AN APPROPRIATE DESIGN STRATEGY
FOR RAIL IN HAWAI‘I
FROM A CULTURAL PERSPECTIVE

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December 2009

Submitted towards the fulfillment of the requirements
for the Doctor of Architecture Degree.

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We Certify that we have read this Doctorate Project and that, in our opinion, it is satisfactory in scope and quality in fulfillment as a Doctorate Project for the degree of Doctor of Architecture in the School of Architecture, University of Hawai’i at Mānoa.
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Abstract

This thesis presents a new design strategy for transportation projects by incorporating cultural values, traditions, and sense of place architecture of the people of Hawai‘i. The goal of this thesis is to clearly define a design process by deriving three principals or components that focus on culture and place to guide a new design strategy for rail in Hawai‘i. The methodology for this thesis places an emphasis on the research process itself. Investigation into culture and place through written literature, personal experiences, and informal discussions allows for the opportunity to explore the teachings of the many cultures that are a part of these islands.

Creating a core of cultural knowledge based on research and community consultation will allow values, traditions, and sense of place to strengthen the proposed design strategy. The first component of this thesis involves outlining the history of the people of Hawai‘i and the Hawaiian sense of place. This research component should highlight the many benefits of approaching the design strategy, critique of the current rail proposal, and my alternative proposal, from a cultural perspective.

The second component is a design proposal based on cultural research. The intention is to show that a better conceived, efficient, and culturally coherent mass transit system can exist here in Hawai‘i.
Background/Field of Study

Over the years I have followed the development of the Honolulu area rapid transit project intently. When the current proposal was introduced to the public, I immediately thought that this project was not culturally appropriate for the State of Hawai‘i. After researching for a lengthy period of time I have come to realize that on the surface this project has positive attributes and intentions of mobility, comfort, speed, and efficiency. However the longer I spent researching, the more I became discouraged and confused about the project’s true intent.

This thesis originally began as a cultural impact study of the current rail proposal. I wanted to use my personal experiences and knowledge of Hawaiian cultural values and tradition to critique the project. As a response to the critique I would have developed my own ideas as to how the project should have been designed through an alternative proposal or design project.

In an attempt to rationalize the mentality of a designer that would use an elevated rail system as opposed to a comparably efficient but much cheaper at-grade system, I had conducted two case studies. The goal of these studies was to weigh each system’s pros and cons in its own setting, then apply each of the rail systems to the urban environment of O‘ahu to determine why the City and County of Honolulu had made the push for elevated rail.

Information that the City and County of Honolulu wanted the public to know about rail is available on the internet. The Alternatives Analysis, Draft Environmental Impact Statement, and other important documents are accessible through multiple websites. According to reports released by city officials, they have provided all of the information necessary for the public to be well informed about the benefits and downfalls of the proposal. I believe that there is a lot more that has been hidden from the public. Through research, I have found problems and issues with the current design as it relates to the cultural impact this project will have in our community.
Through newspapers, the internet, and pamphlets I have found a lot of information as to how or why the rail program had been aborted so many times before. Most of the information gathered does not even explain the full view of the community. I have been able to isolate how the system was conceptually designed, planned, and negotiated this time around. It is not clearly known if Hawaiian and other cultural rights groups and or activists had played a key role in the stopping of the project. I do not know if they currently have a pivotal role in any of the major decisions that were made regarding the recent proposal. Because there is a lack of cultural representation, I decided that I wanted to know the role of our elders, our community, culture, and government had played in the current proposal.

While trying to research and examine the reasons as to why the city had decided to keep the community out of the loop, I stumbled upon the opportunity to take an entirely different approach to the doctorate project. Perhaps this change came about because the system was elevated, or because some of our citizens feel as if they have been mislead and betrayed by the city. Or it may be possible that I changed my direction because no one knows what the project is supposed to look like and we don’t know what the impacts will be in the community.

It is for these reasons that this thesis has been restructured into the development of a design strategy for rail projects in Hawai’i. I wanted this strategy to address the needs of the community, the city, the land, and environment, before satisfying the needs of the person, individual legacy, and financial gain.

Hawaiians are a people who do not believe in individuality, they have rules, laws, and traditions that denounce individuality as a kind of sin. When the functionality and design of a mass transit project affects more than just the individual, it is the knowledge and experience of the community that will make the project a success.
Because of my cultural background, and experience with Hawaiian arts and language over the years, I decided that the change in this thesis to a design strategy for rail would have a much stronger impact than just a simple design critique. I then researched the history of Hawai‘i in order to better understand how the various ethnicities within the state of Hawai‘i and on the island of O‘ahu coexist. By understanding the cultural values and traditions of the community, I gained a better understanding of how we succeed at living together on these tiny islands despite our obvious differences.

Research was used to reinforce my knowledge and theories about the Hawaiian culture. However, I initially did not wish to isolate only Hawaiians because Hawai‘i possesses an eclectic mix of cultures from all over the world. A responsible designer would realize that we have our similarities, but we are all not the same. Therefore we should take into account the opportunity to look into the daily lifestyle of other cultures living in Hawai‘i. Since my Portuguese ancestors came to Hawai‘i as a part of the sugar cane trade, I too wanted to know more about the immigrants that came here to work the sugar plantations and how they themselves were coaxed into leaving their homelands to come to Hawai‘i.

Research into these areas of our history also provided guidance for the design portion of my thesis. With knowledge of urban planning, I understood why certain routes have been chosen, and why transit-oriented developments are crucial to the development of the system. The purpose for including architectural design and urban planning processes is so that I may incorporate these practices into the cultural design strategy that developed throughout this thesis.

As part of this process, I had hoped to compare myself to what I had found, to see if I could and/or have lived my life the way I am supposed to. My initial hypothesis is that if I can absorb the teachings of all cultural people I come into contact
with on a daily basis, I will be able to use the design strategy to develop a comparative analysis of four different designs. In the end, my goal is to prove that the culture, tradition, sense of place, and history of these islands can positively influence the classic architectural design process, thereby creating a new way of planning and designing transportation systems here in Hawai‘i.
Introduction

America was a society of people that fought for independence from the oppression, persecution, and tyranny of a greater power. It searched for an internal balance, believing that in a new land all men are created equal. It is ironic that Hawaiians are currently part of this larger power, a people who now seek an identity separate from the hypocrisy that binds us, trying to find balance in everything we do, and trying to define who we are in our place, our Hawai‘i.

Hawaiians have been told that we are Americans, part of one of the greatest countries in the known world, and we should be proud of what we have become. I believe we are an island nation that lives in a dream world which perhaps shouldn’t exist. We were told that every American should be living the American dream. Seduced by luxury and individuality, we have since assimilated ourselves, some say unwillingly, into the American collective.

We have been a part of the American system for so long that we have lost touch with our own reality. Those reliant on the system are not ready for bold and drastic changes. Some are so dependent on the system to survive that they will fight to protect their quality of life even though we continue to relinquish our rights as an independent identity.

Other Hawaiians have fought this dependency and we have slowly been awakened by positive changes that have been made. Some of the more recent changes include dancing the hula once again, and the restoration of the Hawaiian language. Now the course is set for another major change that could define our state and influence our culture if the current rail proposal is completed.

The expansion of American industrialized engineering and architecture, through the Honolulu area rapid transit proposal, has become our reality, a rare but seemingly
positive change for the people of Hawai‘i. In the past, large changes (like the restoration of the language and hula) in the community brought forth a Hawaiian renaissance, a movement to reunite with our ancestors through these dances, music, agriculture, art, and by language. Now, because of this rail proposal, it is time to reconnect to culture and sense of place through architecture and movement in the landscape.

This thesis challenges the process of the current rail proposal by first identifying the Hawaiian perspective of how this project should be designed through our history, sense of place, traditions, and values, as defined from personal experiences, beliefs, and research. At the core of this thesis I will derive three principles to guide the creation of a design strategy for rail projects in Hawai‘i. To validate the design strategy, I will present a comparatives analysis that will show why cultural values and tradition should be the driving force behind the intent, design, and overall process of any future rail project in the State of Hawai‘i.
CHAPTER 1:

A LOOK INTO THE UNIQUE CULTURES THAT MAKE UP HAWAI‘I
A look into the unique cultures that make up Hawai‘i
Hawai‘i is a unique place in the world. We are a small chain of Islands more than 2,000 miles from any continental land mass.¹ Throughout its history Hawai‘i has become the home for a multitude of ethnicities and is often referred to as the melting pot of the Pacific.² Located in the middle of the Pacific Ocean, these Hawaiian Islands are known to be the crossroads to Asia and other Pacific Island nations.

Born and raised on Hawai‘i Island, from the perspective of an individual who practices various traditional cultural arts on a daily basis, I can tell you firsthand how and why the cultures, principles and values of our diverse island state are an integral part of our daily lives. The term “Cultural Values” can often be defined as beliefs, behaviors, artifacts, and artistic symbols that are a part of everyday life for a particular group of people.³ In modern day Hawai‘i this grouping includes those with ethnic and religious backgrounds from countries around the world. That is where the true beauty of Hawai‘i lies. It lies with the people that make up this great state, not just the sun, surf, sand, and sense of adventure.

Hawai‘i is seen and is promoted as a tropical paradise, but this place is more than pristine beaches, stunning sunsets, hiking trails, and waterfalls. For most who visit Hawai‘i this place becomes a unique and special place because of our worldly blend of cultures. The native culture of the Hawaiian people, or local lifestyle, sets these islands apart from other tropical destinations. It is a culture that is full of fascinating customs, music genres, legends, traditions, and values.

While most tourists are exposed to a few of the modernized aspects of Hawaiian culture during their stay, luau’s, cultural centers, or museums, many miss out on understanding Hawai‘i from a local’s perspective. They often leave without a true

understanding of Hawai’i’s complex cultural background. There is more to being Hawaiian then just traditional clothing, dance, and flower lei’s.

Anyone who has spent a significant amount of time in the islands knows the islander lifestyle and aloha spirit that is a part of our culture. The views and morals of ancient Hawaiians are shared and are similar to many older Asian and South Pacific Islander communities in Hawai’i and across the globe. The arts and the culture of our people are embodied in the architecture of our homes, in the various languages we use to communicate, and in the different types of food we eat. Hawai’i’s culture is ever present in everything we see, hear, taste, touch, and feel. We all posses strong ties to our ancestral cultures and it allows for us all to be individuals. But because we have had the opportunity to learn from one another and to live together in this place we call home, our cultures now link us as a community and as a state.
CHAPTER 2:

THE NATIVE HAWAIIAN CULTURE
A Brief History
Today’s Reality
Aspects of our Culture
Modern History
The Native Hawaiian Culture

Because Hawai’i has a complex and diverse multicultural society, it would be difficult to factor in the principles of each culture into the design strategy for rail. Therefore, for the purposes of this research and design project, I will be primarily concentrating on the culture, values and principles of the native Hawaiian people.

Congress defines "Native Hawaiian" as "any individual who is a descendant of the aboriginal people who, prior to 1778, occupied and exercised sovereignty in the area that now constitutes the State of Hawai’i." (U.S. Public Law 103-150) However, I believe that the ancient Hawaiians were so much more than just a people that occupied these islands. What makes us who we are as a people, is our relationships to each other, to our ancestors, and to our land. I believe that the word *occupy* carries with it a negative overtone. *Occupy*, from my point of view, means to take over, to consume, or to assume control over a people, place, or space. Hawaiians do not consume or occupy, instead we become one with our universe, and we see this world as a member of our family. These bonds exist till today, and without them we would be incomplete. Being Hawaiian involves living, loving, and remembering all that we have learned. From keeping our traditions alive through our food, navigation/sailing, hula, and *lua*, to architecture, art, and sports, we practice our culture in everything that we do.

A Brief History

Hawaiians are the descendants of South Pacific islanders who navigated their way across the vast Pacific Ocean over 6000 years ago. The first wave of settlers was believed to have come from the Marquesas Islands as early as 300 – 500 CE.

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5 More information about Hawaiian cultural beliefs, traditions, and way of life can be found in this document on pgs. 16 - 22, Aspects of our Culture
It should be noted that there is also a great deal of debate about these dates; they vary by source even till today. It is believed that a second wave of settlers migrated from the Tahitian islands of Raiatea, and Bora Bora sometime during the 11th century AD.  

With the Tahitian migration came a majority of the traditions, cultural traits, and belief system that Hawaiians are most associated with today, including the kapu system, the practice of human sacrifice, and the principles of the ahupua’a. 

In the ancient settlements there were multiple royal bloodlines that ruled various ahupua’a individually. Local chiefs called Ali‘i, ruled their settlements and fought to extend the boundary of the land they governed. They also fought to ensure the safety of their communities and their way of life.

The Hawaiian people and all of the attributes of their culture would remain the same for nearly 700 years, until the time of Kamehameha the Great, who set out to unify the Hawaiian Islands, and upon completion, he became Hawai‘i’s first singular monarch. The general span of the Hawaiian monarchy occurred between the unification of all the islands by Kamehameha the Great in 1810 and the overthrow of the Hawaiian government in 1893. The people of Hawai‘i were transformed from a society based on the Kapu System into a constitutional monarchy, during this very short period of time. The Hawaiian monarchy was recognized by other nations around the world.

In 1819, due to outside influences, mainly missionary, King Kamehameha II declared an end to the kapu system. He made this decision a reality when he became

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the first Hawaiian male to dine with women. The Christian missionaries were too influential on the Hawaiian culture and customs. Kamehameha II believed in the teachings and principles of Christianity. He would soon make decisions that would change what it means to be a Hawaiian forever. The images of gods were burned and temples were completely destroyed and the dancing of hula and other cultural practices were brought to an end. With the *kapu* system no more, the Hawaiians were culturally lost, and the missionaries knew that because Hawaiian people always followed the examples being set by their *ali‘i*, they too would be receptive to the ideas embodied in Protestant Christianity.  

The decline of the Hawaiian population went hand in hand with the decline of the traditional Hawaiian culture. In 1778 there was a total of 800,000 native-born Hawaiians; within a mere fifty years 80% of the native population would perish. In the Hawaiian community we believe that at the peak of our civilization there was an estimated total population of over one million. After the "discovery" of the islands by Captain James Cook, thousands died from many new diseases brought by the foreigners and other Hawaiians who had left to work aboard trading and whaling ships. By 1920, pure Hawaiians numbered only 23,723 and their life expectancy was only 35 years of age.

As pineapple and sugar plantations began their rise to power in the 1940’s and 50’s, the decline of the Hawaiian population created a serious labor shortage. The Hawaiian government eventually supported the recruitment of more than 250,000 immigrants during a thirty year span following the annexation of Hawai‘i in 1898. The

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11 “The Story of the Usurpation of the Kingdom of Hawai‘i: How the United States Stole the Legacy of the Hawaiian Nation”, at http://www.worldfreeinternet.net/archive/arc10.htm
majority of the immigrants were from China, Japan, Norway, Puerto Rico, Philippines, Portugal, Germany, Korea, and Spain.  

**Today’s Reality**

Pure Hawaiians became only a small part of a much larger multi-ethnic society, mostly due to the sugar cane era. Food, clothing, festivals, and other traditions that were once a part of a foreign culture, had now become everyone’s way of life. As of 2008, according to the U.S. Census Bureau, the Hawaiian, part Hawaiian, and South Pacific Islander Population is 9.1% of the 1,288,198 residents in Hawai‘i, with 39.3% Asian population and 29.7% Whites. Blacks, American Indian, and Alaska Natives and all other cultures residing here in the islands make up the remaining 23%. These facts reflect the cultural diversity of the multi-ethnic society here in Hawai‘i, but it also reflects the loss of our culture land, and in some ways respect. It is as if Hawaiians had become, and some say still are, the foreigners in our own land.

"There are many humorous things in the world; among them is the white man’s notion that he is less savage than other savages."

Mark Twain

When the sugar cane era ended in the mid 1990’s, the expansion of the tourism industry to the global market became the major economic force for the state to fall back on, although pineapple, coffee, and macadamia nuts continue to be strong agricultural crops in the state. The switchover to tourism as the primary economic resource has it’s downfalls as well. Hawai‘i is now a major vacation and retirement destination bringing in large amounts of people from all over the world who wish to live in paradise. Because of major population increases over the last 100 years, the main issues in

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14 U.S. Census Bureau, State and County Quick Facts, Hawai‘i, http://quickfacts.census.gov/qfd/states/15000.html
Hawai’i are now centered on statewide automobile traffic congestion, and the skyrocketing real estate values tailored to wealthy retirees, immigrants and others that keep locals out of the buyer’s market.

**Aspects of our Culture**

Traditional Hawaiian society was a complex mix of religious, governmental, and cultural systems even before contact with the outside world. It reflects the harmonious relationship that Hawaiians have with the natural world. Hawai’i’s cultural history has been passed from one generation to another through oral tradition. It is the only way that Hawaiians could preserve their language, interpretive arts, and other forms of cultural expression, thereby teaching the future generations about their past.

For the purposes of this research, what it means to be Hawaiian, or to design Hawaiian, can be categorized into three main aspects of our modern day culture, they are Cultural Beliefs, Values, and Traditions.

**Beliefs**
The beliefs, customs, practices and social behaviors of a particular people

Hawai’i has a culture all its own, but most islanders do not realize that certain aspects of our culture break down even further. Each island whether it is Oahu, Maui, Kauai, Molokai, Lanai, Niihau, and the Hawai’i Island each has its own culture, and yet, the overall culture is more dynamic and more complex than just island by island. Nearly every major city and community has its own unique culture. It is reflected in our homes, personalities, and even the adaptation of the Pidgin English language, a once dominant form of communication between ethnic lines used during the sugar cane era. These cultural differences from area to area are not only a part of the modern Hawaiian society, but were even more complex in ancient Hawai’i. Island by island variations of the *kapu* system and of the Hawaiian language itself were examples of this complexity.
The Kapu system: The most recognized cultural practice of our ancestors was the Kapu System. Like all advanced intelligent societies, the Hawaiians had a set of rules and laws to help guide their people. No one knows the origins of the Hawaiian kapu. The kapu outlined the appropriate or inappropriate conduct for each class of people. Because we depend on nature for our survival, the kapu connected people to, and respected the existence of the natural world. Scarce island resources, for example water, fish, fruit, and other major crops were protected from over-exploitation. Regulations that were enacted on the islands natural resources were usually fair, but prohibitions upon the commoners themselves were sometimes severe.

The ‘Aina: From the kapu system, the concepts of Aloha ‘Aina (Love of the land) or Malama ‘Aina (Take care of the Land) are derived. I believe as I am sure many others do, that these modern examples of a once complicated land management system (explained further in the next section) is one of the world’s strongest examples of environmental protection and sustainability.

Ownership is a concept unknown to an ancient Hawaiians because all things from the mountains to the sea were shared; no one person owned the land outright. In Hawaiian history, there is a path to the changeover from the Hawaiian rights to land entitlement and the destruction of the beliefs and traditions from 6000 years of self government and subsistence. Post-contact trading, whaling, and crop exportation is only the beginnings of how bureaucrats of the time slipped themselves into Hawaiian governmental positions. With sandalwood and other trade items dwindling, the King had no choice but to give away land as payment. The end result is the signing of the greatest crime against our own people, The Great Mahele and the Kuleana Act.

By the mid 1840’s the transition of Hawaiian land tenure from traditional use to privatization began with a series of legal acts by the Hawaiian government collectively known as The Great Mahele. The Mahele itself consists of three acts that first created a
set of principles by which a commission would adjudicate land claims. The second was purely land divisions by Kamehameha III and 245 of his chiefs. The third is known as the *Kuleana Act of 1950*. This act gave away small awards of land to commoners for subsistence purposes. It was believed that the *Mahele* was in the best interest of the people. In the traditional land tenure, the commoners were seen as oppressed, working and living on a land that they did not own, and in the end from which they also saw no profit. The *Mahele* in its purest form could have given the commoners the right to their own land in that they could cultivate and profit from. However, because they had no money for purchasing, the Ali’i and other rich foreigners now bought out all of the available land, allowing for their workers who could not afford it to still live off the land. But once again they were being oppressed by those who were supposed to be leaders in the community. The saddest facts are that only about 30% (8,755 out of 29,220) adult males with families etc received land titles, and 70% of all males with original ties to the land were left landless as a result of these treaties and legal acts.¹⁵ ¹⁶

*Land Management System:* Many know that the land in Hawai‘i was divided into *Ahupua‘a*, a division from mountain peaks and valley ridges to the sea. Large valleys like Manoa and Waianae are the most common examples. Most also know that the *Ahupua‘a* is often referred to as a watershed, where in ancient times the Hawaiian irrigation system for *Kalo* (Taro) and other agricultural subsistence were cultivated for and by the community. But the land management system that we associate as a part of the *Ahupua‘a* is more complex than what we commonly know.

¹⁵ This entire paragraph is referenced, journal written by Marion Kelly, Land Tenure in Hawai‘i.
The following is how the Hawaiians divided their lands as written by David Malo in 1898. Two names were used to indicate an island, *moku* (cut off, as in separated by/from the sea) or ‘*aina* (place of food). When many islands are grouped together, as in Hawai‘i, they are called *pae-moku* or *pae-‘aina*. Each island is then called *mokupuni* (*moku*, cut off, *puni*, surrounded). Island districts are then called ‘*āpana*, pieces, or *moku o loko*, interior divisions (Kona, Hawai‘i, or Hana, Maui). They are then subdivided into ‘*okana* (further divided within the ‘*okana* is the *poko*), or sometimes *kalana*. Even further, comes the commonly known *Ahupua‘a* and within the ahupua‘a were pieces known as the ‘*ili* ‘*aina* (Waipi‘o Valley, Hawai‘i, is an example of an ‘*ili*).\(^{17}\) The land can be divided at least 24 more times, but I am sure that there are more. Included in these divisions are names that designate features of the land. For example where the topography rises quickly and steep (i.e.: the *Ko‘olau* Mountain Range), this is called a *pali*, and a lake or pond is called a *loko*.\(^{18}\) There are at least 34 more names that refer to the features of the land.

Within the *Ahupua‘a* or ‘*ili*, Hawaiians seized the opportunity to employ all available lands in a responsible way, for hunting, gathering, and cultural practices.

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\(^{17}\) David Malo, *Hawaiian Antiquities (Mo‘olelo Hawai‘i)*, Translated from Hawaiian by Dr. N. B. Emerson 1898, (Honolulu Hawaiian Gazette Co. Ltd. 1903), 36-38.
\(^{18}\) David Malo, *Hawaiian Antiquities (Mo‘olelo Hawai‘i)*, Translated from Hawaiian by Dr. N. B. Emerson 1898, (Honolulu Hawaiian Gazette Co. Ltd. 1903), 39.
“Central districts were densely populated because of access to water. The outlying Ahupua’a were only able to sustain limited numbers. Because of their disposition, they (Hawaiians) were given exclusive rights to resources from mauka, or deep sea grounds for fishing.”\textsuperscript{19}

Ahu’s did not always contain all three element of mauka, waena (Agriculture), and makai. Instead the theory of lele, or communal sharing of crops, clothing, tools, fishing, and hunting and gathering etc. between the dispersed housing elements in very large ahu and “outlying Ahupua’a” were existent in the historical context of the “Community.”

Hawai’i’s irrigation system, and aquaculture system can be traced back to other Pacific Rim cultures. As an example, the various ancient communities of Japanese and Igorot Filipinos have constructed large dams to divert water for rice paddy irrigation. In Okinawa there are fishponds that have a distinct similarity to some found on the island of Moloka’i. Hawaiians have a highly complex and balanced system where there is reciprocal awareness of the use, distribution, needs, wants, responsibility and conservation between humans and land, which is representative of multiple generations of religious, cultural, psychological and social understanding, that does not exist anywhere else in Polynesia. This balance is a direct result of the Kanawai or law, and is tied back to the importance of the waters. The Kanawai is seen as a set of laws/rules that directly serve the people. It was created to ensure that equality and balance were given to all in the community, so long as everyone earned the right to resources through labor or other means.

“The Kanawai is literally translated as “Belonging – to – the waters.” With farms along the water system which all depended, a farmer took as much as he required and then closed the inlet so that the next farmer could get his share of water – and so it went until all had the water they needed. This became a fixed thing, the taking of one’s share, and looking after his neighbors’ rights as well, without greed or selfishness.

So a person’s right to enjoy his privileges, and conceding the right to his fellow man, gave the Hawaiians their word for law, Kanawai, or the equal sharing of water.”²⁰

The Ahupua’a formed a self-contained economic and social unit and because the land was managed carefully and cared for as a whole, following the Kanawai, the Hawaiian people prospered. Today, this ancient system is viewed by many as an excellent model for resource management. However it is difficult in the modern world, with personal land ownership and current development design, to apply traditional methods of the Ahu. I believe that there are ways to segment the land that into various ‘īli, as a starting point.

There are other principles of spatial organization within the Ahu’s/‘īli’s that should be studied. If it was as easy as Hawaiians locating themselves and building their subsequent structures near water and other resources then designing cities from the western point of view would be no problem. We would pile ourselves near a water source until all the water is consumed, then move on to the next Ahu. The ancient civilization known as the Roman Empire understood the importance of water; they built large aqueducts to filter water into their city. In their situation, they brought the water to the city, but land mass, topography and the environmental conditions of Rome are quite different.

There is a bigger aspect to planning within the Ahu or ‘ili that goes beyond an association with water. It is a system that can be used in the design of today’s cities, housing tracts/developments, and even down to individual site use. The goal now, is to research and find answers to more complex organization and planning of housing, lo‘i, religious domain (Wahi Pana) and other characteristics of the Ahupua’a.

**Values**
A set of principles, morals, and ethical standards of the Hawaiian people.

Families, communities, and individual ethnicities throughout the world all have a set of values they have lived by and perpetuate. Although each is unique to ancestral roots there are often many similarities between cultures. The entire community of Hawai‘i has contributed to a modernized set of local values that have become part of our daily lives.

The Value of Ohana: Hawaiians often discard the notion of individualism. We believe that no one person should outshine another, although in this competitive modern society it is becoming increasingly difficult to reject all forms of individuality. For example, your personal vehicle is yours, you own it, you have paid for it through the American monetary value system, therefore, you would/will not allow for anyone to borrow or trade for the use of your car in the way that ancient Hawaiians perhaps would have.

Within the Hawaiian community, one is expected to know that they are a member of a larger society that contributes to the collective. The word Ohana is defined as a group of related people, by blood or Hānai (communal adoption). Members of the ohana share nearly everything, from land, to food, children, and even life partners. The bond of the Ohana cannot be broken, even by death. This practice
continues today. An example of this is that Hawaiian families often give names to our newborns after those we have lost, so that we may never forget the bloodline and genealogy. Hawaiian would also create and dedicate chants, stories, and mele (song) to our ancestors so they may be remembered generation to generation, another practice that carries on. However, in modern times, we have been losing this sense of ohana, but local families still surround themselves with their loved ones because love for one’s family is the purest form of human expression.

Hawaiian Morals and Ethics: One of the most notable Hawaiian core values is the word Aloha. It is probably the most known of all Hawaiian words. Aloha not only means love, but it used as a greeting and it is used when we part. It is a sign of sympathy, and it is an emotion. Aloha can even be used in a dismissive and passive sense. The most common understanding of the term in the modern sense is the phrase “Aloha Spirit.” The term can be defined many ways, and no one use has precedence over the other. I define it as the way non-Hawaiians (and Hawaiians who do not know or understand the complexity of their own moral code, cultural values and tradition) see the modern Hawaiian culture. This term can sum up all of the respectful aspects of the people in these islands. Simple things like holding a door open for someone else, saying please and thank you, and having respect for your parents, pedestrians, bike riders, and the elders in the community. Aloha and the Aloha Spirit mentality is considered by some to be one of the most versatile and the primary core value of our people.

21 When naming a child in the old tradition, part of the family member’s name may transfer onto either an exact copy of that name, or an extended, combined, or abbreviated version of the original name. This was done for many reasons but the most common was so that they may know the royal (or other) bloodline of the child could be traced. Some names can go back for many generations, and partial names can be part from one generation and part from another, and then finished with a spiritual notion, earthly reference or some other form of meaningful reference. The ways that one can be named are truly endless.

22 George Hu’eu Stanford Kanahele, Ku Kanaka, Stand Tall, A Search for Hawaiian Values, (University of Hawai’i Press, 1986).


24 This entire paragraph is referenced, Ku Kanaka, Stand Tall by George Hu’eu Stanford Kanahele, and Sacred Queens and Women of Consequence, Rank, Gender, and Colonialism in the Hawaiian Islands, by Jocelyn Linnekin.
Other notable Hawaiian cultural values:

- **Lōkahi**: harmony and peace
- **‘Olu’olu**: agreeable and pleasant
- **Ha’aha’a**: humble, degraded, meek, unpretentious, modest
- **Ho’omanawanui**: Patience
- **Pono**: Goodness, uprightness, morality, excellence, well-being

**Traditions**
Traditions are a set of practices. They are both physical and spiritual elements of a culture which are passed down from generation to generation.

Non-Instrument Navigators/Navigation: Early Hawaiians were masters of non-instrument navigation. An inherited body of knowledge from ancestors in the South Pacific islands, they used the sun, moon, stars, and waves to triangulate locations in the vast pacific ocean. This tradition was recently resurrected by a team of native Hawaiians who founded the Polynesian Voyaging Society (PVS) in 1972 and set out to retrace the steps and reinforce the genealogy of the Hawaiian people. They showed that a Polynesian designed voyaging canoe could be navigated without instrumentation for long periods of time. It was this team, who enlisted the teachings of Papa Mau, a Micronesian master navigator, who was responsible for the return of non-instrument navigation to Hawaiian waters. Over the years Mau has taught all he knows to Nainoa Thompson, who adapted the teachings to the North Pacific celestial bodies. Today, along with Nainoa, there are a few master navigators (some who are still in training) who keep the tradition alive, sailing from Hawai‘i, to the South Pacific, and recently to Japan. An around the world trip is currently being planned.

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The language: The language of the Hawaiian people (‘Ōlelo Hawai‘i) has seen its dark days. There was a time when the language was not allowed to be spoken in public. Children would often get slapped on the wrist for speaking the native tongue.27 28 ‘Ōlelo Hawai‘i has the shortest alphabet in the world, but it is a difficult language to master. Hawaiians have words to define everything associated with the natural and spiritual world, but it is the Kauna (hidden meanings) and fluidity of these words within their sentence structures that makes the language so beautifully poetic. 29

Today, the language is taught mostly in educational settings, it has been adopted to blend more easily with the American English writing structure. It is still a lost art form for most native Hawaiians and Part Hawaiians. It is more common to see other ethnic locals and non-natives speaking and teaching the language (as they do in Japan). Regardless of where or to whom the language is being taught, for many, the survival of the language is the most important factor. For those who do not know the language fluently, we still use it in some way or another in our everyday lives; it is relatively common to see traces of the language in the naming of streets and highways, and media marketing. We also use a few Hawaiian words that have been infused into the everyday English language, for example, the most commonly used are Aloha, and Mahalo (thank you).

28 You tube Video: Sabra Kauka talks about family members remembering what it was like when the Hawaiian language was banned on the islands of Hawai‘i in 1896. She also speaks about the restoration of the language through the educational system.
29 In my lessons from Kumu Hula Rae Kahikilaulani Fonseca and the Late “Uncle” George Naope, we had often talked about how poetic the language of the Hawaiian people can be when recited correctly. On the surface, in everyday conversation, the language has a typical meaning, but when recited through chant and mele the language/understanding of the story being told often has many hidden meanings or Kauna. Kumu Rae once said that he believed the Ali‘i had a form of poetic language that was only spoken between the highest of ranks, we may never know this form of conversation, but I am sure that it once existed amongst our elders.
The Hula: Another Hawaiian art form is the hula. The hula has evolved over the years from altar dances that were exclusively for men; to the more contemporary form that hula is today. The first ban on hula occurred in about 1830, when Ka‘ahumanu was traveling about O‘ahu with the missionary Levi Chamberlain and others. Further influenced by the missionaries the hula was eventually fully banned, both standing and seated forms, along with religion, mo‘olelo (stories, myths, legends), and mele (song). These traditions were however kept alive by those who resisted and practiced, in secrecy, in homes and other private places. Ali‘i Nui Lota Kapuaiwa (Kamehameha V) was instrumental in beginning the return of the hula. He first allowed, and most likely encouraged the semiprivate performances at funerals, leading to the weakening of the ban and the creation of a licensing requirement to dance the hula. Kalakaua, Hawai‘i’s last reigning King, also known as the Merrie Monarch, defied missionary rules by arranging for the hula to be performed at public venues and publishing the Kumulipo, a genealogical prayer which connected the reigning monarch to the creation of the universe, and assured people that the nation of Hawai‘i was in good hands. The Kumulipo is made up of 2,102 lines of genealogical prayer.

Hula has two major forms, the Kahiko (ancient) and the ‘Auana (modern). Hula kahiko is still performed for ceremonial purposes and the telling of stories and legends. ‘Auana dances are accompanied by song in English and/or Hawaiian, and are played with modern instruments. Piano, ‘ukulele (leaping flea, probably from the Hawaiian nickname of Edward Purvis, who was small and quick and who popularized the instrument brought to Hawai‘i by the Portuguese in 1879 (Elbert and Knowlton, 1957)). Guitars and bass (upright or electric) are the most common instruments and are representative of the post-occupation period.

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The ‘auana style addresses the tourism industry’s image of modern Hawai‘i, full of bright flower leis, ti-leaf (grass) skirts, and dancers with dresses decorated with flower prints. To honor our last reigning King, the Merrie Monarch Hula Festival and Competition is held in Hilo, Hawai‘i each year. There has even been a transition of the festival to Japan as well.

The music: Music of Hawai‘i has also grown to be a familiar and popular art form, although real Hawaiian language (traditional) music is not nearly as popular as other modern music genres. The music of today includes traditional, slack key guitar (in Hawaiian and English language), *hapa-haole* (English words to Hawaiian songs/melodies), *jahwaiian* (a bastardization of Jamaican raga/reggae mixed with Hawaiian/English language).

The legends: Another facet of the culture lies with our legends. Ancient Hawaiians were known to be great storytellers. Through our language, legends are way of documenting history, knowledge, and cultural beliefs from generation to generation, for example, the *kumulipo*. Stories range from the creation of the Hawaiian Islands by the god Maui fishing them out of the sea to why a flower or waterfall gets its name. The Hawaiian culture also has many superstitions and dark omens, which are widely known and still observed today.

Modern History
Today, there has been a rebirth of Hawaiian culture. However within the inner workings of government, our culture is not as widespread as it should be. For example, there are more hula dancers in Japan or Mexico than there are in Hawai‘i. Is it because...
they have larger populations and it is therefore a question of ratio? Or do they love our culture more than we do? As Hawaiians we continue to look upon our roots to redefine our identity as a framework for the future. Because traditions are so important to sustain our island culture, there are individuals and organizations trying to prevent these traditions from fading away or being forgotten. For example Sovereignty has become a key political issue in this generation. Yet most would agree that fighting the American government to regain our rights has not yet proven to be entirely beneficial, although major steps have been taken towards some form of cultural equality. Another example is the Merrie Monarch Festival. This annual hula competition is a worldwide venue for the preservation and promotion of traditional dances, language, and music. The beauty of this festival is that it is not geared toward tourists. It is a part of the original culture and tradition and it plays a huge role in the Hawaiian revival.

In addition to hula competitions and festivals, we can still find other places of great cultural significance to our Hawaiian culture and people, although it is becoming more difficult with rapid increases in population and expansion of urban areas. This is especially true for the island of Oahu. But it is in these special places that some of our people are quietly trying to live using traditional practices. Our kupuna or elders have been struggling to restore and renew our ancient sites, language, history and genealogy to help our youth identify with the Hawaiian bloodline and their sense of place.

Summary

The historical values and traditions of our people is all we have left. It is our duty as planners, architects, engineers, and leaders in the community to resurrect these values in our future projects, and therefore into our daily lives.
CHAPTER 3:

Defining Who We Are and Our Sense of Place

Hawaiian Sense of Place Architecture
My Views of Modern Hawai‘i Architecture
Defining who we are and our Sense of Place

We can define who we are as a culture by describing our sense of place. We all describe our sense of place in a different way. It is one of the most difficult terms to define in the world of architecture, especially in a location like Hawai‘i where many ethnicities with different cultural backgrounds influence our cultural values and beliefs. I define sense of place as a feeling, emotion, or attachment that is created while the user occupies and explores a natural or built space.

*Place attachment* is an environmental architecture and environmental psychology term. It often occurs when, for example, environmental or architectural factors affect our senses in a way that allows us to remember past associations or moments in time. In other words place attachment refers to a person’s bond to a place’s social and physical environments. These attachments are often associated to the place we call home, and are ties to the term *place meaning*.33

Place Meaning is another term associated with environmental architecture and Psychology. Many physical and architectural factors bring back memories of a particular point of time in one’s life. For example the city or town an individual grew up in has an underlying place meaning in the subconscious mind, the city is home. Upon leaving this home for a period of time, then one day returning to it, the city may not look as it did when growing up, but it still feels like that moment in time when it was clean, vibrant, and full of happy people who worked hard. The subconscious mind is playing tricks on the individual, but in reality these attachments to home (wanting the place to be the way it once was ignoring the apparent changes that are apparent) are often tied to place meanings.34

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The terms place attachment and place meaning identify a state of mind rather than a physical place. Most people, including those in Hawai‘i, use this psychological state to develop a sense of place.

Others believe that sense of place is associated with artistic representation of an object as a look, a style, or a motif (a conclusion drawn by myself, because these examples are seen in modern Hawaiian architecture). The use of motifs as cultural identification is not so much a depiction of a culture with 6000 years of evolution. As it is often a misrepresentation of former building styles, kākau (tattoo), art form, or artwork. For example, it is common in modern architectural design in Hawai‘i to see a brown or tan building (a misrepresentation of the term “earth tone”, because the earth actually contains every color in the visible spectrum), with a green colored roof (often said that the color matches the green treetops of Hawai‘i), and a tattoo or other Hawaiian artwork pattern resembling ferns or flowers, for example, running down the full height of the building.

Hawai‘i is our home, and many who were born and raised here in the islands will never be able to permanently relocate themselves and live anywhere else in the world. We return home because of our morals, beliefs, and ties to Ohana. It is true that we may live in a foreign land for extended periods of time, but the return home is inevitable. It is the connection to tradition, family, community, and culture which exists nowhere else that brings us back.

We have the ability to describe a sense of place from a physical and psychological perspective. From a physical standpoint, a sense of place can be related to a river, tree, stained glass window, smell, or color; anything that triggers an emotion related to the previously defined term, ‘place attachment.’ Psychologically, I describe my sense of place as comfortable, pleasant, safe, and enjoyable. But for Hawaiians, sense of place goes deeper than just physical surroundings and feelings one acquires.
when occupying a space. Hawaiians believe in the powers of the mind and body. Hawaiians are a spiritual people who accept human interaction with the spiritual world, both good and evil, as everyday practice. It can be said then, that Hawaiians attach sense of place to a psychological familiarity, a spiritual interaction, or event described in our mo’olelo (stories). Memories created by these attachments are often based upon the senses of sight, smell, sound, taste, and touch, and also include temperature and other aspects of climate.

Hawaiians were so in tune and intimate with the land, surroundings, and spirituality that they identified many different winds and rains that fell throughout these islands. They named them, knew them by heart. In this modern society it may be difficult and unusual to associate a building, park ground, or a rail system with this type of connection to place. But for Hawaiians, who are completely tied to the environment, the relationship between self and place is the way of life.

“Sense of place is the knowledge of who you are, where you come from and those treasures that have been passed from generation to generation to be used in such a way to enhance all that you do to honor the past, function in the present and set a solid foundation for the future.” - Charles Kaupu

Charles Kaupu is a cultural specialist who helps the Maui Visitors Bureau, Kaanapali Beach Resort Association and Intrawest Inc. He also teaches hula in Maui, Japan and on the mainland.35

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My Definition of the Hawaiian Sense of Place

In its simplest definition, a true “sense of place” architectural design is created through *Place Attachment*. The Hawaiian sense of place is a bond or correlation to a place’s social and physical environment that has been created through one’s mind, body and spirit over a period of time. It is our job as designers to recreate these bonds and attachments in our projects, whether it be manmade or natural space, so that the individual can relate their personal beliefs, religion, culture (or whatever the attachment may be) to the overall planning and design of the project.

Hawaiian Sense of Place Architecture

Hawaiian sense of place architecture is best described as designing in a way that reconnects people with their surroundings. Every place on earth, every parcel of land, has historical definition, *mo’olelo*, or value. It is up to designers to bring forth this history in the designing of structures, by reinterpreting it or representing it in the best way possible. This does not mean that the external aesthetics and materiality of a building should conform to other structures in the built environment just because it is a structure of historical reference, nor should it merely respond to cultural motifs and symbolism. From a Hawaiian perspective, sense of place architecture occurs when all of our senses are aroused and our minds begin to create a recognizable response to the physical attributes of the structure, aesthetics, surrounding environment, climatic conditions, site, and landscape. This response is representative of our brains ability to recover long-term memories and feelings and relate them to architecture. This process occurs at different speeds and strengths for each person. But when it does, at that exact moment, a connection to architecture is created and an architectural sense of place is achieved for the individual.

It is from within the structure that Hawaiian sense of place architecture is best represented. As architects we have the ability to entice the senses of the user by capturing picturesque views, integrating plant life to entice the sense of smell and the feeling of being outdoors, using natural and unnatural light, and incorporating
a variety of tactile surfaces to create a more engaging and appealing structure. It is our senses that create memories and feelings that help us bond to a place, to this place, and when an architect or designer can attract and challenge these senses, then a structure can be considered to have a Hawaiian sense of place.

Architecture in Hawai‘i possesses a combination of cultural influences from all over the world. This diversity of culture is what makes Hawai‘i’s architecture stand apart from every other island nation in the Pacific. The difference is that architecture of modern day Hawai‘i tells the story of Hawai‘i’s past encounters. From the elaborate and decorative architecture of our Asian immigrants, to the classical European architecture found in our churches and the vernacular dwellings of the Hawaiian and South Pacific islanders, the architecture that surrounds us tells of Hawai‘i’s complicated historical background. The impact of cultural influences of Hawai‘i’s mixed society on the built and natural environment can be seen and recognized without difficulty.

“First, I define ‘place’ as ‘located space.’ It can be as large as a country or as small as a coffee shop. Sense of place is about the feeling that emanates from a place as a combination of the physical environment and the social construct of people activity (or absence of) that produces the feeling of a place.”

“People either seek out or avoid a place because of its sense of place. People seek out Hawai‘i because of the expectation of what its sense of place will be when they get there. Conversely, people will avoid the neighborhood ghetto (unless they live there) because of its onerous sense of place.” – Peter Apo

37 Peter Apo has been a Hawaiian activist, a trustee for the Office of Hawaiian Affairs, a state legislator and a professional musician. He is currently the director of culture and education for the Native Hawaiian Hospitality Association (www.nahha.com)
My views of Modern Hawai‘i Architecture

Hawaiian architecture and the design theories of our ancestors is a shared vernacular style of many of the pacific island regions. Some examples of Hawaiian vernacular architecture are still employed in many modern day residential and commercial buildings. However, it is not the principles of Hawaiian vernacular theory that are the most common. Instead, it is aesthetic materiality and symbolism that is represented in modern Hawai‘i architecture. Hawaiian symbols, motifs, kakau (tattoo) patterns, and artistic representations of plant and wild life all seem to characterize modern Hawaiian architecture.

In this modern era the term Hawaiian architecture is most notably associated with symbolism. But there is a fine line between the historical representation of a traditional pattern or image, and shabby ornamentation. High-pitched “hale” style roofs (painted green to match the trees), tiki torches that line our driveways and walking paths, dry thatched grass roofs that represent old Hawaiian hale, lauhala (pandanus) weaved interiors, and laua ‘e (fern) hedging…all symbolize what “looks” like Hawaiian sense of place architecture. As architects who practice in a place where tourism defines the strength of our economy, we cannot and have not been able to shed the early to mid 1900’s Waikiki symbolism; however we now have the ability to take our designs to another level, a more culturally appropriate level, and we should welcome the opportunity. Architects and designers are supposed to strive on their artistic point of view, and the sooner we realize that we have the power to change the future of Hawaiian architecture, the sooner we can begin altering these motifs to become more balanced with true Hawai‘i architecture.
“... the ongoing discussion about "a Hawaiian sense of place" and the pursuit of a "look" or "style" that generates this sense of place should make us ask if architecture should be less about this pursuit of a style and more about the people who visit, live, use or work in these spaces. It should be more about responding to the opportunities that the unique qualities of this place afford us as individuals and as a community.”

I see the future of Hawai‘i’s architecture as being “Pono” or balanced. Other definitions of this term include excellence, prosperity, welfare, morality, true condition or nature, proper, righteous, virtuous, fair, beneficial, and successful. Being pono is one of the many Hawaiian core values, and along with the kapu system (a set of laws and guidelines) it is the primary guiding principle as to how a Hawaiian should live their life. Hawaiians believed that everything in the world was in balance. Life and death, good vs. evil, the fire goddess Pele and her sister Namakaokahai (goddess of the sea), all are representative of balance in the Hawaiian way of life.

The theory of modern architecture becoming more pono with its environment and its people fulfills this notion of equality that we as locals seek. If the land is hot, we build a shelter that is naturally cooled to keep us comfortable and out of the sun. If we clear cut trees to make way for our homes, we should then add in crops and other forms of vegetation to replace what was removed. Let’s look at another Pacific Rim culture for a moment. The Chinese for example, describe this same sense of balance and harmony with the social, psychological, and physical universe through the theory of yin-yang. They have used this theory as a primary function of life for generations, and it a theory that is still being practiced in Asian cultures.

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Summary

*Pono* describes the Hawaiian people, our architecture, environment, and the “sense of place” we all try to attain. I believe that the term sense of place is a state of mind, and that an architect or designer cannot attain a balanced state of mind unless the built environment that they are trying to create conforms to the cultural values and architectural design theories of our ancestors. Therefore the goal is to create architecture that is pleasant, comfortable, aesthetically proper, and safe, hence *Pono*. The future rail design, no matter what it may become, should reflect this mentality.
CHAPTER 4:

**Three Fundamental Principles that Guide the Ideal Design Strategy/Process:**

Expansive Consultation
Primary Benefits for the Community
Environmental Sensitivity
Three Fundamental Principles that guide the Ideal Design Strategy/Process:

The ideal design strategy for rail in Hawai‘i relies on culture to shape the overall process of project delivery. The Hawaiian culture and Hawaiian sense of place are used to develop the following three principles. They are Expansive Consultation, Primary Benefits for the Community, and Environmental Sensitivity.

Expansive Consultation
Whether designing a single family residence or a multi-billion dollar transportation system, there are principles and guidelines that should be followed. These principles and guidelines are derived from the culture, values, and design theories of the people and community that this rail project intends to serve.

The first of these three principles is expansive consultation. In order for a designer or architect to protect our sense of place and address the needs of the rail system’s potential users, there are important points of contact that need to be made within the community. In Hawai‘i these contacts range from politicians and professionals, to community elders, experts in regional architecture, and nā keiki o ka ‘aina (the children of this land). Together they form our local community. In the tradition of ancient Hawaiian culture, community is the most important aspect of survival. Without the people within the community striving for a common goal; our culture, values, and the local way of life would cease to exist.

Consultations with the community
The core of expansive consultation involves opening the lines of communication with the community. There is a need for the community’s involvement throughout all levels of this rail project from pre-design through construction, and occupancy. If this project is truly intended to serve the people of O‘ahu, then the people should have a say in many of the important decisions that come about. The future rail system cannot be designed properly without the help of the community. The people need to be included from day one.
When it comes to transportation issues on this island, everyone is affected. The design team should take part in interviewing the community at large. It is up to the design and research team to reach out to as many people as possible. They should not isolate only those people who commute to and from their jobs on a daily basis. It would be pertinent to interview the daily driver, bus rider, the elderly, college students, and intermediate and high school students who use public transportation regularly.

Contacting our elders: In most cultures, before any major change or decision is made that could potentially have a negative effect on the people; an elder in the community would be consulted. In Hawai‘i, ali‘i (chief or king) made most of the decisions, but not until a spiritual leader or kahuna (priest) is sought out for advice. We are taught to respect our elders and leaders in the community and we try to emulate their examples in our daily lives.

Involving “Rights Groups:” In modern day Hawai‘i, we do not have the luxury of letting the ali‘i decide our faith, however we do have “Rights” groups, and other political activists that fight for the equality and recognition that the people native to Hawai‘i deserve. It is very important to seek out the knowledge of “rights” groups like Ku I ka Pono, Ka Lāhui Hawai‘i, Kau Inoa, Nation of Hawai‘i, and the Office of Hawaiian Affairs (OHA) to name a few. But it should not stop there. Hawai‘i is a place of many ethnic backgrounds and cultural values. As a designer we mustn’t isolate the ideals and design theories of just the Hawaiian people, we should incorporate the knowledge, culture, morals, and ethics of the entire community into one collective. It is the people who were born and raised in our local island setting who I consider to be the ones native to the Hawai‘i of today.
Consulting an expert in vernacular design: Because Hawai‘i is a Polynesian island chain, there is a vernacular form of architecture inherent to this place, its climate, and its environment. Consulting an expert in ancient and modern vernacular architecture in the Asia Pacific region may be a necessity in the early phases of the process. The consultation should take place before any major design work is accomplished. For this rail proposal, creating stations that meet both the historical and modern design theories for a building in this climate and location should have been the goal of the design team. Culturally appropriate aesthetic value is a priority in the research phase of the project including the types of materials that may be used in the project could be discussed.

Research techniques: There are various research techniques that can be used for gathering useful information from the community. For public projects such as rail, quantitative research is best, but not the only way. This research method has a broad range of methods from simple 5 -10 question surveys for the general public, to detailed surveys that are geared to address a certain group of people in their cultural and local setting, i.e. the tourists of Waikiki, the Asians of Pearl City, and the Hawaiians of Kalihi and Waimanalo. The settings for community involvement are multiple due to the ethnic and cultural diversity of our people. The surveys could be conducted on a door to door basis, but as with all public projects time is always of the essence. For rail projects, researching the public by way of surveys would be a massive undertaking, difficult for one design team to accomplish. However, because of advancements in technology we are able to reach a large number of people in the masses through the internet, radio, newspapers, and television.

Engaging the community: Community meetings, neighborhood boards, and public forums in a large setting are essential to this process. It gives architects and designers a way to relay information and collect data from the community to a greater extent than one-on-one surveys. In certain situations, however, emotions swell when
groups of strong minded individuals are involved. Smaller and much more informal group meetings with our elders, spiritual leaders, design professionals, leaders of right groups, and cultural representatives from within the community come into play. It is very important that we examine both the academic and cultural point of view. In this smaller group setting these leaders are able to relay community ideas and concerns to the design team, without the large emotional burden that can often be a part of public projects. In return, the architects, politicians, and the rest of the design team can share ideas, designs, and plans for the future openly and honestly.

Consulting Major Landowners: Land appropriation is a very difficult issue in Hawai‘i that requires consultation. Who do we as designers consult when trying to figure out what areas of the island, or what parcels of land are viable options for the placement of a rail system? For large mass transit systems parcels of land are appropriated by the city for storage and maintenance facilities, park and ride lots, stations, and the rail line itself. My initial opinion is that we would consult the same groups of people. The elders and the rights groups could shed some light as to what areas of the island are considered sacred, unoccupiable land. The majority of the public would be involved with the alignment of the rail system itself by either allowing a rail system to pass through their community, or if they will enforce the rule of NIMBY (Not in My Back Yard).

When designing the rail system, or any state and county project, we must take into account the amounts of land that would need to be acquired to complete the project. The goal should be to design a system that would not require the acquisition of large amounts of private land. One way is to use research resources available to us through expansive consultation. These resources will help to design a major transportation system without forcing the government to purchase an obscene amount of land. It would also stop the city from doing the un-Hawaiian thing
by condemning the land of an individual who does not wish to sell out. By honing in on the areas of available land on the island, the City and County of Honolulu may only need to acquire major parcels that are owned by the state of Hawai‘i, the federal government, and other large private land owners like Kamehameha Schools/Bishop Estate and the Department of Hawaiian Homelands.

**Summary**

Expansive consultation should not end in the early phases of the project. It is essential for the political, professional, and general community to stay involved throughout the construction process. They should also be included in the decisions that are going be made throughout the life of the project. The information acquired through expansive consultation should be used to benefit the same community from which it originated. There is no use for conducting mass amounts of research if all that we intend to do is dismiss the community’s feelings, thoughts, experiences, and intelligence.
Primary Benefits for the Community

The second of the three principles which help to outline a design strategy for rail is primary benefits for the community. This principle ensures that the rail endeavor will positively benefit the community in which it serves. Assuming that the rail system will be designed from a cultural perspective it is the next evolutionary step for the architect or planner. If there are no benefits for the people than why propose the project in the first place. Hawaiians believe that everything they did was for a purpose, to attain a goal. This principle relies on culture because there is direct connection to the people.

Employment: The first benefit that this project should have for the community is the creation of employment opportunities. It is true that any transportation project, including rail, will create a large amount of highly skilled trade jobs, i.e. general contractors, concrete masons, welders, materials suppliers, and other jobs related to the construction industry. For the design field, this project will employ urban planners, architects, specialized designers, engineers, landscape architects, and researchers alike. However, for major transportation projects these are short term employment opportunities. In most cases, any employee that was hired specifically for this project will be released by their respective employers.

The question then becomes, how will a project of this type promote the creation of new avenues for long term employment, some of which will be foreign to Hawai’i? Rail has the ability to bring in a diversity of specialized employment opportunities with a variety of skill levels. For example, because modern rail is completely new to Hawai’i, positions for vehicle operators or drivers are going to be needed. Many of our local TheBus drivers would love to trade in their steering wheels for a new clean train. Drivers from across the country would migrate to Hawai’i to operate our new system. Another example of a new type of job comes from the field of high-tech computer-aided technology. No matter the type of rail system introduced, there is going to be a need for information technology experts. From computer guided trains, to high-tech traffic signaling systems, modern rail operations are technologically advanced.
There are other options for employment that are a part of the current Hawai‘i workforce. Artist and sculptors could showcase their work to give the rail line and its station a cultural vibrancy. Maintenance/custodial crews will be required to keep stations and transit centers in a reasonable condition. Security personnel for transit centers, stations, and park and rides will be used for public transportation. In fact, transit police are common in cities with large rail systems. They will work hand in hand with the Honolulu police department.

Sense of Place: The second benefit that this project must have for the community involves the emphasis on enhancing our sense of place. A project of this type and stature has the ability to influence any future project in the state of Hawai‘i. This project also has the capacity to either positively or negatively change the way the world sees the Hawai‘i/Hawaiian sense of place. Therefore, it is the responsibility of the project’s design team and all of the professionals and politicians involved to strengthen the place attachment for each person who uses, studies, or even looks at this rail system.

Enhancing one’s sense of place also means enhancing the environment. Designing a transportation system that has a positive impact on the environment should be a common goal. Because locals have an attachment to their land, sea, and air, designers need to prove that rail is better than expanding highway capacity for personal vehicles, or increasing the existing bus system to create room for the future population increases, and debunking the notion that rail is an ancient technology that has no place here in Hawai‘i.

Based on local values and tradition, the goal of the architect is to create a sense of place attachment to anything that is created, so that every person who crosses paths with the project can self-identify with who they are, in that place. They should also
be able to recognize the influences of localized cultural values in the design itself, more than the simple use of motifs and symbolism.

Mobility: The third benefit involves impacts that this transportation option will have on the users of the system. Better mobility for transit users is a primary impact. If the proposed system can get people to their destination with more speed and efficiency, while increasing ease of access from point A to point B, then the project will attain one of its goals. A second impact for the user is that other transit options, like rail, provide an alternative to TheBus.

Economic Vitality: The fourth Benefit for the community is that mass transit promotes a positive economic vitality for the state. In order to create a rail system that will have a positive financial impact to the state and the island, we must promote the proposed project within our own community as being a first class method of travel. The benefits of using rail have to be made clear to the potential riders, so that ridership numbers will remain high throughout the lifetime of the system.

Because our state’s economic vitality is dependent on tourism, and because O’ahu is the destination for the largest number of tourists, research should be conducted to ensure a positive impact on the tourism industry. If tourists do not agree that the design does not represent Hawai’i and makes them feel like they are in any other metropolitan city, then perhaps the project should be re-invented to fit the community in a more dynamic way.

Transit Oriented Development: The fifth benefit that the transit project should include is the long range goal of Transit Oriented Development (TOD). Normally, TOD
is the goal of politicians, economists, and developers who seek expansion opportunities in what they see as underdeveloped communities. But in Honolulu, TOD could be seen in a more positive light if designed and developed correctly.

A transit oriented development is a regional node that contains a mixture of uses including civic, professional offices, residential, and retail. They are often designed as walkable communities to serve pedestrians as the highest priority. The train stations themselves are the prominent feature of a new or revitalized town center. One of the goals of TOD is to reduce traffic densities inside of a 10-minute walk/circle from around the town center and train station.

TODs also have the ability to spread job availability, and to promote positive growth through the relocation and expansion of retail hubs and professional offices toward these new town centers. The creation of TODs helps to minimize vehicular traffic in the corridor of which the rail system serves. By offering employment opportunities and recreation close to where people live, the need to travel the full distance towards the downtown area would be reduced thereby reducing the daily rush hour traffic. TODs, when combined with a properly designed rail system, will give commuters a higher quality of life without absolute dependence on personal vehicles for mobility and survival.

Other benefits of Transit Oriented Developments
- Reduced spending on transportation: fuel for vehicles
- Healthier lifestyle: more walking and biking within the community
- Increased foot traffic: good for local businesses within the town center

Where there are positives, there are also negatives. In Hawaiian, Asian and other ethnic cultures, balance is a primary cultural value. Although there are many positive growth benefits to TODs, growth for the sake of growth can also have its negative
impacts on the community. For example, downtown Honolulu and Waikiki, are areas that are developed beyond their limits. They are city centers that do not respond to the cultural traditions of our people. High rise and mid rise developments like that of the downtown area should not be allowed to spread throughout the corridor, especially to the west side. One of the more beautiful aspects of living in Hawai‘i is the picturesque views we have of our mountains, our central plains, and our oceans. Dense continuous buildings will obstruct their views.

Effects of Rail on Tourism: In an aforementioned benefit for the community, one of the factors to keep a positive economic vitality for the state is to recognize the impacts that any type of transit system would have on the tourism industry. What would rail ‘do’ to an already faltering economy? If the economic source for revenue in this state is through tourism, then it could be said that providing better mobility and access for tourists should be one of the project’s main goals. The tourists’ ideas as to the type, size, look, and feel of the transportation system would also be important. If tourists come here and feel that this new system doesn’t represent Hawai‘i, and we lose the feeling of a tropical paradise, then both tourism and the economy will be affected, and the trickledown effect that this will have on Hawai‘i’s economy could be disastrous.

Summary
For a transportation project such as this one, in a place as culturally, environmentally, and economically sensitive as Hawai‘i, there are many benefits for the community that needs to be addressed. We need to be sure that we are not meeting the needs of one demographic, while isolating another, and we must be sure that we are not introducing something that is so industrialized that there will be a negative benefit/impact upon Hawai‘i’s economy, ecosystem and sense of place. But where do we draw the line? I believe that we can design a rail system that meets the needs of every potential user, but it will take time, and a lot of research.
Environmental Sensitivity

The lessons of our ancestors taught us that environmental sensitivity is essential to the survival of our people. Therefore respect for the land through environmental sensitivity is the third principle. One characteristic of a traditional Hawaiian approach to environmental sensitivity is how we as humans see ourselves upon this land, as a part of this world. Today, it is still understood that we all have a responsibility to take care of the land, just as how the land nurtures and cares for us. Through our core values and traditions, we recognize that we are a part of the spiritual and physical world, we are a part of its balance, and we should be the ones responsible to keep it in balance. In doing so, Hawaiians have been practicing the core principle of sustainability for generations.

We must all practice the Hawaiian tradition of creating an intimate relationship with the land, regardless of cultural heritage. When it came to the land, the idea of personal ownership was an unknown concept for the ancient Hawaiians; no one person owned the land. Ownership leads to jealousy, always wanting more. Jealousy leads to hate, and with hate there is no Aloha, no Ha’aha’a, and no Pono. This is why Hawaiians never learned the meaning of ownership within the community, because it goes against many of the core values of the Hawaiian people.

The Ahupua’a: The Hawaiian Ahupua’a system provides a set of core principles that can help guide urban planning and transportation projects such as rail. An Ahupua’a or Ahu is the Hawaiian term for a land division or Watershed that, in most cases, runs from the utmost tip of the mountain peaks down to the coastal plains and onward to the oceanside. They are often located within valleys and although smaller Ahu only contain one village that acts as a complete self sustaining community, some larger Ahu had multiple villages with people who mastered various trades within their area. Together, through community involvement and careful planning, they were able to prosper. Over the years we have damaged our land and cities due to improper planning strategies and selfishness. Working together and employing the strategies
of old is the way to change the future of planning and design in Hawai‘i.

Ahupua‘a are of significant importance to rail projects because of the principles attached to them. For example, community planning, architectural balance, resource management, and sustainability are excellent models for transportation projects.

There were many different ahu throughout each island. Hawaiians used resources from these dispersed ecological zones along with the guides of the kapu to form their communities into a social unit. Hawaiians designed their homes and villages with the mindset that there is a delicate balance to the surrounding environment. They believed in respecting the land, sea, and air, and that any manmade structures (other than those of a religious purpose like altars and temples) should integrate into the surroundings.

There is a ‘ōlelo no’eau (Hawaiian proverb) that explains the people’s role in their environment.

*He ali‘i nō ka ‘āina, ke kauwā wale ke kanaka*

The land is the chief, the people merely servants

This proverb is written to show us that the needs of the land come first. Only when the land has been serviced and replenished can it properly provide for the people living upon it.
There were many religious restrictions that were enacted by the use of the *kapu* system to maintain proper balance in the ahu. Some of the *kapu* were agriculturally-based between people and resources. Many of these were seasonal restrictions and others were tied to events of the monthly lunar calendar. The goal of these restrictions was to ensure that animal populations could reproduce and that entire vegetable and fruit crops could rejuvenate.

Every Hawaiian that lived within the *Ahupua’a* followed rules and guides intended to create a sense of community. Part of being in a community involves sharing the goods harvested from the land or taken from the sea. The ahu system benefited the land because the land was managed carefully, and was thought of and cared for, as a member of the family. The *kapu* and *Ahupua’a* system is seen or should be seen by many as an excellent model for resource management and environmental sensitivity.

For those who chose to abuse the *kapu* guidelines, there were harsh punishments put in place. In many situations the person or persons responsible were killed. These rituals were practiced because it was believed that the gods would be angry and bring forth impending doom for them all. When balance was achieved, the restrictions of the *kapu* could be lifted and the resource could be used once again.

The *kapu* system and its influence on the *Ahupua’a* and other land management operations was very practical, because Hawaiians realized that greediness and mistakes would affect the lives of thousands of people. It is puzzling to know that Hawai‘i was once a place that survived without importing any resources. It saddens me to know that we could do the same today, but instead, we have become a state that is almost completely dependent on imports.

The way we currently interact with the environment is radically different from the goals of our ancestors. Everyone here in Hawai‘i knows the concepts of the *kapu* system and the *Ahupua’a*, and now is the time to start practicing the traditions of our
ancestors instead of keeping them bottled up in historical texts and story books. These ancient guides, the kapu, and the ahu, are the best guides to designing for environmental sensitivity, and sense of place. These guides should be used when designing this rail proposal or any other mass transit option that is to be considered.

Summary
It is increasingly difficult to reconnect with the natural world in a meaningful way especially when compared to how the ancient Hawaiians interacted with their Ahupua’a. With dedication and hard work, and incorporating some of these principles into our designs, we will be able to design a rail system that has a cultural sense of place that follows the guidelines of the Ahupua’a and the kapu system, and has a positive response to Hawai’i’s climate, location, and ecosystems.
CHAPTER 5:

AN IDEAL DESIGN STRATEGY FOR RAIL IN HAWAI’I
The Design Strategy/Process for Rail in Hawai‘i
An Ideal Design Strategy for Rail in Hawai’i

Using the lessons learned from our ancestors, I have devised a design strategy for rail and other transportation projects in Hawai’i. This process stresses research as the key to creating a rail system, building, bus stop, and even park bench that is sensitive to its place. Projects such as this one will affect a few hundred-thousand of the island citizens; therefore failure is not an option. The only way to succeed is through the use of the three principles outlined in the preceding section. We should use these lessons in the design and keep in mind that the decisions we make could change Hawai’i forever.

The intent of the design strategy is to guide the planner’s, architects, and engineer’s course of action throughout design phases. However, the three core principles, especially the first of community interaction and involvement should be addressed throughout the entire project timeline. This process challenges yet guides the multitude of practical and ethical decisions made throughout urban planning and architectural design phases. This design strategy could be thought of as a Hawai’i cultural design code that has the ability to appropriately relate all future projects to their place.

The Design Strategy/Process for Rail in Hawai’i

1. **Historical and Physical Research** – The first stage of the design process involves two types of research that can be used to gather information about the project. The design team begins research into the history of Hawai’i, vernacular architecture of the Pacific, and the traditions and cultural lessons of the various ethnicities in Hawai’i.

   In addition, participating in physical research will be accomplished by driving, riding TheBus, and in carpooling/vanpools during the morning and evening commute on the H1 freeway. Participation will not be the only
requirement for the physical research process. Complete and concise documentation of the commute is of vital importance, by means of pictures, video, or hand written data of deficiencies in current transit options that contribute to lowering the quality of life for our islanders.

The goal of the first phase is to experience, first hand, the modern day commute to town, and to broaden conceptual design possibilities by observing culture and tradition through movement in the landscape, relating how ancient circulation patterns can occur in the modern city.

2. **Research Expansion and Conceptual Design** – Site, climate, location, and user input is information used by architects and planners to set a framework for the future design.

In addition, this phase should be used to expand the design team’s knowledge of different rail systems from across the globe. The more options that are analyzed for type, size, technological advances, applicability to place, and available power resources, the easier it will be to determine what is most appropriate for Hawai‘i.

One key idea in this phase is to integrate a new system into the existing movement patterns that require greater access to multiple transit services. The design team should also identify how a major expansion, restructuring, and rerouting of the existing bus system will coincide with the future rail project. The research in this phase will be used to provide possible routes and station locations. When these conceptual designs of rail technology and alternative routes are complete, they would then be viewed by the community through preliminary consultation.
3. **Preliminary Consultation** – In the previous phase the design team created multiple conceptual designs for the proposed rail system based upon the historical and physical research completed in phase one. Phase three now requires expansive consultation in the community. It is important to know the needs of the community on a more intimate level. Consultation is the only way that this project will take shape in a manner that will benefit everyone.

One of the many goals of this phase is to empower the community by giving them the opportunity to provide feedback on decisions that influence the outcome of the rail project. However, it is our professional and ethical responsibility to mentor the community, and to provide for them the information necessary to make tough decisions. Although we want the community to make decisions, it is also understood that we may have to override some of the choices made, especially those that are proven to have a negative outcome in very similar situations. We reserve the right to overrule certain decisions because of our formal training in planning, engineering, design, and our professional knowledge base; however, it is also our duty to justify the decision.

**Reflection**

The preliminary consultation process is the first determining factor for the future of this transportation project. If surveys, community meetings, and forums show that the public is not convinced, and that the project cannot attain its requested goals, then the proposal needs to be reconsidered.

It would be wise to go back to the beginning of phase two and develop more conceptual designs and research strategies for rail routes and stations. We as designers, planners, architects, and engineers should not be afraid to go back and identify the issues, no matter how little the mistake may be. Doing so will benefit everyone involved.
4. **Benefits for the Community/Schematic Design** – Major decisions are made during a schematic design phase. In this design strategy, phase four applies the results of the conceptual designs and preliminary consultations into schematic designs for the route, stations, and guideway. The goal is to create a set of useful information, which can be used for the next phase of the project.

During schematic design, designers and community turn simple sketches and diagrams, created in the conceptual design phase, into detailed drawings that have some spatial definition. Sustainability of the site and of the rail stations multiple structures occur through several channels, for example, Hawaiian beliefs, traditions, and practices should be incorporated into the design.

Expanded research of culturally appropriate design strategies for Hawai‘i and the benefits of rail in this phase should help give the community a better outlook of the project.

During this phase, one of two things may occur. One, there will be universal agreement with what was created and the project will move forward, or two, there may be major changes in the overall design, which will impinge on the budget, and in some cases, the existence of the project itself.

If this rail system is to benefit the community, then station designs, guideways, and other facets should reflect our culture, sense of place, and local way of life. Using the three principles as guides to the schematic design will continue to make the project connect to the needs and benefits of the community.
5. **Feedback One** – Professional, political, and community feedback is essential to the success of the project. Being critiqued allows the design team to expand their vision, point of view, and knowledge base. The response of peers is useful. Contractors, engineers, and other disciplines can provide an outlook on affordability, budget, and constructability through cost estimates.

   Expansive consultation with members of the community is the primary way that the design team will be able to get pure response pertaining to the function and aesthetics of station and railway designs, their relation to place, and their conformity to the three principles of design.

6. **Design Phase** – This stage of the design process explores the economic and technical feasibility of the design. Feedback from the previous phases should be processed, and evaluated. The designs should reflect previous research conducted. One or two designs will be isolated and pursued as the preferred selection made by professionals, politicians, and the community.

   Design documentation in this phase tests the project’s program, systems, and construction costs. It is the point at which collaborative efforts of architects, engineers and consultants combine to achieve the goals of the proposal.

   The design documentation process will continue to change and evolve. The end result is the advanced planning and development of the project in a way that protects the design from major alterations in the future phases.
7. **Feedback Two** – By this point, it should be relatively apparent that professionals, politicians, and the community have either jumped on board with the project, or major changes need to be made. Feedback can be acquired in the same fashion as in previous phases.

8. **Decision/Realization** – This phase begins when the project is seen as a viable solution to all of the issues put forth at the beginning of the project. The design should conform to the three design principles before moving on. Communication through expansive consultation is the key to success in a project of this type, and it must be continued throughout this phase and beyond.

   Assuming that the design has met all of the aforementioned criteria, this phase is now primarily dedicated to detailed development for construction purposes. This set represents the merging of engineering, architectural, and other disciplines. It is an essential part of the final design process.

   In some cases this phase is also where designers lose their ties to culture, place, and benefits for the community because of restrictions brought about by building codes and other creativity blocking elements. The design team has the chance to design a unique rail system and they should not let the restrictions of this phase discourage their creativity.

   This phase represents the final opportunity to make or break the project. The design team is not only making the project a 99% reality, but they are interpreting the needs and wants from almost the entire island of O’ahu. The results of this set will determine the economic fate of the state, the future architectural styles of the island, and the Hawai‘i sense of place for many, many years to come.
CHAPTER 6:

AN INTRODUCTION TO PART II
An Introduction to Part II

Part III of this thesis involves researching, analyzing, and preparing a comparative analysis of four schemes for a mixed use transit center for the Honolulu Area Rapid Transit Project. The site and location chosen is one of the most highly debated locations for the entire project, the Downtown Honolulu Transit Center.

The proposal is an adaptive reuse project of the Hawaiian Electric Company (HECO) power plant adjacent to the Aloha Tower Marketplace at Honolulu Harbor. For the purposes of this analysis the Downtown Station, is now renamed the Downtown Transit Center. The initial idea was to reuse a local eyesore, to offer the downtown community a Transit Center that encompasses Hawaiian aspects of tradition, theory and design as an alternative placement and strategy of the current rail proposal.

This project’s original objective was a single proposal of a traditional schematic design phase of an architecture project. Instead it has become a Comparatives Analysis of conceptual design proposals. Four distinct strategies/designs are explored. Each situation addresses different approaches to architectural and cultural design.

A site analysis explores various aspects of Downtown Honolulu, from the history and use of the area, to the vehicular and pedestrian movement in and around the site. A site and building analysis, along with chapters four’s “Three Fundamental Principles” derive a guideline of seven key principles that together drives the conceptual site planning and building design using cultural practices and tradition, theory, and history in both an ancient and modern day context.
CHAPTER 7:

HECO SITE / BUILDING ANALYSIS

History of Honolulu Harbor/HECO Location
Current Downtown Land Use Patterns
Buildings Analysis
Selecting the HECO Site
How the HECO Site Can Serve as a Benefit for the Community
Response to the Environment and Site
HECO Site/Building Analysis

The site analysis of the HECO power plant is associated with the historical and modern day use of the area and its adjacent properties. This chapter is a direct result of the process outlined in the Ideal Design Strategy in chapter 5. At this stage of the design process, it is expansive consultation and research, an underlying principle of the design strategy that is the first and possibly most crucial step needed to adequately understand the scope of the overall project. The sections that follow explain why the HECO site was chosen for the adaptive reuse and conceptual design portion of the thesis.

History of Honolulu Harbor/HECO Location

In order to design for a project of this scale and importance at the downtown Honolulu location, a considerable amount of expansive consultation is necessary through research of historical documents, texts, and interviews with elders, the community, and others who possess a large amount of knowledge about the area.

The name Honolulu is a loose translation of the term “Fair Haven,” a name given to the area by Captain William Brown of the H.M.S. Butterworth (Great Britain) who was believed to be the first to navigate his way into the harbor in 1794. He had noticed that the channel was deep enough for the ship and exceptional anchoring points in the area that could provide for a large number of ships to dock. The popularity of the area grew into what we know as Honolulu Harbor today. But the name Honolulu does not belong to a harbor, but to a district having “abundant calm” or “a pleasant slope of restful land.”

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Kamakau writes, “Honolulu was a small district, a pleasant land looking towards the west, - a flat land, with flowing streams and springs of water, abundant water for taro patches. Mists resting inland breathed softly on the flowers of the hala tree.”

According to the writings of W.D. Westervelt, Honolulu was possibly a name given to a very rich district of farm land near the junction of Liliha and School Streets, because the chief of the area was Honolulu, one of the many high chiefs at the time of Kakuihewa, the ali’i nui (king or highest ranking chief) of O‘ahu.

Pre-contact Honolulu was once a fishing village named Kou, after an ilāmuku (executive officer, marshal) for Kakuihewa. The larger district of what is now known as Honolulu is the combination of many smaller areas from Pu‘uowaina or Punchbowl on the slopes of the Ko‘olau mountain range, to what is now Honolulu harbor. At the time of Kamehameha I, the Honolulu area was often referred to as Kou. The term itself appears to have been a small district as Kamakau suggests, but today is loosely defined as being between what is now Hotel St. and the Pacific Ocean (mauka to makai), and also between Nu‘uanu Ave. and Alakea St. (East – West).

Waikiki was not the only surf location associated with the Honolulu area, the outer entrance of Honolulu Harbor was also a surf site. Named Ke kai o Māmala (the sea/ocean of Māmala), after a chiefess named Māmala who loved to play Kōnane (Hawaiian checkers), drink ‘awa and ride the surf.

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41 David Malo, Hawaiian Antiquities (Moʻolelo Hawaiʻi. Translated from Hawaiian by Dr. N. B. Emerson 1898, (Honolulu Hawaiian Gazette Co. Ltd. 1903).
There are many other places that are included in and bordered Kou. For example, the drowning of the Kauā (lower class of servants) often took place in the waves of nearby Kewalo. Makiki was known for its rather dry lands with small trees and shrubs, and its abundance of rats. Kawaiha’a, site of the famous church of the same name, was the location of a fountain of water belonging to Hao, another chief of the area. Kekaukūkui was the place where small Kōnane were laid. Kekūanaō’a, father of Kamehameha V built his home at kekaukūkui. Honoka’upu was not far from Richards and Queen Streets, and was a place noted for the playing of the game Ulu Maika. Sacrifices were performed at Punchbowl and Waolani (the wilderness home of the gods). Waolani was a small valley in the much larger Nu’uanu Valley, which is inland and borders Kou.

Legends and stories of commoners, gods, kings, and other mystical beings could go on forever. Today, most local residents have some knowledge about Honolulu Harbor, how the area was used for the main economic sustenance for the island and for the nation since before the time of Kamehameha.

From whaling to the exporting of salt, pineapple, sugar, coffee, sandalwood, bottled water and the marketing of tourism to the rest of the world, Honolulu Harbor has important economically, politically, and strategically. 45

Honolulu Harbor and the rest of the district served very diverse and important purposes during ancient times. The design of the rail station should reflect this diversity. This harbor is also the modern day epicenter for the circulation of commerce throughout these islands and the rest of the Pacific. Perhaps the design should also reflect the modern day importance of the area.

Current Downtown Land Use Patterns
Current land use patterns of downtown Honolulu and Honolulu Harbor have some similarities to ancient days. For example, today the downtown area is the epicenter for a majority of commerce in the State of Hawai‘i, as it was in earlier times when trading with sailors from various countries was the primary economic activity. With the influx of traders, whalers, missionaries, and even naval vessels from Britain and America, Honolulu Harbor was and still is the main shipping port for the state. Today, many of the vessels in and around the HECO site and the adjacent Aloha Tower Marketplace are used for tourism. Adjacent docks from downtown Honolulu, Kaka‘ako, and onward to Sand Island, serve as ports for diverse shipping purposes.

The layout of the downtown district is a relatively simple grid and is situated in a mauka to makai pattern. Most of the city is designated for commercial purposes. There are also residential areas intermixed with these businesses. On the eastern side of the downtown Honolulu area is the public/civic sector which includes the state capitol, ʻIolani palace, Kamehameha Statue, and other areas/buildings with important cultural and civic ties.

Figure 7: Map/Grid of Downtown Honolulu

One of the many comments made by opponents of the rail proposal is that prominent view corridors from *mauka* to *makai* will be blocked.46 In the situation of downtown Honolulu, expansion and verticality of the structures in the area already block ancient view corridors. However due to the layout of the current city grid, newer view corridors have been created from *mauka* to *makai*. The buildings in the downtown district frame various views of the harbor, the Pacific Ocean, shoreline structures (i.e. the Aloha Tower Marketplace and the HECO power plant), and the various modern and historical ships in the harbor.

Roads and highways in the overall area of the transit project are of a different design pattern, when compared to common circulation patterns in the traditional ʻ*ili* and *ahupua’a* settings. Main roadways (more than 4 lanes) on Oʻahu’s Leeward Corridor (a study area for the rail project determined by consultants for the City and County of Honolulu) are positioned in an East/West fashion. This is the result of expansive sub-urban sprawl of single family residential districts on the west side that were introduced to the Hawaiian Islands post WWII. Due to the high number of residents on the west side, and the majority of jobs located on the south and east sides of the island, some 80% of the population in these areas travel from the West Side and North Shore into the Downtown/Ala Moana/Waikiki areas.47

The H-1 freeway is designed to connect people to the eastern and southern ends of the island for work and educational purposes, so it does make sense that highways within the downtown Honolulu city blocks operate in the same parallel direction. However, from the Hawaiian perspective, East/West travel between *ahupua’a* and ʻ*ili* was not very common. Most traveling was done within the ahu itself, except when the members of one ʻ*ili* or ahu needed to trade with another nearby community for subsistence purposes. There was however the King’s Trail running perpendicular

47 Department of Transportation Services, City and County of Honolulu, Mayor Mufi Hanneman. “The Honolulu High-Capacity Transit Corridor Project, Alternatives Analysis Report,” November 1, 2006
to the alignment of the ahu’s and 'ili’s, but close and parallel to the seaside. This was used by the ali‘i during the makahiki season, a time of peace, games, and procreation, when the ali‘i would go from ahu to ahu (village to village) to collect taxes from the commoners.48

Roadways which follow the general movement pattern from mauka to makai (and vice versa) in the Downtown area provide most of the access points for buildings in the vicinity. These roads are also a large part of the ancient view corridors that should be protected as a part of the rail project. If the streets and pedestrian sidewalks become larger a greater connection to the view corridors of the past would develop. In order to achieve this, our political system needs to rethink the typical practice of connecting the H-1 freeway on the slopes of the mountain, to the South Nimitz Highway, and in this situation, the HECO site at Honolulu Harbor. Please refer to the maps on page 74 and 75 for more information about the Site and the Honolulu Harbor Area.

Building Analysis

Accessing site data, obtaining construction drawings for the HECO power plant, and touring the buildings were prohibited due to anti-terrorism guidelines. Therefore most of the construction type, style, and structural layouts are based on documenting the external shell of the structures and making educated guesses about the internal conditions. Even at 55 years old, the HECO buildings seem to be in good condition for an adaptive reuse proposal.

Assuming that the structural integrity of the buildings has not been compromised due to age, seismic activity, settling, and close proximity to the ocean and salt air, the conceptual design strategy for these buildings, from a Hawaiian point of view, will be to design the rail station to coincide and merge with these structures.

Hawaiians often had to rebuild their structures, *hale* (homes), *heiau* (temples), and *hale wa’a* (canoe house) to name a few. This was done on a regular basis because the structures were built with natural materials that would deteriorate over time in the Hawai’i environment. In most situations new materials, wood, *pili* grass, *ti*-leaf, and sennit rope be gathered and replaced. It is quite easy to assume then, that other materials like different types of stone, coral, and undamaged rope (etc.) would be reused, making every rebuild an adaptive reuse project.

As previously mentioned, the HECO building’s materiality and structure is assumed. For the power plant, it is believed that the primary structure is steel beams wrapped in concrete to create a grid work of columns and beams. Because of the longer than usual spans needed for large electrical equipment, another assumption is that steel trusses span the width of the roof, similar to those found in a common warehouse (i.e. Costco and Wal-Mart). For the exterior, concrete panels and steel louvers are parallel to each other. They wrap the entire structure and run the full height of the façade except on the ocean-facing wall where there are no louvers. Machinery, scaffolding, and other steel structures, including staircases, on the interior of the power plant may be attached to the primary structure. However, it can be assumed that these elements do not support that structure.

The building adjacent to the power plant is currently a multi-use building. During a site visit, there was an opportunity to look into the two main buildings through a delivery/loading dock gate. From this gated area the structure of the building could
be seen, but again, sizing, placement, and the overall layout of the interior spaces could not be determined. Photographs were taken during the visit (not of the interior).
It is believed that there are offices on the front half of the main building and in the smaller subsidiary buildings. The final set of assumptions made is based on photo analysis. First it is assumed that the building’s construction method and materiality is cast-in-place concrete, which would allow for parts of the façade to be removed and reinforced if necessary. Second, most of the makai side of the building is used for delivery, storage and supplies. Third, housed within this building are towers that I believe to contain fuel, oil, or water. These towers span the full height of the interior of the structure.

Selecting the HECO Site
This site was selected because of various choices and design decisions made by the City and County of Honolulu and their primary engineering consultant, especially those pertaining to the current route and station location. The City and County’s chosen site for the downtown station is on South Nimitz Hwy., elevated above the center median, and positioned between the existing HECO power plant on the makai side, and the Grosvenor Center on the mauka side.

I have chosen to move the station onto the power plant site to promote an adaptive re-use project for the outdated structures. It is my opinion that adaptive re-use is a strong Hawaiian concept that needs to be nurtured and heavily promoted in a city where history and culture are of great importance. The HECO buildings are no longer in their prime, and are in need of rehabilitation and could serve as a transit stop.

The comparative analysis cannot occur without a few assumptions being made. These assumptions accept design decisions that were made for the current City and County design even of clarification is needed for depth of research, consultation,
services provided to the community, and true environmental impact. The first assumption is that the rail route through downtown should not be moved because of the politics involved in such a change or because the location is actually the best choice to serve the needs of the area. Therefore, choosing another building for an adaptive re-use project in a more central location of downtown (on King St. or Hotel St. for example), was not considered. The second assumption is that the rail line will remain elevated because the switch to at-grade or subway type rail systems may be too expensive to re-design or re-engineer. It is commonly known in our field that the latter is true, that the change to a subway system would be too costly because of infrastructure changes to the city streets. Also the proximity of the rail line to the Pacific Ocean and a high water table would require added engineering costs.

How the HECO Site Can Serve as a Benefit for the Community

Over the years there have been a few proposals for the HECO site as a re-development project for the Aloha Tower Marketplace. For most, if not all of these proposals, the HECO site has simply been removed, and the area converted into a park or a parking lot. The adjacent parking area on the southeast side, currently used for employees or customers of the Aloha Tower Marketplace, would be turned into a mid-high rise apartment or condominium. Although these past proposals would have some benefits for the downtown area, they primarily benefit separate aspects of the community as individual entities instead of unifying them. Developers have assumed that if the site brings in residents, then those residents alone will shop, eat, play, and work all in the same area, with some overflow from the nearby rail station.

The goal should be to benefit the entire community, the HECO site, downtown commercial and business centers, the rail station, nearby boat harbors, marketplace,

49 Refer to the Aloha Tower Development Corporation web site @ http://www.alohatower.org/ for more information. Also, read a story about a recent proposal Tower of trouble, Critics say the state agency created to develop the Aloha Tower area into a world-class harbor has floundered, by Mark Niesse, POSTED: 01:30 a.m. HST, Sep 14, 2009, http://www.starbulletin.com/business/businessnews/20090914_tower_of_trouble.html
and even city parks in the area as a unified entity. Because of the central location of the HECO site and the connection that the area has historically it is possible that the rail project and its adjacent sites can serve/benefit all levels of the community equally and perhaps even add revenue resources to the area.

The construction type of the HECO buildings allows for practical deconstruction and modification to serve the needs of a rail station. The modified buildings can include new uses such as a business hotel, offices, meeting rooms, retail, or residential units. The opportunity for merging the needs of many individuals in the downtown area is perceptible. However, a restoration of the HECO site alone may not be a large enough change to draw a significant amount of tourists, employees, and residents (who are all potential rail riders) into the area so that the Aloha Tower Marketplace and other downtown commercial businesses can become a viable economic reality.

The ultimate benefit for the community will be to redesign the entire area with one central programmatic focus to create a gathering place at the center of the surrounding harbors, park grounds, future rail station, central business district, and the Aloha Tower Marketplace. The creation of a gathering place would honor the site’s historic meaning and would address the needs of community revitalization.

The creation of a gathering place means that there are other improvements that need to be addressed. Pedestrian access to the site should undergo measurable safety improvements. For example, all-way crossings, pedestrian bridges and/or tunnels can be included to ensure public safety. There are also bus, taxi, and vehicular pick-up/drop-off changes that can be made on the HECO site. Changes also need to be made for vehicular access points. Once this is accomplished, improvements to parking areas and transit infrastructure can be introduced. Additional parking could be possible as long as the parking solution conforms to the Three Fundamental Principles and the Ideal Design Strategy for Rail in Hawai‘i from chapters 4 and 5.
Response to the Environment and Site

With sustainable architecture at the forefront of nearly every modern design project, the environmental benefits in the design of the whole site is essential not just a secondary item when compared to designing the primary building/structure. The truth is that no matter the size of the site, designing the ʻaina to meet the same sustainable requirements is just as important as the structure we place upon it. If a gathering place strategy is to be fulfilled, then the design of the site is more important. The benefits that this site can offer back to the surrounding environment will then coincide with the sustainable developments of buildings and rail station.

Aside from the suggestions included in the basic LEED standards for site design, there are larger scaled changes to the function of the site that can be made to increase the benefits to the environment and the community. For example, there is an opportunity to create major parkways and greenscaping along South Nimitz Hwy. The design could also create a connection from the makai entrance of Fort Street Mall to Irwin Park and the Aloha Tower Marketplace, onward to the HECO site and piers 6, 7, & 8 (highly used for tourism). This can be accomplished by reallocating one of the HECO buildings to absorb vehicular parking needs for the area, and in return, parking areas at Irwin Park and the far side of the HECO site would be given back to the environment to create a “green beltway” from one end of the downtown blocks to the other.

Summary

This analysis of the HECO buildings and site are examples of issues, ideas, and changes that could be accomplished with forward thinking and Hawaiian cultural design strategies at the forefront of architectural design. There are other things that could be added to these ideas that could make much bolder and stronger statement in the revitalization of the downtown community. These ideas will be introduced in chapter 10, the Comparatives Analysis.
Site Location/Proximity Map
Chinatown - Downtown - Kakaʻako
CHAPTER 8:

POTENTIAL PROGRAMMING
Potential Programming

Programming in this project changes as four conceptual designs are presented. There is a range of possibilities for the urban infill of major programming items. It should be noted, not all of these spaces will be included in each design. Some of them are left out because of available floor area in the design. Others simply do not fit the concept.

- **Station**: Circulation items are the concern at this stage of the design process. Smaller programmatic items are not included on the list.
  - Elevators, escalators, staircases
  - Recycling area/room, or just an area for bins
  - Turnstiles/ticket booths/disabled access

- **Hotel Lobby/Station Lobby**
  - Front desk and circulation items.
  - Men’s and Women’s restrooms on the lobby level.
  - Small bathrooms
  - Break rooms
  - Manager’s offices

- **Business Hotel Rooms**
  - Single Occupant, small room with desk. No couches, chairs, or dining tables. Rooms intended for a business person who desires only an overnight stay.
  - Double occupant, small room with amenities, some subsidiary furniture.
  - Standard hotel rooms, suites, and penthouses.

- **Serviced Apartments**
  - Apartments in addition to hotel rooms. Laundry and maid services.

- **Pre-School/Daycare**
  - Childcare options close to the workplace is a good alternative.

- **High-tech Conference/meeting rooms**
  - Alternate location for meetings to increase transit outside of office ridership to eliminate excess traveling for a business person on a short trip to the island.

- **Restaurants, Lounges, Bar, Grill, Karaoke Bar**

- **Retail spaces**
• Gym/Spa Facilities
• Auditorium
• Open patio spaces for personal time/space
• Outdoor dance club
  o Could be located on the rooftop of one of the buildings
• Pedestrian bridges
  o Bridge between buildings and from across S. Nimits Hwy.
• Car rental/tourism style kiosks in lobby
• Food vendors outside, possibly a Saturday market in Irwin Park
CHAPTER 9:

DESIGN GUIDE

Kahua
Palena ‘ole
Koiele
Kilohana
Lau Nahele
Kāpala
‘Ikena
Design Guide
The design guide for this comparative analysis and the terminologies and key terms associated with it are applicable to all areas of this project, from landscaping and site circulation, to the buildings aesthetics and theme. The following design principles are a newly formed set of guidelines that are derived from the original three fundamental principles in Chapter 4. The principles of this design guide makes a connection to Hawaiian history, beliefs, customs, and practices. Many of the terms are derived from cultural design techniques and theories in Hawai‘i. The following explanations and definitions of these principles are interpretations of previous research conducted as a part of Chapter 7.

1. **Kahua** - Foundation, base, site, location

Design Principle: *Foundation*

Having a strong foundation is the key to sustaining life. Researching the history of the Hawaiian people will create a base for various concepts. Historically, Downtown/Honolulu Harbor is very important. Past ali‘i built homes in the area. It is a place of power, both physically and spiritually. As previously discussed, Honolulu Harbor was the main economic center in ancient times. The site itself is close to rivers, fishing, farming and other aspects of wealth and power on the Kona (south/southwest) side of the island.

Today, downtown Honolulu is the epicenter for our city. A large percentage of the job market is located in this district. ‘Iolani palace is built in the area. Most political, judicial, and economic operations are located within the city limits.
2. **Palena 'ole** – Boundless, without limit; **one 'ula** – Vast, great, without bounds; **Mānoa** – thick, solid, vast

Design Principle: *Openness*

Although Hawaiians are a people who had a structured family system, community, work life, and religion, in general they were a people who were “Free to roam.” They were not inhibited by the city model and we should not do the same. The design goal should be to release pedestrians from the typical city block. At ground and circulation levels, the design should be open and free, but still easy to understand without the need for excess signage. The buildings themselves can be open to engage the user with outside elements while still providing adequate shelter for the community.

3. **Koiele** - To move to and fro restlessly, like the sea; **ʻaʻau** - To move here and there, wander, rove; to ripple, like the sea

Design Principle: *Circulation, Fluidity*

Flow, Movement, and Progression are the words that come to mind when designing circulation areas of a site, building, and rail station of this complexity and importance. How does one design the project as a progression to the future? The Movement of the body through site/space should be fluid but directed because the ocean fluid, but its waves have a purpose. People are restless like the sea when they finish work, those long days at work, tempers ready to crash upon someone or something that gets in their way. Therefore, circulation design should be simple and easy, no thought should go into how one needs to maneuver through to station platforms. The site plan and rail station design should be fluid and should represent a progression of our cultural design techniques beyond the stagnant ways of our recent history.
The association of fluidity and circulation to our cardinal directions:

*Komo* (Entry) *Kaʻi* (walk or lead in a row or procession)—Sun rising in the East—birth (*Hānau*)—life (*Ola*)—start of the day, coming to downtown from the west to the east, arrival

North—partially open to the elements of the rain and the winds—life sustaining factors of the Hawaiian community

South and West - *Hoʻi* (leave, exit)—sun setting, directional movement of the people from downtown in the east to homes in the west—blocking of the direct sunlight by vegetation or semi-porous membrane

4. *Kilohana*—Hillock, heap, lookout, top, view out, high point; *wahi*—Place, location, position, site, setting; *hālona* - Peering; place from which to peer, place to peer at, lookout

Design Principle: *View Corridors*

Protecting view corridors from the mountains to the ocean has long since disappeared with the development of high rise buildings on every city block. The plan for this rail station provided by the City and County of Honolulu is to place the station above the busy street below, blocking off entire views of the ocean, sun and sky, surrounding city, and skyline. The goal now should be to reestablish these view corridors by adapting or merging the transit center with another structure in the urban context.

Ideas for protecting view corridors:
- Use an existing building for the station and circulation
- Place the station on the same site as an existing building, then use the building for circulation processes
• Create a whole new structure, possible a mixed use high rise structure that contains the rain station on a site, versus hanging above the street

• Use the design of the downtown blocks; replicate the view corridor that is created from the *mauka* to *makai* orientation.

5. **Lau nahele** - Plants, forest growth or leaves, herbs, greenery.

Design Principle: *Green Verticality*

Hawaiians try to improve everything we inhabit. Our parents have always told us to leave a place/location better than we had found it. The goal for this project is to follow the Hawaiian theory of replenishing the ‘*aina* (land) with what we had taken from it. *Malama ‘aina/Aloha ‘aina* – Taking care of the land/loving the land. We should follow the laws of the Hawaiian Labor System. One of the rules is to never take more than what we need. For the designing of this transit center we should only use the amount of building and land space that is required to service the needs of the project and community. If more space is needed, then it should be required that the designer incorporate greenery into those spaces.

Designing of the site/buildings/parking should be done in a way that moves the landscaping away from flat and horizontal, and changes it to vertical. This can be done with the use of Green walls, atriums, and green spaces that move and flow through the buildings. Another way is to bring the vegetation level, above current grade level.

6. **Kāpala** – Printing, stamping, blot, daub, to stain; *waihoʻoluʻu* - Color, dye, coloring liquid

Design Principle: *Applying Color*
There is an epidemic of Hawaiian design and Hawaiian sense of place being associated with a neutral earth toned color scheme. Just because most colorful items for Hawaiian people were associated with clothing and adornments, it does not mean that these colors cannot apply to the interior and exterior aesthetics of a building.

Hawaiian color palette (examples)

1. ‘Ōlena – yellow
2. Pala’ā – Brownish
3. Charcoal of the ‘Ōhi’a – Black/Greys
4. Bird Feathers of nearly every color

There are other ways that color can relate to the project. If an ali‘i lived in the area, then their personal color may be of use. There may be a certain flower or plant that grew in the area with a hue, texture, or color that could be incorporated into the building design. This is also where researching the historical context of the site is of importance.

7. ʻIkena – View, seeing, knowing, association, scenery, knowledge

Design Principle: Ocean perspective

The ocean perspective and how it relates to the design of this project can happen in multiple ways. In the old days, coconut groves showed fishermen the way home for by reflecting its green color upon the clouds. Today, it is high rises that would guide fisherman to the location of Kou and Honolulu Harbor. Scenes of Honolulu are often captured by boat/plane/helicopter and for locals this is a recognizable point of view. Surfers have a great perspective of the landscape from the ocean. They know the importance of how the downtown area is perceived from the sea.
Looking out upon the sea from Downtown is another perspective of the ocean. Designing the site and the buildings to take advantage of these views reestablishes view corridors and orientation of the individual, building and landscape elements.

Not only were Hawaiians free to move about the land, but the seas were of importance for movement as well. The ocean was and is a pathway for the movement of our entire culture across the vast Pacific. Over 6000 years of evolution and navigation have given Hawaiians an immeasurable knowledge of the oceans; therefore how the structure and site looks from the sea should be taken into account when designing the transit center.
CHAPTER 10:

COMPARATIVES ANALYSIS
Design 1: Modern Industrial
Design 2: Visual Corridors
Design 3: Extension
Design 4: Fluidity
Comparative Analysis

This Comparative Analysis consists of four conceptual designs. Floor plans, circulation (building and site), primary spatial organization (which includes a potential program), and overall aesthetic value are shown for each design. The four situations address different levels of cultural design. They follow the three principles outlined in chapter 4, the design strategy of chapter 5, and include principles from the design guide of chapter 9.

The following assumptions are applied to each of the four designs: First, it is assumed that expansive consultation has already taken place and that these designs reflect various amounts of research and interviews conducted in earlier phases of analysis and programming. Second, each of these designs has been left intentionally incomplete. They are preliminary designs level because it is this designer’s intention to convey concepts of how the strategies and principles of Hawaiian design can be interpreted for a high-tech mass transit project in a culturally based society.

Modern Industrial

The concept for Design 1 is to design a station that engages the HECO buildings by penetrating the structure. The station now becomes an extension of the power plant. This concept represents the city of Honolulu moving into the future. The goal is to update the older buildings by giving them new materials and splashes of color without total deconstruction and remodeling of the overall aesthetics of the buildings.

Design 1 has been dubbed Modern Industrial. The power plant façade has been partially deconstructed to house the rail station. The adjacent building is designed to serve mainly as a business hotel. The other buildings and towers on the site are removed to open the site and station to the natural environment and surrounding spaces. The power plant now becomes the kahua for koiele into and out of the city. Koiele through the interior of power plant is designed to continue the mauka to makai movement similar to the pedestrian movement within the downtown city blocks.
The buildings resemble the original style with one big difference, the merging of the rail station with the power plant. The ʻikena and Hālona in and around the site remain unchanged. The renovation allows the rail station to go through the structure. For this design, the internal machinery from the plant will be removed and an independent structural system would support the rail line, the circulation deck, and platforms. Other programmatic requirements fill the remaining space.

The design represents a positive reuse of the outdated power plant. This is a connection to the cultural tradition of the Hawaiian people. Hawaiians often rebuilt and reused their structures and materials, knowing that materials in an island setting could not last forever unless managed properly. In response to the environment, lau nahele is established through simple planter boxes on the makai façade (where most of the business hotels rooms will be located because of the view of the harbor, pacific ocean, and the sunset) and a green wall on the mauka and makai sides of the station that will absorb heat during the sunrise and sunset hours.
Design 1: Ground Floor Plan

Key:
1 - Ewa Entry
2 - Elevator core 1
3 - Men’s Bathroom
4 - Women’s Bathroom
5 - Loading Dock and Back of House Operations
6 - Elevator Core 2 (Pit)
7 - Mauka Entry
8 - Spaces Available for Lease
9 - Makai Entry
10 - Diamond Head Entry
11 - Elevator Core 3

Scale: Feet
0 25 50 100

Guideway and Station Above
Design 1: Level 1: Lobby Plan

Key:
1 - Open to ‘Ewa Entry Below
2 - Elevator core 1
3 - Lobby Area
4 - Hotel Front Desk and Back of House Operations
5 - Elevator Core 2
6 - Open to Mauka/Makai Entry and Retail Below
7 - Lobby Lounge Area

Guideway and Station Above

No changes to Station at this Level

Scale: Feet
0 25 50 100

Design 1: Ground Floor Plan
Design 1: Level 2: Plan @ Circulation Level

Key:
1 - Open to ‘Ewa Entry Below
2 - Elevator Core 1
3 - Available Lease Space
4 - Back of House Operations
5 - Elevator Core 2
6 - Open to Mauka/Makai Entry and Retail Below
7 - Circulation Space
8 - Ticket Machines
9 - Turnstiles
10 - To Mezzanine and Ala Moana Bound Platform
11 - To ‘Ewa Bound Platform
12 - Elevator Core 3
13 - Space for Lease
14 - Sun Deck

Guideway and Station Above

Scale: Feet
Design 1: Cross Section @ 1/32" = 1'-0" (Looking ‘Ewa)
Key:
3 - Makai Entry
4 - Mauka Entry
5 - South Nimitz Hwy.
6 - Circulation Mezzanine
7 - Space Available For Lease
8 - Elevator Core 3
9 - Ala Moana Bound Platform
10 - 'Ewa Bound Platform

Design 1: Cross Section @ 1/16” = 1’-0” (Looking ‘Ewa)
Design 1: Modern Industrial
Pros of Design 1

• Because the buildings on the site will be mixed-use, the new Downtown Transit Center site becomes the center of attention and the *kahua* for *koiele* and movement into and out of the city.

• The design represents a positive reuse of the outdated power plant.

• *Koiele* through the interior of power plant continues the *mauka* to *makai* movement similar to that of the downtown city blocks.

• In response to the environment, *lau nahale* is established through simple planter boxes on the *makai* façade, and green walls on the *mauka* and *makai* sides of the station

Cons of Design 1

• Although *kahua* and connection to the site is established, there is no reason for anyone to engage the other programmatic elements of the transit center.

• Because all of the *koiele* in the power plant and site focuses on moving people from the street to the station, the business hotel is completely ignored by anyone who does not need to use the building.

• The walking distances across the site could be considered too long for the common user. This is mainly due to the station being located on the far East of the site with most of the pedestrians (business men/women, students, and some tourists) will coming from the Alakea, Bishop, and Fort Street Mall areas.

• One of the many goals of this site should be to reestablish the connection to the ocean, a Hawaiian cultural concept that cannot be ignored. For Design 1 there is no real connection, by way of architectural design, to Honolulu harbor or to the Aloha Tower Marketplace.

• Within the buildings themselves, the circulation spaces and requirements (stairs, escalators, elevators, fire stair, etc) use up a lot of the floor area, therefore taking away from other programmatic elements that could have been included in the design.
• If one of the design concepts was to create a gathering place and to revitalize the Aloha Tower Marketplace, additional programmatic elements, retail areas and gathering spaces on the site would need to be added.

• *Palena ‘ole* is not established or created in the design itself. The buildings are very closed off from the outside and the site does not engage the community as well as it could.
Visual Corridors

The conceptual reference for design 2 is Visual Corridors. The goal is to design the project using small amounts of deconstruction to the site, power plant, station, and business hotel so that a visual connection from mauka to makai and vice versa can be made. The station is independent from the buildings, making the design a mixed use project complete with rail station, business hotel, and a parking structure housed in the power plant. With these changes, the intention is for the site to become the kahua, the center for movement, and an organizational point for the downtown area. Circulation space needed for the rail station is shared with the business hotel, and if the right programming choices support the koiele for these structures, the transit center will become a gathering place for commuters.

The deconstruction of some of the building façade on the lower levels of the business hotel allows for the designing of a kilohana point at the mezzanine level of the station. Framing particular views of the ocean and of the downtown city blocks is now possible. The visual connection that the rail rider witnesses as they move from mauka to makai on the circulation/mezzanine level is accomplished by the alignment of the mezzanine bridge with the business hotels elevator core. In all other areas of the circulation level the connection is made by removing the exterior walls, creating an open air space that can be filled with various programmatic elements. Doing so is how palena ‘ole can be achieved, through an open floor plan with minimal walls and other vertical obstructions in public spaces. Direct lines of movement give pedestrians cleaner and easier circulation points throughout both structures.

Some of the goals for design 2 are that the design itself need not be as simple and straightforward as the previous design, but still koiele and the program should function well. Some of the issues from Design 1 could also be addressed, for example, reestablishing the connection to the ocean (can be accomplished through a kilohana), or minimizing walking distances across the site. As a part of the program for design 2 the power plant has been converted into a commercial parking structure whose structure is
independently supported by its own set of dedicated columns, beams, and floor plates.

One of the benefits for the community associated with design 2, is that this site and the structures upon it is now a mixed use developments that will attract people from various areas of the downtown business district, helping to create a “gathering place,” where users will slow down, spend some time exploring the transit center, and perhaps even spend money by engaging the adjacent sites and developments at or near the Aloha Tower Marketplace.

*Lau nahele* is again achieved with the use of greenwalls attached to the parking garage and rail station for heat mitigation throughout the day, similar to design 1. Planters are again sporadically placed on the *makai* façade of the business hotel where the placement of hotel rooms take advantage of the views of the ocean and sunset. The placement of these planters on the ocean side of the building is also used to break up the ‘*ikena* of these large concrete buildings by adding horizontal bands of greenscaping on the outside of the structure, making them seem wide and long as opposed to high.
Design 2: Site Plan
Key:
1 - Open to Ewa Entry Below
2 - Elevator Core 1
3 - Lobby Area
4 - Hotel Front Desk and Back of House Operations
5 - Elevator Core 2
6 - Open to Mauka/Makai Entry and Retail Below
7 - Lobby Lounge Area
8 - Planter Boxes

No changes to Parking Garage at this Level
Design 2: Level 4: Plan @ Platform Level

- Central Platform
- 'Ewa Bound Guideway
- Ala Moana Bound Guideway
- Elevator Core 3
- Emergency Stair

Key:
1 - Elevator Core 1
2 - Floor Area Available for Hotel Rooms
3 - Back of House Operations
4 - Elevator Core 2
5 - Sun Deck
6 - Roof Top/Possible Garden Area
7 - Existing Rooftop Projection: Skylight/Ventilation

Scale: Feet
0 25 50 100
Design 2: Cross Section @ 1/32” = 1’-0” (Looking Diamond Head)

Key:
1 - Pier 8
2 - Aloha Tower Dr.
3 - Loading Dock & Back of House Operations
4 - Elevator Core 1
5 - 'Ewa Entry
6 - Lobby Area
7 - Green Wall
8 - Lobby Planter
9 - Hotel Front Desk and Back of House Operations
10 - Circulation
11 - Bridge to Mezzanine
12 - Mezzanine
13 - Platform
14 - Station "Shell"
15 - Guideway to Halekauila St.
16 - South Nimitz Hwy.
17 - Grosvenor Center Parking Garage
18 - Floor Area Available for Hotel Rooms

Design 2: View Corridors, Mauka - Makai

Scale: Feet

0 25 50 100
Key:
3 - Loading Dock & Back of House Operations
4 - Elevator Core 1
5 - ‘Ewa Entry
6 - Lobby Area
7 - Green Wall
8 - Lobby Planter
9 - Hotel Front Desk and Back of House Operations
10 - Circulation
11 - Bridge to Mezzanine
12 - Mezzanine
13 - Platform
14 - Station “Shell”
18 - Floor Area Available for Hotel Rooms

Design 2: Cross Section @ 1/16" = 1'-0" (Looking Diamond Head)
Design 2: Visual Corridors
Pros of Design 2

- A kilohana is generated as the commuter moves from the circulation/mezzanine levels through the business hotel creating a visual connection mauka to makai.

- Palena ‘ole in the floor plans allows for easy movement to give the pedestrian free space to roam about the transit center. However, visual cues (signage) will still be needed for directional purposes.

- Engagement of the business hotel, some of its programming, and other operations is nearly unavoidable for rail users, something that design 1 could not achieve.

- Bus/vehicular access and drop off points are in a better location than when in the previous design.

- The benefits for the community of Design 2, is that this site and structures is now a mixed-use development, creating a place where users will engage the adjacent sites and developments at or near the Aloha Tower Marketplace.

Cons of Design 2

- Some programmatic opportunities are limited because of the addition of the parking structure in the old power plant.

- The kilohana positions in the east west direction (Irwin Park to the Aloha Tower Parking lot and pier 6) are obstructed by the power plant parking structure.

- Lau Nahele is not explored to its maximum potential. The use of greenwalls and planters are a crutch for the fulfillment of a design goal. They are not enough to make a visual connection, nor actual representation of real vertical greenscaping.

- The koiele requirement for the rail station takes a lot of the floor space available for other programmatic elements. Stairs, elevators, escalators cannot be avoided but they can be redesigned and streamlined so that they do not make a large impact on the floor area, which leaves room for important programmatic requirements to be applied to the project.
**Extension**

The title given to design 3 is *Extension*. This design is intended to be a compilation of the previous two concepts and takes the deconstruction of the façades to a higher level. A part of the extension concept is accomplished by first moving the rail line closer to the business hotel, then adding a glass and tensile covering to the station which enlarges the overall size of the façade. The lower portions of business hotel are also opened so that visual *palena ʻole* and a connection between *mauka* and *makai* can be seen and experienced by the user.

The further deconstruction of the buildings and structure proved to be essential to really opening the interior and circulation elements to its surroundings, especially to Honolulu Harbor and the Pacific Ocean. *Palena ʻole* is established by opening the core of the structure, while connecting a greenspace that re-establishes the *mauka* to *makai* views throughout the site and buildings. This conceptual design also addresses and continues the theory of creating *kilohana* points and adds even more *lau nahele*, addressing environmental sensitivity from chapter 4, an underlying principle of the design strategy for rail in Hawaii.

The extension of the floor plates on the first and second floors intend to pick-up or engage pedestrians sooner than previous designs. The angle of which people enter the site is also expressed in the extension so that a direct line to the transit center is created. The site circulation moves through and engages the building envelope so that nature and structure can begin to bend and become one with the environment.

Vehicular access points throughout the site have remained the same, but for one exception. By placing a parking structure within the shell of the power plant, the parking spaces required for Irwin Park can now be absorbed. Therefore, for design 3 Irwin Park is converted back into its true intention, a park. Irwin Park is now the start of a more centralized gathering space for the rail station, the business hotel/mixed use building, Honolulu Harbor, and the Aloha Tower Marketplace. The park becomes the epicenter
for *koiele* between the transit center and the downtown area. The station and Irwin Park draws attention to the Aloha Tower Marketplace. This gives the project a *kahua*, a place to begin and end the work day, to slow down and enjoy the surrounding beauty of the ocean, the city, the mountains, and the people of Honolulu.

The conversion of the park ground allows for a better pedestrian connection to the site for those who are coming from the west side of downtown Honolulu, primarily the Fort Street Pedestrian Mall. Bus access to the site has changed slightly as well. The drop off point has moved from the west side of the business hotel (Bishop St.), to the *makai* side of the site (Aloha Tower Dr.).

Pedestrian access points to the station from the bus and vehicular drop off areas are possible through the center of the hotel where the entire first three levels of the building have been torn apart to allow for a visual connection from various *kilohana, mauka* to *makai*. This new access point is an example of design changes that can take place throughout the entire structure to increase *kilohana, koiele*, and *lau nahele*, all elements of the design guide that have a direct connection to Hawaiian tradition and culture as aforementioned throughout this thesis.
Design 3: Ground Floor Plan

Key:
1 - Mauka Entry
2 - Elevators
3 - Loading Dock and Back of House Operations
4 - Elevator pit
5 - Makai Entry
6 - courtyard
7 - Green Wall

Guideway and Station Covering above
Parking Garage, Staff Offices, and Lobby area

Scale: Feet
0 25 50 100
Design 3: Level 1: Lobby Plan

Key:
1 - Open to walkway below
2 - Elevators
3 - Lobby Area
4 - Hotel Front Desk and Back of House Operations
5 - Lobby Lounge Area/Space Available for Lease
6 - Green Wall

Parking Garage, Staff Offices, and Lobby area

Scale: Feet
0 25 50 100
Design 3: Level 2: Plan @ Circulation Level

Key:
1 - Open to Below
2 - Elevators
3 - Open to Courtyard below
4 - Back of House Operations
5 - Circulation Space
6 - Ticket Machines
7 - Turnstiles
8 - Bridge To Mezzanine
9 - Mezzanine to Platform Circulation
10 - Space Available for Lease
11 - Green Wall

Scale: Feet
Design 3: Cross Section @ 1/32” = 1’-0” (Looking Diamond Head)

Key:
1 - Pier 8
2 - Aloha Tower Dr.
3 - Loading Dock & Back of House Operations
4 - Lobby Area
5 - Hotel Front Desk and Back of House Operations
6 - Circulation Level
7 - Mezzanine
8 - Platform
9 - South Nimitz Hwy.
10 - Floor Area Available for Hotel Rooms
11 - Space Available for Lease

Scale: Feet

0 25 50 100
Key:
3 - Loading Dock & Back of House Operations
4 - Lobby Area
5 - Hotel Front Desk and Back of House Operations
6 - Circulation Level
7 - Mezzanine
8 - Platform
10 - Floor Area Available for Hotel Rooms
11 - Space Available for Lease

Design 3: Cross Section @ 1/16” = 1’-0” (Looking Diamond Head)
Pros of Design 3

- The further deconstruction of the buildings opens the interior and *koiele* elements to its surroundings.

- The connection to the ocean and *‘ikena* is established in this design, from the Lobby and Mezzanine levels, from one side of the site to the other.

- *Palena ‘ole*, by deconstructing the core of the structure connects a greenspace throughout the site and buildings.

- *Lau Nahele* is explored further than before through the familiar greenwalls on the parking structure and rail station to mitigate early morning and afternoon heat gain. Planter boxes on the upper and middle floors of the hotel that create horizontal bands of greenery when viewed from the *‘ikena* are employed once again.

- The parking structure allows for the conversion Irwin Park into a pedestrian friendly gathering place.

- Issues with *koiele* are addressed and have been simplified even though they are asymmetrically positioned throughout the site and the buildings.

Cons of Design 3

- The extension and direct line of movement at the main entry to the building may be counterproductive for the users’ exploration of the entire site.

- The visual connection of the green corridor in the East West direction from the *kilohana* point of Irwin Park to beyond the parking structure is lost because of the density (walls, columns, beams, vehicles, etc) of the parking structure.

- The visual connection to Pacific Ocean and Honolulu Harbor is now a broad wide perspective shot with an occasional obstruction of the view because of columns and elevator cores. In the previous schemes the design framed the shot with hallways and columns.

- For design three, the long walking distances across the site, an concern with previous designs, is now an issue for those who will be accessing the site from the East (from Richards St. to Punchbowl St.).
• Enlargement of the business hotels’ structure might create more of a visual issue for members of the community (not necessarily Hawaiian) who believe that no new structures should line the oceanfront. In some instances additional views of the Harbor, Pacific Ocean, and sunsets may be blocked by the slightly larger design, this is especially true for the office buildings across South Nimitz Hwy. on the *mauka* side of the site.

• Certain aspects of the floor plan may be confusing because of asymmetry requiring additional signage and lighting.
Fluidity

The concept for design 4 is fluidity (*a‘au*). Just as the ocean moves and boats sway, this design gives and takes with balance from the surrounding community. Borrowing the idea of deconstruction and in this case resurrection from previous schemes, this conceptual design gives the outdated buildings a new persona, but they still remain recognizable. This design is a compilation of the old industrial power plant and a modern elevated rail design, it pushes the envelope of site and building design, while remembering the historical and traditional aspects of the downtown city blocks and Honolulu Harbor.

Hawaiian theory and concepts should apply to spatial order, functionality, koiele, the aesthetic design, and waihoʻoluʻu (color scheme). This conceptual design includes the principles of *palena ʻole*, *kahua*, *ʻikena*, koiele (site circulation and orientation), *kilohana* and *lau nahele*.

The mixed-use building is the first positive change made in the fourth scheme. It creates a *kahua* (foundation) or anchoring point for the downtown community by adding programs that are missing in the downtown area (for example: residential units). It merges with what will be the largest transportation component on the island. The project as a whole will bring people back into the downtown area whether it is for work or play.

What follows deconstruction is resurrection. By converting the existing building into a twin tower high-rise, it expands the program mix in comparison to previous schemes. With high-rise development the site/area can now serve the community as a transit center, parking structure, business hotel, office building, and serviced apartments. New *kilohana*, *koiele*, and *ʻikena* of the entire downtown area will be created, and experienced differently for each user and non-user (passerby) of the project. Although the new program and design of the HECO buildings will achieve its goal of creating a mixed use project where people of the community come
to “Gather,” these improvements are not adequate enough to create a true gathering place that can address the HECO site and all adjacent sites and parking areas.

The creation of a kahua in the community, or a gathering place starts with the conversion of the power plant into a mechanized parking structure. Modern mechanized parking can be installed as a renovation project to an older structure. A parking project of this type will absorb all of the previous needs of the adjacent lots, Irwin Park and Aloha Tower parking included. By changing these sites into public parks, and by addressing the need to restore kilohana points through the mezzanine level of the station, mixed-use building, and mechanized parking, the creation of a green beltway is achieved. Greenscaping at grade level can be extensive, by first removing all vehicular and bus access to the site (except for the parking structure) and lowering South Nimitz Hwy. below grade level to allow for greenscaped pedestrian bridges to access the parks and site from Fort Street Mall, Bishop St., and Alakea St. With these major changes to koiele, the new pedestrian friendly green beltway starts at Fort St. Mall pedestrian bridge through the gathering place of Irwin Park, to a greenscaped ramp into high rise tower 1’s mezzanine level, bridges to and through tower 2 and at the mechanized parking garage it ramps back down to the new park grounds at piers 4 and 5 on the east side of the site. (Refer to Site Map on Page 125)

Because the east west connection has now been established both visually and physically, the connection from mauka to makai needs to be identified and created. This is not only accomplished by the double height ceilings and the deconstruction of the older building on multiple levels (which has been previously discussed), but by adopting a design technique used previously in design three. The building design also creates a sense of palena ‘ole with floor areas that are exposed to the elements. Deconstruction of the structure proves to be the essential factor to creating palena ‘ole for the interior operations and koiele of the transit center to its surroundings. By doing so, the kilohana points and the connection to the ocean is achieved and is well
established on multiple levels of the building. By connecting the downtown city blocks through the center of the building, to create the twin tower mixed-use structure, the building design easily reestablishes the *mauka to makai* corridor theme and gives back some of the views lost by the adjacent Grosvenor building. Greenscaping is added to the full height of both structures, strengthening the design principle of *lau nahele*.

The newly restored parks now have the opportunity to benefit the environment as well as the community. Restoring greenspaces in an urban environment is a Hawaiian concept (replace what you have taken, and always leave that place better than the way you found it). These parks now become central public circulation (i.e. Irwin park is the center of the lower downtown blocks, the Aloha Tower Marketplace, and the new downtown transit center), however, a really good park space and transit center has the ability to keep a person there for a period time, thus becoming a gathering place for the community, a key goal in this scheme.

The station structure or covering could be of a tensile fabric, glass, and steel (or other metal) combination. The rounded shape is of a similar visual aesthetic to design 2; however this structure is much larger. It is designed to branch out over the pedestrian bridges on the mezzanine level, to interact with the twin towers (without touching them), and to also extend over a part of the rooftop of the parking garage so that a retail/restaurant/or other public space can be created.

This design gives back to the community by centralizing multiple needs and benefits for the people commuting to and from the downtown area and the Aloha Tower Marketplace with the additions of the mixed-use twin tower, mechanized parking structure, and a *mānoa* (vast) greenspace that will be the symbol for environmental response and future design strategies for the Honolulu Area.
Design 4: Site Map

- South Nimitz Hwy.
- Aloha Tower Dr.
- Irwin Memorial Park
- Aloha Tower Marketplace
- Amfac Tower
- Grosvenor Center
- Harbor Square
- Proposed Site (Currently: Hawaiian Electric Light Company)
- Alakea St.
- Bishop St.
- Ala Moana Blvd.
Key:
1 - Mauka Entry
2 - Elevators to Lobby and Mezzanine
3 - Loading Dock and Back of House Operations
4 - Retail Space/Storage for Tenants
5 - Makai Entry
6 - Makai Courtyard/Parkspace
7 - Freight Elevator

Scale: Feet

Design 4: Ground Floor Plan
Design 4: Level 1: Lobby Plan

Key:
1 - Open to walkway below
2 - Elevators
3 - Lobby Area
4 - Hotel Front Desk and Back of House Operations
5 - Open Air Lobby Lounge Area/Space Available for Lease
6 - Freight Elevator and Fire Stair

Mechanized Parking Garage, Staff Offices, and Lobby area

Scale: Feet

Design 4: Level 1: Lobby Plan
Design 4: Level 2 - 3: Plan @ Circulation/Mezzanine Level
Design 4: Level 4: Platform/Retail Space/Restaurant

Key:
1 - Elevators
2 - Open
3 - Space for Retail/Restaurant
4 - Freight Elevator and Fire Stair
5 - Platform
6 - 'Ewa Bound Guideway
7 - Ala Moana Bound Guideway

Mechanized Parking Garage, Staff Offices, and Lobby area
Key:
1 - Roof of Downtown TC
2 - Elevators
3 - Open
4 - Bridge
5 - Business Hotel Rooms
6 - Freight Elevator and Fire Stair
7 - Deck/Greenspace
8 - Circulation

Design 4: Level 5 - 12: Business Hotel
Design 4: Level 6 - 18: Business Offices

Key:
1 - Elevators
2 - Open
3 - Bridge
4 - Space for Business Offices
5 - Freight Elevator and Fire Stair

Scale: Feet

0 25 50 100
Design 4: Level 19: Serviced Apartments/Tenant Parkspace

Key:
1 - Elevators
2 - Open
3 - Bridge
4 - Open Air Parkspace
5 - Freight Elevator and Stair
6 - Serviced Apartments
7 - Circulation

Scale: Feet
0 25 50 100
Design 4: Level 20 - 24: Serviced Apartments

Key:
1 - Elevators
2 - Open
3 - Bridge
4 - Serviced Apartments
5 - Freight Elevator and Stair
6 - Circulation

Scale: Feet

Design 4: Level 20 - 24: Serviced Apartments
Design 4: Cross Section @ 1/32” = 1’-0” (Looking Diamond Head)
Design 4: Cross Section @ 1/16” = 1’-0” (Looking Diamond Head)

Key:
1 - Grosvenor Building
2 - South Nimitz Highway
3 - Pedestrian Bridge
4 - Retail Spaces
5 - Open Air Space Available For Lease
6 - Circulation
7 - Turnstiles
8 - Mezzanine
9 - Platform
10 - Tensile/Glass/Steel Canopy
11 - Mechanized Parking in Distance
12 - Space Available For Lease
13 - Business Hotel
14 - Business Offices
15 - Serviced Apartments
16 - Top Level/Restaurant Space
17 - Mauka Parkspace
18 - Makai Parkspace
Design 4: Fluidity
Pros of Design 4

- This design gives back to the community by centralizing multiple needs and benefits for the people commuting to and from the Downtown area.

- The mixed use building creates a *kahua* (foundation) or anchoring point for the downtown community bringing people back into the downtown area.

- A mechanized parking structure has the ability to house more vehicles and add more parking to the area as compared to any other standard parking structure.

- Restoring greenspaces by way of a green beltway and *lau nahele* in an urban environment is a Hawaiian concept. The restored parks now have the opportunity to benefit the environment as well as the community.

- Another benefit for the environment is that solar thermal and photovoltaic (pv) paneling can replace windows on the south side of the structure. The solar thermal panels could bring hot water to the apartments, and the pv panels can provide some electricity for the project.

- The twin tower building design allows for *lau nahele* greenscaping on the full height of the structure in more areas and surfaces than a simple square structure, minimizing heat gain in the areas at which they occur and giving back to the environment at the same time.

- The building design also creates a sense of *palena ʻole* with floor areas that are exposed to the elements (thanks to the deconstruction of the building façade).

Cons of Design 4

- The visual connection at *kilohana* points of the Pacific Ocean and Honolulu Harbor is now a wide perspective shot (with the occasional obstruction created by columns, fire exits, and elevator cores).

- For design four, the long walking distances across the site, an issue with previous designs, is now an issue for those who will be accessing the site from the East (from Richards St. to Punchbowl St.), very similar to design three.

- As with design three, the enlargement of the business hotel into a twin tower high rise structure might create a visual issue for members of the community (not necessarily Hawaiians) who believe that no new structures should line the oceanfront. In some aspects of the Hawaiian way of life they are correct, the
building will inhibit some views. In some instances additional views of the Harbor, Pacific Ocean, and sunsets may be blocked by the larger structure, this is especially true for the office buildings across South Nimitz Hwy. on the mauka side of the site.

- Certain aspects of floor plan and circulation may be confusing, requiring additional signage and lighting.

- Maintenance of the park spaces could be an issue. Safety concerns from falling branches and trees, as well as the homeless issue in the downtown area would need to be mitigated.
CONCLUSION
Conclusion

This new design strategy for rail in Hawaii is created to capture the qualities of culture, sustainability, and history. The purpose of the thesis is to incorporate values, traditions, and Hawaiian sense of place within architectural design and to do so in a more meaningful way than what we see now in the community. The designs created demonstrate how we can achieve meaningful Hawaiian architecture by using our culture as the source of inspiration for conceptual design, planning and overall creativity. To exhibit how this goal is met, the thesis is supported by the application of historical research, creation of place, and cultural integration in design.

Historical research of the site is the most important part of the ideal design strategy. It is the first step of the process and it is the first step to knowing more about what a site has to offer physically and spiritually. Researching the history of Honolulu Harbor was vital in learning exactly how important this site was for the cultural identity of our people. This led eventually to the exploration of expansive greenspaces and lau nahele (green verticality) fully expressed in the 4th design.

Honolulu Harbor is the gathering place for Hawaiians of the past and for tourists today. Each design creates a gathering place to honor this tradition. Honolulu Harbor with its excellent ports, food resources and lush groves of coconut and sandalwood made this area the economic epicenter of O‘ahu. These designs, including the efforts of new programming, provide economic invigoration for the surrounding community.

The downtown transit center becomes the gathering place for public transportation and communal interaction in large part due to the restoration of Aloha Tower park grounds, Irwin Park, and the expansion of green pedestrian bridges into the city.
The designs provide a place for the commuter to begin and end each day meeting with coworkers and family. The intention behind creating such a significant place is that the user will pause, take in the sights, smells, and sounds of the park grounds and feel like this is a place that understands each person’s needs.

Everything the Hawaiian people did was simple in design but meaningful when expressed. Hula is the primary example of this. Simple movements that when combined express stories of love, hate, beauty, history, and war. Simplicity in the structure, materials, aesthetics, site design, and koiele aids in the creation of place for each of the four designs. Sensory perception creates place attachments and gives meaning to that place. By opening the structure of these buildings to the ocean and mountain palena ‘ole is found. A person is transported to a time when the land was vast and one was free to roam. Smells and sounds of the surroundings connect this place to the past. The perception of textures and colors through materiality and aesthetic design aid in a visual sense of place. The koiele of the site and transit center physically ties the senses together and guides the user from one place to another.

The best design strategy of this thesis is the integration of cultural values of the Hawaiian people through research of the land, ocean, values, and religion. The success and appropriateness of the architectural design is dependent on the integration of cultural research and how the theories and principles developed are integrated into the project. The use of Hawaiian values in design helps the community to identify with a structure and create a sense of place. Hawaiian values, concepts, and culture have meaning. Meaning associated with this transit center is tied to what the overall project represents. The expansion of greenspaces and beltways makes possible the reciprocity Hawaiians had with the land. In the final project, the most expansive of the four schemes, a large high rise with multiple buildings densifies
the skyline at the water’s edge. It was very important to give back to the ‘āina through horizontal and vertical greenscaping.

This thesis proves that there is an ability to focus on Hawaiian culture as the guide to creating a rail transit center. Through Hawaiian culture the project addresses the environment, economics of the community, the site and users to create appropriate architecture that is site specific and captures the Hawaiian sense of place. Cultural expression in architectural design is about designing a structure that will support the values of the Hawaiian culture without attaching a fake meaning to it through iconic images and manifestations of what others believe to be “Hawaiian.” The designs portrayed in this thesis were inspired by Hawaiian cultural values, beliefs, traditions, practices, and religion. They are a reflection of my history in preparation for a more appropriate design for our rail transit future.
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Chapter 6: Residential Environments: Place Attachment

Chapter 6: Residential Environments: Place Meaning


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