

**THE URBAN TAPESTRY OF KAKA‘AKO:  
THE ROLE OF FORM-BASED CODES IN IMPLEMENTING  
COMMUNAL DESIGN PATTERNS ON QUEEN STREET**

A DARCH PROJECT SUBMITTED TO THE GRADUATE DIVISION OF THE  
UNIVERSITY OF HAWAI‘I AT MĀNOA IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF ARCHITECTURE

MAY 2016

By

Stephanie J. Chong

Doctorate Project Committee:

Sara Jensen Carr, Chairperson  
William Chapman  
Michael Goshi

Keywords: Form-Based Codes, Kaka‘ako, Queen Street, Sense of Place, Streetscape

## ABSTRACT

Hawai‘i has a rich and significant history that originates from multiple cultures, and the streets of our state reflect and guide our society’s success in creating and celebrating that heritage. Kaka‘ako is a district in Honolulu located on the south shore of O‘ahu, specifically between Ala Moana to the east and downtown Honolulu to the west.

Queen Street is located in Kaka‘ako and spans 1.4 miles from downtown Honolulu, to the capital district, to light industrial businesses, up to recent high-rise developments.<sup>1</sup> Despite these features, the street suffers from a scarcity of pedestrian access and walkways, which is one of the many issues separating it from the rest of Kaka‘ako. Form-based codes (FBC) must be sensitive and specific to the area, which is populated predominantly by light industrial proprietors, and the community will benefit most from an agreement between them and the people who commute there. This dissertation will explore how FBC can maintain both character and culture in order to create a sense of place on Queen Street, in addition to maintaining small businesses.

Using literature on the importance of the spatial division of streets and sense of scale as well as thoughts on how to implement FBC, this research seeks to assist in applying new guidelines for maintaining businesses on Queen Street while retaining and celebrating its rich culture.

Discussing existing research on culture in Hawai‘i and Kaka‘ako, FBC, and pedestrian-friendly streets, this dissertation will also explore whether Queen Street can sustain an identity compared to the surrounding developed community. It utilizes the methodologies of interpretive-historical research, site analyses, and qualitative research. The research will contribute to the study and analysis of how the use of FBC can achieve a design in urban contexts that enriches an area, like Hawai‘i, with a rich history and culture.

---

<sup>1</sup> Martha Cheng and David Thompson, “Walking Honolulu’s Queen Street: Where Honolulu’s Urban Past and Future Meet,” *Honolulu Magazine*, February 09, 2012, accessed February 22, 2015, <http://www.honolulumagazine.com/Honolulu-Magazine/February-2012/Walking-Honolulu-Queen-Street/>.

## TABLE OF CONTENTS

<b>ABSTRACT</b> .....	<b>ii</b>
<b>TABLE OF FIGURES</b> .....	<b>vi</b>
<b>LIST OF ABBREVIATIONS</b> .....	<b>ix</b>
<b>CHAPTER 01: INTRODUCTION</b> .....	<b>1</b>
1.1 Background .....	1
1.2 Project Statement.....	3
1.3 Research Methods .....	6
<b>CHAPTER 2 EXTENDED LITERATURE REVIEW</b> .....	<b>9</b>
2.1 CODES AND STANDARDS .....	9
2.1.1 The Initial Intent of Codes and Standards.....	9
2.1.2 Disadvantageous Outcomes .....	12
2.1.3 Developers’ Advantage and its Effects on the Community .....	14
2.2 COMMUNITY .....	17
2.2.1 Importance of Community .....	17
2.2.2 Design for Community.....	19
2.3 FORM-BASED CODES .....	21
2.3.1 The History of Form-Based Codes.....	21
2.3.2 Advantages .....	22
2.3.3 Using FBC to Maintain Culture & Character.....	24
2.4 COMMUNITY .....	25
2.4.1 Defining a Sense of Place.....	25
2.4.2 The Importance of Character.....	27
2.4.3 Place as a Built and Unbuilt Environment .....	28

2.4.4 Time as an Essential Factor.....	31
2.5 UTILIZATION OF STREETS.....	32
2.6 CONCLUSION .....	36
<b>CHAPTER 3 RESEARCH METHODS .....</b>	<b>36</b>
<b>CHAPTER 4 FINDINGS .....</b>	<b>39</b>
4.1 History of Kaka‘ako .....	39
4.2 Kaka‘ako Today .....	50
4.3 Interviews .....	55
4.3.1 How Kaka‘ako Came to Be.....	56
4.3.2 How to Achieve a Sense of Place in Kaka‘ako.....	58
4.3.3 Reflection of Kaka‘ako .....	59
4.3.4 Reflection on Queen Street .....	61
4.3.5 Character of Queen Street .....	64
4.3.6 Movements on Queen Street .....	66
4.3.7 Queen Street Community’s Structure .....	69
4.3.8 Street Design .....	70
4.4 Case Studies.....	74
4.4.1 Kamakana Villages at Keahuolu.....	74
4.4.2 South Kaua‘i Form-Based Code Project.....	77
4.5 Kaka‘ako: Our Kuleana.....	77
<b>CHAPTER 05 FORM-BASED CODE .....</b>	<b>80</b>
5.1 Introduction .....	80
5.2 Floor Area Ratio and Building Envelopes.....	81
5.3 Site Analysis.....	85
5.4 Street and Character Defines Built Forms.....	107



5.5 Building Forms Adaptation .....	115
<b>CHAPTER 6 RESEARCH CONCLUSION.....</b>	<b>148</b>
<b>BIBLIOGRAPHY .....</b>	<b>151</b>

## TABLE OF FIGURES

FIGURE 1. KAMEHAMEHA SCHOOLS & HOWARD HUGHES CORPORATION DEVELOPMENTS,	5
FIGURE 2. MAP DATING BACK TO 1825, .....	41
FIGURE 3. 1843 MAP,.....	43
FIGURE 4. WORKERS OF THE HONOLULU IRON WORKS C. 1888, .....	46
FIGURE 5. HONOLULU IRON WORKS BUILDING C. 1901, .....	47
FIGURE 6. HISTORIC LANDMARKS AND NEW DEVELOPMENT PROJECTS IN KAKA‘AKO, .....	48
FIGURE 7. HISTORIC BUILDINGS NEAR QUEEN STREET,.....	49
FIGURE 8. SMALL BUSINESSES COMPARED TO LARGER LAND OWNERS,.....	51
FIGURE 9. FLOOR AREA RATIO EQUATION, .....	82
FIGURE 10. FLOOR AREA RATIO CONCEPT IN DIAGRAMS, .....	83
FIGURE 11. BOUNDARIES OF KAKA‘AKO, .....	87
FIGURE 12. MODI.ED GOOGLE EARTH IMAGE, INFRASTRUCTURE IMPROVEMENTS,.....	88
FIGURE 13. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	89
FIGURE 14. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	90
FIGURE 15. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	91
FIGURE 16. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	92
FIGURE 17. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	93
FIGURE 18. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	94
FIGURE 19. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	95
FIGURE 20. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	96
FIGURE 21. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	97
FIGURE 22. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	98
FIGURE 23. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	99
FIGURE 24. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	100
FIGURE 25. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	101
FIGURE 26. SITE VISIT DIAGRAMS AND OBSERVATIONS,.....	102
FIGURE 27. PRIVATE, STATE, AND COMPANY PROPERTY OWNERSHIP, .....	104
FIGURE 28. MODI.ED GOOGLE EARTH IMAGE, QUEEN STREET SMALL BUSINESS PROGRAMS, .....	105

FIGURE 29. MODIFIED GOOGLE EARTH IMAGE, OPEN SPACE, BUILT SPACE, AND PARKING SPACE, .....	106
FIGURE 30. AXONOMETRIC OF EXISTING SITE, .....	108
FIGURE 31. TEXTURES OF QUEEN STREET, .....	109
FIGURE 32. TEXTURES OF QUEEN STREET, .....	110
FIGURE 33. MODIFIED GOOGLE EARTH IMAGE, QUEEN STREET PARCELS, .....	112
FIGURE 34. TRANSITION, EDGE, AND DISCONNECT, .....	113
FIGURE 35. MODIFIED GOOGLE EARTH IMAGE, THRESHOLD, CENTER, BLOCK EDGES, .....	114
FIGURE 36. PHASE I AXONOMETRIC, .....	116
FIGURE 37. MODIFIED GOOGLE EARTH IMAGE, PHASE I PLAN, .....	117
FIGURE 38. PHASE II AXONOMETRIC, .....	119
FIGURE 39. MODIFIED GOOGLE EARTH IMAGE, PHASE II PLAN, .....	120
FIGURE 40. MODIFIED GOOGLE EARTH IMAGE, PHASE III AXONOMETRIC, .....	121
FIGURE 41. MODIFIED GOOGLE EARTH IMAGE, PHASE III PLAN, .....	122
FIGURE 42. TYPE I BUILDING FORMS, .....	124
FIGURE 43. TYPE I EXISTING BUILDING, .....	125
FIGURE 44. TYPE I CARVE, .....	126
FIGURE 45. TYPE I CARVE IN THE EVENING, .....	127
FIGURE 46. TYPE I SCULPT. ....	128
FIGURE 47. TYPE I COLLAGE, .....	129
FIGURE 47. TYPE II BUILDING FORMS.....	130
FIGURE 48. TYPE II EXISTING BUILDING, .....	131
FIGURE 49. TYPE II CARVE, .....	132
FIGURE 50. TYPE II CARVE IN THE EVENING, .....	133
FIGURE 51. TYPE II SCULPT, .....	134
FIGURE 52. TYPE II COLLAGE, .....	135
FIGURE 53. TYPE III BUILDING FORMS, .....	136
FIGURE 54. TYPE III EXISTING BUILDING, .....	137
FIGURE 55. TYPE III CARVE, .....	138
FIGURE 56. TYPE III CARVE IN THE EVENING, .....	139
FIGURE 57. TYPE III SCULPT. ....	140

FIGURE 58. TYPE III COLLAGE,.....	141
FIGURE 59. TYPE IV BUILDING FORMS,.....	142
FIGURE 60. TYPE IV EXISTING BUILDING,.....	143
FIGURE 61. TYPE IV CARVE,.....	144
FIGURE 62. TYPE IV CARVE IN THE EVENING,.....	145
FIGURE 63. TYPE IV SCULPT,.....	146
FIGURE 64. TYPE IV COLLAGE, .....	147

## LIST OF ABBREVIATIONS

CIA	Cultural Impact Assessments
CMAP	Chicago Metropolitan Agency for Planning
DPP	Honolulu Department of Planning and Permitting
DURP	Department of Urban and Regional Planning
FAR	Floor-area ratio
FBC	Form-based codes
FBCI	Form-Based Codes Institute
HACBED	Hawai‘i Alliance for Community Based Economic Development
HCDA	Hawai‘i Community Development Authority
HDCC	Hawai‘i Dredging Construction Company, Inc.
HHS	Howard Hughes Corporation
HRS	Hawai‘i Revised Statutes
H.R.	House of Representatives (preceding bill number)
KS	Kamehameha Schools
LUO	Land use ordinance
MPC	Master-planned community
NCCP	National Conference on City Planning
PPS	Project for Public Spaces
TMK	Tax map key

## CHAPTER 01: INTRODUCTION

### 1.1 Background

In Hawaiian, “kaka‘ako” means “dull or slow”.<sup>2</sup> It is also the name of a district on O‘ahu between the Ala Moana Shopping Center and downtown Honolulu. The civic centers are the Neal S. Blaisdell Center and the Victoria Ward Center. The University of Hawai‘i’s John A. Burns School of Medicine sits directly across from the Victoria Ward Center. Currently, the main passageways are Ala Moana Boulevard and Kapi‘olani Boulevard.<sup>3</sup> Kaka‘ako is significant to the state of Hawai‘i due to its “prime location and its economic importance” and is divided into two areas, Mauka (mountain side) and Makai (ocean side).<sup>4</sup> Queen Street, located in Kaka‘ako, is one of the major thoroughfares. The street runs for twelve blocks, spanning 1.4 miles, extending from downtown Honolulu, through the capital district and light industrial businesses, to the new Nordstrom Rack and T.J. Maxx, which are part of Victoria Ward Center.<sup>5</sup>

The Hawai‘i Community Development Authority (HCDA) is a state agency that is in charge of planning and overseeing the revitalization of areas in the state of Hawai‘i. The HCDA follows the Mauka Area Plan for Kaka‘ako, which is a compilation of “policies and direction for both public improvements and private development within the Mauka Area over the next 10 to 20 years”.<sup>6</sup> The objective for the Mauka Area Plan is “planning for a high-quality urban community that also promotes positive economic

---

<sup>2</sup> Marsha Gibson, *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako* (Honolulu: Mutual Publishing, LLC, 2011), ix.

<sup>3</sup> “Our History,” last modified 2015, [http://www.ourkakaako.com/about/our\\_history.html](http://www.ourkakaako.com/about/our_history.html).

<sup>4</sup> Hawaii Community Development Authority, “Mauka Area Plan,” *Department of Business, Economic Development & Tourism* (2011): 1, accessed February 18, 2015, <http://dbedt.hawaii.gov/hcda/files/2013/02/Mauka-Area-Plan-EFF-2011-10-31.pdf>

<sup>5</sup> Martha Cheng and David Thompson, “Walking Honolulu’s Queen Street: Where Honolulu’s Urban Past and Future Meet,” *Honolulu Magazine*, February 09, 2012, accessed February 22, 2015, <http://www.honolulomagazine.com/Honolulu-Magazine/February-2012/Walking-Honolulu-Queen-Street/>.

<sup>6</sup> Hawaii Community Development Authority, “Mauka Area Plan,” *Department of Business, Economic Development & Tourism* (2011): 1, accessed February 18, 2015, <http://dbedt.hawaii.gov/hcda/files/2013/02/Mauka-Area-Plan-EFF-2011-10-31.pdf>

development, preserves Honolulu’s diverse cultural heritage, and incorporates best practices in energy and environmental sustainability”.<sup>7</sup>

Kaka‘ako was formerly considered a tough neighborhood, characterized by low-income levels and high rates of crime. At the same time, from the early to mid-20<sup>th</sup> century, the neighborhood was rich in cultural diversity, with different ethnic groups, primarily “Japanese, Portuguese, Filipino, and Puerto Rican” segregated in camps.<sup>8</sup>

Today’s Kaka‘ako is significantly different from the Kaka‘ako of previous generations. Much of the area’s skyline has changed, and the rapid developments in the area have the community concerned for its future. A regulation that may control unforeseen developments is the implementation of form-based codes (FBC). FBC are land development regulations that prioritize anticipated build results in addition to quality public spaces by utilizing physical form as a systemizing principle whereas conventional zoning works as a separation of property uses.<sup>9</sup> Applying FBC (which are discussed in more detail in Chapter 2) on Queen Street would reintroduce the original, celebrated values of Kaka‘ako as a place that fosters and supports diversity. The implementation of FBC will serve to better define private-public borders while helping to create more open spaces. This will not only help regulate new development but also promote social interaction among community members while strengthening their sense of place.<sup>10</sup> In this way, FBC may be seen as a tool for promoting quality, nonpartisan development.

Kaka‘ako’s Queen Street has the potential to become a leading example within the community by utilizing FBC, a method that not only focuses on the community and its buildings, but also on the aspect of scale and street typologies. The descriptions and illustrations of this new standard, articulated in this dissertation, are offered as a way for Queen Street to maintain its cultural character for the people of Hawai‘i and the visitors who wish to understand and appreciate it.

---

<sup>7</sup> Hawaii Community Development Authority, “Mauka Area Plan,” *Department of Business, Economic Development & Tourism* (2011): 4, accessed February 18, 2015, <http://dbedt.hawaii.gov/hcda/files/2013/02/Mauka-Area-Plan-EFF-2011-10-31.pdf>

<sup>8</sup> Marsha Gibson, *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako* (Honolulu: Mutual Publishing, LLC, 2011), ix-x.

<sup>9</sup> “Form-Based Codes Defined,” last modified 2016, <http://formbasedcodes.org/definition/>.

<sup>10</sup> Daniel G. Parolek., Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 3.

## 1.2 Project Statement

Kaka‘ako has become a divided community and its growth has become one of the most controversial issues in the state of Hawai‘i due to its two main developers, the Howard Hughes Corporation (HHC) and the Kamehameha Schools, which have developed lands on opposite ends of the district (fig. 1). Since Kaka‘ako defines the main skylines for the city of Honolulu, the developments critically affect the city’s identity.

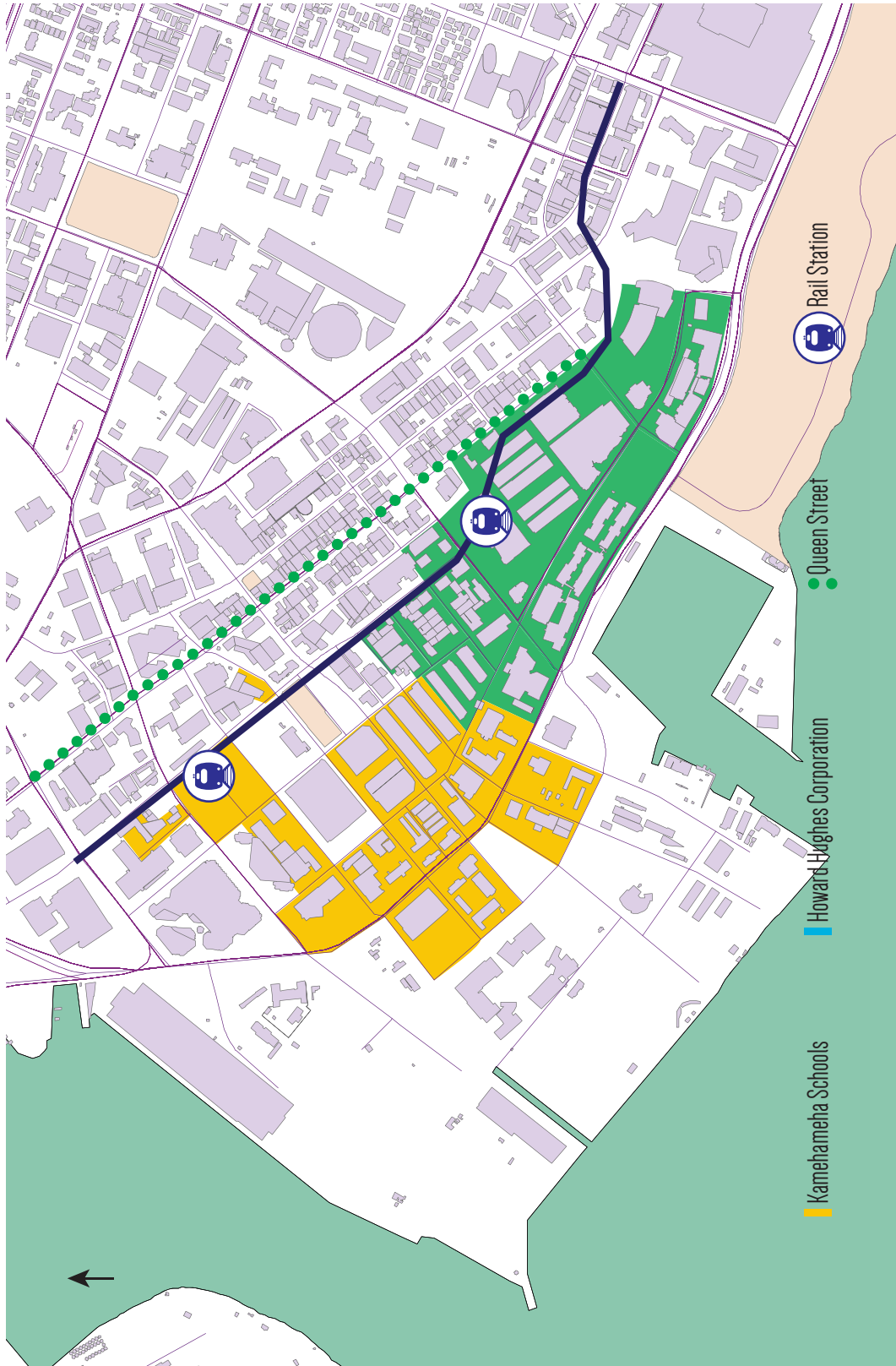
To further define the current communal divide in Kaka‘ako, the HHC development is located on the Diamond Head side (east side) of the district, which caters to major retail stores and residential high rises, whereas the Kamehameha Schools (KS) are developing their land on the western side into an urban art and cultural community. In the middle of the two major developments lies Queen Street, which is comprised mainly of small businesses and property owners who are clinging to the memory of the light industrial district of Kaka‘ako they once knew. Because KS and the HHC are single entities, they are able to reach agreement for the overall planning of their respective parcels whereas Queen Street has not been designed uniformly due to the various smaller property owners. The types of businesses on Queen Street range from diners to auto body repair shops. Thus, the focus of this project is to create an alternative urban planning guide for the small businesses and property owners of Queen Street, in order to maintain their identity between the two major developers.

The main issue that this project addresses is how the small businesses on Queen Street can stand independently and maintain their establishments while surrounded by larger businesses. A challenge that emerged through this research was establishing an agreement among the many small businesses and property owners who, unlike the HHC and KS, have diverse clientele. Another issue is the need to create an incentive, such as financial gain, for the incumbent small businesses and property owners.

This project aims to provide a possible design foundation for the evolution of Queen Street over the next ten, twenty, and thirty years. In a larger context, this project will serve as a case study of how a major thoroughfare in a city’s urban core can transition over thirty years using FBC.



Architecture is a means of creating solutions to problems. There is a problem on Queen Street, and it is through the study of architecture and urban planning that we can explore possibilities to alleviate this issue. This research explores how FBC can maintain both character and culture in order to create a sense of place on Queen Street while also promoting existing businesses.



**Figure 1.** Kamehameha Schools & Howard Hughes Corporation Developments, Source: Stephanie Chong, University of Hawaii at Manoa

### 1.3 Research Methods

The nature of this design research will provide FBC as a foundation plan to help guide the transition from the existing plan of Queen Street to adapt into the future of Kaka‘ako, spanning from Kamakee Street to Punchbowl Street. The research portion of this dissertation provides background knowledge and a review of current related investigations.

In addition to the literature review, this research explores historical accounts to deepen the understanding of the areas of Kaka‘ako and Queen Street. In the process, the following concerns surfaced: the purpose and concept of zoning standards, community, FBC, and sense of place.

As stated by the Form-Based Codes Institute (FBCI), an FBC are defined as:

a land development regulation that fosters predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code. A form-based code is a regulation, not a mere guideline, adopted into city, town, or county law. A form-based code offers a powerful alternative to conventional zoning regulation.<sup>11</sup>

FBC can be used to create a better environment, but will require further investigation as to how their implementation on Queen Street will affect not only the microenvironment of the street, but also Kaka‘ako at large. The following research questions were formulated to explore this further:

1. How can FBC maintain both character and culture in order to create a sense of place on Queen Street?
2. How can Queen Street maintain a sense of place as time progresses?
3. Considering the developments by the two major developers (HHC and KS) in the area, can Queen Street achieve its own identity in the community?

To obtain information from those who know Kaka‘ako, fifteen participants were interviewed. These participants are active in the community and included a cultural consultant, an architect, an urban planner, a general contractor who worked with developers, and business owners on or near Queen Street. Some participants have also worked on the HCDA or neighborhood board. The participants were selected to ensure a

---

<sup>11</sup> “Form-Based Codes Defined,” last modified 2016, <http://formbasedcodes.org/definition/>.

variety of responses and views in regards to both Kaka‘ako and Queen Street. Speaking with professionals who have experience with projects that have implemented FBC and who have also been affected by the recent changes and shifts in Kaka‘ako provided a deeper understanding of the community and how designating code design will help maintain the community’s sense of place.

The responses from the interviews provide a wide variety of perspectives in order to further maintain the current character of Queen Street by applying the responses into the final design for this research. The FBC is a result of these interviews and have been designed to assist the transition of the existing Queen Street to ten years, twenty years, and thirty years from the period the plans are implemented.

In addition to the interviews, various site visits assisted in the analysis of Queen Street. Studies of patterns of socializing, circulation, and building typologies were also conducted. In addition to addressing historical maps demonstrating how the area has changed over time, this dissertation includes current aerial views and maps created by the HCDA to study the area’s designation. Diagrams of the specified project site were also created in order to analyze the properties on Queen Street and the use of small businesses. This dissertation has been structured to address the research questions. The main parts are the extended literature review, the research documentation, and the research conclusion.

The purpose of the literature review is to outline the current published literature in this field, organized and arranged by concepts that pertain to this topic of research. Therefore, this literature review is divided in the following categories: Codes and Standards, with sub-categories on the initial intent of codes and standards, disadvantageous outcomes, and developers’ advantage and the effects on the community; Community, with sub-categories on the importance of community and design for community; Form-Based Codes and sub-categories on its history, advantages, and how FBC can maintain culture and character; Sense of Place and sub-categories on defining a sense of place, the importance of character, place as a built and unbuilt environment, and how time is an essential factor; and Utilization of Streets.

The research documentation portion of the dissertation is organized to reflect the research process for Queen Street. The research methodologies were interpretive historical research, qualitative research, and site analyses. Therefore, the structure of this

portion of the dissertation is as follows: History of Kaka‘ako, Kaka‘ako today, Interviews, Case Studies, Kaka‘ako: Our Kuleana workshop, Floor Area Ratio and Building Envelopes, and Site Analysis. The research is meant to provide further understanding of the implementation of FBC and their results. Furthermore, it explores how to maintain the character and culture of a site in order to create a sense of place. Therefore, this dissertation is based on design research.

The dissertation concludes with the findings of the research portion of the project and a design solution that allows the implementation of FBC to maintain Queen Street’s current culture and character as the street progresses into the future.

## CHAPTER 2 EXTENDED LITERATURE REVIEW

### 2.1 CODES AND STANDARDS

#### 2.1.1 The Initial Intent of Codes and Standards

In order to comprehend the significance and concept of zoning standards, understanding their origin, history, and why and where they have been practiced is beneficial. For instance, in Eran Ben-Joseph's *The Code of the City*, the author explains that some of the earliest archaeological evidence of building codes is in Egypt, where documents discussing laws in regards to planning have been found dating back as far as 3,000 to 4,000 years. Excavations have also revealed that Indus Valley civilization cities were divided into straight streets and small blocks in a formal pattern with wider streets connecting public buildings. Rectangular, patterned blocks were also discovered in Mohenjo Daro in the Indus Valley and Harappa in Punjab.<sup>12</sup>

Early building codes had various intentions. While they were meant to preserve natural lighting and ventilation, in addition to preventing building on property borders, they also dictated and separated social classes.<sup>13</sup> An example is found in the Indus Valley's rules and standards (translated):

The houses of Brahmans should be chatuhsala; that is, they must occupy the four sides of a quadrangle which is an open space in the center. The imperial palaces should be raised to eleven stories; the building of the Brahmans to nine stories; those of ordinary kings to seven stories. A deviation from the fixed measurements of lengths, breadths, and height of the respective buildings of the different classes of peoples is not conducive to good and should not be made.<sup>14</sup>

Ben-Joseph also mentions that in China, the capital city of Chang'an was based on geometric lines inspired by hexagrams. This grid pattern also inspired cities such as

---

<sup>12</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), 6.

<sup>13</sup> *Ibid.*, 6.

<sup>14</sup> *Ibid.*, 7.

Kyongju in Korea and Nara in Japan. In 1979, an excavation in Nara revealed that the city was meticulously planned and organized. Each area of the city was carefully placed based on wards and cross-street designations.<sup>15</sup> Based on such evidence, Ben-Joseph holds that codes were initially created to help citizens maintain healthy public and cultural lives.

In Greece, city planners utilized Plato's *Laws* (in 350 BC), which secured public order in public gathering places and streets. An excerpt from these *Laws* reveals how their society acted as a single entity:

[As to walls,] if men really must have a wall then the building of the private houses must be arranged from the start in such a way that the whole city may form a single wall; all the houses must have good walls, built regularly and in a similar style facing the roads, so that the whole city will have the form of a single house, which will render its appearance not unpleasing, besides being far and away the best plan for ensuring safety and ease for defense.<sup>16</sup>

Brenda Case Scheer also discusses Greek civilization to explain how urban building typologies originated. The author explains that Greek architecture is thought to have begun with a primitive hut improved based on "human proportion, ideal climate, landscape, and freedom."<sup>17</sup>

Ben-Joseph argues the effectiveness of planning based on the earliest evidence found in history, but his collaboration with Michael Southworth in *Streets and the Shaping of Towns and Cities* focuses mainly on the early industrialization era. Both sources highlight Roman civilization's urban design standards. Romans selected sites and established regulations and standards conducive to the health of the people, natural light, and ventilation.<sup>18</sup> Their street standards and paving ordinances provided the basic rules

---

<sup>15</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), 9.

<sup>16</sup> *Ibid.*, 11.

<sup>17</sup> Brenda Case Scheer, *The Evolution of Urban Form: Typology for Planners and Architects*, (Chicago: American Planning Association, 2010), 16.

<sup>18</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), 12-13.

for our roads today. Vitruvius proposed that streets should be utilized to control breezes for health purposes and therefore designed based on wind directions.<sup>19</sup>

Case Scheer discusses how the environment also affected design in Greek architecture. Interested in man's search for perfection, Quatremere de Quincy, a French Enlightenment theorist, sought to determine whether the idea originated with the ancient Egyptians or the ancient Greeks.<sup>20</sup> He concluded that it was the Greeks who improved and perfected their architecture due to their ideal environmental conditions and supplies in addition to their "mature aesthetic and philosophic appreciation, and relative freedom of thought." De Quincy's theory further opened ideas on how site, history, and cultural conditions dictate typologies.<sup>21</sup>

Ben-Joseph contributes to this discussion by outlining how Islamic building laws and rules concentrated on social behaviors. This was due to their concentration and dependence on culture, compared to other civilizations' dependency on officialdom. An example would be the *finja*. The *finja* is "the space around entrances and along buildings facing a street".<sup>22</sup> This area is mostly occupied by families for social gatherings or even businesses. There are no standards nor any dimensions with the *finja*, but it is considered a public domain."<sup>23</sup> During this time, jurists did not become involved in the *finja*. They believed that it was best to allow property owners to work out agreements amongst themselves.<sup>24</sup>

*The Code of the City* further explores the importance of change. In it, Ben-Joseph compares code standards to biology's genetic code as something both practical and concrete that continues throughout years and years of evolution. Based on historical examples, Ben-Joseph examines how various types of planned cities worked. In ancient

---

<sup>19</sup> Michael Southworth and Eran Ben-Joseph, *Street and the Shaping of Towns and Cities* (Washington: Island Press, 2003), 17.

<sup>20</sup> Brenda Case Scheer, *The Evolution of Urban Form: Typology for Planners and Architects*, (Chicago: American Planning Association, 2010), 16.

<sup>21</sup> *Ibid.*, 17-18.

<sup>22</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), 17.

<sup>23</sup> *Ibid.*, 17.

<sup>24</sup> *Ibid.*, 17.



times, cities embraced and celebrated social spaces. Our cities have evolved, but codes and standards do not reflect that historical emphasis on social space.<sup>25</sup>

Ben-Joseph's collaboration with Southworth, *Streets and the Shaping of Towns and Cities*, is about understanding how street standards came to be. They studied various examples in the United States and England dating back two-hundred years to not only delineate how streets became what they are today, but also their purpose and meaning. *Streets* supports Ben-Joseph's assertion in *The Code* that in the late nineteenth century, social problems and environmental turmoil were closely related. Therefore, it was essential to refine and improve upon the.<sup>26</sup> In turn, better environmental conditions served to improve cities.

By studying how streets evolve, Ben-Joseph and Southworth discovered several historical patterns. Their analysis of streets in cities with similar growth over certain durations may be able to provide predictions for Queen Street and Kaka'ako. Ben-Joseph and Southworth recognize that understanding the history of a place is essential, which provides the argument for why analysis of the changes in Kaka'ako is significant to the design process.

### **2.1.2 Disadvantageous Outcomes**

Since the mid-1800s, urban planning has evolved from its original intention of designating and specifying values to dictating direct standards.<sup>27</sup> In *The Code of the City*, it quotes Gaius Julius Caesar: "All bad precedents began as justifiable measures."<sup>28</sup> This is Eran Ben-Joseph's preamble to suggesting that although codes were initially beneficial, their success has shifted over time. While he admits that codes and standards are significant and important to how cities are designed, he also feels that they have limited

---

<sup>25</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), 17.

<sup>26</sup> Michael Southworth and Eran Ben-Joseph, *Street and the Shaping of Towns and Cities* (Washington: Island Press, 2003), 97.

<sup>27</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), 53.

<sup>28</sup> *Ibid*, xii.

urban planning. This theory is further explored through his history of how standards and codes were created and what effects they had on planning.<sup>29</sup>

On May 21 and 22, 1909, the first National Conference on City Planning (NCCP) was conducted in Washington, D.C. In their analysis of the conference, Eugenie L. Birch and Christopher Silver, similarly to Ben-Joseph, note how conditions then were dramatically different compared to circumstances today. In the early 20<sup>th</sup> century, the population was 90 million, which is a fraction of today's population of over 300 million.<sup>30</sup> The population in cities was only 46% compared to 80% today. By 1970, 75% of the United States had become urbanized.<sup>31</sup>

The participants of the first NCCP had undergone dramatic urban expansion as well. In fact, it was in 1909 that the terms *congestion* and *sprawl* began being used in regards to urban growth.<sup>32</sup> To provide an understanding of how much the population had grown, Birch and Silver supply the following data:

Between 1880 and 1909, city populations rose as follows: New York, 170%; Chicago, 340%; Philadelphia, 77%; St. Louis, 96%; and Boston, 85%. Today, the five largest cities have high growth rates, but none match the highest of 1909. Since 1980, Phoenix has increased by 137%, Houston by 40%, Los Angeles by 39%, and New York by 12%....Today, in the fast-growing areas, land annexation has trumped the density problems that the earlier reformers felt so keenly, creating instead sprawl conditions that also extend to the surrounding suburbs.<sup>33</sup>

Unlike Ben-Joseph, Birch and Silver focus on the political aspects of how zoning came to be. They explain that as property values decreased due to uncontrolled growth, the separation of property use was established, which was termed as a *zoning envelope*.<sup>34</sup> Frederick Law Olmsted, Jr. stated that this allowed the property owner to have the right

---

<sup>29</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), xiv-xv.

<sup>30</sup> Eugenie L. Birch and Christopher Silver, "One Hundred Years of City Planning's Enduring and Evolving Connections," *Journal of the American Planning Association*, vol. 75, no. 2 (2009): 113, accessed February 07, 2015, academic search premier (37208261).

<sup>31</sup> *Ibid.*, 113.

<sup>32</sup> *Ibid.*, 115.

<sup>33</sup> *Ibid.*, 115.

<sup>34</sup> *Ibid.*, 115-116.

to construct within the mandate and “allowed the municipal government to manage land, its chief asset.” Further property rights were developed by the NCCP.<sup>35</sup>

Even though the NCCP was successful in controlling growth and decentralization, Birch and Silver suggest, “this success had unintended consequences.” Today, planners are concerned about the unexpected consequences of zoning and the possible decrease in urban design quality.<sup>36</sup> In contrast with Ben-Joseph who explains how specific interests influenced more general ideas, Birch and Silver begin with a larger scope and then discuss specific areas of interest, such as the social and physical elements of streets and zoning, that have been explored over time.<sup>37</sup>

### **2.1.3 Developers’ Advantage and its Effects on the Community**

The NCCP in 1909 was a reaction to the challenges of the time, namely congestion. Today, planners face a number of different social problems, which are significantly more global in nature.<sup>38</sup> Birch and Silver have compiled a new list of necessary considerations:

- Calculate ecological and carbon footprints at the individual, building, neighborhood, city, and regional levels, and distinguish those designs, urban forms, and everyday practices that minimize these;
- Estimate at several scales the space and facility requirements for generating and using energy from alternative sources, recycling rain and waste water, collecting and reusing organic waste, and growing food locally;
- Converse knowledgeably with technical experts on sustainable infrastructure systems and integrate these technologies with urban forms;
- Understand environmental economics, including markets for alternative energy, the role of incentives and taxes in conservation, financing vehicles, and other matters essential to changing behavior and development processes;
- Design circulation systems, especially for mass or shared transit, including systems for nonmotorized vehicles and pedestrians of diverse abilities,

---

<sup>35</sup> Eugenie L. Birch and Christopher Silver, “One Hundred Years of City Planning’s Enduring and Evolving Connections,” *Journal of the American Planning Association*, vol. 75, no. 2 (2009): 116, accessed February 07, 2015, academic search premier (37208261).

<sup>36</sup> *Ibid.*, 117.

<sup>37</sup> *Ibid.*, 117.

<sup>38</sup> *Ibid.*, 119.

understanding how the need for mobility is changing with new information and communication technologies;

- Predict the prices and densities required to support and integrate alternative-fuel mass transit and vehicles;
- Understand density (including cultural factors, the implications of different densities for infrastructure costs, and how to quickly estimate the densities of sketch designs) and design strategies for integrating higher densities into existing cities;
- Formulate design guidelines and building codes and zoning regulations that assure public health, promote transit access and walkability, reduce the use of energy or generate energy onsite, limit runoff and CO<sub>2</sub> and wastes, and encourage use of local materials;
- Communicate effectively, employing traditional graphic and verbal skills supplemented with new video, sound, and voice technologies integrated into multimedia presentations, and make projects readily available via the world wide web; and
- Identify and interact with diverse interests, mediate differences, and undertake negotiation and consensus building to help different constituencies reach agreement in the face of new global energy and climate challenges.<sup>39</sup>

Emily Talen expands on Birch and Silver's thoughts on the issues of conventional zoning and sprawl. She approaches these issues by stating that the relationship between the two is not described or explained clearly as Birch and Silver state more the results of the issues based on historical accounts. Therefore, Talen is able to further dissect how these topics affected urban planning in the United States, arguing that zoning has had a "detrimental impact on urban pattern and form at the local scale".<sup>40</sup>

Meanwhile, William A. Fischel discusses how zoning and codes initially helped homeowners protect their land and ensure certain standards because there were public records. In other words, homeowners knew what was allowed on their property and therefore were better equipped to defend it from potential developers and have "some influence on the political process by which the change was made".<sup>41</sup>

---

<sup>39</sup> Eugenie L. Birch and Christopher Silver, "One Hundred Years of City Planning's Enduring and Evolving Connections," *Journal of the American Planning Association*, vol. 75, no. 2 (2009): 121, accessed February 07, 2015, academic search premier (37208261).

<sup>40</sup> Emily Talen, "Zoning For and Against Sprawl: The Case for Form-Based Codes," *Journal of Urban Design* 18, no. 2 (2013): 175, academic search premier (86994957).

<sup>41</sup> William A. Fischel, "An Economic History of Zoning and a Cure for its Exclusionary Effects," *Urban Studies* 41, no. 2 (2004): 318, accessed February 20, 2015, doi:10.1080/0042098032000165271.

On the other hand, Fischel further explains how housing developers were still able to sell homes for large financial gains when communities had conventional zoning. Non-residential owners and apartment developers were able to purchase properties in single-family neighborhoods and then actively pursue rezoning at the national scale. Fischel describes this shift for financial gains, stating that “zoning was regarded with some suspicion by homebuilders, and its advocates were careful to warn that developers and real estate professionals would have to use their political influence to keep zoning within reasonable bounds.” The author continues explaining that developers thought that zoning could increase the value of the properties and regulate costs for only certain locations.<sup>42</sup>

The Chicago Metropolitan Agency for Planning (CMAP) provided a list of the disadvantageous effects of utilizing conventional zoning in the following statements:

- Separates uses related to daily activity, such as home, school, and work.
- Frequently promotes low-density development and relatively limited housing choices.
- Often encourages excessive land consumption and automobile dependency.
- Ends up focusing on what uses are not allowed, rather than encouraging what the community actually wants.
- Applies standards and design requirements generically, in a “one-size-fits-all” manner, throughout the entire community.
- Uses regulations such as floor area ratio, which can shape the form of development in ways that are hard to visualize beforehand and may encourage developers to “max out” the massing of a building within allowed limits, often at the expense of its architectural detailing and sensitivity to existing context.
- Regulates private development, but typically not the design or character of the streets that serve it. This usually leaves development of standards to the city engineer or public works department, which tend to focus on accommodating automobile traffic.<sup>43</sup>

In addition, Fischel notes that when working on development projects, developers tend to sell their ideas to the public with the promise of more jobs and property tax revenues in order to proceed with their projects. As a trade-off, developers then ask for

---

<sup>42</sup> William A. Fischel, “An Economic History of Zoning and a Cure for its Exclusionary Effects,” *Urban Studies* 41, no. 2 (2004): 324, accessed February 20, 2015, doi:10.1080/0042098032000165271.

<sup>43</sup> Chicago Metropolitan Agency for Planning, *Form-Based Codes: A Step-by-Step Guide for Communities* (Chicago, IL: CMAP, 2012), 8.

“favorable re-zonings” for their projects. Fischel explains the interactions between the developer and the community further in *Zoning and Land Use Regulation*.<sup>44</sup>

## 2.2 COMMUNITY

Understanding the concept of codes and standards and how they have been established and used is essential to knowing how they can benefit people. This chapter explains the importance of community and its participation in the design process.

### 2.2.1 Importance of Community

The physical relationship between the retail space and public space of a community is significant in creating a sense of place.<sup>45</sup> On the contrary to the Project for Public Spaces (PPS), Gordon Cullen argues that the “warmth and power and vitality of human imagination” is where sense of place is created.<sup>46</sup> Furthermore, community is defined as the “home of man”.<sup>47</sup> Physical design techniques such textures, steps, and scales sustain curiosity and maintain a sense of place by building character within a community.<sup>48</sup>

Donald Appleyard discusses how a street is considered a community. Even though there are people who would not rather socialize on sidewalks, it should be an option for those who do. Thus, there should be seating that allows people to talk without involving too many strangers.<sup>49</sup> Appleyard reasons that “[s]treet communities can not only reduce the anomie of urban life, they can encourage street activities, keep the street clean, engage in common actions, and care for the detailed design of the street, sidewalks,

---

<sup>44</sup> William A. Fischel, “An Economic History of Zoning and a Cure for its Exclusionary Effects,” *Urban Studies* 41, no. 2 (2004): 413, accessed February 20, 2015, doi:10.1080/0042098032000165271.

<sup>45</sup> “Eleven Principles for Creating Great Community Places,” Last modified 2016. <http://www.pps.org/reference/11steps/>.

<sup>46</sup> Gordon Cullen, *Townscape* (New York: Reinhold Publishing Corporation, 1961), 15.

<sup>47</sup> *Ibid.*, 15.

<sup>48</sup> *Ibid.*, 15.

<sup>49</sup> Donald Appleyard, “Livable Streets: Protected Neighborhoods?” *American Academy of Political and Social Science*, vol. 451 (1980): 107, accessed March 30, 2015, doi: 10.1177/000271628045100111.

the benches, the street furniture, and the play places”.<sup>50</sup> Supporting this concept, Daniel G. Parolek, Karen Parolek, and Paul C. Crawford also discuss the importance of balanced spaces for public use and congregation, and pedestrian-friendly connections from place to place. This source goes on to provide steps to achieve communal design by defining terms and how to utilize codes. They also provide case studies that have implemented FBC.<sup>51</sup> Meanwhile, according to Appleyard, the community acts as its own defense from projects, plans, or other unwanted influences.<sup>52</sup>

In *A Pattern Language: Towns, Buildings, Construction*, the authors list the following as elements that link communities together: public transportation, ring roads, a network of learning, and a web of shopping. Other elements such as parking, roads, and building height limits support these networks. They are essential because they support the community and its basic needs.<sup>53</sup> Expanding on the idea of networks, John Chase, Margaret Crawford, and John Kaliski discuss automobiles and their relationship to communities. They discuss how although automobiles are inevitable, creating competitive pedestrian spaces is possible. Therefore, the authors provide ways to achieve pedestrian circulation that works with automobiles. Just as seating in public spaces is valuable to a community because it is heavily utilized, pedestrian circulation needs to be heavily utilized to be successful.<sup>54</sup>

A community’s participation and activism might not be enough to create change in the planning process, but rather needs to work with the vernacular. The partnership between the built environment and social practice occurs when spaces allow people to fit their activities in their lives.<sup>55</sup>

---

<sup>50</sup> Donald Appleyard, “Livable Streets: Protected Neighborhoods?” *American Academy of Political and Social Science*, vol. 451 (1980): 108, accessed March 30, 2015, doi: 10.1177/000271628045100111.

<sup>51</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 15.

<sup>52</sup> Donald Appleyard, “Livable Streets: Protected Neighborhoods?” *American Academy of Political and Social Science*, vol. 451 (1980): 108, accessed March 30, 2015, doi: 10.1177/000271628045100111.

<sup>53</sup> Christopher Alexander et al., *A Pattern Language: Towns, Buildings, Construction*, Vol. 2. (New York: Oxford University Press, 1977), 3.

<sup>54</sup> John Chase, Margaret Crawford, and John Kaliski, *Everyday Urbanism*, 1<sup>st</sup> ed. (New York: The Monacelli Press, Inc., 1999), 111.

<sup>55</sup> *Ibid.*, 137-138.



### 2.2.2 Design for Community

Brenda Case Scheer discusses the term “speculator city,” which refers to the grid-patterned street system created by land speculators during the pre-automobile era. This system was created by “an ingenious, capitalistic idea: Divide up all the land into simple lots and streets and sell it off to the highest bidder.” In a speculator city, landscaping, civic spaces, and boulevards were not considered in the creation of the grid.<sup>56</sup> Streets were eventually based on the speculator city division, but building types became inconsistent because the grid patterns joined older roads, thus integrating different building types and uses. The center of cities tend to be made of grids that connect with other grids.<sup>57</sup>

Peter Calthorpe states that in metropolitan regions, the nature of the city will specify which growth strategies will be needed:

Some regions with a very slow growth rate may only need incremental infill. Some regions with fast growth and much undeveloped suburban land may benefit from both infill and new growth area projects. Other regions may require all three strategies, including satellite towns, to absorb massive growth without destroying the identity of existing places. One thing is certain: With any blend of these forms, it is the quality of development, not just its location or size, that is the principal problem and opportunity of growth.<sup>58</sup>

Case Scheer also describes Master Planned Communities (MPCs) as “change-resistant places.” MPCs are described as less aesthetic, asphalted “dark zones” located along highway strips. Concluding her argument, Case Scheer states that MPCs have become non-traditional city neighborhoods that “ebb and flow as required for contemporary living”.<sup>59</sup> Calthorpe supports Case Scheer’s argument, stating that unless the specifications of “New Urbanism” (such as housing for diverse populations, various

---

<sup>56</sup> Brenda Case Scheer, “Shape of the City,” *Planning* 73, no. 7 (2007): 30, academic search premier (25788934).

<sup>57</sup> *Ibid.*, 31.

<sup>58</sup> Peter Calthorpe, introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz (New York: McGraw-Hill, Inc., 1994), xv.

<sup>59</sup> Brenda Case Scheer, “Shape of the City,” *Planning* 73, no. 7 (2007): 33, academic search premier (25788934).



uses, pedestrian-friendly streets, “positive public space,” civic and commercial centers that are well connected, transit orientation, and easily approachable open spaces) are implemented, new developments will suffer and fail.<sup>60</sup>

New Urbanism is the precursor to FBC. In fact, it is New Urbanists who are implementing FBC.<sup>61</sup> New Urbanists consider the shapes and forms of the built environment such as “building exteriors, the placement of buildings on their lots, and the nature of streets and public spaces”.<sup>62</sup> Todd W. Bressi describes New Urbanism as not a mere “romantic movement” but rather design and planning principles for disregarded community elements like public spaces such as streets, squares, and parks, diverse populations, and transportation.<sup>63</sup>

New Urbanism states that “[c]ommunity planning and design must assert the importance of public over private values” and created the focus of making design decisions that are in the community’s best interests.<sup>64</sup> The approaches are stated as the following:

The center of each neighborhood should be defined by a public space and activated by locally oriented civic and commercial facilities.  
Each neighborhood should accommodate a range of household types and land uses.  
Cars should be kept in perspective.  
Architecture should respond to the surrounding fabric of buildings and spaces and to local traditions.<sup>65</sup>

These principles of New Urbanism connect to the City Beautiful and Town Planning movements, which are respectively connected to Renaissance and Classical cities.<sup>66</sup> Contrasting with Case Scheer’s speculator city, Bressi discusses the City

---

<sup>60</sup> Peter Calthorpe, introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz (New York: McGraw-Hill, Inc., 1994), xv.

<sup>61</sup> Philip Langdon, “The Not-So-Secret Code,” *American Planning Association* (January 2006): 1, accessed February 28, 2015, [http://www.buffalosmartcode.org/downloads/The\\_Not\\_So\\_Secret\\_Code\\_Langdon\\_APA\\_Jan2006.pdf](http://www.buffalosmartcode.org/downloads/The_Not_So_Secret_Code_Langdon_APA_Jan2006.pdf)

<sup>62</sup> *Ibid.*, 3.

<sup>63</sup> Todd W. Bressi, introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz (New York: McGraw-Hill, Inc., 1994), xxv.

<sup>64</sup> Peter Calthorpe, introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz (New York: McGraw-Hill, Inc., 1994), xxvii.

<sup>65</sup> *Ibid.*, xxx.

<sup>66</sup> *Ibid.*, xxx.

Beautiful movement. At Chicago's 1893 World's Columbian Exposition, the marriage between Baroque planning and neoclassical architecture was utilized to "impose a sense of order, civility, and purpose on chaotic industrial cities."<sup>67</sup> A significant example of the New Urbanism movement is the Seaside, Florida beachfront community by architects Andres Duany and Elizabeth Plater-Zyberk. Both architects rejected Frederick Law Olmsted, Jr.'s belief that "we cannot judiciously attempt to control the form of the houses which men shall build, we can only, at most, take care that if they build very ugly inappropriate houses, they shall not be allowed to force them disagreeably upon our attention." The way Olmsted suggested responding to homes without aesthetic appeal was not achievable in Seaside due to restrictions. Thus, the architects established design requirements for landowners to utilize.<sup>68</sup> Therefore, although there are ways to sustain a community through techniques that have been practiced for years, sites and projects differ, which is why project-specific design requirements are essential.

## **2.3 FORM-BASED CODES**

### **2.3.1 The History of Form-Based Codes**

The concept of FBC began in 1981 in Seaside, Florida. Carol S. Wyant, president of Pathfinder Consulting, Chicago, and executive director of the Form-Based Code Institute (FBCI), coined the term in 2001. Similar to New Urbanism, Smart Growth, and Traditional Neighborhood Development, FBC were conceived as a tool to implement them. Wyant notes that "When Chicago reformed its code, I helped put together a presentation and labeled it FBC."<sup>69</sup> The Chicago Metropolitan Agency for Planning (CMAP) cites the design firm Duany, Plater-Zyberk & Company as establishing the first form-based code guidelines when they planned and developed Seaside, Florida. FBC are

---

<sup>67</sup> Peter Calthorpe, introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz (New York: McGraw-Hill, Inc., 1994), xxvii.

<sup>68</sup> Alexander Garvin, introduction to *Great Planned Communities*, edited by Jo Allen Gause (Washington: The Urban Land Institute, 2002), 23.

<sup>69</sup> William J. Angelo, "Form-Based Codes Help Shape New Urbanism," *ENR: Engineering News-Record* 260, no. 16 (2008):19, accessed March 10, 2015, academic search premier (32127195).

a method of development regulation that is embraced into municipal or county law. They stress physical character and can also include land use regulations. FBC establish a development's relationship to the context of the community, "especially the relationship between buildings and the street, pedestrians and vehicles, and public and private spaces. The code addresses these concerns by regulating site design, circulation, and overall building form".<sup>70</sup>

### 2.3.2 Advantages

William J. Angelo discusses how current designers and planners are turning to FBC to remediate planning issues within communities. He notes that Paul C. Crawford, principal of Crawford, Multari & Clark Associates in San Luis Obispo, California and chairman of the FBCI, Chicago, stated that professionals have become more and more disappointed with the "lack of certainty in project outcome."<sup>71</sup> This is a concern that Crawford has also emphasized with his co-authors in *Form-Based Codes: A guide for planners, urban designers, municipalities, and developers*.<sup>72</sup> Crawford goes on to explain that environments change over time and that codes that create a "developable public realm" need to be implemented to respond to these changes.<sup>73</sup>

*Form-Based Codes* and Angelo's article both explain how FBC regulate development and allow more communal input into planning the built form and character of an area. Angelo notes that the floor-area ratio (FAR) is not utilized in FBC and that FBC standardize public spaces and building forms. He also notes that FBC support "transit and are pedestrian friendly."<sup>74</sup> The FBCI describes the FBC as "prescriptive and

---

<sup>70</sup> Chicago Metropolitan Agency for Planning, *Form-Based Codes: A Step-by-Step Guide for Communities* (Chicago, IL: CMAP, 2012), 9.

<sup>71</sup> William J. Angelo, "Form-Based Codes Help Shape New Urbanism," *ENR: Engineering News-Record* 260, no. 16 (2008): 18, accessed March 10, 2015, academic search premier (32127195).

<sup>72</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 11.

<sup>73</sup> William J. Angelo, "Form-Based Codes Help Shape New Urbanism," *ENR: Engineering News-Record* 260, no. 16 (2008): 18, accessed March 10, 2015, academic search premier (32127195).

<sup>74</sup> *Ibid.*

predictable, it decreases the need for large land assemblies and it works well in established communities.”<sup>75</sup>

Parolek, Parolek, and Crawford provide a more standardized manual in how to develop an FBC for a project whereas Angelo discusses the concept and feedback from individuals who have worked with FBC. In addition, Parolek, Parolek, and Crawford list and describe the components that make up an FBC:

1. A Regulating Plan – map or plan assigning the code’s various standards to physical locations.
2. Public Space Standards – specifications for the elements within the public realm, including thoroughfares and civic spaces.
3. Building Form Standards – regulations controlling the configuration, features, and functions of buildings that define and shape the public realm.
4. Administration – requirements for the project application and review process.
5. Glossary – definitions of uncommon technical terms and phrases used in the code, as well as definitions of the land-use types used in the code.
6. Block Standards – regulations for dividing large sites into an interconnected and walkable network of streets and blocks.
7. Building Type Standards – specifications defining the form and function of the allowed building types.
8. Architectural Standards – regulations to control the character and quality of buildings.
9. Green Building Standards – specifications for environmentally sensitive, energy efficient, and low carbon footprint buildings that assist in achieving community sustainable goals.
10. Landscape Standards – regulations for the character and quality of the landscape within private spaces, but as it affects the public good, such as requiring native species to address water usage.<sup>76</sup>

Kaka‘ako has two standing sets of regulations by the Hawai‘i Community Development Authority (HCDA), which are the Mauka [mountains] and Makai [ocean] Area Plans and Rules for building and developing in the district. Queen Street falls under the Mauka Area Plan, which also dictates the goals of that portion of Kaka‘ako.

The book *Form-Based Codes* by Parolek, Parolek, and Crawford is intended to guide various types of projects. The authors first explain the related terms and how to use

---

<sup>75</sup> William J. Angelo, “Form-Based Codes Help Shape New Urbanism,” *ENR: Engineering News-Record* 260, no. 16 (2008): 18, accessed March 10, 2015, academic search premier (32127195).

<sup>76</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 15-16.

the codes, and discuss how they are then applied to various case studies.<sup>77</sup> *Form-Based Codes* is the foundation for this research project because. This source, in conjunction with the Mauka Area Plan, will be essential in creating a design for the future use of this dissertation. Both sources share similar goals of creating a balanced community for public uses, designing gathering spaces, and developing stronger pedestrian-friendly connections from place to place.

### 2.3.3 Using FBC to Maintain Culture & Character

William J. Angelo provides an example from Kaizer R. Rangwala, an assistant director of community development for Ventura, California who implemented FBC. Rangwala explained the reason for this implementation, stating that “In 2005, we adopted a new general plan but our existing zoning code would not allow us to deliver the vision, which is to encourage sustainable growth, preserve open and beach spaces, enhance historic and cultural resources and direct growth to infill areas”.<sup>78</sup> Angelo goes on to support the advantages of FBC through the experiences of designers and planners who worked on projects that implemented them. In concluding his report, he emphasizes that FBC prohibit unforeseen development.<sup>79</sup> Similarly, CMAP further supports that FBC maintain the character of the community because they “provide greater predictability about the visual aspects of development, including how well it fits in with the existing context of the community”.<sup>80</sup>

While Angelo explains how FBC foster the character and culture of a neighborhood, CMAP goes on to explain how a FBC is different from conventional zoning:

- Encourages a mix of land uses, often reducing the need to travel extensively as part of one’s daily routine.
- Promotes a mix of housing types.

---

<sup>77</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 5.

<sup>78</sup> William J. Angelo, “Form-Based Codes Help Shape New Urbanism,” *ENR: Engineering News-Record* 260, no. 16 (2008): 19, accessed March 10, 2015, academic search premier (32127195).

<sup>79</sup> *Ibid.*, 19.

<sup>80</sup> Chicago Metropolitan Agency for Planning, *Form-Based Codes: A Step-by-Step Guide for Communities* (Chicago, IL: CMAP, 2012), 9.

- Is “proactive,” focusing on what the community wants and not what it dislikes.
- Results from a public design process, which creates consensus and a clear vision for a community, to be implemented by the form-based code.
- Tailors the requirements to fit specific places or neighborhoods by reflecting local architecture and overall character.
- Emphasizes site design and building form, which will last many years beyond specific numerical parameters such as density and use regulations that are likely to change over time.
- Addresses the design of the public realm and the importance that streetscape design and individual building character have in defining public spaces and a special “sense of place.”
- Provides information that is easier to use than conventional zoning codes because it is shorter, more concise, and emphasizes illustrations over text.<sup>81</sup>

CMAP states that a community that utilizes conventional zoning allows a community’s “sense of place” to deteriorate or to never be “achieved in the first place.” Conventional zoning also affects public transportation by making it less efficient and creating a dependency on automobiles. As a result, streets revolve around designs to accommodate automobiles rather than people (Chicago Metropolitan 2012, 8).

## 2.4 COMMUNITY

### 2.4.1 Defining a Sense of Place

A place can be determined and explained by various definitions, yet creating a sense of place depends on different elements such as boundaries and the design patterns of a space. The intent of introducing the idea of sense of place following the previous chapter discussing FBC is to suggest how a sense of place can be achieved by implementing these practices.

Boundaries and territories are created to form a space, which then becomes a place. And this space is determined by the people who are present at the time.<sup>82</sup> William

---

<sup>81</sup> Chicago Metropolitan Agency for Planning, *Form-Based Codes: A Step-by-Step Guide for Communities* (Chicago, IL: CMAP, 2012), 9.

<sup>82</sup> Norman Ashcraft and Albert E. Scheflen, *People Space: The Making and Breaking of Human Boundaries*, (Garden City: Anchor Books, 1976), 7.

H. Whyte expands this rationale, stating that place is a space for social life because it means that people are able to meet and utilize this boundary. People simply being present in an area creates a sense of place in addition to attracting more people with the use of food, shade, water, and natural elements such as sun, wind, and trees.<sup>83</sup> People also attract people, and Ashcraft and Scheflen argue that a place is created and defined by people's behaviors. Thus, according to them, the attitudes of people define a place whereas Whyte argues that the boundaries and territories of a space are not only defined by people's behaviors, but also the physical elements that attract people to the place.<sup>84</sup>

Jan Gehl believes that a person's feeling of spatial quality is what leads to a sense of place, which attracts people to a space. Furthermore, a place has both psychological and physical associations for people.<sup>85</sup> In *Cities for People*, Gehl defines how the physical feeling of a place is created, which is through buildings, life, and space. He explains that human scale supports this concept and that if it does not exist in a city, neither will people. Gehl agrees with Ashcraft and Scheflen's and Whyte's assertions that people create a sense of place, but goes further to say that buildings are able to frame spaces for people.<sup>86</sup>

Gordon Cullen expands on both the physical and psychological parameters and provides more specific examples than Gehl. Cullen holds that public spaces can be physically created through the use of various design techniques and that reactions depend on how a person's body is situated in the environment. Expanding on Gehl's discussion of the psychological aspects of sense of place, Cullen explains simply that if a person is standing on a cliff's edge, he/she will experience a shock whereas if the person is standing in a dark cave, he/she might feel claustrophobic.<sup>87</sup> Cullen further explains that the physical aspects of the surrounding environment of a person create a psychological reaction:

---

<sup>83</sup> William H. Whyte, *The Social Life of Small Urban Spaces* (New York: Project for Public Spaces, 2001), 18-19.

<sup>84</sup> *Ibid.*, 18-21.

<sup>85</sup> Jan Gehl, *Cities for People* (Washington: Island Press, 2010), x-xi.

<sup>86</sup> *Ibid.*, x-xi.

<sup>87</sup> Gordon Cullen, *Townscape*, (New York: Reinhold Publishing Corporation, 1961), 12.



There is a reaction to being hemmed in as in a tunnel and another to the wideness of the square. If, therefore, we design our towns from the point of view of the moving person (pedestrian or car-borne) it is easy to see how the whole city becomes a plastic experience, a journey through pressures and vacuums, a sequence of exposures and enclosures, of constraint and relief.<sup>88</sup>

Furthermore, in order to create a feeling of a sense of place on a street or plaza, you don't just design for the 'here,' but rather also for the 'there;' these relationships depend on each other to create a sense of place. An example would be a person walking up a path, knowing his/her present environment ('here') but as he/she walks further, he/she sees a statue ('there'). This technique creates mystery and is also an example of how Cullen furthers his argument from the psychological and physical definitions of a sense of place by explaining design techniques in creating a sequence.<sup>89</sup>

#### **2.4.2 The Importance of Character**

The Project for Public Spaces (PPS) is a nonprofit organization that provides education in the design and planning of public spaces in an effort to continue the work of William H. Whyte.<sup>90</sup> The PPS expands on Whyte's study on the benefits of having physical elements create space by explaining that in order to create a sense of place, the organization of circulation is essential.<sup>91</sup> Thus, it is similar to Cullen's 'here' and 'there' concept because the PPS explains that the connection between retail and public event spaces is important to build the community. The eleven principles are:

1. The community is the expert
2. Create a place, not a design
3. Look for partners
4. You can see a lot just by observing
5. Have a vision
6. Start with the petunias: lighter, quicker, cheaper
7. Triangulate
8. They always say "it can't be done"
9. Form supports function

---

<sup>88</sup> Gordon Cullen, *Townscape*, (New York: Reinhold Publishing Corporation, 1961), 12.

<sup>89</sup> *Ibid.*, 12.

<sup>90</sup> "Eleven Principles for Creating Great Community Places," Last modified 2016. <http://www.pps.org/reference/11steps/>.

<sup>91</sup> *Ibid.*



10. Money is not the issue
11. You are never finished<sup>92</sup>

*Streets and the Shaping of Towns and Cities* also offers a supportive example for the *Code of the City*'s proposal for creating a sense of place, by architect E.W. Godwin and developer Jonathan T. Carr: Bedford Park. Carr and Godwin's proposed plan followed the natural pattern of the site, rather than following a typically-patterned street plan. Soon enough, this development was celebrated as "The Healthiest Place in the World".<sup>93</sup> To create a sense of place on a street, it must be visually different from the surrounding streets. Allan Jacobs also offers the example of Roslyn Place in Pittsburgh, which maintains its own character, and has a certain feeling and intimacy.<sup>94</sup>

The benefits of the Bedford Park project included easy access to shops, transportation, and other services. Most importantly, the streets incorporated sidewalks, planting strips, and also paved ways from green spaces. Having various types of visual experiences is another important reason why the streets were so successful. They created an intimate experience, similar to that of a village.<sup>95</sup> Therefore, although the unique character of a place can be maintained by following the natural patterns of a site, Jacobs argues that it is both character and emotion that is essential in a place.<sup>96</sup>

### **2.4.3 Place as a Built and Unbuilt Environment**

Sense of place on the street level of a city is achieved through the streets' ability to serve the surrounding community and the people. Michael Southworth and Eran Ben-Joseph describe a successful place as one that coordinates with traffic, yet is not heavily impacted by automobiles. As the authors put it, streets are the stages for the everyday lives and events of the people who dwell there. Successfully achieving a sense of place is

---

<sup>92</sup> "Eleven Principles for Creating Great Community Places," Last modified 2016.  
<http://www.pps.org/reference/11steps/>.

<sup>93</sup> Michael Southworth and Eran Ben-Joseph, *Street and the Shaping of Towns and Cities* (Washington: Island Press, 2003), 47.

<sup>94</sup> Allan B. Jacobs, *Great Streets* (Cambridge: MIT Press, 1995), 15-19.

<sup>95</sup> Michael Southworth and Eran Ben-Joseph, *Street and the Shaping of Towns and Cities* (Washington: Island Press, 2003), 48.

<sup>96</sup> Allan B. Jacobs, *Great Streets* (Cambridge: MIT Press, 1995), 8-11.

not being limited to the restrictions of codes and standards, but realizing what a place should and can be.<sup>97</sup> By reviewing and changing standards to ensure spaces for the public to socialize and gather, we can evolve as a society and create well-designed cities.<sup>98</sup>

Parolek, Parolek, and Crawford go even further by emphasizing open spaces and even nodes of space between buildings to allow the community to gain a sense of place versus limiting communal design to streets.<sup>99</sup> Such civic spaces where the public can gather, made possible through the implementation of FBC, are an important element in creating healthy neighborhoods.<sup>100</sup>

*A Pattern Language: Towns, Buildings, Construction* emphasizes that a sense of place is achieved by implementing communal space. It further notes that in the built environment, if “shops are too large, or controlled by absentee owners, they become plastic, bland, and abstract”.<sup>101</sup> Therefore, creating a sense of place in a built environment can be applied by creating street cafes, which become social spaces where people can sit and people watch. Street cafes are significant because they are a built environment where a person “can sit still, relax, and be very public”.<sup>102</sup>

The FBC is a regulatory tool that assists planners in creating successful places by relying on two essential practices: a “compelling plan” and the “charrette process”.<sup>103</sup> The compelling plan is how the “[FBC] are embedded in a suite of best practices that also includes high-quality urban design” whereas the “charrette process” is a participatory planning method. The community is involved throughout the whole design process.<sup>104</sup> This provides the opportunity to create a sense of place with the guidance of not only design professionals, but also the people who dwell in the area.

---

<sup>97</sup> Michael Southworth and Eran Ben-Joseph, *Street and the Shaping of Towns and Cities* (Washington: Island Press, 2003), 1.

<sup>98</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 4.

<sup>99</sup> *Ibid.*, 14.

<sup>100</sup> *Ibid.*, 35.

<sup>101</sup> Christopher Alexander et al., *A Pattern Language: Towns, Buildings, Construction*, Vol. 2. (New York: Oxford University Press, 1977), 433.

<sup>102</sup> *Ibid.*, 437.

<sup>103</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 14.

<sup>104</sup> *Ibid.*, 14.

Donald Appleyard argues that as the place where people meet, gather, and socialize, streets are “the most important part of our urban environment. Yet today these streets are dangerous, noisy, polluted, and impersonal domains, about which residents feel able to do little”.<sup>105</sup> Appleyard and Parolek, Parolek, and Crawford agree that built practices contribute to a sense of place. Yet Parolek et al. also discuss how a sense of place is achieved by designing, developing, and evolving over time in order to improve cultural and social conditions and understanding what situations in the public realm are successful and unsuccessful. This is why communal design is an essential element of FBC.<sup>106</sup>

Meanwhile, Appleyard expands on how physical elements affect interaction and socialization among people. “There is no single perfect street, but the qualities described previously should help to set some standards that we should strive to attain”.<sup>107</sup> He adds that there are different types of urban life that are newer and have their own type of lively atmosphere.<sup>108</sup>

Eran Ben-Joseph discusses how culture is a major influence on sense of place and must be considered in designing urban and suburban landscapes. Therefore, the design of a place is determined by where and when it is necessary.<sup>109</sup> Jan Gehl and Birgitte Svarre further elaborate on this notion in their application of the list of criteria of the human senses that dictate an enjoyable sense of place. They utilized the human senses to determine what makes a place comfortable and supported this definition with results from various studies.<sup>110</sup>

In *Everyday Urbanism*, sense of place is a social performance, in both the built and unbuilt environments. The unbuilt environment is the social practices conducted by people and is created through design. Social performance is a reaction to the convergence

---

<sup>105</sup> Donald Appleyard, “Livable Streets: Protected Neighborhoods?” *American Academy of Political and Social Science*, vol. 451 (1980): 107, accessed March 30, 2015, doi: 10.1177/000271628045100111.

<sup>106</sup> Daniel G. Parolek, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), 13.

<sup>107</sup> Donald Appleyard, “Livable Streets: Protected Neighborhoods?” *American Academy of Political and Social Science*, vol. 451 (1980): 109, accessed March 30, 2015, doi: 10.1177/000271628045100111.

<sup>108</sup> *Ibid.*, 109.

<sup>109</sup> Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, (Cambridge: MIT Press, 2005), xiv.

<sup>110</sup> Jan Gehl and Birgitte Svarre, *How to Study Public Life* (Washington: Island Press, 2013), xii-xiii.

of both the physical and emotional factors of a public realm.<sup>111</sup> Stewart Brand also introduces the idea of the unbuilt environment creating a sense of place. He describes an innovative idea in regards to buildings, which is using time as a tool to create character in a building. He discusses how time is an essential factor in creating a quality built environment.<sup>112</sup>

#### **2.4.4 Time as an Essential Factor**

Brenda Case Scheer describes the master-planned community (MPC) as a new phenomenon that “is laid out all at one time as a complete recipe for a charmed life.” It is usually planned as a single project and developed in a short time”.<sup>113</sup> In contrast to the MPC, Stewart Brand introduces the idea of time as an important factor in creating a building.<sup>114</sup> Planned communities require landscaping, civic spaces, and open spaces such as parks. The architecture and building types and sizes are specified by the developer. Although this differs from a “speculator city” that only provides property lines and its streets, a master-planned community does not embrace or support change. Case Scheer recognizes that developers and master planners do not consider long-term changes although “change is inevitable and over a period of 50 to 100 years, cities and towns are likely to go through some pretty dramatic shifts in response to new technology and other social and economic forces.”<sup>115</sup>

---

<sup>111</sup> John Chase, Margaret Crawford, and John Kaliski, *Everyday Urbanism*, 1<sup>st</sup> ed. (New York: The Monacelli Press, Inc., 1999), 8-15.

<sup>112</sup> Stewart Brand, *How Buildings Learn: What happens after they're built*, (New York: Penguin Books, 1994), 1-8.

<sup>113</sup> Brenda Case Scheer, “Shape of the City,” *Planning* 73, no. 7 (2007): 32, academic search premier (25788934).

<sup>114</sup> Stewart Brand, *How Buildings Learn: What happens after they're built*, (New York: Penguin Books, 1994), 1-8.

<sup>115</sup> Brenda Case Scheer, “Shape of the City,” *Planning* 73, no. 7 (2007): 32, academic search premier (25788934).

Contemporary developments don't offer flexible uses and interchangeable lots. The best we can do now is to make buildings that look as though they are individual buildings but they are really very large buildings, operated by a single entity and designed to imitate the old ways... [e]ven very large MPC[s] rarely include the uses – employment, recreation, transport, and so on – needed to support the economy of a fully realized city. Try as we may to recreate the look, if not the function, of 19<sup>th</sup> century towns, just near the border is the ugly truth of our 21<sup>st</sup> century global and technological economy.<sup>116</sup>

Stewart Brand explains that the building process does not stop with the completion of construction, but rather continues to evolve as it is inhabited. Time is also an essential factor in creating a sense of place, helping to delineate the evolution of a place and the shaping of its community. How time develops and molds a place determines how building structures are able to adapt to changes due to today's "global and technological economy".<sup>117</sup> In order to adapt to new changes in the future, it is vital to understand both Brand's and Case Scheer's arguments.

## 2.5 UTILIZATION OF STREETS

Street-Based Codes, a subset of FBC, determine various types of streets, like boulevards, collectors, and arterials. The designations of these streets depend on their traffic levels, speeds, pedestrian activities, dimensions, parking organization, bicycle lanes, and building forms such as height, frontage, and build-to lines. These are best illustrated in section drawings.<sup>118</sup> Allan Jacobs discusses how the emotional connections between streets (places) and people are much more important and necessary than their economical or functional purposes. Jacobs goes on to describe some of the most successful streets and the characteristics that led to their success. Similarly to the CMAP, Jacobs illustrates his arguments by diagramming the patterns, plans, and sections of streets, thus providing a kind of manual.

---

<sup>116</sup> Brenda Case Scheer, "Shape of the City," *Planning* 73, no. 7 (2007): 32, academic search premier (25788934).

<sup>117</sup> *Ibid.*, 32.

<sup>118</sup> Chicago Metropolitan Agency for Planning, *Form-Based Codes: A Step-by-Step Guide for Communities* (Chicago, IL: CMAP, 2012), 18.

Jan Gehl's *Cities for People* is likewise meant to assist in the planning of cities. Gehl discusses traffic controls, how people experience a city, and how a city should be experienced at a human scale.<sup>119</sup> He believes that pedestrians should be at the center of the planning and design of a city, and notes the increasing awareness of pedestrian considerations around the world as well as the need to create healthier, more livable cities. Through the successful use of diagrams and photos, Gehl discusses how human senses, scales, sustainability, and consideration of human experiences help develop cities for people.<sup>120</sup>

Gehl and Birgitte Svarre's book, *How to Study Public Life*, describes different ways to acquire a better knowledge of public life. The overall goal is to observe life in the city. The methods allow the reader to make an educated guess about how a space will support public life. This book focuses on people rather than traffic patterns and structures because in the authors' minds, planners have overlooked people for too long.<sup>121</sup>

The book *Life Between Buildings: Using Public Space* offers examples in Denmark and has many photos. While additional examples from other urban conditions may have strengthened Gehl's argument, he writes from firsthand experience. His descriptions of how to achieve a walkable city are regarded as a general guide that may be utilized in many different types of cities.<sup>122</sup> The book also describes the different features of a city and what makes it a people's city. He emphasizes that it is between buildings where the city basically dwells. It is in the streets that people socialize, are inspired, and are able to achieve a sense of independence from automobiles.<sup>123</sup>

*Cities for People* is an advantageous source for understanding what creates a healthy and livable city, whereas his previous texts are guidelines to follow in the process of creating a healthy and livable city. Gehl agrees that cities are attempting to and have been successful in changing how cities are planned. He respects how city planners are becoming more aware of pedestrian concepts yet notes that there are larger improvements to be made. This research project appreciates the text's discussion of developing cities in

---

<sup>119</sup> Jan Gehl, *Cities for People* (Washington: Island Press, 2010), 33-42.

<sup>120</sup> Ibid., 33-42.

<sup>121</sup> Jan Gehl and Birgitte Svarre, *How to Study Public Life* (Washington: Island Press, 2013), 2-11.

<sup>122</sup> Jan Gehl, *Life Between Buildings: Using Public Space* (Washington: Island Press, 2011), 7.

<sup>123</sup> Ibid., 7.

South Africa and Bangladesh, but it is not an in-depth study.<sup>124</sup> This research project also would favor more supporting research in Gehl's assertion that people who dwell in cities that revolve around automobiles are treated unjustly.<sup>125</sup>

The way Jacobs has utilized dimensions is particularly relevant to this research due to the use of codes and standards. This research agrees with Jacobs' argument and how he uses his examples to compare one street to another, allowing the reader to come to his or her own conclusions about them.<sup>126</sup> Ultimately, just as Gehl initiated in *Life Between Buildings*, the author wants readers to be able to analyze the streets that they experience on their own.<sup>127</sup>

*Life Between Buildings* is essential to this project because it is a manual to achieve a walkable city. Gehl discusses the basic human behaviors within a city such as people watching, socializing, and listening, and explains how simply arranging a seating area to face a busy street or opening restaurants and shops to the sidewalk will support social spaces.<sup>128</sup> He believes that a city should be easily accessible and designed for pedestrians. Gehl refrains from the use of automobiles, especially developments that revolve around them in planning. As it is on streets that people experience and socialize with each other, streets should be inviting and serve as backyards for urban residences. Cities are meant for people and if they are overpopulated by cars, then we lose our sense of belonging to what was originally meant for us.<sup>129</sup>

In *How to Study Public Life*, the way cities should be built is simple: people first. There is no surefire way to make a city successful, but understanding cities and their patterns over time leads to better judgments in design and planning. This research project agrees with the authors and believes that their methods, accumulated over half a century of experience, are accurate. This project is most compelled by their emphasis on time as a factor in creating a sense of place to which people are drawn.<sup>130</sup>

---

<sup>124</sup> Jan Gehl, *Cities for People* (Washington: Island Press, 2010), x-xi.

<sup>125</sup> *Ibid.*, x-xi.

<sup>126</sup> Allan B. Jacobs, *Great Streets* (Cambridge: MIT Press, 1995), 8-11.

<sup>127</sup> Jan Gehl, *Life Between Buildings: Using Public Space* (Washington: Island Press, 2011), 7.

<sup>128</sup> *Ibid.*, 24-29.

<sup>129</sup> *Ibid.*, 31-37.

<sup>130</sup> Jan Gehl and Birgitte Svarre, *How to Study Public Life* (Washington: Island Press, 2013), 2-11.



John Chase, Margaret Crawford, and John Kaliski open *Everyday Urbanism* with the big question: What is everyday urbanism? They explain that although it is simple and also common sense, it is a new way to understand a city. It is the layering of economic, social, and political issues that constitute everyday urbanism, which they use to describe anything affecting the lives of people.<sup>131</sup>

In *Livable Streets: Protected Neighborhoods?* Donald Appleyard notes how streets have become too dangerous for children to use. He also notes how impersonal streets can feel and how they may even make people feel helpless. The author further suggests what a livable street and safer environment entails: more acceptable speed limits, volumes, noise levels, a reduction of accidents, and allowing pedestrians to be the dominant group.<sup>132</sup> Appleyard's text is relevant to this project because it points out a factor that other sources have not: safety. He explains that streets are basically an urban child's backyard. Therefore, it is essential to create a safe environment to allow children to grow and experience the outdoors. This is achieved first by lowering the speed limits in the area. Streets need to also be healthy environments, where people are free to discuss and socialize without having difficulties due to the surrounding noise.<sup>133</sup> This research project has found Appleyard's disagreement with the suggestion that the middle class' ideal street is a "sanctuary" especially interesting. He holds that streets are meant to be social centers. He also discusses the different characters of streets such as the urban streets of New York and London. While he believes that local shops and businesses are suffering due to high-end boutiques and restaurants, he supports this kind of new street, which attracts a younger crowd.<sup>134</sup>

---

<sup>131</sup> John Chase, Margaret Crawford, and John Kaliski, *Everyday Urbanism*, 1<sup>st</sup> ed. (New York: The Monacelli Press, Inc., 1999), 8-10.

<sup>132</sup> Donald Appleyard, "Livable Streets: Protected Neighborhoods?" *American Academy of Political and Social Science*, vol. 451 (1980): 107-114, accessed March 30, 2015, doi: 10.1177/000271628045100111.

<sup>133</sup> *Ibid.*, 114.

<sup>134</sup> *Ibid.*, 107.



## **2.6 CONCLUSION**

In conclusion, this literature review provides current knowledge on how codes and zoning affect a city and how creating a sense of place requires more efforts rather than Euclidean zoning. Codes have been effective in the past as a means of creating healthy cities for the benefit of the people. Yet as time progresses, the way we structure our cities should also progress. This research project challenges the current field of knowledge by offering another question: when there are two separate major developments occurring on opposite ends of a city's district, what happens to the street located in the middle as the two developments move inwards? Furthermore, this project expands the notion of how the implementation of FBC will foster a sense of place as time progresses over ten to thirty years.

## **CHAPTER 3 RESEARCH METHODS**

The goal of the research for this dissertation was to explore whether the implementation of the form-based code (FBC) can maintain both character and culture in order to create a sense of place on Queen Street. Studying the underlying issues that relate to FBC and Queen Street provided the foundation for a projected design. This research used the following three methods: interpretive-historical research, site analyses, and qualitative research.

The interpretive-historical research involved studying Kaka'ako's history by using planning documents, news articles, and other related materials. Researching the history of Kaka'ako was essential in order to gain a deeper understanding of the culture and character of the district and its community. Historical were also utilized to show the transition of the buildings and roads on Queen Street. Understanding the history of Kaka'ako assisted in interviewing the participants and connecting their perspectives with the integration of FBC.

Site analyses of individual properties, historic preservation landmarks, and observations and photos of pedestrian and automobile traffic from site visits were

conducted. The Kaka‘ako Mauka Area Plan and Rules from the Hawai‘i Community Development Authority (HCDA) were utilized to investigate the contemporary context. Prior to the site visits, maps were collected that represented every decade beginning from the late 19<sup>th</sup> century, in order to understand the transformation of Queen Street. Sanborn Fire Insurance Maps and Dakin Maps were further used to analyze the street’s evolution.

Finally, qualitative research was conducted by interviewing participants and exploring their perspectives, opinions, and preferences. The observations and information collected through interviews provided a deeper understanding of Kaka‘ako’s Queen Street.

The redesign of Queen Street needs to not only serve its community, but also be adaptable to its businesses and agreed upon by the designers, planners, and policymakers. Therefore, the interviewed participants were chosen based on their various roles in the community. The interviewees were asked questions that allowed them to express their understanding of their situation in relation to the topic at large.

In order to achieve a representative picture, the participants’ ranged from business owners on Queen Street, to an urban planner, to residents of Kaka‘ako, to policymakers at the state level. This was essential as the design affects not only proprietors on Queen Street, but also Kaka‘ako visitors. Observations of people on Queen Street were also conducted in order to analyze and study their behaviors. Such observations assisted in the final design proposal for Queen Street by improving site conditions for pedestrians.

The macro scale of the project is the overall boundaries of Kaka‘ako. The meso scale is Queen Street and the neighboring street circulation, and the micro scale is the relationship between building forms and the human scale.

The analysis first discusses the history of Kaka‘ako and follows with the current issues and events in the area. This portion of the research is critical because it relates to the character and culture of Kaka‘ako. In addition to current events, the Kaka‘ako Mauka Area Plan and Rules drafted by the HCDA are explored because they contain the current building standards and restrictions of the community. Photos taken from site visits and Google Maps from the Honolulu Authority for Rapid Transportation (HART) website were also used to give a visual sense of Queen Street, in addition to the map of Kaka‘ako

taken from the GIS map to locate the street and its surrounding areas for diagramming purposes.

Understanding the importance of community and its design is essential to this project. More specifically, knowing the advantages of utilizing FBC provided the foundation for a new design for Queen Street that benefits its community and businesses.

## CHAPTER 4 FINDINGS

### 4.1 History of Kaka‘ako

The history of Kaka‘ako can be traced to the reign of King Kamehameha I (Native Hawaiian leader who brought all of the islands of Hawai‘i under his rule).<sup>135</sup> Like Waikiki and Honolulu, Kaka‘ako was coastal swampland used for salt production, fishing, religious practices, cleansing, and canoe landings. A small population of Native Hawaiians populated the Kaka‘ako district until the mid-1800s, when their numbers increased significantly. During that time, residences began to be constructed and the shoreline was expanded to as much as half a mile.<sup>136</sup>

Based on an interview with a participant who has worked on many projects in Kaka‘ako as a cultural consultant, Kaka‘ako is rich and special because of its cultural identity. During the pre-contact era, Kaka‘ako was a culmination of wetlands, fish ponds, taro patches, pasture land, salt ponds (Hawaiian salt was essential to the culture), coconut palms, and fruit such as the ‘uala (sweet potato). Ocean resources such as limu (algae) and fish were also valuable resources. During this era, the ocean stretched further mauka than today’s shoreline which was later infilled. The people of Kaka‘ako did a lot of the farming and fishing that produced the food for the ali‘i (chiefs) and their families.<sup>137</sup> Eventually, most of the land was gifted to the families that cared for the fish ponds and raised the fish that were favored by the ali‘i and that fed the families who lived in the area. The participant further stated that people in the area did a lot of farming, fishing, and maintaining fish ponds for the community. Therefore, Kaka‘ako was a place that is rich in culture, which became further populated as time passed.<sup>138</sup> The participant states that many burials have been discovered in the area, which further suggests that Kaka‘ako was a good place to live as people were typically buried in the area where they dwelled. Kaka‘ako was likely popular because it was near the ocean and had favorable weather

---

<sup>135</sup> “Kamehameha the Great,” last modified 2016, <http://www.nps.gov/puhe/learn/historyculture/kamehameha.htm>.

<sup>136</sup> Marsha Gibson, *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako* (Honolulu: Mutual Publishing, LLC, 2011), ix.

<sup>137</sup> Interview with Participant #9, May 05, 2015.

<sup>138</sup> Ibid.

conditions. Thus, the participant concluded that Kaka‘ako is a very special place, therefore its special identity should be maintained.<sup>139</sup>

A map of Honolulu from 1818 and 1819 illustrates “little orderly arrangement of houses and streets, and that the bulk of the population was clustered near the harbor.”<sup>140</sup> A map drawn a few years later shows that the streets were still not completely defined in 1825 (fig. 2). It was not until 1838 that merchants and English civilians implemented a project to define streets. While “[i]t’s not as if there were no streets,” Ka‘ahumanu II was compelled to publish the following in the *Sandwich Island Gazette*:

I, Kaahumanu II,  
[D]o hereby explain to you, O people of the foreign land and also to those of these islands the work to be done on this year of ours. Here is the work. I shall widen the streets in our city and break up some new places to make five streets on the length of the land, and six streets on the breadth of the land....

That is why some of our streets are closed. Because of the lack of streets some people were almost killed by horseback riders and the rulers of the kingdom barely escaped in 1834...Because the streets lack yards, therefore that may be the reason for the filth and stench and the too close living that cause people of the city to be sick. Because of the lack of streets, there is much foul odor to offend the nose, therefore, perhaps causing dull headaches...Therefore do not hinder with evil hearts....

Ka‘ahumanu II <sup>141</sup>

Governor Mataio Kekuanaoa (Ka‘ahumanu II’s husband) led the new project. Compared to the map from 1825, the streets on a map drawn around 1843 are more visible and identifiable (fig. 3). A 1939 article by the Hawaiian Historical Society speculates that Kekuanaoa started to lay out the city in a “theoretical square” because of the existing mixture of many houses.<sup>142</sup>

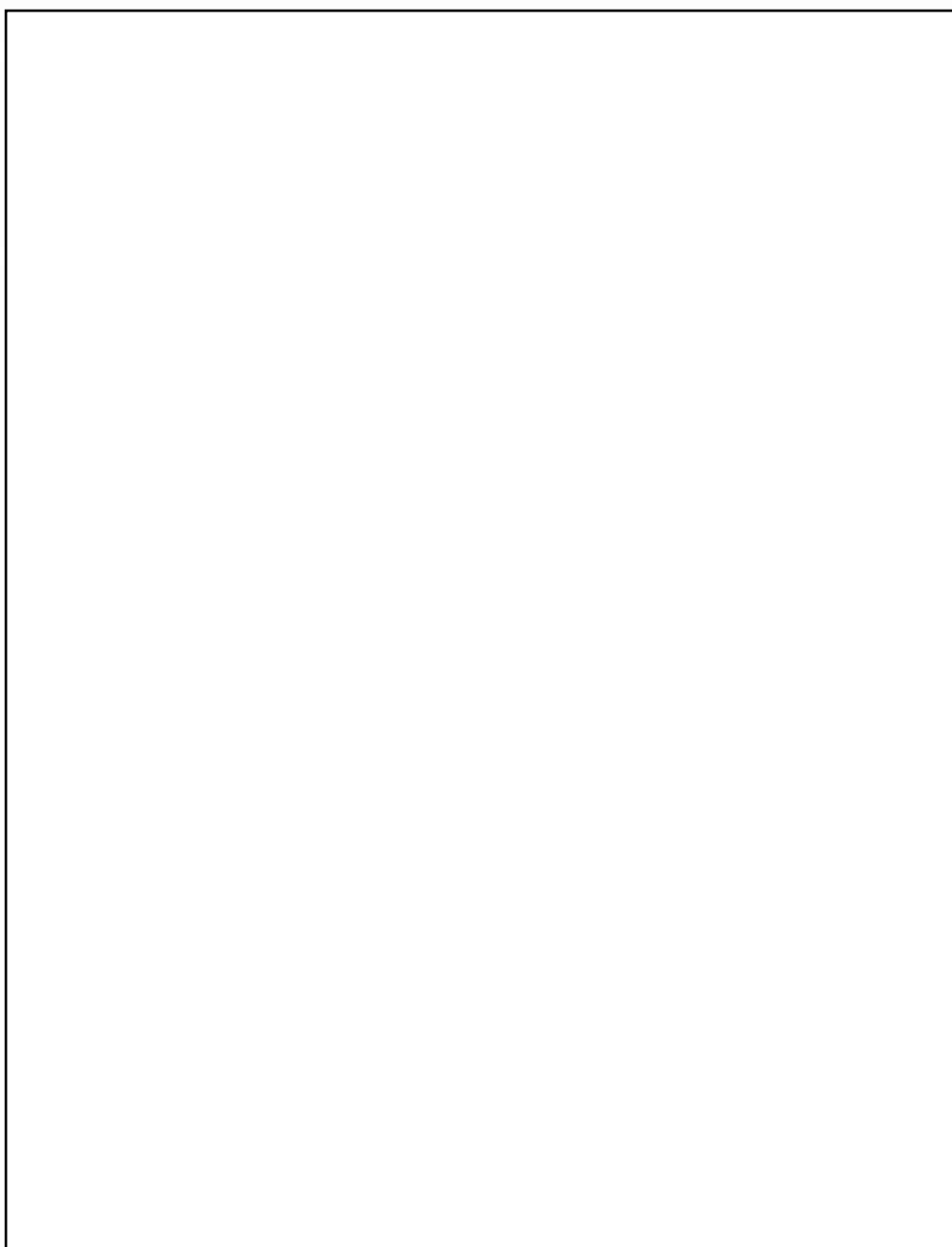
---

<sup>139</sup> Interview with Participant #9, May 05, 2015.

<sup>140</sup> Hawaiian Historical Society, Forty-seventh annual report of the Hawaiian Historical Society for the year 1938 (Honolulu: The Society, 1939): 7, accessed August 10, 2015, <https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=1>.

<sup>141</sup> Ibid., 8.

<sup>142</sup> Ibid., 8.



**Figure 2.** Map c. 1825,  
Source: Papers of the Hawaiian Historical Society. Available from: Papers of the  
Hawaiian Historical Society,  
[https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=](https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=1)  
1 (Accessed November 12, 2015).

The same article also notes that before the project, the streets (also known as “big paths”) were “straggling, crooked, and narrow, necessitating the severe alterations complained of by the merchants.” Of the six streets named before the project, five retained their names: King, Queen, Merchant, Fort, and Ka‘ahumanu. Interestingly, Queen Street was originally called Sea Street because it was located close to the ocean but it changed when the area was infilled.<sup>143</sup> A hundred years before the article was published, the Hawaiian Historical Society noted that Honolulu village was formed in a rectangular shape, bordered by the “big paths” or streets with Beretania Street above, Queen Street at the bottom (which was described as “really only a pathway along the water’s edge”) and Nu‘uanu and Alakea Streets on either end.<sup>144</sup>

In 1845, a newspaper called *The Friend*, stated that Honolulu was beginning to become a “civilized” place, since the village supported “twenty-seven prominent chapels, schools, and government buildings besides forty-five business houses.” However, an opposing view stated that:

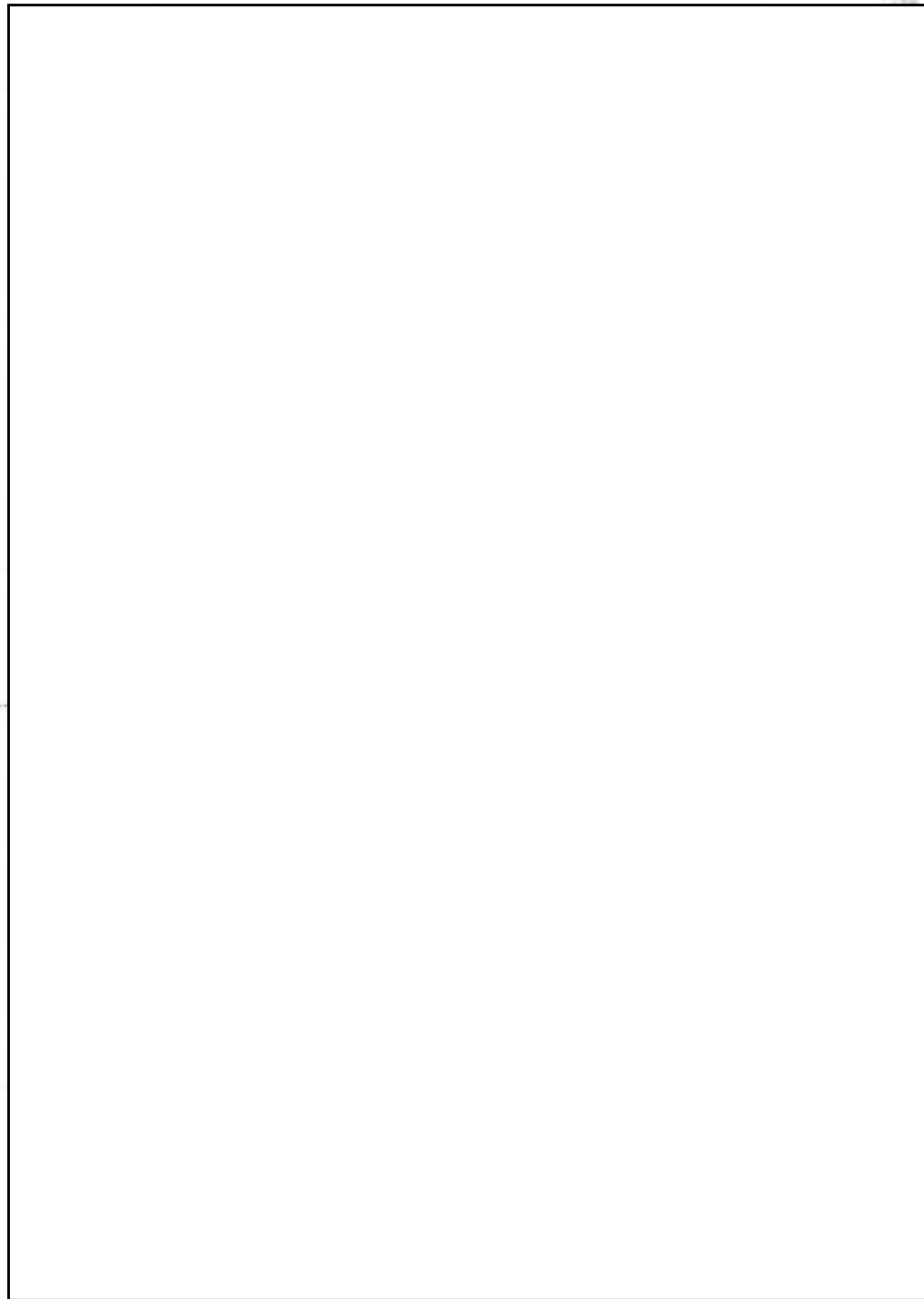
The streets, if so they may be called, have no regularity as to width, and are ankle-deep in light dust and sand. Little pains are taken to keep them clear of offal; and in some places, offensive sink-holes strike the senses in which are seen wallowing some old and corpulent hogs. One of these, which was pointed out to us as belonging to the king, was tabooed, and consequently a privileged personage.<sup>145</sup>

---

<sup>143</sup> Hawaiian Historical Society, Forty-seventh annual report of the Hawaiian Historical Society for the year 1938 (Honolulu: The Society, 1939): 8, accessed August 10, 2015, <https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=1>.

<sup>144</sup> *Ibid.*, 9.

<sup>145</sup> *Ibid.*



**Figure 3.** 1843 Map,  
Source: Papers of the Hawaiian Historical Society. Available from: Papers of the  
Hawaiian Historical Society,  
[https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=](https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=1)  
1 (Accessed November 12, 2015).



Then in 1850, the street names were officially designated.<sup>146</sup> Even though most of the settling in the Plains was not achieved until the 1880s, once water was channeled from Makiki Valley, the streets in the area were continuously surveyed and laid out after the initial survey in 1846 by a surveyor named Metcalf.<sup>147</sup> The Dakin maps from 1906 and Sanborn maps from 1927 illustrate how the area around Queen Street has changed. It also illustrates what area Queen Street was once known as, which was a Portuguese camp. Even though the surrounding areas of Queen Street are vastly different, the building structures that stand today reflect the physical language that stood when the maps were recorded.

The first apartment building in the Kaka‘ako district was constructed in 1848. It was a two-story wooden building with commercial shops on the ground level and residential units on the level above. Behind the building was additional housing for approximately 20 families of different ethnicities.<sup>148</sup>

In 1882, Curtis Perry Ward, and his wife Victoria Ward, constructed their residence, “Old Plantation.” Their home was where the current Neal Blaisdell Center is located.<sup>149</sup> Soon after, Ward died and his widow and their daughters maintained the residence as “Victoria Ward Limited.” Eventually, small businesses, the Honolulu Iron Works, and Hawaiian Tuna Packers were established in Kaka‘ako, which attracted families of different ethnicities to the area (figs. 4 and 5).<sup>150</sup>

In Marsha Gibson’s *Kaka‘ako As We Knew It*, she begins by stating that the area was once known as *Kakako*. Though the old and new names were quite similar, the people inhabiting the area and their lifestyles were dramatically different. The majority of the earlier residents were considered low-income families. Gibson interviewed a resident named Fred Yamashiro who grew up in Kaka‘ako during the mid-20<sup>th</sup> century, specifically in what was known as the Aoki Camp. Yamashiro recalled a class excursion, during which his professor identified Kaka‘ako as an area that was “culturally deprived.”

---

<sup>146</sup> Papers of the Hawaiian Historical Society, “Papers read before the Society November 18, 1938,” Hawaiian Historical Society, March 1939, 11.

<sup>147</sup> *Ibid.*, 12.

<sup>148</sup> Marsha Gibson, *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako* (Honolulu: Mutual Publishing, LLC, 2011), ix.

<sup>149</sup> *Ibid.*, ix.

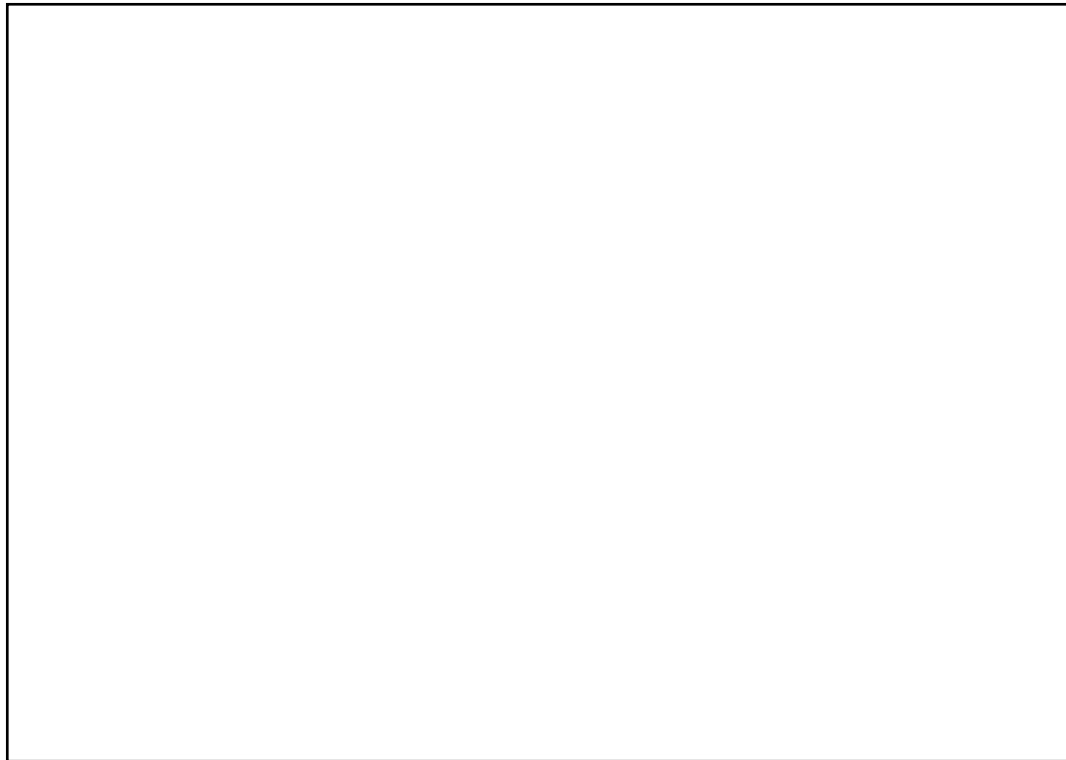
<sup>150</sup> Marsha Gibson, *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako* (Honolulu: Mutual Publishing, LLC, 2011), x.

Yet the community was not aware of its own social status due to the bonds of its inhabitants. Camps were divided and named after ethnic groups (Chinese, Caucasians, African Americans, Hawaiians, Japanese, Puerto Ricans, Filipinos, and Portuguese), street names, or landlords, but the people “intermingled successfully, sharing and learning [each other’s] customs, food, music, and languages.” The district of Kaka‘ako was a “microcosm of Hawai‘i – a closely knit multi-racial community filled with the Aloha spirit.”<sup>151</sup>

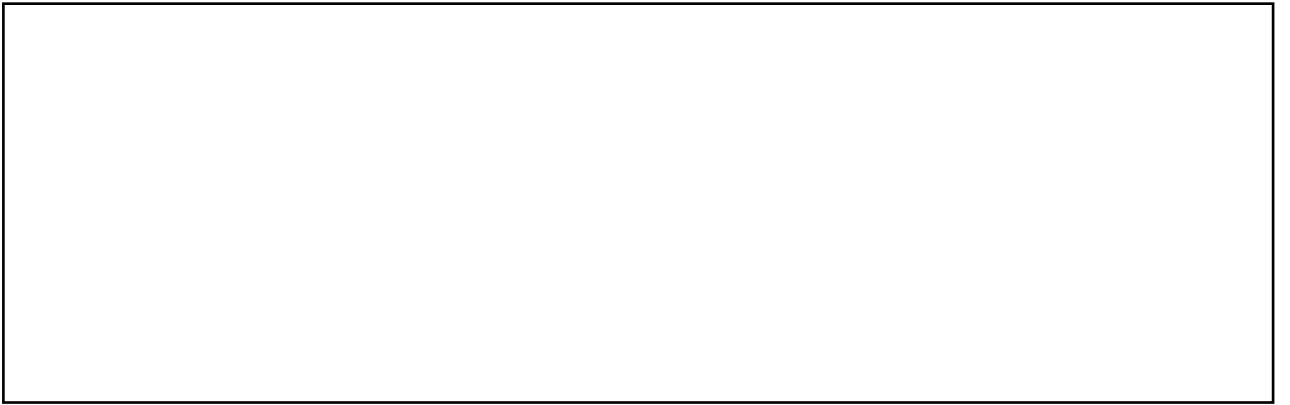
The HART website offers an interactive map that lists historic landmarks in Honolulu that are either eligible or listed (fig. 6). This research provides further historic landmarks that contribute to the identity of Queen Street such as the Yee/Kobayashi Store (fig. 7). The illustrations are some of the locations in Kaka‘ako, closest to Queen Street that will be maintained throughout the proposed research design.

---

<sup>151</sup> <sup>151</sup> Marsha Gibson, *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako* (Honolulu: Mutual Publishing, LLC, 2011), x.



**Figure 4.** Workers of the Honolulu Iron Works c. 1888,  
Source: Christian J. Hedemann, *Laborers and Foremen, Honolulu Iron Works*, 1888, dry  
plate negative, 8 in. x 10 in., Bishop Museum Press, Hawai‘i.



**Figure 5.** Honolulu Iron Works building c. 1901,  
Source: Christian J. Hedemann, *Honolulu Iron Works, Kaka‘ako, O‘ahu*, 1901, platinum  
print mounted on canvas, 14 7/8 in. x 46 7/8 in., Bishop Museum Press, Hawai‘i.



**Figure 6.** Historic landmarks and new development projects in Kaka'ako, Source: Stephanie Chong, University of Hawaii at Manoa

- ELIGIBLE
- 1 TRANSPORTATION DEPT.
- 2 FUJI SAKE BREWING CO.
- 3 CHING MARKET & HOUSE
- 4 AMERICAN SAVINGS BANK
- 5 KAMAHA HAWAII
- LISTED
- 1 ROYAL BREWERY
- 2 KAKAAKO FIRE STATION
- NEW DEVELOPMENT
- 1 HONUAKAHA
- 2 KEOLA LAI
- 3 801 SOUTH ST.
- 4 POHULANI
- 5 HALEKAUWILA PLACE
- 6 NA LEI HULU KUPUNA
- 7 ROYAL CAPITAL PLAZA
- 8 IMPERIAL PLAZA
- 9 ONE ARCHER LANE
- 10 SYMPHONY HONOLULU
- 11 909 KAPIOLANI
- 12 KAUAHALE KAKAAKO
- 13 LAND BLOCK 5 - PROJECT 1
- 14 PACIFICA
- 15 KAMAHEEVISTA
- 16 1133 WAIMANU
- 17 LAND BLOCK 3 - PROJECT 1
- 18 LAND BLOCK 2 - PROJECT 1



**Figure 7.** Historic buildings near Queen Street, Stephanie Chong, University of Hawaii at Manoa

## 4.2 Kaka‘ako Today

Development in Kaka‘ako has become an extremely controversial subject. In 2012, Beverly Creamer noted that “transformed Kaka‘ako [has] been bandied about for three decades, but this time the landowners and state agencies are working together more closely, and dozens of projects are going forward in the next few years.”<sup>152</sup> The Howard Hughes Corporation (HHC) owns sixty acres of land and is therefore the district’s largest private landowner. The Kamehameha Schools (KS) is another large landowner, overseeing development for twenty-nine acres of land.<sup>153</sup> The HHC and KS have been developing projects on either end of the boundaries of the district of Kaka‘ako, whereas Queen Street is located in the upper middle area. Not only is Queen Street located in the middle of the opposite spectrums of development, Queen Street (from Kamakee Street to Punchbowl Street) is also a culmination of various property owners, which makes the transition to the current street improvements difficult (fig. 8).

By 2012, the district of Kaka‘ako had undergone an estimated \$200 million in infrastructure improvements since 1988 in addition to forty projects. The HHC has also renovated Ward Center for \$3.5 million, and within a projected span of twelve years, the company will develop “a mixture of retail, residential and commercial construction projects.”<sup>154</sup>

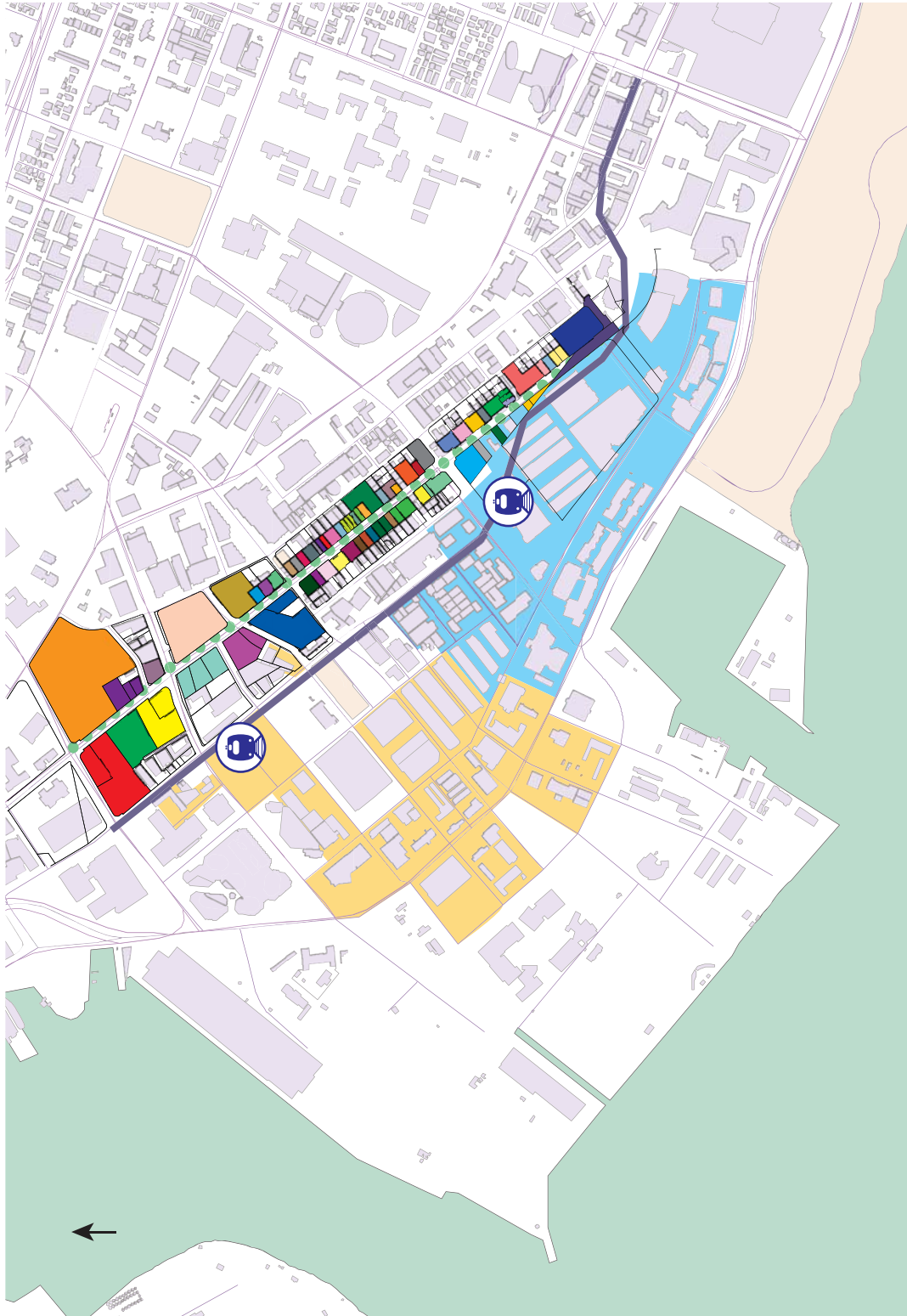
---

<sup>152</sup> Beverly Creamer, “Kakaako’s Building Boom,” *Hawaii Business*, September 2012, accessed January 12, 2016, <http://www.hawaiibusiness.com/kakaakos-building-boom/>.

<sup>153</sup> Ibid.

<sup>154</sup> Ibid.





**Figure 8.** Small businesses compared to larger land owners,  
 Source: Stephanie Chong, University of Hawaii at Manoa



In a meeting held in mid-2013, residents of Kaka‘ako expressed their concerns over the new developments in their community and justified their arguments with their experiences of living in the area. Governor Abercrombie disagreed with the residents, stating that more housing was required to sustain the island’s growing population. As a reaction, residents are frightened of what the Hawai‘i Community Development Authority (HCDA) is capable of doing and even question whether the HCDA holds the public’s best interests.<sup>155</sup>

The HCDA is a state agency in charge of overseeing community development. It was established in 1976 by the State Legislature to manage and plan development between the public and private sectors of community development.<sup>156</sup> The HCDA was enacted by the State Legislature through Chapter 206E, Hawai‘i Revised Statutes (HRS).<sup>157</sup>

Another issue that arose during the meeting is how Kaka‘ako’s development has affected various property owner’s initial plans for the future. For example, a developer who once planned to use a building as workforce housing may reconsider to maximize his real estate gains. This provides insight into how developers are able to alter their plans. FBC can help maintain the original intents of building projects and involve the community in the process by providing a regulation in order to allow the community to have more control over their built environments.<sup>158</sup>

Panos Prevedouros, an engineering professor, was one of many individuals who expressed his opinions about the developments in Kaka‘ako.<sup>159</sup> He stated that the traffic

---

<sup>155</sup> Ben Gutierrez, “Kaka‘ako development plans draw fire from residents, defense from governor,” *Hawaii News Now*, May 30, 2013, accessed January 28, 2015, <http://www.hawaiinewsnow.com/story/22464692/kakaako-development-plans-draw-fire-from-residents-defense-from-governor>.

<sup>156</sup> Hawaii Community Development Authority, “Mauka Area Plan,” *Department of Business, Economic Development & Tourism* (2011): 1, accessed February 18, 2015, <http://dbedt.hawaii.gov/hcda/files/2013/02/Mauka-Area-Plan-EFF-2011-10-31.pdf>

<sup>157</sup> Ibid.

<sup>158</sup> Ben Gutierrez, “Kaka‘ako development plans draw fire from residents, defense from governor,” *Hawaii News Now*, May 30, 2013, accessed January 28, 2015, <http://www.hawaiinewsnow.com/story/22464692/kakaako-development-plans-draw-fire-from-residents-defense-from-governor>.

<sup>159</sup> Panos Prevedouros, “Brief Insight on the Kaka‘ako Development and Honolulu's Trifecta of Failures,” *Hawaii Reporter*, July 2, 2013, accessed January 15, 2015, <http://www.hawaiireporter.com/brief-insight-on-the-kakaako-development-and-honolulu-trifecta-of-failures/123>.

congestion, which he has tested personally, will only worsen and even increase by almost a thousand cars on the road in the mornings. He also voiced his concerns about how the infrastructure can no longer sustain the community.<sup>160</sup>

The Executive Director of the HCDA, Anthony Ching, agreed with Abercrombie and advised that housing is very much needed. He further stressed that it is not the HCDA that decides if there will be development, but rather the owners of the land parcels who want to sell their property. The opposing group is residents of Kaka‘ako, who complain that there will be heavier traffic, which they believe their infrastructure can no longer sustain. Therefore, there will ultimately need to be development of some kind for more housing units. And although traffic is a main concern, people still need an affordable place to live.<sup>161</sup>

The rail project will also affect the development in Kaka‘ako. The Ala Moana area will be the last phase of the rail transit construction. A developer was quoted in a news article saying that developers are trying to appeal to residents on an emotional level, suggesting that the developments will be beneficial to the people of Hawai‘i.<sup>162</sup>

But what are the benefits for the public in the Kaka‘ako development? Currently, KS has made use of a warehouse as an art gallery. This is part of an effort to help sustain an art culture in the Kaka‘ako area, which has been apparent in recent years. Yet there are some questions that need to be addressed in regards to how these developments will benefit the public. There is a lack of participation from the owner of the parcel in regards to letting people know what the plans are for the project. FBC will allow more community participation, without which the development may suffer.<sup>163</sup>

---

<sup>160</sup> Ben Gutierrez, “Kaka‘ako development plans draw fire from residents, defense from governor,” *Hawaii News Now*, May 30, 2013, accessed January 28, 2015. <http://www.hawaiinewsnow.com/story/22464692/kakaako-development-plans-draw-fire-from-residents-defense-from-governor>.

<sup>161</sup> Kirk Matthews, “Dozens testify on bills relating to HCDA,” *KHON2*, February 8, 2014, accessed October 23, 2015, <http://khon2.com/2014/02/08/dozens-testify-on-bills-relating-to-hcda/>.

<sup>162</sup> Mark Abramson, “Rail could drive development for Kakaako, Ala Moana area,” *Pacific Business News*, February 22, 2013, accessed February 20, 2015, <http://www.bizjournals.com/pacific/print-edition/2013/02/22/rail-could-drive-development-for.html?page=all>.

<sup>163</sup> Duane Shimogawa, “Kaka‘ako warehouse space could be used for the arts,” *Pacific Business News*, January 23, 2014, accessed February 12, 2015, [http://www.bizjournals.com/pacific/blog/morning\\_call/2014/01/kakaako-warehouse-space-could-be-used.html](http://www.bizjournals.com/pacific/blog/morning_call/2014/01/kakaako-warehouse-space-could-be-used.html).

After some investigation, bills were passed in order to limit how much control the HCDA has in regards to the developments. The bills allow the public to be more effectively heard by the HCDA regarding developments in the area. Now, the public has more control over projects in their community. However, some wonder whether it's too late to offer changes.<sup>164</sup>

The major landowners of Kaka‘ako communicate their designs to one another in order to “coordinate [their] efforts” and move forward with development.<sup>165</sup> Queen Street is located near the middle of the two major development projects by the HHC and KS. Rather than having a single landowner, Queen Street is a culmination of multiple property owners. The application of FBC to the enhancement and preservation of Queen Street, a community within Kaka‘ako, can help the area maintain its unique character and thus distinguish it from other surrounding residential and commercial developments. This project serves as a guideline to assist in determining Queen Street’s future in maintaining its identity in the district of Kaka‘ako.

Many of issues that have risen with the recent developments in Kaka‘ako can be addressed and resolved through the implementation of FBC. For example, the issue of the lack of open spaces can be mediated through the predictable building designs and spatial designations that FBC ensure in contrast to conventional zoning.

---

<sup>164</sup> Duane Shimogawa, “Kaka‘ako warehouse space could be used for the arts,” *Pacific Business News*, January 23, 2014, accessed February 12, 2015, [http://www.bizjournals.com/pacific/blog/morning\\_call/2014/01/kakaako-warehouse-space-could-be-used.html](http://www.bizjournals.com/pacific/blog/morning_call/2014/01/kakaako-warehouse-space-could-be-used.html).

<sup>165</sup> Beverly Creamer, “Kakaako’s Building Boom,” *Hawaii Business*, September 2012, accessed January 12, 2016, <http://www.hawaiibusiness.com/kakaakos-building-boom/>.

### 4.3 Interviews

The following is a list of individuals who participated in interviews and/or discussions in regards to FBC, urban planning, or sense of place along with their expertise and/or background information to supplement the discussion and findings.

**Participant #1:** property owner on Queen Street who is a third-generation small business owner and also a board member on the HCDA who was the representative for small businesses from 2007-2011

**Participant #2:** has background knowledge on the history of Kaka‘ako and was elected to the Ala Moana/Kaka‘ako Neighborhood Board

**Participant #3:** general contractor who has worked on many large-scale projects in Kaka‘ako, along with major developers in the area

**Participant #4:** property owner on Queen Street who is a third-generation small business owner and served on the HCDA from 2003-2011

**Participant #5:** architect who served on the HCDA and has worked on large-scale projects in Kaka‘ako

**Participant #6:** current resident of Kaka‘ako who lives in the area with his young family, located in the proximity of Queen Street; also works in the area of Kaka‘ako

**Participant #7:** property owner on neighboring Kawaiaha‘o Street who operates a small business

**Participant #8:** planner who has served as the executive director for the HCDA

**Participant #9:** cultural consultant who has worked on many projects in Kaka‘ako and operated a small business on Queen Street

**Participant #10:** small business operator and property co-owner with spouse on Queen Street

**Participant #11:** architect who has worked with codes and FARs in special districts on O‘ahu

**Participant #12:** a designer who was raised and also resides in Kaka‘ako

**Participant #13:** an architect who also practices as an urban planner

**Participant #14:** a cultural planner who has worked in a special district on O‘ahu

**Participant #15:** an architect who has worked on projects that applied FBC

The first question asked the background of each participant and what their businesses or roles are on Queen Street, in addition to asking how long they have been established in the area. Each of the participants began their answers with an explanation of their understanding of Kaka‘ako’s history.

#### **4.3.1 How Kaka‘ako Came to Be**

Participants #2, #3, and #5 discussed the history of Kaka‘ako, beginning with the establishment of the Ala Moana Shopping Center, which was originally a swamp. One of [Walter] Dillingham’s subsidiaries was the Hawaiian Dredging & Construction Company (HDCC), which still operates today. One of the Hawaiian Dredging & Construction Company’s (HDCC) major projects was to dredge Ala Moana Beach Park, which was filled with reef corals. Participant #2 explained that a person could walk half a mile out to the ocean and still be in waist-deep water due to the reef.<sup>166</sup>

Thus, the HDCC’s project created the foundation for the establishment of the Ala Moana Shopping Center in the mid-twentieth century. When Hawai‘i became the fiftieth state of the United States of America, Governor William F. Quinn, the state’s first governor, wanted to create a second Waikīkī in Ala Moana where the calm currents provided an ideal swimming area in contrast to the higher waves in Waikīkī. The area that is mauka of Ala Moana, that included portions of Kaka‘ako, was intended to be designated as a tourist area filled with hotels and controlled by the state<sup>167</sup>.

When the coral was dredged, the preexisting swampland was brought up to grade and created the first phase of the Ala Moana Shopping Center. One interview participant noted that Governor Quinn was the first person to publicly suggest that centrally located Kaka‘ako should be populated with apartments and become the urban center of O‘ahu.<sup>168</sup>

---

<sup>166</sup> Interview with Participant #2, February 21, 2015.

<sup>167</sup> Ibid.

<sup>168</sup> Ibid.

In order to create a development in Kaka‘ako, the area had to be designated as a special design district with its own rules and regulations. This concept was first implemented by Neal Blaisdell in Waikīkī, and the area around the Blaisdell Center continues as a special design district today.<sup>169</sup>

Yet when Governor Quinn was not re-elected for another term, and John A. Burns became Hawai‘i’s second governor, Kaka‘ako went dormant for the next fifty years. When Governor Neil Abercrombie was sworn into office, he revived Kaka‘ako, which had two primary property owners: the KS and families that operated businesses in the area. Revitalizing real estate for O‘ahu became the main concern, which resulted in the current twenty-three new projects that will be constructed in the next five or six years.<sup>170</sup>

Participant #2 further delineated the establishment of the HCDA and defined it as the culmination of legislature that was created thirty-five to forty years ago. The participant also explained the boundaries of Kaka‘ako. The mauka boundaries are Punchbowl Street on the west, Pi‘ikoi Street on the east, King Street on the north, and Ala Moana Boulevard on the southern border. As the result of the border designations of Kaka‘ako, Participant #2 explained that it has control over Kewalo Basin, Kaka‘ako Park, the University of Hawai‘i’s Medical School, and Fort Armstrong. He also noted that the HCDA has the authority to change the land-use designations in the area of Kaka‘ako.<sup>171</sup>

Participant #5 and #8 explained that the HCDA allows developments to occur as a means of updating public infrastructure in order to support development. The concept of improvement districts (IDs) was created in order to improve drainage, sidewalks, and other amenities necessary to facilitate development.<sup>172</sup> Before, IDs were implemented in areas that had large landowners, such as KS. Having large landowners is easier because there are not as many people to coordinate. An example would be Cooke Street or Mother Waldron Park, where KS was the single landowner.<sup>173</sup>

Participants #12, #13, and #14 all emphasized the importance of a place’s history and background. Participant #13 stated that knowing the history of a place can provide

---

<sup>169</sup> Interview with Participant #2, February 21, 2015.

<sup>170</sup> Ibid.

<sup>171</sup> Ibid.

<sup>172</sup> Interview with Participant #5, May 3, 2015.

<sup>173</sup> Interview with Participant #8, May 08, 2015.

guidance and prevent a design from getting lost. The participants consistently expressed how the history of a community sculpts a place and how working to create and maintain a sense of place can keep a design moving in the right direction.<sup>174</sup>

Participant #12 explained that knowing Kaka‘ako’s history helps us understand why it became how it is today. For example, the participant explained that Queen Street’s name is due to its direct connection to ‘Iolani Palace. It was a pedestrian street that people would use to visit Queen Lili‘uokalani.<sup>175</sup> Participant #13 stated that understanding a place’s history enables us to prevent repeated mistakes or cultural insensitivity. The participant also noted that having knowledge of the area’s background has practical benefits such as justifying decisions that were made and understanding why certain regulations were applied.<sup>176</sup>

#### **4.3.2 How to Achieve a Sense of Place in Kaka‘ako**

Participant #14 discussed the concept of “transcending through generations” when designing and the importance of understanding a place and its cultural practices. The participant also expressed how the term *opuali‘i*, which is defined as ‘gut feeling,’ is crucial when visiting a site.<sup>177</sup>

Participant #9 works with descendants that have *iwi kūpuna* (ancestors) who were buried in the area of Kaka‘ako, helping to not only protect the burials but also to assist in moving development forward. The participant is also involved in the cultural impact assessments (CIA) required by the state so that development projects are aware of their impacts on an area’s cultural resources, practices, or beliefs. With CIA, developers must conduct cultural and historical research, and work with individuals who have knowledge of the culture of the project’s location. Through this process, developers learn about the families who once dwelled in the project area and also discover the importance of the site in both pre-contact and historical times.<sup>178</sup>

---

<sup>174</sup> Interview with Participant #13, October 12, 2015.

<sup>175</sup> Interview with Participant #12, August 28, 2015.

<sup>176</sup> Interview with Participant #13, October 12, 2015.

<sup>177</sup> Interview with Participant #14, September 12, 2015.

<sup>178</sup> Interview with Participant #9, May 05, 2015.

The projects that Participant #9 works on are mostly large-scale projects. He cites the Waihonua project as a good precedent of a successful development project because the developers conducted CIA voluntarily out of a desire to learn about the project site's past and what made the site significant. The area once had a fish pond; therefore this finding was integrated into the concept of the project.<sup>179</sup>

The development also tried to maintain as many burials as possible and searched for the families in the beginning stages of the design in order to involve them and receive their input as soon as possible. Many meetings were conducted throughout the project and thus integrated the community successfully. The project connected to the site's history through the preservation of the burials and fish pond, but also used historic patterns and textures throughout the building and added Native Hawaiian art pieces. This project encapsulated a Hawaiian sense of place and when walking on the premises of the building, Participant #9 notes, "you know you are in Hawai'i." For this participant, creating a sense of place in Hawai'i means reflecting its history.<sup>180</sup>

#### **4.3.3 Reflection of Kaka'ako**

Concerning the developments in Kaka'ako and the rail project, Participant #9 holds that the projects have been very active in celebrating the history of the area. Meetings and research have been conducted to incorporate culture as much as possible. Another example is the revitalization of the 'auwai, which is an "offshoot of the main source of water that goes to taro patches. It is an offset from a main stream." The participant further explained that in addition to fish ponds, there were also taro patches in the area of the Neal Blaisdell Center, near Thomas Square. The area was once owned by Victoria Ward and was rich in water. The HHC is currently locating the original 'auwai to restore it. They plan to create a feature to celebrate its history. The participant added that the developers are including the community.<sup>181</sup>

---

<sup>179</sup> Interview with Participant #9, May 05, 2015.

<sup>180</sup> Ibid.

<sup>181</sup> Ibid.



In contrast, Participant #1 noted that Kaka‘ako seems to be in a state of frenzy and that a lot of the people in the area feel like they are being kicked out due to the major developments that surround them. This brings up issues of the increasing property tax and rail. The participant expressed that the current Kaka‘ako is not the Kaka‘ako the community once knew.<sup>182</sup>

Similarly, Participant #4, who operates his family’s auto body repair shop on Queen Street, which was established in 1956, expressed that Kaka‘ako is transitioning into a residential area and is under pressure by the HHC and the KS.<sup>183</sup>

Meanwhile, Participant #6 has lived in Kaka‘ako for about five years and also works in the area. He says that Kaka‘ako seems to be growing and becoming more modernized. Interestingly, it has also become more internationalized. The participant also noted that the streets in the area are wide and clean. Participant #7 says that she has been managing a small business on Kawaiaha‘o Street, which is directly behind Queen Street, for the past few years. The reason for their move to Kaka‘ako was because the area seemed to be growing and became a more exciting place to be a part of.<sup>184</sup>

Participant #3 also supports development in Kaka‘ako and has worked on many major projects in the district since 2001, more than half of which have had over \$10 million budgets. According to the participant, developers “set the tone” of projects, working on a design with the architect and a budget and then securing the funding to make it reality.<sup>185</sup>

Participant #2 also discussed design requirements, favoring those that preserve as many view channels as possible. The participant noted KS’s concept, in their 2010-2011 master plan, of having short sides on a high-rise face the makai and mauka directions to accommodate those who dwell in the Punchbowl, Makiki Heights, and Ward Avenue areas. The participant complimented this design for being less invasive.<sup>186</sup>

When asked what events resulted in today’s Queen Street, Participant #2 answered that ultimately, it is the state that oversees Kaka‘ako, specifically the governor

---

<sup>182</sup> Interview with Participant #9, May 05, 2015.

<sup>183</sup> Interview with Participant #4, March 09, 2015.

<sup>184</sup> Interview with Participant #7, May 08, 2015.

<sup>185</sup> Interview with Participant #3, April 05, 2015.

<sup>186</sup> Interview with Participant #2, February 21, 2015.

and the HCDA. Queen Street is controlled by two governmental agencies. On Queen Street, west of Punchbowl Street, it is controlled by the city. The HCDA oversees the area looking in the opposite direction towards Diamond Head (eastbound). Thus, it is two different governmental agencies that oversee a single street.<sup>187</sup>

Participant #11 cited the types of zoning designations, such as AMX (Apartment Mixed Use), which allows certain amounts of retail, industrial, and business use. BMX (Business Mixed Use) allows apartments with businesses. The discussion continued on to the process of meeting zoning requirements such as compliance with the LUO and the building permit phase. Special districts like Kaka‘ako however do not have to comply with the LUO. Other special districts that have their own rules and regulations include the Waikiki Special District, the Chinatown Special District, and the Capital Special District. Since special districts have their own rules, they designate their own architectural styles. Participant #15 worked on the Kamakana Villages at Keahuolu, which implemented FBC. The participant explained that the project did not have to undergo the process of zoning since the client was the County of Hawai‘i. Although having a single client also made the process of master planning easier compared to Kaka‘ako’s Queen Street, which has multiple land owners, the Kamakana Villages project still had to be taken to the land-use court.<sup>188</sup>

#### **4.3.4 Reflection on Queen Street**

When reflecting on the experience of working on Queen Street, Participant #9 expressed concern. The participant prefers not to walk on the street due to the lack of sidewalks. Walking there is quite difficult, and it is hard to enter and exit the area on foot. The participant would prefer to see more pedestrian access and for people to be able to walk on the street. It should be a place of dignity due to its rich history and great location.<sup>189</sup>

---

<sup>187</sup> Interview with Participant #2, February 21, 2015.

<sup>188</sup> Interview with Participant #15, October 21, 2015.

<sup>189</sup> Interview with Participant #9, May 05, 2015.

Participant #10 has enjoyed working in Kaka‘ako and noted that the area has a favorable microclimate, which allows people to be outdoors often. The participant is happy to have moved his establishment from downtown, near a five-lane street, to two-lane Queen Street. The participant also noted that being located parallel to a major street such as Kapiolani Boulevard has increased the number of clients that visit the establishment.<sup>190</sup>

Participant #4 stated that the development projects by the HHC and KS are pressuring Queen Street proprietors to improve the street and infrastructure. The participant also noted that the HHC seems to be becoming more aggressive compared to their counterpart, KS, whereas when the HCDA was first established, KS was the aggressive developer.<sup>191</sup>

Participant #1 is a third generation business owner. His company moved to Kaka‘ako in the early 1950s from A‘ala Marketplace, and he has worked at his grandfather’s company since 1976. He notes that Queen Street used to end at Kamakee Street, and that there was thus not a lot of traffic congestion.<sup>192</sup>

The area of the participant’s business was originally owned by an individual named Desky, who supposedly subdivided the area. When he passed away, the HCDA searched the tax records, which showed that he did not pass the property through heirs. Yet in 1995, the Chun brothers retrieved a quitclaim deed by Desky’s granddaughter. The Chun brothers started charging property owners on Queen Street a fee for parking. This was the catalyst of the current controversy of who owns Queen Street. In this year’s legislature, H.R.-80 requested that the HCDA handle the matter of who the owner of Queen Street is. Waimanu and Kawaiaha‘o Streets are also unowned and lack TMKs. Business owners on Cooke Street are also arguing about its ownership and maintenance.<sup>193</sup>

The current TMK map does not designate certain areas with TMKs because they did not exist before. I‘i Black had a construction yard, and during this time, the Kamakee Vista did not exist. But the HCDA took property in this area to create affordable housing

---

<sup>190</sup> Interview with Participant #10, May 05, 2015.

<sup>191</sup> Interview with Participant #4, March 09, 2015.

<sup>192</sup> Interview with Participant #1, February 21, 2015.

<sup>193</sup> Ibid.

and therefore built the street. This is why there is a corner property that the HCDA owns on the corner of Kamakee Street and Queen Street. Queen Street used to end where Kamakee Vista stands today, but once I'i Black Construction left, the area was opened up. This extension into Waimanu Street went from asking the community to enforcing it back in 2006-2007.<sup>194</sup>

When discussing Kaka'ako, Participant #15 explained that programmatically, a half-acre lot for an auto body shop would not be feasible for a 1% FAR. Thus, an incentive for property owners on Queen Street would be tax breaks, mixed-use zoning for industrial programs, or finding developers to fund public improvements. One option would be to have space dedication fees. Another would be to transfer floor area and height limits or density rights. By trading developable space, larger developers could be required to maintain special areas for property owners. The participant concluded that nevertheless, the goal of the incentive would have to be working with developers to fund the project.<sup>195</sup>

Participant #4 noted that one of the reasons Queen Street has not been improved from Cooke Street to Kamani Street is because the required infrastructure needs to be located underground, which will cause major road blocks and disrupt small businesses. The participant stressed that small businesses are fragile; therefore, it will be difficult for them to continue with disruptions from infrastructure improvements. Participant #3 echoed the fact that Queen Street is in major need of repairs, but went on to say that while it will be developed in the current development cycle, it will eventually not be able to support the light industrial businesses that exist there now.<sup>196</sup>

Furthermore, Participant #8 explained that Queen Street is an interesting situation because a portion of the street, from Punchbowl Street to Cooke Street, was improved, whereas the extension from Kamakee Street to Waimanu was done later. Therefore, the middle of Queen Street remains unimproved.<sup>197</sup>

A plan was designed for the middle portion of Queen Street, but it was never developed. When letters were sent to notify the landowners, the community expressed

---

<sup>194</sup> Interview with Participant #1, February 21, 2015.

<sup>195</sup> Interview with Participant #15, October 21, 2015.

<sup>196</sup> Interview with Participant #3, April 05, 2015.

<sup>197</sup> Interview with Participant #8, May 08, 2015.

their outrage, partly because the new plan called for two feet of land from most parcels, which was a large portion for small businesses. Through eminent domain, the HCDA was planning to acquire a strip of land to create four lanes and two sidewalks that were six feet wide. Parking was another major issue and the location of the proposed structure had undergone much relocation.<sup>198</sup> Participant #10 expressed his concerns about parking because his business depends on the number of available stalls. And similarly to Participant #8, Participant #10 was upset by the proposal to reduce parcels to sizes unable to support existing businesses. He noted, “parking is a must. I made my own parking. Parking dictates my business.”<sup>199</sup>

#### **4.3.5 Character of Queen Street**

When asked about their views on the current character of Queen Street, Participant #6 said the area is designated for its mixture of warehouses, auto repair shops, and high-rise condominiums whereas Participant #2 noted that the street is a mix of spot zoning. Spot zoning is when a small land parcel in a zoned area is utilized for certain uses in addition to allowing other uses for the benefit of the property owners, but to the disadvantage of the whole surrounding area.<sup>200</sup>

Participant #10’s business establishment was originally a Portuguese church. The participant also noted that in the evenings, they have issues with illegal gamblers and drugs in the area. The homeless are another issue. Participant #7 relates to this situation because a lot of homeless people gather on Kawaiaha‘o Street, especially in the evenings. Therefore, the street is not an ideal area in the evenings. However, the participant also noted that events such as Eat the Streets prevent the homeless from gathering. Still, Participant #10 believes that Queen Street “is the best street” and says “[It] will be an exciting future. I needed to make my practice modern and nice because Queen Street is really weird. In my little way, I think I improved Queen Street.”<sup>201</sup>

---

<sup>198</sup> Interview with Participant #8, May 08, 2015.

<sup>199</sup> Interview with Participant #10, May 05, 2015.

<sup>200</sup> Interview with Participant #2, February 21, 2015.

<sup>201</sup> Interview with Participant #10, May 05, 2015.

Participant #1 explained that from a business perspective, the atmosphere is very cordial, offering the example of the parking spaces in front of properties. The participant explained that other than having large containers to park, the owners have not put up no parking signs. As long as there is no major interference, towing is not an issue. The businesses respect each other.<sup>202</sup>

Because it is a special district, Kaka‘ako designates its own architectural style. Participant #12 elaborated on this. Other than Fresh Café, there are no places for people to congregate and socialize. Programmatically, a lot of business owners are slowly retiring; many are third generation business owners, and they do not know who will take over. Leases are also ending. The participant noted, “It’s interesting to see places where there are auto body shops and places like Fresh Café that color the walls.”<sup>203</sup>

Participant #12 thinks the identity is confused in Kaka‘ako, although it is still developing. The participant explained, “When you see renderings [of new projects and developments in Kaka‘ako], you first think it would be nice, but then you think and ask what will happen, and it doesn’t seem so nice.”<sup>204</sup> Supporting this statement, Participant #13 noted that people generally do not like change because it is human nature to fear the unknown.<sup>205</sup>

Participant #4 reiterated Kaka‘ako’s status as reclaimed swampland and noted that on his property, one hits coral two feet below the surface. He also noted that the surrounding area was populated by small plantation-style homes in the 1950s. The participant’s land was originally owned by a Portuguese man he calls Mr. Costa. During this time, the area was considered the Portuguese camp. Much of the surrounding area was filled with shops and houses when the participant’s father first arrived in Kaka‘ako in the 1950s. These homes no longer exist because the people who lived there have passed away and been replaced by light industrial businesses, which the participant notes began with Honolulu Iron Works. The participant further identified Queen Street as a culmination of “[m]iddle-class, hard-working people who want to maintain and perpetuate their businesses for their families.” The participant concluded that the people

---

<sup>202</sup> Interview with Participant #1, February 21, 2015.

<sup>203</sup> Interview with Participant #12, August 28, 2015.

<sup>204</sup> Ibid.

<sup>205</sup> Interview with Participant #13, October 12, 2015.

on Queen Street “are conscious of what they have and they’re going to fight to keep it. It’s going to be a pretty tough fight.”<sup>206</sup>

On the other hand, Participant #8 noted that Queen Street is a “pedestrian hostile place” at the moment, which is not what the HCDA has envisioned for the community. In order for Queen Street to work in the larger plan of Kaka‘ako, it needs easy connectivity. Yet most of the property owners are hesitant about development because they feel that they do not have a place in the future of Kaka‘ako.<sup>207</sup>

Furthermore, Participant #8 sympathized with small businesses, stating “What you have, you’re used to, you’re comfortable with, you’re successful. Then someone comes in and changes your world – this is uncomfortable for anyone.” On another note, Participant #8 explained that since his involvement in the HCDA, many of the businesses might have evolved and have different perspectives. Ultimately, “people love places that have character, rather than sterile.” There were other street designs that were proposed to the participant while he was on the HCDA, but the width of the streets and sizes of parcels made it difficult to resolve. The participant concluded that if given the chance to redo the project, he “would have solved the parking...first.”<sup>208</sup>

#### **4.3.6 Movements on Queen Street**

Another question in the interview asked participants to describe circulation, such as pedestrian, automobile, and bicycle traffic, and whether they were issues. Participant #6 noted that pedestrian circulation is inefficient. As for the automobile traffic, it worsened when the Waihonua condo opened, and bicycle routes are not defined or even zoned clearly.<sup>209</sup>

Participant #1 recently observed circulation on Queen Street and said that there is more foot traffic and automobile traffic now because Queen Street is used to reach the

---

<sup>206</sup> Interview with Participant #4, March 09, 2015.

<sup>207</sup> Interview with Participant #8, May 08, 2015.

<sup>208</sup> Ibid.

<sup>209</sup> Interview with Participant #6, April 23, 2015.

surrounding developments. And due to the increase in traffic, pedestrians have to be a lot more cautious when crossing the street.<sup>210</sup>

Participant #2 noted that on Queen Street, looking from Punchbowl Street to Cooke Street, the road has been purposely widened to four lanes whereas from Cooke Street to Kamakee Street, the road is two lanes and populated with perpendicularly-parked cars. Sidewalks also disappear from Cooke Street to Kamakee Street. Beyond Kamakee Street, the road has been improved due to the large adjacent developments. Currently, the connection from Cooke Street to Kamakee Street needs to be widened and updated to building standards, in addition to needing underground infrastructure.<sup>211</sup>

Regarding ID-11, Participant #1 stated that the issue was that it doesn't benefit property owners, but rather the bigger developments that surround the businesses on Queen Street. The Queen Street businesses do not create foot traffic on account of the types of businesses they are. Property value would increase, but only if owners were selling their property. Instead, their property taxes would increase. There were no real benefits for Queen Street, and the city did not want to fund the project.<sup>212</sup>

As for pedestrian traffic, Participant #1 said it would be ideal to create safer streets, but that they would not want to invite more pedestrians to Queen Street. For automobiles, the participant further explained that it has increased significantly over the years, but since the Queen Street extension opened, Waimanu (which used to only travel towards Ala Moana Shopping Center) began carrying traffic in both directions. Parking is another issue for this participant, especially if the rail is established on the street. The participant wonders whether parking will worsen if people park nearby to ride the rail into town or if there will be any parking provided for the station.<sup>213</sup>

Bicycle traffic has also increased, based on Participant #1's observations. The participant also travels by bicycle. Yet the ponding during rainfalls is an issue for the street, especially since the street is narrow. ID-11 was to address this issue. On the contrary, the participant noted that the ponding was created by the developments, which

---

<sup>210</sup> Interview with Participant #1, February 21, 2015.

<sup>211</sup> Interview with Participant #2, February 21, 2015.

<sup>212</sup> Interview with Participant #1, February 21, 2015.

<sup>213</sup> Ibid.



have affected the natural flow of the topography that drained the water from mauka to makai.<sup>214</sup>

Participant #12 has grown up and lived in Kaka‘ako his whole life, in addition to having family members who have worked in the area for many years. The family has an auto body shop on a street perpendicular to Queen Street and has witnessed the shifts in their community. Participant #12 also stated that it is pretty dangerous to walk on Queen Street and has wondered why there are no sidewalks in Kaka‘ako. Participant #11 also argued the importance of safe zoning, citing an explosion in China that affected people who lived near an industrial area as an example. However, the same participant also noted that based on his experience, rezoning can take approximately fifteen to twenty years. The participant went on to describe the various types of land uses in the Land Use Ordinance (LUO) published by the City & County of Honolulu. Zoning negotiations with the DPP are usually contentious because other developers question why others were allowed certain treatments.<sup>215</sup>

Participant #4 explained that pedestrian traffic would be desirable if the environment was appropriate and included features such as sidewalks, crosswalks, and streetlights. But because Queen Street is considered mainly industrial, foot traffic is not wanted. On another note, the participant explained that adding sidewalks would be another feat because the land parcels on Queen Street are minute compared to the larger developers’ properties.<sup>216</sup>

The participant also noted that small businesses feel that the HCDA was unsupportive of small businesses, claiming that the original model designed by the state agency was a high rise with four floors of parking. In addition, the parking structure was constantly relocated and eventually placed in a location that “would displace the most amount of small businesses”.<sup>217</sup>

---

<sup>214</sup> Interview with Participant #1, February 21, 2015.

<sup>215</sup> Ibid.

<sup>216</sup> Interview with Participant #4, March 09, 2015.

<sup>217</sup> Ibid.

#### 4.3.7 Queen Street Community's Structure

Another question in the interview asked who dictates the decisions of the community. Based on reading the HRS set, Participant #1 answered that although the HCDA controls the community, it is actually a more complex issue. The city collects the property tax, yet when the property owners ask for improvements, the city claims that the HCDA holds jurisdiction. Therefore, the HCDA is supposed to be the authority, but neither entity seems to want to take responsibility for the infrastructure on Queen Street.<sup>218</sup>

When asked if businesses on Queen Street communicate and make decisions together, Participant #1 explained that it was never really done before. It wasn't until approximately 2003 when the HCDA created an improvement district plan for Queen Street (from Ward to Kamakee) that the businesses congregated.<sup>219</sup>

The participant also noted that the plans for the rail tended to be presented at the end of the year when businesses were the busiest. The businesses did not feel like they had much of a say and felt that the rail was inevitable. When they reviewed the plans, they observed that the rail project would be taking away portions of the businesses' properties. Some property owners would lose up to four feet or have ten-foot setbacks. The setbacks were especially difficult for landowners who already have small properties. In January, the HCDA sent a notice of assessment which prompted the businesses on Queen Street to establish an organization because they shared the same enemy: the HCDA. The organization participated in testimonies and gave the businesses a forum in which to communicate with each other, but since the owners were all busy with their businesses, it was difficult for them to participate in testimonies conducted on weekday mornings.<sup>220</sup>

Participant #1 also explained the structure of the HCDA. During the opposition of ID-11, one of the complaints was the HCDA's lack of community involvement. The participant had proposed creating a department within the HCDA devoted solely to interacting and working with the community, to basically support more proactive

---

<sup>218</sup> Interview with Participant #1, February 21, 2015.

<sup>219</sup> Ibid.

<sup>220</sup> Interview with Participant #10, May 05, 2015.

community planning, but the was not approved by the board. Senator Fukunaga fought for a bill that increased the number of HCDA board members from eleven to thirteen, in order to add two community members. One community member would be nominated by the Senate president while the other would be nominated by the House speaker. The issue with this arrangement, even though the HCDA board is semi-autonomous, was that it is funded by the DBEDT, and therefore, everything had to pass through the DBEDT and the governor's office.<sup>221</sup>

When Governor Neil Abercrombie became the governor, he reduced the board to nine members comprised of four department directors, one cultural specialist of the governor's choice, one at-large member of the governor's choice, and three members chosen by the community. When Governor David Ige became elected, the board shifted again.<sup>222</sup>

Participant #4 noted that when the infrastructure improvement project was approaching Queen Street, the residents and landowners gathered together to oppose the project, and they were successful in preventing the improvements.<sup>223</sup>

#### **4.3.8 Street Design**

During discussions and interviews, Participants #11-#15 stated that in terms of planning or designing for a community, one must have a sense of practicality. In explaining his background, Participant #13 stated that he had studied architecture at a school that embraced an abstract way of thinking and designing. When the participant had graduated, he wanted to learn how to apply design with a more functional and grounded approach. Therefore, the participant was drawn to urban planning. The participant believes that designing on a larger scope is a more effective way to create positive change in a community, arguing that when a neighborhood suffers, it is due to a lack of a large-scale planning. Participant #13 continued on to say that when a community and designers work together, they will most likely achieve a better end

---

<sup>221</sup> Interview with Participant #1, February 21, 2015.

<sup>222</sup> Interview with Participant #10, May 05, 2015.

<sup>223</sup> Interview with Participant #4, March 09, 2015.

product. Participant #11 also strongly emphasized practicality, in addition to communicating a design concept, as essential to any type of project. This participant believes that any design can fail if it simply does not meet people's functional needs. Thus, it is important to know on what type of program(s) the project depends.<sup>224</sup>

The next question asked participants to describe what type of street design would be favorable to the businesses on Queen Street. Participant #6 answered that the incorporation of communal design is a good idea, specifically in the Ward Village area and warehouse zone in Kaka'ako with mural arts. More green spaces would be favorable, including pocket parks with shaded areas, in addition to outdoor furniture and a place for children and pets to play. Economically, there should be more free parking, playgrounds, and electric vehicle charging stations. And culturally, there should be more art galleries, art schools, and a playground.<sup>225</sup>

Participant #6 is also interested in reviving the outdoor culture of Kaka'ako with design features such as water monuments, large benches, an exterior cinema facility, more electric vehicle charging stations, outdoor art exhibitions, and an outdoor concert space. For family-oriented features, the participant would like to have more playgrounds, outdoor kiosks, and outdoor spaces.<sup>226</sup>

The participant notes that Queen Street has the potential to be like the High Line in New York City, mixing old and new building concepts together. Participant #2 answered that Queen Street is a significant thoroughfare, and that if the area is redesigned, the new plans need to consider who and what businesses they will be affecting.<sup>227</sup>

Participant #1 advised that in order to understand Queen Street, a new design would need to study the traffic flow of not just Queen Street, but also the areas around Queen Street. When there were fewer cars on Kapiolani Boulevard, it was able to handle the amount of traffic, but when Queen Street opened further, it brought more traffic congestion. Ward Avenue also brings a lot of traffic to Queen Street.<sup>228</sup>

---

<sup>224</sup> Interview with Participant #11, October 01, 2015.

<sup>225</sup> Interview with Participant #6, April 23, 2015.

<sup>226</sup> Ibid.

<sup>227</sup> Interview with Participant #2, February 21, 2015.

<sup>228</sup> Interview with Participant #1, February 21, 2015.

The participant remembered that when the Mauka regulation was being revised by the HCDA, a different route for traffic and regional traffic was considered to alleviate traffic congestion from Kaka‘ako. John Whalen, a planner who was the director of the Department of Planning and Permitting (DPP) at that time, had the idea of changing the directions of Pensacola and Pi‘ikoi Streets and creating two-way streets in order to decrease traffic. The HCDA had only done a regional study, rather than looking at the bigger scope of traffic around Queen Street. Changes need to be made from the freeway, to Ward Avenue, and from Pi‘ikoi going back to the freeway. These changes in directions on surrounding streets affect Queen Street traffic. The participant concluded that some people think this should have been addressed before Kaka‘ako became developed.<sup>229</sup>

Participant #1 further detailed what would be ideal for Queen Street. The city’s street standard is approximately sixty feet, but that is too wide for Queen Street. To the participant, that dimension does not support what a friendly street is supposed to be, explaining that crossing a sixty-foot street like Auwahi Street is quite dangerous for any pedestrian. According to the participant, narrower streets are friendlier because they will bring fewer cars. Currently, Queen Street is approximately forty feet wide. If the sixty-foot width was enforced, it is hard to believe that it would not affect businesses.<sup>230</sup>

Participant #1 also noted that green spaces and landscaping would be difficult to promote on Queen Street due to the maintenance that is required to have them. Since property taxes are a struggle, taking care of something simple, such as a tree, adds to the costs imposed on businesses. Adding green spaces would also take away a property owner’s frontage and affect the number of cars that can be parked.<sup>231</sup>

The participant elaborated on what makes Queen Street different from the rest of Kaka‘ako. Participant #1 explained that a lot of the businesses on Queen Street are not retail, but rather industrial, compared to the KS developed area, which is concentrated mainly on retail. The businesses’ cars, trucks, and containers are parked in front of their lots on Queen Street, which is incongruous to the rest of Kaka‘ako, which is experiencing an overwhelming increase in spot developments and residential design. The participant

---

<sup>229</sup> Interview with Participant #10, May 05, 2015.

<sup>230</sup> Interview with Participant #1, February 21, 2015.

<sup>231</sup> Ibid.

emphasized that when an area becomes developed, it usually does not take the surrounding areas or how they will be affected by the change into account.<sup>232</sup>

When a property's parking is reduced to two spaces, especially if that business is an auto body shop, it will be extremely difficult for the business to survive. It is also unrealistic to try to incorporate little kiosks into the redesign of Queen Street because the area is mainly industrial. Commercial businesses would not be viable either.<sup>233</sup>

The participant offered the example of a neighboring property on Cummins Street where there is a plumbing business situated beneath eight floors of housing to demonstrate that Kaka'ako was mixed-use before the term was officially coined. Yet it is a term used heavily by the developments taking place in Kaka'ako, although as Participant #2 notes, the mixed-use the developments are thinking of is more geared towards retail business, not light industrial. The participant recounted that the Hawai'i Alliance for Community Based Economic Development (HACBED) conducted a study funded by Senator Carol Fukunaga, which found that Kaka'ako's light industrial business supports the east side of O'ahu, until you reach Mapunapuna.<sup>234</sup>

The participant also stated that if light industrial businesses, which would need to utilize the first floor, were to build vertically, their expenses would also climb. Yet if the city is able to approach business owners with building codes and creative design that does not disturb the business, it may be possible to develop Queen Street while retaining its character.<sup>235</sup>

This idea proposed the design question for this research: what incentives can be offered to allow Queen Street to have improved street conditions but also maintain its light industrial character? Participant #15 agreed that an incentive would be the best solution to achieve street improvements.<sup>236</sup> Participant #11 stated that the FAR is not about height, but rather density. The big question is the total area of a building. An example would be a 3% FAR for a 10,000ft<sup>2</sup> lot or 30,000ft<sup>2</sup> of buildable area. Special districts vary in the take-off perimeter for calculating the FAR. For example, in the

---

<sup>232</sup> Interview with Participant #1, February 21, 2015.

<sup>233</sup> Ibid.

<sup>234</sup> Ibid.

<sup>235</sup> Ibid.

<sup>236</sup> Interview with Participant #15, October 21, 2015.

Waikiki Special District, the FAR is taken to the middle of the road (Participant #11, 2015).<sup>237</sup>

## 4.4 Case Studies

During the interviews, participants suggested case studies including the Kamakana Villages at Keahuolu on the island of Hawai‘i and the South Kaua‘i Form-Based Code project. Here, I explore these case studies as examples of how FBC were applied in Hawai‘i.

### 4.4.1 Kamakana Villages at Keahuolu

The Kamakana Villages at Keahuolu are located on the island of Hawai‘i, near Kailua-Kona. The area was planned in order to create a community that implemented the Kona Community Development Plan (CDP). The CDP was adopted in 2008 by the Hawai‘i County Council, which instructs new developments in Kona. The process included collaboration between the community and designers through various meetings, charrettes, and working sessions.<sup>238</sup>

In the development process of the project, principles were established to guide the design and development phases of the Kamakana Villages. The project also took into account the various scales of the project, ranging from large scale (the community) to architectural typologies and character. The streets and infrastructure were also taken into account.<sup>239</sup>

The key to implementing FBC is recruiting the community into the planning process. The planning process of the Kamakana Villages project started in September 2005 and was a culmination of “public meetings, workshops, charrettes and working

---

<sup>237</sup> Interview with Participant #11, October 01, 2015.

<sup>238</sup> Group 70 International, Inc. *Kamakana Villages at Keahuolu* (Honolulu, HI: Group 70 International, Inc., 2010), 20.

<sup>239</sup> Ibid.

groups to develop the Kona CDP”.<sup>240</sup> The project continued to site analysis in 2009 and in the same year, the Kona CDP was implemented into the planning and design phase of the project.<sup>241</sup> There were five themes that the project aimed to achieve:

**Connectivity:** “Connection to the larger community, to the ahupua’a, to the land. Kamakana Villages will not be an entity unto itself, but will be a Transit-Oriented Development with roadway accessibility, social and commercial centers (or pikos), and wayfinding assistance for ease of navigation”.<sup>242</sup>

**Education:** “This is to be a learning community. The community, its lifestyle, physical environment, institutions are to support life-long learning”.<sup>243</sup>

**Open Spaces:** “There will be ample open spaces for use by the residents and for view planes, especially mauka and makai. Kamakana Villages will be landscaped and will have open spaces that are passive and active, including archeological features preserved in parks”.<sup>244</sup>

**Kokua Aku – Kokua Mai:** “This is an expression of residents helping each other; extending kokua and receiving it. This implies a high level of commitment to the community and the educational, retail, and social entities within the community”.<sup>245</sup>

**Sustainability:** “It was a unanimous sentiment that this community should be sustainable in its design, development and lifestyle”.<sup>246</sup>

In working with Calthorpe Associates, Group 70 International, Inc. created four principles to act as guidelines for the urban design phase. The guidelines are listed as follows:

**Diversity and Balance:** “recognizes that the social, environmental, and economic dimensions of community planning are all fundamental to its creation process.

---

<sup>240</sup> Group 70 International, Inc. *Kamakana Villages at Keahuolu* (Honolulu, HI: Group 70 International, Inc., 2010), 20.

<sup>241</sup> Ibid.

<sup>242</sup> Ibid., 24.

<sup>243</sup> Ibid.

<sup>244</sup> Ibid.

<sup>245</sup> Ibid., 25.

<sup>246</sup> Ibid.



Using such dimensions to achieve an appropriate equilibrium between diverse populations, enterprises, land uses and natural systems is an art specific to each site”.<sup>247</sup>

**Conservation and Restoration:** “underscores the importance of existing cultural, historic, and architectural assets. In addition, it heeds the fragility of existing ecosystems and asks where resources can be conserved”.<sup>248</sup>

**Human and Pedestrian Scale:** “challenges decades of auto-centric development and prioritizes human mobility and comfort above anything else. It reminds us that cities are, after all, designed for people”.<sup>249</sup>

**Connection and Interdependence:** “demands an acute awareness of the environmental hierarchy and its implications upon design. Buildings and open spaces are designed within a site, yet often what lies beyond site boundaries is equally important”.<sup>250</sup>

The Kamakana Villages’ guidelines also incorporate the architectural character of the buildings in the community. This is achieved through the continuation of architectural features that define the historic buildings of Kona. Architecture was chosen as a design guideline because the character of the architecture carries the history and culture of Kona for the community.<sup>251</sup> Implementing characteristic architecture in both mixed-use and residential buildings helps to create a consistent identity throughout the community.<sup>252</sup>

The Kamakana Villages case study exemplifies a successful FBC project. The integration of the design process with the community’s involvement is a key component in differentiating Euclidean zoning from FBC. This project is an example of how a city can be built with the community’s support and involvement.

This research project’s disadvantage is not being able to get all of Queen Street involved, but the interviews provided an essential and beneficial resource. This

---

<sup>247</sup> Group 70 International, Inc. *Kamakana Villages at Keahuolu* (Honolulu, HI: Group 70 International, Inc., 2010), 38.

<sup>248</sup> Ibid.

<sup>249</sup> Ibid.

<sup>250</sup> Ibid.

<sup>251</sup> Ibid., 70.

<sup>252</sup> Ibid., 78.

disadvantage is unsolvable because full community participation would entail a project economically supported by a developer and the property owners of Queen Street. But due to the limitations of a research project, the interviews that were conducted will suffice.

#### **4.4.2 South Kaua'i Form-Based Code Project**

The South Kaua'i form-based code project serves as a framework for the island of Kaua'i. Its goal is to maintain the current character that the island is known for. It preserves the current architectural qualities that support the area's character and incorporates pedestrian, bicycle, and transit circulation. The FBC is a regulation and is used as a framework to help the island's future growth.<sup>253</sup>

This case study's use of building typology standards was designed and clearly organized for the community to follow. The guidelines list the intent and descriptions of allowed building types, building placement, building forms, encroachment and frontage types, parking, and different land use types. This case study complements the Kamakana Villages case study. While the Kamakana Villages case study successfully describes the macro and meso levels of design and planning, the South Kaua'i FBC project is a guideline for this research project's building typology standards for Queen Street.<sup>254</sup>

#### **4.5 Kaka'ako: Our Kuleana**

Kaka'ako Our Kuleana was an urban workshop series hosted by the University of Hawai'i at Mānoa's Department of Urban and Regional Planning (DURP) that was open to the public. The series discussed topics surrounding development issues in the area. The goal of the workshop was to educate people about the topic of the day and to generate discussion amongst the attendees about what can be done in the future.<sup>255</sup>

---

<sup>253</sup> Opticos Design, Inc., *South Kaua'i Form-Based Code*, Honolulu: Opticos Design, Inc., (2015), 1-5, accessed October 28, 2015. [http://www.kauai.gov/Portals/0/Planning/SKCP\\_AppendixC.pdf?ver=2015-08-26-150333-080](http://www.kauai.gov/Portals/0/Planning/SKCP_AppendixC.pdf?ver=2015-08-26-150333-080).

<sup>254</sup> Ibid., 2.2-2.5.

<sup>255</sup> University of Hawai'i Department of Urban and Regional Planning, "Kaka'ako: Our Kuleana," Workshop about Development Issues in Kaka'ako, Honolulu, HI, October 13-November 17, 2015.

Each public workshop hosted three or more panelists who are leaders in the field of the discussed topic. The workshop began in mid-October of 2015 and continued until mid-November. Two of the workshops were especially pertinent to this research: Kaka‘ako Our Kuleana: Planning & Development in Kaka‘ako and Envisioning a Place for Everyone: From Shoreline to Small Businesses.<sup>256</sup>

In Kaka‘ako Our Kuleana: Planning & Development in Kaka‘ako, the panelists consisted of Manulani Meyer, who is a professor of Education; Annie Koh, who works for the DURP at the University of Hawai‘i at Mānoa; and George Atta, the Director of the City & County of Honolulu Department of Planning and Permitting.<sup>257</sup>

Manulani Meyer discussed the true meaning of the term kuleana, which she defined as responsibility and went on to talk about the concept of ‘auamo kuleana. In both cases, the word kuleana means not only to be responsible, but also to know one’s responsibility to use one’s skillset well. Then she explained that ‘auamo means the collective transformation for excellence. Therefore, ‘auamo kuleana implies interaction and communication.<sup>258</sup>

The next panelist was Annie Koh, who has done extensive research on the history of Kaka‘ako. Her presentation started with post-contact history and showed maps starting from the 1850s to today. Maps illustrate the transition of the community from depending on fishing and salt ponds, to the mixed-use programs and working-class residences of the early 1900s to 1940s, to the mid-century light-industrial period, to today’s mixed-use residential, industrial, and commercial urban program. The presentation underscored the need for improved planning, which was an issue also raised by a number of people in the audience. A possible solution that Koh offered is mixed-use zoning and incentives, funds, and legal requirements in addition to more affordable housing and parks in Kaka‘ako.<sup>259</sup>

The last panelist was George Atta, who discussed the concept of place. He contends that the people are the ones who make the place, but also that the place makes the people. He presented a map of Kaka‘ako before Euclidean zoning was implemented

---

<sup>256</sup> University of Hawai‘i Department of Urban and Regional Planning, “Kaka‘ako: Our Kuleana,” Workshop about Development Issues in Kaka‘ako, Honolulu, HI, October 13-November 17, 2015.

<sup>257</sup> Ibid.

<sup>258</sup> Ibid.

<sup>259</sup> Ibid.

and explained the history of the Hawai‘i Community Development Authority (HCDA). He explained that the HCDA does not have an inspection team and no police to enforce regulations. The Honolulu Department of Planning and Permitting (DPP) however *does* have the authority to enforce regulation.<sup>260</sup>

Next, Atta explained that while the HCDA is changing the zoning standards to FBC, the issue is how to implement them. The presentation concluded with the current issues of the ownership of streets and whether the City of Honolulu will be taking care of the streets. A private party who is claiming ownership is currently in litigation.<sup>261</sup>

For the Envisioning A Place for Everyone: From Shoreline to Small Businesses workshop, the panelists were a group of business owners in Kaka‘ako: Rechung Fujihara, Ron Iwami, Michelle Matson & Wayne Takamine, Maile Meyer, Bernard Nunies, Dexter Okada, Roxanne Ortiz, Jonathan Likeke Scheuer, and Steve Scott.<sup>262</sup>

The panel consisted of a mix of old and new owners that expressed their concerns and perspectives on the development events in Kaka‘ako. One business owner, Mr. Dexter Okada, who has maintained his family’s business in Kaka‘ako and is a third generation business owner, says that Kaka‘ako’s infrastructure is no longer stable and believes that the city, county, and state need to take appropriate and immediate action to improve conditions. He also expressed the importance of small businesses, which vary from selling slippers to auto body shops. Like the infrastructure, Mr. Okada says, once these businesses go, the community will no longer be able to support itself.<sup>263</sup>

Participating in these workshops and hearing firsthand how uneasy businesses are about the future of Kaka‘ako underscored the emotional value of the area. It is not only the businesses with longer histories in Kaka‘ako that are worried, but also the younger businesses. The workshops made it clear that the future of Kaka‘ako is uncertain, but that people are searching for options. One audience member asked why a master plan for Kaka‘ako has not been established. This research serves as the basis for providing such a solution for Queen Street.<sup>264</sup>

---

<sup>260</sup> University of Hawai‘i Department of Urban and Regional Planning, “Kaka‘ako: Our Kuleana,” Workshop about Development Issues in Kaka‘ako, Honolulu, HI, October 13-November 17, 2015.

<sup>261</sup> Ibid.

<sup>262</sup> Ibid.

<sup>263</sup> Ibid.

<sup>264</sup> Ibid.

## CHAPTER 05 FORM-BASED CODE

### 5.1 Introduction

Reiterating what a form-based code (FBC) is, the Form-Based Codes Institute (FBCI) defines it as:

a land development regulation that fosters predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code. A form-based code is a regulation, not a mere guideline, adopted into city, town, or county law. A form-based code offers a powerful alternative to conventional zoning regulation.<sup>265</sup>

The FBCI further explains that a FBC focuses on the connection between “building facades and public realm, the form and mass of buildings in relation to one and the scale and types of streets and blocks.” FBC are regulations and standards that are represented in written documents and illustrated with the use of diagrams and other visual representations. These representations are referenced to an overall regulating plan that specifies appropriate forms and scales, which support the character of a place. This prevents the development from being separated strictly based on land-use.<sup>266</sup>

The separation of land uses is one of the main ideas that FBC eliminate. In addition, FBC also prohibit conventional zoning’s use of micromanagement; allowance of uncontrolled development; and conceptual boundaries determined by floor-area ratio (FAR), number of built structures in an allotted plot, setbacks, and parking ratios.<sup>267</sup>

This research identifies the importance of implementing FBC on Queen Street because the surrounding developments that border the small businesses and parcels are creating unrest in the community. FBC is a way to integrate what the community needs and wants while maintaining the character that the built forms encapsulate. If there is no clear plan for Queen Street, it may adapt on the macro scale of the community, which will cause more unrest and likely weaken the character of Kaka‘ako. The following sections of this chapter explain how FBC will be utilized to allow Queen Street to adapt.

---

<sup>265</sup> “Form-Based Codes Defined,” last modified 2016, <http://formbasedcodes.org/definition/>.

<sup>266</sup> Ibid.

<sup>267</sup> Ibid.

## 5.2 Floor Area Ratio and Building Envelopes

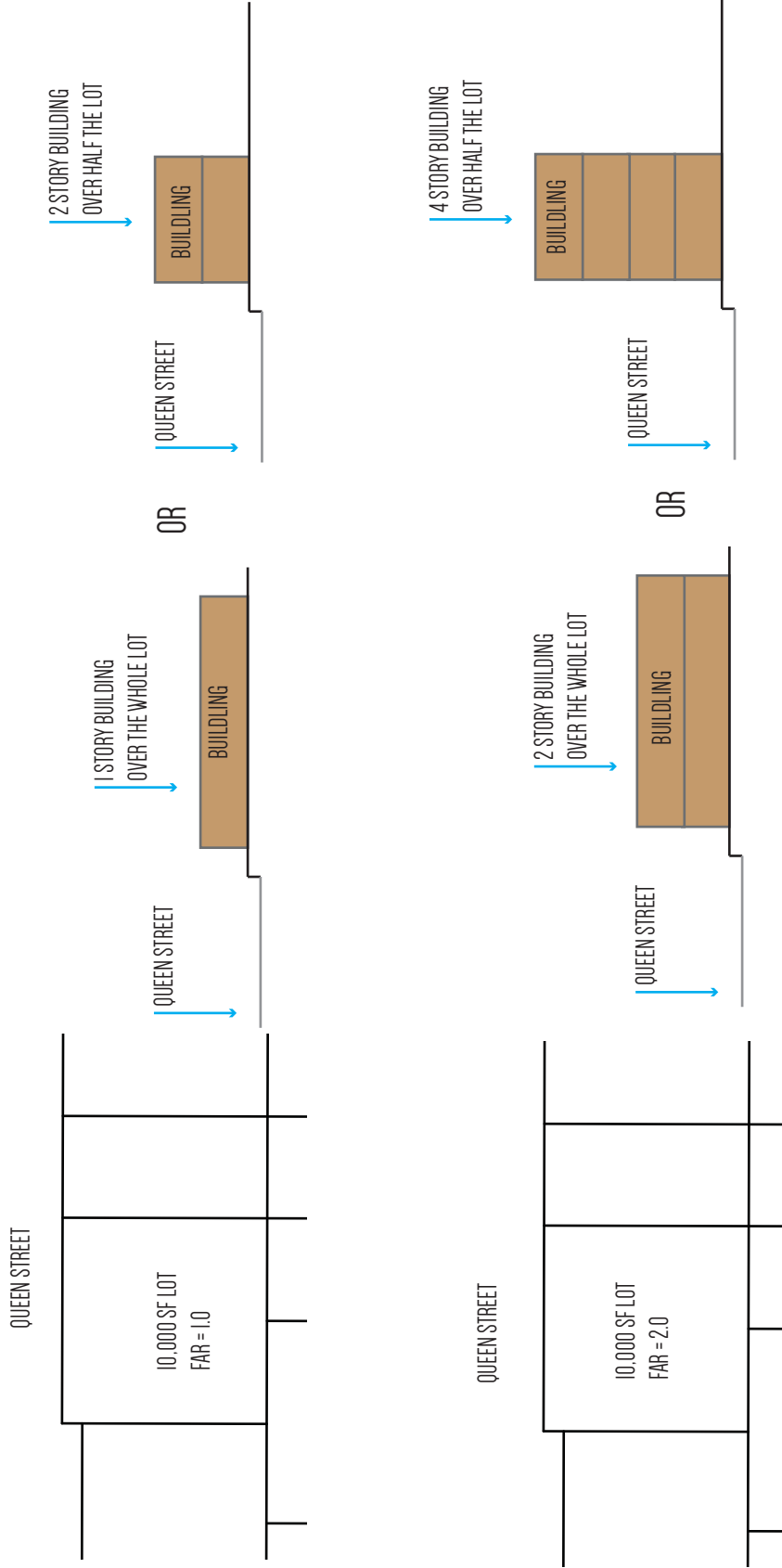
The floor area ratio (FAR) is the gross floor area that is allowed on a lot divided by the net area of the lot. It is conveyed in decimals (see Figure 9 and Figure 10). For residences, density is noted by the number of people per acre and is the same as housing units per acre. Whereas for non-residential lots, the density is conveyed by using FAR. Overall, the use of FAR can be utilized in two ways: to decrease negative impacts on the environment of the development or to maintain the scale and weight of development.<sup>268</sup>

---

<sup>268</sup> Van Meter Williams Pollack, LLP, “What is Floor Area Ratio (FAR)?” (paper presented at the Manchester Subarea Community Meeting, April 17, 2007).  
[http://www.kitsapgov.com/dcd/community\\_plan/subareas/manchester/Meetings/4-17-07/Floor\\_Area\\_Ratio.pdf](http://www.kitsapgov.com/dcd/community_plan/subareas/manchester/Meetings/4-17-07/Floor_Area_Ratio.pdf).

$$\frac{\text{GROSS FLOOR AREA OF BUILDING (S)}}{\text{TOTAL AREA OF THE LOT}} = \text{FAR}$$

**Figure 9.** Floor Area Ratio equation,  
Source: Stephanie Chong, University of Hawaii at Manoa



**Figure 10.** Floor Area Ratio concept in diagrams,  
Source: Stephanie Chong, University of Hawaii at Manoa



After World War II, spaces that were meant for people to work, attend school, shop, and reside in were altered to provide necessary parking spaces. As a result, parking spaces altered the way buildings fit in the urban fabric of a city. Therefore, the FAR replaced many building height regulations. This resulted in zoning standards becoming based solely on quantitative facts.<sup>269</sup>

An issue with the FAR is that since it focuses on a building's mass, it lacks consideration of architectural character. The FAR only concentrates on the force of development while the architectural quality of a building also is dictated by setbacks, height limitations, and location on a site.<sup>270</sup> In addition, if there is a basement below ground level, it is not counted as part of the FAR since it does not affect the exterior appearance of a building. Further clarification is necessary to determine if a half-submerged basement or parking garage will be counted as part of the FAR.<sup>271</sup>

The building envelope is the culmination of building setbacks and heights. Similarly to the FAR, it is insufficient if other necessary tools are missing. Even though a building envelope creates a number of possible design concepts, if the building is taken to its maximum limits, it will be unsuitable and out of scale. On the other hand, if the scale is limited, the number of design solutions will also be limited. This is why the building envelope and FAR are dependent on each other in exploring architectural solutions.<sup>272</sup>

FAR is important to this research project because it differentiates how this project's FBC will be able to be successful, specifically on Queen Street. Because FBC does not usually incorporate FAR, by allowing it to be implemented, Queen Street's FBC will be able to maintain the current businesses and character as the area adapts into the future. It is especially important to allow the designation of FAR for Queen Street's FBC because it is the foundation for the regulation. Much of the parcels on Queen Street are much smaller than the other parcels of land in Kaka'ako.

---

<sup>269</sup> Daniel G. Parolek,, Karen Parolek, and Paul C. Crawford, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken: John Wiley & Sons, Inc., 2008), x.

<sup>270</sup> Van Meter Williams Pollack, LLP, "What is Floor Area Ratio (FAR)?" (paper presented at the Manchester Subarea Community Meeting, April 17, 2007).

[http://www.kitsapgov.com/dcd/community\\_plan/subareas/manchester/Meetings/4-17-07/Floor\\_Area\\_Ratio.pdf](http://www.kitsapgov.com/dcd/community_plan/subareas/manchester/Meetings/4-17-07/Floor_Area_Ratio.pdf).

<sup>271</sup> Ibid.

<sup>272</sup> Ibid.

Based on the interviews, this research has collected information from various types of sectors that range from small business owners to an urban planner, whom concluded that Queen Street's parcels are so minute which is why development has been difficult and had not occurred. This is where FAR would be vital in stepping towards implementing FBC for this design research. By increasing the FAR for the smaller lots, which are typically located in the center of the project site, the businesses will be able to build higher, which is an incentive for the smaller land owners who are hesitant towards adaptation. And most importantly, by allowing the smaller lots to build higher than the surrounding larger parcels, the businesses on these small parcels will be able to continue as the street transitions into more than thirty years from the start of the design's implementation.

### **5.3 Site Analysis**

Kaka'ako is a culmination of two main areas, Mauka and Makai. King Street, Pi'ikoi Street, Ala Moana Boulevard, and Punchbowl Street border Kaka'ako Mauka, and Ala Moana Boulevard and the Pacific Ocean frame Kaka'ako Makai (See Figure 11).

The HCDA provides a guide to the different infrastructure improvement areas in Kaka'ako, listed in order by the year they were created. Please note that on Queen Street, the area from Cooke Street to Kamakee Street is not part of the infrastructure improvement district (see Figure 12). The HCDA also provides a map of all the future developments in Kaka'ako.

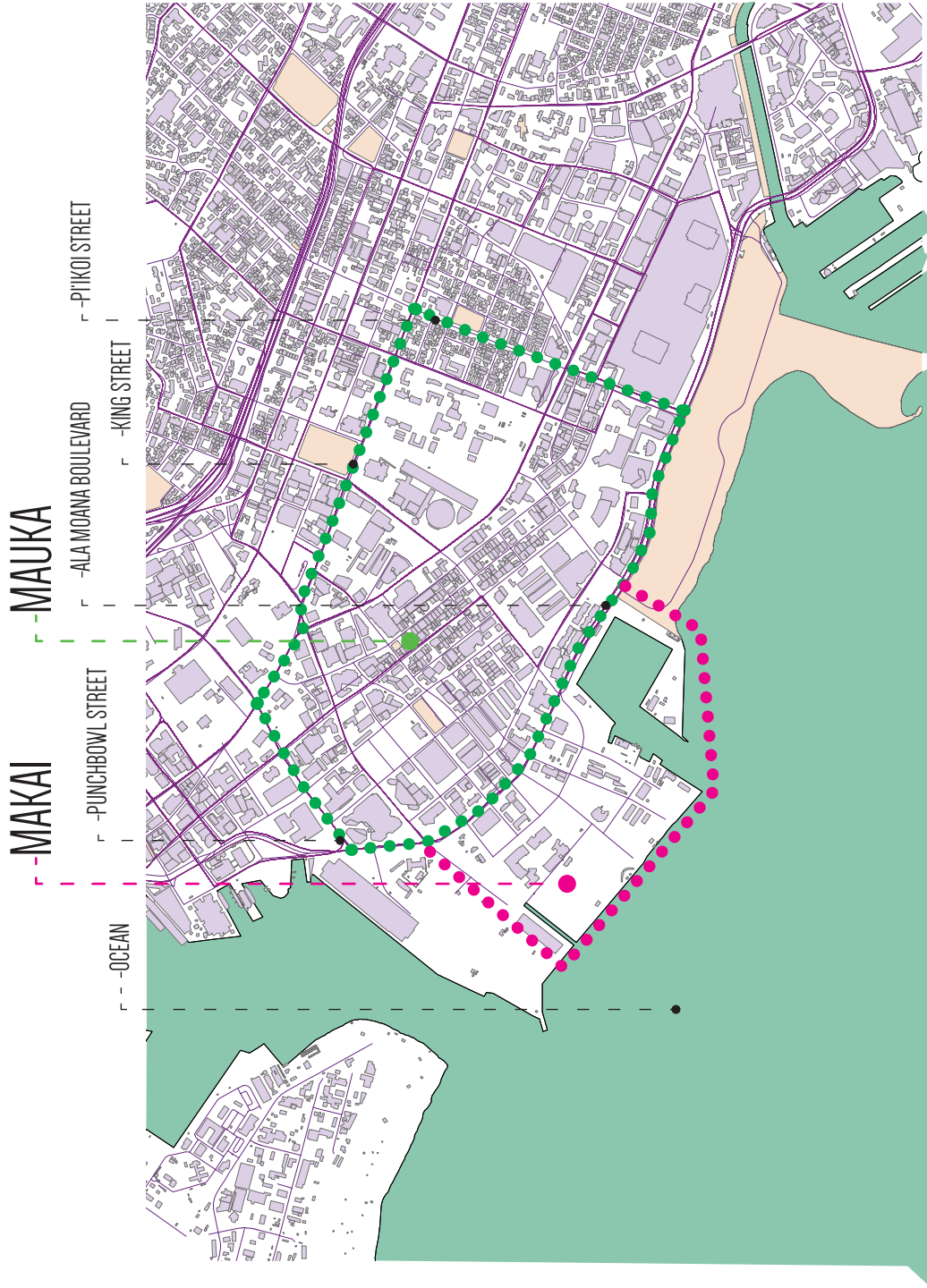
Another map provided by the HCDA designates the locations of the residential buildings in Kaka'ako. The HHC properties and KS properties are populated with projects on either end of Queen Street. The meso scale of the site, which is Queen Street, also has neighboring developments. To illustrate the various buildings that surround Queen Street, the following diagram, based on HCDA's map, provides a visual representation of the area. The direction of the photos follows the traveling direction from Punchbowl Street to Kamakee Street.

The next portion of the site analysis pertains to observations that were recorded during site visits to the area of Queen Street. Punchbowl Street is the edge of the Civic

District (fig. 13-25). South Street, Keawe Street, Emily Street, and Coral Street are where building typologies create a spatial disconnect. One block might have a high-rise development with a single-story building next door and no street activity. These patterns occur on Cooke Street, Kamani Street, Ward Avenue, and Kamakee Street. Furthermore, photos show the different types of buildings that populate Queen Street and also show the diagram of the built space in gray, parcel in black, and road in blue. Areas that are circled in red emphasize the areas where pedestrians tend to gather. During site visits, the number of people who collected in shaded areas, such as the FedEx building across from the Kaka‘ako Fire Station, was noted. These findings emphasized a spatial disconnect on the thoroughfare of Queen Street. The improved area between Punchbowl Street and Cooke Street is also spatially and visually different compared to the rest of Queen Street, towards Kamakee Street.

Section diagrams were also illustrated in to show the scale and built relationships to pedestrians. The first diagram depicts where the Civic district on Punchbowl Street begins, in addition to noting the wide six lanes and historical buildings. The next sectional drawings illustrate the built relationship on Ward Avenue and how the street separations from buildings to circulation spaces create a divide for pedestrians. Also, the number of lanes slightly decreases to five lanes with landscaping. The next diagram illustrates Kamakee Street, with a slightly decreased number of lanes to four lanes and wider sidewalks. Yet it still shows a separation from the buildings.

A disconnected example is shown next, which is located on South Street. The number of lanes is still large, which is five lanes. Yet there is more landscaping on the street that are much more divided. One pedestrian path runs along the road with landscaping that separates it from another path that runs along the building’s edge. This divides the circulation of the building from the street. On Keawe Street, Coral Street, and Emily Street, it is also disconnected because the street design is inconsistent with these perpendicular streets. Queen Street is still wide with at least four lanes whereas these side streets are only consisted by two lanes with sidewalks.



**Figure 11:** Boundaries of Kaka'ako,  
 Source: Stephanie Chong, University of Hawaii at Manoa



**Figure 12. Modi.ed Google Earth Image, Infrastructure Improvements,  
Source: Stephanie Chong, University of Hawaii at Manoa**

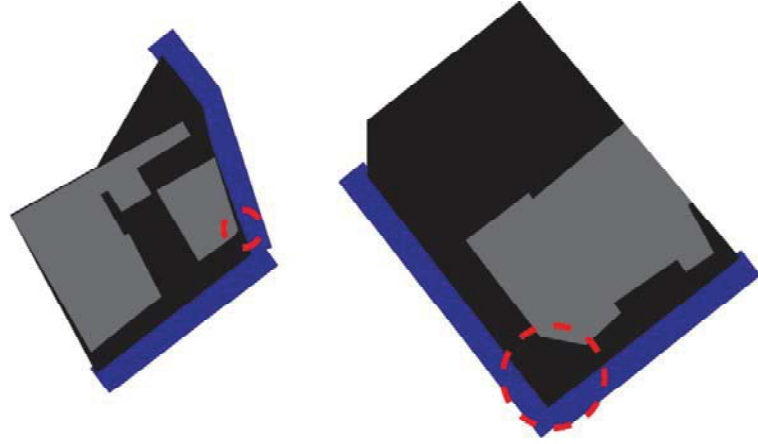


Figure 13: Building Forms  
existing building forms on Queen  
Street

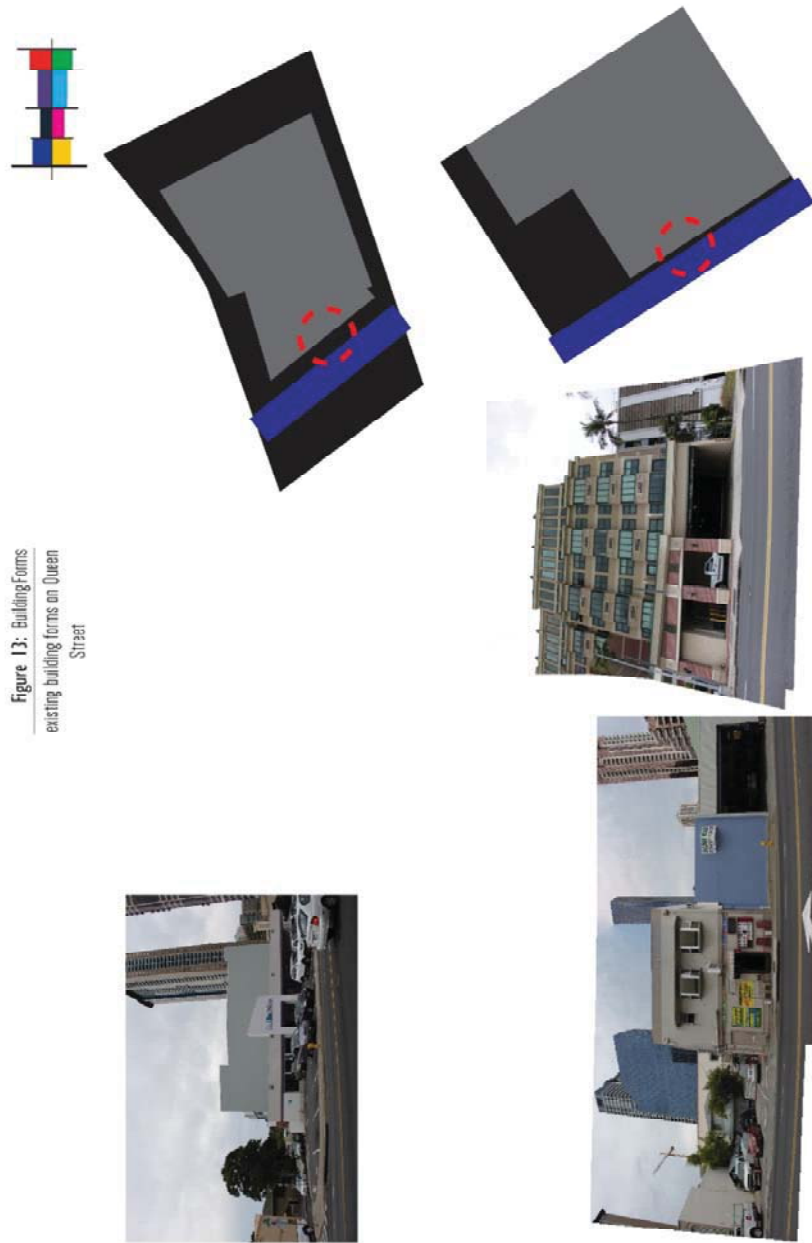


closes off corner



embraces corner

**Figure 13.** Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa



87

**Figure 14.** Site visit diagrams and observations,  
 Source: Stephanie Chong, University of Hawaii at Manoa



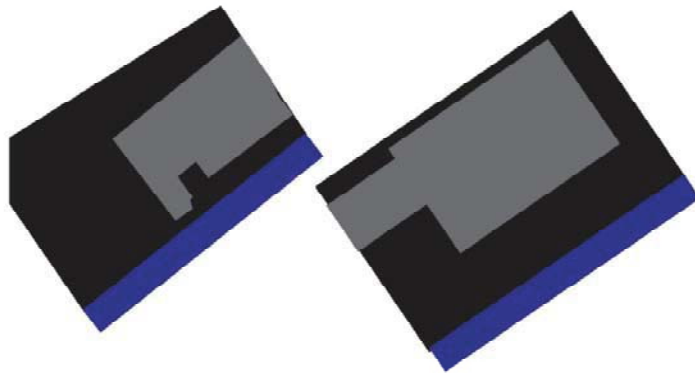


figure 13: Building Forms  
existing building forms on Queen  
Street



87

**Figure 15.** Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa



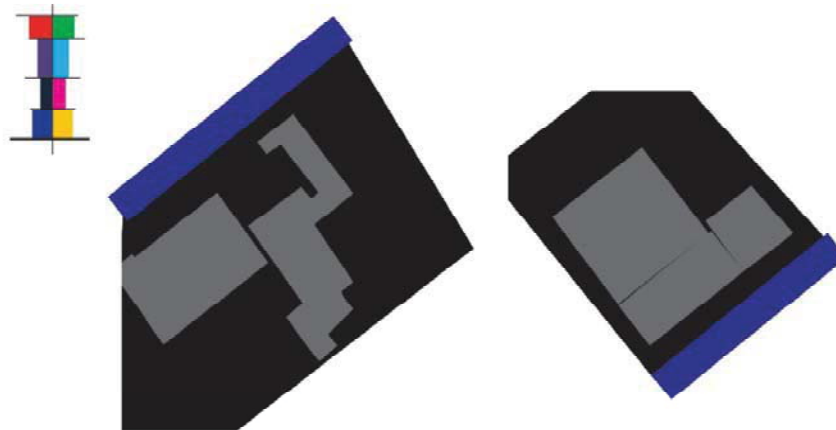


Figure 13: Building Forms  
existing building forms on Queen  
Street



87

Figure 16. Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa

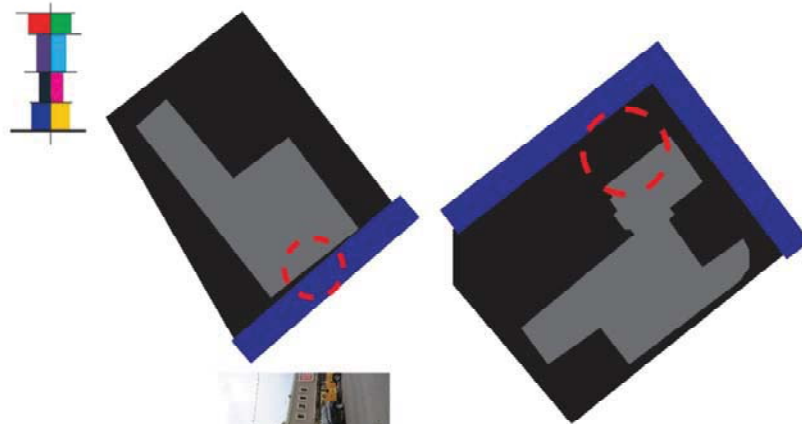


Figure 13: Building Forms existing building forms on Queen Street



87

Figure 17. Site visit diagrams and observations, Source: Stephanie Chong, University of Hawaii at Manoa

Figure 13: Building Forms  
existing building forms on Queen  
Street

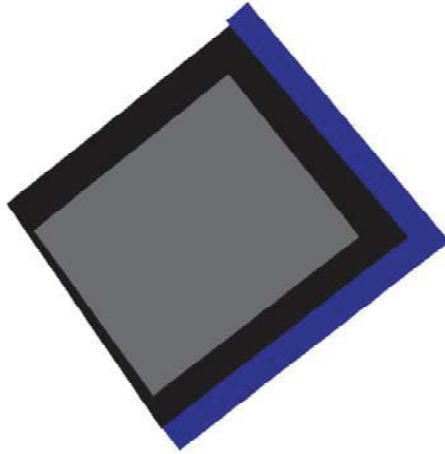


Figure 18. Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa

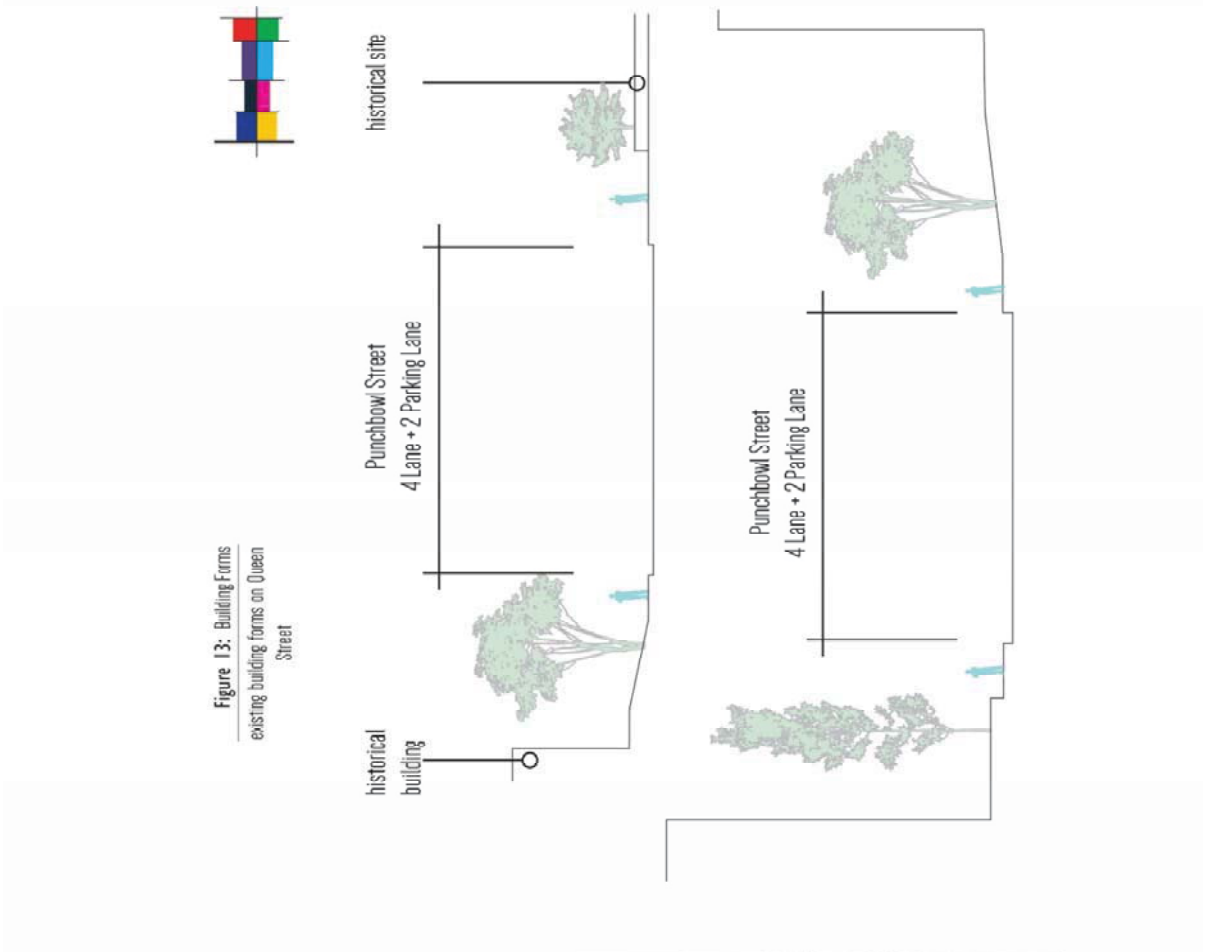


Figure 13: Building Forms existing building forms on Queen Street



Figure 19. Site visit diagrams and observations, Source: Stephanie Chong, University of Hawaii at Manoa

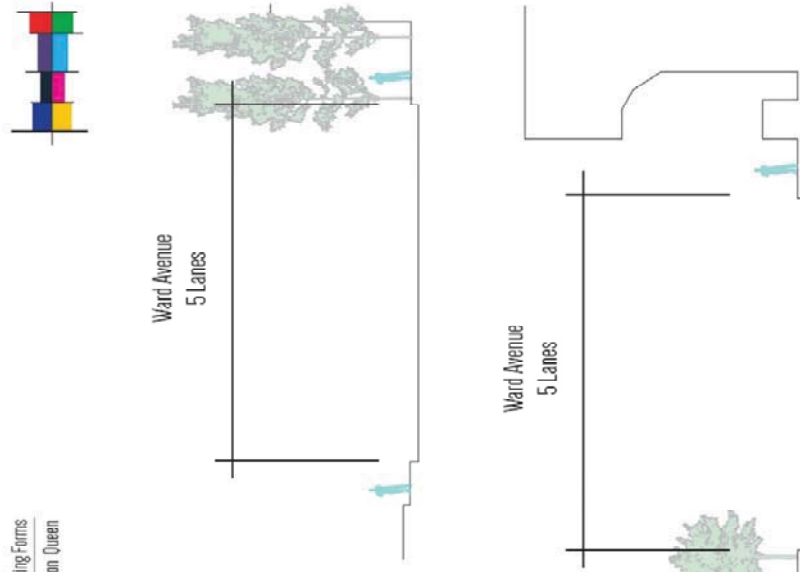
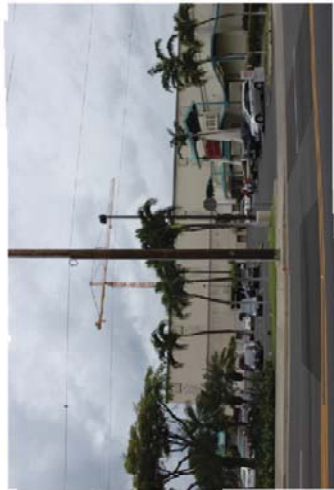


Figure 13: Building Forms existing building forms on Queen Street



DIVISION | Queen Street | Ward Avenue

Figure 20. Site visit diagrams and observations, Source: Stephanie Chong, University of Hawaii at Manoa



DIVISION | Queen Street | Kamakee Street

Figure 13: Building forms existing building forms on Queen Street

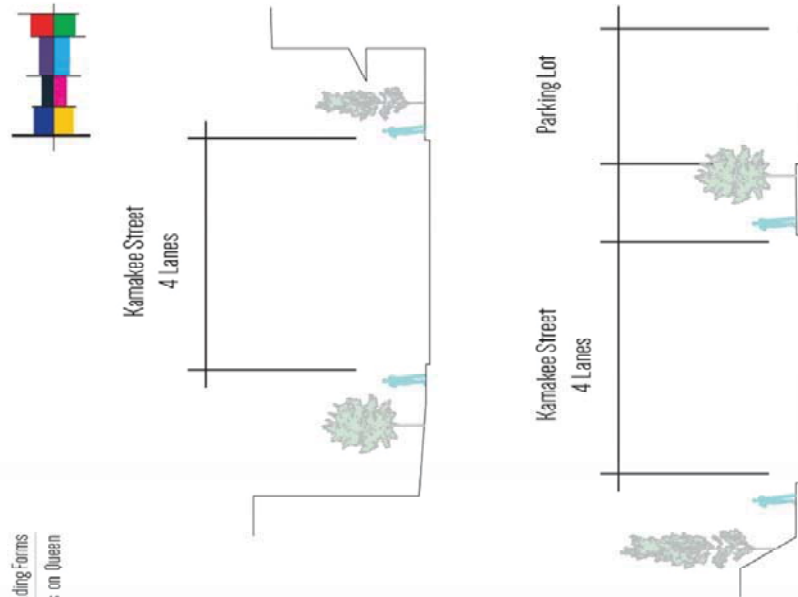


Figure 21. Site visit diagrams and observations, Source: Stephanie Chong, University of Hawaii at Manoa

Figure 13: Building Forms existing building forms on Queen Street

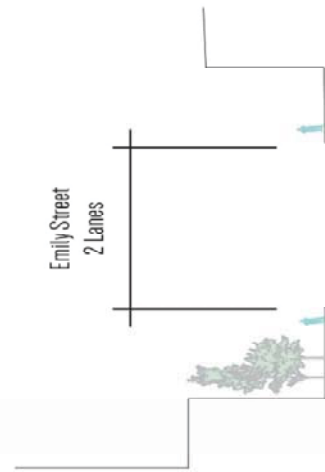
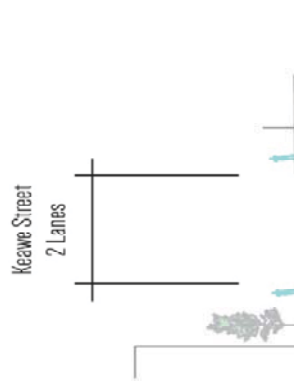


Figure 22. Site visit diagrams and observations, Source: Stephanie Chong, University of Hawaii at Manoa





Figure 13: Building Forms existing building forms on Queen Street



DISCONNECTION | Queen Street | Coral Street

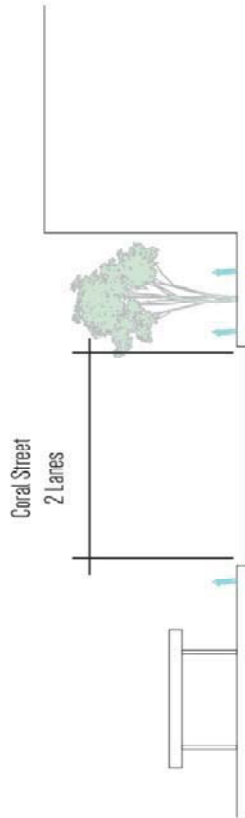
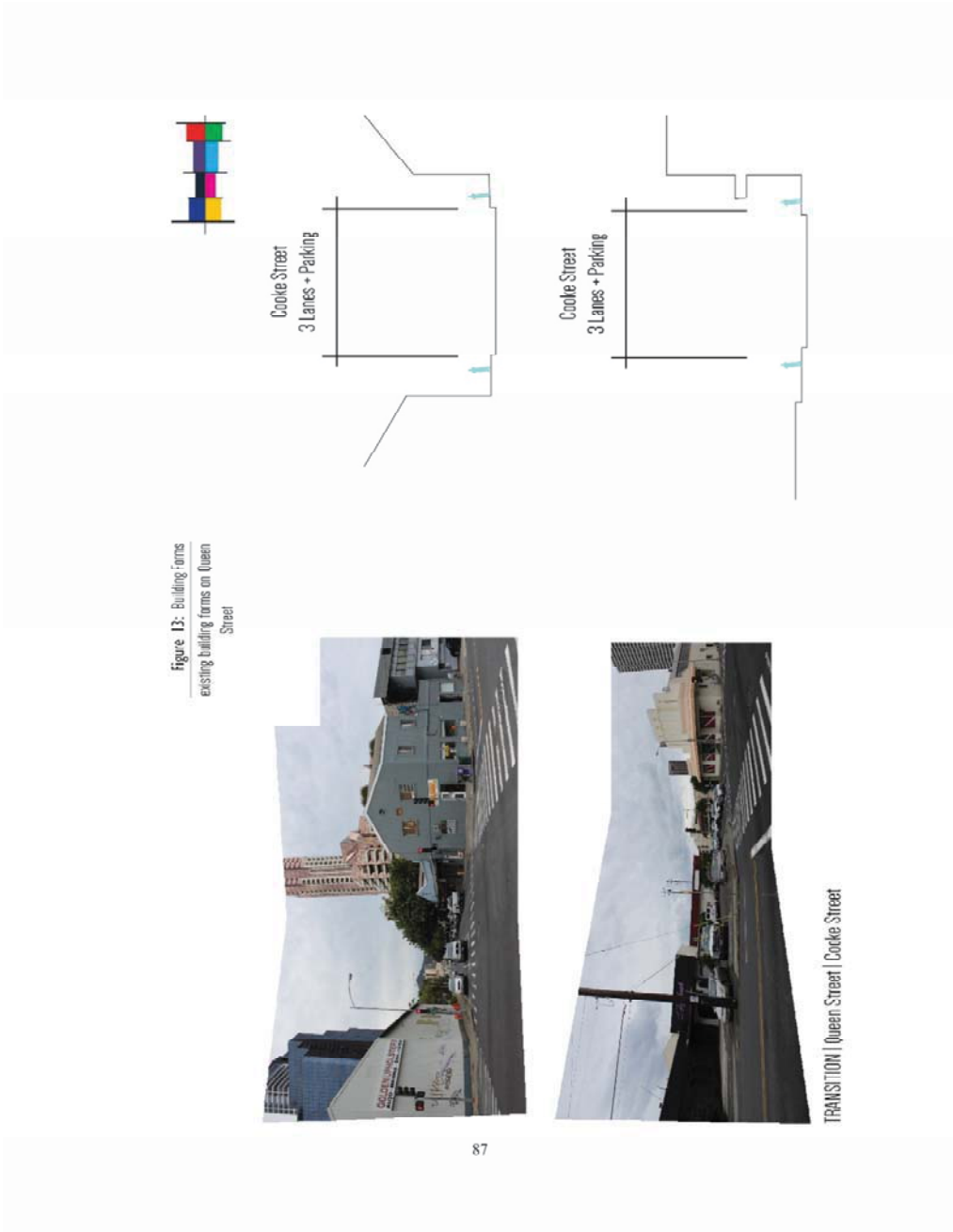


Figure 23. Site visit diagrams and observations, Source: Stephanie Chong, University of Hawaii at Manoa





**Figure 24.** Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa

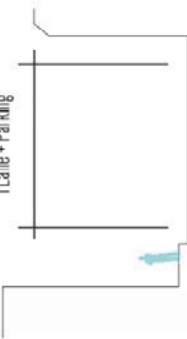
Figure 13: Building Forms existing building forms on Queen Street



TRANSITION | Queen Street | Kamani Street



Kamani Street  
1 Lane + Parking



Kamani Street  
2 Lane + Parking



**Figure 25.** Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa



Figure 13: Building Forms  
existing building forms on Queen  
Street

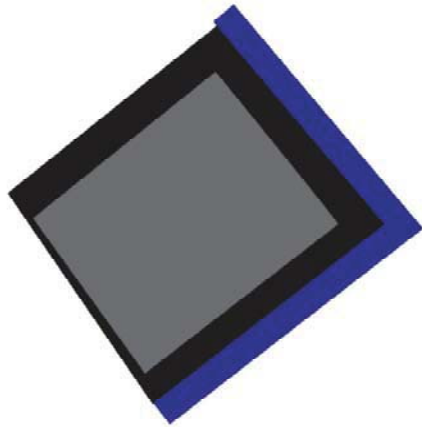
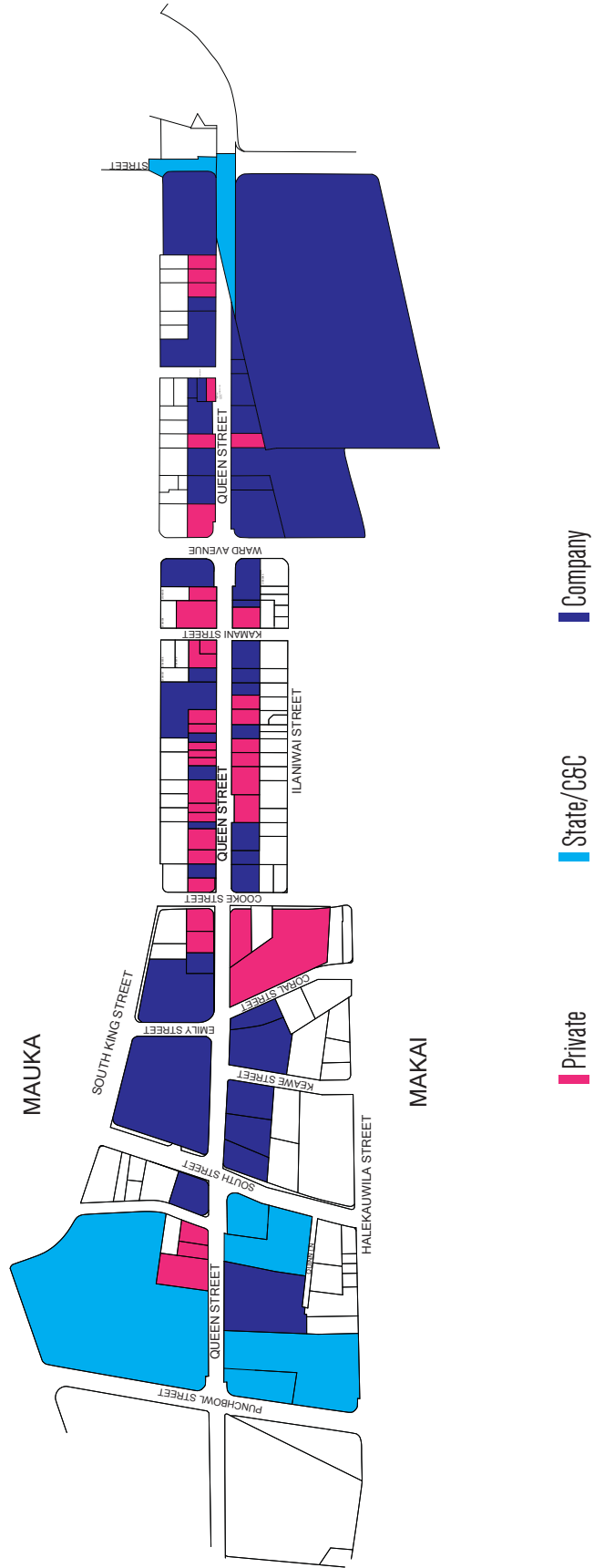


Figure 26. Site visit diagrams and observations,  
Source: Stephanie Chong, University of Hawaii at Manoa

On Cooke Street, it is considered as a transition street due to the decrease in lanes from four lanes from Punchbowl Street to two lanes beginning on Cooke Street. It is here where the street encapsulates more of the character that Queen Street is striving to preserve, based on the interviews from the small business owners. The sectional diagrams show how Cooke Street and Kamani Street is more scaled appropriately to pedestrians.

These sectional diagrams emphasize how the street scales are vastly different when you travel from Punchbowl Street to Cooke Street to Ward Avenue towards Kamakee Street. This research concludes that these diagrams help illustrate the need for a uniformed design on Queen Street.

In addition to site visits, research on the properties on Queen Street was conducted to determine the types of property owners (fig. 29). The three types of ownerships are private, governmental, and company ownership. Queen Street includes shops, schools, housing, government-owned properties, garages, parking spaces, and banks (fig. 30). The open space and built environment diagram compares the open space versus parking space, in addition to designating the built space (fig. 31).



**Figure 27. Private, State, and Company property ownership,  
Source: Stephanie Chong, University of Hawaii at Manoa**

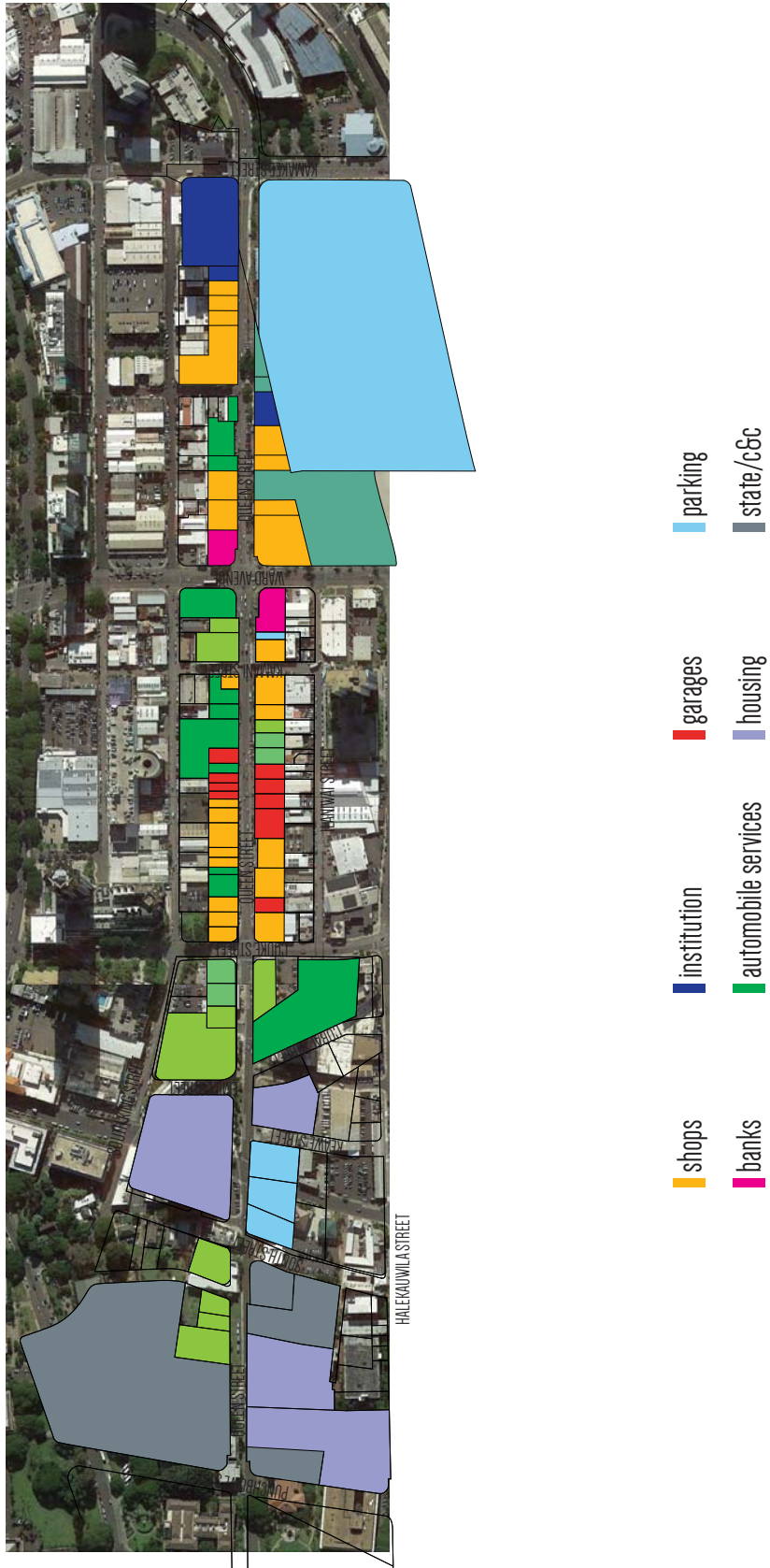
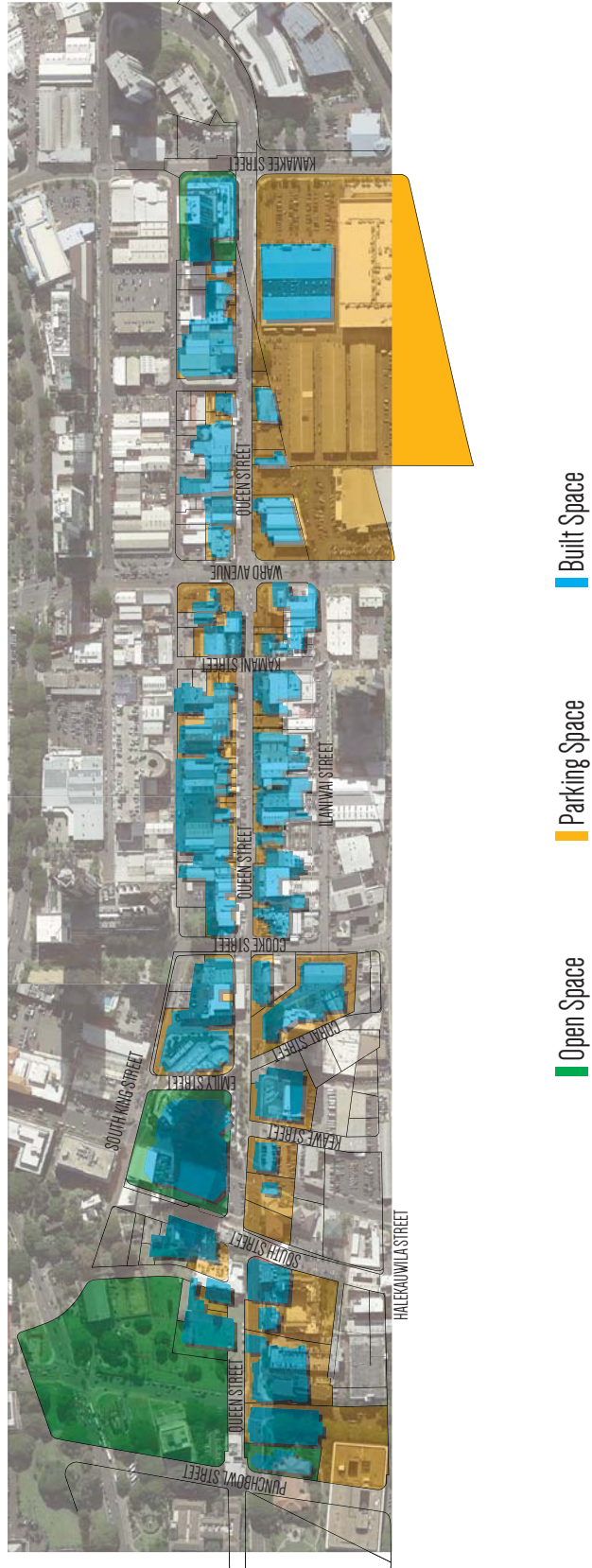


Figure 28. Modified Google Earth Image, Queen Street small business programs, Source: Stephanie Chong, University of Hawaii at Manoa





**Figure 29. Modified Google Earth Image, Open space, Built space, and Parking space, Source: Stephanie Chong, University of Hawaii at Manoa**

Comparing the stretch from Cooke Street to Kamakee Street to the area between Cooke Street and Punchbowl Street, the land is much larger in the latter. The HCDA's Infrastructure Improvement Projects diagram also illustrates this. The infrastructure improvements stop at Cooke Street but begin again on Kamakee Street. Therefore, this is the main reason as to why the street is vastly different from Punchbowl Street to Cooke Street. The infrastructure was improved in 1988. Then in 1999, 2002, and 2004, Kamakee Street and onwards had undergone infrastructure improvements. The street between these improvement projects have not been improved.<sup>273</sup>

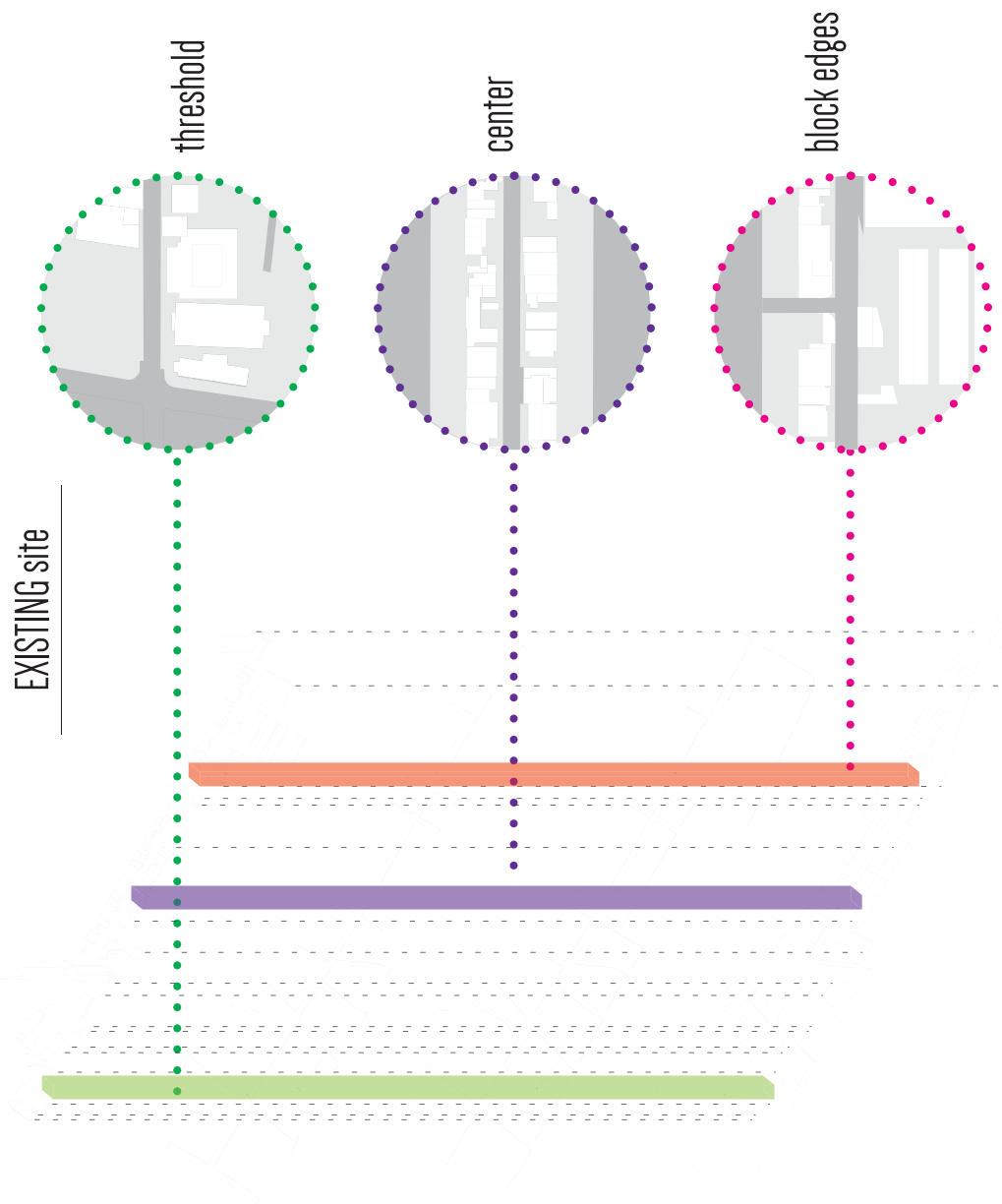
#### **5.4 Street and Character Defines Built Forms**

A 3D model representation of Queen Street shows its street blocks, parcel divisions, roads, and existing building forms (fig. 32). The existing building language that populates Queen Street is rich with courtyards that are appropriately offset from the main passageway. Yet concerns about pedestrian circulation has been noted in previous chapters in this research. Because space is limited, small businesses tend to take the public space into their ownership and utilize it, which limits a safe pedestrian walkway. During site visits, building textures were also recorded to emphasize the character of Queen Street (figs. 33-34). The character of Queen Street is present, therefore, preserving as much of the information that is currently there will further foster character preservation. The properties on Queen Street vary due to past infrastructure improvement projects, which is clearly shown on a diagram of the parcel boundaries, which shows larger properties located near Punchbowl Street, while smaller properties begin after Cooke Street down to Kamakee Street (fig. 35). The next diagram shows how there are disconnected streets up to Ward Avenue. Many of the disconnected streets are not utilized to create a continuous street, but rather create invisible walls from one block to the next. These perpendicular streets are divided into three categorizations: transition, edge, and disconnect.

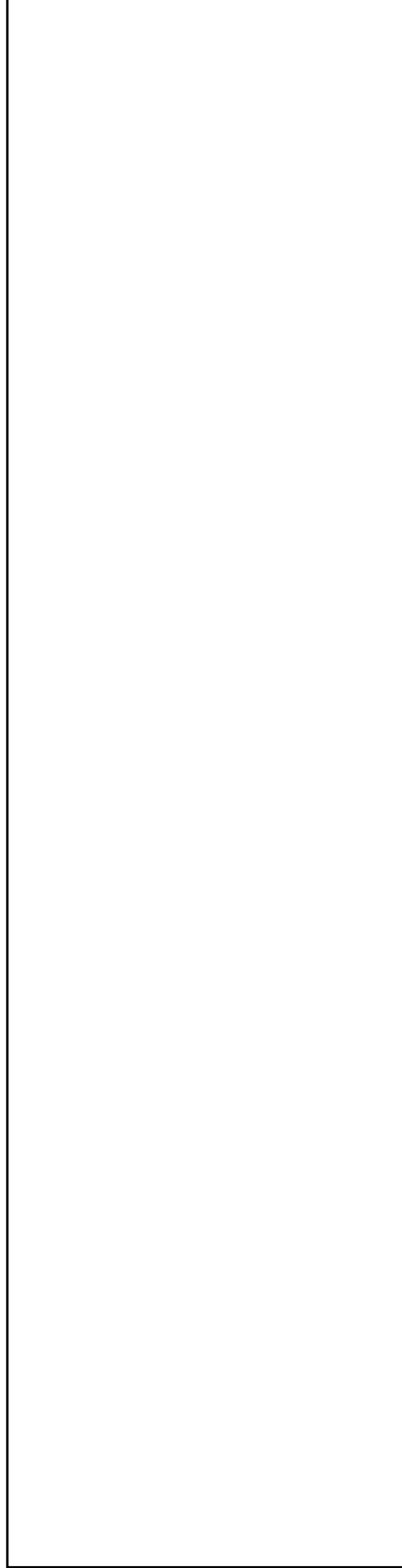
---

<sup>273</sup> "About HCDA," last modified 2016, <http://dbedt.hawaii.gov/hcda/about-hcda/>.

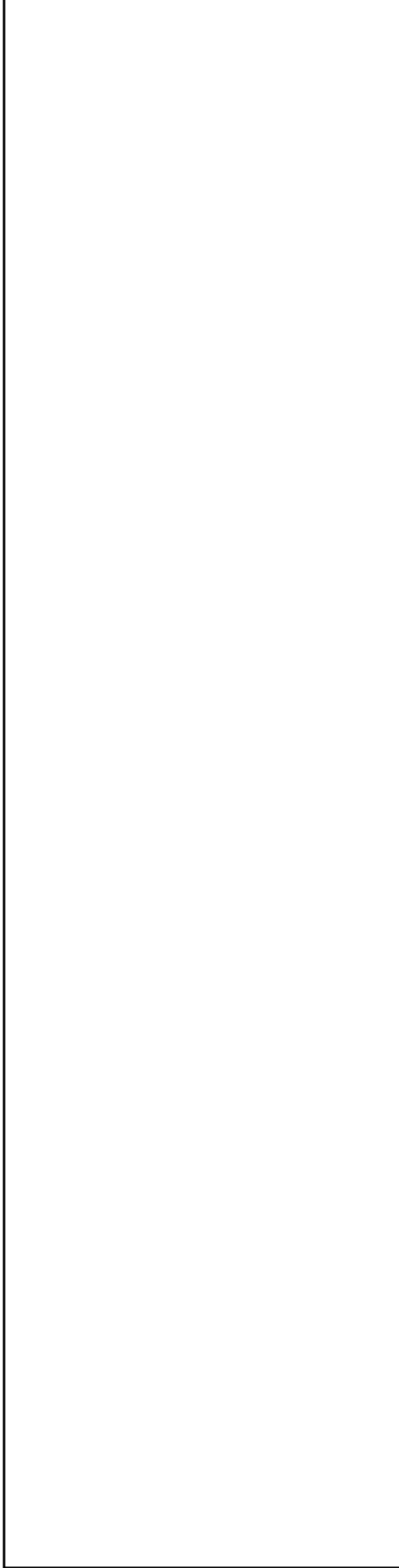




**Figure 30. Axonometric of Existing site,  
Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 31. Textures of Queen Street,  
Source: Stephanie Chong, University of Hawaii at Manoa**

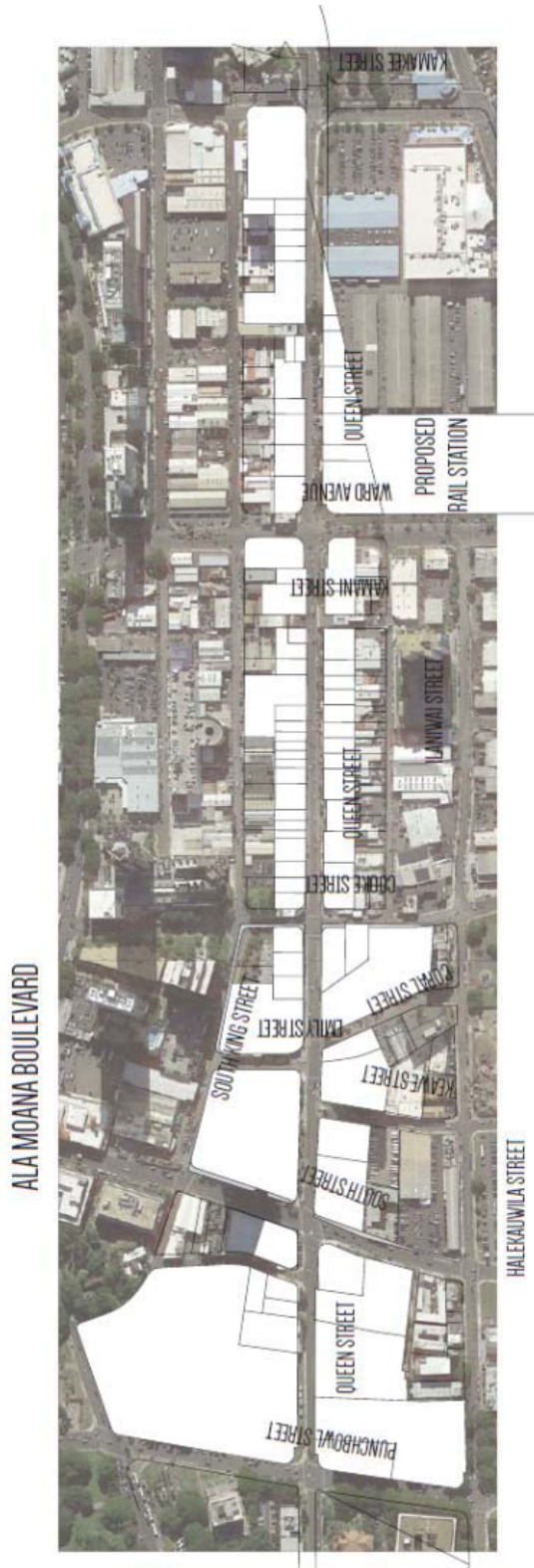


**Figure 32. Textures of Queen Street,  
Source: Stephanie Chong, University of Hawaii at Manoa**

Transition is the term for streets that are treated as an entrance and exit to Queen Street, in addition to transitioning to the surrounding streets in Kaka‘ako. Edge is the term that labels streets that are considered to have transitional properties that blend the center and threshold properties. The streets that are labeled as edges currently lack the smooth transition from one block to the next, thus creating separation and a divide on the thoroughfare. Lastly, the disconnect term is reserved for streets that prohibit the fluidity to the center of Queen Street, which is important because it is the heart of the area’s program (fig. 36).

Furthermore, the next step was dividing the various parcels on Queen Street into designated purposes in order to best create a uniformed design. The physical layout of the street dictates the building forms on Queen Street. These buildings will be described using the site terms: threshold, block edges, and center. Threshold parcels are located on both ends of the street, where Punchbowl Street and Kamakee Street are located. These parcels are designated to be especially carefully designed in order to create a transition to the surrounding streets. The block edges are considered to be designated parcels that blend the center and threshold zoned properties. Based on previous site observations, these block edges were observed as unsuccessful due to the lack of transition, thus creating separation. The center is the middle of Queen Street that is the heart of the area’s program (fig. 37).

These site observations and analyses supported these street and parcel designations for new zoning considerations in order to protect the current character of the area. By protecting the current character of the area with these zoning and program designations, the next step of this research will allow the building types to be appropriate for the adaptation to the future of Queen Street. Three specific areas on Queen Street have been chosen to illustrate the different phases from ten years to twenty years to thirty years from the start of implementing this research’s FBC. The threshold will be taken from the point where Punchbowl Street and Queen Street meet. The center will be illustrated in the center on Queen Street, between Cooke Street and Kamani Street. Lastly, the block edges will be illustrated from the corner of Ward Avenue and Queen Street. These illustrations are depicted in an axonometric view with the larger view of the thresholds, centers, and block edges on the side (fig. 37).



**Figure 33.** Modi.ed Google Earth Image, Queen Street parcels,  
Source: Stephanie Chong, University of Hawaii at Manoa





**THRESHOLD**

located on KAMAKEE STREET and PUNCHBOWL STREET, treated as the entrance and exit to QUEEN STREET, in addition to transitioning to the surrounding streets in KAKAAKO.

**CENTER**

located in the middle of QUEEN STREET, which is the heart of the area's program.

**BLOCK EDGES**

transitional properties that blend center and threshold zoned properties, based on on-site observations, edges of blocks were not transitioning to the next block, creating separation.

**Figure 35. Modified Google Earth Image, Threshold, Center, Block Edges, Source: Stephanie Chong, University of Hawaii at Manoa**

## 5.5 Building Forms Adaptation

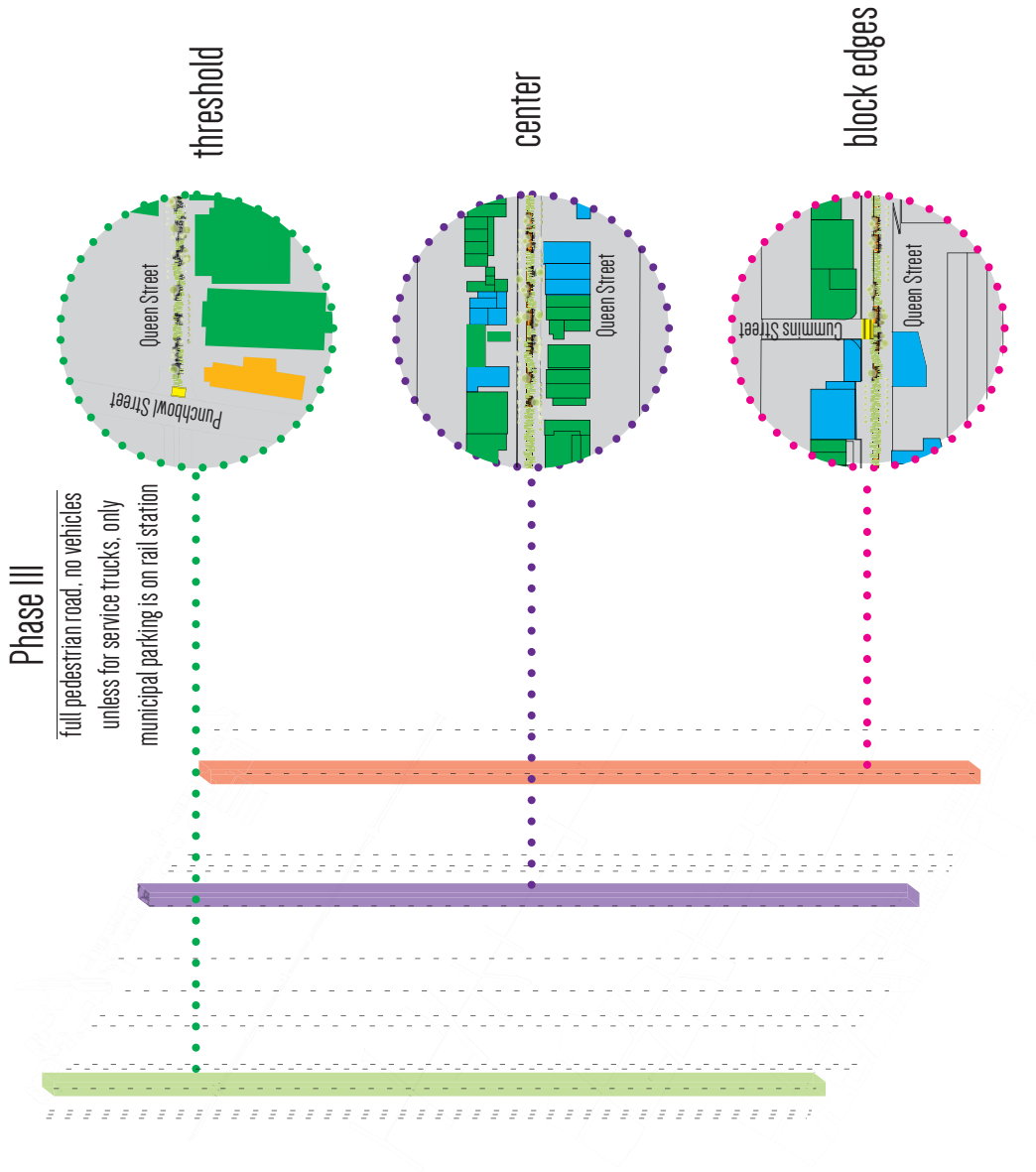
The Project for Public Spaces' eleventh principle for what makes a good public space, noted earlier in Chapter 2—"You are never finished"—reflects this research's design proposal for Queen Street.<sup>274</sup> There is no single master plan for the street, but rather design in three phases: carve, sculpt, and collage. Following the axonometric site diagrams are the phase plans (beginning with Phase I, following Phase II, and ending with Phase III) that provide information on which buildings will be adapted, preserved, or phased out in their respective phasing plans.

The first phase, carve, is a span of ten years during which the current program will grow and be utilized in various ways because much of the area is embraced by the current community (fig. 38). For instance, this research proposes that in ten years, the current businesses will remain, but the street will be further utilized throughout the day and into the evening. In the evening, the road will close for night markets, food vendors, and retail purposes. This phase is also called carve because generally when people progress in their own structures, they tend to make renovations and carve out the current built space. The premise of phase one is that dedicating public space to not only pedestrians but also the businesses will strengthen the connection the community has had to the district since its establishment (fig. 39).

---

<sup>274</sup> "Eleven Principles for Creating Great Community Places," Last modified 2016. <http://www.pps.org/reference/11steps/>.





**Figure 36. Phase I Axonometric, Source: Stephanie Chong, University of Hawaii at Manoa**



Adapt      Preservation      Phased Out

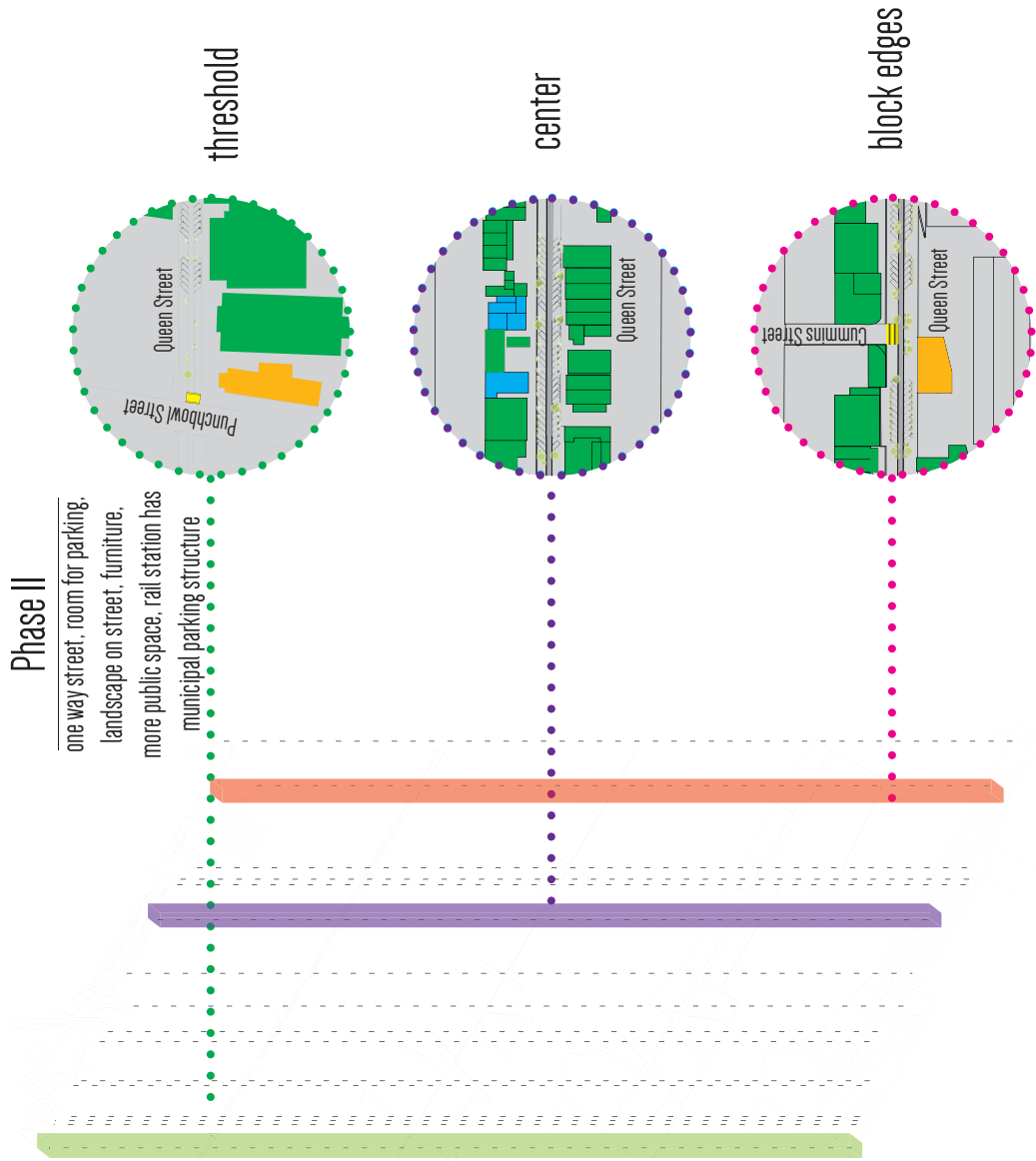
**Figure 37. Modified Google Earth Image, Phase I plan, Source: Stephanie Chong, University of Hawaii at Manoa**

The next phase is called sculpt, during which people might become more aggressive in making a place their own by adding additional structures such as shading devices, street furniture, and ornamentation. By this phase, which is twenty years from initial implementation, municipal parking is easily available because Queen Street will turn into a one-way thoroughfare, travelling in the direction towards Ala Moana Shopping Center, which also follows the rail station. The rail station will be constructed by this phase and rather than having a structure that is strictly located where Ward Avenue and Queen Street is today, private developers may fund a municipal parking structure with retail at the bottom. This phase maximizes public parking since there will be more square footage to fit the spaces on the street since one lane will be removed in this sculpt phase. In addition, there will be room for landscaping to provide shade (figs. 40-41).

In the final phase, which is thirty years from implementation, other than for service purposes, the street will be completely closed in order to create a pedestrian street. The transition from vehicle parking on the street to no parking at all is alleviated through the parking structure that is built where the rail station is projected to be on Queen Street. By this stage, street furniture, playgrounds, and landscaping replaces parking spaces. This phase is called collage because the community will continue to add to the street, evolving as time progresses, and various building forms will be chosen that best represent the character of Queen Street (figs. 42-43).

Once these phases were designated, this research also accounts for building forms that adapt from Phase I to Phase III. Based on the site analysis and observations, four types of building forms were chosen that best define the character of Queen Street. These buildings are divided into Type I, Type II, Type III, and Type IV categorizations. Each building form is introduced with photos from site visits. Then the following diagrams show the building forms as existing conditions, changes in the carve phase during the day and night program, the sculpt phase, and concludes with the collage phase.

For building forms, the existing building form maintains different materiality from the façade towards the back of the building structure. It also supports the various layers of interior spaces and has ornamentation for openings such as windows. Parking is mainly located at the front of the building and the road travels in two directions.



**Figure 38. Phase II Axonometric,**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



■ Adapt      ■ Preservation      ■ Phased Out

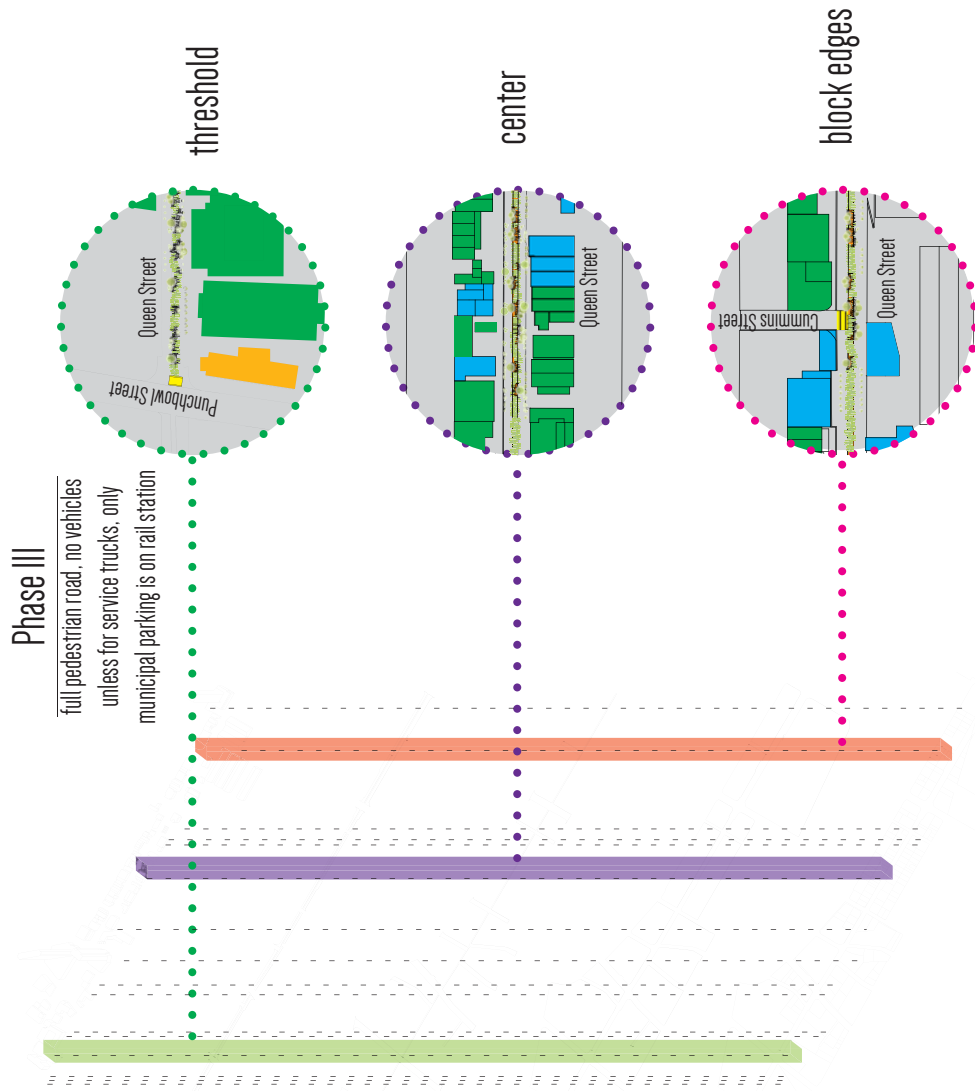
**Figure 39. Modified Google Earth Image, Phase II Plan,  
Source: Stephanie Chong, University of Hawaii at Manoa**





■ Adapt      ■ Preservation      ■ Phased Out

**Figure 40. Modified Google Earth Image, Phase III Axonometric,  
Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 41. Modified Google Earth Image, Phase III Plan,  
 Source: Stephanie Chong, University of Hawaii at Manoa**

In the carve phase, windows and ornamentation may be added in addition to opening the façade. Interior additions may be constructed and the roofs may also be opened. In the evenings, temporary streetlights may populate the area in front of the building and pedestrians may freely walk on roads once it closes for the evening program. Furniture may also populate public areas to extend the program outside the building.

For the sculpt phase, stairs, landscaping, and parking is added due to the elimination of two-way traffic. Structures such as balconies may be constructed over the parcel entrance since more space is provided. In addition, pedestrian circulation is clearly defined due to the increase of street width.

By the collage phase, types of small businesses might change by this time, in addition to changes to the building form such as façade materiality. Street furniture is added with paved pedestrian walkways since the road will be completely closed from vehicles. Landscaping is extended onto the street and businesses may extend their workspace further onto the street.

Therefore, Type I was chosen to represent the type of building form that maximizes the space for any type of businesses. It allows businesses to not be restricted to the form or space of the building. It also maximizes the parcel space. Type II was chosen to represent not only similar forms, but also historic buildings. This type shows that historic buildings may be adapted into the collage phase while maintaining the original structure as much as possible. Type III shows the building forms that have a shared space and how to best utilize this type of layout. Lastly, Type IV was chosen to express the building form that is restricted to smaller parcels since Queen Street is mostly populated by smaller parcels of land, especially in the center of the street. This was important to illustrate the transition because much of Queen Street's character focuses on maintaining historic buildings, large warehouses, building forms that share courtyards, but also buildings that accommodate small parcels (figs. 44-67).

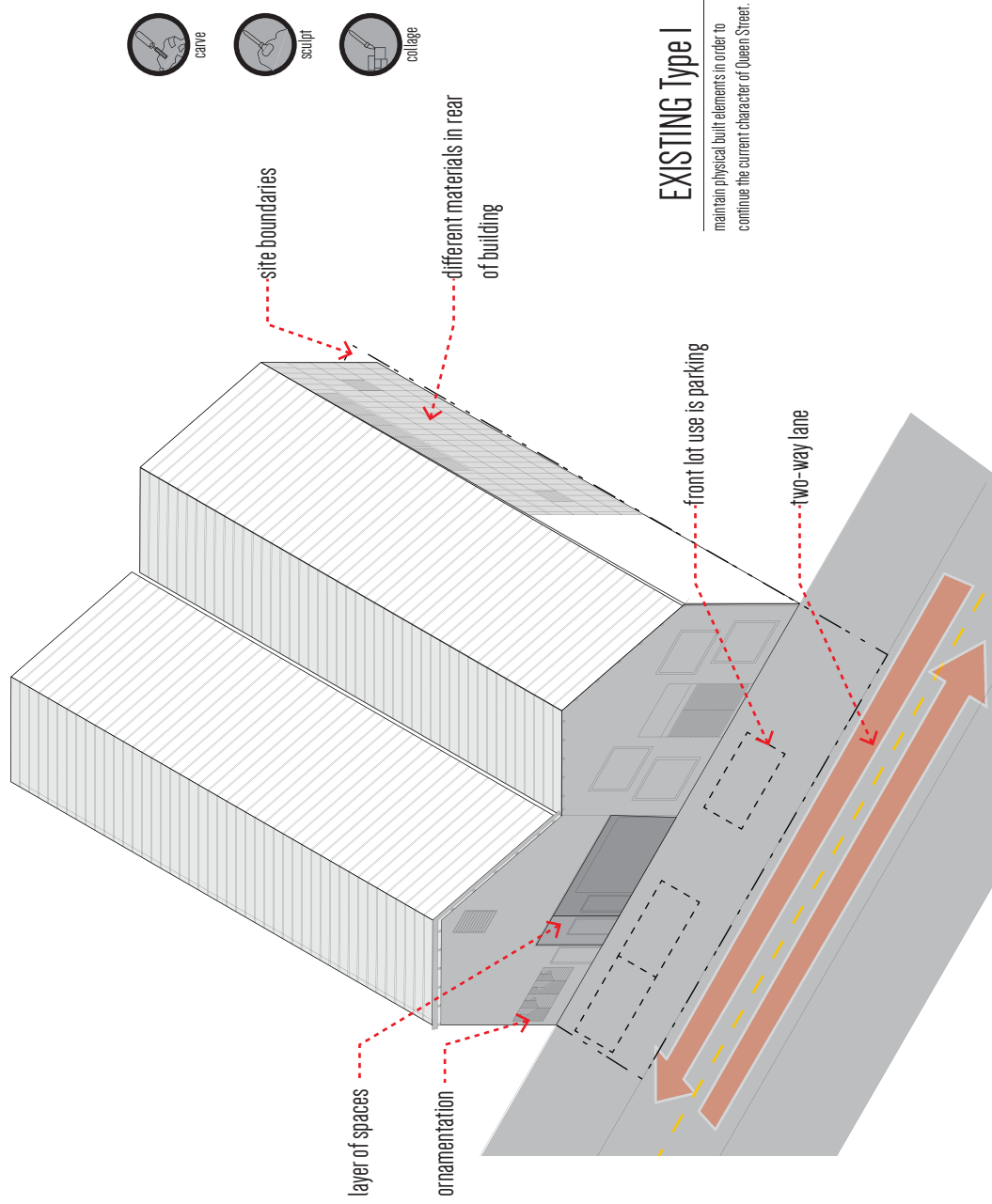


## Building Forms Type I

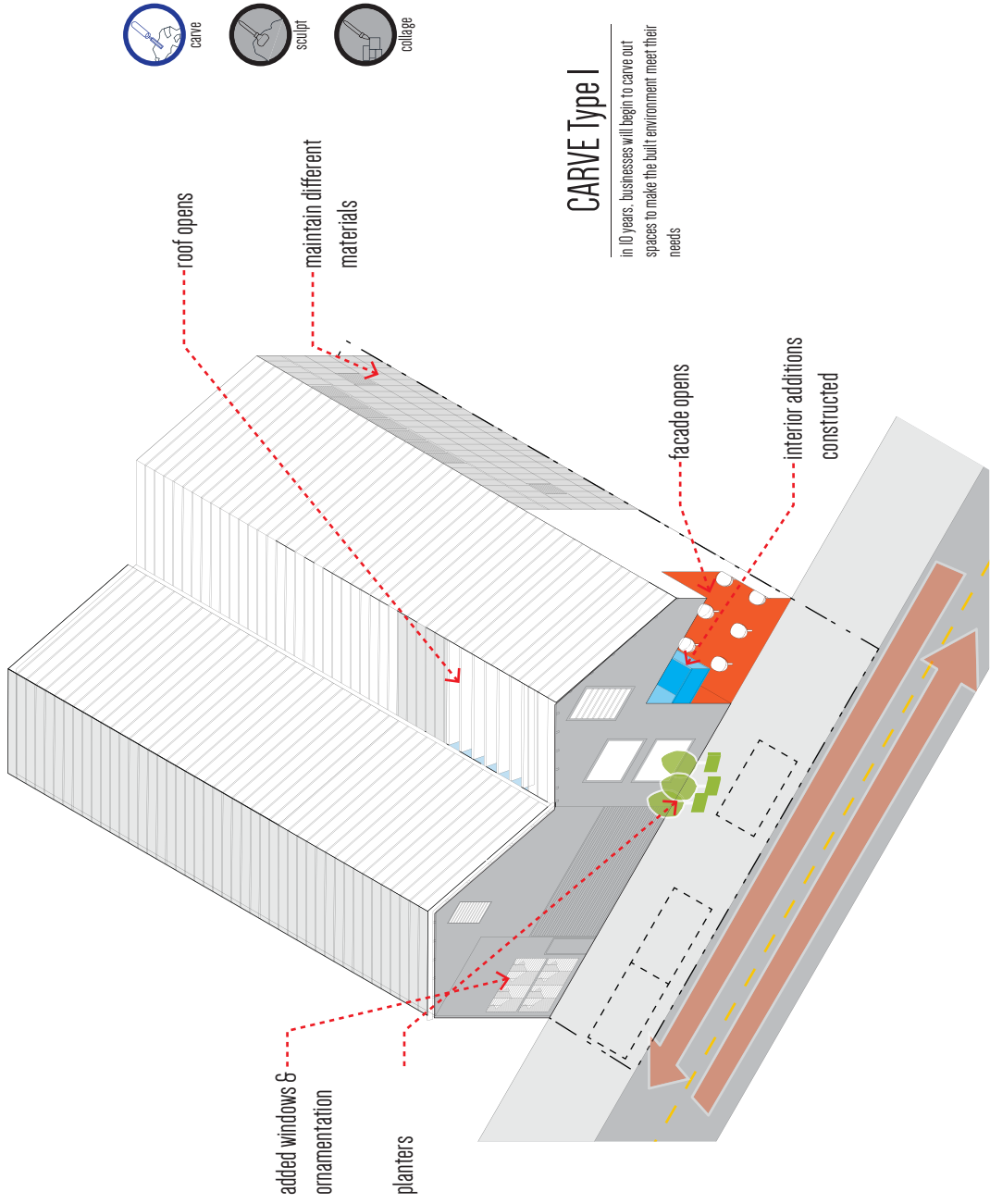
light-industrial,  
commercial,  
mixed-use



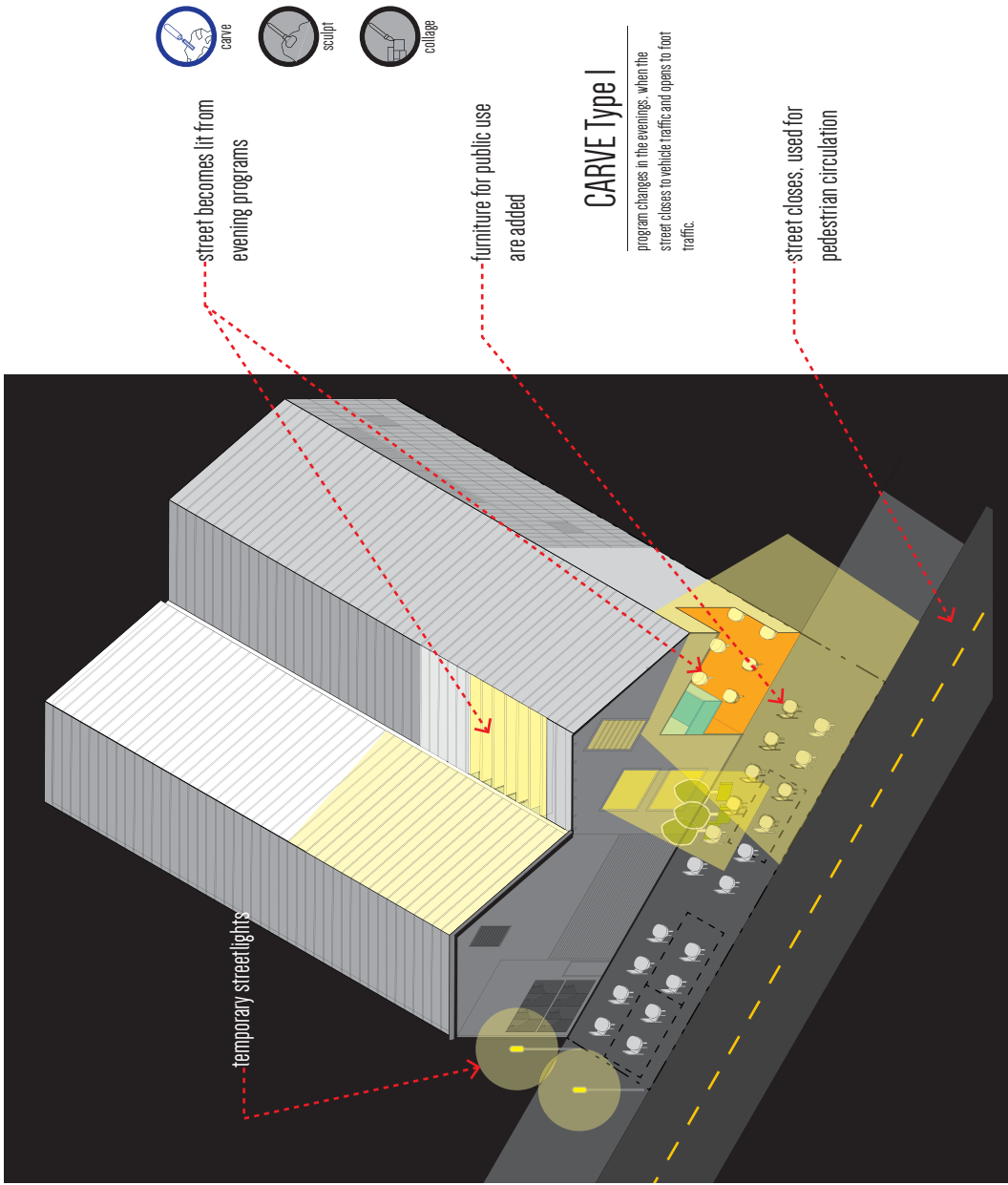
**Figure 42. Type I Building Forms,  
Source: Stephanie Chong, University of Hawaii at Manoa**



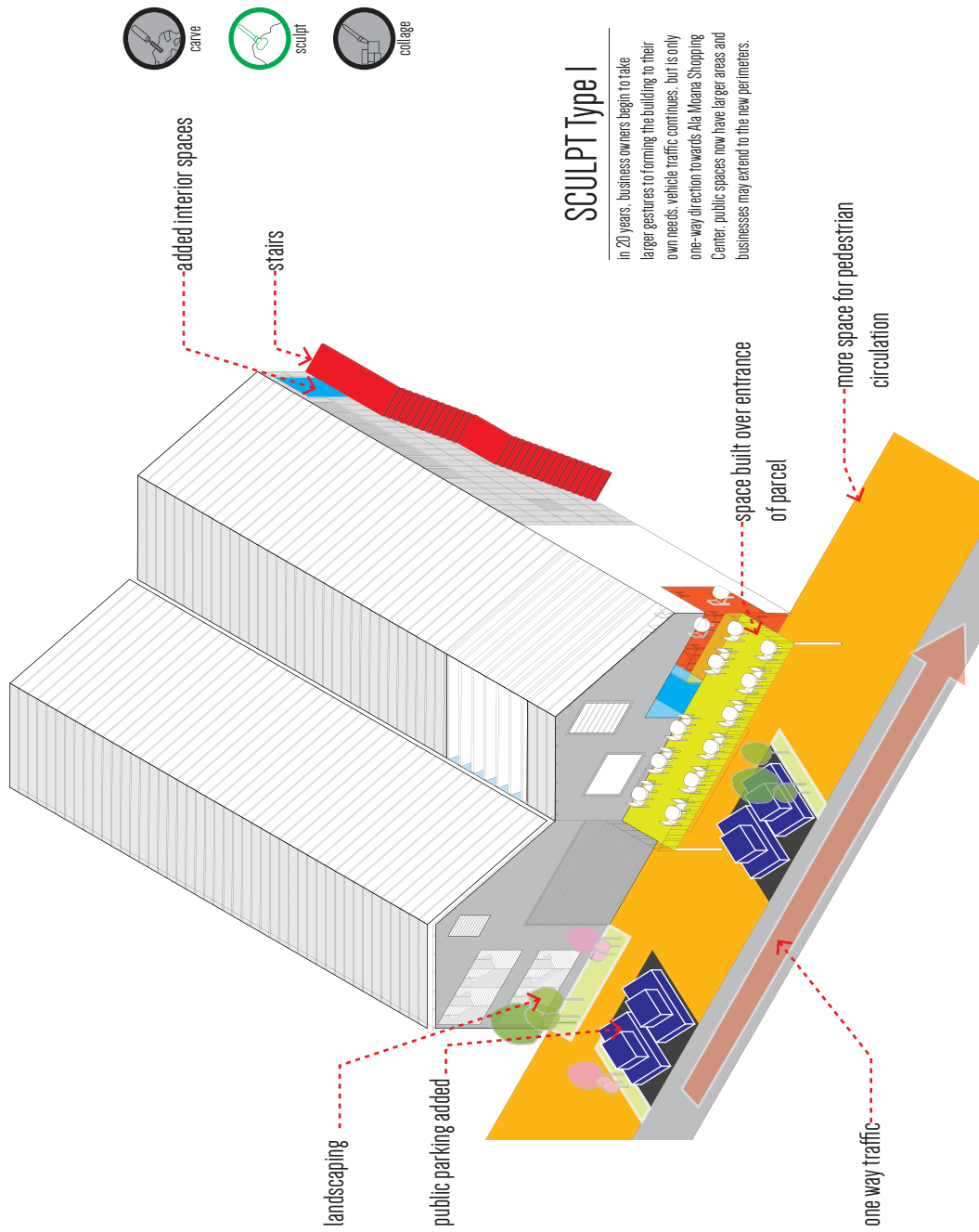
**Figure 43. Type I Existing Building, Stephanie Chong, University of Hawaii at Manoa**



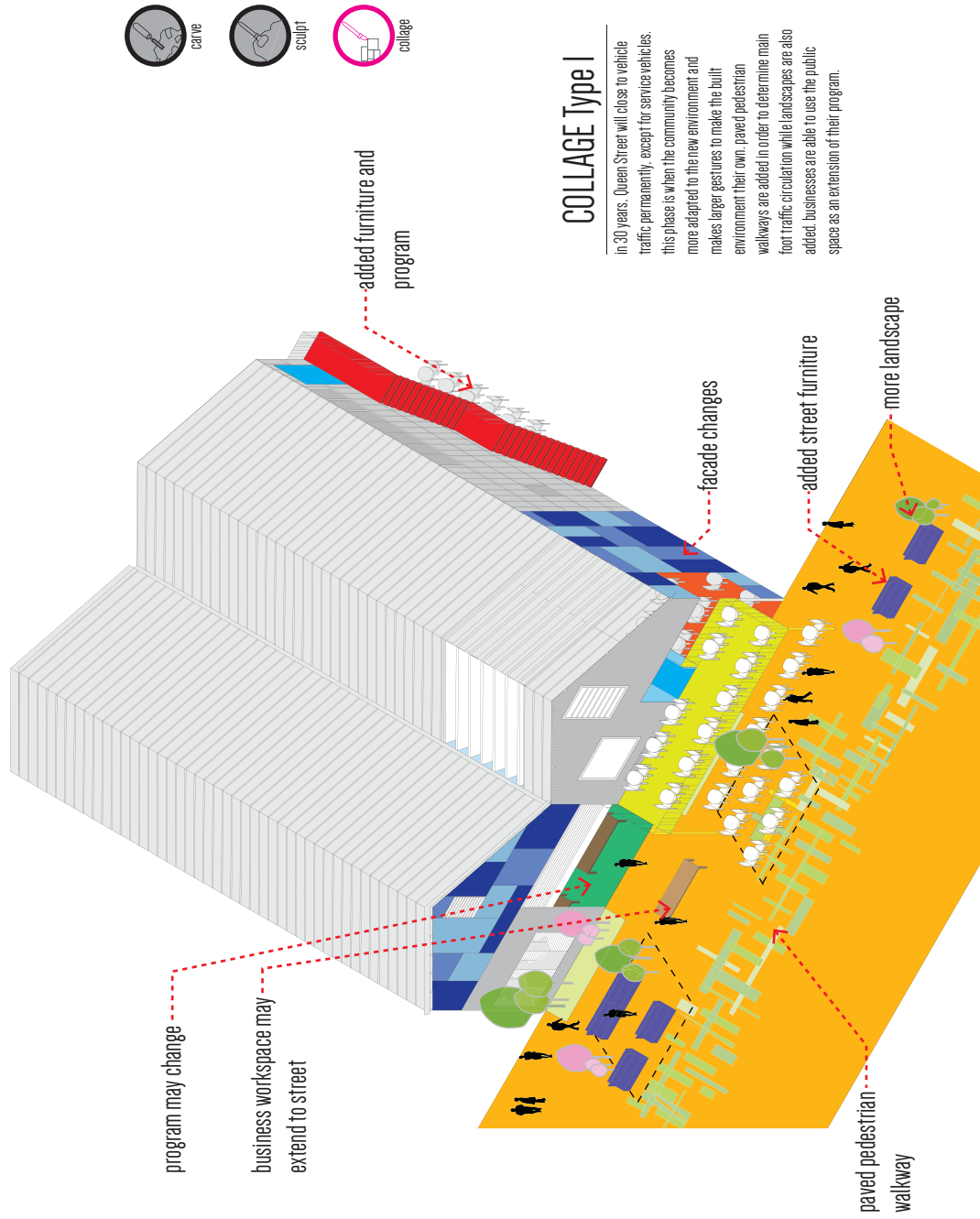
**Figure 44. Type I Carve,**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 45. Type I Carve in the evening, Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 46. Type I Sculpt.**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



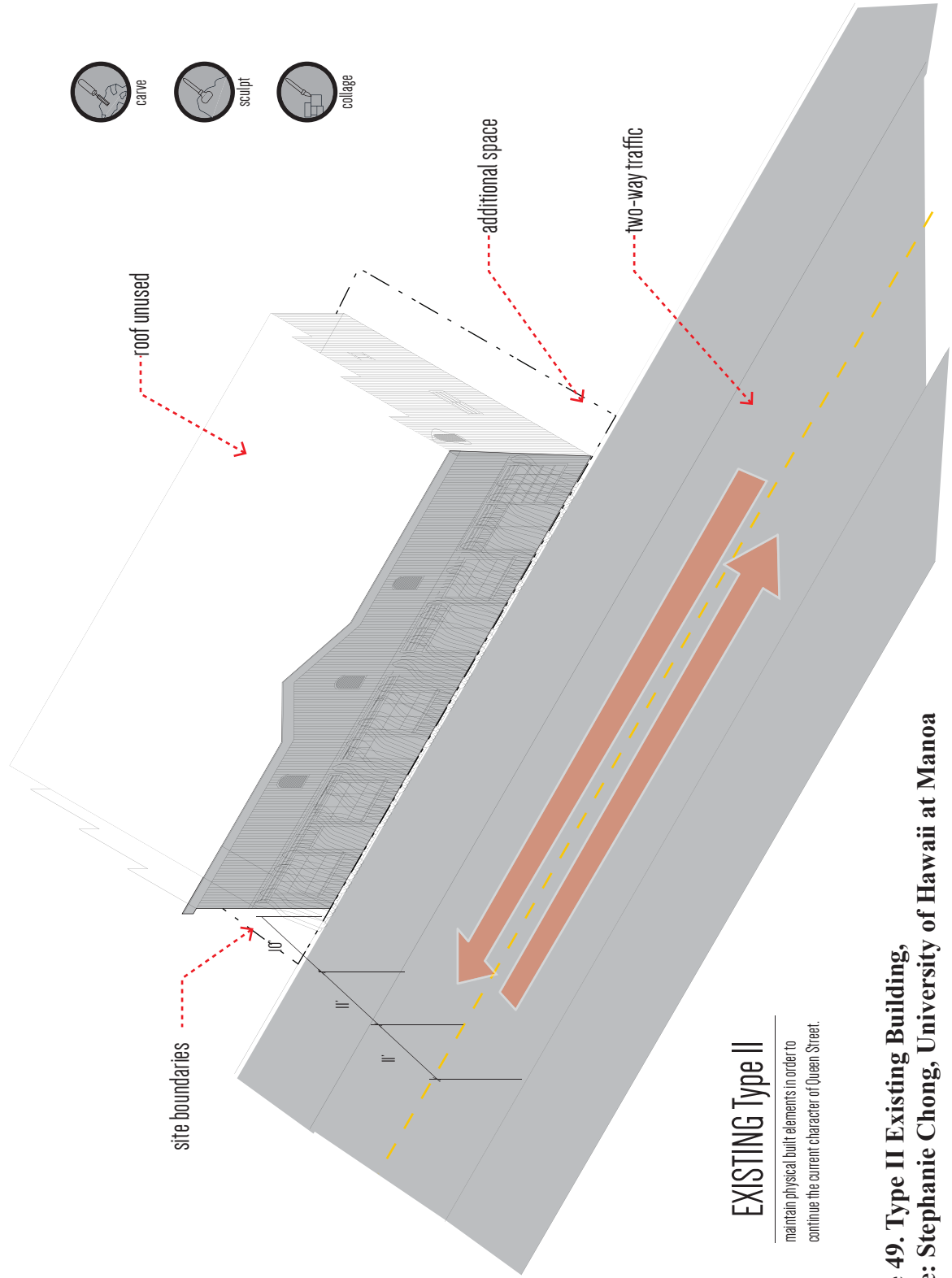
**Figure 47. Type I Collage, Stephanie Chong, University of Hawaii at Manoa**

## Building Forms Type II

light-industrial,  
commercial,  
mixed-use

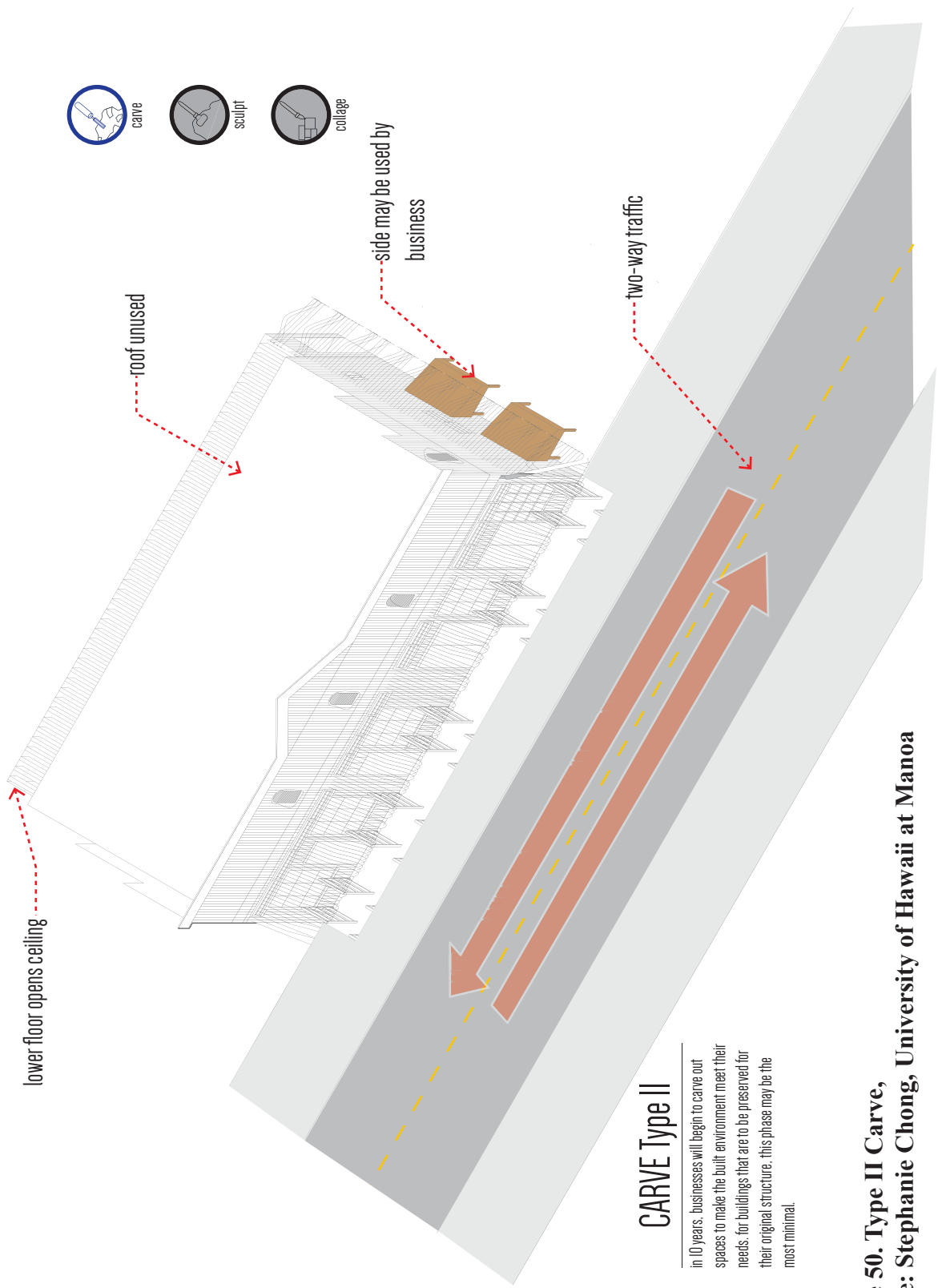


**Figure 48. Type II Building Forms.**  
Source: Stephanie Chong, University of Hawaii at Manoa

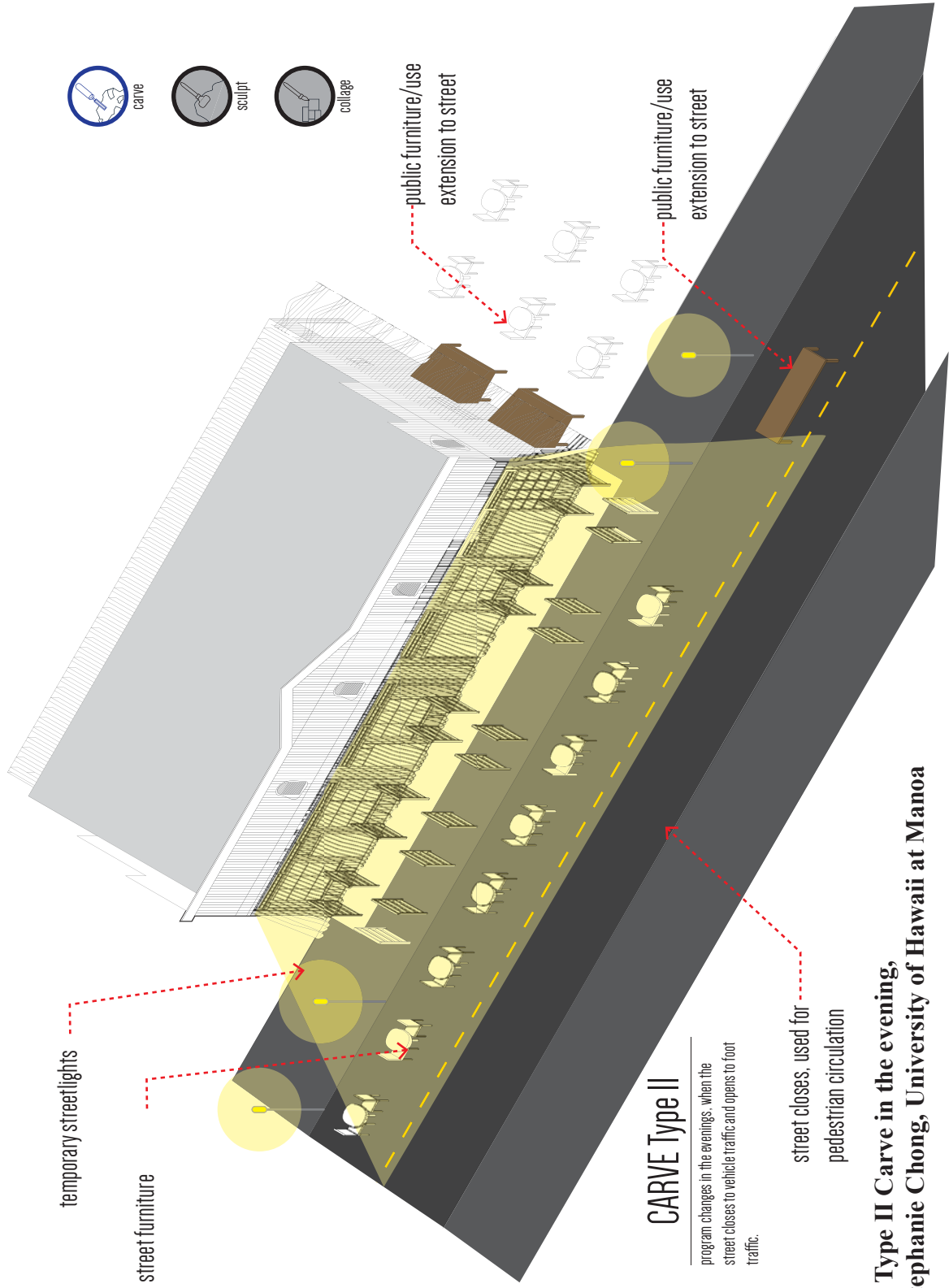


**Figure 49. Type II Existing Building, Stephanie Chong, University of Hawaii at Manoa**

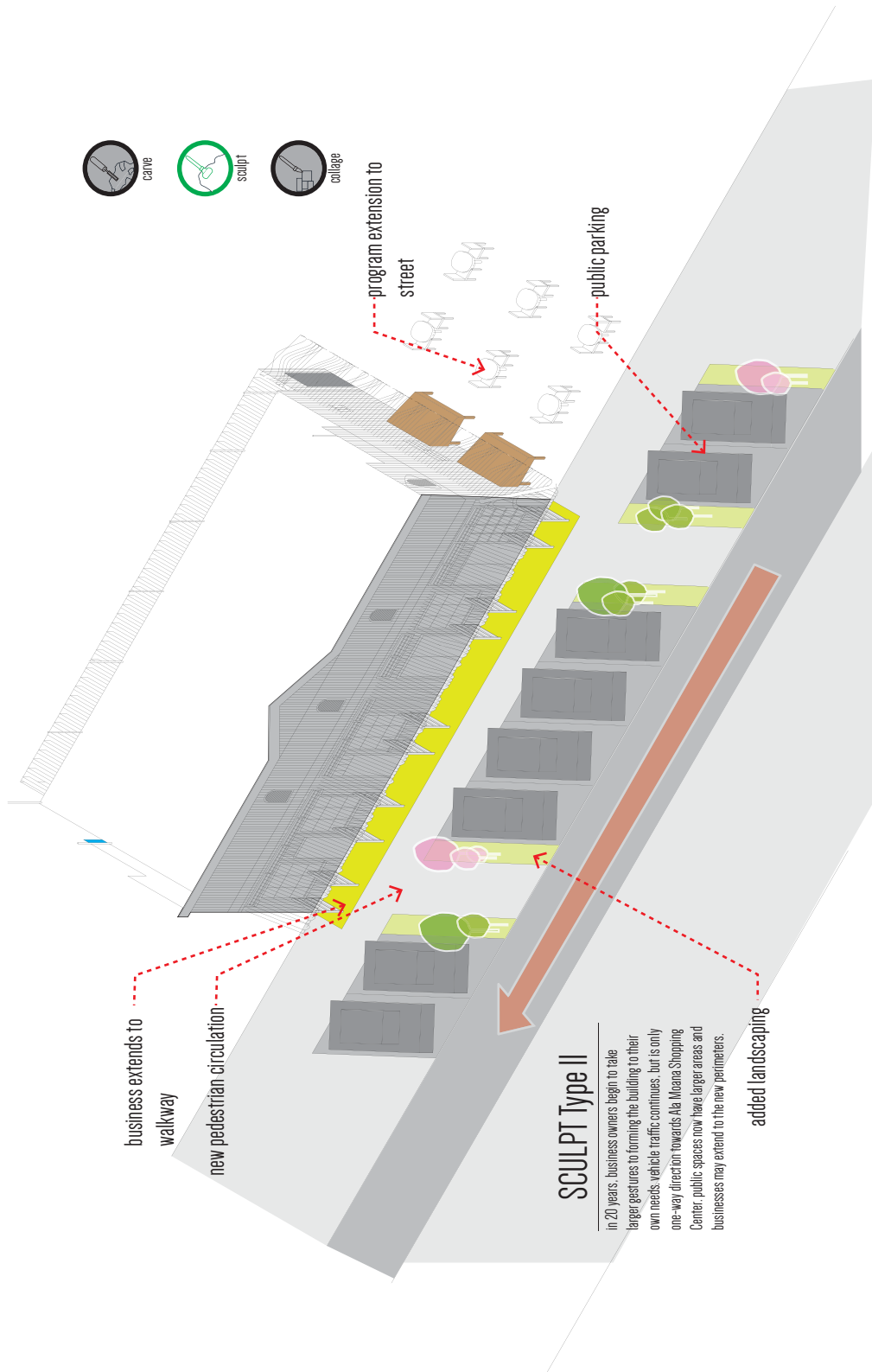




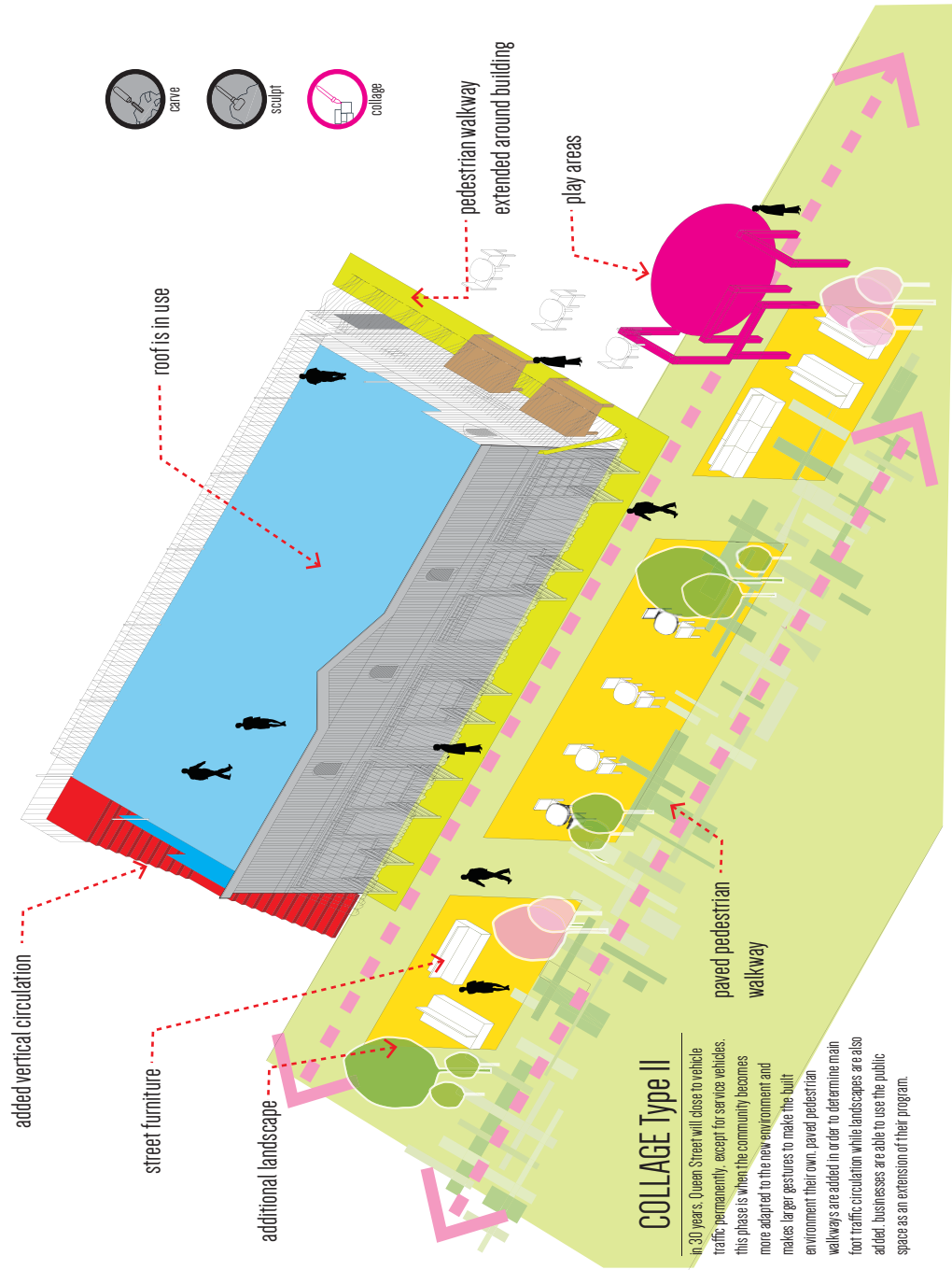
**Figure 50. Type II Carve, Stephanie Chong, University of Hawaii at Manoa**



**Figure 51. Type II Carve in the evening, Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 52. Type II Sculpt,**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



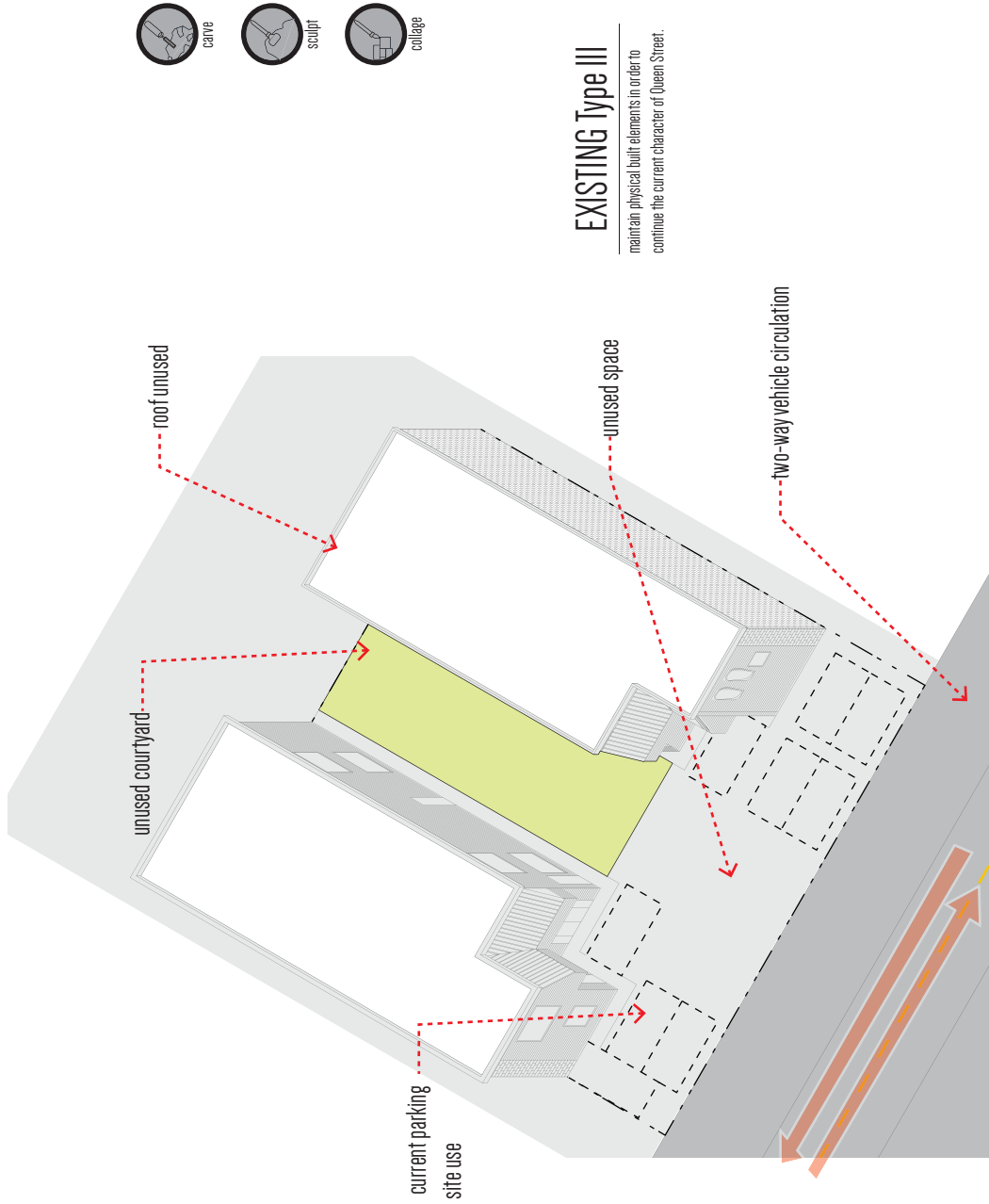
**Figure 53. Type II Collage,**  
**Source: Stephanie Chong, University of Hawaii at Manoa**

## Building Forms Type III

light-industrial,  
commercial,  
mixed-use



**Figure 54. Type III Building Forms,  
Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 55. Type III Existing Building, Source: Stephanie Chong, University of Hawaii at Manoa**

10 years

light-industrial,  
commercial,  
mixed-use



carve



sculpt



collage

### CARVE Type III

in 10 years, businesses will begin to carve out spaces to make the built environment meet their needs

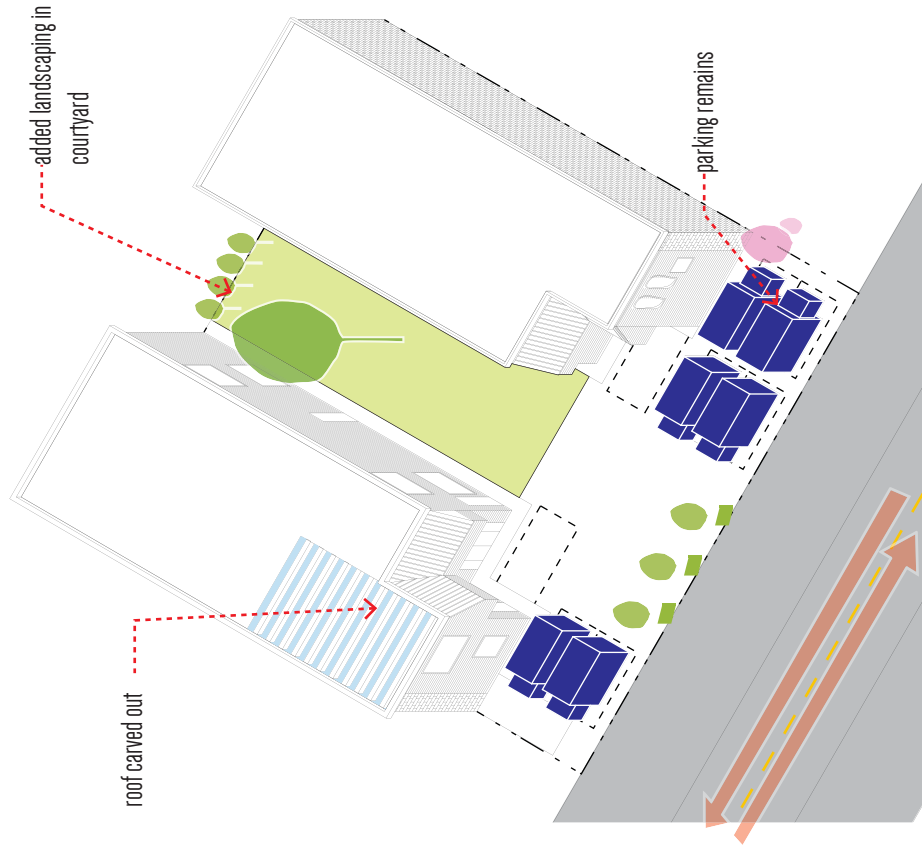
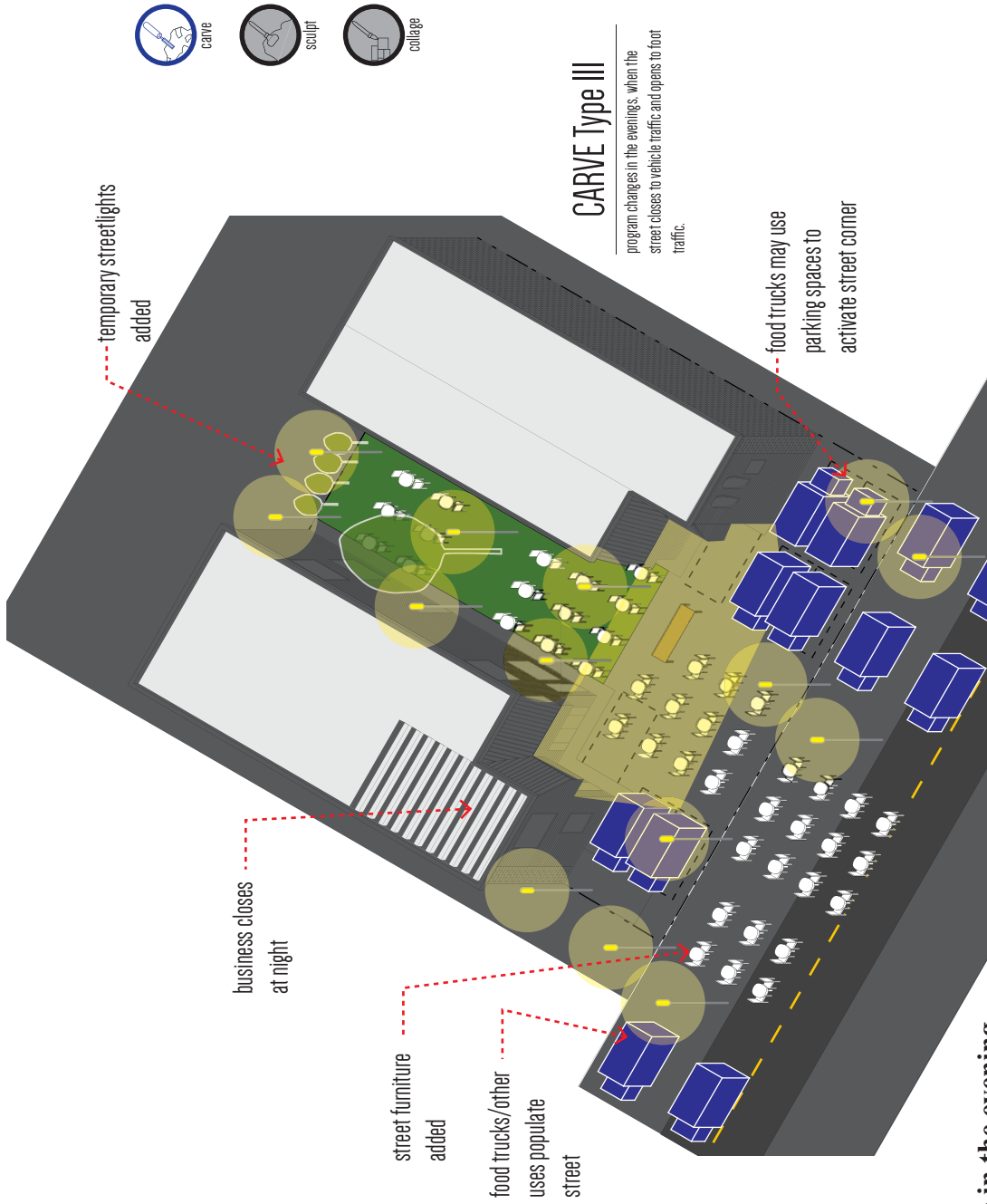
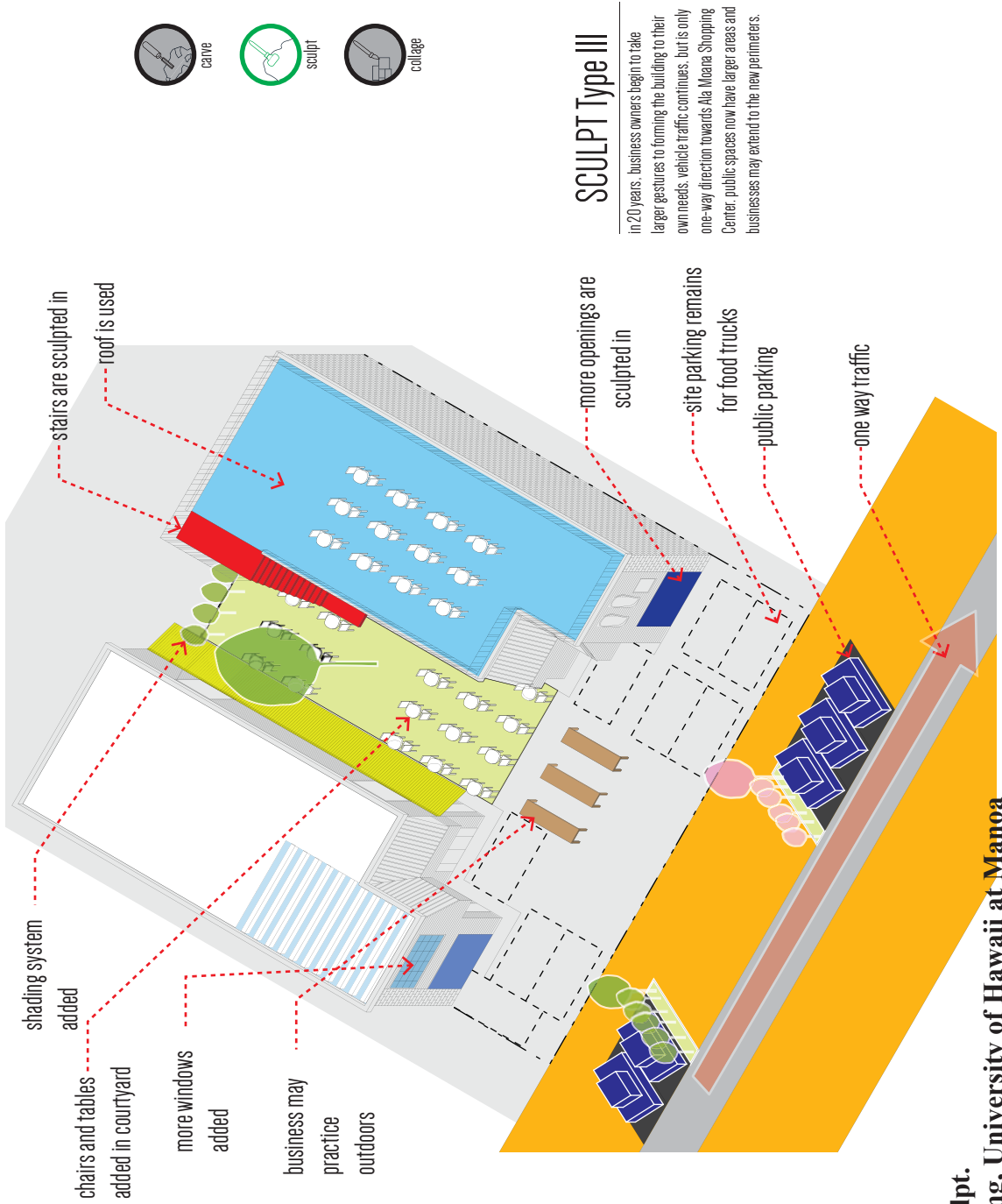


Figure 56. Type III Carve, University of Hawaii at Manoa  
Source: Stephanie Chong

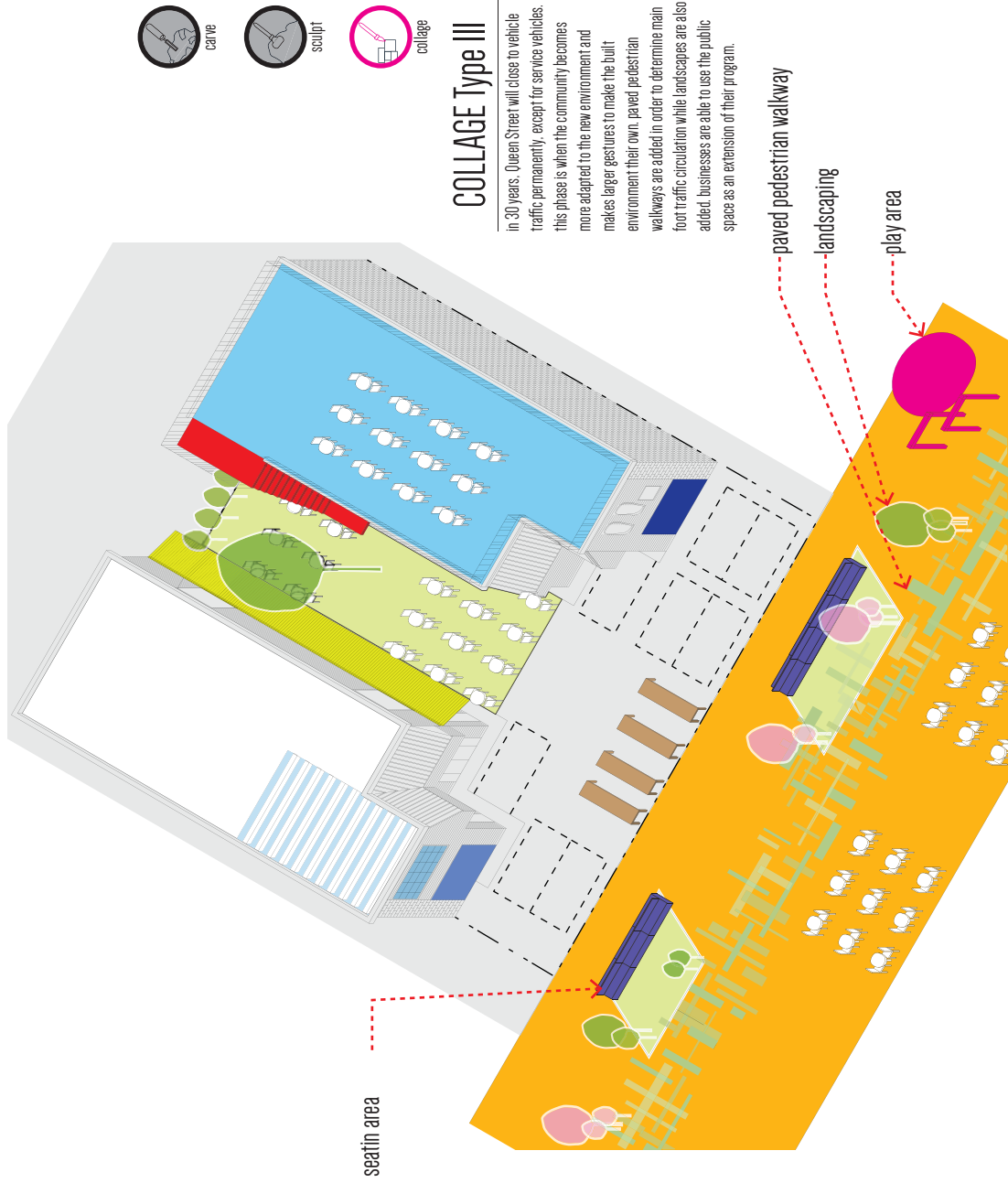


**Figure 57. Type III Carve in the evening, Source: Stephanie Chong, University of Hawaii at Manoa**





**Figure 58. Type III Sculpt.**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



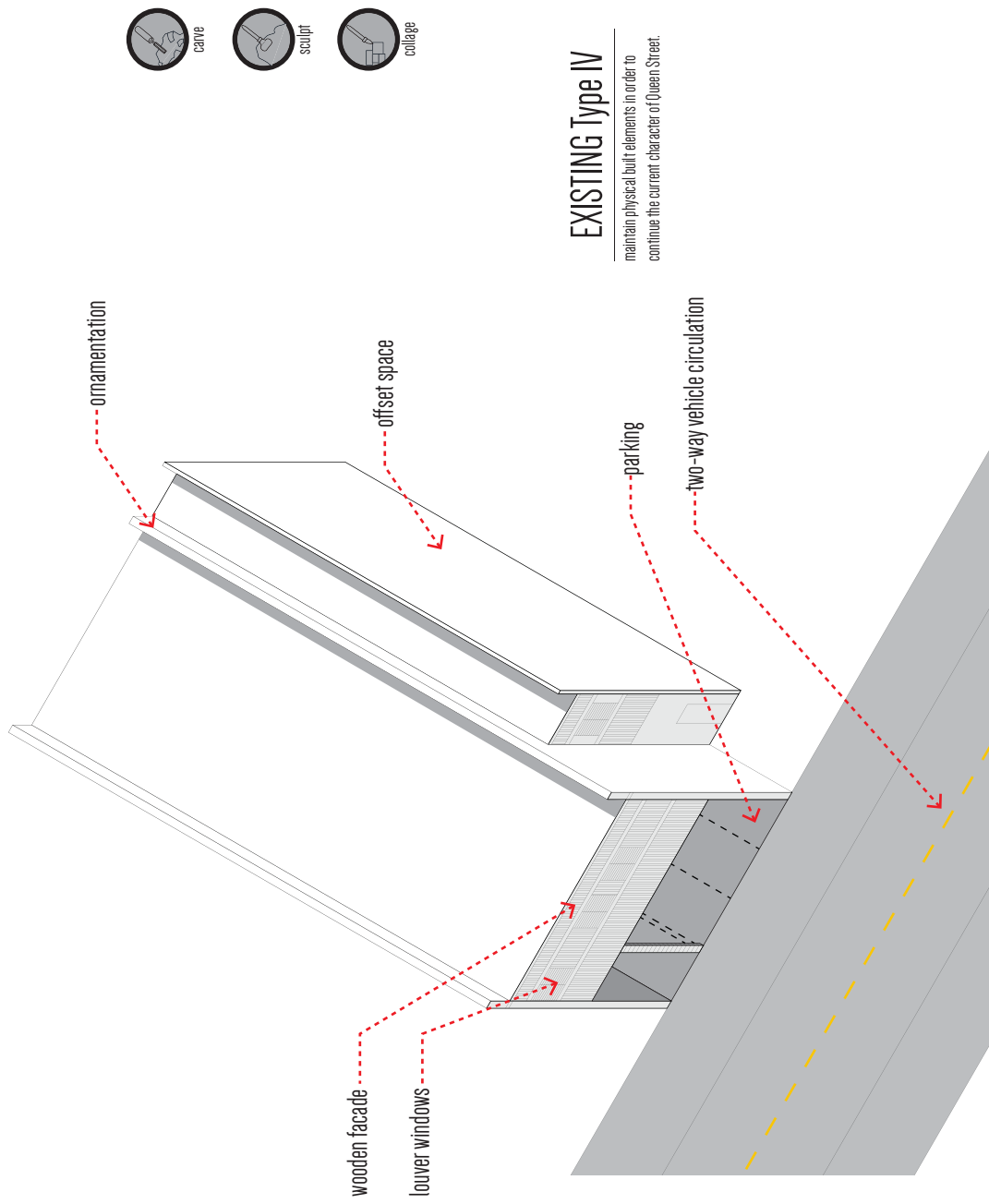
**Figure 59. Type III Collage, Stephanie Chong, University of Hawaii at Manoa**

## Building Forms Type IV

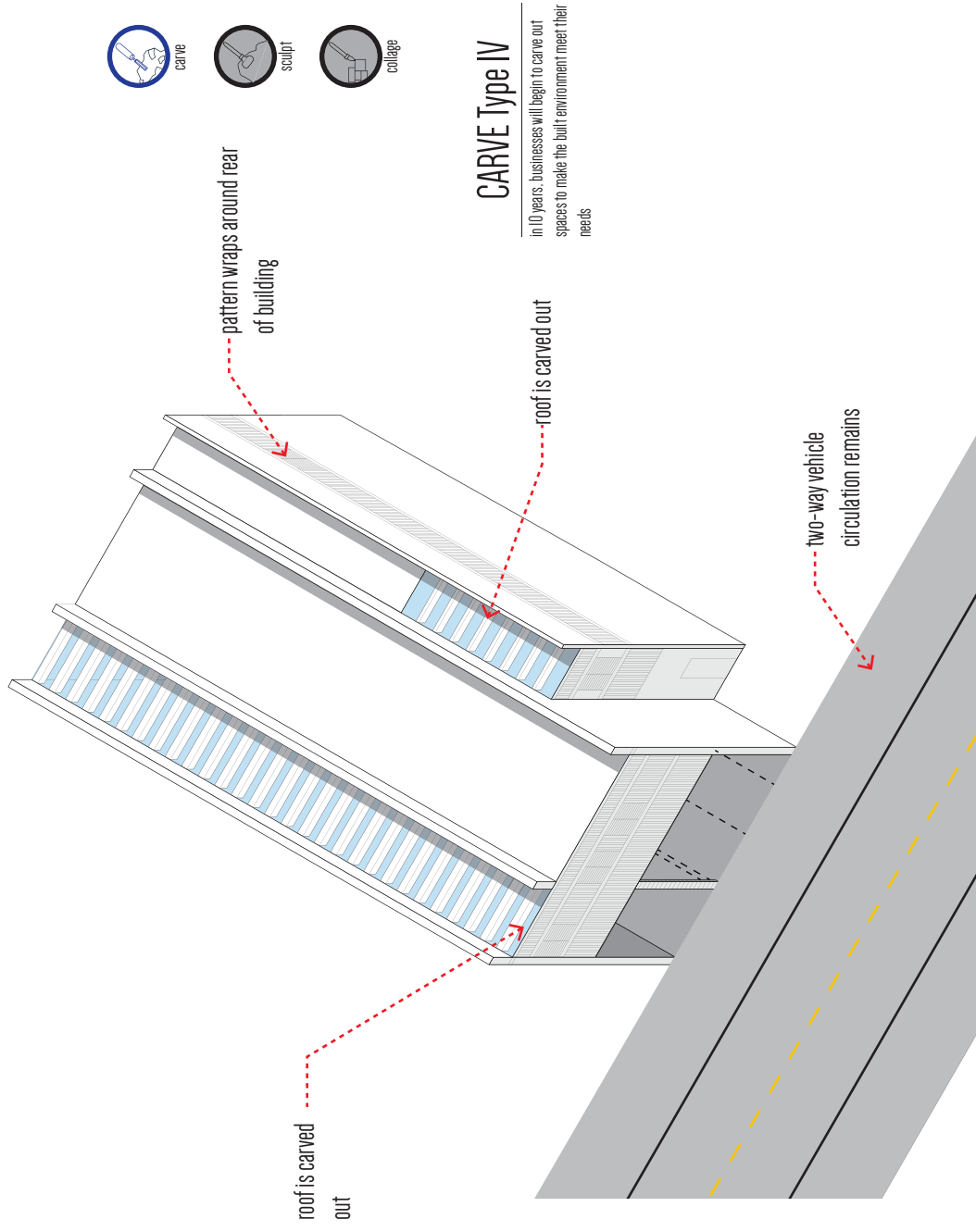
light-industrial,  
commercial,  
mixed-use



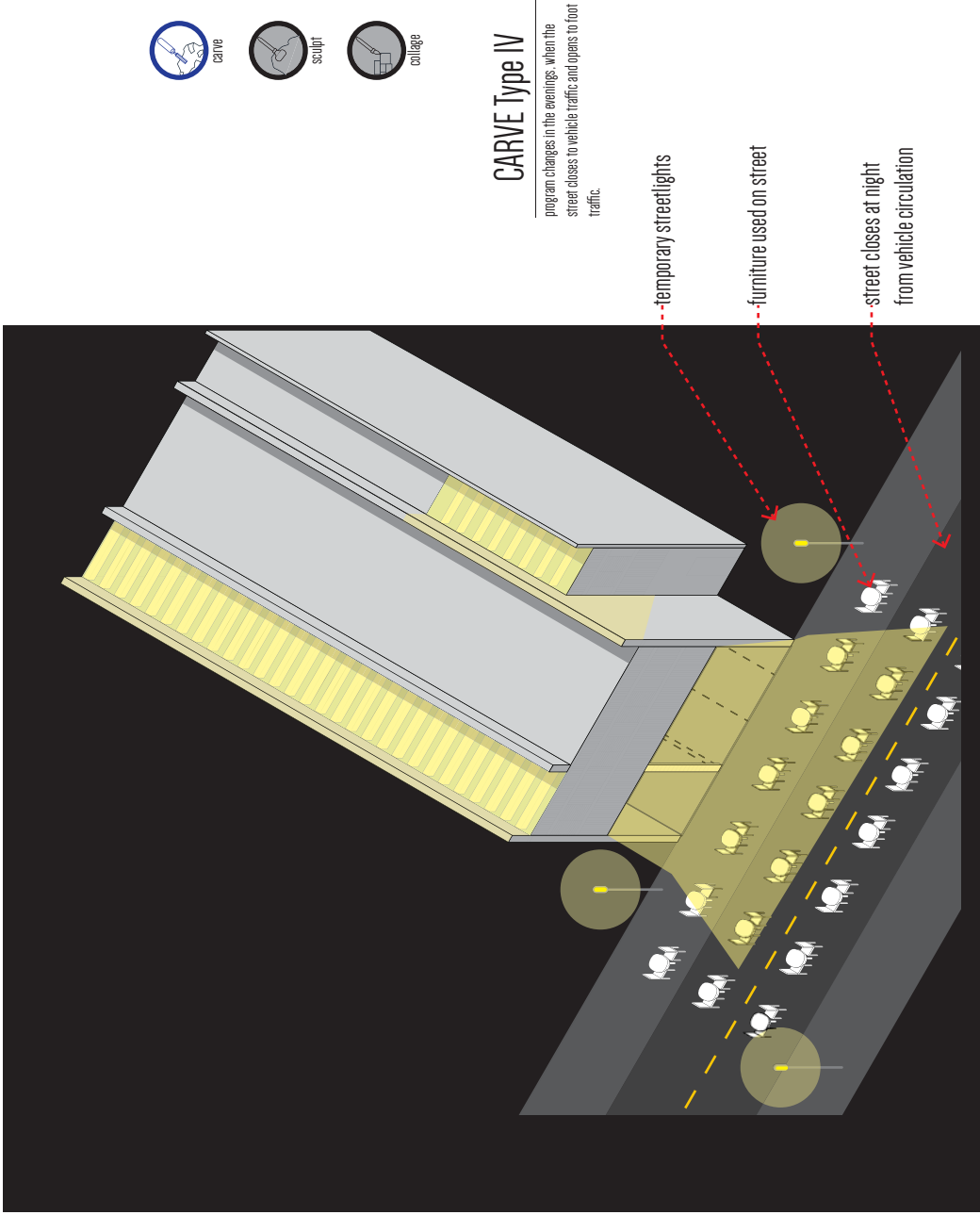
**Figure 60. Type IV Building Forms,  
Source: Stephanie Chong, University of Hawaii at Manoa**



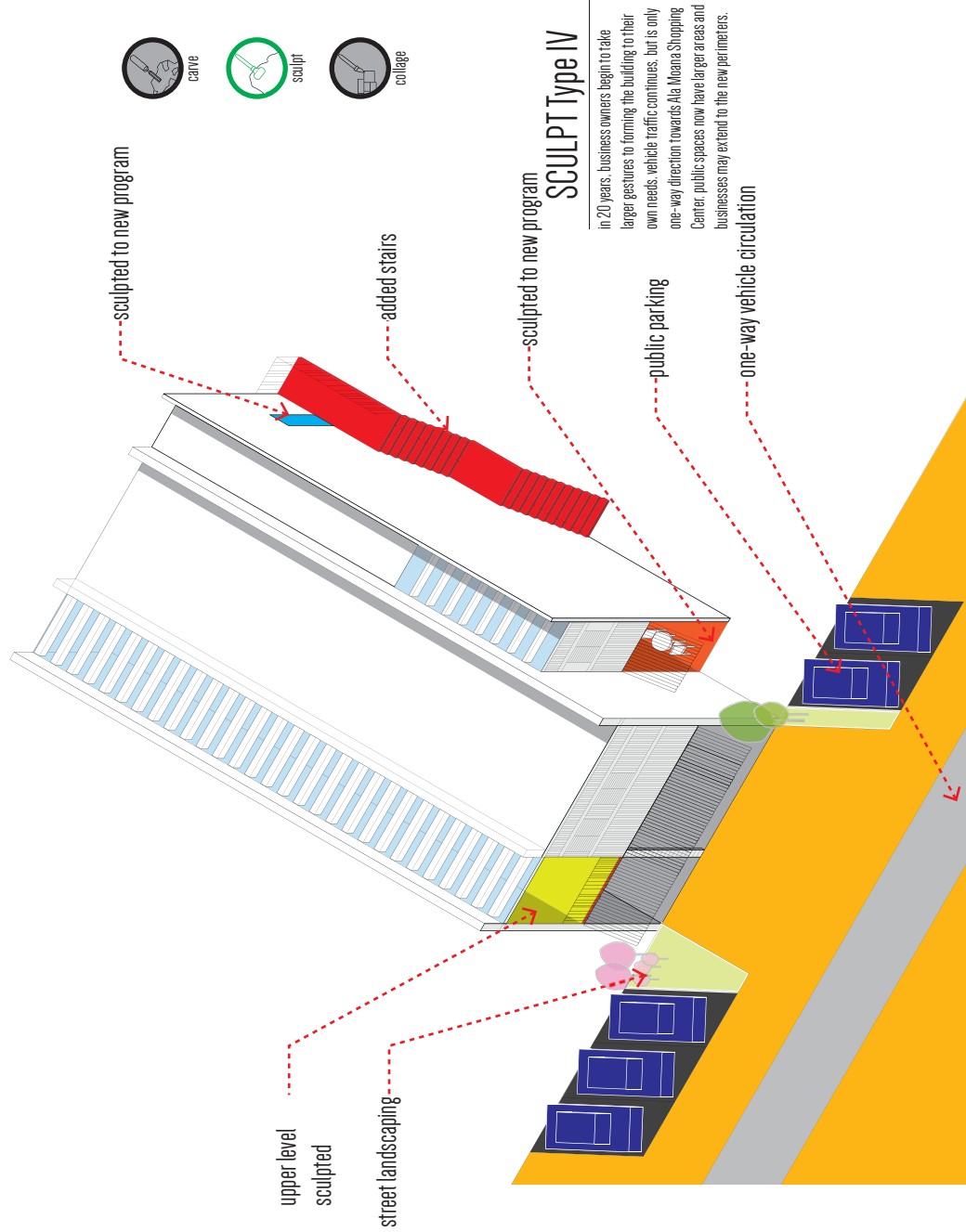
**Figure 61. Type IV Existing Building,  
Source: Stephanie Chong, University of Hawaii at Manoa**



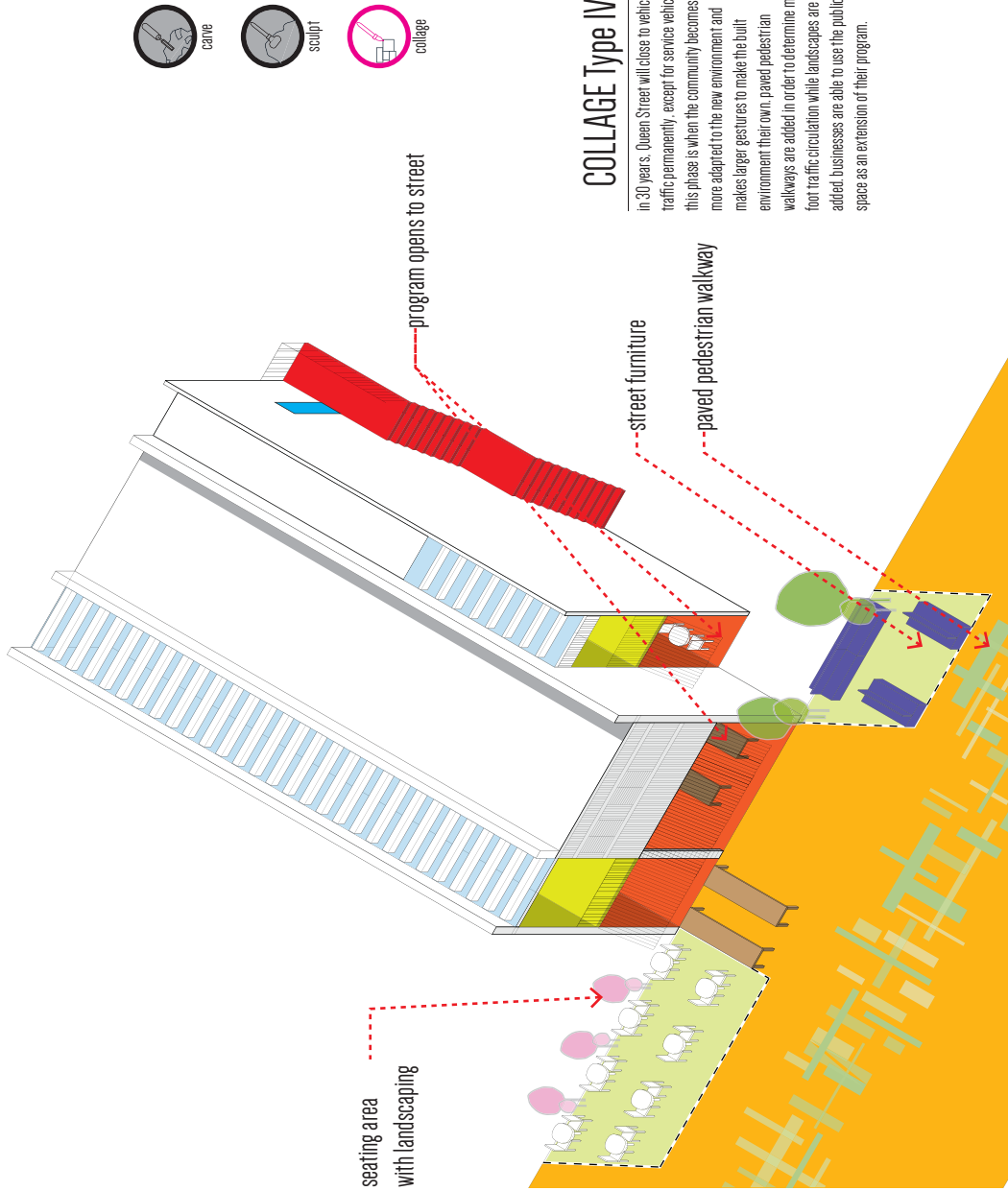
**Figure 62. Type IV Carve, University of Hawaii at Manoa**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 63. Type IV Carve in the evening,  
 Source: Stephanie Chong, University of Hawaii at Manoa**



**Figure 64. Type IV Sculpt,**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



### COLLAGE Type IV

in 30 years. Queen Street will close to vehicle traffic permanently, except for service vehicles. this phase is when the community becomes more adapted to the new environment and makes larger gestures to make the built environment their own. paved pedestrian walkways are added in order to determine main foot traffic circulation while landscapes are also added. businesses are able to use the public space as an extension of their program.

**Figure 65. Type IV Collage,**  
**Source: Stephanie Chong, University of Hawaii at Manoa**



## CHAPTER 6 RESEARCH CONCLUSION

The historical research supports the emphasis of Kaka‘ako’s culture and the historical maps illustrate how the area has transformed. The comparison of the maps to a more current map emphasizes how much the area of Kaka‘ako has drastically changed. Queen Street did not evolve as much, but it wasn’t until the recent maps that HCDA provides with the future developments that expresses this clearly. Further emphasis can still be drawn upon from this portion of the research with more documents that locate the original building structures on Queen Street.

The interviews conducted for this research supported the information collected for the literature review in terms of the three phases needed to alleviate current constraints and issues on Queen Street. The diverse backgrounds of the interview participants emphasized the need for transitional phasing plans for development to be well received by the community. Members of the Queen Street community tend to react strongly to development ideas because they are very different from the single-story to three-level built forms with which they are familiar. Therefore, this research proposes picking four building typologies that can transition along with phase plans over a span of thirty years. By creating phase plans, the community may be able to successfully retain elements of historic and current Kaka‘ako.

To this end, this research further explored the culture of Queen Street, which the interviews revealed as essential to a successful design, as well as FBC, which allow the community to influence the design process. There are powers in the Kaka‘ako district that maintain the importance of acknowledging culture throughout the design process, but this research explores how this concept can be applied specifically to Queen Street.

The site analysis provided information on the current conditions of Queen Street. Walking along Queen Street is a challenge. In fact, collecting data and making observations took longer than originally estimated due to the constant threat of oncoming traffic. Queen Street is congested with automobile traffic because it connects two major developed areas. Despite the heavy traffic however, few cars were seen parking to enter the small businesses that line Queen Street. Meanwhile, Punchbowl Street to Cooke Street has a different atmosphere and program from the rest of Queen Street. The next

step would be to explore how to create a connection on Cooke Street between the two different street programs: one that is populated by auto body shops and the other with housing.

The interviews, site analysis, and historical background research provided a clear idea of what needs to be achieved on Queen Street. The buildings not only provide a historical connection, but also help create a sense of place. FBC will provide a means of preserving the community's connection to its past and obtaining its feedback.

The design that this research project proposes will help create a transition plan from the current Euclidean zoning standards to FBC in order to preserve the community, culture, and built environments that have stood until now. Queen Street has the potential to adapt to the current circumstances of progress while retaining its character by implementing FBC.

This research proposes a different type of FBC because it incorporates the use of FAR in order to maintain the adaptation as far as thirty years from the start of its implementation. This design project's FBC has much advantage due to the large variety of interview participants that the research was able to conduct. It was not solely on designers, planners, and developers who were interviewed, but rather the small business owners and people who reside in Kaka'ako with their families. These collected responses are the drivers of the FBC for Queen Street and respects the various feedbacks that the research was able to collect. The literature review has also further explored the strengths of this research. Reiterating the Project for Public Spaces' eleventh principle "You are never finished," and how Brand's argument for time and how it provides quality to built spaces, these ideas coincide with the interviews and therefore the FBC for Queen Street is the product of these findings.

Even though the interviews were conducted from a wide spectrum of participants, they had all one thing in common, which was to survive and be a part of Kaka'ako as it changes throughout time. Designers, developers, and planners were driven to create a prosperous community. Cultural consultants wanted to preserve the culture and history in order to maintain its identity as time passes. The business owners were worried about their future because they have a deep history and connection with their businesses. Their business is not only their livelihood, but it was part of their own history and character as a

business owner, person, and a part of their family's history. Therefore, this project's importance takes into account of these different participants in order to celebrate and continue Queen Street's existence as time passes.

## BIBLIOGRAPHY

- Abramson, Mark. "Rail could drive development for Kakaako, Ala Moana area." *Pacific Business News*, February 22, 2013. Accessed February 20, 2015.  
<http://www.bizjournals.com/pacific/print-edition/2013/02/22/rail-could-drive-development-for.html?page=all>.
- Alexander, Christopher, Sara Ishikawa, Murray Silverstein, Max Jacobson, Ingrid Fiksdahl-King, and Shlomo Angel. *A Patter Language: Towns, Buildings, Construction*. Vol. 2. New York: Oxford University Press, 1977.
- Angelo, William J. "Form-Based Codes Help Shape New Urbanism." *ENR: Engineering News-Record* 260, no. 16 (2008): 18-19. Academic Search Premier (32127195).
- Appleyard, Donald. "Livable Streets: Protected Neighborhoods?" *American Academy of Political and Social Science*. Vol. 451 (1980): 106-117. Accessed March 30, 2015. doi: 10.1177/000271628045100111.
- Ashcraft, Norman, and Albert E. Schefflen. *People Space: The Making and Breaking of Human Boundaries*. Garden City: Anchor Books, 1976.
- Ben-Joseph, Eran. *The Code of the City: Standards and the Hidden Language of Place Making*. Cambridge: MIT Press, 2005.
- Birch, Eugenie L., and Christopher Silver. "One Hundred Years of City Planning's Enduring and Evolving Connections." *Journal of the American Planning Association*. Vol. 75, no. 2 (2009): 113-122. Accessed February 07, 2015. Academic Search Premier (37208261).
- Brand, Stewart. *How Buildings Learn: What happens after they're built*. New York: Penguin Books, 1994.

- Bressi, Todd W. Introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz, xxv. New York: McGraw-Hill, Inc., 1994.
- Calthorpe, Peter. Introduction to *The New Urbanism: Toward an Architecture of Community*, by Peter Katz, xi-xvi. New York: McGraw-Hill, Inc., 1994.
- Case Scheer, Brenda. *The Evolution of Urban Form: Typology for Planners and Architects*. Chicago: American Planning Association, 2010.
- Case Scheer, Brenda. "Shape of the City." *Planning* 73, no. 7 (2007): 30-33. Academic Search Premier (25788934).
- Chase, John, Margaret Crawford, and John Kaliski. *Everyday Urbanism*. 1<sup>st</sup> ed. New York: The Monacelli Press, Inc., 1999.
- Cheng, Martha, and David Thompson. "Walking Honolulu's Queen Street: Where Honolulu's Urban Past and Future Meet." *Honolulu Magazine*, February 09, 2012. Accessed February 22, 2015. <http://www.honolulumagazine.com/Honolulu-Magazine/February-2012/Walking-Honolulu-Queen-Street/>.
- Chicago Metropolitan Agency for Planning. *Form-Based Codes: A Step-by-Step Guide for Communities*. Chicago, IL: CMAP, 2012.
- Creamer, Beverly. "Kakaako's Building Boom." *Hawaii Business*. September 2012. Accessed January 12, 2016. <http://www.hawaiiibusiness.com/kakaakos-building-boom/>.
- Cullen, Gordon. *Townscape*. New York: Reinhold Publishing Corporation, 1961.

Project for Public Spaces. “Eleven Principles for Creating Great Community Places.”  
Last modified 2016. <http://www.pps.org/reference/11steps/>.

Fischel, William A. “An Economic History of Zoning and a Cure for its Exclusionary Effects.” *Urban Studies* 41, no. 2 (2004): 317-340. Accessed February 20, 2015.  
doi:10.1080/0042098032000165271.

FBCI. “Form-Based Codes Defined.” Last modified 2016.  
<http://formbasedcodes.org/definition/>.

Garvin, Alexander. Introduction to *Great Planned Communities*, edited by Jo Allen Gause, 23. Washington: The Urban Land Institute, 2002.

Gehl, Jan. *Cities for People*. Washington: Island Press, 2010.

Gehl, Jan. *Life Between Buildings: Using Public Space*. Washington: Island Press, 2011.

Gehl, Jan, and Birgitte Svarre. *How to Study Public Life*. Washington: Island Press, 2013.

Gibson, Marsha. *Kaka‘ako As We Knew It: Memories of Growing Up in Old Kaka‘ako*. Honolulu: Mutual Publishing, LLC, 2011.

Group 70 International, Inc. *Kamakana Villages at Keahuolu*. Honolulu, HI: Group 70 International, Inc., 2010.

Gutierrez, Ben. “Kaka‘ako development plans draw fire from residents, defense from governor.” *Hawaii News Now*, May 30, 2013. Accessed January 28, 2015.  
<http://www.hawaiinewsnow.com/story/22464692/kakaako-development-plans-draw-fire-from-residents-defense-from-governor>.

HCDA. “About HCDA.” Last modified 2016. <http://dbedt.hawaii.gov/hcda/about-hcda/>.

Hawaii Community Development Authority. "Mauka Area Plan." *Department of Business, Economic Development & Tourism*. 2011. Accessed February 18, 2015. <http://dbedt.hawaii.gov/hcda/files/2013/02/Mauka-Area-Plan-EFF-2011-10-31.pdf>

Hawaiian Historical Society. Forty-seventh annual report of the Hawaiian Historical Society for the year 1938. Honolulu: The Society, 1939. Accessed August 10, 2015. <https://evols.library.manoa.hawaii.edu/bitstream/handle/10524/967/OP20.pdf?sequence=1>.

Jacobs, Allan B. *Great Streets*. Cambridge: MIT Press, 1995.

Katz, Peter. *The New Urbanism: Toward an Architecture of Community*. New York: McGraw-Hill Professional, 1993.

Langdon, Philip. "The Not-So-Secret Code." *American Planning Association*, January 2006. Accessed February 28, 2015. [http://www.buffalosmartcode.org/downloads/The\\_Not\\_So\\_Secret\\_Code\\_Langdon\\_APA\\_Jan2006.pdf](http://www.buffalosmartcode.org/downloads/The_Not_So_Secret_Code_Langdon_APA_Jan2006.pdf)

Matthews, Kirk. "Dozens testify on bills relating to HCDA." *KHON2*, February 8, 2014. Accessed October 23, 2015. <http://khon2.com/2014/02/08/dozens-testify-on-bills-relating-to-hcda/>.

National Park Service. "Kamehameha the Great." Last modified 2016. <http://www.nps.gov/puhe/learn/historyculture/kamehameha.htm>.

Opticos Design, Inc. *South Kaua'i Form-Based Code*. Honolulu: Opticos Design, Inc.,

2015. Accessed October 28, 2015.

[http://www.kauai.gov/Portals/0/Planning/SKCP\\_AppendixC.pdf?ver=2015-08-26-150333-080](http://www.kauai.gov/Portals/0/Planning/SKCP_AppendixC.pdf?ver=2015-08-26-150333-080).

Our Kaka‘ako. “Our History.” Last modified 2015.

[http://www.ourkakaako.com/about/our\\_history.html](http://www.ourkakaako.com/about/our_history.html).

Parolek, Daniel G., Karen Parolek, and Paul C. Crawford. *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*. Hoboken: John Wiley & Sons, Inc., 2008.

Interview with Participant #1, February 21, 2015.

Interview with Participant #2, February 21, 2015.

Interview with Participant #3, April 05, 2015.

Interview with Participant #4, March 09, 2015.

Interview with Participant #5, April 18, 2015.

Interview with Participant #6, April 23, 2015.

Interview with Participant #7, May 08, 2015.

Interview with Participant #8, May 08, 2015.

Interview with Participant #9, May 05, 2015.

Interview with Participant #10, May 05, 2015.



Interview with Participant #11, October 01, 2015.

Interview with Participant #12, August 28, 2015.

Interview with Participant #13, October 12, 2015.

Interview with Participant #14, September 12, 2015.

Interview with Participant #15, October 21, 2015.

Prevedouros, Panos. "Brief Insight on the Kaka'ako Development and Honolulu's Trifecta of Failures." *Hawaii Reporter*, July 2, 2013. Accessed January 15, 2015. <http://www.hawaiireporter.com/brief-insight-on-the-kakaako-development-and-honolulu-trifecta-of-failures/123>.

Shimogawa, Duane. "Kaka'ako warehouse space could be used for the arts." *Pacific Business News*, January 23, 2014. Accessed February 12, 2015. [http://www.bizjournals.com/pacific/blog/morning\\_call/2014/01/kakaako-warehouse-space-could-be-used.html](http://www.bizjournals.com/pacific/blog/morning_call/2014/01/kakaako-warehouse-space-could-be-used.html).

Southworth, Michael, and Eran Ben-Joseph. *Street and the Shaping of Towns and Cities*. Washington: Island Press, 2003.

Talen, Emily. "Zoning For and Against Sprawl: The Case for Form-Based Codes." *Journal of Urban Design* 18, no. 2 (2013): 175-200. Academic Search Premier (86994957).

University of Hawai'i Department of Urban and Regional Planning. "Kaka'ako: Our Kuleana." Workshop about Development Issues in Kaka'ako, Honolulu, HI, October 13-November 17, 2015.

Van Meter Williams Pollack, LLP. "What is Floor Area Ratio (FAR)?" Paper presented at the Manchester Subarea Community Meeting, April 17, 2007.

[http://www.kitsapgov.com/dcd/community\\_plan/subareas/manchester/Meetings/4-17-07/Floor\\_Area\\_Ratio.pdf](http://www.kitsapgov.com/dcd/community_plan/subareas/manchester/Meetings/4-17-07/Floor_Area_Ratio.pdf).

Whyte, William H. *The Social Life of Small Urban Spaces*. New York: Project for Public Spaces, 2001.