispanic. By establishing and enhancing cultural identity, the social connection between these cities would be strengthened.

In the past, the river has been a symbol of marginalization for the Latino culture, as described in the book *Urban Latino cultures : la vida Latina en L.A.* “To white Angelenos, the river represents the displacement of nature by urban growth, but for Latinos, it is a manifestation of the separation between East and West, the dominant (white) culture and marginalized (nonwhite) cultures” (Leclerc, Villa, Dear, & University of Southern California. *Southern California Studies*, 1999, p. 2). Even though it is referring to Los Angeles River, it exemplifies how oppressing and dividing a poorly designed infrastructure can be. However, as demonstrated in Chicano Park, it is possible to claim something that has been imposed on us and make it our own, include it as part of our community and utilize it to express our cultural values and identity.

In his article ‘The Latino Use of Urban Space in East Los Angeles’, James Rojas conveys that community identity is not established

by the place itself, but what people do within that space, how they interact with it, “The identity of place is created not only by the physical forms but by the way they use exterior” (Rojas, 1999). He does a good job representing and articulating what defines the Latino culture, especially in L.A. There are symbols and elements that are very characteristic of the Latino culture, and that can be utilized and explored in an urban space in order to make it more appealing and comfortable to the Latino community. According to Rojas, and my own findings from community engagement activities, some of the most symbolic elements of the Latino culture are: Family, Food, Music, and Art.

Rojas paints a very typical scene of the Latino community, “On weekends, one can follow the crowds, smell the roasting ears of corn, taste the tangy fresh-cut pineapple and chile powder, touch the smallest trinkets, see the colors and the people, hear the laughter, dance to the music, and sway to the rhythm of the barrio” (Rojas, 1999). One of the most popular activities in our culture is to spend time with family, go out and eat together, most likely from street vendors. I haven’t yet met a Latino in Los Angeles who does not get excited when hearing the well-known beeping sound of “El Elotero” (man who sells corn on the cob). Food and family very frequently go hand in hand. Sharing a meal together is more than just intaking nutrients into your body. It is almost a ritual where we get to connect with each other, share memories and stories, and it is a way to show that we care for



Figure 74 : Elotero Man in Los Angeles. Source: abc7.com. Photography by: Reed Saxon



Figure 75 : Street vendor in Downtown L.A. Source: ladowntownnews.com. Photography by: Gary Leonard.



Figure 76 : Community Fair at Bell Gardens. Photography by: Karen Lomas-Gutierrez

each other. Therefore, incorporating a space in this design where food is available, and families can hang out together is one of the highest priorities.

Having a space to host events and music concerts is another top priority. This type of events is very popular in this community, especially community fairs where you can find the perfect combination of music, food, fun, and craftsmanship for the entertainment of the whole family.

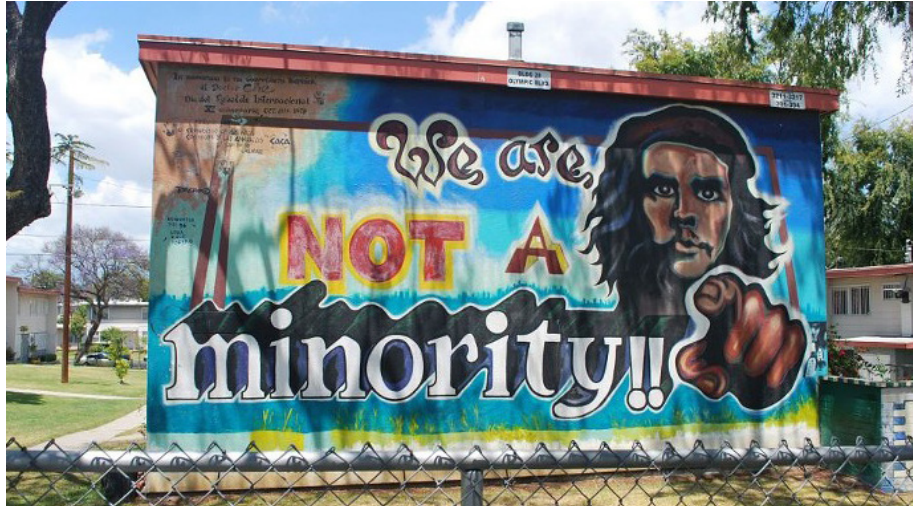


Figure 77: 'We Are Not a Minority' mural by Mario Toledo located in Olympic Blvd in Los Angeles. Source: laweekly.com. Photography by: Robin Duntz



Figure 78: 'Virgen de Guadalupe' mural by David Lopez in East Los Angeles. Source: kcet.com. Photography by: Elliott Barkan

Art is also a crucial element for the design development of this project. Art is how we express our culture and ideas through color and creativity, especially murals, " Wall space becomes a cultural expression... Murals make marginal urban spaces tolerable and can be appreciated both from the car and by foot" (Rojas, 1999). Therefore, the final design needs to include a splash of color and creative art.

In general terms, cultural values and identity will be primarily established by the intended programming, and the embodiment of food, music, art, and by bringing the families together.

MASTER PLAN DESIGN

TRANSFORMING AN OPPRESSING AND DULL CONCRETE-LINED CANAL INTO A MORE APPEALING AND FUNCTIONAL GREEN CORRIDOR FOR COMMUTING AND RECREATIONAL USES



MASTER PLAN

Three main components make up this senior project. The first one is Community Engagement (which was discussed in Chapter 5), Master Plan (to be discussed in this Chapter), and a focused design intervention on Rio Hondo Spreading grounds (to be explored in Chapter 8). This chapter deals with an overall long-term vision and improvements plan for the Rio Hondo Sections that runs from Interstate 5 to its confluence with Los Angeles River. The Master plan is divided in three different phases, and it intends to implement simple strategies to improve the current conditions of the site, increase square footage per person to quality open spaces, improve accessibility and connectivity to site, develop adjacent vacant lots into quality open spaces, and eventually transform this currently oppressing concrete-lined channel into a more appealing and functional green corridor for commuting and recreational use.

Figure 79 : Potential Areas for Development of open spaces (left)

Figure 80 : Proposed Access and Circulation (right)

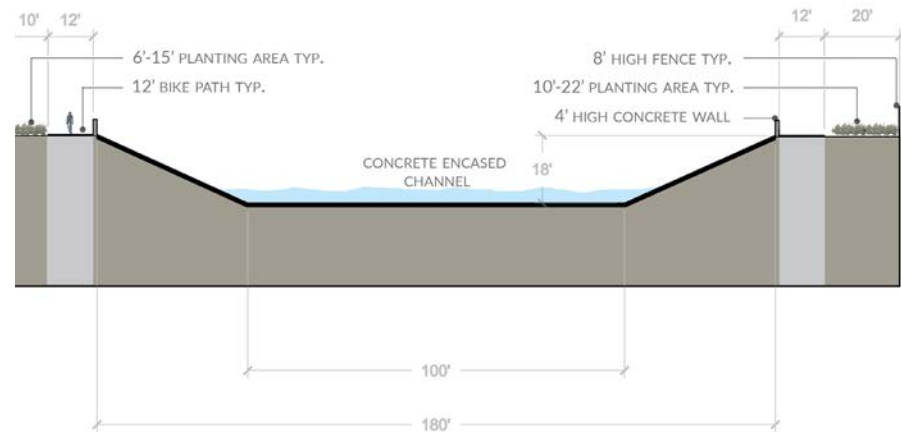
PHASING

PHASE 1 (5-10 years)

This phase will be characterized by small, easy to implement design interventions. This includes:

- Increasing vegetation cover
- Converting current inefficient drain outlets into bioswales or rain gardens
- Adding a solar panel shading structure along the trail that will also capture energy that will be utilized for public lighting and other site amenities.
- Retrofitting trails to include more vegetation, more seating areas, and especially more vegetative screening along residential zones
- Implementing public art project to liven the current somber and boring character of site, and enhance community's identity.
- Separating the bike trail from the pedestrian trail in strategic areas.
- Improving safety by installing public lighting, emergency button towers, and better signage.
- Constructing bridges to improve lateral connectivity.

EXISTING CROSS SECTION



PROPOSED CROSS SECTION

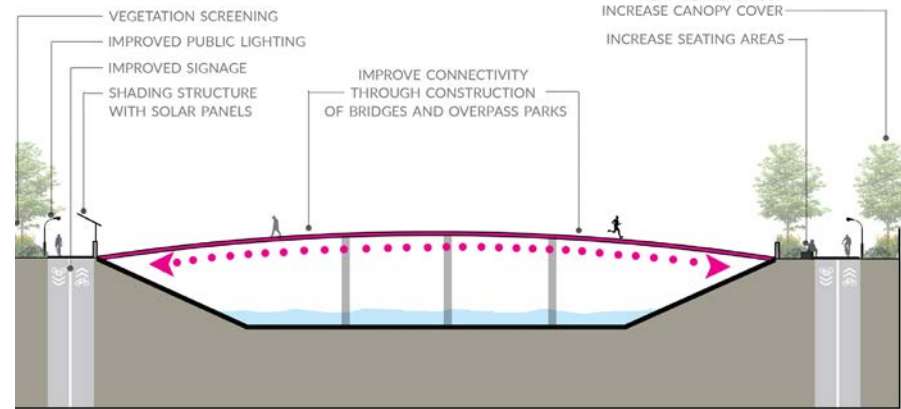


Figure 81 : Existing and Proposed Canal Cross-Sections

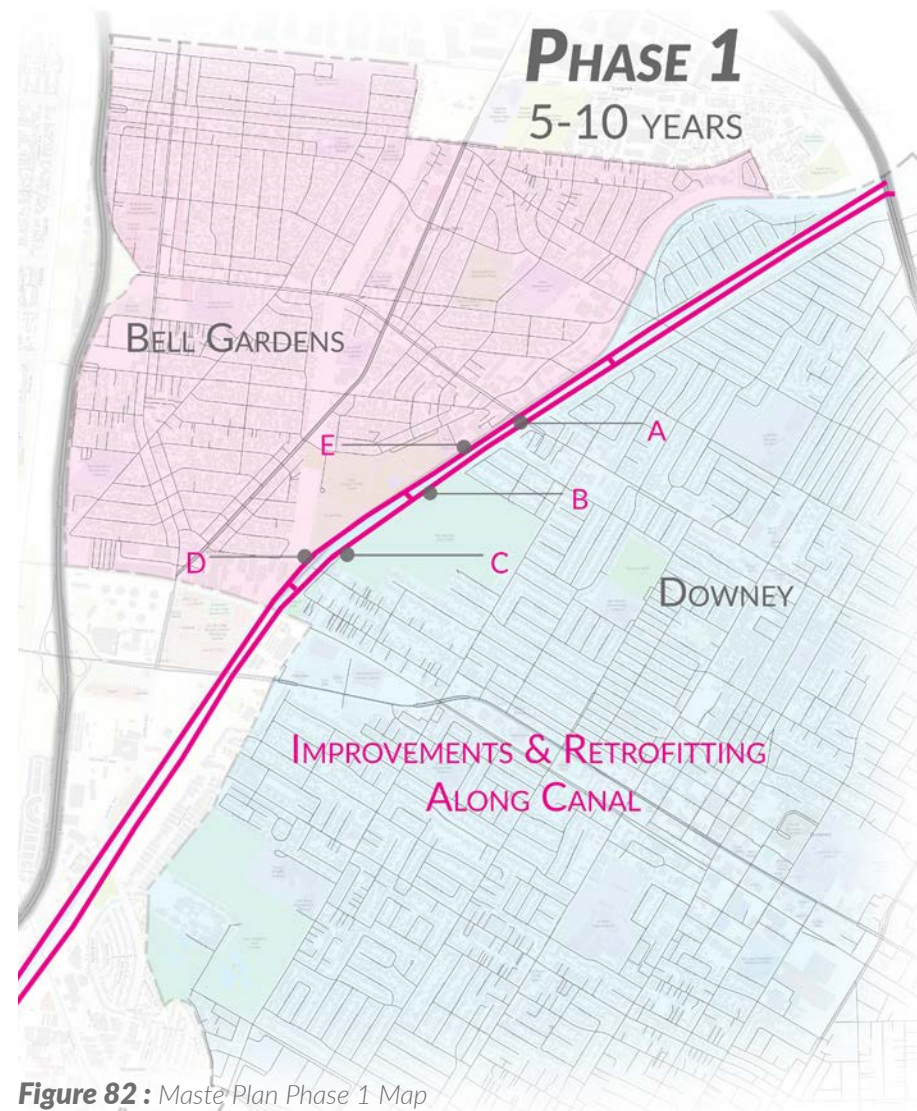


Figure 82 : Master Plan Phase 1 Map



Figure 83 : Before and After view of vehicular bridge after adding some color to the gray walls



Figure 84 : Before and After view stormwater drain after transforming it to a rain garden



Figure 85 : Before and After view of trail after increasing vegetation and adding seating area



Figure 86 : Before and After view of trail after painting a mural and improving trail conditions by adding signage and installing public lighting



Figure 87 : Before and After view of trail after adding vegetation and shade structure

PHASE 2 (15 -20 years)

This phase will primarily deal with:

- Developing empty and under-used lots adjacent to Rio Hondo canal, including spaces under power line towers.
- Planning for land acquisition and/or use of easements and under taking adequate actions to complete legal process required in order to increase access points and connectivity
- Implementing and constructing infrastructure for a more

adequate, safe, and efficient bicycle route system

- Constructing overpass parks to increase connectivity and continuity of trail while enhancing the ecological appearance.

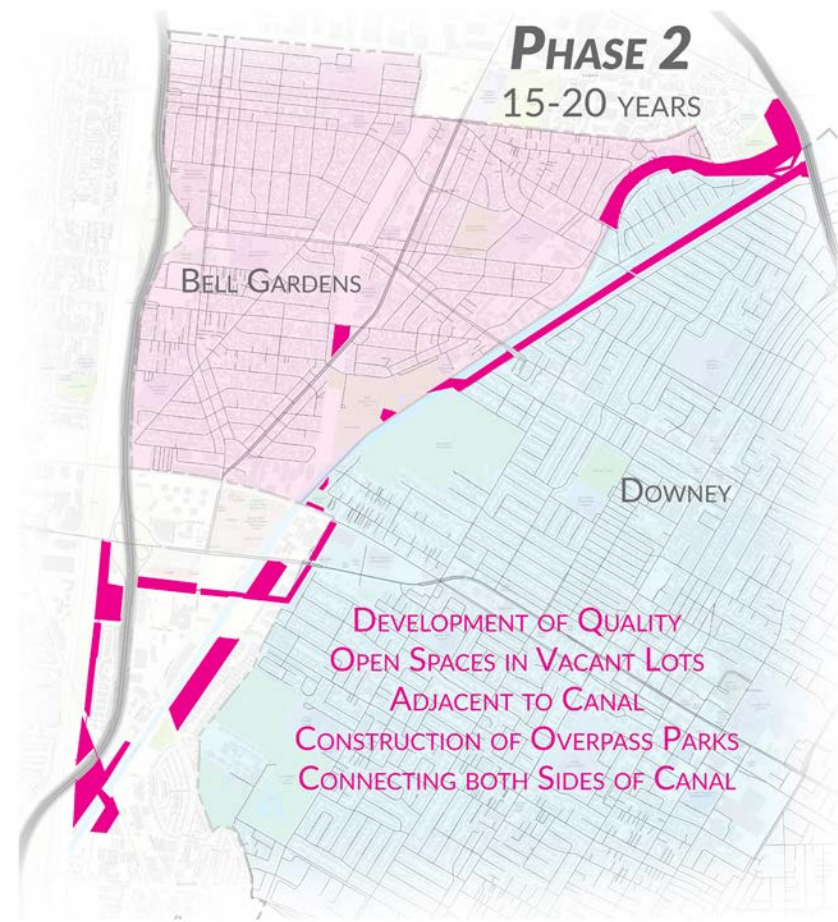


Figure 88 : Master Plan Phase 2 Map

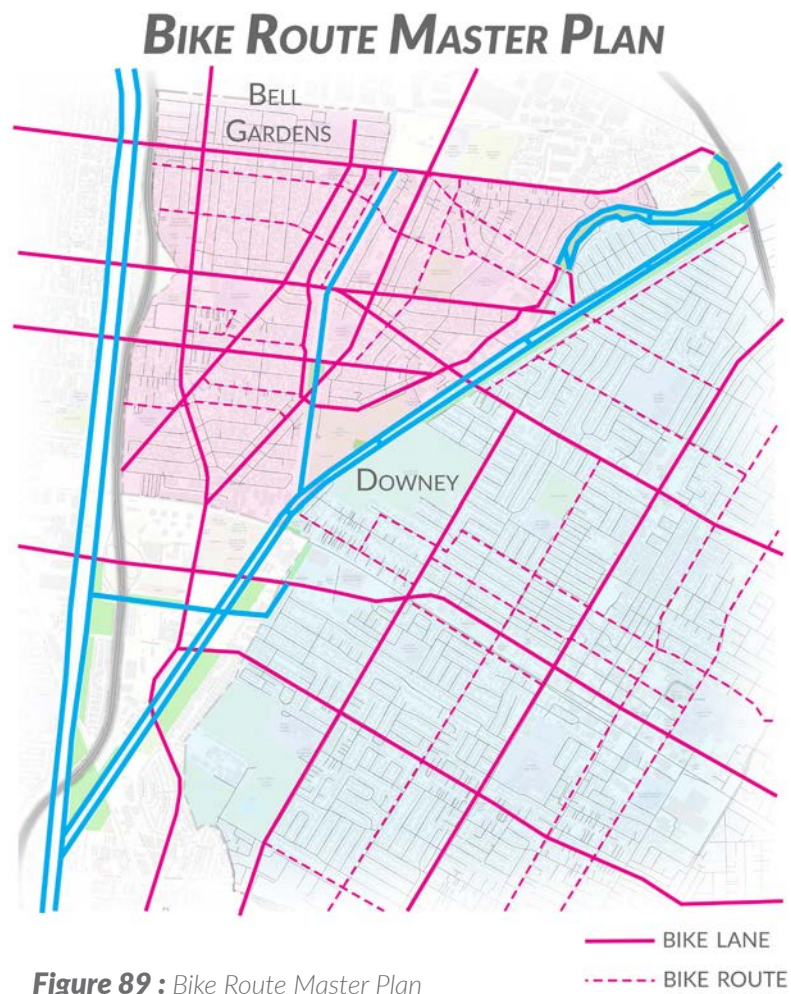


Figure 89 : Bike Route Master Plan

PHASE 3:

(25-35 years)

This phase is probably the most difficult and expensive out of the three phases. It implies the removal of concrete in order to rehabilitate this site to a more natural state and further enhance the ecological functions that should be present in a riparian environment.

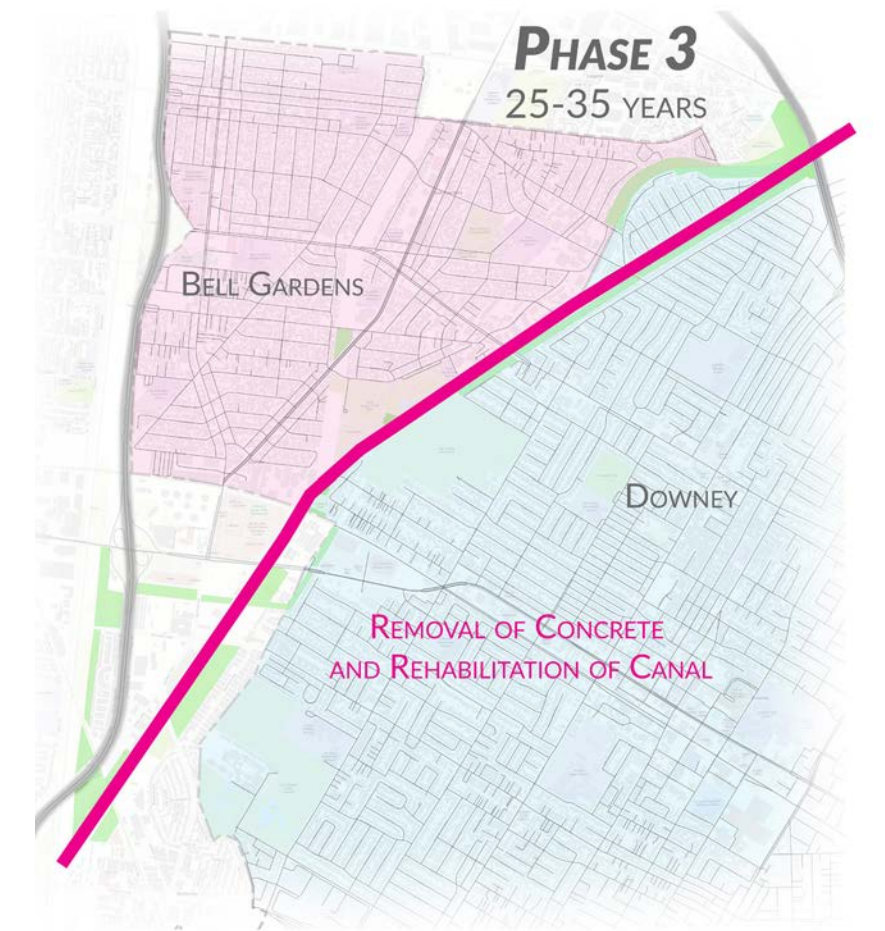


Figure 90 : Master Plan Phase 3 Map

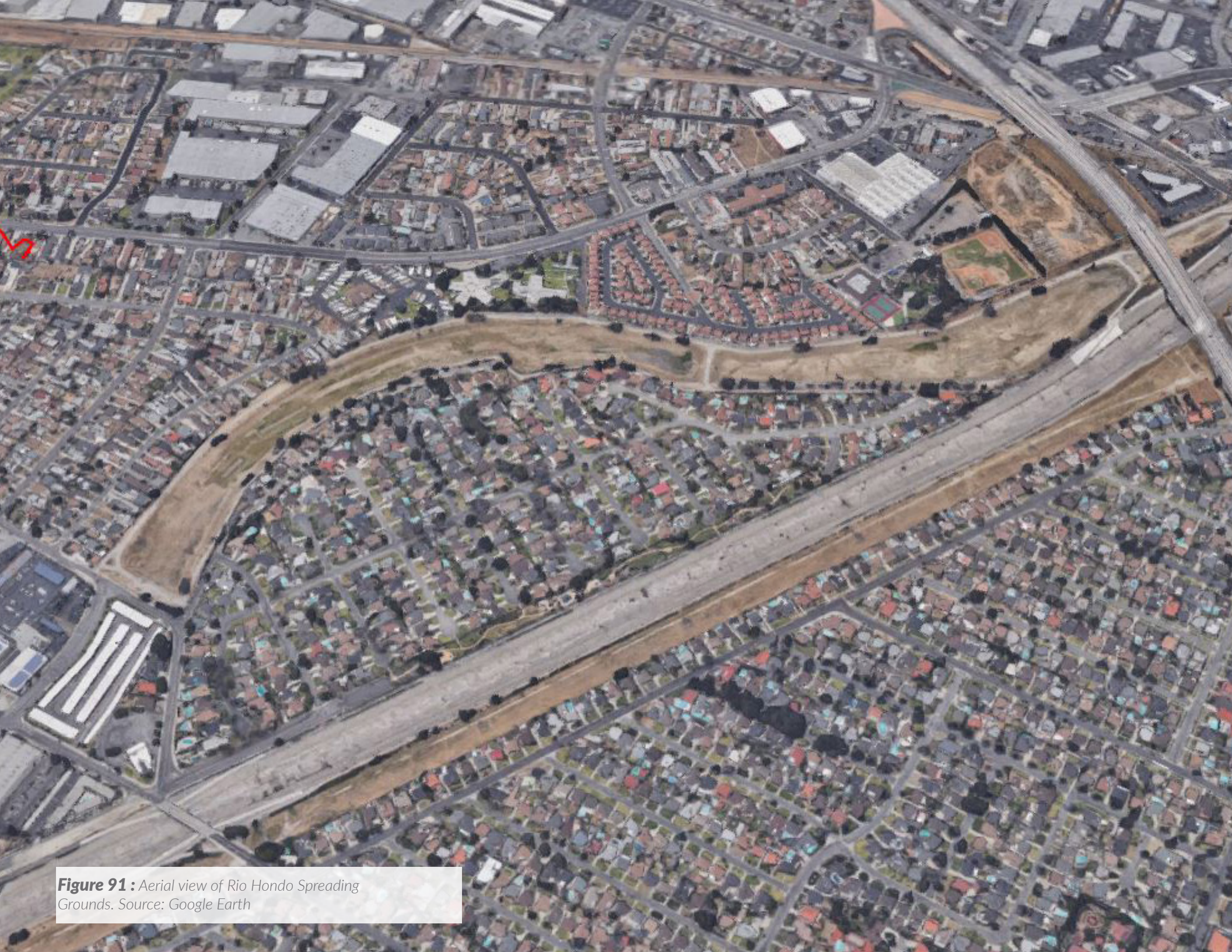


Figure 91 : Aerial view of Rio Hondo Spreading Grounds. Source: Google Earth

RIO HONDO SPREADING GROUNDS DESIGN

DESIGN DEVELOPMENT OF 'EL RIO' PARK

RIO HONDO SPREADING GROUNDS

The last component of this senior project is the design development and proposal for the Rio Hondo Spreading Grounds. Located on the Northern edge of Bell Gardens and Downey, just south of interstate 5, this site is under the jurisdiction of Los Angeles County and is currently being utilized for flood control purposes as a retaining water basin, and one of its main functions is to recharge water to the water table. The purpose of this project is not to depreciate or belittle the efforts of engineers to implement a flood control system that would prevent flooding events from taking more lives and damaging more goods in the region. I understand the need for that type of infrastructure. In fact, according to run-off records from the L.A. County Public Works Department, after the devastating flood on 1938, there have actually been precipitation events with a larger peak flow and with the potential to be even more destructive in 1969, 1979, and 2005. However, the current flood control system has been efficient in keeping residents and their belongings safe.

In general, infrastructure has frequently been designed to perform one function alone. In the last few decades a new tendency has been taking place where infrastructure has been seen as more than a functional and monotonous engineering piece, but as a landscape element that can be utilized to perform multiple functions and to encourage place making, as expressed by Gary Strang in his article 'Infrastructure as Landscape', even though the potential is largely unrealized, infrastructure systems " can be

designed with formal clarity that expresses their importance to society, at the same time creating new layers of urban landmarks, spaces and connections" (Strang, 1996).

This section of my senior project delves into developing a design strategy for the Rio Hondo Spreading Grounds where more activity and programming can be encouraged, while still maintaining the flood control function characteristic of this site.

The objective is for this site to continue being utilized as a water retention basin while still providing recreational spaces for residents.

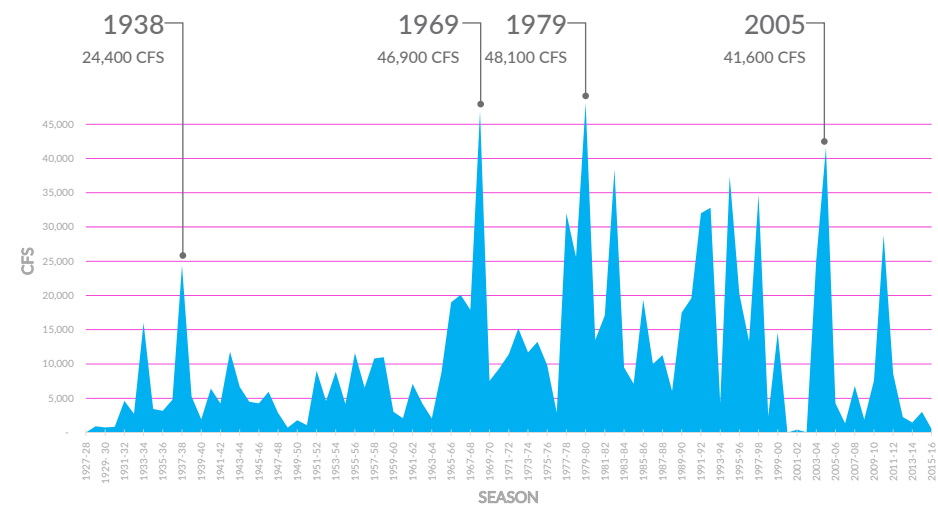


Figure 92 : Run-off Peak Flow recorded data by season. Source: Los Angeles County Public Works

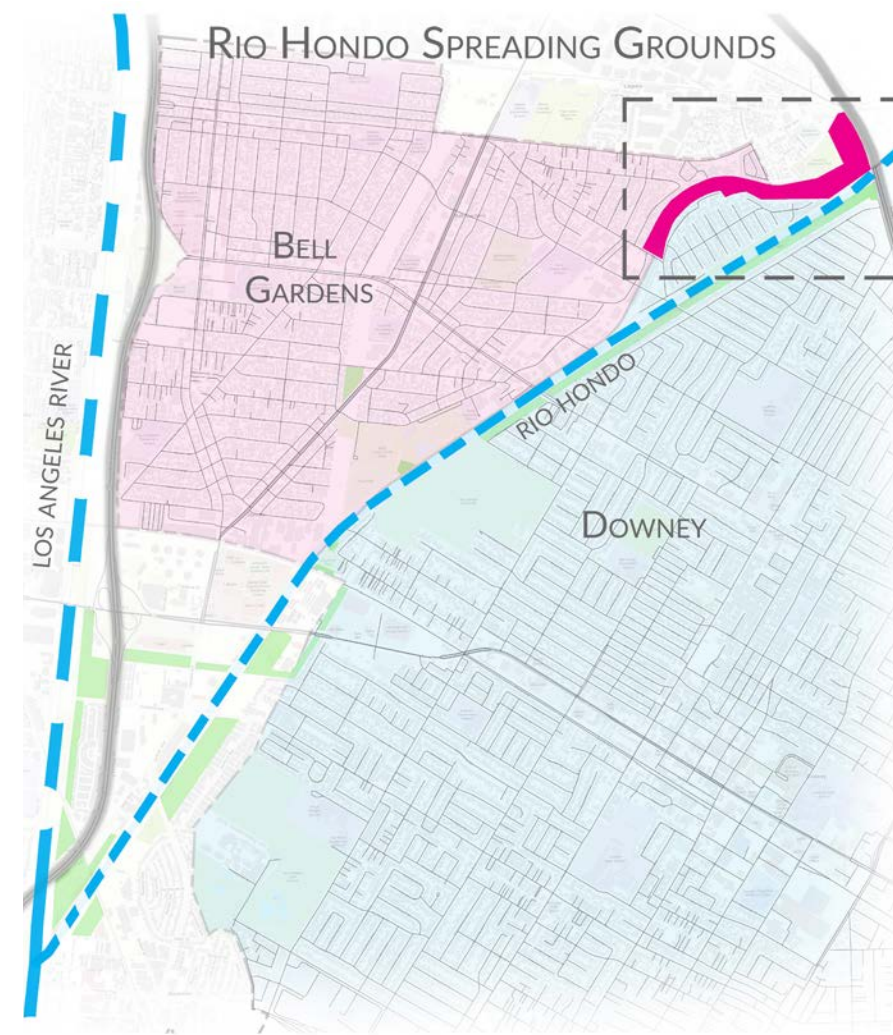


Figure 93 : Map showing location of Rio Hondo Spreading grounds



Figure 94 : Top view of Rio Hondo Spreading Grounds. Source: ESRI Digital Globe



Figure 95 : Site photograph of Rio Hondo Spreading Grounds. Photography by : Karen Lomas-Gutierrez



Figure 96: Rio Hondo Spreading Grounds Site Analysis



Figure 97: View of trail at Rio Hondo Spreading Grounds. Photography by: Karen Lomas-Gutierrez



Figure 98: View of Rio Hondo Spreading Grounds. Photography by: Karen Lomas-Gutierrez



Figure 99: View of entry from canal to Rio Hondo Spreading Grounds. Photography by: Karen Lomas-Gutierrez



Figure 100: View of Rio Hondo Spreading Grounds from Interstate 5. Source: Google Earth

OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

- Development of vacant lots adjacent to Rio Hondo Spreading Grounds and Canal into quality open spaces.
- Providing access and connectivity to adjacent Veterans Memorial and Hannon parks.
- Establishing connection to Canal on Northeast end of Spreading Grounds.
- Large size of site and the fact that it remains undeveloped present the perfect blank canvas for design interventions.
- There are opportunities to create new access points from adjacent streets.
- Due to convenient location, this site can be developed in to a social hotspot serving and connecting both cities
- Potential to maintain some ecological function as a water retention basin and recharging water to water table..

CONSTRAINTS

- Rio Hondo Spreading Grounds is currently under the jurisdiction of Los Angeles County Department of Public Works and it is restricted to public access.
- Limited amount of potential access points from residential zones. Future land acquisition and easements might be required in order to create proper entryways.
- Adjacent Industrial zones do not make this area very appealing nor convey a feeling of safety.
- Lack of parking.
- Challenge in connecting site back to Rio Hondo canal on south end.
- The typical basin topography with steep slopes present a challenge in terms of accessibility and connectivity.
- Development of a recreational park might increase traffic and vehicular activity in adjacent residential zones.
- Large size of site might be overwhelming.

'EL RIO' PARK DESIGN

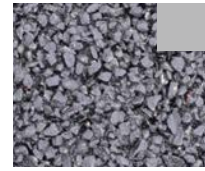
The main principle behind the design of this site is connectivity, and bridging the two communities together. In order to achieve this, the main feature of this design is a central bridge painted in blue to represent and resemble the river, and to add the vibrancy and colorfulness desired by the community. Instead of keeping the communities segregated on separate sides of the site, they will both be connected to a central spine that connects to all amenities within the site.



Figure 101 : Schematic Design Plan

SECTION A PLAN ENLARGEMENT

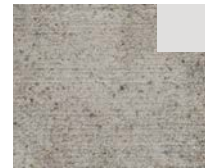
MATERIALS



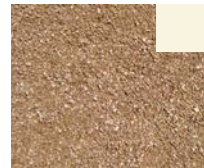
PERMEABLE ASPHALT



PERMEABLE PAVERS



CONCRETE



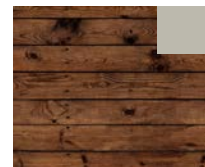
DECOMPOSED GRANITE



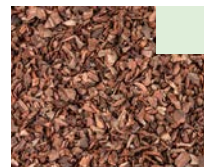
BICYCLE GREEN PATH



RAIN GARDEN PLANTING



BOARDWALK



MULCH AND TURF

CALIFORNIA NATIVE BOTANICAL GARDEN

ART GARDEN

SMALL DOG PARK

AMPHITHEATER

LARGE DOG PARK

'FOLLOW THE RIVER' BRIDGE

FOOD COURT

DROP-OFF AREA

FOOD TRUCK ALLEY

PARKING



Figure 103: Section A Enlargement Plan

SECTION B

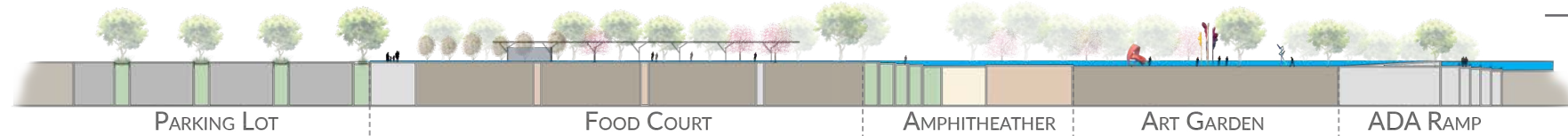


Figure 102: Section A

SECTION B PLAN ENLARGEMENT

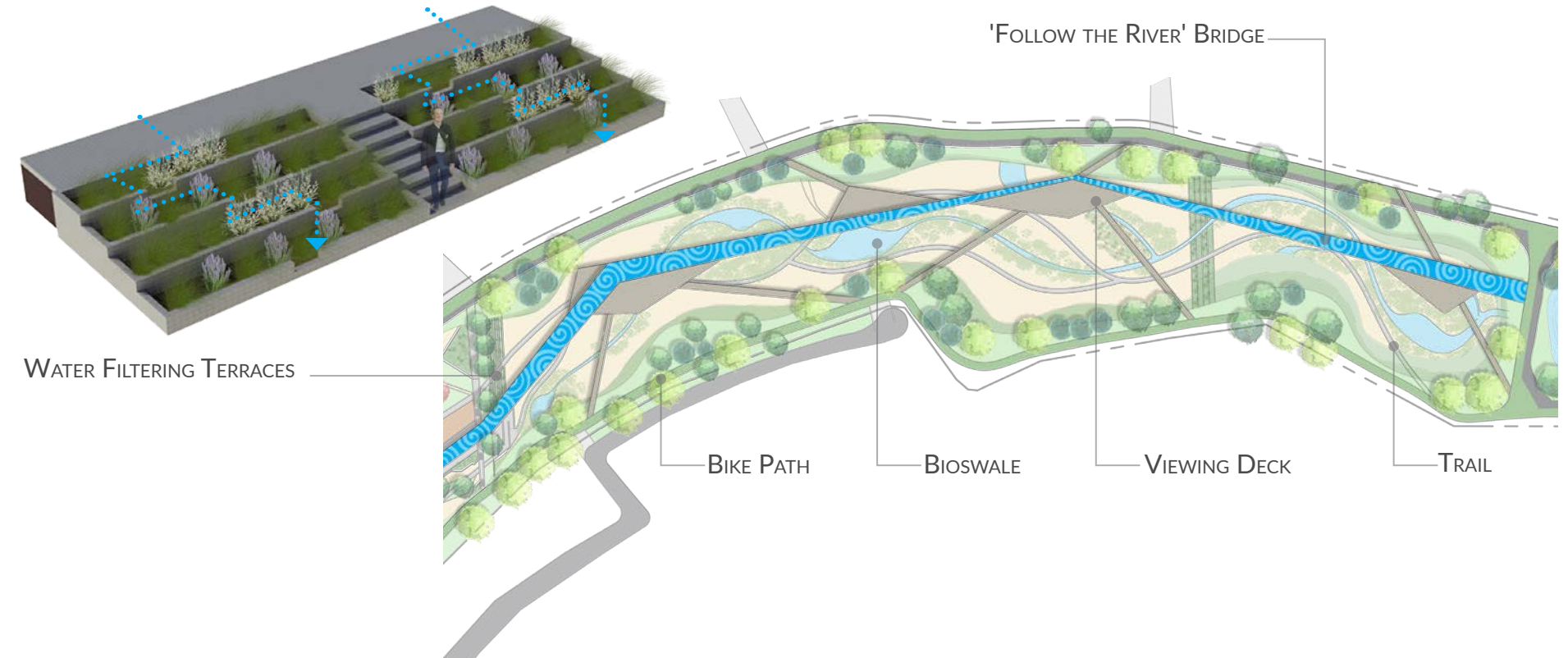


Figure 104: Section B Enlargement Plan

WATER FILTERING TERRACES

BIKE PATH

BIOSWALE

VIEWING DECK

TRAIL

'FOLLOW THE RIVER' BRIDGE

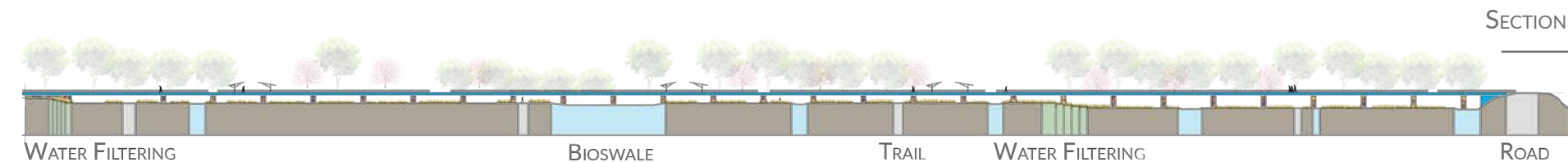


Figure 105: Section A

Figure 106: Section B

SECTION C



SECTION C PLAN ENLARGEMENT

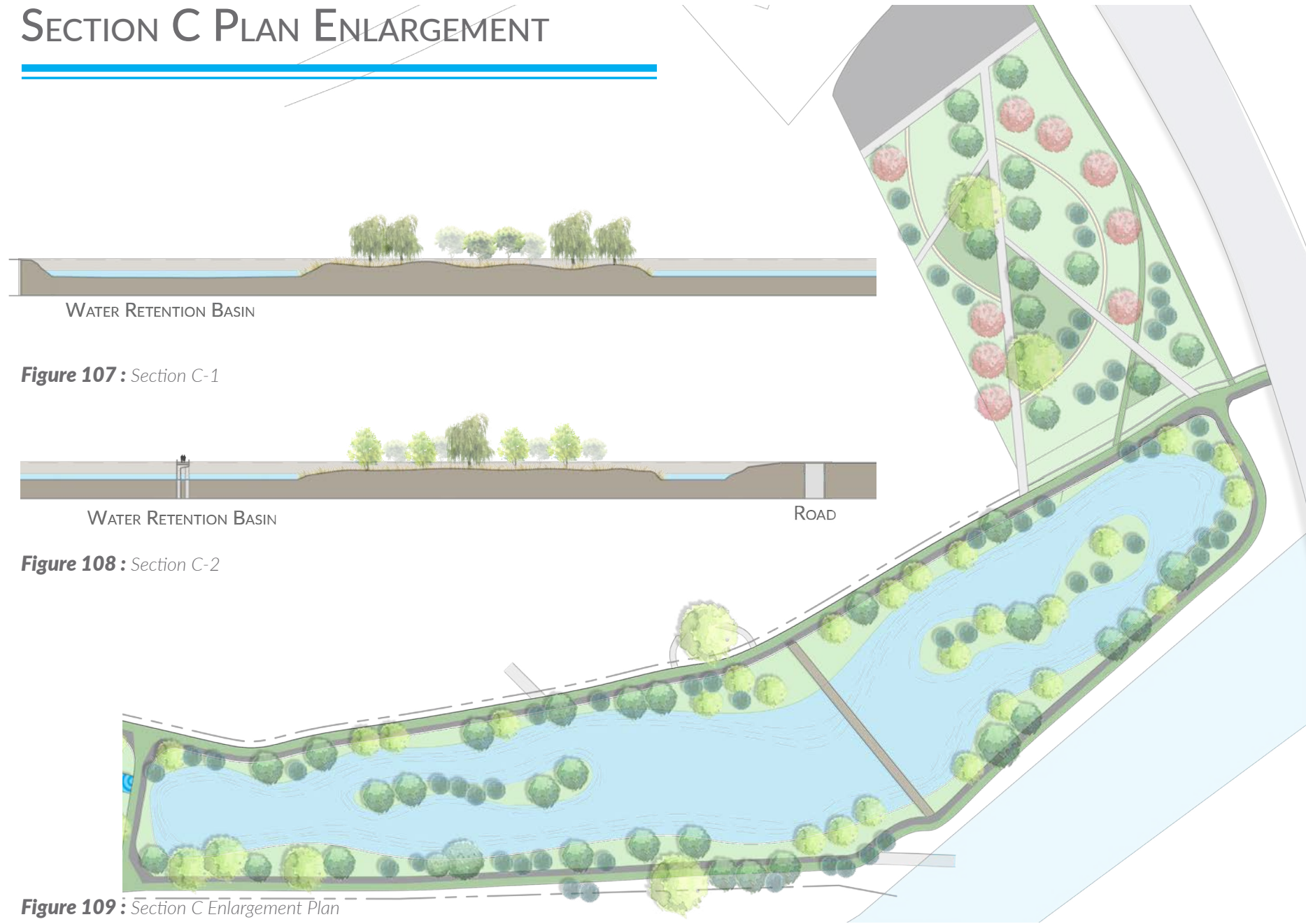


Figure 107 : Section C-1

Figure 108 : Section C-2

Figure 109 : Section C Enlargement Plan

SCHEMATIC DIAGRAMS



Figure 110 : Site Activity Diagram

SCHEMATIC DIAGRAMS

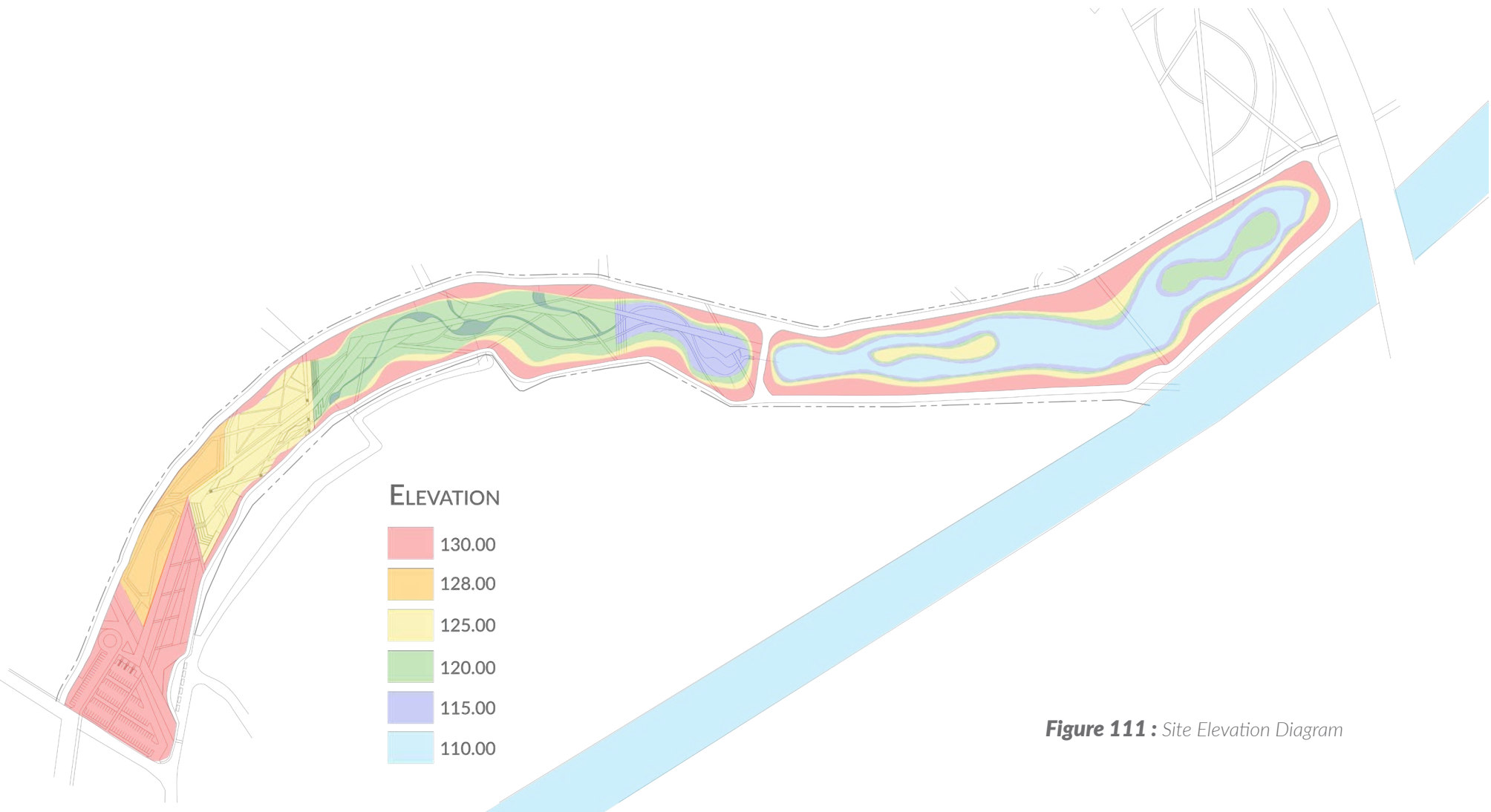


Figure 111 : Site Elevation Diagram

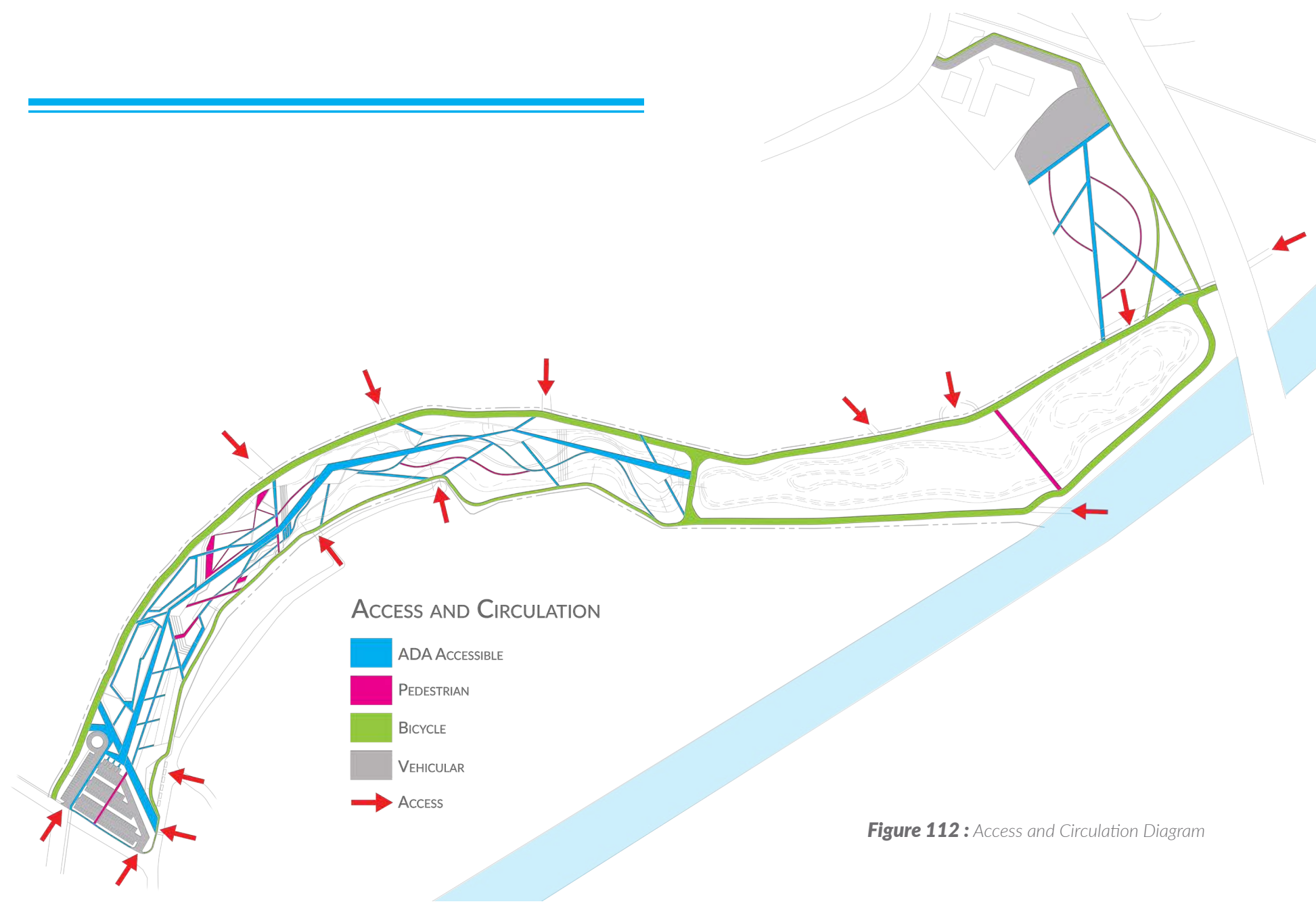


Figure 112 : Access and Circulation Diagram

SCHEMATIC DIAGRAMS

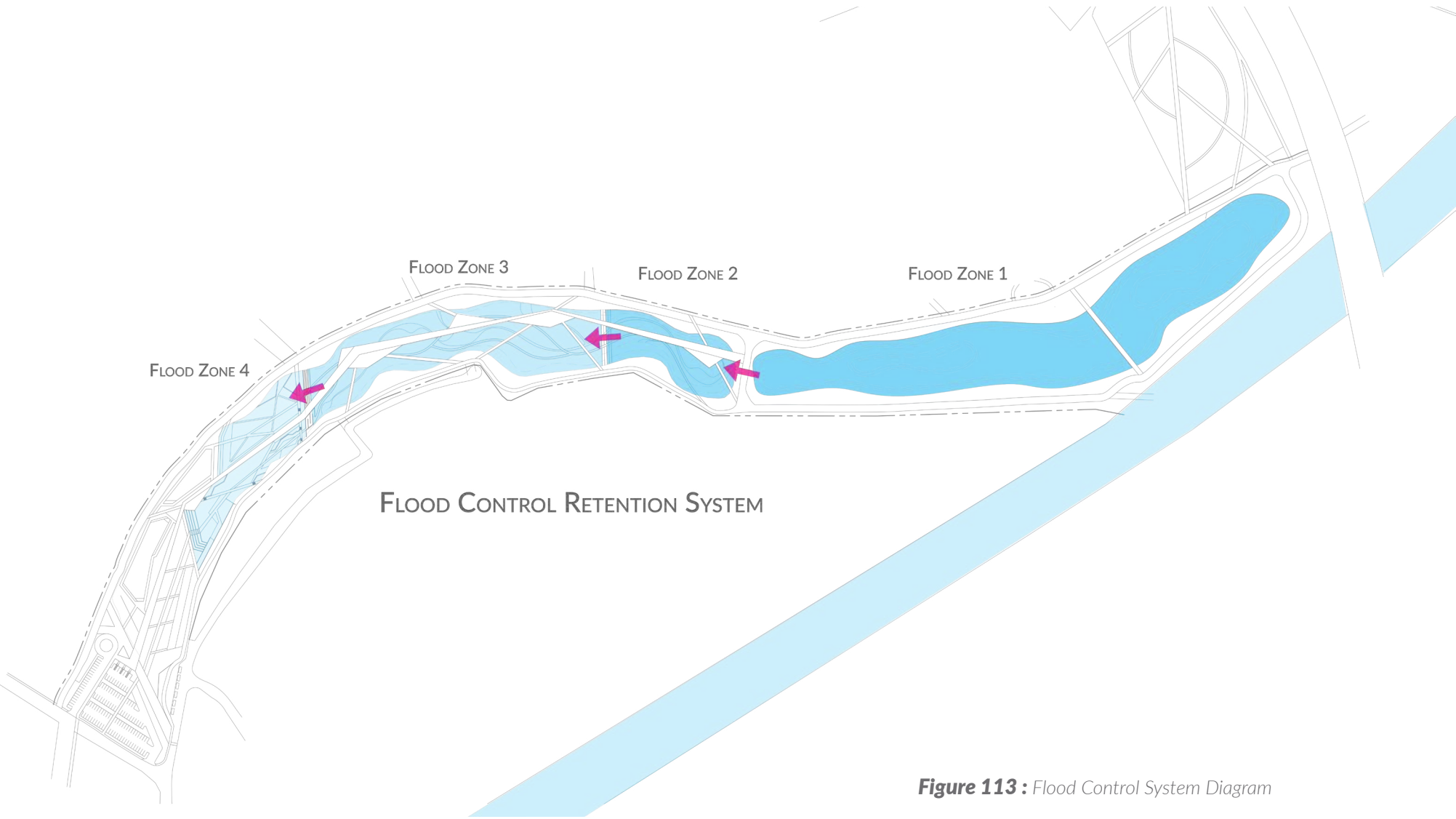


Figure 113 : Flood Control System Diagram

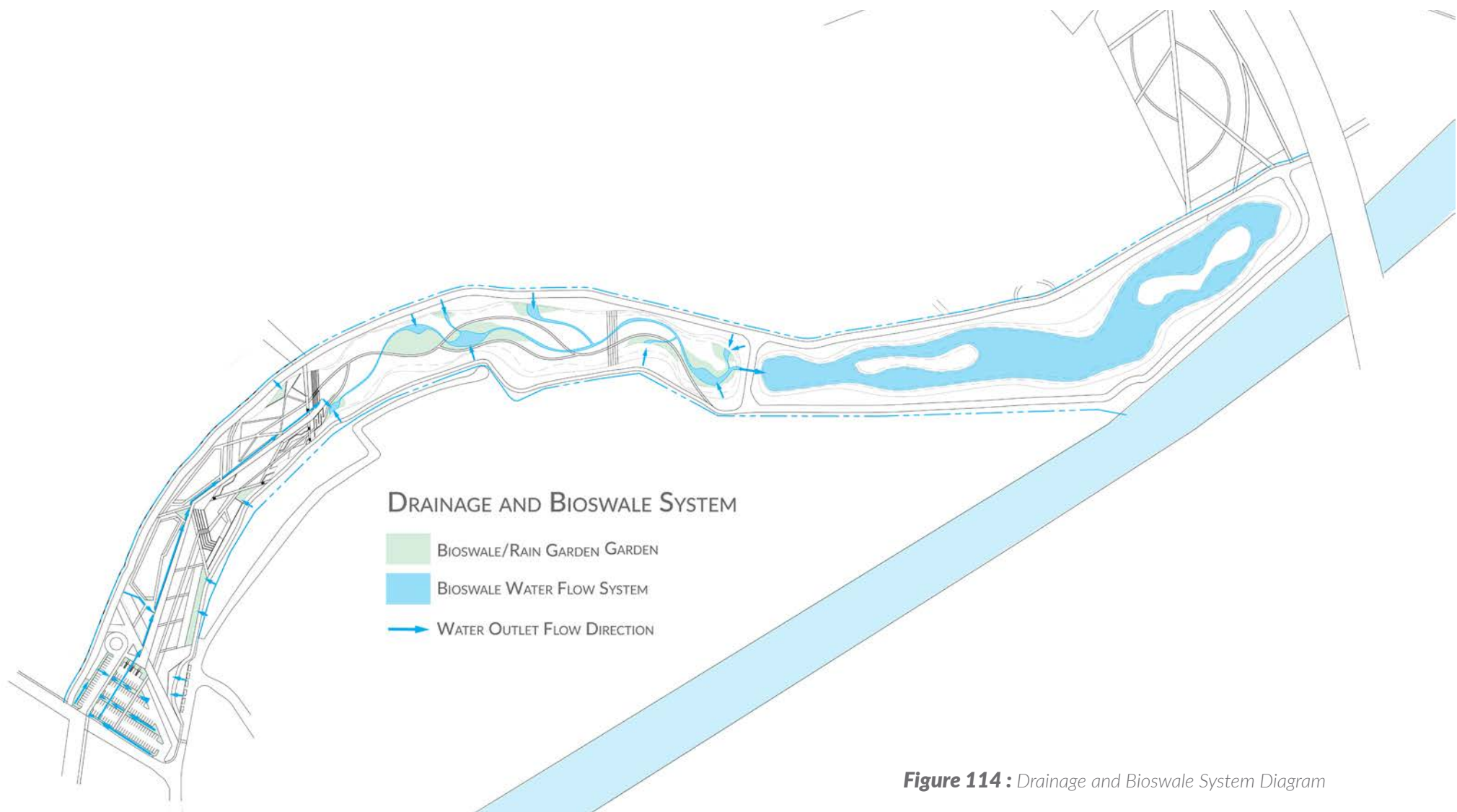


Figure 114 : Drainage and Bioswale System Diagram

PROPOSED PLANTING MATERIAL

GRASSES



Juncus acutus ssp. leopoldii
Leopold's Rush



Festuca californica
California Fescue



Carex pansa
California Meadow Sedge

SHRUBS AND PERENNIALS



Epilobium canum
Hummingbird Trumpet



Lobelia cardinalis
Cardinal Flower



Clematis lasiantha
Pipestems



Ceanothus oliganthus
Hairy Ceanothus



Heteromeles arbutifolia
Toyon



Trichostema lanatum
Woolly Bluecurls

Figure 115 : Proposed Planting Palette Source: Amigos de los Rios Emerald Necklace

GROUNDCOVER



Arctostaphylos edmundsii
Little Sur Manzanita



Achillea millefolium
Common Yarrow



Ceanothus griseus
hor. 'Yankee Point'
Yankee Point California Lilac

TREES



Cercis occidentalis
Western Redbud



Populus fremontii
Western Cottonwood



Platanus racemosa
Western Sycamore



Pinus coulteri
Coulter pine



Quercus agrifolia
Coast Live Oak



Salix gooddingii
Goodding's Black Willow

Figure 116 : Rendering of Food Court

CONCLUSION

Figure 117 : Rendering of 'Follow the River' Bridge

CONCLUSION

My senior research project started with one question:

Can cultural identity be enhanced, and social equality promoted through the revitalization of urban rivers?

After all the research, literature review, and design development process, I still find this to be a very complicated question, and I believe there is not one definite answer. My research question deals with three different aspects: Cultural Identity, Social Equality, and River Revitalization.

In terms of cultural Identity, I believe any space can be a reflection of the community it serves if designed properly. The designer has to abandon personal preferences and biases and really focus on the community in question. Community engagement and participation are critical elements of the design process when creating a space aimed to express cultural values. Designer must take into consideration community traditions, values, wants, and needs in order to design for them. Cultural Identity can only be enhanced by an honest and unbiased representation of community values, which cannot be inferred or assumed, should be researched through an immersive journey in the community. And that's what I intended to do with my community participation activities. In that sense, I believe this project to be very successful since it forced me to establish a relationship with my community, get out and start asking people what their wants and concerns are, and consider other perspectives and points of view different

than mine, which made the design process more interesting and challenging.

Social equality is perhaps more complicated than expressing cultural identity. Social equality involves many levels and can have different meanings for different people. It can be approached in terms of equal access to resources and services. It can also represent equality in the job market. It can relate to gentrification, trying to minimize the damage caused by unfair displacement. It can relate to equal access to education and personal growth opportunities. Social equality is a complex concoction of different issues related to race, gender, income, social status, and religion. It can be approached in different ways: community activism, public policy, political movements, but also by planning and design, especially in terms of physical access to resources, and connectivity. Here is where rivers come into play.

Due to its natural morphology, rivers can offer a perfect connectivity network. If taken into consideration, they can be a critical part of the planning process, connecting different communities and providing access to a different array of amenities and services. The right design interventions can make rivers a social hotspot while still performing an ecological function. The design strategies presented in this project are a good start to the process of rehabilitating Rio Hondo canal. However, during the production of this project I learned that in reality this process would be a long

and difficult one where all the right factors must fall into place in order to have a successful outcome. For instance, in order to do any type of design intervention, a partnership between the cities of Bell Gardens, Downey, and Los Angeles County Department of Public Works would be necessary, and cities have to be willing to actually collaborate and work as a team to make this happen. But cities have other priorities and it would be very unlikely for this type of partnership to be accomplished. Which at the end made me question the purpose of this senior project. But I realized that many times is not about the outcome, but about the journey. In this journey I learned that it is possible for communities to come together and make things happen. I also realized that I love working with schools and engage with kids, and that I will probably keep doing it during my professional career, and that is a very positive outcome I did not expect to get out of this project. I'm also planning on giving both cities a copy of this senior project. Perhaps they will never read it, but in the off chance they do then I will be raising awareness about the potential for this site. It does not have to be grand and drastic changes. The implementation of a small bioswale or the installation of one emergency button tower are a good start. I once heard the quote: "Start small, but don't be afraid to start," which I believe fits perfectly in this situation. Big changes start with small actions.

In conclusion, river revitalization cannot completely solve all social, cultural and political issues currently afflicting our society,

APPENDIX

Appendix A: Community Engagement Survey

Appendix B: Community Survey Collected Data

Appendix C: Survey Data Summary Tables

Appendix D: Priorities Posters

Appendix E: Rio Hondo Runoff Report

RIO HONDO DESIGN INTERVENTION SURVEY PART A

1. What is your age? _____
2. How do you get to school?
Walking Bicycling Public Transportation Driving
3. How often do you bike for at least 15 minutes?
I don't bike Once a month or less Once every two weeks Once a week More than 2 days a week Everyday
4. How often do you use public transportation?
I don't use public transit Once a month or less Once every two weeks Once a week More than 2 days a week Everyday
5. How often do you go to the park?
I don't go to the park Once a month or less Once every two weeks Once a week More than 2 days a week Everyday
6. How far away is the closest park to where you live?
I don't know where the closest park is More than 5 blocks away 3-4 blocks away 1-2 blocks away Within the same block
7. Do you like going to the park?
Yes Sometimes No Why Not?
8. Do you feel safe in open spaces?
Yes No Why Not?
9. Do you feel safe in your community?
Yes No
10. Do you know where the closest hospital/ medical center is to where you live?
Yes No
11. Do you spend more time indoors or outdoors?
Indoors Outdoors
12. What is your favorite place to go with your family on weekends?
13. What is your favorite place to go with friends?
14. What are 3 words that describe your culture?
15. Name something that you think is missing in your city?

Anonymous Participant	City	School	Age	How do you get to school?	How often do you bike for at least 15 minutes?	How often do you use public transportation?	How often do you go to the park?	How far away is the closest park to where you live?
1	Downey	Stauffer Middle School	12	Driving	I don't bike	Once a month or less	More than 2 days a week	1-2 blocks away
2	Downey	Stauffer Middle School	12	Driving	Once a week	I don't use public transit	I don't go to the park	3-4 blocks away
3	Downey	Stauffer Middle School	12	Walking	I don't bike	I don't use public transit	I don't go to the park	3-4 blocks away
4	Downey	Stauffer Middle School	13	Driving	I don't bike	I don't use public transit	Once a week	1-2 blocks away
5	Downey	Stauffer Middle School	12	Driving	Once a month or less	I don't use public transit	Everyday	Within the same block
6	Downey	Stauffer Middle School	12	Driving	I don't bike	I don't use public transit	Once a month or less	More than 5 blocks away
7	Downey	Stauffer Middle School	13	Driving	Once a month or less	Once a month or less	I don't go to the park	More than 5 blocks away
8	Downey	Stauffer Middle School	12	Driving	I don't bike	I don't use public transit	More than 2 days a week	3-4 blocks away
9	Downey	Stauffer Middle School	12	Driving	Once a month or less	Once every 2 weeks	More than 2 days a week	More than 5 blocks away
10	Downey	Stauffer Middle School	13	Driving	Once a month or less	I don't use public transit	Once every 2 weeks	More than 5 blocks away
11	Downey	Stauffer Middle School	12	Walking	I don't bike	I don't use public transit	Once every 2 weeks	3-4 blocks away
12	Downey	Stauffer Middle School	12	Driving	I don't bike	Once a month or less	Once a month or less	More than 5 blocks away
13	Downey	Stauffer Middle School	13	Driving	Once a month or less	I don't use public transit	Once a week	More than 5 blocks away
14	Downey	Stauffer Middle School	12	Driving	Once a week	Once every 2 weeks	Once every 2 weeks	Within the same block
15	Downey	Stauffer Middle School	13	Driving	Once a month or less	I don't use public transit	I don't go to the park	3-4 blocks away
16	Downey	Stauffer Middle School	13	Driving	Once a month or less	Once a month or less	Once every 2 weeks	More than 5 blocks away
17	Downey	Stauffer Middle School	13	Driving	I don't bike	Once every 2 weeks	Everyday	1-2 blocks away
18	Bell Gardens	Bell Gardens Intermediate	13	Walking	I don't bike	I don't use public transit	Once a week	3-4 blocks away
19	Bell Gardens	Bell Gardens Intermediate	12	Walking	Once every 2 weeks	Once a month or less	Once a month or less	I don't know where the closest park is
20	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	Once a month or less	Everyday	More than 5 blocks away
21	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	Once a month or less	Once every 2 weeks	1-2 blocks away
22	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a week	I don't use public transit	Once a month or less	More than 5 blocks away
23	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once every 2 weeks	More than 5 blocks away
24	Bell Gardens	Bell Gardens Intermediate	13	Walking	I don't bike	Once every 2 weeks	Once a month or less	3-4 blocks away
25	Bell Gardens	Bell Gardens Intermediate	13	Driving	Once a week	I don't use public transit	Once a week	1-2 blocks away
26	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	More than 5 blocks away
27	Bell Gardens	Bell Gardens Intermediate	13	Driving	Once a week	I don't use public transit	Once a week	3-4 blocks away
28	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	Once a month or less	Once every 2 weeks	More than 5 blocks away
29	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	Once a month or less	More than 2 days a week	Within the same block
30	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	Once a month or less	Once a month or less	More than 5 blocks away
31	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	I don't know where the closest park is
32	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	Once every 2 weeks	Once a week	I don't know where the closest park is
33	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	I don't use public transit	Once every 2 weeks	More than 5 blocks away
34	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	1-2 blocks away
35	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	Once a month or less	More than 2 days a week	1-2 blocks away
36	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once every 2 weeks	More than 5 blocks away
37	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	More than 5 blocks away
38	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	I don't use public transit	Once a month or less	3-4 blocks away
39	Bell Gardens	Bell Gardens Intermediate	12	Walking	I don't bike	I don't use public transit	More than 2 days a week	3-4 blocks away
40	Bell Gardens	Bell Gardens Intermediate	12	Driving	More than 2 days a week	Once a month or less	Once a month or less	3-4 blocks away
41	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once every 2 weeks	More than 5 blocks away
42	Bell Gardens	Bell Gardens Intermediate	13	Walking	I don't bike	Once a month or less	Once a month or less	3-4 blocks away
43	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	Once a month or less	1-2 blocks away
44	Bell Gardens	Bell Gardens Intermediate	13	Walking	I don't bike	I don't use public transit	Once a week	More than 5 blocks away

Anonymous Participant	Do you like going to the park?	Do you feel safe in open spaces?	Do you feel safe in your community?	Do you know where the closest hospital/ medical center is to where you live?	Do you spend more time indoors or outdoors?	What is your favorite place to go with your family on weekends?	What is your favorite place to go with friends?
1	Yes	Yes	Not all the time	Yes	Outdoors	Bating Cages	Mall/Movies
2	Sometimes	Yes	No	Yes	Indoors	Movies	Public Pool
3	Sometimes	Yes	Yes	Yes	Indoors	Disneyland	Disneyland
4	Yes	No	Yes	Yes	Indoors	Cousins house	movies
5	Yes	No	Yes	No	Outdoors	Baseball Games	Mall
6	Yes	Yes	Yes	Yes	Indoors	Play any sports	movies/hanging out at my house
7	Sometimes	Yes	Yes	Yes	Indoors	Universal Studios	parties
8	Yes	Yes	Yes	Yes	Outdoors	Dad's Farm	Ford Park to play soccer
9	Sometimes	Yes	Yes	Yes	Indoors	Chuck E Cheese	Parties
10	Yes	No	Yes	Yes	Outdoors	Home, Beach	restaurants
11	Yes	Yes	Yes	Yes	Indoors	Movies	Friend's house
12	Yes	No	No	No	Indoors	Walk in the River Bed	Beach
13	Yes	Yes	Yes	Yes	Outdoors	Target	Movies
14	Yes	Yes	Yes	No	Indoors	I don't know	I don't know
15	Yes	Yes	Not all the time	Yes	Indoors	Out for dinner/ Santa Monica Pier	Friend's house
16	Sometimes	Yes	Yes	Yes	Indoors	Beach	movies
17	Yes	Yes	Yes	Yes	Outdoors	Disneyland	park or mall
18	Sometimes	No	Yes	No	Indoors	Aunt's House	I don't have any friends
19	Yes	Yes	Yes	Yes	Outdoors	Mall	Park to play sports
20	Yes	Yes	Yes	Yes	Outdoors	Knott's Berry Farm, Ford Park	Knott's Berry Farm
21	Yes	Yes	Yes	No	Indoors	Park	Movies
22	Yes	Yes	Yes	No	Indoors	Mall, Amusement park, museums	park, movies
23	Yes	No	Yes	Yes	Indoors	mall, park	starbucks
24	Yes	Yes	Yes	Yes	Indoors	park	outside around neighborhood
25	Yes	Yes	Yes	Yes	Indoors	Ford Park	movies
26	Sometimes	Yes	Yes	Yes	Indoors	Mall	starbucks
27	Sometimes	No	Yes	No	Indoors	Mall, places where to be active	starbucks
28	Yes	No	No	No	Indoors	Movies	starbucks
29	Yes	Yes	Yes	Yes	Indoors	hiking to mountains or forests	parks, movies
30	Yes	Yes	Yes	No	Indoors	restaurants	mall
31	Yes	Yes	Yes	Yes	Outdoors	beach, park	mall, friend's house
32	Yes	No	No	Yes	Indoors	mall	park
33	Yes	Yes	Yes	No	Indoors	beach, restaurants	I don't hang out with friends after school
34	Sometimes	Yes	Yes	No	Indoors	six flags	starbucks
35	Yes	Yes	Yes	No	Indoors	movies	park
36	Sometimes	Yes	Yes	No	Indoors	restaurants	McDonalds
37	Yes	Yes	Yes	No	Indoors	restaurants	park
38	Sometimes	Yes	Yes	Yes	Indoors	movies	starbucks
39	Yes	No	No	Yes	Outdoors	park	out to eat
40	Yes	Yes	Yes	Yes	Indoors	Cousins house	Friend's house
41	Yes	Yes	Yes	Yes	Outdoors	pool, park	youth center
42	Yes	Yes	Yes	No	Indoors	restaurants	ford park
43	Sometimes	Yes	Yes	No	Indoors	mall	movies
44	Yes	Yes	Yes	Yes	Indoors	mall	park

Anonymous Participant	What are 3 words that describe your culture?	Name something that you think is missing in your city?
1	food, parties, easter	colors/pets
2	food, colors, dancing	places for children
3	loving, family, parties	amusement park
4	quiet, beautiful, nice	movie theater
5	colorful, food, music	skate park
6	fun, wild, loving, food, music	A park closer to his/her house. Starbucks
7	strong bond, a lot of food	fun museums (illusions, world records, etc)
8	soccer, Mexican, outdoor	Nice soccer field
9	spicy, tasty, different	bike routes, safety routes, more lighting everywhere
10	fun, loud, creative	I'm not sure
11	colorful, singing	pet shops
12	Tacos, Tamales, eating with Grandma	Parks and more safety
13	Food, music, population	Amusement Park
14	I don't know	More Parks
15	faithful, praying, music	safety
16	family, food, music	place to learn about animals and wildlife
17	music, dance	family
18	different, unique, judged	forest or area surrounded by nature
19	fun, sometimes unsafe, colorful	parks and trees, and going green
20	Musical, Beautiful, creative	Art
21	joyful, peaceful, family	More dog park
22	fun, different, unique	a place to go when stressed
23	beautiful, fun, family	more safety and fun places to go
24	fun, safe, free	more parks, more trees, more green
25	family, friends, educational, safe	more landmarks
26	joyful, funny, musical	Parks
27	beautiful, fun, family	more nature and plants
28	trashy, food, enclosed	dog park and pet hospitals
29	creative, fun, music	skate park
30	food, creative, family	more safety
31	creative, happy, delicious	I don't know
32	colorful, art, food	park with a river
33	colorful, busy, safe	dog park
34	artistic, colorful, quotes	dog park
35	respect	safety or art
36	fun, active, crazy	theme park
37	family, music, food	fun places
38	food, color, music	dog park
39	fun, awesome, cool	more parks
40	sacred, relaxed, plain	more bike routes
41	food, cooler, farm	skybridge, skate parks
42	joyful, music, independence	more green areas
43	family, loud, colorful	public flower garden
44	soccer, music, family	more fun places

Anonymous Participant	City	School	Age	How do you get to school?	How often do you bike for at least 15 minutes?	How often do you use public transportation?	How often do you go to the park?	How far away is the closest park to where you live?
45	Bell Gardens	Bell Gardens Intermediate	13	Driving	Once a week	I don't use public transit	Once every 2 weeks	1-2 blocks away
46	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	Once a month or less	Once a month or less	More than 5 blocks away
47	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	Once a month or less	3-4 blocks away
48	Bell Gardens	Bell Gardens Intermediate	12	Walking	I don't bike	Once a month or less	I don't go to the park	3-4 blocks away
49	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a week	Once a month or less	Once every 2 weeks	1-2 blocks away
50	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a month or less	I don't use public transit	Once a month or less	More than 5 blocks away
51	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	Once a month or less	Within the same block
52	Bell Gardens	Bell Gardens Intermediate	12	Walking	I don't bike	Once a month or less	Once a month or less	More than 5 blocks away
53	Bell Gardens	Bell Gardens Intermediate	12	Walking	I don't bike	I don't use public transit	Once a week	More than 5 blocks away
54	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a week	I don't use public transit	Once a month or less	Within the same block
55	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once a week	I don't use public transit	Once a week	I don't know where the closest park is
56	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	3-4 blocks away
57	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	Everyday	Once every 2 weeks	3-4 blocks away
58	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	Once every 2 weeks	Once a month or less	3-4 blocks away
59	Bell Gardens	Bell Gardens Intermediate	12	Driving	Once every 2 weeks	I don't use public transit	Once every 2 weeks	1-2 blocks away
60	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	1-2 blocks away
61	Bell Gardens	Bell Gardens Intermediate	13	Walking	Once a month or less	Once every 2 weeks	More than 2 days a week	3-4 blocks away
62	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	Once every 2 weeks	Within the same block
63	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	I don't go to the park	I don't know where the closest park is
64	Bell Gardens	Bell Gardens Intermediate	12	Walking	I don't bike	Once a month or less	Once a week	3-4 blocks away
65	Bell Gardens	Bell Gardens Intermediate	12	Walking	Once every 2 weeks	I don't use public transit	Once every 2 weeks	3-4 blocks away
66	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	I don't go to the park	More than 5 blocks away
67	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	Within the same block
68	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	More than 2 days a week	1-2 blocks away
69	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	Once a month or less	Once every 2 weeks	More than 5 blocks away
70	Bell Gardens	Bell Gardens Intermediate	13	Walking	Once a month or less	I don't use public transit	Once every 2 weeks	More than 5 blocks away
71	Bell Gardens	Bell Gardens Intermediate	13	Walking	Once a month or less	I don't use public transit	Once a month or less	More than 5 blocks away
72	Bell Gardens	Bell Gardens Intermediate	12	Walking	More than 2 days a week	Once every 2 weeks	Once a week	3-4 blocks away
73	Bell Gardens	Bell Gardens Intermediate	12	Driving	I don't bike	I don't use public transit	Once a month or less	I don't know where the closest park is
74	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	Everyday	Once a month or less	More than 5 blocks away
75	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	I don't use public transit	Once a month or less	I don't know where the closest park is
76	Bell Gardens	Bell Gardens Intermediate	13	Driving	I don't bike	Everyday	Once a month or less	1-2 blocks away
77	Bell Gardens	Bell Gardens Intermediate	12	Walking	Once every 2 weeks	Once a month or less	Once a month or less	More than 5 blocks away
78	Bell Gardens	Bell Gardens Intermediate	12	Driving	Everyday	Once a month or less	More than 2 days a week	1-2 blocks away
79	Bell Gardens	Bell Gardens Intermediate	11	Driving	Everyday	I don't use public transit	Once a week	More than 5 blocks away
80	Bell Gardens	Bell Gardens Intermediate	14	Walking	I don't bike	I don't use public transit	Once a week	More than 5 blocks away
81	Bell Gardens	Bell Gardens High School	17	Driving	Once a month or less	I don't use public transit	Once a month or less	1-2 blocks away
82	Bell Gardens	Bell Gardens High School	17	Walking	Once a month or less	More than 2 days a week	Once every 2 weeks	3-4 blocks away
83	Bell Gardens	Bell Gardens High School	15	Driving	More than 2 days a week	Once a month or less	Once a week	More than 5 blocks away
84	Bell Gardens	Bell Gardens High School	15	Walking	Once a month or less	I don't use public transit	More than 2 days a week	1-2 blocks away
85	Bell Gardens	Bell Gardens High School	15	Walking	I don't bike	Once a month or less	Once a month or less	1-2 blocks away
86	Bell Gardens	Bell Gardens High School	15	Driving	Once a month or less	I don't use public transit	Once a month or less	1-2 blocks away
87	Bell Gardens	Bell Gardens High School	16	Walking	More than 2 days a week	Once a month or less	Once every 2 weeks	3-4 blocks away
88	Bell Gardens	Bell Gardens High School	17	Driving	Once a week	More than 2 days a week	More than 2 days a week	1-2 blocks away

Anonymous Participant	Do you like going to the park?	Do you feel safe in open spaces?	Do you feel safe in your community?	Do you know where the closest hospital/ medical center is to where you live?	Do you spend more time indoors or outdoors?	What is your favorite place to go with your family on weekends?	What is your favorite place to go with friends?
45	Yes	Yes	Yes	Yes	Indoors	restaurants	bike riding
46	Yes	No	No	No	Indoors	go out to eat	Friend's house
47	Sometimes	No	No	Yes	Indoors	theme park	Friend's house
48	Yes	Yes	Yes	Yes	Indoors	church	
49	Yes	Yes	Yes	No	Outdoors	Golf N' Stuff	park
50	Yes	Yes	No	Yes	Indoors	out to eat, Knott's Berry Farm	Knott's Berry Farm, bowling, restaurants
51	Sometimes	Yes	No	No	Outdoors	Golden Corral	starbucks
52	Sometimes	Yes	Yes	Yes	Indoors	Rialto	movies
53	Yes	Yes	Yes	No	Indoors	amusement park	park
54	Sometimes	Yes	Yes	No	Outdoors	grandma's house, park	plaza and out to eat
55	Yes	Yes	Yes	No	Outdoors	beach, park	out to eat
56	Yes	Yes	Yes	No	Indoors	church	park
57	Yes	Yes	Yes	Yes	Indoors	mountains	amusement parks
58	Sometimes	Yes	Yes	Yes	Indoors	grandma's house	starbucks
59	Yes	Yes	Yes	Yes	Indoors	movies	store
60	Yes	Yes	Yes	No	Outdoors	friend's house	menchies
61	Yes	Yes	No	No	Indoors	park, anywhere with food	park, starbucks
62	Sometimes	Yes	Yes	Yes	Outdoors	mall, stores, restaurants, church	mall, bowling, eat, starbucks
63	Yes	Yes	No	No	Indoors	mall	don't go out with friends
64	Yes	Yes	Yes	Yes	Outdoors	Aunt's House	mall
65	Sometimes	No	Yes	No	Indoors	carnival, theme parks	mall, go out to eat
66	Sometimes	Yes	Yes	No	Indoors	Disneyland	movies
67	Sometimes	Yes	Yes	Yes	Indoors	mall	movies
68	Yes	Yes	No	Yes	Indoors	theme park, mall, restaurants	starbucks, movies, park
69	Yes	No	Yes	Yes	Indoors	see my other family	movies
70	Yes	Yes	Yes	Yes	Indoors	we stay home	Friend's house
71	Yes	Yes	Yes	No	Indoors	theme parks	Friend's house
72	Yes	Yes	Yes	Yes	Outdoors	park and church	starbucks or park
73	Sometimes	No	Yes	Yes	Indoors	the habit	Friend's house
74	Sometimes	Yes	Yes	No	Indoors	movies, anything with food, library	anything with food
75	Sometimes	Yes	Yes	Yes	Indoors	mall	I don't go out with friends
76	Sometimes	Yes	Yes	Yes	Indoors	mall/ shopping	Friend's house
77	Sometimes	Yes	Yes	Yes	Indoors	amusement park, stores, movies	movies, mall, park
78	Yes	Yes	Yes	No	Outdoors	park, out to eat	park to play soccer
79	Yes	Yes	Yes	Yes	Indoors	legoland	Friend's house
80	Yes	Yes	Yes	Yes	Outdoors	applebees	park
81	Yes	Yes	Yes	Yes	Outdoors	mall, parks	fast food, mall
82	Yes	Yes	Yes	No	Indoors	Tacos el Gavilan	Alfredos
83	Yes	Yes	Yes	Yes	Indoors	mall	theme parks
84	Yes	Yes	Yes	Yes	Outdoors	theme parks	park and play basket ball
85	Yes	Yes	No	Yes	Indoors	restaurants	mall/ shopping
86	Yes	Yes	Yes	No	Outdoors	mall	out to eat
87	Sometimes	Yes	No	No	Indoors	restaurants	anywhere
88	Yes	Yes	Yes	Yes	Outdoors	stay home	park, out to eat

Anonymous Participant	What are 3 words that describe your culture?	Name something that you think is missing in your city?
45	food, crazy, loud	places to enjoy with family
46	music, food, joyful	safety
47	unsafe, fun	more nature, cleaner, more safety
48	food, music, happy	cleaning
49	dangerous, peaceful, hardworking	another football field
50	fun, awesome, colorful	more parks and technology
51	fun, safe, nice	hospital
52	peaceful, dangerous, calm	place to hang out
53	joyful, colorful, happy	football field
54	quiet, nice, colorful	garden
55	colorful, flowers, having fun	dog park
56	colorful, joyful, relaxing	more outdoor activities
57	mexican, american, proud	dog care, kids care
58	family, food, competitive	larger open park
59	joyful, cool, amazing	family gathering area
60	happy, fun, family	dog park
61	fun, latin, different	beauty, more flowers and color
62	happy, nice, joyful	dog park
63	joyful, safe, colorful	art
64	happy, smart, creative	footlocker
65	colorful, joyful, food	mall, more activities with community, museums
66	music, joy, happiness	dog park
67	beautiful, nice, cool	portos
68	colorful, happy, music	community programs
69	food, music, colorful	love, caring, more parks, dog park
70	fun, happy colorful	garden or hangout spot
71	happiness, fun, exciting	skate park
72	colorful, joyful, mysterious	animal shelter
73	safe, calm, peace	hospital
74	big, loud, strong	we have pretty much everything
75	joyful, colorful, food	nothing
76	partying, fun, loud	nothing
77	happy, colorful, joyful	hospital
78	music, food, joy	shopping center
79	tamales, warm house, grandma	more healthy programs
80	happy, music, food	indoor soccer center
81	food, music, clothing	mall
82	Mexican	nothing
83	tacos, color, party	more open spaces, public gym
84	basketball, church, mexican food	safety
85	music, good food, celebrations	safety at night time everywhere
86	food, music, colors,	we need people to respect the city more by picking up trash, recycling
87	latin, mexican, religious	lake
88	hardworking, tough, loud	cultural mixes, more diversity

Anonymous Participant	City	School	Age	How do you get to school?	How often do you bike for at least 15 minutes?	How often do you use public transportation?	How often do you go to the park?	How far away is the closest park to where you live?
89	Bell Gardens	Bell Gardens High School	15	Walking	I don't bike	More than 2 days a week	Once a month or less	1-2 blocks away
90	Bell Gardens	Bell Gardens High School	17	Public Transportation	I don't bike	More than 2 days a week	More than 2 days a week	1-2 blocks away
91	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	More than 2 days a week	Once a month or less	3-4 blocks away
92	Bell Gardens	Bell Gardens High School	16	Walking	I don't bike	I don't use public transit	Once every 2 weeks	3-4 blocks away
93	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	Once a month or less	More than 2 days a week	1-2 blocks away
94	Bell Gardens	Bell Gardens High School	15	Walking	I don't bike	I don't use public transit	More than 2 days a week	More than 5 blocks away
95	Bell Gardens	Bell Gardens High School	17	Walking	I don't bike	More than 2 days a week	More than 2 days a week	More than 5 blocks away
96	Bell Gardens	Bell Gardens High School	14	Walking	Once a month or less	Once every 2 weeks	Once a week	1-2 blocks away
97	Bell Gardens	Bell Gardens High School	16	Walking	Once a week	Once a month or less	More than 2 days a week	3-4 blocks away
98	Bell Gardens	Bell Gardens High School	17	Driving	I don't bike	I don't use public transit	Once a week	Within the same block
99	Bell Gardens	Bell Gardens High School	14	Driving	I don't bike	I don't use public transit	Once a month or less	1-2 blocks away
100	Bell Gardens	Bell Gardens High School	15	Public Transportation	I don't bike	Everyday	Once every 2 weeks	1-2 blocks away
101	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	I don't use public transit	I don't go to the park	More than 5 blocks away
102	Bell Gardens	Bell Gardens High School	16	Driving	More than 2 days a week	I don't use public transit	Once a week	1-2 blocks away
103	Bell Gardens	Bell Gardens High School	18	Walking	I don't bike	Once a month or less	Once a week	Within the same block
104	Bell Gardens	Bell Gardens High School	16	Walking	I don't bike	I don't use public transit	Once a month or less	3-4 blocks away
105	Bell Gardens	Bell Gardens High School	16	Public Transportation	Once a week	Everyday	Once a week	1-2 blocks away
106	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	Once a month or less	I don't go to the park	I don't know where the closest park is
107	Bell Gardens	Bell Gardens High School	17	Walking	Once a month or less	I don't use public transit	Once every 2 weeks	1-2 blocks away
108	Bell Gardens	Bell Gardens High School	14	Walking	I don't bike	I don't use public transit	Once a month or less	3-4 blocks away
109	Bell Gardens	Bell Gardens High School	16	Walking	I don't bike	I don't use public transit	Once a month or less	More than 5 blocks away
110	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	More than 2 days a week	Once a month or less	Within the same block
111	Bell Gardens	Bell Gardens High School	18	Driving	I don't bike	Once every 2 weeks	Once a month or less	3-4 blocks away
112	Bell Gardens	Bell Gardens High School	14	Walking	Once a week	I don't use public transit	More than 2 days a week	More than 5 blocks away
113	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	I don't use public transit	I don't go to the park	1-2 blocks away
114	Bell Gardens	Bell Gardens High School	16	Driving	I don't bike	I don't use public transit	Once a month or less	Within the same block
115	Bell Gardens	Bell Gardens High School	18	Driving	I don't bike	I don't use public transit	I don't go to the park	3-4 blocks away
116	Bell Gardens	Bell Gardens High School	15	Driving	Once a month or less	Once a month or less	More than 2 days a week	Within the same block
117	Bell Gardens	Bell Gardens High School	16	Driving	I don't bike	I don't use public transit	I don't go to the park	3-4 blocks away
118	Bell Gardens	Bell Gardens High School	16	Walking	Once every 2 weeks	I don't use public transit	Once a week	3-4 blocks away
119	Bell Gardens	Bell Gardens High School	14	Driving	I don't bike	I don't use public transit	I don't go to the park	3-4 blocks away
120	Bell Gardens	Bell Gardens High School	14	Walking	Once a month or less	Once a week	Once a month or less	More than 5 blocks away
121	Bell Gardens	Bell Gardens High School	16	Driving	I don't bike	I don't use public transit	Once a month or less	More than 5 blocks away
122	Bell Gardens	Bell Gardens High School	16	Driving	I don't bike	Once a month or less	Everyday	Within the same block
123	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	I don't use public transit	I don't go to the park	Within the same block
124	Bell Gardens	Bell Gardens High School	17	Walking	I don't bike	I don't use public transit	Everyday	3-4 blocks away
125	Bell Gardens	Bell Gardens High School	15	Walking	I don't bike	I don't use public transit	Once a month or less	3-4 blocks away
126	Bell Gardens	Bell Gardens High School	17	Public Transportation	Once a month or less	Everyday	Everyday	More than 5 blocks away
127	Bell Gardens	Bell Gardens High School	15	Driving	I don't bike	Once a week	More than 2 days a week	3-4 blocks away
128	Bell Gardens	Bell Gardens High School	17	Walking	I don't bike	I don't use public transit	I don't go to the park	I don't know where the closest park is
129	Bell Gardens	Bell Gardens High School	15	Walking	Once a month or less	Once a month or less	More than 2 days a week	1-2 blocks away
130	Bell Gardens	Bell Gardens High School	16	Public Transportation	I don't bike	Everyday	Once a month or less	1-2 blocks away

Anonymous Participant	Do you like going to the park?	Do you feel safe in open spaces?	Do you feel safe in your community?	Do you know where the closest hospital/ medical center is to where you live?	Do you spend more time indoors or outdoors?	What is your favorite place to go with your family on weekends?	What is your favorite place to go with friends?
89	Yes	No	No	No	Indoors	theme parks	buffalo spot
90	Yes	Yes	Yes	Yes	Outdoors	outdoors in city, park	park
91	Sometimes	Yes	Yes	Yes	Indoors	mall	stores, fairs
92	Yes	Yes	No	No	Outdoors	Aunt's House	movies, out to eat, iced coffee
93	Yes	No	Yes	No	Outdoors	ihop	wingstop
94	Yes	Yes	Yes	Yes	Outdoors	no where	soccer center
95	Yes	Yes	No	Yes	Outdoors	no where	movies, downtown, park, eating
96	Sometimes	Yes	Yes	No	Outdoors	lake, forest, opne places	somewhere fun and exciting
97	Yes	Yes	Yes	Yes	Outdoors	beach	hiking
98	Sometimes	No	Yes	Yes	Outdoors	out to eat	out to eat
99	Sometimes	Yes	Yes	Yes	Indoors	movies, out to eat	out to eat
100	Yes	Yes	Yes	No	Outdoors	outdoor spaces, park to play sports	outdoors, restaurants
101	Sometimes	No	Yes	Yes	Indoors	open places to dance	horseback riding parks
102	Yes	Yes	Yes	No	Indoors	six flags	park
103	Yes	Yes	Yes	Yes	Indoors	walking to beaches	out to eat, park
104	Yes	Yes	No	No	Indoors	mall	shopping cennters, restaurants
105	Yes	Yes	Yes	Yes	Outdoors	I don't really go anywhere with my family	park, friend's house
106	Yes	Yes	Yes	No	Indoors	mall	movies
107	Yes	No	No	Yes	Indoors	park	plaza
108	Sometimes	Yes	Yes	Yes	Indoors	mall/ shopping centers	movies, park
109	Sometimes	Yes	No	No	Outdoors	beach	park
110	Yes	No	No	No	Indoors	walking to mountains or visit family	out to eat
111	Sometimes	Yes	Yes	No	Indoors	beach	mall, park
112	Yes	Yes	Yes	Yes	Indoors	restaurants	toys R' us
113	Sometimes	Yes	Yes	Yes	Indoors	shopping	shopping, to buy food
114	Yes	Yes	No	No	Indoors	pier	mall
115	Sometimes	Yes	No	Yes	Indoors	beach	out to eat
116	Yes	No	No	No	Indoors	mall	park
117	Sometimes	Yes	No	Yes	Indoors	movies	restaurants
118	Sometimes	No	No	Yes	Indoors	not really have one	movies
119	Sometimes	Yes	Yes	Yes	Indoors	restaurants	Friend's house
120	Sometimes	No	Yes	No	Outdoors	out to eat	starbucks, buffalo spot
121	Yes	Yes	Yes	No	Indoors	mall or shopping centers	park, mall
122	Yes	Yes	No	Yes	Outdoors	swapmeet	burnouts
123	No	Yes	No	Yes	Outdoors	burnout	burnouts
124	Yes	Yes	No	Yes	Outdoors	beach	park, go cruising
125	No	No	No	Yes	Indoors	park, beach	amusement park, movies
126	Yes	Yes	Yes	Yes	Outdoors	restaurants	park
127	Yes	Yes	Yes	Yes	Indoors	park, beach	movies, amusement park
128	Sometimes	No	No	No	Indoors	mall	fast food, mall
129	Yes	Yes	Yes	Yes	Outdoors	park, beach	park, movies
130	Yes	Yes	Yes	No	Indoors	shopping, out to eat	mall

Anonymous Participant	What are 3 words that describe your culture?	Name something that you think is missing in your city?
89	horchata, quesadillas, tortilla	safety and more security
90	calm, humble, good	a gathering area for public and family
91	food, music, sharing	mall, swapmeet
92	fun, outgoing, nice	more security
93	fun, colorful, different	dog park
94	music, sports, god	vegetation, cleanness (everything is dirty)
95	transcending, welcoming, empowering	inspiration
96	amazing, eye opening, good food	fun places to go to
97	music, harwork, peace	remodel of parks, make them nicer
98	fun, loud, proud	green (plants/trees)
99	good food, music, hectic	more attractions
100	peaceful, fun, old school	color
101	music, colorful, peaceful	open spaces to hang out
102	food, music, family	mall
103	colorful, modern, classy	a more pristine, decorated place
104	music, religious, colorful	trees, lots of nature
105	humble, judged by our cover,	more natural and modern parks/buildings
106	beautiful, unique, amazing	color or designs, a touch of art, everything is dull
107	color, family, pride	creativity and color
108	music, family, love	public gardens
109	interesting, unorthodox, oppressing	a better strip mall
110	boring, dirty, dull	more places with lights on streets
111	fun, exciting, happy	cleaner sidewalks, greener
112	mexican, hardworking, athletic	batting cages
113	fun, wild, dangerous	a good shopping center
114	colorful, vivid, wild, fun	design, familly areas
115	inviting, chill, demanding	money
116	beautiful	artistic painted walls
117		safety
118	good, violent, not safe	more safety and to fix road cracks
119	fun, funny, cool	light
120	fun	a river
121	family based	more parks or gardens
122	guetto, fun, cool	race track
123	fun, cool, more cool	burnout park
124	crazy, fun, overprotective	cops
125		soccer parks
126	responsible, hardworking, fun	soccer fields
127		more art structures
128	mexican	Canes
129		soccer parks
130		more family gathering areas, dog parks

SURVEY DATA

Survey Participants' Ages	
Age	No. of Participants
11	1
12	51
13	27
14	7
15	18
16	13
17	10
18	3
Total	130

Participating Schools	
School Name	No. of Participants
Stauffer Middle School	17
Bell Gardens Intermediate	63
Bell Gardens High School	50
Total	130

How do you get to school?			
Method	Bell Gardens	Downey	Total
Walking	39	2	41
Bicycling	0	0	0
Public Transportation	5	0	5
Driving	69	15	84
Total	113	17	130

How often do you bike for at least 15 minutes?			
Frequency	Bell Gardens	Downey	Total
I don't bike	70	8	78
Once a month or less	20	7	27
Once every 2 weeks	5	0	5
Once a week	11	2	13
More than 2 days a week	5	0	5
Everyday	2	0	2
Total	113	17	130

How often do you use public transportation?			
Frequency	Bell Gardens	Downey	Total
I don't use public transit	63	10	73
Once a month or less	27	4	31
Once every 2 weeks	7	3	10
Once a week	2	0	2
More than 2 days a week	7	0	7
Everyday	7	0	7
Total	113	17	130

How often do you go to the park?			
Frequency	Bell Gardens	Downey	Total
I don't go to the park	11	4	15
Once a month or less	44	2	46
Once every 2 weeks	19	4	23
Once a week	18	2	20
More than 2 days a week	17	3	20
Everyday	4	2	6
Total	113	17	130

How far away is the closest park to where you live?			
Distance	Bell Gardens	Downey	Total
I don't know where the closes	9	0	9
More than 5 blocks away	32	7	39
3-4 blocks away	31	5	36
1-2 blocks away	29	3	32
Within the same block	12	2	14
Total	113	17	130

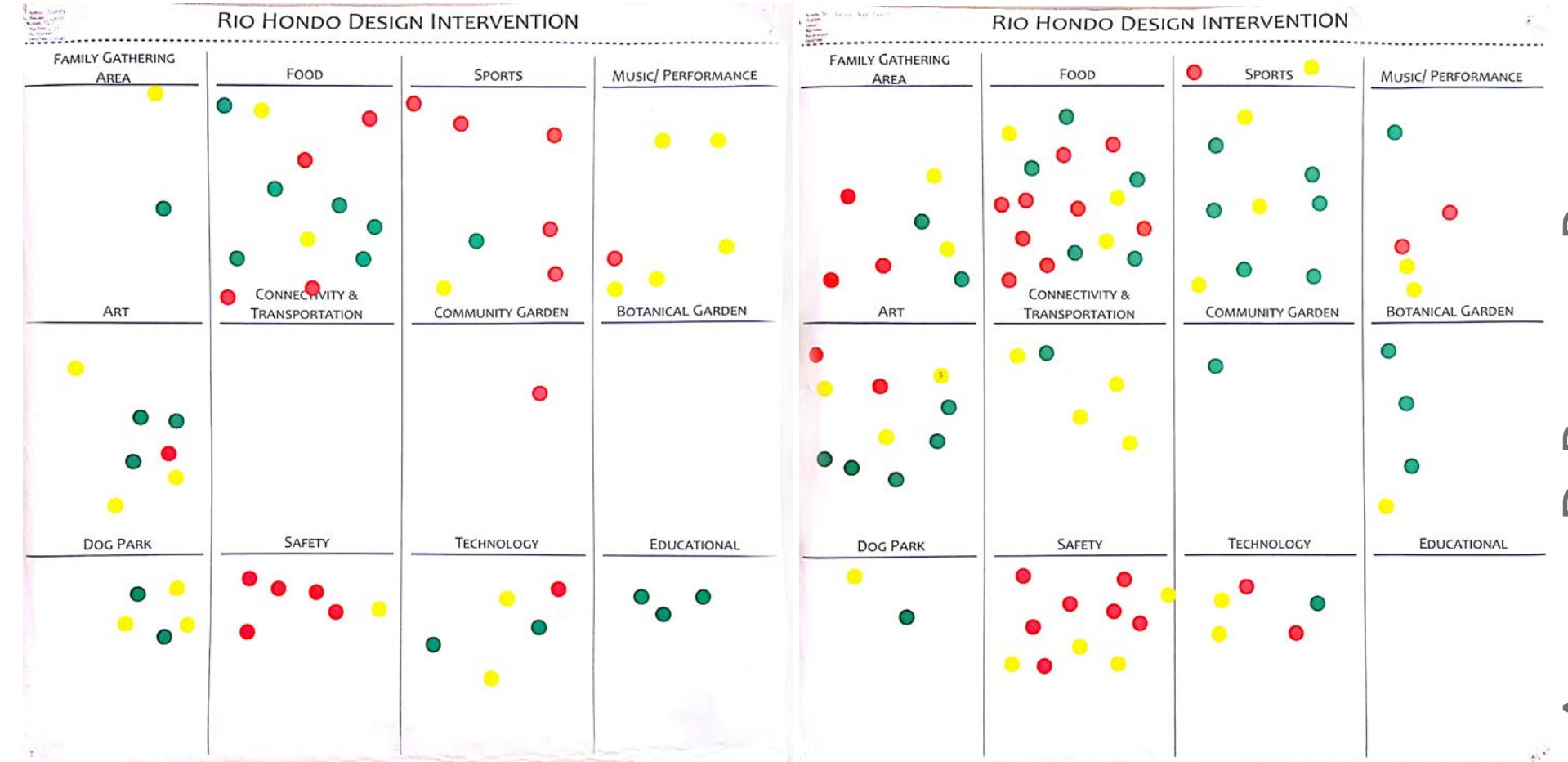
Do you like going to the park?			
Yes/No	Bell Gardens	Downey	Total
Yes	74	12	86
Sometimes	37	5	42
No	2	0	2
Total	113	17	130

Do you feel safe in open spaces?			
Yes/No	Bell Gardens	Downey	Total
Yes	91	13	104
No	22	4	26
Total	113	17	130

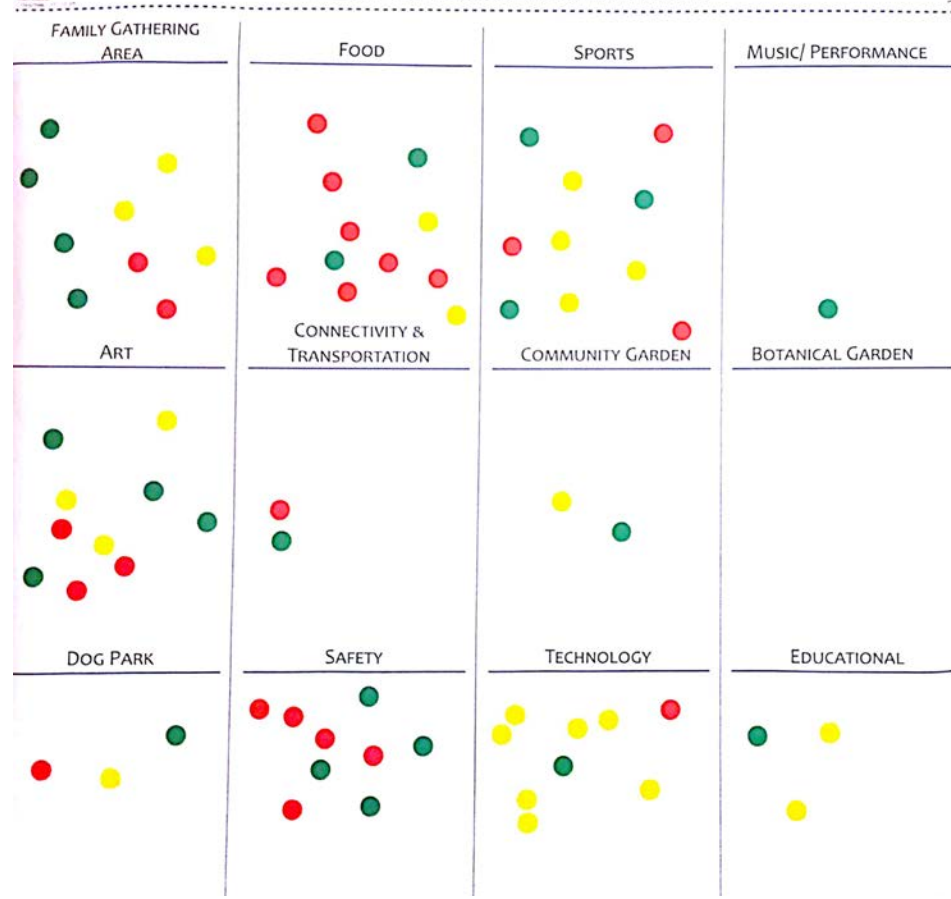
Do you feel safe in your community?			
Yes/No	Bell Gardens	Downey	Total
Yes	84	13	97
No	29	2	31
Not all the time	0	2	2
Total	113	17	130

Do you know where the closest hospital/ medical center is to where you live?			
Yes/No	Bell Gardens	Downey	Total
Yes	65	14	79
No	48	3	51
Total	113	17	130

Do you spend more time indoors or outdoors?			
Where	Bell Gardens	Downey	Total
Indoors	77	11	88
Outdoors	36	6	42
Total	113	17	130



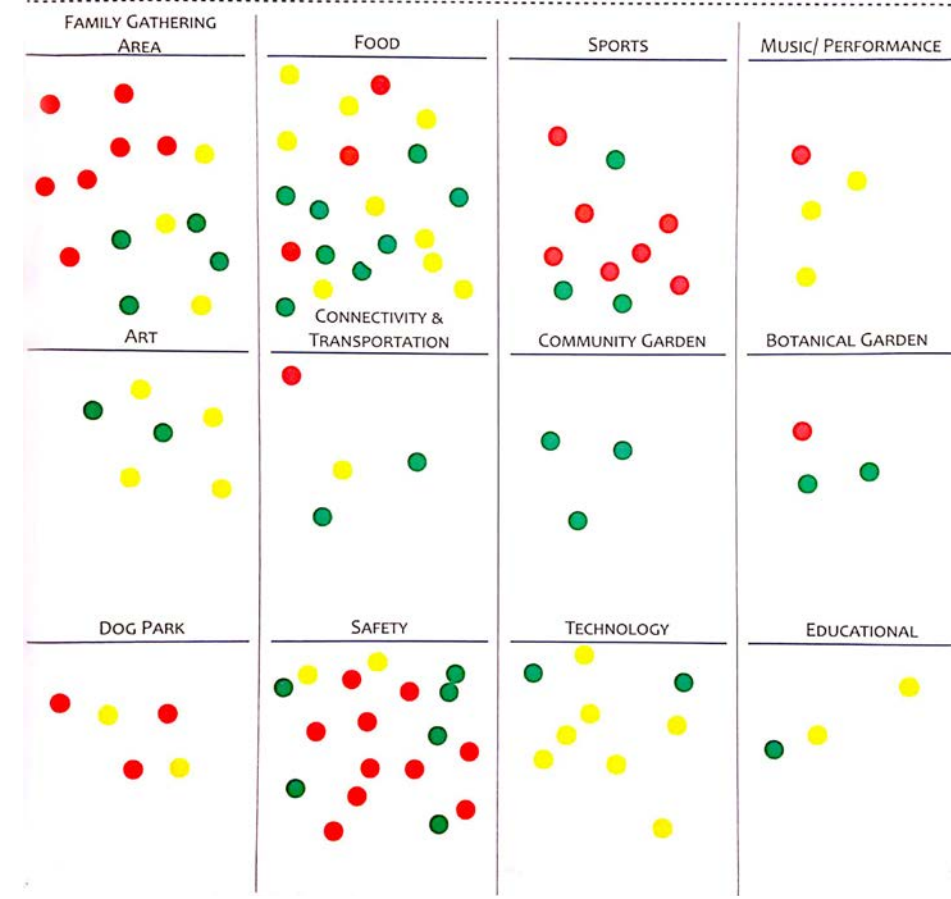
RIO HONDO DESIGN INTERVENTION



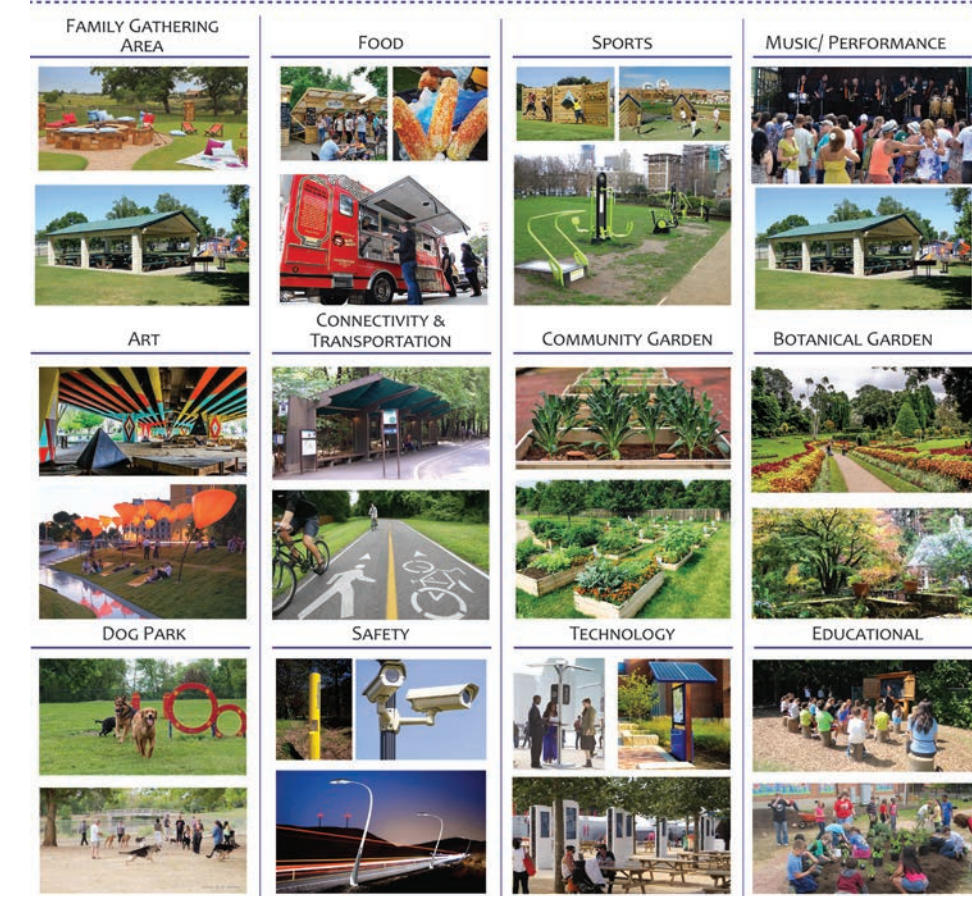
RIO HONDO DESIGN INTERVENTION



RIO HONDO DESIGN INTERVENTION



RIO HONDO DESIGN INTERVENTION



RUNOFF – STREAM GAGING STATION PEAK FLOW

RIO HONDO above Stuart and Gray Road.
STATION NO. F45B-R

Season	Daily CFS			Total Runoff (Acre-feet)	Peak Flow	
	Maximum	Minimum	Mean		Date	CFS
1927-28	*	0	*	269*	Mar 06	4*
1928-29	248	0	3.4	2,460	Apr 04	912
1929-30	285	0	2.8	2,000	Mar 15	743
1930-31	335	0	2.6	1,900	Feb 04	841
1931-32	3,440	0	27.4	19,920	Feb 09	4,610
1932-33	971	0	6.2	4,450	Jan 19	2,730
1933-34	5,810	0	23.5	17,030	Jan 01	16,000
1934-35	667	0	8.3	6,000	Apr 08	3,450
1935-36	472	0	5.8	4,220	Feb 12	3,160
1936-37	1,460	0	37.1	26,870	Feb 14	4,800
1937-38	12,700	0	238	172,100	Mar 03	24,400E
1938-39	910	0	13.2	9,540	Dec 18	5,260
1939-40	442	0	6.7	4,850	Jan 08	1,930
1940-41	3,690	0	129	93,260	Mar 04	6,420
1941-42	564	0	9.3	6,730	Dec 10	4,240
1942-43	4,660	0	57.9	41,910	Jan 23	11,800
1943-44	2,570E	0	36.9	26,820	Feb 22	6,670
1944-45	492	0	11.7	8,460	Nov 11	4,500
1945-46	1,130	0	15.6	11,280	Dec 22	4,270
1946-47	923	0	22.1	16,030	Nov 13	5,950
1947-48	425	0	4.8	3,510	Mar 24	2,880
1948-49	268	0	2.1	1,490	Jan 20	713
1949-50	402	0	3.9	2,840	Jan 08	1,790
1950-51	135	0	1.1	781	Jan 29	1,080
1951-52	2,430	0	35.9	26,040	Jan 16	9,040
1952-53	571	0	4.8	3,450	Nov 15	4,600
1953-54	1,780	0	14.9	10,760	Feb 13	8,860
1954-55	753	0	11.1	8,000	Jan 18	4,160
1955-56	4,910	0	20	14,540	Jan 26	11,600
1956-57	967	0	6.4	4,640	Feb 23	6,560
1957-58	2,230	0	41.8	30,260	Feb 19	10,800
1958-59	915	0	5.4	3,900	Jan 06	11,000

RUNOFF – STREAM GAGING STATION PEAK FLOW

RIO HONDO above Stuart and Gray Road.
STATION NO. F45B-R

Season	Daily CFS			Total Runoff (Acre-feet)	Peak Flow	
	Maximum	Minimum	Mean		Date	CFS
1959-60	219	0	3.3	2,370	Jan 12	3,030
1960-61	115	0	1.2	831	Nov 26	2,090
1961-62	2,080	0	31.4	22,780	Feb 19	7,100
1962-63	620	0	4.5	3,280	Feb 09	4,240
1963-64	190	0	2.4	1,730	Jan 22	2,060
1964-65	1,130	0	7.3	5,310	Apr 09	8,780
1965-66	4,810	+	95.8	69,390	Dec 29	19,000
1966-67	5,210	+	26.6	21,530	Jan 24	20,100
1967-68	4,300	+	25.3	18,360	Mar 08	17,900
1968-69	23,100	+	424	307,100	Jan 25	46,900
1969-70	964	+	10	7,220	Feb 28	7,540
1970-71	2,430	+	13.1	9,520	Nov 29	9,350
1971-72	2,420	+	6	4,409	Dec 24	11,400
1972-73	2,550	+	21.9	15,860	Feb 11	15,180
1973-74	3,360	+	15.4	11,180	Jan 07	11,710
1974-75	303	+	9.5	6,910	Dec 04	13,250
1975-76	920	+	9.4	6,660	Sep 11	9,820
1976-77	619	0	6.9	5,020	Oct 23	2,890
1977-78	13,800	+	270	195,463	Mar 01	32,000
1978-79	4,600	0.5	46.5	33,662	Mar 27	25,600
1979-80	16,000	0.5	313.4	221,877	Feb 16	48,100
1980-81	2,050	0	13.2	9,539	Mar 01	13,500
1981-82	4,410	0	28.7	20,768	Nov 28	17,100
1982-83	20,600	0	236.5	172,592	Mar 01	38,400
1983-84	2,600	0	17.2	12,502	Oct 01	9,480
1984-85	1,400	0	14.1	10,216	Feb 09	7,130
1985-86	4,500	0	*	*	Feb 15	19,400
1986-87	1,730	0.1	8.6	6,256	Jan 04	10,000
1987-88	2,660	0	16.7	12,111	Jan 17	11,300
1988-89	1,280	0.1	12.4	8,967	Dec 21	6,050
1989-90	5,030	0.1	16.9	12,222	Feb 17	17,500
1990-91	3,880	0	34.1	24,720	Feb 27	19,600

RUNOFF – STREAM GAGING STATION PEAK FLOW

RIO HONDO above Stuart and Gray Road.
STATION NO. F45B-R

Season	Daily CFS			Total Runoff (Acre-feet)	Peak Flow	
	Maximum	Minimum	Mean		Date	CFS
1991-92	6,930	0.1	56.7	41,160	Feb 12	32,000
1992-93	11,200	0	386	279,400	Feb 18	32,800
1993-94	260	0	10	7,222	Mar 19	4,240
1994-95	10,500	0.1	164	119,100	Jan 10	37,400
1995-96	6,320	0	40.3	29,240	Feb 20	20,200
1996-97	3,420	0.1	30.7	22,230	Jan 25	13,300
1997-98	9,700	0	178	129,200	Feb 08	34,700
1998-99	417	0	3.9	2,850	Nov 08	2,360
1999-00	2,960	+	*	*	Feb 23	14,600
2000-01	Under	Construct	since	May 2000.		
2001-02	*	*	*	*	Mar 17	421
2002-03	4,490	0	49.9	36,130	Sep 29	52
2003-04	4,756	0	20	14,410	Feb 26	25,100
2004-05	22,400	0	424	307,000	Jan 09	41,600
2005-06	2,140	0	9.7	7,010	Jan 02	4,280
2006-07	262	0	1.5	1,066	Sep 22	1,348
2007-08	2,750	0	25	18,162	Jan 05	6,780
2008-09	598	+	6.8	4,930	Dec 15	1,910
2009-10	4,030	0	30.5	22,060	Feb 06	7,600
2010-11	7,150	0	72.3	52,310	Dec 20	28,800
2011-12	1,930	0	10.6	7,670	Oct 05	8,600
2012-13	339	0	4.01	2,910	Oct 11	2,260
2013-14	277	0	2.06	1,490	Feb 28	1,460
2014-15	241	0	2.66	1,920	Dec 02	3,030
2015-16	83	0	0.34	244	Jan 05	516

Source: Los Angeles County Department of Public Works

<http://dpw.lacounty.gov/wrd/report/acrobat/Hydrologic%20Report%202015-2016.pdf>

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