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Re-Connecting: Revitalizing Downtown Clearwater With Environmental Sensibility

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Re-Connecting: Revitalizing Downtown Clearwater

With Environmental Sensibility

by

Diego Duran

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Architecture
School of Architecture and Community Design
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DEDICATION

Dedicated to my beloved wife and my son, Josué.
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ABSTRACT

Many downtowns in North America have been severed from the rest of the city and from the contextual relationship to their surroundings. Sundered from their context, the ecological characteristics of a site are frequently taken for granted, and the disengagement of its public spaces erodes the downtown’s character as well as the urban fabric.

Downtown Clearwater has lost the vitality and vibrancy that once characterized it as a lively district. Because of recent developments in the downtown area, public spaces have been lost between parking lots, high rises and a small number of sporadic residential pockets. Some of the most important streets fail to create connections for the pedestrians to the surrounding public spaces and areas of interest; as a result some local businesses have dried up, affecting Downtown Clearwater’s economy and its community. There is also a disconnection of the downtown with its context and it is evident that some of the major ecological and environmental characteristics of the site have been ignored through its development.

This thesis studies how the ecological characteristics of a site can be integrated into the core of its design and experience. The Thesis proposes to revitalize Downtown Clearwater with a new system of green corridors that will promote activity and circulation. The corridors will define a new invigorating
framework of points of interest supported by surrounding land uses.

The main objectives of the project are to create a new urban destination, enhance the pedestrian experience, reconnect public spaces, cleanup water runoff and organize circulation of bicycles and pedestrians. The thesis emphasizes the design and development of a specific node and section of the green corridor system to explain the design.
EXPANDED PROJECT DESCRIPTION

Introduction

Today many of us have acquired a great sensibility towards the health of our cities. We tend to be concerned about how to design new buildings that do not antagonize their environments. In many regions of North America, we have only recently begun to appreciate the importance of living in lively, vibrant neighborhoods and even downtowns. Nevertheless, many of our downtowns are becoming more vulnerable to disintegration, and have lost their sense of community. Even though we recognize the importance of many factors that would identify a healthy downtown — such as walkability — in some cases growth, evolution and development have created certain conditions that do not invite the pedestrian to inhabit the streets, affecting the vitality and vibrancy of the city. The connectivity of the public spaces in a downtown, determines the pedestrian activity that the streets will support. In some instances inappropriate occupancies or uses along given streets create dead spaces that are uninviting to pedestrians and simply disconnect the continuity of the street’s vibrancy. On the other hand there is also the case where a city’s downtown evolves into an unplanned development, ignoring any type of historical, ecological or social background of the site on which the city is built.

“The dissociation of public spaces within downtowns is a common cause of the unplanned development and evolution of our cities” (Jacobs)
Main Objective

This thesis began as an intent to formulate a solution to the lack of vitality and vibrancy that Downtown Clearwater has been facing for the last several years. There is a lack of public and civic engagement spaces that define the Downtown as a destination. Many of the existing spaces are sundered from the downtown context because of the disconnection of the urban fabric.

Bringing in nature into an urban/downtown context is a way to organize circulation and attract activity into a downtown. Because of the exceptional conditions of Clearwater's context, it is important that the project works as model for the acknowledgement and implementation of the site's ecological conditions. By proposing a system of green corridors that will promote activity and circulation, the project’s main objectives will be to:

- Create a new urban destination by adding a natural element
- Enhance the pedestrian experience
- Reconnecting public spaces
- Cleanup water runoff
- Organizing circulation of bikes and pedestrians

The design solution will not only anchor the site to its context, but it will also address some of the major environmental issues that Downtown Clearwater faces as an almost fully developed city.

In my research I have found how some cities that have recognized similar issues have come up with different strategies, some have put street programs, enhanced the public realm, or encouraged new buildings. Some of these strategies will be analyzed in this document as case or precedent studies.
Clearwater

The City of Clearwater is located in Pinellas County, west of Tampa and northwest of St Petersburg. Clearwater is the smallest of the three principal cities in the Tampa-St. Petersburg-Clearwater metropolitan area. The city has a remarkable site location, with exposure to beaches and the waterfront, which is used to draw a high density of tourism.

Access To Downtown Clearwater

Very early when the city was formally founded in the 1800s, Fort Harrison Avenue was designated as the main city boulevard together with Cleveland Street. Fort Harrison, connecting cities north and south of Clearwater and Cleveland, connecting east to Tampa and west to the waterfront. Both streets were lively, filled with pedestrian traffic and a healthy retail environment that supplied the necessities of the residents and visitors. Because of the prime location of Clearwater on the Harbor and its proximity to Clearwater Beach, many visitors and tourists were attracted, making Clearwater one of the most visited cities in Pinellas County.

Fort Harrison Ave. was established to run north to south connecting Dunedin from the north and Belleair to the South of downtown and it efficiently served as a funnel to bring people in to the heart of the city. Nowadays, Fort Harrison Avenue fails to create connections that engage to the other parts of the core of the downtown and from the north and south of Clearwater. As a main circulation corridor the harsh conditions of Fort Harrison Ave. turn down the idea of walkability in the downtown. The buildings along the street do not invite the pedestrian to inhabit their spaces, nor are the sidewalks appropriate to be bearers of street live (Fig. 1).
Currently many of the buildings in downtown Clearwater have no connection to the street at all. Writer Jane Jacobs describes in her book “The Death and Life of Great American Cities” how the streets and sidewalks work as parts of the city and are far from just elements of movement:

“A City Sidewalk by itself is nothing. It is an abstraction. It means something only in conjunction with the buildings and other uses that border it, or border other sidewalks very near it. The same might be said of streets, in the sense that they serve other purposes besides carrying wheeled traffic in their middles. Streets and their sidewalks, the main public spaces of a city, are its most vital organs. Think of a city and what comes to mind? Its streets. If a city’s streets look interesting, the city looks interesting, if they look dull, the city looks dull.” (Jacobs 37)
Resident Ric Ortega writes a letter to the St. Petersburg times expressing his frustration towards Fort Harrison St.

“Why is it that the most prominent and visible downtown intersection, with the most automobile traffic, is today still maintained as a lifeless street edge on the east side? The northeast and southeast corners of the Fort Harrison Avenue and Cleveland Street intersection, a gateway to our downtown core, are unique, and large former retail and office buildings are today used as private spaces with permanently shuttered miniblinds. These and other prime spaces along the Cleveland Street corridor are used in a manner that gives some an uneasy feeling when visiting the area, even if it is just to see what progress is being made today.” (Ortega)

Cleveland Street on the other hand, was established to connect the east of the peninsula to Downtown Clearwater, terminating in the pier. Later, the pier was developed into a causeway, connecting Downtown Clearwater to Clearwater Beach, which reinforced the city’s acknowledgement and created a stronger character for its image. In 2005 the Causeway Memorial Bridge was re-routed to be accessed through Court Street, a parallel street to Cleveland, located south of the Downtown core. The re-routing of the new bridge can be analyzed two different ways: the downtown area lost a high degree of exposure to the public, eliminating a high intensity of circulating traffic, and affecting some of the most important active spaces in downtown. Some of these spaces are the Clearwater Library and the Coachman Park among others (Fig. 2).

As a consequence to the loss of exposure of the circulating traffic to Clearwater Beach, many businesses along Cleveland Street were forced to close down. Architecturally, this represents a loss of hierarchy to the Downtown area; it eliminates direct access to its most important spaces along Cleveland St., and consequently loses a strong connection to the water, surrounding cities, and public spaces. On the other hand, the new bridge re-routing was an opportunity to reclaim the street. The city of Clearwater started the “Clearwater
Downtown Redevelopment Plan,” which involved the redevelopment of Cleveland Street as a major corridor, transforming the street into a pedestrian friendly corridor that organized circulation and with a final goal of reclaiming Clearwater’s traditional downtown and make it the center and heart of the City.

As far as pedestrian and non-motorized transportation, downtown Clearwater is benefited from the Pinellas trail. The Pinellas trail is an excellent option for transportation, but it is completely disrupted at the entry to Downtown Clearwater. It is a pedestrian/bicycle route that runs across Pinellas County connecting Tarpon Springs, Palm Harbor, Dunedin, Clearwater and St. Petersburg through a system of nature trails. The Pinellas Trail was created in 1983 as a response to the death of a young biker and the opportunity to use a corridor of abandoned CSX railroad right-of-way.
Ecological Characteristics

Downtown Clearwater’s geographic location is latitude 27.57 degrees North and longitude 82.48 degrees West. The city is located in the waters of the Gulf of Mexico, and it is characterized by its proximity to water. According to the United States Census Bureau (Census), the city has a total area of 37.7 square miles. 25.3 square miles of it is land and 12.4 square miles of it is water. The total area is 32.98% water.

The fact that Clearwater’s total area of water is 32.98% puts my attention in this particular characteristic of its ecology. During my research, I discovered that Clearwater has been struggling with the treatment of runoff water in the built environment. It all started with the Clean Water Act in 1972:

“The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.” (EPA, 2009)

Because of Clearwater’s location and the abundance of water on city’s land, the EPA (Environmental Protection Agency) requires Pinellas County to improve their water quality. To get an idea of how this affects Clearwater, the conditions of the built environment have to be analyzed.

The Polluted Harbor

Downtown Clearwater is almost completely built out. There are a few lots that are still vacant and are considered part of Downtown. A high percentage of Clearwater’s land uses are parking surfaces, which contributes to the pollution by runoff water. There is an existing “topographic ridge” that runs north to south at 30 to 31 feet above sea level, this ridge is located
contextually between Osceola and Fort Harrison Avenue. As a result to the ridge and the site’s topography, runoff water goes either east towards man made retention ponds and storm drainage, or west towards the Harbor. (see fig. 3 & 4)

Figure 3. Clearwater runoff analysis (Source:Author)

Figure 4. Section a-a at ridge (Source:Author)
Because of the inability to control pollution to the water bodies, Clearwater Harbor has been classified as having “impaired waters” through the TMDL (see fig.5):

Figure 5: Impaired Waters (Source :Online)
“Total maximum daily load (TMDL). The sum of the individual WLAs (Wasteload Allocation) for point sources and LAs (Load Allocation) for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.” (Regulations, 2009)

Melissa Harrison, a Marine Biologist and Environmental Specialist II at Pinellas County Department of Environmental Management Watershed Management Division, was able to explain to me in simple words the situation that Clearwater is facing:

“A TMDL (Total Maximum Daily Load) is like a violation. It will tell you the type of ‘impairment’ you have. We have to come up with solutions to track the sources of violations (VERY difficult especially in an area that has predominantly non-point source pollution). We have to come up with ways to reduce storm water runoff, improve water quality and solve TMDLs. These solutions can be structural (build a pond, dam, etc.) or non-structural (education, regulation, plantings, etc.)... Impaired waters will get a TMDL. We must make an answer to the EPA (and the State of Florida DEP) as to how we will correct the TMDL. As you can see, Pinellas has a lot of work to do…” (Harrison)

Outcome

All these conditions create opportunities to integrate new ideas into the project. The proposed master plan will create new pedestrian friendly connections to the existing circulation corridors, creating a framework of points of interest with the existing public spaces and the new proposed areas of intervention. The thesis will incorporate a design solution that reduces the
storm water runoff and helps improve water quality through the green corridor. It will also serve as a teaching tool to alert and make residents and visitors aware of the importance of designing with nature, to protect the ecosystem.
CASE AND PRECEDENT STUDIES

Case Study I: Market Street, Philadelphia, PA.

Market Street is a east-west street located in the heart of Philadelphia. It took its name after being designated long before it was built as a temporary market that would occur regularly.

Market Street is one of the most famous streets in America. It is rich in history and it relates to many historic associations.

1. Analysis

Market Street was designed as a main corridor for the city of Philadelphia. Since the beginning, before the street was even built, the street had been planed to be used as a temporary market on a regular basis, but the tents were never removed and became permanent in some instances.

One of the many reasons for success of Market Street as a corridor, is that it worked as a connector of spaces. Not only to circulate the users from east to west, but it also engaged other streets, creating interaction with adjacent buildings and spaces of interest.

Market street can also be considered a dynamic street. It not only works as a vehicular street, but it also changes its use to a fragment of a pedestrian only street, where traffic circulating from north to south can cross without disrupting the pedestrian space. This dynamical transition of the street creates an awareness that incentivizes the use of the street not only a circulation route, but also as a civic engagement space.
2. Conclusion

As one of the most famous Streets in America, Market street demonstrates the potential of a circulation corridor to engage with the pedestrian and the core of the Downtown. By providing safe and inviting spaces for pedestrian circulation, the street automatically becomes more lively. It is important to understand how the street can be inhabited and utilized as a place, and create character for the city.

Figure 6: Market Street 1900 (Source: Online)

Figure 7: Market Street (Source: Online)
Case Study II: The High Line, Manhattan, NY.

The highline is located on the west side of Manhattan. It was originally constructed in the 1930’s as a massive public-private infrastructure called the west side improvement. The last time a train ran on the high line was in 1980. In the mid 80s a group of property owners tried to get the entire structure demolished, but they did not succeed. In 1999 Joshua David and Robert Hammond proposed to reuse the High Line as public open space and found “Friends of the High Line”. The project attempted the reuse of the existing structure to create public spaces and connect to the existing urban fabric. It was later assigned to Landscape Architect James Corner and Architecture firm Diller Scofidio + Renfro.
1. Analysis

“A major access point occupies the corner of Gansevoort and Washington streets, complemented by a street level public plaza and the High Line level Gansevoort Overlook.” (High Line)

The High Line starts creating an access point introducing a public plaza that provides users with a place to engage as a community. (see fig. 9)

Figure 9: Access point at Gasenvoort & Washington Street (Source:Online)

“Whenever possible, stairs are brought up between the existing beams, through openings cut into the structure. These “slow stairs” signal a gradual transition from the busy street below to the quiet, elevated landscape on the High Line” (High Line)

One of the most important aspects of the High Line is that the project creates a slow and adequate transition from the busy streets to the tranquility
of nature, and at the same time, it makes reference to the conditions and uses of its context.

"At the top of the Gansevoort Stair, the Gansevoort Woodland provides dense plantings and trees at the edge of the High Line, welcoming visitors into thick greenery" (High Line)

By creating strong character features the High Line provides orientation points for visitors, where they can easily identify gathering spaces and major access points.

"The Sundeck (between 14th and 15th streets) offers unobstructed sun and views over the Hudson River. Rail tracks in the Sundeck Preserve, on the lower level, are reinstalled in plantings derived from the High Line’s self-sown landscape. Water skims the upper walkway, providing visitors the opportunity to wade barefoot."

The High Line integrates the natural conditions of the site, in this case plantings that have created and an adaptive living on it. This shows us how some of the basic ecological features on a site can be utilized to its advantage.
2. Conclusion

The High Line is an elevated steel structure, in the past used to carry freight trains. The High Line has been remodeled and adapted to provide public spaces for the residents and visitors of Manhattan, New York. By incorporating plantings, water features and spaces for gathering, the High Line gives back to the community the opportunity of civic engagement as well as creating safe and inviting connections with the existing city nodes.

One of the important characteristics of this project to the thesis is the integration of nature and the ecological features of the site to the dense urban fabric of New York. It sets a great example on how to take some of the existing qualities and merge them with the unexpected. The High Line not only serves the community as a new public amenity, but it also boosts the neighborhood’s economy and creates a new character of the city.
Case Study III: Pearl District, Portland, OR.

The Pearl District is an area of former warehouses, light industrial and railroad classification yards in Portland, Oregon now noted for its art galleries, upscale businesses and residences.

- Area of study 0.2 km² located in the city of Portland, OR.
- City’s area 376 km²
- Population 575,930
- Average Temp. High 68 F - Low 48 F

1. Analysis

The area is located just north of downtown between West Burnside Street on the south, the Willamette River on the north, NW Broadway on the east and the Interstate 405 freeway on the west.

- Spaces for live, work, play and relaxation
- Plazas: sporadic plazas between buildings
- Parks: connect the city blocks throughout the District creating several
recreation and relaxation spaces

- Sidewalks: sidewalks are introduced in the parks, across the city blocks, creating shorter distances for walking.
- Transportation: cycling, walking, public bus street car and light rail system.
- The Pearl district is characterized by its mixed use living communities.

There are two townhome communities and more than ten four-level apartment buildings. The rooftop patio and private balconies are the main connections to the public spaces.

2. Conclusion

The Pearl District in Portland is a great example of how a city can be rehabilitated in a relatively short period of time. Some of the main aspects, ideas and concepts that can be utilized for this thesis, are the variety of public spaces that the city provides for its residents. There is a park for meditation, a park for children, and then there are parks for event hosting. It also is of great benefit the idea of making the residences available at sight from the public spaces. This creates a desire for maintaining clean and desirable areas to the owners. The Pearl District in Portland also utilizes the idea of a main corridor though a transportation system. The main corridor still creates a connection for the pedestrian to public spaces and points of interest in the city.
Figure 14: Jamison Square (Source: Author)

Figure 15: Tanner Springs park (Source: Author)
Case Study IV: La Rambla, Barcelona, España

"La Rambla or Les Rambles is the most famous street in Barcelona. The wide boulevard connects the Plaça de Catalunya, a busy square, to the Monument a Colom, a tall column erected in honor of Christoffel Columbus." (A View on Cities, 2009)

1. Analysis

La Rambla is a pedestrian Boulevard, almost 2 km in length that connects plaza de Cataluña with Monument a Colom. Originally, La Rambla was a small stream that flowed outside the city walls to the port. In the 19th century the stream had dried up and the walls that surrounded the city were torn down, later buildings were erected and trees were planted along the street. La Rambla is composed of five different sections or “ramblas.” Rambla de Canaletes, is the first Rambla. Rambla dels Estudis, Rambla de Sant Josep, Rambla dels Caputxins and Rambla de Santa Monica.

The reason why La Rambla is considered one of the great streets around the world, is because of its vibrancy and vitality.
"The often crowded street is popular with tourists and locals alike. The middle part of the Rambla is pedestrianized and bordered by trees. Kiosks, flower stalls, animal stalls and street artists are in abundance here. Traffic passes on either side of the pedestrian area." (Cities, 2009)

Just like Market street in Philadelphia, La Rambla is a dynamic street that allows vehicular traffic, but in this case the traffic not only crosses the street, but it also runs parallel to La Rambla. In some instances La Rambla works as a pedestrian only street, creating enormous public spaces that are utilized by its residents to make a living out of entertainment. It also creates opportunities for social interaction and plain circulation.

2. Conclusion

La Rambla demonstrates how a corridor can be dedicated mostly to pedestrians and still work as means for circulation to the city. Although it creates a focal point on the street itself, the concept of using the street as a plaza, market, stage, etc., can be utilized in any corridor strategy to create new spaces of civic engagement.

Figure. 17: "La Rambla" (Source: Online)
**Precedent Study I: Dockside Green, Victoria, BC.**

An innovative mixed-use project reclaims 14.9 acres of former industrial land and redevelops it as a global showcase for sustainable community development.

- 14.9 Acre waterfront property, located in the city of Victoria, BC.
- Area 19.68 square kilometers
- Population 83,250
- Average Temp. High 56.3 F - Low 44.8 F

Figure 18: Aerial (Source: Online)

Figure 19: Major components (Source: Online)

Figure 20: Vehicular Access (Source: Author)
1. Analysis

The site is oriented around a greenway running parallel to the coast, with a village plaza providing a focal point at the western edge of the development.

- Spaces for live, work, play and relaxation
- Plazas: sporadic plazas between buildings
- Parks: the main street connects to a developed park area
- Sidewalks: sidewalks are wide and provide safety for the pedestrian
- Transportation: water transportation, cycling (galloping goose), walking and public bus.

Mixed-use residential towers to the west will reach up to 10 stories, while the majority of development will be between three and seven stories tall.

- Townhomes at Dockside Wharf is a 7-unit townhome project featuring 4 levels including a roof top patio, flex space, private garage and private entrances from both the greenway and the lower parking level.
- The second residential phase – balance, features one and two bedroom condominiums and townhomes. Dockside Commons and Village offer condominiums as well as commercial and retail spaces.

Figure 21: Residential courtyard (Source:Online)

Figure 22: Pedestrian Circulation at retail spaces. (Source:Online)
2. Conclusion

Dock side green’s development takes advantage of its waterfront location to create an environment for its residents that provides a constant connection to the natural elements of the site. It also engages its residents, through a trail that connects the Retail spaces to activate its public plazas. At the same time Dockside green provides different atmospheres that can be utilized by the pedestrian at different levels of privacy.

Figure 23: Community courtyard (Source:Online)

Figure 24: Residential tower (Source:Online)
DESIGN CRITERIA

Essential Design Criteria

In order to have a strong basis for the development of the project a series of questions were formulated to guide the research and design process. It was also very important to conduct a thorough exploration and surveying of the site. The purpose of the site exploration and surveying was to be able to understand the different layers of activity, circulation, ecological and architectural context and social behavior of the residents and visitors of downtown Clearwater.

Context

After being able to visit the site several times, it was important to document the acquired information and perceptions from the journeys in an effective manner. A SWOT analysis was then used to identify the most significant information.

“Context is crucial. It is about understanding the position of development, and how to position a development. This involves a range of considerations and participants, directly or indirectly. High quality places will only emerge if the approach is cohesive and inclusive... The contextual appreciation will begin to suggest development potential and workable ways to get things done. Information needs to be sifted and summarized via a SWOT analysis... A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) that provides a composite of the various ‘layers’ of consideration by identifying existing strengths and weaknesses, opportunities for improvement and threats to the project’s success” (Llewelyn-Davies, Alan Baxter & Associates)
Some of the questions that were formulated after having a clear understanding and knowledge of the site’s conditions and opportunities led to two major questions to be asked.

1. What type of environmental intervention is suitable for an Urban Downtown context?
2. How can the ecological characteristics of a site be integrated into the core of the Downtown as a means to generate activity and circulation?

**Nodes of Interaction**

Considering that the project embraces the entire area of Downtown Clearwater it was critical for the design criteria to identify not only one specific site to develop the main idea of the project, but also the major nodes of interaction where an intervention would be suitable. These nodes were selected with a complete understanding of their existing function in three different layers of information: social, environmental, and architectural.
Finally, last but not least, the basic principles of urban design with some of the new concepts of landscape urbanism were fundamental to the foundation of the project. Ian McHarg’s “Design with Nature” talks about the incorporation of the natural features of the site to the built environment, and how it can be applied to many of the layers of urban design. Charles Waldheim explains how landscape can work as a model for urban process and the qualities that it possesses as a medium for urbanization in his “Landscape as Urbanism” essay.

“Landscape Urbanism describes a disciplinary realignment currently underway in which landscape replaces architecture as the basic building block of contemporary urbanism... landscape has become both the lens through which the contemporary city is represented and the medium through which is constructed.” (Waldheim)

The implementation of each of the previously mentioned design criteria principles is applied and explained in detail throughout the following chapters.
SITE SELECTION

Clearwater was chosen as the site for my thesis because of the potential that the city has to be a livable and lively Downtown. Clearwater is a city rich in history with an extraordinary location. I have been able to see Downtown Clearwater go from a vibrant district to a ghost town. However, the tools for revitalizing the city are present in its own context; so far, most of them have been ignored. On the other hand, the city of Clearwater is currently going through a major process of revitalization. There is an enormous effort and desire to revitalize the city.

On a macro scale, specific nodes were selected in different downtown locations to be able to achieve a cohesive concept throughout the project. Like it was mentioned before, the nodes were selected with a complete understanding of their existing function in three different layers of information: social, environmental, and architectural.

The social layer intends to capture the activities executed at each specific node. What are the people doing? Is it a location that supports stationary activities like Lounging, chatting, reading, etc.? Is it a location strictly used as a transition space? Are there a programmatic activities happening around the node like waiting for a bus at certain schedules, walking from or to work, etc.?

The environmental layer captures topographic information, historic evidence of creeks, springs, or any other natural condition that exists or identifies the area at each node. What type of topographic conditions describe the location?, Is it an area that could be used to treat water runoff?, What type of vegetation?. It also incorporates the analysis of each node in reference to solar, sound, wind and natural shadow studies.
The architectural layer identifies how inviting the implicit and explicit spaces of the buildings are at each node. It categorizes directional and non-directional space corridors formed by the built form. This layer also identifies existing building typologies and historic districts that influence the aspect of the urban fabric, including density, structural and decorative features, proximity, etc.

On a micro scale, there are several options for selecting a site for an intervention that would emphasize the concept of the project. The following criteria together with an extensive site analysis was used to determine the location where all the project ideas could be applied.

**Criteria For Selection**

1. **Proximity to the downtown core**
   The selected site is located at the heart of the downtown, with the possibility of serving as a gateway and a connector between the water front and the city.

2. **Interaction with the public realm**
   Because of its location, it could engage with the liveliness that Cleveland street is trying to infuse to the downtown. It also provides the opportunity of interacting with the Pinellas Trail and Fort Harrison Ave and effectively serve as a connector to the downtown core.

3. **Community connectivity**
   Community connectivity is based on the proximity to major access routes to downtown Clearwater. Fort Harrison Avenue is the major access route to Downtown Clearwater from the north and south of Pinellas County, so it would be ideal for the site to directly connect to this corridor. The main pedestrian and non-motorized connector to the site is the Pinellas Trail, which
has an estimated 90,000 monthly users. It runs from the north to south of Pinellas county, from Tarpon Springs St. Petersburg.

**Ecological characteristics**

For the purpose of site selection, the ecological characteristics are based on the site’s potential for intervention at the main water runoff locations. In order to analyze those conditions it was necessary to make reference to the geological and flood maps of the city. Because of the topographic conditions of the downtown area in relationship to the water level, the site needs to allow to treat or intervene a high quantity of runoff water that flows towards the harbor.

Overall, the site will provide the opportunity to have an impacting intervention, because of its close proximity to the core of the downtown, the high exposure with the public realm, the close community connectivity and the great location for an ecological intervention.
SITE ANALYSIS AND DOCUMENTATION

Documentation

Clearwater is aware of the potential that the city has to become a lively and vibrant city. In 2003 the Clearwater Redevelopment Plan was approved. The plan proposes to enlarge and improve districts in Downtown Clearwater, with a final goal of revitalizing the city.

“This Plan reflects Clearwater’s desire to reclaim its traditional downtown and make it the center and heart of the City. Why should Clearwater residents and corporate citizens care about the revitalization of Downtown? There are several good reasons that downtown revitalization is important to all Clearwater citizens. First, every city should have a unique place that fosters community interaction and fun. Downtown should and can be that place for Clearwater residents and tourists alike. Second, Downtown Clearwater is a reflection of how our forefathers lived, worked and shopped. Clearwater’s past can be seen in its historic buildings in and around Downtown and historic Coachman Park. We cannot envision and plan for the future unless we are mindful of our past learning from our successes and failures. Third, Clearwater is the Pinellas County seat and should present a welcoming air to all of Pinellas County residents as they transact business with their government. Finally, Clearwater’s Downtown is still a major player in the City’s economic life and has a grand opportunity to increase its economic impact through redevelopment. The purpose of this 20-year Plan is two-fold: to serve as a Special Area Plan in accordance with the Countywide Rules of Pinellas County and Florida Growth Management Rules and to serve as a Community Redevelopment Plan in accordance with Florida’s Community Redevelopment Act.” (Department)

The following maps were gathered from the Clearwater Redevelopment Plan. The intention is to briefly review the plan’s proposal and ideas to be able to understand the near future of Downtown Clearwater.
1. CRA and Periphery Areas

Downtown Clearwater is part of a Community Redevelopment Area (CRA), figure 25 below shows the extent of the existing CRA and its relationship with the surrounding districts.

Figure 25: Existing and Expanded CRA (Source: City of Clearwater)
2. Future Land Use Map

The future land use map below was last updated in 2003’s Clearwater’s redevelopment plan. Here we can see what the city of Clearwater has determined to be considered the Central Business District and their distribution for commercial, residential, recreational and institutional uses.

![Future Land use Map](image-url)

Figure 26: Future Land use Map (Source: City of Clearwater)
3. Existing Land Use Map

The existing land use map shows the current land uses in Downtown Clearwater. From the figure below, we can see how there is a lack of residential uses in the Downtown core, most of the times this means that after business hours the density of pedestrian and vehicular traffic will cease dramatically.

Figure 27. Existing land uses (Source: City of Clearwater)
Overall Site Analysis

1. Boundaries

In order to have a comprehensive understanding of the city’s context, a site analysis boundary was set north, east, west and south of the downtown’s core, resembling part of the proposed CRA.

Figure 28: Site Analysis Boundary (Source: Author)
2. Street Network

Downtown’s street network is composed of Arterial, Collector, and Local streets. The two historic streets are Fort Harrison and Cleveland Street, dating back to the 1800’s. Fort Harrison runs north to south and Cleveland runs east to west.

Figure 29: Site Analysis: Street Network (Source: Author)

Today, Drew Street, north of Cleveland and Pierce Street, south of Cleveland, create connections and are actively used to access Downtown Clearwater. Drew, serving as a direct connector to St. Petersburg College and US. 19 for vehicular traffic, including the public transportation system’s route to the terminal located on Pierce Street.
Figure 30: Main Streets. Major Access Roads east to Downtown’s core (Source:Author)
3. Land Use Diversity

The figure below shows the predominant land uses in Downtown Clearwater. There is a clear density of office and retail land uses along Cleveland Street as well as a large quantity of Governmental facilities and Parking surfaces.

Figure 31: Site Analysis: Land Use Diversity (Source: Author)

The land use diversity diagram gives us a very rough orientation of some of the main uses in Downtown Clearwater. We can see that there is an area dedicated to retail uses along Cleveland Street, and at the same time we can also determine that the majority of the Governmental/Institutional facilities are located south of Cleveland Street. From further surveying I was able define
that 85% of the businesses are located south of Cleveland St. and a small industrial area is located north east of the Downtown core. The Cleveland corridor has been revitalized as a pedestrian friendly street with retail activities along its length.

The existing uses diagram (Fig. 32) illustrates a conceptual analysis of the major collective uses in the core area of downtown.

![Existing Uses Diagram](image)

Figure 32: Overall Existing uses (Source:Author)
4. Residential Density

There is a very low residential density in the core of the Downtown. The Downtown area is surrounded by sporadic pockets of residential spaces, ranging from single family housing to recently built high rise condominiums that as of now are only 30% occupied.

Figure 33: Site Analysis : Residential Density (Source:Author)
5. Park and Recreation Areas

The Coachman Park is the most popular recreation area in Downtown Clearwater. The downside is that it only gets used a couple times a year for special events, like concerts and 4th of July.

Figure 34: Site Analysis: Parks and recreation areas. Illustrates the most active recreation area "Coachman park" (Source: Author)
Figure 35: Coachman Park 4th of July 2009 (Source:Author)

Figure 36: Coachman Park 4th of July 2009 (Source:Author)
The Pinellas Trail will be analyzed as part of the parks and recreation system. (Fig.37) Running from north Tarpon Springs to south St. Petersburg, the 32 mile corridor goes through downtown Clearwater unnoticed. When approaching Downtown Clearwater from the north on the trail, it becomes almost impossible to realize where you should go next. A biking trail, or any other type of trail, should create intuitive spaces that direct the user to the next destination without creating hesitation, unless the design of the trail intends to do so. In the case of Downtown Clearwater the users are advised of the arrival to the Downtown’s core, the County Seat of Pinellas County, the city that was named after the beautiful springs, with a guardrail and a 10x6 brown sign that signals in a very small font to detour from the 32 mile trail to an oversized walkway. (Fig.38) After taking the detour the trail becomes completely isolated from any activity that could be happening at the waterfront, coachman park, or the library. (Fig. 39)

Figure 37: Fred Marquis Pinellas Trail
(Source:Online)
Figure 38: Pinellas Trail at Drew St. (Source: Author)

Figure 39: Pinellas Trail Detour (on green). From Downton’s core area (red). (Source: Author)
6. Block Size Analysis

The block size analysis, gives us an idea of how big the blocks are in relationship to walking distances. The average block size in Downtown Clearwater measures an average of 0.06 miles, which can be walked in less than a minute at a mile per 5 minutes rate.

Figure 40: Site Analysis : block size
(Source:Author)

The following image (Fig. 41) shows a figure ground diagram that allows us to see a clear image of the overall building footprint vs. parking surfaces in the core area of Downtown Clearwater. This works as a tool to start understanding how the percentage of impervious surfaces is related to the previously mentioned polluted harbor.
After acknowledging the impervious surfaces area, and its location in reference to the water front, it is worth mentioning what makes the conditions even harder for the harbor, the topography. The downtown’s core is located on a topographic ridge. This ridge, the highest point on the land elevation, runs north to south between Osceola Avenue and Forth Harrison Avenue. Meaning that most of the storm water that falls on the west side of this ridge will runoff to the water front; therefore, it will pollute the harbor. (Fig. 42) All the water that runs off to the east will be diverted to retention ponds, which will hold the water temporarily and then release it in part west, to the harbor.
Figure 42: Impaired Waters & Topography (Source: Shawn Landry)
7. Spatial Qualities

After surveying some of the main areas that characterize Downtown Clearwater, I related the quality of the spaces to an image. The judgement was based on the feelings that each space evoked.

Figure 43: Site Analysis: spatial qualities (Source: Author)
SWOT Analysis

It was mentioned before in the Design Criteria that a SWOT Analysis would be utilized to capture the most relevant information from site visits and surveying.

1. Strengths

Location
- The proximity to water creates a drawing force for people and an opportunity to celebrate a natural historic feature.

Circulation
- Pinellas Trail runs very close to the core of Clearwater's Downtown, linking it with surrounding cities and creating the possibility for a network of non-motorized circulation.
- Pedestrian circulation is being encouraged by current developments along Cleveland Street.

2. Weaknesses

Circulation
- The bus system is very limited and lacks connections with the north and south of Downtown Clearwater.
- There is not a conscious path or corridor for pedestrian or bicycle circulation through the core of the downtown area.
- Uninviting, narrow walkways.

Linkages
- Public spaces are not linked to each other.
- Lack of pedestrian friendly environment.

Developmental
- Development density is episodic.
- Lack of landscaping and shading.
• Lack of urban housing options.
• No advantage is taken of the waterfront and its connection to the main spaces is not addressed.
• Lack of restaurants, shops, markets and recreational activities to enjoy in the area.

3. Opportunities

Location
• The proximity to water and topographic characteristics provide opportunities to develop a strong connection and a destination point.
• Clearwater is located at the midpoint of the Pinellas Trail.

Circulation
• The Pinellas Trail can be utilized to bring its users to the core of Downtown Clearwater, as well as to provide a safer and vibrant corridor that could be used by residents and visitors.

Linkages
• The Pinellas Trail provides the opportunity of linking the public spaces in Downtown Clearwater, as well as creating new destination points of interest that will establish new, defined destinations areas accessible to pedestrians in a friendly and safe method.
• Creating stronger destinations areas will strengthen the connection to surrounding cities.
• A cohesive urban fabric will create an environment that establishes a sense of place and an identity for the city.

4. Threats
• One of the most threatening conditions in Downtown Clearwater is caused by new developments that ignore pedestrian activity, street edge and corner conditions.
• Increase of impervious surfaces that continue polluting the harbor.
• Bad perception of the church of Scientology and their involvement in Downtown Clearwater.

**Specific Site Analysis**

After doing an overall analysis of the site some of the main aspects were highlighted, and a specific site analysis was developed to find the explicit places where the nodes would be developed. Most of this specific analysis was developed during the conceptual and schematic design phases. Some of the main issues that were highlighted from the overall analysis are:

a.) The disconnection from the Pinellas Trail.
b.) The lack of residential uses.
c.) The large impervious surface from parking and building footprints.
d.) Water runoff aggravated by the topographic ridge.
e.) Under usage of Fort Harrison as a city gateway.
f.) Disconnection of existing public spaces.

In order to understand the existing condition and the possibilities for change it was important to analyze the surrounding context and look for possibilities for improvement. Figure 44 briefly points out the conceptual areas of intervention dictated by the analysis and is followed by a short explanation.
1. The disconnection of the pinellas trail with downtown Clearwater. (Fig 45) This north area of the city could be revitalized to create an inviting gateway to the trail users that directs them towards the Downtown’s core.

2. One of the largest blocks in the Downtown’s core. Located at the intersection of Drew St. and Fort Harrison Ave. It is also one of the largest impervious areas that is still used mainly as parking. The great location of this site provides opportunities for creating a gateway that welcomes visitors and a perfect location on the topographic ridge, to start diverting water runoff. (Fig. 46)

3. Because of the sloped terrain from Osceola Ave. to the water front, the entire waterfront area becomes of great concern to the design of
the project. Ideally the design solution will incorporate a system that helps with the treatment of water runoff at this point.

4. Location number 4 is important because of the daily traffic that it creates. It is the site of the public transportation system “PSTA”. This area would be a great location to create spaces that engage the users in social activities.

5. Finally location number 5 is the interception of the existing Pinellas Trail with the parking garage for trail visitors. It is also located at the southern area of the Downtown’s core. Therefore, it could be very well used as the southern gateway.

Figure 45: Trail Disconnection at Drew and Site “A” (Source:Author)

Figure 46: Superblock. Analysis of circulation patterns, existing nodes and block size (Source:Author)
PRELIMINARY PROJECT DESIGN
Initial Design Concepts

After Looking at the Pinellas Trail I started thinking of how I could use it as an organizing framework that would help resolve some of the main issues found through the site analysis.

One of the preliminary ideas and concept, was the direct integration of the pinellas trail to a major roadway. Where public spaces became nodes of interaction developed into programmatic activity. This would start rehabilitating the spaces along the trail and creating physical connections through the entire system. (see fig. 47)

Schematic Trail system ideas were developed to study the conditions that could be utilized. A system of intersecting nodes, where the trail was detoured at an early stage before reaching Downtown and later re-incorporated to the existing trail. (Fig. 49)
This first concept idea was vague as far as reacting to the context. However, it was a good exercise to start understanding the magnitude of the project.

The first idea that came to mind to respond to the context, was to start creating connections that would direct the users towards the harbor, which is the most important element in Clearwater’s ecology and history.

From the land use analysis it was concluded that the downtown’s core is divided in two areas, horizontally, east-west, and vertically, north-south, and has two major “spines”. On the horizontal axis, there is the area south of Cleveland St., which is mainly used as a business district. The area north of Cleveland St., right now doesn’t have a defined predominant use; then Cleveland Street, that is being revitalized by the city as the main retail district,
works as the horizontal datum that starts to direct people to the water, separating the north and south districts. On the vertical axis, the city is divided by two areas, which are mainly defined by the already mentioned topographic ridge and the historic Fort Harrison corridor, that was once a retail district as well. To the east of Fort Harrison is where most of the development occurs. West of Fort Harrison is mainly dedicated to public area, where we will find the public library, Coachman Park, green recreation areas and the waterfront. The connections that made sense from the analysis started to define a framework for circulation, creating an average distance of 500 feet from each major corridor. (Fig. 50) This corridors were conceptually defined not only to create a symmetrical distances between them, but they were also defined to create connections with existing active public spaces.

The north corridor creates a direct connection to the public library and coachman park through Hendricks St., with the waterfront as a final destination. The central corridor, Cleveland St. is a work in progress area being revitalized by the city, and reinforces the concept of engaging towards the waterfront. Finally, the south corridor, Pierce St. connects the public transportation station, a recently renovated park east, the core of the business district, and finalizes at the waterfront.
Figure 50: Preliminary design: Connections concept. Bringing people to the harbor
The blue dashed line represents the major pedestrian activity in a normal day (Fig. 51). This information was recorded via site surveying. The days and times of surveying were Monday, Friday, and Saturday, from 8:00 am to 10:00 am, 12:00 pm to 2:00 pm and 6:00 pm to 8:00 pm.
SCHEMATIC DESIGN
Developed Concept Idea

The schematic design face started by further developing the concept idea. First, it was important to set a defined list of key concepts and ideas and then, the question of the type of environmental tools that could be used in an urban downtown environment was contemplated. Based on the case studies, some of the most important concepts that will be used in the project, are the green streets from Portland, Oregon, Bioswales and Urban Wetlands from Dockside Greens, and finally the incorporation of programmatic artifacts and landscape as urbanism from The Highline. (Fig. 52)

Some other tools will also be incorporated in the project with the objective of protecting the harbor from stormwater runoff. This tools include green roofs at proposed building locations, pervious surfaces and solar panels. (Fig. 53)

The concept of green streets from Portland will be used in the incorporation of the Pinellas Trail into the urban context. But first, the actual path of the corridor has to be determined. From the previous connections concept diagram the green corridor path started to be developed. (Fig. 54)
Key concept ideas & strategies

1) Cleanup up water runoff
2) Organizing circulation of bikes and pedestrians
3) Attracting people to downtown by adding a natural element

Green Streets
A street that uses vegetated facilities to manage stormwater runoff at its source is referred to as a Green Street

Benefits
* Reduce polluted stormwater entering Clearwater’s Harbor
* Improve pedestrian and bicycle safety
* Divert stormwater from the sewer system and reduce TMDL’s to the Harbor
* Reduce impervious surface so stormwater can infiltrate to recharge groundwater and surface water
* Increase urban green space;
* Improve air quality and reduce air temperatures;
* Reduce demand on the city’s sewer collection system and the cost of constructing expensive pipe systems
* Address requirements of federal and state regulations to protect public health and restore and protect watershed health:

Figure 52: Key concepts ideas (Source: Author)
The green corridor concept starts to identify the circulation streets. The idea is to bring people in from the trail towards the waterfront, close to the major retail district and create an organized circulation system that connects them back to the existing trail through the business district. The Green corridor will serve as a tool, not only a continuation of the Pinellas trail in the city, but as a way to organize pedestrian and non-motorized circulation through downtown. The corridor will have areas for the treatment of water runoff. Ideally exposing the system to the users of the trail. By doing this the natural cleaning water process will become a teaching tool.
Proposed Land Use

In order for the project to work, supporting land uses need to reinforce the project. From the previous land use analysis, it is evident that a high density of residential use is needed in Downtown Clearwater. This will attract more people to live and be part of the downtown community, generating more jobs and therefore helping the economy of the city. The location of this residential district will be to the north of Cleveland Street. Having said that the Business district is at the southern side of Cleveland, the location for the residential district makes perfect sense. It will allow a better organization and feasibility for the project to happen, given that some of the streets at the

Figure 54: Key Green Corridor (Source: Author)
proposed residential district have a lot less vehicular traffic than the streets to the south of Cleveland. This will allow a different behavior of the trail in each district. The north trail will be aimed towards the engagement of the users with the context and creating spaces for activity and interaction with the trail. Whereas the south trail will be concentrated in supplying spaces for the already programmed spaces.

Figure 55: Proposed uses. Illustrates the potential for developing a residential district and how the corridor would connect it with the waterfront and business areas (Source: Author)

Yellow - Residential
Brown - Business
Red - Retail

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Sites and Programmatic Nodes

In order to effectively connect the Pinellas Trail to the core of the Downtown, and to be able to explain how the new corridor will interact with it, the proposed master plan will develop several areas of the city. The larger scale proposals, site A and site B, will be conceptual and will show the rough idea of the proposed uses and the major design characteristics and concept. All the other interventions will be programmatic nodes. The intention of the nodes, is to show how the trail will behave in different context conditions.

Site A

The first site will work as the new gateway for the Pinellas Trail to Downtown Clearwater. Right now the site’s land use is industrial. The main idea for the development of this site is based on the concept of path, portal and place. The trail acts as a path, and the portal becomes the area just before the entrance to the site, where a programmatic node will be developed. This will inform the user of the importance of the approaching space, and will serve as a transitional space to enter the Downtown core. The development of that node together with the Site will create a well-defined gateway to Downtown Clearwater. (Fig. 56)

Transition Corridor

As the Trail exists Site A I will be able to show the behavior of the trail in a residential area. The corridor will then continue on Hendricks street. This street will be converted to a one way street to provide a safe space of transition for the trail. Here I will be able to show the relationship of the trail with the street.
Site B

This site has a very complex location; it is located at the vehicular entrance to Downtown Clearwater from the north. The existing condition of the site does neither reflects nor announces the entrance to such an important city. Historically Fort Harrison Street was a vibrant corridor filled with retail activity at both sides. Nowadays this site is used as a parking lot. It disrupts the connection of the urban fabric and creates a very uncomfortable condition for the pedestrians. The idea is to start utilizing the site as a major urban destination. Because the site is located on the topographic ridge and at the entrance of the downtown area, it would be a perfect place to create a destination that engages the user in learning and appreciating Downtown’s environment.

The following figures explain the ideas and schematics of the site.
Figure 57: North Corridor Aerial. Illustrates possible trail entrance to Downtown’s core (Source: Author)

Figure 58: Site A existing. Wood illustrates existing buildings at the north intersection of the trail entrance with Drew St. at Site “A”. (Source: Author)

Figure 59: Site A proposed. Clear material shows proposed buildings defining new Access from the trail to Downtown’s core (Source: Author)
Figure 60: Proposed north gateway. Entrance from trail to Downtown’s core at intersection of trail and Drew St. looking South. (Source: Author)
Figure 61: Proposed nodes schematic plans. These sketches were the starting point to organize the different programmatic activities of each node, including circulation of bikes and pedestrians. (Source: Author)
Figure 62: Block size. Illustrates the documentation of Site’s B block size and how it can be conveniently divided in three walkable blocks. (Source: Author)

Figure 63: Conceptual site circulation. Illustrates possible circulation to explore the environmental intervention that would be designed within the site. (Source: Author)
Figure 64: Schematic Site design. Exploring three different areas: trail Interaction (left on image), Restaurants (center) and Residential (right). (Source: Author)

Figure 65: Schematic Site model (Source: Author)
DESIGN SOLUTION

This thesis proposes to revitalize Downtown Clearwater with a system of green corridors. The corridors will promote activity and circulation, and will define a new invigorating framework of points of interest supported by surrounding land uses.

In order to explain my thesis I will emphasize the development and design of a specific site and section of the green corridor.

Incorporating the Natural Element

The main idea of the incorporation of a "Natural Element" to the project, is in part justified by the need for a solution to the problem of harbor pollution from stormwater (also known as the TMDL’s problem). As a response to that issue, the project proposes a system for diverting water runoff into a treatment process, where water is captured, stored, treated, and finally released to the harbor. Throughout the proposed project, sections of the water filtering system will be exposed to the user to create awareness and in some occasions interaction. The goal is to use architecture as a catalyst to create a system that will help decrease the contamination of the harbor by polluted water runoff and involve the users with the process of water filtering. The project will harvest the storm water in and around the trail system and site as a way to support all of the irrigation needs of the project.
Figure 66: Final Master Plan. (Source:Author)
**Master Plan**

The proposed Master Plan creates a new connection to the existing Pinellas trail, redirecting it towards the core of the Downtown. At the north entrance the trails creates the first node of interaction, where the users will be able to use the existing industrial buildings’ facades to set up spaces for outdoor activities (Fig. 67).

![Section A Illustrates programmatic functions of each area (pedestrian, bikes, performing). This section explores the use of the existing buildings that enclose the space and shows how a typical bioswale would work on the project. Refer to final Master plan for section location. (Source:Author)](image)

The first site, referred as Site A in previous chapters, proposes a new residential development that will help increase the residential density in the downtown area. Section B (Fig. 68) shows the detail of the interaction of the trail in the residential area, where it provides spaces for play, lounging, and a safe way for organizing pedestrian and bicycle circulation.

As the trail continues to head west, towards the waterfront, areas for water treatment are used to create spaces for relaxation (Fig. 69). These areas are intended to provide seating spaces that users can occupy while being
Figure 68: Section B. Illustrates programmatic functions of each area in the residential interaction zone of the trail and how the water diverting system is tied in with the buildings at the green roof. Refer to final Master plan for section location. (Source: Author)

Figure 69: Section C. Explores the interaction of the trail at a location with vehicular traffic and surrounded by parking lots. Refer to final Master plan for section location (Source: Author)
protected from the sun. The shading device uses photovoltaic panels oriented to the south to provide illumination for the trail at night and to supply power to the irrigation system.

Section D, (Fig. 70) at the intersection of Hendricks St. and Ft. Harrison Ave. shows how the trail provides shelter for a bus station and at the same time creates an area of interaction for kids.

Figure 70: Section D. Explores the interaction of the proposed trail with different land uses and the use of the trail as a play area. Refer to final Master plan for section location (Source:Author)

At the point where the trail reaches Ft. Harrison Ave., the north-south downtown core access, it creates an activity center and urban destination that strengthens the east-west connection towards the waterfront at the previously mentioned Site B.

The main idea and purpose for developing this site, is to create an urban destination that continues the concept of preserving the environment, while creating an anchoring point and gateway to the north entrance to Downtown Clearwater (Fig. 71).
The trail then continues towards the harbor, creating a direct connection to the library and the waterfront as a destination, and it is later continued by providing the option of a connection to the Clearwater Beach trail or a transitional corridor that ties back into the existing trail through the business district. Along the entire trail seven more nodes of interaction were designed, but will be explained later on this chapter.

**The Urban Destination**

Figure 71: Proposed site master plan. Illustrates the final proposal for “Site B” with the interaction of the trail and the environmental area. (Source: Author)
It was mentioned before that the intention for creating this urban destination was to create an anchoring point and gateway to the north access to Downtown Clearwater where the concept of preserving the environment would be reinforced.

The design solution creates a three zone area for the design of this enormous block. Figure 62 graphically explains how the block was conceptually divided in three areas. The reason for this was to create a pedestrian friendly walking distance. It is also visible on the analysis that it would be ideal to increase the residential density on the site, and this is a great location to continue the proposed residential district north of Cleveland St. The south side of the site is programmatically designated to continue the linear path of the trail, shifting its direction south west.

In order to continue the same environmental language that the trail intends to manifest throughout its length, the entire south area of the site will have as a theme preserving the environment (Fig. 72). At the trail shifting will be two large water features separated by the trail, which will go over them through a cypress wooden platform. The two water features will have different purposes. The east water feature will be an urban wetland, and will not be accessible to direct interaction with the users. (Fig. 73) The purpose of this feature will be solely to filter the diverted water from the respective input locations. The complete process of the water filtering system will be explained later on this chapter. At the location, information signs will explain the process of water filtering and the purpose of the urban wetland. The west water feature will be available for direct contact with the user, and it is designed to be a recreation area where users will be able to play with the water. The programmatic uses of the south side of the site will be dedicated to serve and provide activities for the public and mainly the trail users (Fig. 73).
Figure 72: Section F.
Illustrates the interaction at the trail at the entrance to “Site B” (Source: Author)

Figure 73: Section G.
This section shows the two different areas for water treatment and water play. It also shows how the design of the shading structure allows the user to interact at the desired level: viewing or direct contact. The shading structure features photovoltaic panels that allow the water treatment system to be self-powered. The mezzanine overhang is also shown on this image looking towards the harbor. (Source: Author)
The program includes public restrooms, an outdoor market, organic restaurants and finally a designated mezzanine area that provides a direct view to the waterfront that overhangs at the urban wetland (Fig. 73).

The central area of the site will be dedicated to entertaining. The program includes a major central plaza, surrounded by restaurants in the interior of the block and retail along Ft Harrison Ave., with the main intention of recreating the historic retail district on Fort Harrison. The central plaza will provide shading devices and the buildings will create canopies and overhangs to moderate the direct sun during the afternoon (Fig.74). The west side of the central area will provide parking, to support some the needs of the new development, and Residential units from the third floor and up.

Finally, the north area of the site, will be dedicated to residential land use. Although, just like in the central area, the outer east side will be dedicated to retail land use. The residential area will be separated from the central area
by a 25’ alley covered with tree canopies. After analyzing different housing typologies, the ideal typology for this location in Downtown Clearwater would be Row Housing.

Figure 75: Existing and demo site plan (Source: Author)

Figure 76: Proposed land use (Source: Author)
Figure 77: Housing typology (Source: Author)
Figure 78: Housing typology (Source: Author)
Nodes of Interaction

The idea of having various nodes of interaction, comes from the understanding of the existing needs of the Downtown area. These nodes will also help maintain a cohesive concept throughout the entire trail, as they are also needed to support the needs of the filtering system. They will also keep the user engaged and informed in the process of water filtering.

The first node of interaction after the trail leaves the site, will be at the coachman park (Fig. 79). Topographically there is a 20 feet drop in elevation as the trail approaches the harbor, so I designed the trail to maintain a consistent elevation over the entire coachman park area. This creates the opportunity to still use the space below the trail for other purposes without having to interrupt the circulation of the trail. The structure of the bridge was also designed with

Figure 79: Node south of coachman park (Source:Author)
two purposes. First, it will create temporary shelter space between the columns of the bridge. This space is often used during special events to set up tents. Second, it will provide additional seating/viewing areas towards the waterfront and coachman park for special occasions, like 4th of July, The Jazz Festival or many others.

The next node continuing with the same order, will be located at the end of the descending ramp from the trail. The intention for interaction with this node was minimal, because of the current construction activity happening at the location. The idea for this node was to create a connection with the new boat slips that the city is installing (Fig. 80).

Figure 80: Proposed node at waterfront. (Source:Author)
The next node is located under the new causeway bridge, and uses the space underneath the bridge to create a large water retention area that will work as the last treatment source before the water from the entire system is released to the harbor. The design of this node includes a small power room area, an instructional room and finally a deck over the water. The roof for the built area will have photovoltaic panels to self-power the pump mechanisms that controls the water circulation (Fig. 81).

![Figure 81: Proposed node final output. (Source:Author)](image)

The next three nodes are located on the south corridor leg, Pierce St., and their function is to provide staging areas to the users of the surrounding context. This idea comes from the analysis of the activities and circulation on Pierce St. The first node provides a shaded area with a water feature that could be used for recreation. It is mainly a response to the high pedestrian activity of the entire south corridor leg and the users of the trail coming from Clearwater Beach.
Because these nodes are located along the business district area, the main function of the corridor is to provide an organized directional route back to the existing trail on East Ave. Like it was mentioned before, the nodes respond to the high pedestrian traffic on Pierce Street (Fig. 82). The second node, is located across the PSTA station and provides shelter on a relaxing vegetated area for passengers and employees of surrounding businesses (Fig. 83).

Figure 82: Proposed node solar farm. (Source: Author)
The third node on Pierce Street, is located next to the police station and across the weekend public parking garage for the trail users. The node provides spaces for seating and engages the building’s façade (Fig. 84).

Finally, the last node is located east of East Avenue and was designed to commemorate the historic buildings in Downtown Clearwater (Fig. 85). The concept for this small building was to create a meditation space, close to the business district, that would have a direct interaction with water, and a semi-enclosed space with images of historic Downtown. The space was only designed as a gesture and is not vital to the Thesis’ project.
Figure 84: Proposed node at police station. (Source: Author)
Figure 85: Proposed node meditation memorial. (Source: Author)
Improving the quality of water runoff to reduce stormwater pollution to the harbor is a vital concept in this thesis. The project proposes a system for diverting water runoff into a treatment process, where water is captured, stored, treated, and finally released to the harbor. The system will work underground and parallel to the trail.

Figure 86: Proposed water system. (Source:Author)
**Water System Process**

1. Water runoff storage cistern - Water diverted from impervious surfaces is stored to supply Bioswale.

2. Bioswale - Treats runoff water by moving slow and utilizing the filtering action of native plants and the soil. Treated water is redirected through the treated water pipe.

3. Partially treated water cistern - Treated water is stored in underground cisterns to be used for irrigation and second level treatment (water features).

4. Irrigation - Partially treated water from the cistern is supplied to the irrigation system, to water seasonal plantings and all other vegetation.

5. Filter/Junction - Box The junction box creates a connection to the storage cistern, by redirecting water to different outputs, like the irrigation system and water features. When used in water features the solar powered pump maintains a constant waterflow for treatment through the sand filter.

6. Water Feature - Pretreated water is oxygenated and filtered through the Junction box filter (not ready for direct interaction).

7. Water Runoff Catchment - Runoff is diverted through grates at Trail and Road intersections.

8. Untreated Storage Cistern - Untreated water is stored in seven large cisterns. These will provide a storage capacity of 13 million Gallons of Water based on a maximum capacity of water harvesting for the entire project.

9. Infrastructure - The infrastructure is based on a two pipe system, treated and untreated water. The goals are to harvest stormwater
in and around the trail system and site as a way to support all of the irrigation needs of the project, and to divert and treat water runoff before it reaches the harbor to minimize pollutants.

Figure 87: Proposed water system axo. (Source: Author)
Figure 88: Typology studies. (Source: Author)
Figure 89: Section C model. (Source: Author)
Figure 90: Section C model perspective. (Source: Author)
Figure 91: Section A model. (Source: Author)
Figure 92: Section A model perspective. (Source: Author)
Figure 93: Final Site B Model. (Source: Author)
CONCLUSION

Many of our cities in North America have grown and have been developed with disregard of some of the mayor characteristics of the context on which they exist. Some of these characteristics are fundamental to the quality and development of the public realm and the character of the city.

The goal of this thesis was to revitalize Downtown Clearwater, a city that has lost the vitality and vibrancy that once characterized it as a lively District. The main challenge of the thesis was to understand the many layers of information that the context of the city presented. At first, the thesis started as a small project that pretended to take one of the layers of the existing city and develop it to restore pedestrian activity to specific public spaces. As the project evolved the possibilities to affect more than one area became available through the exploration of the site’s existing condition of the polluted harbor. This approach led to the development of an entire framework of circulation that would help revitalize the entire downtown core area, based on the Pinellas Trail and the Rails to Trails conservancy program.

This thesis is one of the many theoretical solutions that can be presented to help revitalize Downtown Clearwater. The thesis proposes to create a new urban destination, enhance the pedestrian experience, reconnect public spaces, cleanup water runoff and organize circulation of bicycles and pedestrians through a system of green corridors.
LIST OF REFERENCES


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BIBLIOGRAPHY


ABOUT THE AUTHOR

Diego H. Duran was born in Bogotá, Colombia and earned his High School Diploma from Countryside High School, in Clearwater, Florida. He later continued his education at St. Petersburg College, where he earned an A.A. Degree in Pre-Architecture in 2005. He was accepted to the School of Architecture and Community Design at the University of South Florida in May of 2006. Some of his professional achievements include the design and master planning of various commercial institutions while working for Caladesi Construction Company. Diego’s interest and passion for Architecture and Urban Design comes from his traveling experiences throughout South America and Europe.