

The In-Sync City
Historic Communities in a Changing World

Andrea Kirby
May 2010

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

School of Architecture
University of Hawai'i

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

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Andrea Kirby

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ABSTRACT

The city of Honolulu recently adopted plans for a mass-transit system to service West 'Oahu because of escalating traffic problems, amongst other issues. The system will transport residents to and from the downtown business district. In doing so, surrounding communities are already being affected by multiple urban design options that are currently being explored to encourage growth along the transit route. In particular, the future downtown Chinatown transit station has potential to not only generate social and economic growth for the area but also to revitalize the community and protect the unique culture through the use of community participation techniques and Transit-Oriented Development (TOD) principles.

Based on a series of case studies, historical-interpretive research, first-hand interviews, and mapping exercises this doctorate project discusses common trends based on the similarities and differences between the requirements of TODs and that of historic communities. The principles for TODs stress that station designs should be compact and should consist of multiple uses, all of which could transform the area into a destination for residents, visitors, and investors.¹ Overall, the guidelines are written to apply to any community. In doing so, TODs tend to have a reputation for forcing a one-size-fits-all solution on how to successfully develop communities located along transit lines, which lends itself to controversy since communities—historic communities especially—differ drastically.

Through the use of logical argumentation, a series of hypotheses is provided for how historic communities can respond positively to the implementation of not only mass-transit systems, but any modern stimulus. The overall objective is to provide a potential solution or guide for future developers, city officials, urban planners, architects, and community stakeholders of historic communities to follow when facing similar situations. Through testing the hypotheses on Honolulu's Chinatown, a simplified, graphic-based process is suggested. The process sets out to define how other historic communities can evaluate themselves and utilize a modern stimulus as a means to grow and evolve sustainably over time without compromising the unique culture of the area.

¹ Robert T. Dunphy, Robert Cervero, Frederick C. Dock, Maureen McAvey, Douglas R. Porter, Carol J. Swenson. *Developing Around Transit: Strategies and Solution That Work*. Washington D.C.: ULI-Urban Land Institute, 2004. 170-183.

PREFACE

PREFACE

Throughout the world, historic communities are threatened by modern stimuli practically on a daily basis. Growing up in the historic community of Charlottesville, Virginia, historic communities have always been a part of who I am. At a very young age, my interest in architecture sparked from the mystery held within the unique character of Victorian homes. In high school, my senior project included designing and building a scaled model of a Victorian home. For the presentation, I dressed in full Victorian ware and served my committee tea and biscuits as I gave them a tour of the typical Victorian home, lifestyle, and culture. During college, my interest in architecture changed as I learned more about the field, however, my love for historic communities always remained. During my undergrad years, I interned for the preservation firm Mason Architects located in downtown Honolulu. From this experience, I realized that historic preservation could be more than the mere restoration of a single building, but rather the revitalization of an entire community.

During the fall of 2008 and spring of 2009, I conducted two research projects that focused on TOD and regeneration. In both projects, the overall objective was to gain a better understanding on the opportunities that exist for revitalizing older communities as well as refocusing attention to the urban core. As I researched more about TOD, I couldn't help but recognize the similarities between the needs of TOD and that of historic communities—I began to wonder, is it possible to marry the two? Most of the TODs I came across were, more often than not, located along the outskirts of downtowns and mainly consisted of new developments. How difficult would it be to revitalize an older community through the principles set out by TOD? Based off of the proposed mass-transit system for Honolulu, the initial objective for this doctorate project was to determine a suitable TOD for the historic community of Honolulu's Chinatown. Through this endeavor, I have realized the importance of community involvement in the design process. When attempting to implement a new stimulus into a historic community, multiple questions arise including, but not limited to, how does this particular historic community evaluate themselves and how should this be incorporated into the design?

The combination of my year long studies and the following thesis is the following five step process. It is my hope for readers to find this as useful as I have and that it will be utilized in the future development of historic communities.

PREFACE

by Andrea Kirby

Graphics by James Van Tromp

The title is presented as a series of steps ascending from the bottom left to the top right. The number '5' is red, while 'STEPS' is black. 'FOR HISTORIC COMMUNITIES' is black and follows the slope. 'IN A CHANGING' is black and follows the slope. 'WORLD | THE' is black and follows the slope. 'IN SYNC' is red and follows the slope. 'CITY' is black and follows the slope.

5 STEPS FOR HISTORIC COMMUNITIES IN A CHANGING WORLD | THE **IN SYNC** CITY

PREFACE

Based on the process used to test the hypotheses on Honolulu's Chinatown, five action steps were able to be distinguished:

RESEARCH
IDENTIFY
CHALLENGE
DISCOVER
APPLY

These action steps set out to.....

"observe and research the community's culture and history"

"identify information provided by the city"

"challenge that information"

"discover the needs and wants of the community"

"apply the knowledge gained to the new stimulus"



RESEARCH

HONOLULU'S CHINATOWN

HISTORY

- Community based
- mix-use, live/work lifestyle
- melting pot of cultures -- Asian immigrants

CULTURE

Traditional markets

- fresh meat, fish, ethnic foods
- Lei stands
- restaurants

Arts

- galleries, bars, upscale restaurants

ARCHITECTURE & STREETScape

- every block has its own identity but overall, buildings within historic core are below 40' with store fronts oriented to street
- High rise buildings allowed on outskirts
- Building regulations for all new construction

MAP OF COMMUNITY



DISTANCE TO SIGNIFICANT SITES



0.3 miles



0.25 miles



0.15 miles



0.1 miles



0.25 miles



0.5 miles

[2]

IDENTIFY...

* all called out in existing accounts -- who says?

[EXISTING BOUNDARIES]

FLUID



building heights vary

[SIGNIFICANT BUILDINGS & SITES]

FLUID



multiple significant buildings located in Chinatown -- do I agree with this map?

[PARKING, PEDESTRIAN AND VEHICULAR PATHWAYS]

VARIABLES



parking lot located adjacent to station

[VEGETATION]

FIXED



much vegetation exists in secret gardens and Alala Park

[HOUSING]

FIXED



a good amount of affordable housing exists but a need for senior housing is present

[ZONING]

FIXED



area already zoned for mix use

[3] CHALLENGE

parking
 vegetation
 housing
 zoning (but can change)

FIXED | FLUID significant buildings
 neighborhood boundaries
 (pedestrian pathways)

1

High Significance
 Medium Significance
 Low Significance

Significant Building and Site Maps Depicted by Chinatown Community

Community Significant Buildings & Sites 1
 Community Significant Buildings & Sites 2
 Community Significant Buildings & Sites 3

High Significant Sites & Buildings

2018/2019
 New York University
 New Street
 Museum of Modern Art
 City Market

Significant Buildings
 -- to individual maps being combined into one

2

Community Neighborhood Boundary 1
 Community Neighborhood Boundary 2
 Community Neighborhood Boundary 3

Community Neighborhood Boundary 4

Chinatown
 Art District
 Overlapped Art District
 Overlapped Chinatown District
 Overlapped Chinatown Boundary

Neighborhood Boundaries
 -- to individual maps being combined into one

* community maps are different than what is called out in existing accounts -- what does this mean?

[4] DISCOVER

[NEEDS] [WANTS]



A successful community is based on what?
ACTIVITY



increased pedestrian connectivity in areas



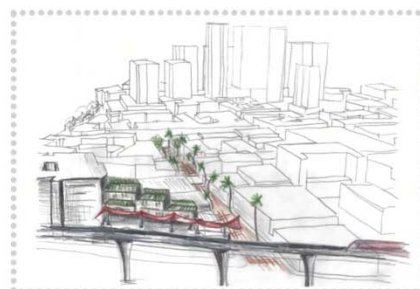
To drive away homeless, bring back open markets along River Street



highlighted as high concentration areas in community maps



Provide Chinatown with a sense of identity



And make the station a collective community museum

[5]

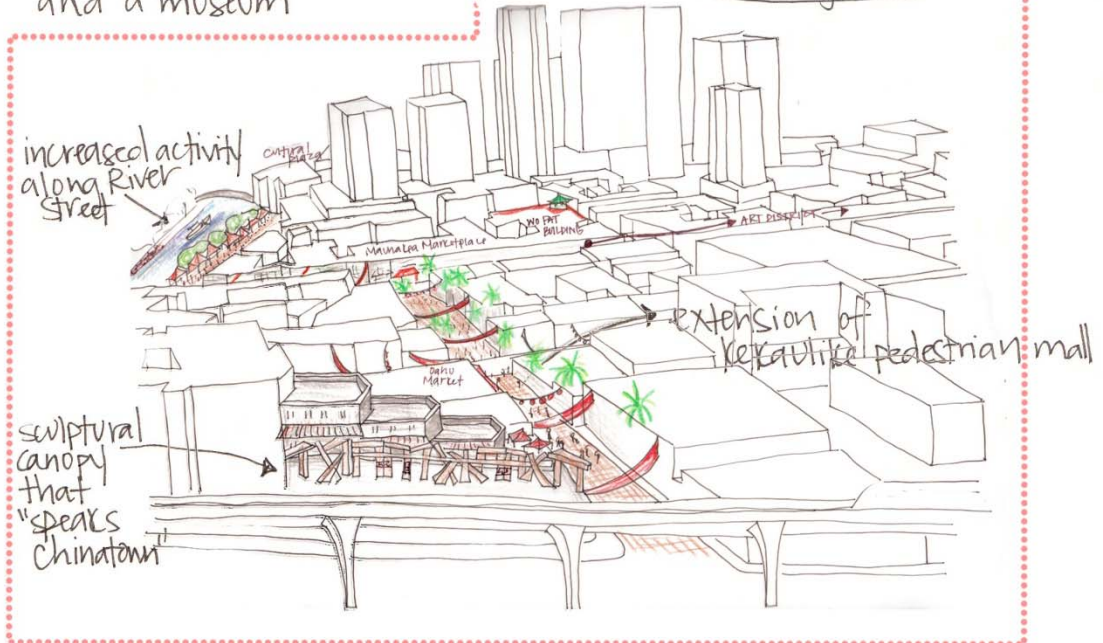
APPLY



- Provide Asian-stylized sculptures as the station canopy so that the Chinatown station stands out and "speaks Chinatown"
- Extend Kekaulike Pedestrian Mall from Maunalea Marketplace to Station
- Step down building to relate to low-rise streetscape
- Provide a mix of uses including bars, restaurants, apartments, shops, market, and a museum



Collaborated ideas into one, unified Design



BACKGROUND | Enhancing the Past with the Future

BACKGROUND | Enhancing the Past with the Future

In this day and age, historic districts can be found all over the world, and in almost every large city. Interestingly, the development of historic districts is a relatively new concept that only came about in the past fifty years. Today, historic districts are defined as any group of buildings, properties, or sites that have been acknowledged by one or multiple local and/or national authorities as being historically or architecturally significant.² Regulation for the “American” historic district originally consisted of nothing more than a protective barrier for important, individual historic structures. As time passed, these regulations evolved to include structures surrounding the individual historic structure. At the time, preservationists claimed that many of the surrounding structures and sites were key elements for the overall historic integrity of a community. Historic districts no longer contained one or two buildings, but encompassed entire areas that integrated the surrounding structures, streets, open space, and even landscape to protect the historic character in its entirety. By the early 1980s, organizations such as the National Trust for Historic Preservation recognized almost 900 American cities and towns to house some form of historic zoning or regulation.³ Historic districts have come to include many different types of communities, beyond traditional or Western American heritage, such as multiple ethnic communities like Chinatowns.

Chinatown communities throughout the United States play an active role in tourism.

Chinatowns, found in such cities as San Francisco, Chicago, and Honolulu, are often noted for unique characteristics as well as a mix of cultural festivals and markets. An influx of immigrants is still common in these communities and, in most cases; this influx has expanded to include multiple ethnicities such as Japanese, Thai, and Vietnamese, amongst others. A lot of heritage and history exists in Chinatowns, which has led to the debate of whether or not these areas should be designated as historic districts. On the one hand, leaders in some Chinatowns, San Francisco for example, recognize that the area is rich in history and culture, but note that it is still a living entity. They feel that labeling it historic is an attempt to freeze a changing culture in time, which, in a sense, is completely contradictory.⁴ On the other hand, as seen in Honolulu,

² David Hamer, *History in Urban Places: The Historic Districts of the United States*, (Ohio: Ohio State University, 1998), 20.

³ Robert T Stipe, *A Richer Heritage: Historic Preservation in the Twenty-First Century*, (Durham: Preservation Foundation of North Carolina, Inc., 2003), 7.

⁴ Bonnie Tsui, *American Chinatown: A People’s History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 5.

BACKGROUND | Enhancing the Past with the Future

other cities have taken careful consideration in creating design guidelines and specialized zoning clauses; recognizing that Chinatown communities are in need of regulation to protect the history, architecture, and to encourage sustainable growth. In this debate, one question often raised, is whether or not historic districts are indeed frozen in time, or, depending on the given design regulations, can evolve and grow sustainably over time.

The Hawai'i Theatre, located between Honolulu's Chinatown historic district and the downtown, acts as a prime example for how a historic district can continue to grow sustainably. The Chinatown historic district in Honolulu Hawai'i was named a special district in the 1970s and houses multiple historic buildings in and around the boundary line—one in particular is the Hawai'i Theatre. Originally opened for business in 1922, the current building replaced the previous Bijou Theatre to provide a larger, more comfortable, and visually aesthetic theatre. Owned by the Consolidated Amusement of Honolulu, the theatre originally held the latest live theatre productions. By the 1930s, the theatre was highly successful, serving mainly as a movie theatre, attracting visitors from all over. It continued to be successful until the 1950s when the entertainment business moved from Downtown to Waikiki. Business continued to dwindle for the next twenty five years or so, which led to the closing of the theatre in 1984.⁵ In 1978, the Hawai'i Theatre was recognized as a significant building on both the National and State Historic Places registers. Around the same time, a group of citizens came together to create the Hawai'i Theatre Center in order to protect the building from being destroyed. Other organizations who became involved in the restoration of the Hawai'i Theatre included the Aloha Chapter of the American Theatre Organ Society. These organizations set out to protect the various features considered culturally and historically significant, such as the Robert Morton Unified Orchestra Theatre Organ that was originally installed in the theatre in 1922. By 1986, the theatre along with the surrounding buildings of Austin, Pantheon and McLean were purchased and managed by the Hawai'i Theatre Center with the hopes to eventually expand the stage. The theatre continued to operate until 1989 when the building was completely shut down for renovation by Malcolm Holzman from Hardy, Holzman, Pfeiffer Associates based out of New York.

⁵ "History," *Hawai'i Theatre Center*, <http://www.Hawai'i theatre.com/history.html> (Accessed on 7 November 2009).

BACKGROUND | Enhancing the Past with the Future

The theatre reopened in 1996 and now houses a variety of shows including national touring shows, live theatre, concerts, productions, film, and even television. The theatre has attracted many visitors since its reopening and has recently been recognized by the League of Historic American Theatres and the National Trust as an Outstanding Historic Theatre in America.⁶ The reopening acted as one of the key factors in the revitalization of both Honolulu's Downtown and the Chinatown Special District. Multiple businesses in the area benefited from the influx of visitors coming to downtown to attend events put on by the newly renovated theatre. The boom in business led to opening multiple new restaurants, art galleries, and bars in the area, reviving the once lost community.⁷ Now that the City and County of Honolulu is proposing a mass-transit system, with a station located in Chinatown, the station will potentially cause a larger increase of visitors traveling to the area. Once completed, the station could possibly allow surrounding businesses to reap benefits, as seen with the Hawai'i Theatre's reopening.

Historic communities all over the United States are constantly faced with similar issues on how to incorporate a modern stimulus into a historic community. In general, historic communities often plateau in growth due to strict zoning and building regulations. Through the utilization of community design methods and TOD principles, a modern stimulus can provide a means for sustainable growth that enhances rather than diminishes the historic character. In doing so, many factors come into play including how to zone, integrate, and design for a new stimulus in a unique, culturally rich historic community. Over the years, multiple planning techniques and methods have been practiced in order to design, protect and/or enhance various types of neighborhoods and communities including innovative zoning, urban design, New Urbanism, transit-oriented development and smart growth, as well as community based design methods, amongst others.

Zoning, Planning, Urban Design & New Urbanism

The original concept of zoning first came into being after the rise of industrialization. Multiple new land uses developed during this time came to threaten traditional residential, commercial,

⁶ "History."

⁷ "Hawai'i Theatre Center Press Release: National Trust Presents Highest Preservation Honor Award to Hawai'i Theatre Center." *Hawai'i Theatre Center*. <http://www.Hawai'i theatre.com/history.html> (Accessed on 7 November 2009).

BACKGROUND | Enhancing the Past with the Future

and agricultural activities, which caused many major cities in America to suffer from overpopulation and urban sprawl. This has caused, amongst other factors, decentralization, heavy congestion on roadways, and an increase in pollution. This unplanned growth experienced by the majority of cities throughout the U.S. during the 20th century led to the need for development regulation. In doing so, all new buildings and land uses were required to follow set guidelines based on building codes and zoning codes whereas existing structures were allowed to remain.⁸ Based on designated geographical subdivisions, one of the main purposes of zoning is to differentiate the various land uses throughout a city to call out areas that are considered incompatible. Often used as a way to protect certain areas within a community from new development, zoning is usually controlled and determined by either the state, national planning authorities, or some other enabling legislation.

Urban planning has an expansive history that dates back to ancient cities and the layout and location of streets, water, and sewerage systems. Over the years the concept of urban planning has taken many different forms and, today, has evolved in part to solve the disorder and decentralization that has become prominent in the majority of large cities throughout the world. The overall goal for planners is to balance multiple factors including social equality, economic growth, environmental considerations, and aesthetics. Outcomes range from a city or metropolitan area master plan to an individual neighborhood or project master plan to an amended set of guidelines or policies. The theory for urban planning has changed over the years causing zoning codes to change, legal restrictions to fluctuate and political concerns to alter.⁹ As of today, four main categories exist for zoning: Euclidean, Performance, Incentive, and Design-based. The original text for zoning was very simplistic and allowed for an infinite number of changes which, in the end, caused many problems as more and more cities began adopting zoning ordinances. Since no law existed against creating additional zones, the three original districts soon became four, six, ten, or even twenty, if the city desired it.¹⁰

⁸ Encyclopedia Britannica Online, "Urban Planning," Encyclopedia Britannica 2009, <http://www.britannica.com/EBchecked/topic/619445/urban-planning> (accessed September 23, 2009).

⁹ Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 2.

¹⁰ Elliot 2008, 18.

BACKGROUND | Enhancing the Past with the Future

Through combining various design principles and aspects of an environment, the main purpose of urban design is to take zoning to the next level by creating a place, or area of interest. Urban design teams are usually made up of design professionals from various fields including architecture, landscape architecture, civil engineering, and planning. Whatever the make-up, all urban design teams set out to do the same thing: to embrace multiple elements ranging from designing an entire region to detailing an individual building in order to create a “correct” representation of an urban space. These design teams set out to conduct multiple in-depth studies on the overall architectural form of an area focusing on the architectural style and detailing of individual buildings as well as the role of the streetscape and how they all work together to create a community. The overall idea is to correctly represent and reflect a community based on the values, diversity, economics, human-scale, and ecology of the area.¹¹ As of today, zoning has advanced from solely calling out the various land uses and geographical subdivisions to now serve as a tool for plan implementation. A new form of zoning has recently been created known as form-based codes. The overall objective of form-based codes is to create well-designed developments that provided communities with a sense of place as well as pedestrian-oriented environments (refer to Appendix A for more information on zoning).¹²

New Urbanism, a branch of urban design, sets out to refocus attention to the urban core and away from sprawl while also taking into account social and economic concerns. In 1996, the Congress for the New Urbanism (CNU) created a Charter, which listed a series of basic principles. The principles were created to redesign areas suffering from neglect and suburban sprawl to instead be sustainable communities consisting of actual neighborhoods and multiple districts that enhance the surrounding environment. The principles set out by the Congress for the New Urbanism focus on three diverse scales within a region: the metropolis, city, and town; the neighborhood, district, and corridor; and the block, street, and building. Neighborhoods should consist of mixed-uses and populations; communities should contain multiple modes of transportation while still taking into account the pedestrian and public spaces; community institutions should be the main factors shaping cities and towns; and lastly, the architecture and

¹¹ Robert Shibley, Donald Watson, and Alan Plattus, *Time-Saver Standards for Urban Design*, (Massachusetts: McGraw-Hill Professional, 2003) 1.1-1-1.1-10.

¹² Emily Talen, “Design by the Rules: The Historical Underpinnings of Form-Based Codes,” *Journal of the American Planning Association*, Vol. 75, No. 2 Spring 2009: 144.

landscape of urban places should be defined by the history, climate, ecology, and building practices of the community. In doing so, New Urbanism encourages cities to re-embrace traditional characteristics of downtowns including mixed land use, pedestrian-friendly streets, and integration of transit systems. Therefore, new developments are to be located in mixed-use neighborhoods with a direct connection to the city's public transit system and include multiple types of housing including single-family houses, town houses, condominiums, and/or lofts.¹³ Overall, New Urbanism concepts have reinforced a market for multi-modal urban locations, which has also listed an emphasis on TOD in the 21st century. In doing so, condo sales in these communities have often greatly increased and even surpassed sales for single family homes. Furthermore, recent market surveys show that 71 percent of older households desire living in close proximity to the transit system, over a third of all households desire smaller lots in high density developments, and 25 percent of all new home buyers wish to live within a half-mile of a rail transit system.¹⁴ Due to the desire for multi-modal locations and the demand for transit-oriented developments, transportation planning departments have begun to allocate more funds to mass-transit systems rather than roadway construction.

Transit-Oriented Development

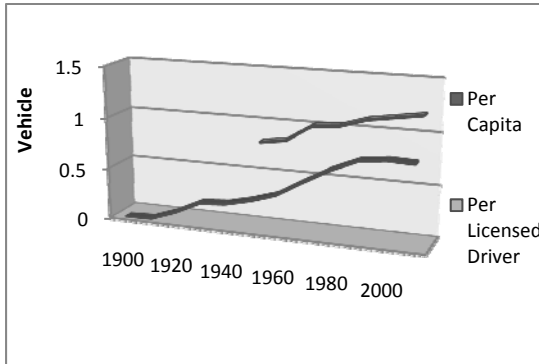
In the 20th century, transportation planning was mainly focused on the maintenance of roadways and the development of the U.S. Interstate Highway System. At the time, roadway connectivity, capacity, and convenience brought the U.S. a lot of economic benefit. Automobile ownership and annual miles of travel grew rapidly as the roadways continued to improve, refer to Figure 1. Overall, automobiles allowed people to expand, leading to the development of suburban communities, shown in Figure 2. People began to use automobiles increasingly more for work, shopping, visiting family, and other recreational uses, Figure 3. As roadways improved and population increased, amongst multiple other factors that many U.S. cities experienced during the second half of the 20th century, congestion on roadways quickly became a huge problem, refer to Figure 4. Furthermore, this congestion on roadways led to an increase in emissions, resulting in unhealthy living environments for many large cities.¹⁵

¹³ Ray Gindroz, Donald K. Carter, Paul Ostergaard, Rob Robinson, Barry J. Long, Jr amongst others, *The Urban Design Handbook: Techniques and Working Methods*, (New York and London: W.W. Norton & Company, 2003) 17-19 .

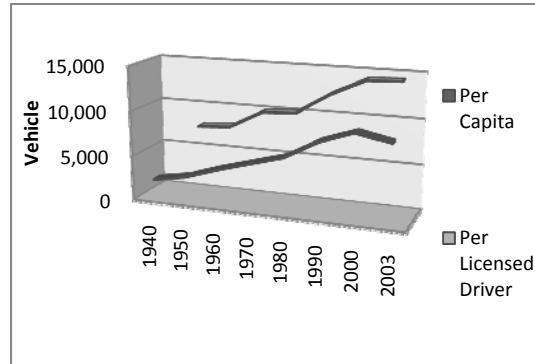
¹⁴ Todd Litman, *The Future Isn't What It Used To Be*, (Canada: Victoria Transport Policy Institute, 2005) 18.

¹⁵ Litman 2005, 19.

Figure 1 U.S. Vehicle Ownership Growth

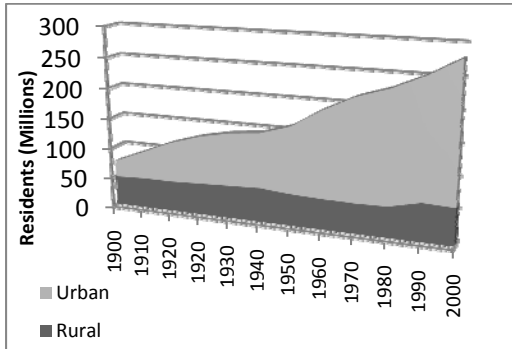


Annual Miles of Travel Growth

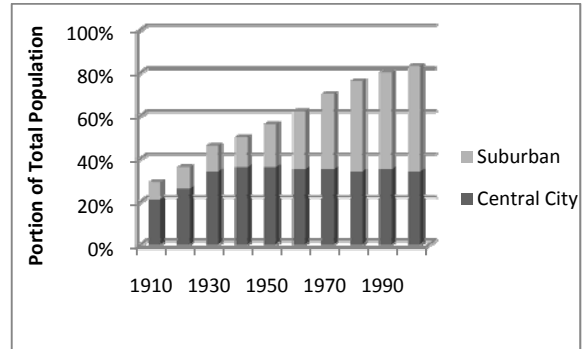


Source: Todd Litman, *The Future Isn't What It Used To Be*, (Canada: Victoria Transport Policy Institute, 2005) 4 and 6.

Figure 2 U.S. Population



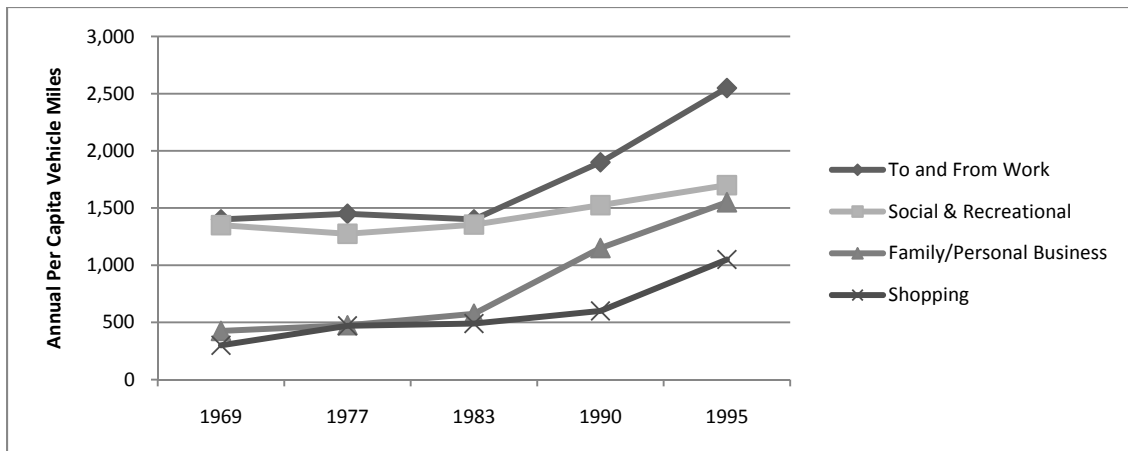
Central City and Suburban Population



Source: Todd Litman, *The Future Isn't What It Used To Be*, (Canada: Victoria Transport Policy Institute, 2005) 11.

Figure 3

Vehicle Travel By Trip Purpose



Source: Todd Litman, *The Future Isn't What It Used To Be*, (Canada: Victoria Transport Policy Institute, 2005) 10.

The automobile sparked many changes in the country especially in the 1970s when congestion became a major problem for large cities. Mass-transit systems began to be studied and designed to lower congestion, however today a simple streetcar system is no longer sufficient; systems need to be compatible with the automobile. Shown in Figure 5 are some of the first mass-transit systems that opened in the 1970s—BART in San Francisco Bay Area, MARTA in Atlanta, and Metro in Washington, D.C. area—were built with the sole purpose to relieve congestion on roadways. However, additional land wasn't purchased by transit agencies around the transit lines to promote future developments, and stations were primarily characterized by large parking lots. In the end, these parking lots created barriers between the station and surrounding community rather than integrated connections providing various services that encourage ridership.¹⁶

Figure 4 Traffic Congestion in America Today



Traffic Congestion in America Circa 1922



Source: Images from Rachel Alexander. <http://www.intellectualconservative.com/2008/05/15/striking-changes-in-arizona-as-illegal-immigrants-flee-the-state/> and University of Texas Online Library. http://www.lib.utexas.edu/maps/historical/dallas_1920.jpg

Figure 5

San Francisco Bay BART



Atlanta Rail Park & Ride Lot



Washington D.C.



Source: Images from BART. <http://www.bayrailalliance.org/bart>, Philip Jose Farmer. http://gratzindustries.blogspot.com/2007_01_01_archive.html, and TEXSTARS Inc. <http://www.texstars.com/pages/picture-gallery/>

¹⁶ Dena Belzer and Gerald Autler, *Transit Oriented Development: Moving From Rhetoric to Reality*, (California: The Brookings Institution and Great American Station Foundation, 2002) 5.

BACKGROUND | Enhancing the Past with the Future

With a projected population of 400 million by the year 2050, political leaders (at federal, state, regional, and local levels) have decided that the creation of public transportation systems with New Urbanism concepts including multiple transit options, mixed-use developments, and pedestrian-friendly communities are the next steps for creating more sustainable and healthy environments for large cities.¹⁷ Therefore, planners of recent mass-transit systems have promoted developing the areas around transit stations in order to create sustainable environments for people of all ages and incomes. Recent research shows that creating dense urban communities around transit stations that promote walking and biking encourage residents to own fewer cars, drive less, walk more, and ride transit more than residents of spread out suburban areas. Transit-oriented development provides cities with a way to create successful communities that integrate convenient and efficient transportation links with retail centers allowing residents to conduct everyday tasks close to home.¹⁸ TOD is defined as being the functional integration of land use and transit through the incorporation of dense, pedestrian friendly, mixed-use communities within walking distance of a transit station. TOD brings people, jobs, and services together by providing communities with an efficient, safe, and convenient way to travel by foot, bicycle, transit, or car.¹⁹

When attempting to implement transit-oriented designs in an urban area, it is important to note that the majority of U.S. cities not only contain multiple suburban neighborhoods, but also that these neighborhoods are growing to become independent communities and are, in a way, struggling to become cities of their own. This usually results in multiple suburban residential hubs that surround the downtown business district causing large amounts of traffic delay due to suburban residents all traveling to the city at the same time. In response, many cities and metropolitan area agencies have begun incorporating mass-transit systems that connect the surrounding suburban hubs to the downtown business district. In doing so, many U.S. cities' population densities have begun shifting back to the urban cores, which has sparked a new real-estate market for development in and around downtown regions. This has led to the

¹⁷ Todd Litman, *The Future Isn't What It Used To Be*, (Canada: Victoria Transport Policy Institute, 2005) 19.

¹⁸ Dena Belzer and Gerald Autler, *Transit Oriented Development: Moving From Rhetoric to Reality*, (California: The Brookings Institution and Great American Station Foundation, 2002) 9.

¹⁹ *Transit-Oriented Development (TOD) Guidebook*, (Austin: City of Austin Neighborhood Planning and Zoning Department, 2006), 5.

revitalization of downtown areas encouraging the restoration of historical characteristics from 20th century cities that include pedestrian friendly, mixed-use communities in close proximity to transit systems. Almost every major U.S. city has some form of urban rail or rapid bus system to link residents to the city. Due to population densities shifting back to the urban cores along with the growth of suburban communities and the increasing need to connect the two, a market for transit-oriented developments around new rail or rapid bus stations has been created.²⁰

The concepts of TOD became more widely known when federal funding became available in the 1990s, encouraging multimodal transit systems, which caused a huge change in transportation planning. Called the Livable Communities Initiative, guidelines for planning and developing transit facilities and the adjacent land were soon provided by the Federal Transit Administration (FTA), an operating administration agency within the U.S. Department of Transportation. In 1991, funding for developing intermodal transportation types was provided for transportation systems that followed the guidelines of the Intermodal Surface Transportation Efficiency Act (ISTEA), signed by President Bush, stating that the renewal of America's surface transportation is of utmost priority. In order to receive this funding, designs are required to comply with the Clean Air Act Amendments of 1990.²¹ The ISTEA has influenced State Department of Transportation (DOTS) to become more involved in transit projects by requiring greater attention to be given to local land use plans, compliance with state air quality implementation plans, and providing multimodal services. Regionally, metropolitan development and regional planning strategies are required to meet air quality standards, reduce automobile use, protect open space, and encouraging transit use. Local governments support developments that will improve the tax base, provide employment opportunities, and are therefore in full support of TODs and encourage rail extensions.²²

For developers, some important principles are involved in order to create successful TODs including land use, density, connectivity, parking, and design; the preferred layout for a TOD is shown in Figure 6. When selecting the site for TOD, it is important that the land use supports

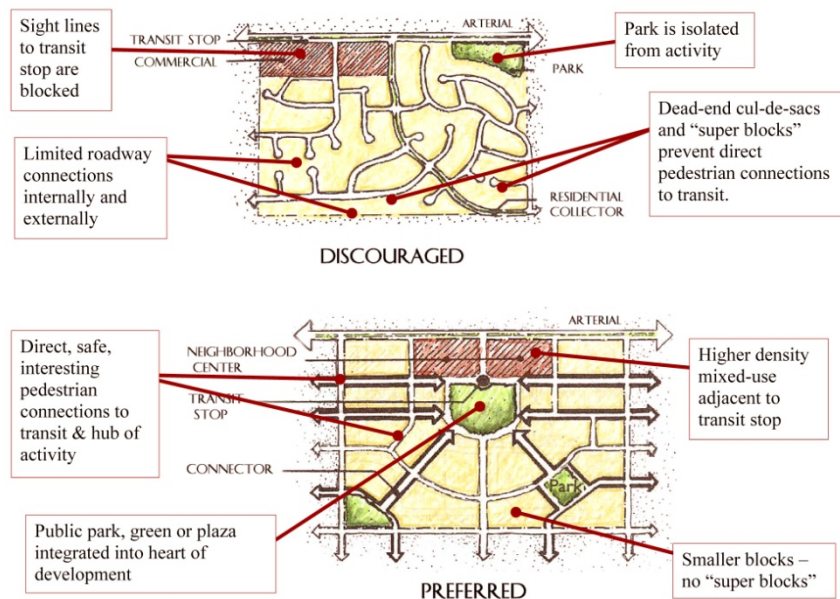
²⁰ *Transit-Oriented Development (TOD) Guidebook*, 5.

²¹ Douglas Porter. *Synthesis of Transit Practice 20: Transit-Focused Development*, (Washington, D.C.: National Academy Press, 1997), 5.

²² Porter 1997, 5.

transit, which means the site should be able to generate high pedestrian activity while still encouraging transit ridership. Sites not only need to be located by a transit station, but also should be located in close proximity to surrounding communities. Most TOD accounts state that the best designs provide multiple uses with an emphasis on commercial and retail uses. The ideal location for retail is to be close to and oriented towards a high-street as well as a transit station in order to draw in consumers both from the transit system and a major roadway. Parking should be managed and designed with pedestrians as the main focus while still including the vehicle but reducing the sense of vehicular domination. Creative parking strategies should be introduced that integrate, rather than divide the site. The overall design should promote density and compact development by providing both residential and employment centers within close proximity to a rail station and through streets. Buildings should be clustered together to encourage walking and providing consumers with a destination that contains a variety of services. Designing a compact mixed-use development within walking distance of a public transit station will generate sufficient density to support transit ridership.²³

Figure 6 Development Connectivity to Transit Stations

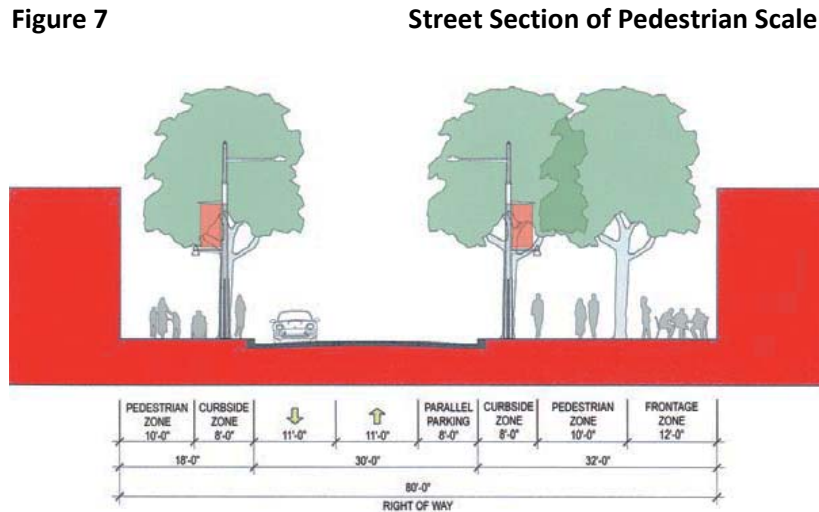


Source: Image from *Transit-Oriented Development (TOD) Guidebook*, (Austin: City of Austin Neighborhood Planning and Zoning Department, 2006), 9.

²³ *Transit-Oriented Development (TOD) Guidebook*, (Austin: City of Austin Neighborhood Planning and Zoning Department, 2006), 7.

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Overall, the main goal of TOD is to create sustainable designs that provide dense, pedestrian friendly mixed-use communities that are all interlinked by an integrated transit system. A well designed high-street is often important and characterized with ample pedestrian and frontage zones that are complimented with trees, encouraging activity such as walking and biking, refer to Figure 7. Other factors that should be incorporated in TOD are a variety of housing types and services for a large range of ages and incomes to create a livable community. This helps residents feel a sense of belonging and ownership of the developments. Parks or plazas as organizing features and gathering places are also highly recommended to give the community a sense of identity. TOD designs should be flexible to changing conditions and strive to be realistic yet economically viable and valuable to the city, transit agency, developer, resident, and employer. It should be understood that in the larger context, all TODs serve a specific purpose and are located within their own unique context of the transit system.²⁴ Figure 8 depicts a well designed TOD for a neighborhood; this example provides a dense, pedestrian-friendly community with multiple services and excellent connectivity to the rail station.



Source: Image taken from *Transit-Ready Development Guide: A Resource Manual for Designing Intermodal Transportation Places*, (Austin: Capitol Metropolitan Authority Council (Capitol METRO), 2008), 3.

²⁴ *Transit-Oriented Development (TOD) Guidebook* 2006, 8-9.

Figure 8 Dense, Pedestrian-Friendly Mixed-use Community Integrated with Transit System



Source: Image taken from *Transit-Ready Development Guide: A Resource Manual for Designing Intermodal Transportation Places*, Metropolitan Authority Council (Capitol METRO), 2008, 3.

Community Design

Many cities have spent billions of dollars in constructing modern mass-transit systems. In doing so, these cities often expect immediate traffic relief, improved air quality and economic development around transit stations that provide pedestrian friendly areas with strong connectivity to the public transportation systems. Unfortunately, most large cities in America have expanded in such a way that TOD is incredibly difficult to implement in urban areas. America has spent over 50 years building and expanding cities around the automobile and developing suburban communities that it has become increasingly difficult for cities, even those that had streetcar systems in the early 1900s, to implement TOD principles today. Due to the obsession with the automobile and owning land, most developments have been focused on suburban areas, which, more often than not, mean that the inner-city areas are being neglected.²⁵ Even though many population densities are shifting back to the urban core, inner-city communities are having difficulties in creating successful TODs due to the years of improper expansion. In more recent years, many U.S. cities have begun to implement community design strategies in order to successfully integrate TODs into a community that best serves the residents.

It's easy to overlook how much the environment we live in directly affects our overall social well-being including health, work, free time, emotions, and sense of belonging. However, thanks to community participation methods, a series of techniques are set out to create vibrant

²⁵ Daniel Baldwin Hess and Peter A. Lombardi. "Policy Support for and Barriers to Transit-Oriented Development in the Inner City" *Transportation Research Record: Journal of the Transportation Research Board* 1887 (2004): 26.

environments that enhance the everyday life of a community by involving residents in the design process. The initial concept was derived from a group of architects, landscape architects, and planners who all came together in order to create a better way to design and plan future developments.²⁶ Based on the idea that a building better serves a community if the people to be directly affected by its changes are involved in the process, the overall objective of community design is to encourage residents to become active participants in the design and management of new developments.²⁷ Although excellent in concept, community design was unable to prevent the deterioration of American urban cores; however, it has proven to be a viable tool for planners and designers to utilize for multiple types of future developments, including TODs.

Community Design Techniques

Even though community participation may not have completely stopped deterioration from occurring at the urban core during the mid 20th century, the strategies and concepts proved to be greatly beneficial for creating vibrant and successful communities.²⁸ As of today, community participation methods have evolved and adapted to address various types of situations ranging from the development of goals and strategies based on ethical, social or cultural studies, or policy issues that require public awareness, education, and community acceptance of a certain decision. Called out by Henry Sanoff, AIA, in his book *Community Participation Methods in Design and Planning*, community design includes numerous types of processes and techniques including, but not limited to design *charrettes*, community action planning, focus groups, game simulation, group interaction, participatory action research, public forums, and strategic planning. Each process and/or technique responds to different factors depending on the requirements specified by the community. No matter the process or technique, in order for community participation methods to be successful, the party in charge must ensure that the

²⁶ Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), ix.

²⁷ Janice Elliot, Sara Heesterbeek, Carlyn J. Lukensmeyer, and Nikki Slocum, *Participatory Methods Toolkit: A practitioner's manual*, (Belgium: King Baudouin Foundation and Flemish Institute for Science and Technology, 2005), 9.

²⁸ Janice Elliot, Sara Heesterbeek, Carlyn J. Lukensmeyer, and Nikki Slocum, *Participatory Methods Toolkit: A practitioner's manual*, (Belgium: King Baudouin Foundation and Flemish Institute for Science and Technology, 2005), 12.

participation is active, managed, and will provide those who participate a sense of accomplishment. Overall, if people are assured that their participation will make a difference, they are more likely to get involved. All processes and techniques are set up in such a way that encourages people to look at the environment they live in through a different pair of eyes. By having clear, communicable, open, and collaborative sessions, residents are encouraged to involve themselves in open dialogue and even debate about the various issues and concerns for the area. Once the current and future concerns or issues are discussed in full, decisions can be made for how to improve the overall quality of life for the community. It is important to note that participation strategies are not to replace institutional leaders, but, merely stress the importance of having a dialogue between government leadership and the community that will be affected on a day to day basis.²⁹

In order to carry out the methods listed above, a series of techniques have been developed due to complaints that participation methods are inefficient and not very useful. Any variety of techniques can be used by designers and planners including questionnaires, interviews, focus groups, and group mapping to identify existing conditions. Five different types of techniques currently exist including: awareness methods, indirect methods, group interaction methods, open-ended methods, and brainstorming methods. Awareness methods are focused on advertising the issue at hand to recruit participants through various means such as exhibits, media, and/or walking tours. Indirect methods involve surveys and questionnaires that are used to gain the opinions, attitudes, and knowledge from a random sample within the community. Workshops, or *charrettes*, are examples of group interaction methods and both allow for various interest groups to work together in small groups to discuss community issues and possible solutions. Open ended methods usually include large public announcements such as a community meeting or public forum. This particular technique allows for minimal participation and decisions are made with a show of hands or by having attendants fill out a ballot. Brainstorming methods, on the other hand, encourage teamwork to generate unlimited and unrestricted solutions and can carry many forms from expressing ideas on an easel and large pad of drawing paper to an idea written on a paper and passed to every person on the room

²⁹ Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), 4-9.

who individually write their thoughts and/or changes until it reaches back to the originator who rewrites the idea on the board for all to see and discuss. The group process is different than brainstorming in the sense that no leaders are involved, everyone is treated equally and have 5 to 10 minutes each to express their ideas and concerns, and work together to come up with a collaborative solution. Lastly, digital technology has allowed for maximum communication through such technologies as video conferencing and/or game simulators such as SimCity and VisionDome, which allow participants to build 3D cities for planners, designers, residents, and public officials to walk through.³⁰

Urban Community Design

In traditional design methods, urban developments are initially created through a series of master plans followed by a series of policies and action steps based on physical conditions such as land use and building regulations. Community participation methods are set out to create goal-based action steps built around social conditions in addition to physical conditions. These social conditions involve the identification of client-user goals as well as the collection of census and demographic information. In an urban setting many neighborhoods and communities exist and relate to each other in diverse ways, making development harder to manage in regards to the division of power, roles, and responsibilities between each community. When conducting community design methods in an urban city, the best practice is to break up the different neighborhoods and analyze the communities on an individual basis, always relating back to the city as a whole. Cities are distinguished based on such factors as geographic location, significant history, growth patterns, zoning ordinances, and the relationships between historic and modern architecture. In every city, layers of people and vehicular traffic are inter-mixed with decades of architecture creating an intricate system at a social level. With the introduction of mass-transit, large cities are now implementing a new layer of development to city streets that drastically changes the look of urban areas. Extensive research and documentation has been conducted on suburban sprawl and how motor vehicles have played a major role in the deterioration of urban centers. These studies have concluded with solutions, such as TOD principles, for how to revitalize these areas and encourage the use of multiple modes of transport. Countless case

³⁰ Sanoff 2000, 67-68.

studies have been analyzed in full determining which cities have either failed or succeeded in creating sustainable communities around transit stations.³¹ Although much research has been completed for how to revitalize urban areas through such concepts as TOD, it is important to note that little research has been conducted for how to incorporate TOD into a historic district or community specifically.

Figure 9

KEEPS activity/game sheet

The drawings above characterize a sequence of changes that have occurred in a town not unlike your own. For the purpose of this exercise you can assume that your present town is at stage two in the process of change, rapidly moving towards stage three if no action is taken. As a community planning group you are interested in preserving certain qualities that were lost as well as maintaining or improving characteristics that would make your town more humane.

To begin, each individual in your workgroup (from three to five players) should briefly list important environmental qualities. Then, as a group, discuss each person's views about the town until agreement is achieved. Next, proceed to the goal selection phase.

environmental qualities

RECORD SHEET

1 _____

2 _____

3 _____

4 _____

Source: Image taken from Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), 279.

In regards to community design methods, many communities will go through a process known as the SWOT analysis, which calls out the existing Strengths, Weaknesses, Opportunities, and Threats. The analysis focuses on the physical, social, and/or economic characteristics as they relate to the natural environment, existing land use, zoning, circulation, utilities, housing, community facilities and services, urban design features, general physical condition, local

³¹ Sanoff 2000, 221-222.

history, and demographics. Once data is gained from the SWOT analysis, it is often presented in a series of scenarios. Through the game KEEPS, or Knowledge of Emerging Environmental Strategies, community participants follow a fun process to call out the various environmental qualities within their community that they would like to keep or protect. Participants are given the worksheet shown in Figure 9 and are to assume their community is at stage two and are to list what they would like to preserve in that image and what action can take place to refrain from the community turning into stage three.³²

As seen multiple methods and techniques exist for community design and many cities throughout the U.S. are practicing them in combination with other planning techniques, including TOD. More often than not, TOD is conducted in collaboration with community workshops along with various other community design methods. Leaders of the city of Honolulu have recently announced that each station along their planned 20-mile rail transit system will have TOD. That being said, multiple workshops have already been conducted for the communities of Waipahu, Kapolei, Leeward Community College, and Pearl Ridge. Workshop images, depicted later in the document, show that the completed workshops conclude with stations very similar in form, making it hard to distinguish one from the other. This raises the question: how successful are these methods? The benefits of community design methods are undeniable; however, more in-depth studies may be necessary for certain communities along Honolulu's future rail transit line to be successfully integrated into its environment. In particular, the historic community of Chinatown consists of a very unique history and culture that should be incorporated into the station design. Over the years, members of Honolulu's Chinatown have conducted monthly neighborhood board meetings, have written multiple books, and produced even more news articles and reports about the unique culture of the area and why the character should not only be preserved, but also enhanced. In addition to these accounts, a SWOT analysis was conducted in 2006 for Honolulu's Chinatown, along with multiple community studies. The SWOT analysis, in addition to the other existing accounts, concluded with recommendations such as "improving wayfinding" and "clean the parking lots" rather than long-term solutions to improve the economy or control growth. The Honolulu rail transit project

³² Sanoff 2000, 223-224; 278.

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can provide a solution for Chinatown. The implementation of TOD principles on the Chinatown station can act as a catalyst for Honolulu's economy and reinforce a revival of culture for the area.

DOCTORATE PROJECT STATEMENT | Honolulu's Chinatown: A Fraction of the Whole

With increasing population and urban sprawl, many large cities are turning to mass-transit systems to solve traffic and pollution problems. The most important aspects to consider when implementing a mass-transit system are the environmental, economical and social impacts experienced by the communities surrounding the rail line. Each station has potential to spark new developments for the surrounding community; however, certain precautions must be taken to minimize the negative impacts. Every community is unique based on multiple factors such as history, architecture, location, economics as well as demographics and culture. In particular, the growing city of Honolulu, Hawai'i, has recently proposed an elevated rail line that will service a 20-mile stretch from West 'Oahu through downtown Honolulu and onto Ala Moana Center. The city of Honolulu contains a distinct historical, architectural, economical, and social makeup. The city currently suffers daily from traffic congestion on its roadways with a current population of 371,619, and little horizontal room to expand.³³ The city has deemed a rapid transit system to be the most cost-effective way to respond to its growing traffic problems, amongst other factors.

Communities throughout the world are constantly dealing with the impacts brought on by implementing a modern stimulus such as a mass-transit system. Depending on the type of community, common trends are shared amongst different cities. Historic communities, in particular, share many characteristics such as the importance of streetscape, sense of arrival, architectural character, and significant history. The community of Honolulu's historic Chinatown, which the rail transit system will serve, has recently been identified by the city's Economic Development Office as one of 'Oahu's most valuable assets to increase the island's economy.³⁴

In providing a basis for the project at hand, interpretive-historical research has been conducted to provide a brief historical overview for the community of Honolulu's Chinatown, as well as extensive research on the principles and guidelines for TOD and community based design. Based on the involvement in the Honolulu Downtown Neighborhood Board meetings, including quarterly presentations, as well as multiple interviews of residents and visitors of Honolulu's Chinatown, qualitative research has been completed to provide an accurate account of the

³³ U.S. Census Bureau (2000) *American FactFinder Decennial Census : Honolulu*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

³⁴ Mayor Mufi Hannemann, "Exciting Prospects Ahead for Chinatown", *Chinatown Summit*, http://www.honolulu.gov/mayor/chinatownsummit_mf.htm (Accessed on 18 August 2009).

community's current issues. In addition to Honolulu's Chinatown, four case studies have been thoroughly analyzed and include: Mockingbird Station in Dallas, TX; San Francisco's Chinatown, CA; Chicago's Chinatown, IL; Olde Town Arvada, CO.

The objective of the first case study, Mockingbird Station located in Dallas, Texas, is to define, in more detail, the potential impacts of TOD. This particular case study concludes with the financial incentives and importance of partnerships in its relation to the overall success of TODs. The following two case studies provide information on historic communities that already have a mass-transit system determining whether or not the station has been successfully integrated into the community. The Chinatown community of San Francisco is first discussed focusing on the success of the Powell Street mass-transit station. This section continues to analyze the Chinatown community of Chicago where an elevated mass-transit system, similar to that of Honolulu's proposed system, has been implemented into the community. This case study provides an example of 'what not to do'. The last case study focuses on the historic community of Olde Town Arvada, located outside Denver, Colorado. This community will soon be constructing a mass-transit station based on TOD principles in its historic town center. This case study will provide a 'what to do' example. Each case study, including Honolulu, will be described based on the city's history and culture, boundaries, demographics, transportation, architecture and streetscape, and, lastly, scale and zoning. Through the provided case studies, a series of trends have been discerned as to the similarities and differences between TOD principles and the needs of historic communities.

Through logical argumentation, this doctorate project has provided a series of hypotheses, based on the completed case studies, for how historic communities can respond positively to the implementation of not only mass-transit systems but also any modern stimulus. Through testing the hypotheses on Honolulu's Chinatown, a simplified, graphic-based process was determined for planners, designers, and/or community stakeholders to follow when implementing a modern stimulus in a historic community. The process guides historic communities to discover and incorporate key truths that may or may not be community defined into the modern stimulus with the overall objective to allow the historic community to grow and evolve sustainably over time without compromising its unique culture.

Academically, the information gained from researching TOD for the Honolulu Chinatown rail transit station can be used as a basis for future developments in the area. More importantly, the finished product will provide a process, or series of action steps, for historic communities throughout the country to follow when implementing a modern stimulus into their community. This doctorate project has set out to expand the knowledge of both TOD and community design methods to better serve historic communities. The research project will provide knowledge of TOD and the relationship between rail transit and the architectural, social and economical factors for not only the historic community of Chinatown but multiple cities and communities throughout the country, all of which will be beneficial to firms that have work in the area.

INITIAL FORMAL CONCEPTS | Hypotheses: Modern Stimulus vs. Historic Community

Figure 10

Community Area, Zoning, Demographic, and Transit System Information for Case Studies

		San Francisco		Chicago		Denver		Dallas		Honolulu	
Community		Chinatown		Chinatown		Olde Town Arvada Historic District		Mockingbird Station		Chinatown Historic District	
Zoning	building height	3-4 stories		2 stories		1 to 2 stories. First story to be 15'		6-10 stories		2 to 3 stories. Maximum 40'	
	setbacks	Built to street on front and side facades		Built to street on front and side facades		Built to street in front and side facades				Built to street in front and side facades. 40' setback for any additional stories	
	architectural style	Pagoda styled buildings with curved eaves, colorful street lanterns, recessed balconies and gilded facades		Western Interpretation of Chinatown – Orientalism – Elaborate Chinese Detailing on historic brick buildings		Early Commercial, Queen Anne, Moderne				Classical—conventional use of brick and stone. Western styled buildings with Asian Flair	
	land uses	Zoned for mixed-use sub-districts: Village: Chinatown Residential Neighborhood/Commercial Capital City: Chinatown Community Business Tourist Center: Chinatown Visitor Retail		Zoned for Residential Business Planned Development 383 Residential Affordable and senior housing Commercial Business Mixed-use Commercial Community Buildings		Zoned for Commercial and Residential Uses Residential Single-Family Residential Commercial Mixed-use Commercial		Office, Commercial, Residential Office 115,000 Commercial 216,000 Residential 191		BMX-4 (Central Business Mixed Use) Zoned for Residential, Commercial and Office Uses	
Rail	Type	BART – Rapid Transit Muni Metro-Light Rail Cable Car-Powell-Mason and Powell-Hyde		CTA Rapid Transit		RTA-Rapid Transit		DART-Rapid Transit Historic McKinney Streetcar		Honolulu Rail Transit-Fixed Guideway	
	transit proximity	0.5 miles		0.2 miles		(future) 0.0 miles		0.0 miles		(future) 0.0 miles	
		Chinatown	San Francisco City	Chinatown	Chicago City	Olde Town Arvada	Denver City	Mockingbird Station	Dallas City	Chinatown	Honolulu City
Transpo	public	1,900	126,147	496	299,216	25	3,500	98	26,821	599	19,536
	car	1,059	169,508	559	597,598	391	44,122	4,966	380,265	545	99,890
	walking/biking	1,929	47,494	487	73,512	79	593	102	11,187	701	13,559
	parking										
Demograp hics	Race										
	Caucasian	1,495	385,325	359	1,217,702	1,622	93,213	7,183	604,439	836	72,492
	African American	312	59,060	270	1,059,594	37	542	563	306,122	61	5,566
	Asian & Pacific Islander	11,514	143,519	4,351	128,117	61	2,406	211	32,806	2,946	233,884
	Other	440	85,305	143	490,551	167	6,344	886	244,837	406	59,677
density/population	Total Pop. 14,230 Density (per square mile) 59,292	Total Pop. 776,733 Density (per square mile) 17,323	Total Pop. 7,500 Density (per square mile) 39,408	Total Pop. 2,895,964 Density (per square mile) 12,649	Total Pop. 2,200 Density (per square mile) 10,436	Total Pop. 102,505 Density (per square mile) 3,128	Total Pop. 10,900 Density (per square mile) 37,986	Total Pop. 1,188,204 Density (per square mile) 3,697	Total Pop. 4,452 Density (per square mile) 79,500	Total Pop. 371,619 Density (per square mile) 4,372	
unemployment	433	20,609	120	137,421	98	2,063	155	39,194	191	10,679	
Household Income	\$20,427	\$55,221	\$24,757	\$38,625	\$27,279	\$55,541	\$55,700	\$37,628	\$28,953	\$45,112	
Per Capita Income	\$16,658	\$34,556	\$13,784	\$20,175	\$15,479	\$24,679	\$38,090	\$22,183	\$20,940	\$24,191	
Area	154 acres	29,888 acres	130 acres	145,920 acres	35 acres	14,144 acres	10 acres	219,200	36 acres; 15 blocks	53,011 acres	

Source: Information provided by: Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991); Dittmar, Hank and Gloria Ohland, *The New Transit Town: Best Practices in Transit-Oriented Development*, (Washington D.C.: Island Press, 2004); San Francisco Planning Department, "San Francisco General Plan: Chinatown Area Plan," *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009); Richard M. Daley, *Redevelopment Plan and Project: Chinatown Basin Redevelopment Project Area Tax Increment Finance Program*. (Chicago: Louik/Schneider & Associates Inc, 2002); PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009), Map adapted from US Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Dallas City and Dallas Tract Number 79.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pagelid=referencemaps&_submenuid=maps_2

INITIAL FORMAL CONCEPTS | Hypotheses: Modern Stimulus vs. Historic Community

Historic communities throughout the U.S. often share multiple features. In general, they usually assume a low-rise urban form, a streetscape oriented towards the pedestrian, a distinct boundary, unique architectural style, and include compact mixed-use centers that are highly dependent on daily visitors for survival, amongst other factors. As of today, historic districts and communities are located in practically every city. Cities have recognized the importance of distinguishing specific design qualities for retaining the unique character of these communities. Today, almost every historic community has a series of guidelines and/or building regulations for how to treat any new construction activity in the area. As seen in Table 1, these regulations often cover such factors as the community's needs, appropriate land use, architectural design features, historic and cultural significance, as well as transportation requirements. TOD guidelines share many of the same qualities but do not contain specifications for certain factors considered critical to historic communities such as the architectural style, materials used, building height, setbacks, signage, as well as cultural and historical significance.

As discussed previously, the basic definition of TOD is usually presented with a one-size-fits-all mentality. The guidelines and principles are usually established to be applied to any situation. This brings up much controversy in the areas since communities, historic communities especially, differ drastically. Applying generic TOD principles to a historic community could destroy its individuality and historic character. Over the years, some studies have been conducted to distinguish different types of TOD. The work of Peter Calthorpe, in particular, differentiates an urban TOD and a neighborhood TOD. Furthering Calthorpe's work, more recent studies identify the factors that differ between all types of neighborhoods. These studies recognize that the strategies used for carrying out a TOD in a suburban neighborhood differ greatly from those that are applicable to an older neighborhood in a downtown.³⁵

Implementing TOD principles in a historic community is not as simple as it may seem. Multiple factors must be taken into consideration to prevent the unique character from being diminished. Through the comparison and analysis of the case studies in Appendix C, a series of hypotheses have been drawn together for how a city should treat density, growth, zoning, place-making, and station integration when implementing TOD into a historic community.

³⁵ Hank Dittmar and Gloria Ohland. *The New Transit Town: Best Practices in Transit-Oriented Development*. (Washington D.C.: Island Press, 2004), 156.

Table 1 Building Regulations: Needs, Land Use, Design Features, Culture, & Transport

		San Fran	Chicago	Denver	Dallas	Honolulu
Needs	Funding	✓	✓	✓	✓	✓
	Cleanliness			✓	✓	✓
	Safety			✓	✓	✓
	Public Facilities			✓	✓	✓
Land Use	Live/Work	✓		✓	✓	✓
	Affordable Housing	✓	✓	✓	✓	✓
	Residential	✓	✓	✓	✓	✓
	Commercial	✓	✓	✓	✓	✓
	Mix-Use	✓	✓	✓	✓	✓
Design Feature	Architecture	✓	✓	✓		✓
	Storefronts	✓	✓	✓	✓	✓
	Building Height	✓	✓	✓		✓
	Setbacks	✓	✓	✓	✓	✓
	Accessibility	✓		✓	✓	✓
	Streetscape	✓	✓	✓	✓	✓
	Signage	✓	✓	✓		✓
Culture	History	✓	✓	✓		✓
	Diversity	✓	✓	✓		✓
	Communication	✓		✓		✓
	Sense of Place	✓	✓	✓	✓	✓
	Open Space	✓	✓	✓		✓
	View Corridors	✓		✓		✓
	Communication	✓	✓			✓
	Tourism	✓	✓	✓		✓
	Visitor Experience	✓	✓	✓	✓	✓
	Businesses	✓	✓	✓	✓	✓
	Shopping	✓	✓	✓	✓	✓
	Dining	✓	✓	✓	✓	✓
	Events	✓	✓	✓	✓	✓
Arts	✓	✓	✓		✓	
Transportatio	Car	✓	✓	✓	✓	✓
	Public	✓	✓	✓	✓	✓
	Pedestrian	✓	✓	✓	✓	✓
	Parking	✓	✓	✓	✓	✓

Source: Information provided by: Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991); Ditmar, Hank and Gloria Ohland, *The New Transit Town: Best Practices in Transit-Oriented Development*, (Washington D.C.: Island Press, 2004); San Francisco Planning Department, "San Francisco General Plan: Chinatown Area Plan," *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009); Richard M. Daley, *Redevelopment Plan and Project: Chinatown Basin Redevelopment Project Area Tax Increment Finance Program*. (Chicago: Louik/Schneider & Associates Inc, 2002); PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009),

1. High Density—Doesn't Always Mean In Height

Hypothesis | Historic communities achieve the high density requirement specified by TOD regulations without breaking their distinct low-rise urban form.

Simply defined, population density is measured by the concentration of people in a given area. However, density is often associated with building height. For TODs, high density and concentration are often required in order to support a large range of transit activities; however, a specified density standard doesn't exist. Therefore TOD densities can differ greatly amongst projects, varying from ten units per acre to over 100 units per acre. As discussed in the Mockingbird Station case study, Appendix C, TODs usually consist of higher densities directly adjacent to the station with mid and low densities concentrically radiating away from the station.³⁶ This approach is not necessarily appropriate, however, for historic communities.

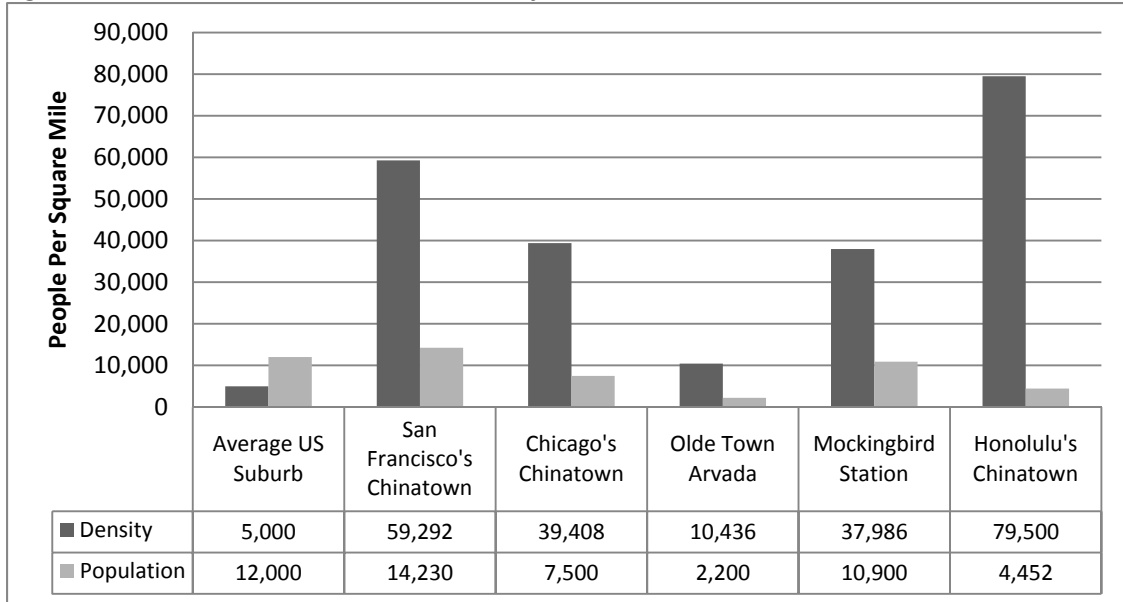
Figure 11 Community Boundaries and Tract Number Maps For Case Studies



Source: Information provided by: Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991); Dittmar, Hank and Gloria Ohland, *The New Transit Town: Best Practices in Transit-Oriented Development*, (Washington D.C.: Island Press, 2004); San Francisco Planning Department, "San Francisco General Plan: Chinatown Area Plan," *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009); Richard M. Daley, *Redevelopment Plan and Project: Chinatown Basin Redevelopment Project Area Tax Increment Finance Program*. (Chicago: Louik/Schneider & Associates Inc, 2002); PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009), Map adapted from U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Dallas City and Dallas Tract Number 79.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pagelid=referencemaps&_submenulid=maps_2

³⁶ Robert Cervero, *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*, (Washington, D.C.: Transportation Research Board, 2004) 299.

Figure 12 Current Density of Case Studies Based on Census Tract Numbers






















Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuid=datasets_1&_lang=en

For historic communities, densities are already compact and relatively high when compared to suburban residential neighborhoods. Depicted in Figure 12 are the current densities of the case studies. As seen, San Francisco and Honolulu have the highest densities even when compared to the Mockingbird station. This is most likely because San Francisco’s Chinatown, despite its multiple regulations on building height for its historic buildings, is not a historic district and allows for greater building height around and within the area. However, Honolulu’s high density is owed to the high-rise residential buildings that have been allowed along the perimeter of the district. Chicago’s Chinatown isn’t as dense as the Chinatowns of San Francisco and Honolulu but still has the density of a TOD that is much higher than the average suburban community. Olde Town Arvada currently has a significantly lower density and population than the other case studies but still has double the density than the average suburb.³⁷ It is also important to note that the Olde Town Arvada population and density will significantly increase as developments around the future transit station reach completion. Over all, Figure 12 shows that even though

³⁷ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuid=datasets_1&_lang=en

the Historic district of Honolulu’s Chinatown and the Chinatowns of San Francisco and Chicago have regulations for building height, they are still just as dense as a TOD; therefore, a TOD does not need to contain the recommended TOD hierarchy with high-rise buildings at the station to achieve the high density requirement. It is important to note that in each case, the allocation of high-rise residential buildings along the outskirts of the community allow for higher densities. When implementing TOD into a historic community, all new developments within the historic core can continue to achieve the required density by continuing to build compact, mixed-use low-rise developments with high-rise buildings allowed along the outskirts. It is important to note, however, that by having density located along the outskirts of the community; the walking distance to the station is increased. Feeder buses or streetcar lines, similar to San Francisco’s Chinatown, should be present to act as feeder systems. In doing so, residents will still be encouraged to use the rail system even though they are not located at the station like TODs.

Figure 13 Case Study Images of Culture, Historic Significance, Scale, & Transportation

	San Francisco’s Chinatown	Chicago’s Chinatown	Mockingbird Station	Olde Town Arvada	Honolulu’s Chinatown
Culture					
Historic Significance					
Building Height					
Skyline/Scale					
Public Transport					

Source: Photos provided by author, James Anthony Van Tromp, Flickr.

.2. Growth—Depends on Relationship with Greater Community

Hypothesis | The overall success of a historic community is directly related to the economic and social make-up of surrounding neighborhoods.

A common assumption is building height restrictions limit population growth. In all of the case studies, except for Mockingbird Station, a regulated low-rise building height is required, as shown in Table 2. Without proper planning this assumption is, more often than not, correct. In both the historic communities of San Francisco’s Chinatown and Olde Town Arvada, the populations are currently the same as they were in 1970, shown in Figure 14. Both cities experienced a significant decline in population during the 1970s, most likely due to urban sprawl. Now that the majority of cities have switched focus back to the urban core, urban areas that once suffered from urban sprawl are being revived through various revitalization projects, as seen in both the San Francisco and Olde Town Arvada case studies. As for Chicago’s Chinatown, the population growth remained stagnant for almost half a century until 2002 when the city began the Chinatown Basin Redevelopment Project. The same happened with Honolulu’s Chinatown—the population didn’t start increasing until 1972 when the district was added to the National Registrar of Historic Places and the city developed design regulations to control growth by concentrating high-rise developments along the perimeter of the district.³⁸

As seen in each case study, restricting building height can limit growth if the city doesn’t allow for the community to expand. This can be avoided by zoning neighborhoods adjacent to the community that can withstand larger developments, such as high-rise residential buildings. In theory, through the relationship with the surrounding community, cities can control and ensure sustainable growth for historic communities in both population and size by allowing and encouraging larger developments along the outskirts of the district. It is important to note, allocating density along the outskirts of the community, rather than at the station, will increase

³⁸ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

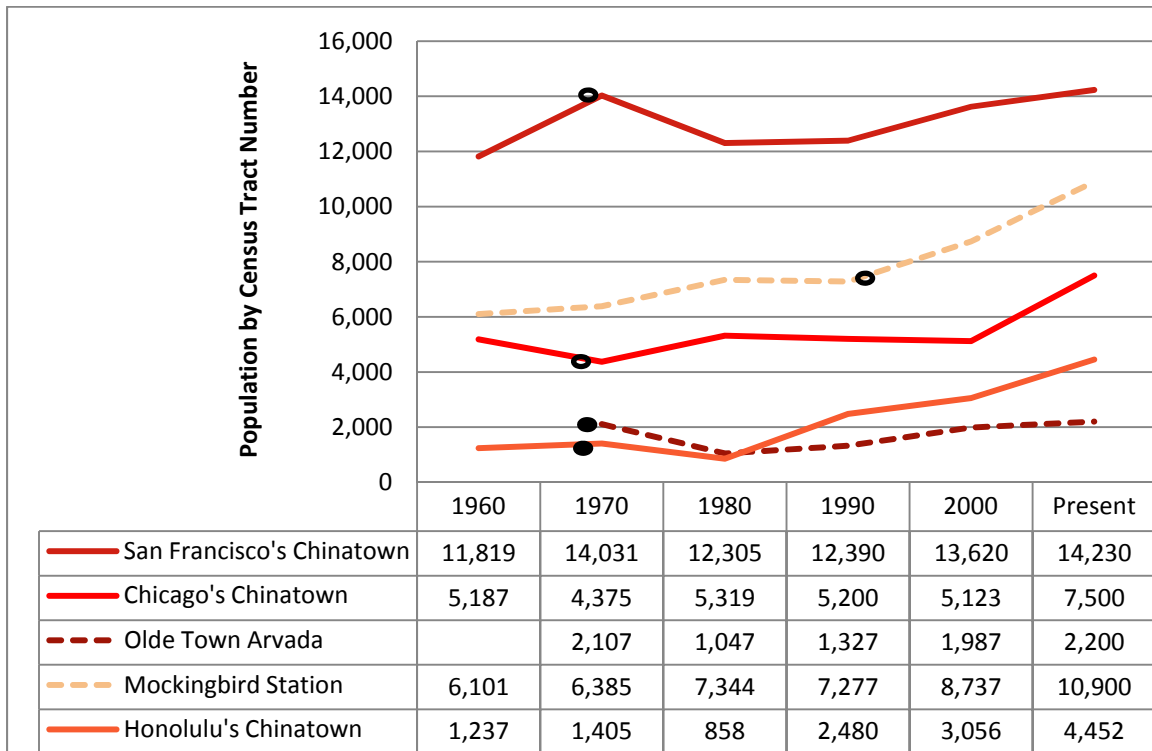
the distance from the station to new developments. Therefore, supporting transport to and from the station and surrounding developments will need to be provided.

Table 2 Building height, community founding, formation of historic district Comparison

	Building height	Year Community Founded	Year Historic District formed
San Fran	3-4 Stories	1850	-
Chicago	2 stories	1905 but moved in 1912	-
Denver	1 to 2 Stories	1904	1972
Dallas	6-10 stories	1940s. Mockingbird Station TOD Completed in 1992	-
Honolulu	2-3 stories (40')	1860	1972

Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52,* (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Figure 14 Population Growth 1960 to Present



● Year Historic District was established

○ Year rail began service

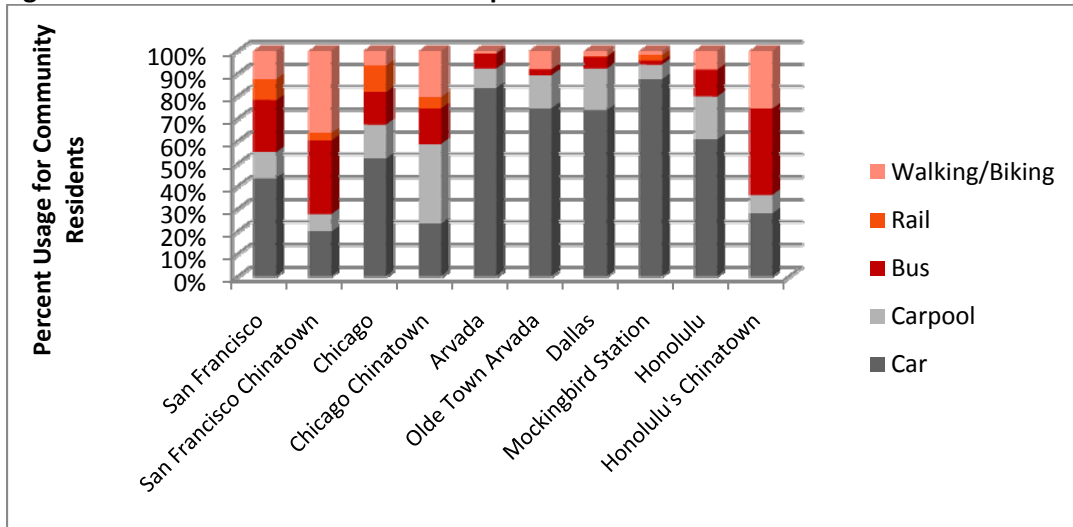
Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52,* (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

3. Zoning—Historic Communities as the Original TOD

Hypothesis | Thriving historic communities require a mix of permitted land uses as well as multiple means of transport for both residents and visitors to travel to and from.

In some cases, the zoning code and/or building regulation of the historic community may need to change to achieve some of the requirements set out by TOD. For the most part, TOD requires developments to be compact, dense, mixed-use, and pedestrian-oriented; in this sense historic communities were the original TOD. Historic communities were developed as live/work communities, and were usually located along streetcar lines with a mix of residential and commercial uses. Today, these communities tend to still contain the original pedestrian-oriented streetscape with shop-fronts oriented to the street. Furthermore, the residents tend to still use alternative means of transportation rather than private vehicles as depicted in Figure 15. As seen in every case, except for Dallas, the historic community is less dependent on the car when compared to the metro area for the entire city, which is exactly what TOD encourages. Therefore when designing a TOD for a historic community, it’s important to work with what you already have including such features as a streetscape oriented towards the pedestrian, mix of uses, multi-modal, etc.

Figure 15 2000 Modes of Transport for Residents within the Census Tract Areas



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuid=datasets_1&_lang=en

As shown in Figure 15, the Mockingbird Station TOD is still highly dependent on the vehicle, but this does not necessarily mean the system has failed. Since the Mockingbird station is a small site, the Census Tract number covers a large portion of the surrounding community. This actually shows that even though Mockingbird station itself is a successful mixed-use community oriented towards the pedestrian and alternative modes of transportation, it's had little impact on adjacent communities that are still dependent on the automobile. Figure 16 depicts the average weekday ridership figures for San Francisco's Powell Street Station, Chicago's Cermak-Chinatown Station, and Dallas' Mockingbird Station.

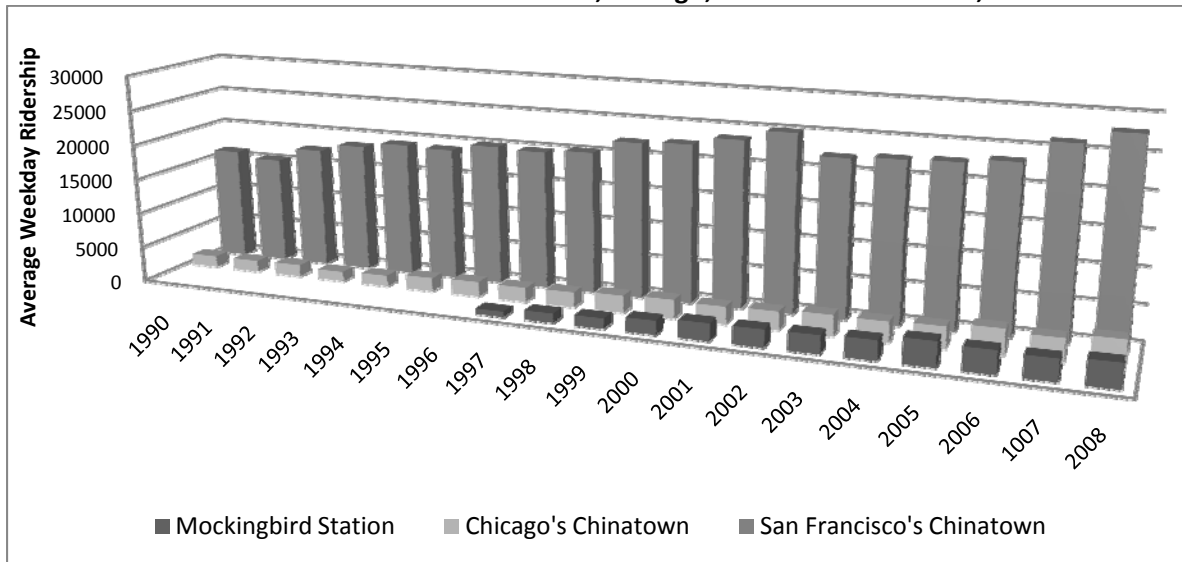
As of 2008, San Francisco's Powell Street station average weekday ridership reached almost 28,000, a record high.³⁹ The numbers for Powell Street station drastically exceed those of Mockingbird and Cermak-Chinatown because this particular station not only serves San Francisco's Chinatown, but also the downtown business district and other high destination areas. In addition, Powell Street Station also acts as a transfer point for both the BART rapid transit system and the MUNI light-rail system with over 11 transit routes serving the area. Chicago's Cermak-Chinatown station is only serviced by one line whereas Dallas' Mockingbird Station is served by two. Therefore the drastic difference in weekday ridership numbers for the Powell Street Station is understandable. Despite this, Figure 16 shows that Mockingbird station has comparable ridership numbers to the Cermak-Chinatown station in Chicago even though Chicago's Chinatown community area is thirteen times the area of Mockingbird as shown previously in Figure 11. Nonetheless, Mockingbird Station is still a successful, compact TOD even though, on a broader spectrum, it seems that the provided modes of transport aren't as widely used. This could also be because a successful TOD is usually based on providing residents with a live/work community that allows them to, ideally, never actually need to leave the community. As shown in Figure 15, residents within the communities of Mockingbird Station as well as the Chinatowns of Chicago and San Francisco roughly use the provided mass-transit system somewhat evenly. This, again, shows that even though the areas adjacent to

³⁹ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Mockingbird Station are still highly dependent on the automobile, the station itself is still successful when compared to Chicago’s and San Francisco’s historic Chinatown communities.

Figure 16 and 17 show an interesting trend when the total passenger ridership data provided by BART for San Francisco’s Powell Street Station is compared with the community resident ridership. The average weekly ridership totals are shown in Figure 16, whereas residents within the community are shown in Figure 17. When compared, the numbers don’t add up. Powell Street Station, located merely half a mile from Chinatown, received over 28,000 visitors a day; however, only 171 residents of Chinatown actually use the system. This makes up less than .06 percent of the daily ridership. Furthermore, both the stations of Chicago’s Chinatown and Mockingbird TOD have an overall approximate daily ridership of 5,000 with only 120 to 140 riders who actually live in the community. This proves that these communities are destination points for commuters and tourists alike.⁴⁰ Therefore, the majority of the communities’ economy is largely generated by visitors coming into the area through transit. For TOD to be successful in a historic community, the station must be well integrated into the community to accent the area as a destination point rather than distract from it.

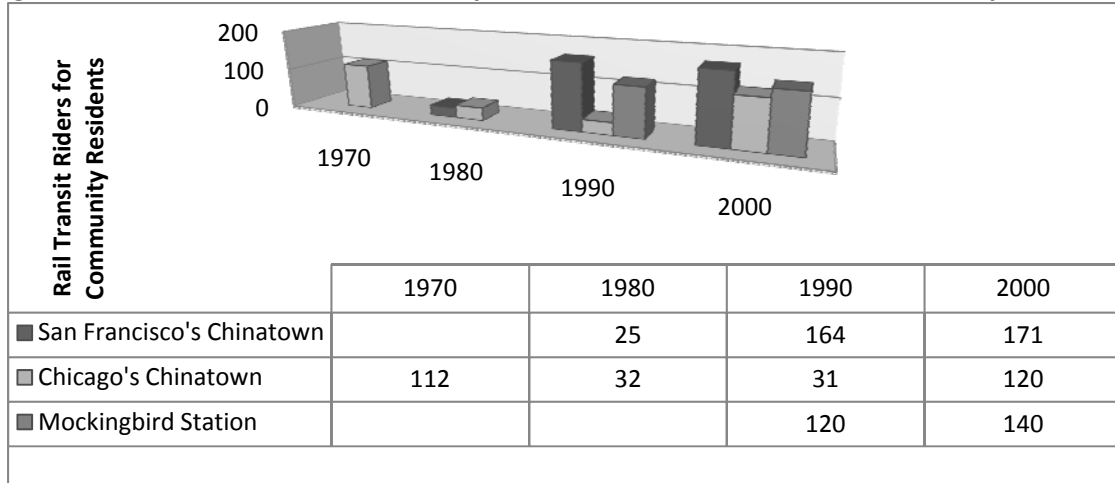
Figure 16 Average Weekly Ridership for Mockingbird Station, Dallas; Cermak-Chinatown Station, Chicago; Powell Street Station, San Francisco



Source: Figure created by information from the Average Weekly Ridership Tables for BART, DART, CTA

⁴⁰ Average Weekly Ridership Tables for BART, <http://www.bart.gov/>; DART, <http://www.dart.org/>; CTA, <http://www.transitchicago.com/>

Figure 17 Use of Mass-Transit System from 1970 to Present for Community Residents



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52,* (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

These original live/work communities, now historical, consisted of shops on the ground floor with residential units above. Over the years, the residential units above the ground floor shops were replaced with offices causing a decline in housing, which eventually led to a decline in population for the historic communities. In more recent years, cities have begun to rezone these communities to once again allow for residential uses to be above ground floor stores and, in doing so, encouraging the historic live/work communities that TODs support to return. Honolulu’s Chinatown changed their zoning in 2004 to once again allow for loft apartments above shops; however, the units require a lot of work to meet current building regulations and little action has occurred to make the lofts a reality.⁴¹ The current zoning regulations for each case study are shown in Table 3. As of today, in each case study, the cities have recognized the importance of providing historic communities, and TODs, with a mix of uses that mainly consist of residential, office, and commercial units. In the end, when designing for TODs in historic communities, the overall master plan should re-embrace the original live/work, mixed-use developments in a way that supports sustainable growth. Multiple modes of transport should accent the mass-transit station including buses or streetcars, pedestrian and cyclist right-of-ways, and controlled parking. This will ensure the continuing survival of the historic community as well as the success of the mass-transit station.

⁴¹ James Gosner, “Loft apartments now allowed in Chinatown”, *HonoluluAdvertiser.com* (12 August 2004), <http://the.honoluluadvertiser.com/article/2004/Aug/12/In/In02a.html>(Accessed on 17 April 2009).

Table 3 Current Zoning Regulations for Case Studies

San Francisco’s Chinatown	Zoned for mixed-use sub-districts: Village: Chinatown Residential Neighborhood/Commercial Capital City: Chinatown Community Business Tourist Center: Chinatown Visitor Retail
Chicago’s Chinatown	Zoned for Residential Business Planned Development 383 Residential: Affordable and senior housing Commercial Business: Mixed-use Commercial Community Buildings
Mockingbird Station	Office: 115,000 Commercial: 216,000 Residential: 191
Olde Town Arvada	Zoned for Commercial and Residential Uses Residential: Single-Family Residential Commercial: Mixed-use Commercial
Honolulu’s Chinatown	BMX-4 (Central Business Mixed-use) Zoned for Residential, Commercial and Office Uses

Source: Information provided by: Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991); Dittmar, Hank and Gloria Ohland, *The New Transit Town: Best Practices in Transit-Oriented Development*, (Washington D.C.: Island Press, 2004); San Francisco Planning Department, “San Francisco General Plan: Chinatown Area Plan,” *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009); Richard M. Daley, *Redevelopment Plan and Project: Chinatown Basin Redevelopment Project Area Tax Increment Finance Program*. (Chicago: Louik/Schneider & Associates Inc, 2002); PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009),

4. Place-Making and Integration—Location, Design, Building Material, Scale, Setbacks

Hypothesis | The success of a transit station in a historic community depends on its integration into that community, specifically the connectivity to significant sites and buildings.

As recognized in the case study of the future station for the historic community of Olde Town Arvada, the location of the station and the visual connection to the community’s culture is of utmost importance; Figure 13 shows images of the culture, historic significance, building height, scale, and public transportation for each case study. Stations should be located in close proximity to the heart of the community and reference significant buildings and/or sites through design and pedestrian connectivity. Depicted in Table 4 is the transit proximity for the case studies that currently have rail transit systems. As discussed in the Dallas case study, the more accessible an area is to public transit, the more successful the community will be. San Francisco currently has the most diverse public transportation system with both a mass-transit and a light-rail system located just half a mile from the Chinatown community. In addition, it has a cable

car system in collaboration with multiple buses that transport residents and visitors directly to and from the station.

As shown with the Olde Town Arvada case study, to successfully integrate a station TOD into the community, the station should be located as close to the community center as possible. In a sense, the transit station should become the new center of activity for the area. However, to prevent diminishing the unique historic character of the area, the station should also be oriented in a way that provides riders with a visual connection to various landmarks. As shown in the case studies (Appendix C), each historic community discussed has multiple historic buildings and sites that the station should reference to encourage riders to step out and explore the unique community; table 4 shows the transit proximity for each case study. Proven in the Chicago case study, for a historic community to benefit from a modern stimulus, the station must properly be integrated into the community.

Table 4 **Mass-Transit System and Transit Proximity**

	System	Year of Operation	Transit Proximity
San Francisco	BART	1972	0.5 miles
	Muni Metro	1980	0.5 miles
	Cable Car	1873	0.0 miles
Chicago	CTA	1974	0.2 miles
Arvada	RTD	-	-
Mockingbird Station	DART Mass-Transit System	1996	0.0 miles
Honolulu	Honolulu Rail Transit	-	-

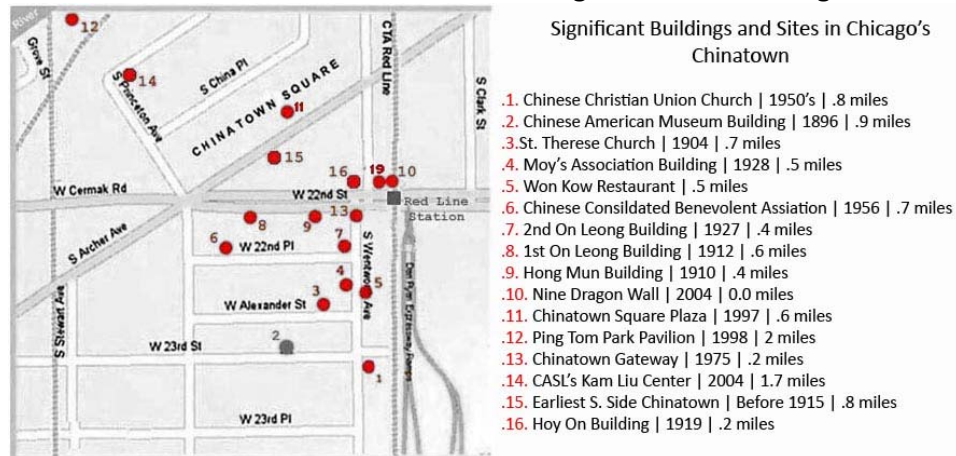
Source: Table created by information from the <http://www.BART.org>; <http://www.DART.org>, <http://www.honolulustransit.org>; <http://www.transitchicago.com>; <http://www.rtd-denver.com/>

As discussed previously, historic communities usually contain a series of design standards and guidelines to protect the historic and cultural characteristics of a historic community that refer to such factors as building openings and orientation, ground floor windows and building facades, building setbacks, location of off-street parking, outdoor signage as seen in the Honolulu, Arvada, Chicago, and San Francisco case studies. The various building regulations for each case study are noted in Table 1. As shown, each historic community contains specific design regulations for the culture and architectural design features. As for the Mockingbird station TOD, design regulations exist for the various design features including such factors as storefronts, streetscape, and accessibility. Little time is spent, however, on how to integrate the station into the culture. TOD's often stress dense, concentrated, mixed-use developments, as

well as pedestrian-oriented streetscape and live/work communities; but regulations referring to the community's history and unique architectural character are minimal. TODs for historic communities must account for such factors as building material, scale, and setbacks in addition to the existing TOD guidelines.

Figure 18

Distance from Transit Station to Significant Buildings and Sites in Chicago's Chinatown



Source: Map adapted from Chinese-American Museum of Chicago. "Historic Places." *Chinatown Museum Foundation*. <http://www.ccamuseum.org/Places.html> (Accessed on 7 November 2009).

As discussed further in the Chicago Chinatown case study, the original design of the Cermak-Chinatown Station was more focused on providing riders with a simple, open plan with increased views, rather than being integrated into the surrounding community. The station was located outside the historic community and even though the Chinatown can be seen in the distance, the station seems to have turned its back on the community. Furthermore, the station lacks any form of pedestrian connectivity with the Chinatown community. As shown in the picture to the right of Figure 19, a visual connection exists but the entrance and exit of the station is oriented away from the community, which highly discourages riders to get off the train and explore the area. With the recent success of TOD, the city of Chicago has since attempted to better integrate the station with the community. As shown in Figure 18, the current significant building and sites for Chicago's Chinatown seem to all be directly adjacent to the station; but, the majority of these sites have been built after the completion of the station. These sites include the Nine Dragon Wall, which was built in 2004, the Chinatown Square Plaza mix-use development built in 2004, and even the Chinatown Gateway, which was built three

years after the station in 1975. The community of Chinatown has also recently interacted with the station to add “Asian Flair” and Chinese-styled artwork to hopefully encourage riders to explore the unique community, as shown in Figure 19.

Figure 19 Images of Chicago’s Cermak-Chinatown Transit Station



Source: Images adapted from “Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown.” CTA Metropolitan Transit. <http://www.chicago-l.org/stations/cermak-chinatown.html> (Accessed on 27 September 2009).

Overall, the station location, pedestrian connectivity, and integration of TOD into the surrounding environment are some of the most important aspects to consider for historic communities. However, certain design precautions must be taken into account to minimize any negative impact the station might have on the community, including streetscape, building openings and orientation, facades, setbacks, parking, and signage.

.5. Partnerships—Relationship between City, Transit Authority, and Community

Hypothesis | The active participation of municipal government officials in collaboration with the community is essential for historic communities to be successful.

As seen in the Mockingbird Station case study, the success for most TODs are based on the decisions made before construction, including: the location of the station set out by the transit agency; the relationship between the city, the public, private parties and the transit agency; and the design of the station to be pedestrian friendly as well as having the correct amount of parking; and land uses. First of all, the success of most TODs is based on the involvement of the city. For cities to develop sustainable communities, they must be highly involved in the development process including the creation of design guidelines and specialized zoning codes as well as the development of an overall master plan. In doing so, the investments put forward by

both the city and various public and private partners will be protected. This has been proven at the Mockingbird station and other areas around Dallas including both the Addison Development and Stat/Thomas district. In both the Addison and Stat/Thomas developments, the city was directly involved in the permitting process including planning concepts, traffic issues, and development standards. As for Mockingbird station, the city wasn't involved, which caused many difficulties for the developer, Ken Hughes.⁴² One factor that is an advantage for the future TOD of Honolulu's Chinatown station and historic communities in general is that small developments, especially in urban settings, have the greatest success rates. This occurs when the most successful TODs are highly involved at the community level, an aspect that is difficult for large developments to carry out. Large developers, with interest in urban infill projects, will often partner with and hire smaller developers to act as the main investor of small developments at the community level.⁴³

Lessons Learned

In depth research and community studies as well as the development of relative design guidelines and specialized zoning codes are critical for the success of TODs. As seen in the Denver case study, creating design guidelines for TODs located in a historic district adds a new level of complexity, which must be taken into account for Honolulu's Chinatown and all historic communities that may face similar situations in the future. Through testing these hypotheses to potentially develop a series of defined action steps, TODs and community design methods will be taken to the next level to better serve historic communities. As the next step to this research project, these hypotheses will be tested on Honolulu's Chinatown to create an overall design that incorporates both TODs and community design methods. Before the hypotheses can be tested, it is vital to describe the existing accounts of Honolulu's Chinatown based on the community's history and culture, boundaries, demographics, transportation, architecture and streetscape, and, scale and zoning.

⁴² Hank Dittmar and Gloria Ohland. *The New Transit Town: Best Practices in Transit-Oriented Development*. (Washington D.C.: Island Press, 2004), 156.

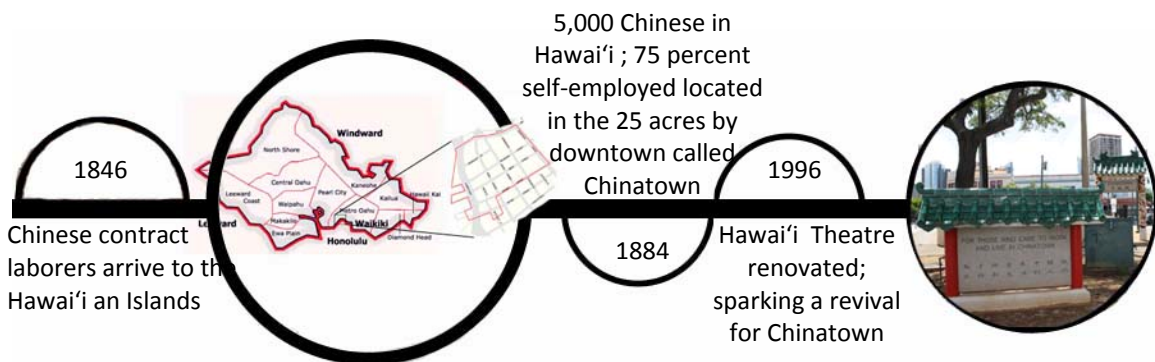
⁴³ Dittmar 2004, 172-173.

SITE CONTEXT ANALYSIS AND DOCUMENTATION | Protecting Character of Honolulu's Chinatown

The original home to Honolulu’s commerce, Chinatown was once the center of activity with streets lined with hundreds of people, shops, and restaurants. The community has faced many hardships over the years; however, multiple revitalization projects have taken place to once again transform Chinatown into a lively destination for residents and tourists. Chinatown has always served as a gateway for immigrants and currently houses a melting pot of cultures including Vietnamese, Laotian, Chinese, Japanese, Thai, Filipino, Hawaiian, Korean and even Caucasians, all working together to create one of the most vibrant and historically rich communities in all of Honolulu.⁴⁴

Figure 20

Honolulu Chinatown Timeline



Source: Information provided by Juny and Nena La Putt, “Honolulu’s Chinatown,” *The World Tourist: Another Creation of the Hawaiian WebMaster*, <http://www.worldtourist.us/honolulu10/chinatown.html> (Accessed on 23 October 2009).

History and Culture

The first significant Chinese populations formed in Hawai’i in the mid 19th century due to the increasing amount of work in the newly developed sugar industry. The first Chinese immigrants came over as contract laborers bound to work for a set time. Once the contract was completed, they were free to do as they pleased. Historically, the first Chinese to establish a small community of family stores adjacent to Honolulu’s downtown district was in 1848. During this time, more and more Chinese immigrants continued to migrate to Hawai’i, and by the 1880s the Chinese population exceeded 5,000 leading to the establishment of what we now know as

⁴⁴ Juny and Nena La Putt, “Honolulu’s Chinatown,” *The World Tourist: Another Creation of the Hawai’i an WebMaster*, <http://www.worldtourist.us/honolulu10/chinatown.html> (Accessed on 23 October 2009).

Honolulu's Chinatown, refer to the timeline provided in Figure 20.⁴⁵ At the start, Chinatown was merely a small Hawaiian-Chinese business district with nothing more than a few fenced-in housing units along with board housing and a handful of sail-making shops, jewelry stores, bakeries, barber shops, Chinese drug and herb stores, and metal shops. This area, which grew to include a large variety of traditional family shops and markets, has experienced much destruction throughout history. In both 1886 and 1900, Chinatown experienced two fires, which caused the majority of the area to be rebuilt. In addition, Chinatown suffers deterioration of buildings and culture in the later 20th century and up to present time.⁴⁶

In more recent years, multiple parties have worked together to develop the historic district to better encourage new businesses and cultural events that protect the area's historic architecture and character as well as revive the community's unique culture. Because of community involvement, allocation of historic districts, Chinatown in particular, has recently experienced a cultural revival.⁴⁷ A new district has been formed to service the arts of the community due, in part, by the restoration of the Hawai'i Theatre. Known as the Honolulu Culture & Arts District, multiple activities and venues have been developed in Chinatown within the past seven years, which have helped to revive and enhance the unique culture of the area. Some of the activities include various traditional Chinese festivals such as the Chinese New Year and the popular dragon dances, but also new events such as First Friday. First Friday is an event, modeled after other city art walks, that occurs the first Friday of the month, wherein participating bars, shops, and art galleries in Chinatown will stay open late advertising various activities and specials attracting hundreds of residents and tourists to the area.⁴⁸ The formation of the Honolulu Culture & Arts District has caused modern art galleries along with theatres, bistros and restaurants, bars and nightclubs, music venues, and cultural festivals to increasingly

⁴⁵ Honolulu's Chinatown, "A History of Change," *Honolulu's Chinatown: "Chowing Down in Chinatown – Wok This Way!"*, <http://chinatownhi.techmonde.net/?q=node/16> (Accessed on 26 September 2009).

⁴⁶ "Preserve America Community: Chinatown Special Historic District, Honolulu, Hawai'i," *Preserve America: Explore and Enjoy Our Heritage* (21 April 2009), <http://www.preserveamerica.gov/hichinatown.html> (Accessed on 2 September 2009).

⁴⁷ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006. <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 45.

⁴⁸ Sandy Pohl, interview by author, Honolulu, HI, 2 October 2009.

be incorporated into the traditional Chinatown.⁴⁹ The result has created an interesting dichotomy between the traditional markets and family stores that are now mixed with modern art galleries and bars like never before, as depicted in Figure 21. As of today, two different communities now exist within Chinatown: the traditional community, and the contemporary/art community. For the most part, the traditional community, made up of Chinese markets and shops flourishes during the day whereas the contemporary community takes over at night.⁵⁰

Figure 21

Traditional Chinatown vs. Contemporary



Source: Photos taken by author and James Anthony Van Tromp

Residents, locals, and tourists all come to Chinatown for multiple goods and activities ranging from shopping for fresh produce and unique gifts to going to various ethnic restaurants and events. Based on a survey conducted in 2006 by the City of Honolulu Department of Planning and Permitting, the majority of people come to Chinatown to shop for food. Chinatown is known for having competitive low prices on local fruits, vegetables, meats, and seafood. The Chinatown markets also specialize in foods from various ethnicities including Chinese, Japanese, Vietnamese, Filipino, and Thai. People also come to Chinatown to shop at the flower and lei shops and the various specialty stores that sell a range of products from Asia including clothing, art, and jewelry. Another main driver for residents and visitors to come to Chinatown is the numerous ethnic restaurants. Known for the good food at a low price, the dining experience in Chinatown is like no other place in the state. With the introduction of the Honolulu Culture & Arts District, the events held in Chinatown expanded from the Chinese New Year that occurred once a year to monthly events like First Friday.⁵¹

⁴⁹ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006.

<http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 45.

⁵⁰ Sandy Pohl, interview by author, Honolulu, HI, 2 October 2009.

⁵¹ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006.

<http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 57-60.

Figure 22 “For those who came to work and live in Chinatown”- Chinatown Entry Sign



East Bound Entrance

West Bound Entrance

Chinatown serves as the gateway from the Honolulu Airport at Nimitz to Waikiki.

The entrance from the Downtown Business District is located along Hotel St where the two traditional Chinese lion marble statues.

Source: Photos taken by author.

Boundaries

Bound by Bethel and River streets in the east and west, Beretania Avenue and Nimitz Highway in the south, the historic community of Chinatown is made up of 15 city blocks and is located along the southern coast of the island of ‘Oahu as depicted in Figure 23. The main entrances, located at Hotel and King Streets, shown in Figure 22, provide a link between the Airport and Waikiki. This particular area, located within close proximity to the Honolulu Harbor, was the perfect location for the Chinese immigrants to initially settle since it acted as a direct link to ships and therefore, their mother country. In fact, the paving stones used for the original sidewalks of Chinatown were from the granite blocks that were used as ship ballasts from China. Through the harbor, the Chinese community in Honolulu was able to grow in population and size due to the shipping industry and the constant influx of Asian immigrants coming off the ships.⁵²

Figure 23 Location of Honolulu’s Chinatown



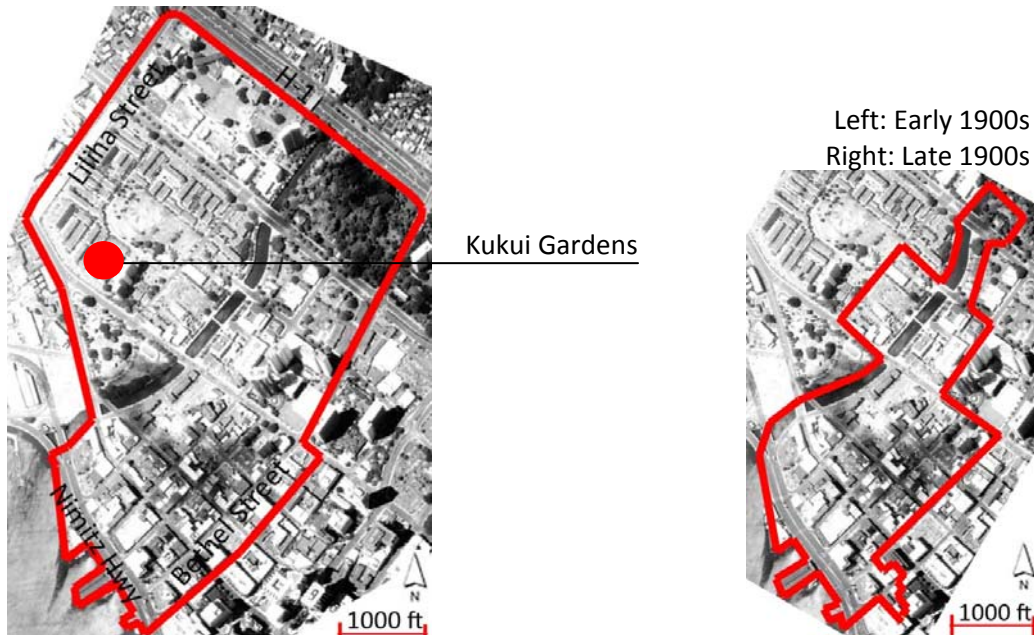
Source: Information provided by Juny and Nena La Putt, “Honolulu’s Chinatown,” *The World Tourist: Another Creation of the Hawaiian WebMaster*, <http://www.worldtourist.us/honolulu10/chinatown.html> (Accessed on 23 October 2009).

⁵² Bonnie Tsui, *American Chinatown: A People’s History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 155.

At the start of the 20th century the boundary was three times the size it is today embracing the entire area from Honolulu’s harbor in the south to the current location of H-1 in the north and Liliha Street in the west as shown in Figure 24. Also depicted in this figure is how the boundary decreased to half the size in the latter 20th century. This decrease is due in part to the Honolulu Redevelopment Agency and the U.S. Department of Housing and Urban Development that created a redevelopment plan for the community. The redevelopment plan replaced a large amount of the traditional Chinatown mixed-use buildings with the Kukui Garden development that consisted of over 800 low to mid- income housing units and is still present today. This redevelopment plan forced many of the surrounding Chinese businesses to close, causing the Chinatown borders to shrink drastically.⁵³ At this time, multiple groups and individuals became involved to save Chinatown from disappearing all together. One such individual, Nancy Bannick, amongst others fought hard to pass a preservation law in the early 1970s.⁵⁴

Figure 24

Historic Boundaries of Honolulu’s Chinatown



Source: Maps adapted from Bedrock Brand Consulting and Design Firm, *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006. <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 45 and 47.

⁵³ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006. <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 48.

⁵⁴ Nancy Bannick, Scott Cheever, and David Cheever, *A Close Call: Saving Honolulu’s Chinatown*, Honolulu: Little Percent Press, 2005, 37.

As of today, Honolulu’s Chinatown is adjacent to Honolulu’s downtown, which engulfs not only the central business district, but also multiple historic sites, such as the Iolani Palace, Washington Place, and Mission Houses Museum. With a direct link to the harbor, Chinatown is also surrounded by various industrial ports and buildings. Chinatown itself already acts as a destination for both Hawai’i residents and tourists; but, due to the surrounding areas, the community of Chinatown experiences an even larger amount of daily visitors from the downtown business district. Currently a historic district, the Chinatown historic community is divided into three distinct precincts: the Historic Core, Mauka, and Makai as shown in Figure 25.⁵⁵ As stated previously, this unique community is split between the traditional markets and the new, Honolulu Culture & Arts District; this split occurs along Smith Street. The traditional markets are mainly located along King and Merchant Streets between Maunakea and River streets whereas the Honolulu Culture & Arts District is situated between Smith and Bethel Streets.⁵⁶ When the Honolulu Culture & Arts District first formed, it encompassed the streets of Nu‘uanu and Bethel. It has since spread rapidly and is continuing to grow sparking a new, safe nightlife for the Chinatown community. Hence, as discussed with Sally Pohl from Pohl Gallery on Nu‘uanu Avenue, why not extend the district to the new transit station?⁵⁷

Figure 25 Honolulu Chinatown Boundaries Chinatown Special District Precincts



Maps adapted from Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), .5-6.

⁵⁵ Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), .5-6.

⁵⁶ Nancy Bannick, Scott Cheever, and David Cheever, *A Close Call: Saving Honolulu’s Chinatown*, Honolulu: Little Percent Press, 2005, 78.

⁵⁷ Sandy Pohl, interview by author, Honolulu, HI, 2 October 2009.

The population demographics for Honolulu's Chinatown have changed drastically throughout history. Currently noted as being one of the oldest Chinatown communities, the Chinese population in Honolulu has fluctuated drastically throughout history. The original surge of population was in 1852 when the demand for plantation contract workers was at its height, as discussed previously. Almost 45 years later, the population of Honolulu's Chinatown was affected by the Chinese Exclusion Act of 1882 that capped the amount of Chinese immigrants. This act affected many Chinatowns throughout the U.S. but didn't impact Honolulu's Chinatown until 1898 since Hawai'i had yet to become a U.S. territory. This Exclusion Act also limited the amount of Chinese families causing Chinatown communities to become predominately male and considered a 'bachelor society' encouraging adult entertainment establishments and inevitably becoming a red-light district.⁵⁸

Chinese populations increased significantly after 1965 when immigration laws and policies changed to allow Chinese immigrants along with multiple other Asian groups to enter at the same rate as any other nationality. During this time, multiple ethnicities of Asian background settled in Chinatown. Throughout the U.S., Chinatowns are now populated with not only Chinese but a mix of cultures including Korean, Vietnamese, and Japanese, amongst others.⁵⁹ Honolulu's Chinatown, in particular, is often considered the melting pot of culture because it is, by far, the most diverse Chinatown in all of the U.S. This is mainly due to the fact that Honolulu is located right in the center of the Pacific, acting as a crossroads between the East and West. Honolulu's Chinatown currently houses not only a Chinese population, but also Japanese, Koreans, Filipinos, Thai, Cambodian, Laotian, and Vietnamese.⁶⁰ Some residents feel that Honolulu's Chinatown could use a larger Chinese population, as stated by Karen Lee, the daughter of Cindy from Cindy's Lei Shop located adjacent to 'Oahu Market. Despite this, Honolulu's Chinatown still remains the center of Chinese culture.⁶¹

⁵⁸ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006, <http://honolulu.dpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 46.

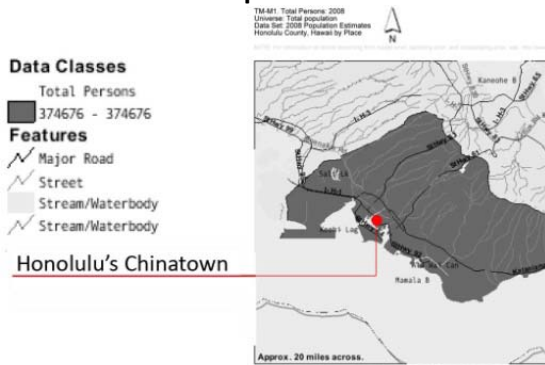
⁵⁹ Bedrock Brand Consulting and Design Firm 2006, 46.

⁶⁰ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 155.

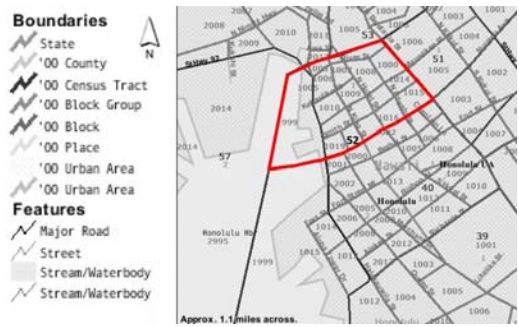
⁶¹ Cindy and Karen Lee, interview by author, Honolulu, HI, 2 October 2009.

Figure 26

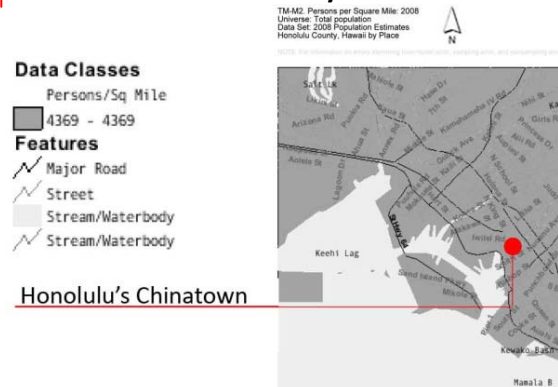
Current Estimated Population for Honolulu



Honolulu’s Chinatown Tract Number



Current Estimated Density for Chinatown



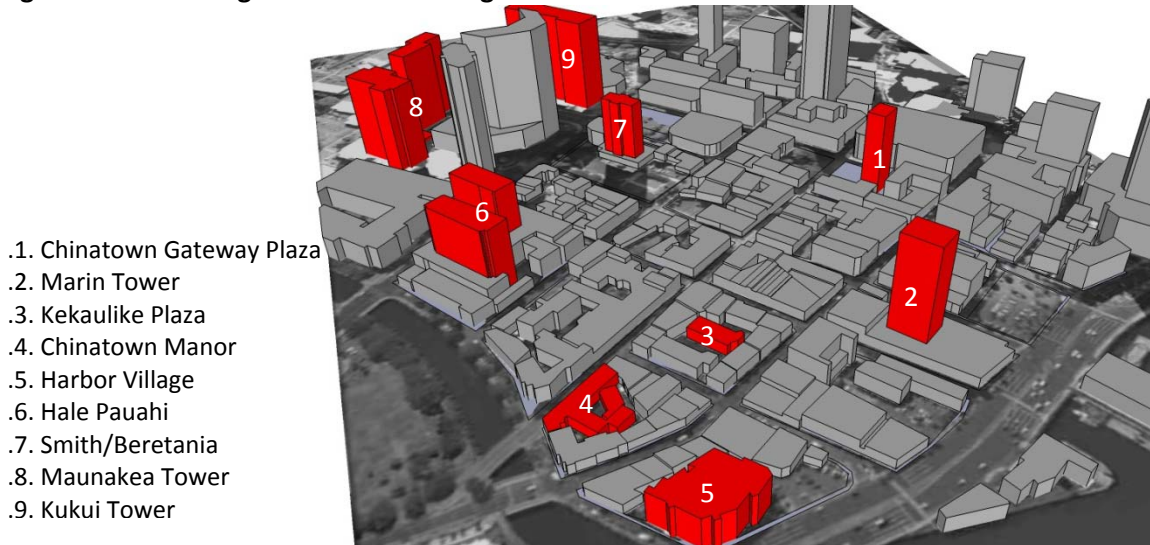
Source: Map adapted from U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Honolulu and Honolulu Tract Number 52*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=referencemaps&_submenuId=maps_2

Depicted in Figure 26 are various images showing the most up-to-date estimates for Honolulu’s population as well as Honolulu’s Chinatown population and density estimates based on the census tract number 52. This particular tract number completely engulfs Honolulu’s Chinatown from Honolulu Harbor in the south, Nu’uanu Street in the east, River Street in the west and Beretania in the north. With a current population estimated around 4,500 residents, Chinatown has experienced a large population increase over the last 20 to 30 years, as seen in Figure 28.⁶² Many historic communities often suffer from population growth being capped due to restrictions on building heights and floor to area ratios, or FARs. The Honolulu Chinatown historic district has not had this problem due to high density developments allowed along the

⁶² U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Honolulu CPD and Tract Number 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

perimeter of the district with building heights up to 250 feet in some areas as shown in Figure 25. Multiple residential developments have been constructed from the 1980s to the present including the Honolulu Tower, Honolulu Park Place, Harbor Court, and the Executive Center. Based on the multiple developments, the housing units for Honolulu's Chinatown increased from 260 occupied housing units in 1980 to 1,616 in 2000 as shown in Table 5. With large developments allowed to occur along the perimeter of the district, the population of Honolulu's Chinatown is still able to grow despite the restriction on building height within the historic district.⁶³ However, with a constant influx of immigrants and the cheap employment rates due to competitive prices for all market driven businesses in the area, lower income housing is still needed in the area. As of today, multiple affordable housing exists in the area as seen in Figure 27; however, more housing is needed, especially affordable senior housing.⁶⁴

Figure 27 Existing Affordable Housing



Source: Image created from Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006. <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 70.

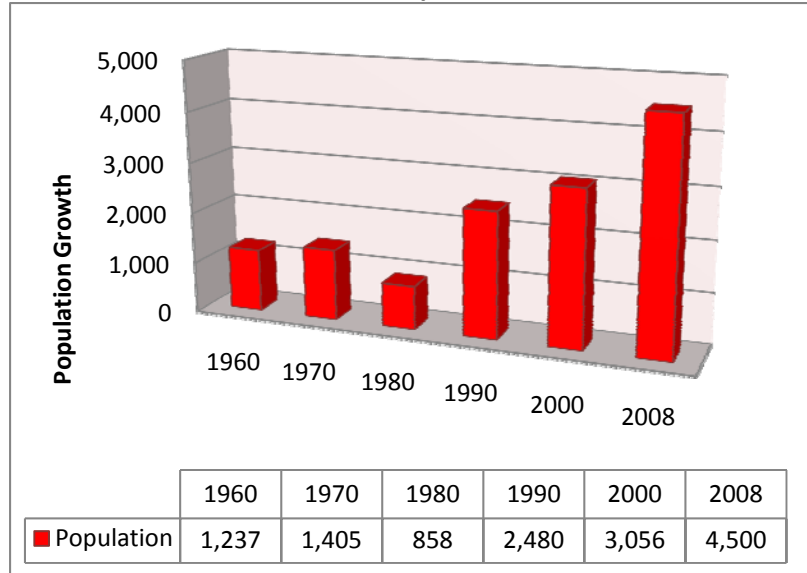
⁶³ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Honolulu CPD and Tract Number 52*, (Accessed on 12 November 2009),

http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

⁶⁴ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006.

<http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 70.

Figure 28 Honolulu’s Chinatown Population Growth—1960 to Present



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Honolulu CPD and Tract Number 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Table 5 Occupied Housing Units in Honolulu’s Chinatown from 1980 to 2000

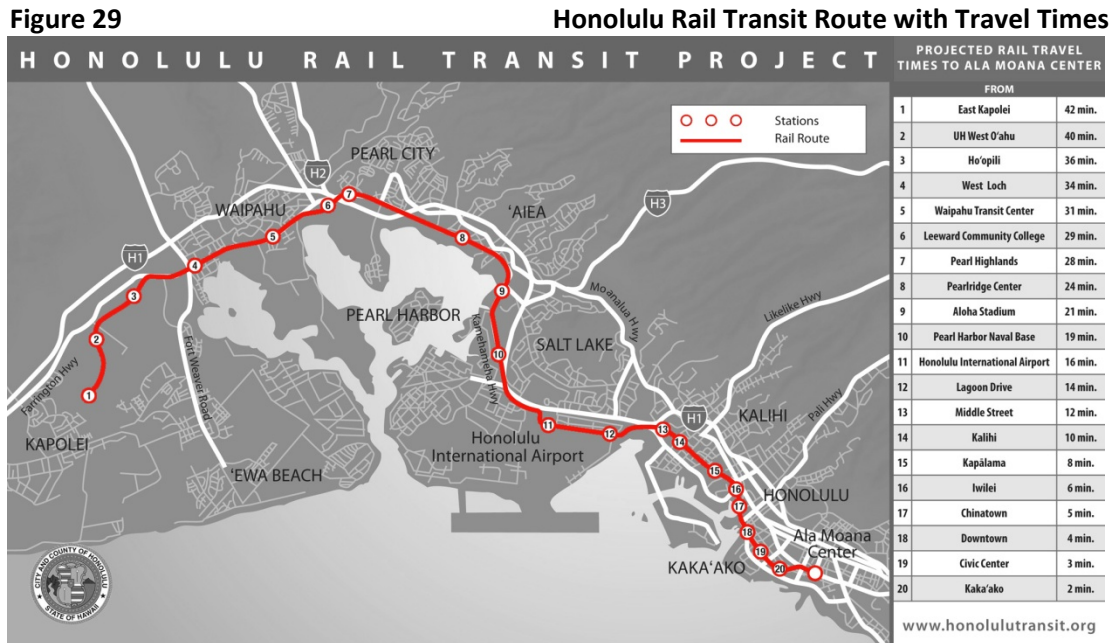
	1980	1990	2000
Honolulu’s Chinatown	260	1,206	1,616
Honolulu CDP (Census Designated Place)	127,326	134,563	140,328

Source: Information provided by U.S. Census Bureau (1980, 1990, 2000) *American FactFinder Decennial Census : Honolulu CPD and Tract Number 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Transportation

With Honolulu's population continuing to increase rapidly, with an expected rise of 200,000 people in the next 20 years, the city is currently planning to implement an elevated rapid transit system to provide for commuters from the western portion of the island to the central business district. Currently, the amount of daily vehicular trips is estimated to increase by 750,000 on roadways by 2030. The proposed rail system is expected to reduce the projected automobile traffic volume by approximately 11 percent. When studying the effect mass-transit systems have on surrounding communities in a particular city, individual situations must be taken into account.⁶⁵

⁶⁵ Honolulu Rail Transit, “Honolulu on the Move: Honolulu High-Capacity Transit-Corridor Project”, *Honolulu Rail Transit*, (Accessed on 12 July 2009), <http://www.honolulutransit.org/>



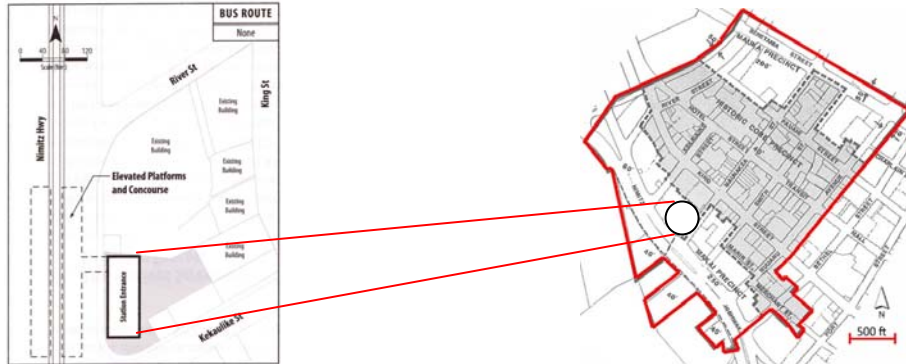
Source: Map provided from Honolulu Rail Transit, “Honolulu on the Move: Honolulu High-Capacity Transit-Corridor Project”, *Honolulu Rail Transit*, (Accessed on 12 July 2009), <http://www.honolulurailtransit.org/>

The proposed route, as depicted in Figure 29, will begin service from Kapolei to downtown Honolulu and end at Ala Moana Center. As seen, the proposed transit line will be providing service directly to the historic district of Chinatown. The Chinatown station will be located at the corner of Nimitz Highway and Kekaulike Street. The station will be situated in what is currently a parking lot located completely inside the Chinatown Special District.⁶⁶ Located within the Makai Precinct of the special district, the proposed lot for the transit station allows for building heights up to 80 feet, refer to Figure 30. Surrounding the proposed site, are various markets, shops, restaurants, and affordable housing, images of adjacent buildings are shown in Figure 32. When deciding how to implement TOD principles for the future transit station, it is important to note the existing conditions. As shown in Figure 31, Honolulu’s Chinatown is already a pedestrian friendly environment with multiple modes of transport including car, bus, and taxis. The mass-transit system will provide another, more sustainable transit option for local residents as well as tourists to come and go from Chinatown.⁶⁷

⁶⁶ Honolulu Rail Transit.

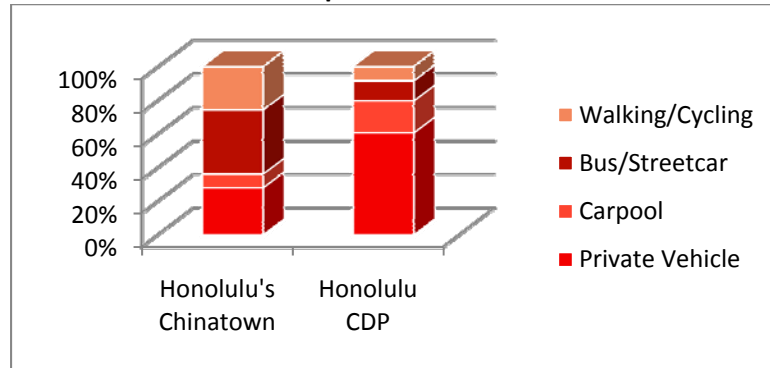
⁶⁷ U.S. Census Bureau (1980, 1990, 2000) *American FactFinder Decennial Census : Honolulu CPD and Tract Number 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Figure 30 Proposed Location of the Chinatown Transit Station



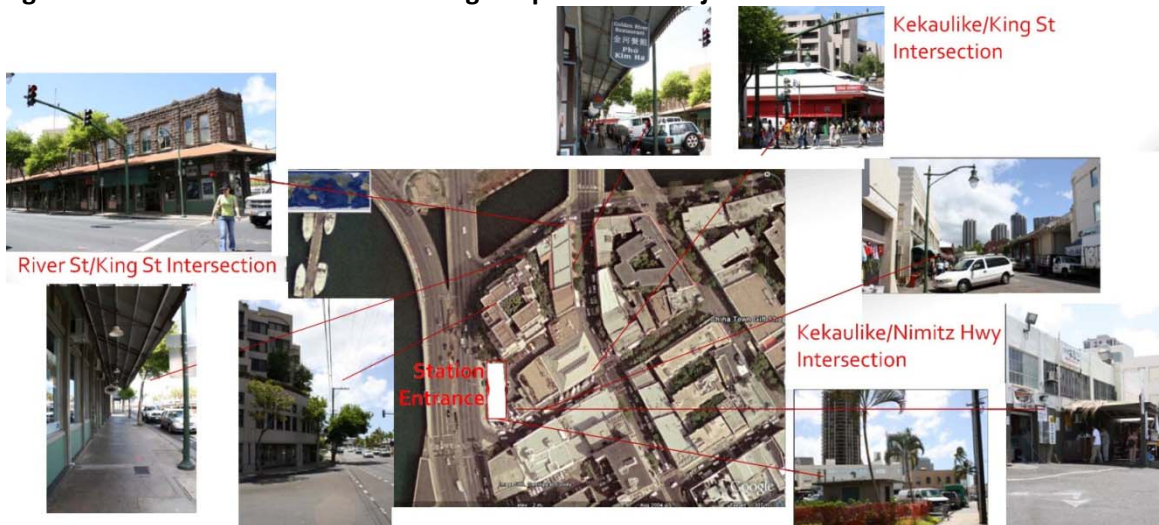
Images provided by the Honolulu High-Capacity Transit Corridor Project Draft Environmental Impact Statement: Chapter 2, (Honolulu: City and County of Honolulu: 2008). 2-32 Figure 2-33 and Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 5.

Figure 31 2000 Modes of Transport for Chinatown and Honolulu CDP Residents



Source: Information provided by U.S. Census Bureau (2000) *American FactFinder Decennial Census : Honolulu CPD and Tract Number 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Figure 32 Existing Shops Located Adjacent to the Future Station Site



Source: Photos taken by author, central image adapted from GoogleEarth.

The original architecture of Chinatown was of wood construction, most resembling old western architectural styles as seen in Figure 33, the majority of which were completely destroyed in fires in 1886 and 1900. Despite the fires, Chinatown still houses many buildings dating back to the turn of the 20th century and earlier including the Wo Fat Building, first built in 1882 and rebuilt after the 1900 fire as shown in Figure 34. As for the architectural character, that lies in the streetscape as well as the low-rise merchants’ buildings and marketplaces.⁶⁸

Figure 33 Chinatown Before the Fires



Figure 34 Wo Fat Building



Left Source: Photo provided by Bedrock Brand Consulting and Design Firm, *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006. <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 45.

Right Source: Photo provided by Flickr.

Throughout history, Honolulu’s Chinatown has seen a variety of architectural styles within its buildings. As stressed by Architect and Historic Preservationist Glenn Mason in *A Close Call: Saving Honolulu’s Chinatown*, Chinatown was not built in one era. Therefore, the Chinatown’s architecture today shouldn’t be frozen in time but, instead, reference the past while still including a sense of the present.⁶⁹ In an interview with Mason, a discussion was held on the various architectural styles present throughout Honolulu’s Chinatown. During the 1900s through 1930s, Chinatown’s architecture was mainly classical in style with conventional construction of brick and stone with a handful of buildings that were built to elaborately reference Chinese styled architecture, such as the Wo Fat Building. Beginning in the late 1920s, Honolulu experienced an architectural renaissance in which architects began studying ways to

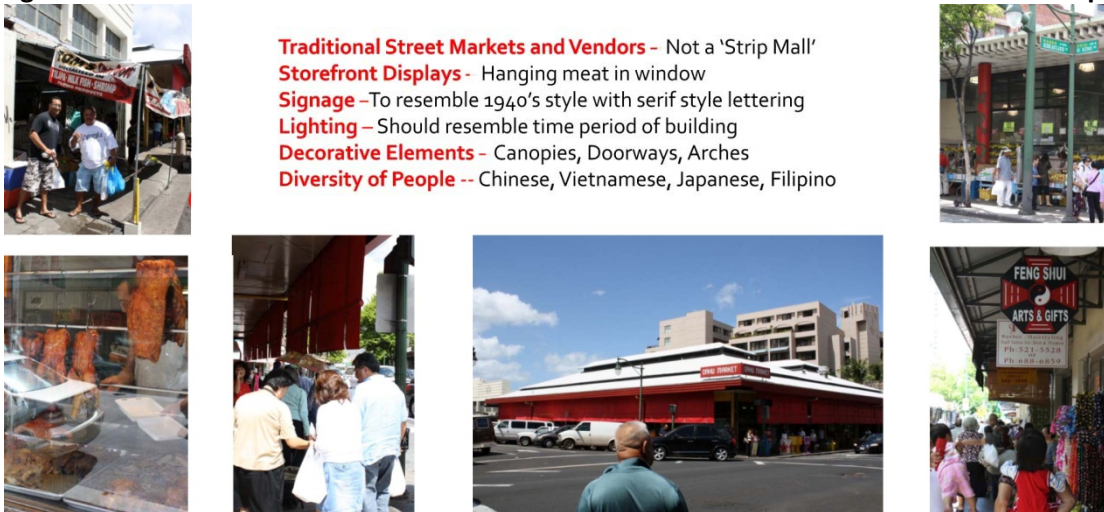
⁶⁸ “Preserve America Community: Chinatown Special Historic District, Honolulu, Hawai’i,” *Preserve America: Explore and Enjoy Our Heritage* (21 April 2009), <http://www.preserveamerica.gov/hichinatown.html> (Accessed on 2 September 2009).

⁶⁹ Nancy Bannick, Scott Cheever, and David Cheever, *A Close Call: Saving Honolulu’s Chinatown*, (Honolulu: Little Percent Press, 2005), 58.

combine western and eastern construction techniques. The result can be found in the A & B building, Ossipoff's Liberty Bank Building, and the Chinese Society Building where buildings began introducing Asian flair into the design.⁷⁰ Beginning in 1973, the area was listed on the National Registrar of Historic places as the Chinatown Special District. At this time, many design guidelines and regulations were developed that any new building or renovation to an existing building, within the district must follow.⁷¹ Images of the typical streetscape are shown in Figure 35 whereas typical architecture found in Chinatown is shown in Figure 39.

Figure 35

Honolulu's Chinatown Streetscape



Source: Photos taken by author. Information provided by Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 12-18.

Scale and Zoning

Currently zoned as a special district by the City and County of Honolulu, the Department of Land Utilization, now a part of the Department of Planning and Permitting, created a document of design guidelines for all future renovation or new projects in the area. In general, the guidelines set out to not only protect the architectural and historic significance of individual buildings but also keep the area as a whole. In doing so, historic buildings are grouped together, and the overall look of the streetscape is addressed along with the unique cultural and ethnic character for the various uses and activities in the area. During the 1970s when many residents, groups,

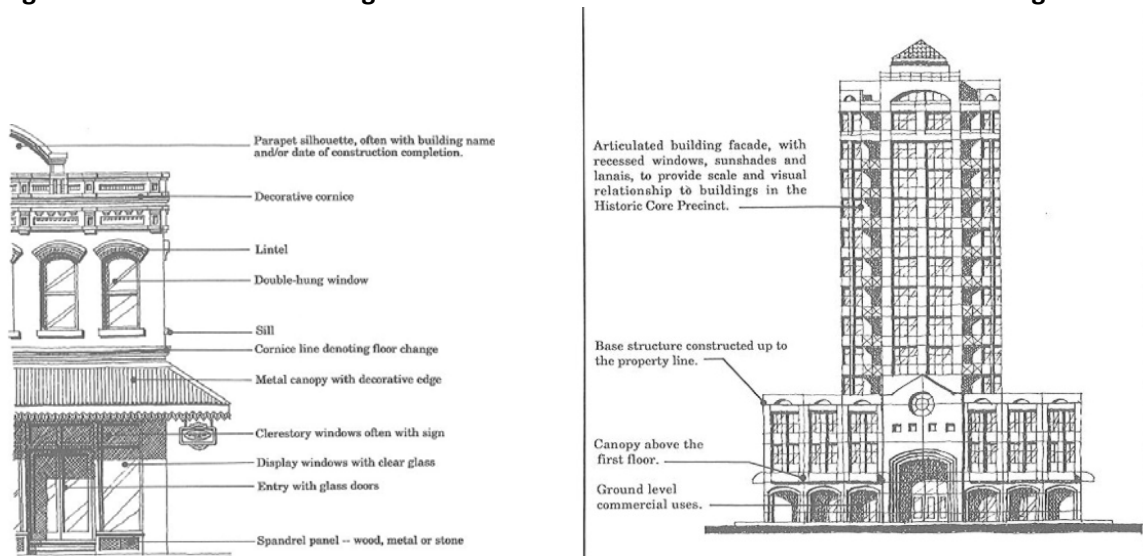
⁷⁰ Glenn Mason, interview by author, Honolulu, HI, 2 October 2009.

⁷¹ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006, <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 48.

and organizations came together to revive the area, the Chinatown community experienced an increase of investments, which led to a movement for the rehabilitation and renovation of historic buildings as well as infill developments and new mixed-use projects along the outskirts of the district.

The original objectives of the district were to encourage sustainable growth for the community through promoting a variety of uses including retail, office and residential space. In addition, pedestrian-oriented uses and building designs are encouraged at street level along with improved vehicle traffic that caters to the pedestrian. In order to protect the overall urban form, the guidelines have laid out regulations for building height as well as for retaining the character of all historic, cultural, or architectural significant buildings, refer to Figures 36 through 38. All new buildings, which are mainly allowed in places along the outskirts mauka and makai of the area, are to complement the existing historic building and sites through building materials and finishes, architectural detailing including storefront windows, and historic signage designs. Lastly, the design guidelines note that view corridors looking makai act as the historic link for Chinatown to the harbor and should be protected.⁷²

Figure 36 Design Elements of Traditional Store Fronts vs. New Building Facades

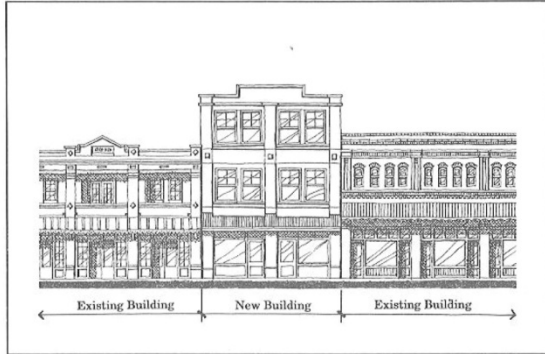


Images provided by Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 9, 12.

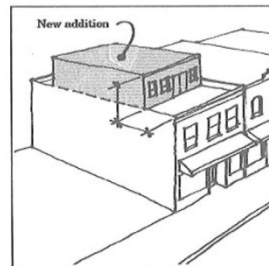
⁷² Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 2-3.

Figure 37 New Building Facade Regulations and Setbacks for Additions in Historic Precinct

When sited adjacent to architecturally or historically significant buildings, new building facades should be no more than one story higher than the adjacent older buildings.



New building facades should relate to existing facades.

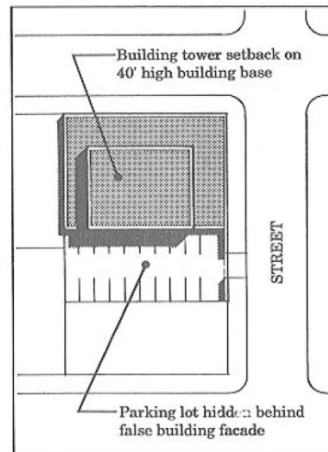


Additional floors to existing buildings

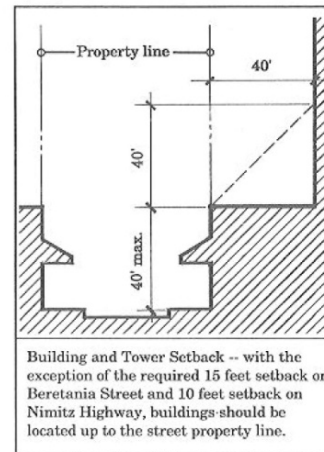
When floors are added to existing buildings, new additions should be sited so that the perceived scale of the original buildings as seen by pedestrians, are not altered. Additions should be placed to the rear or set back from the street facade to minimize visual impact.

Images provided by Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 11.

Figure 38 Tower Setbacks and Parking Location for Mauka/Makai Precinct



Site Plan



Section

Building and Tower Setback -- with the exception of the required 15 foot setback on Beretania Street and 10 feet setback on Nimitz Highway, buildings should be located up to the street property line.

Images provided by Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 8.

The building height restriction is set at 40 feet for the entire Chinatown historic district. All new buildings within the district are required to be built to the street property line at street level. If the new buildings are to exceed this height, they must be set back 40 feet from the property line as depicted in Figure 38. The only exceptions are for buildings running along Nimitz Highway and Beretania Street. For Nimitz Highway the setback is only limited to 10 feet whereas Beretania Street is 15 feet. Through the use of these setback regulations, all new mid and high-rise buildings respect pedestrian views at street level and have less impact on the overall low

rise urban form of the area than high-rise buildings built without regard to setback regulations. In addition, the facades of these new buildings should be characterized with recessed windows, sunshades and lanais to provide a visual link with Chinatown's historic buildings. All parking should be hidden from the street and placed behind commercial storefronts or false facades so that the continuity of the streetscape is not sacrificed. For all new buildings, as well as floor additions to existing buildings located within the Chinatown historic district, heights are limited to being no more than one story higher than the adjacent buildings. Furthermore, all new additions are to be set back from the street to minimize visual impact for the pedestrian.⁷³

Figure 39

Typical Architecture found in Chinatown



Source: photos taken by author

⁷³ Department of Land Utilization, 1991, 8.

As previously stated, multiple parties have worked together to develop historic districts with new businesses and cultural events to encourage activity and cultural awareness for the area in order to protect the historic architecture and character of Chinatown as well as revive the community's unique culture. In doing so, the Honolulu Culture & Arts District has been formed to service the arts of the community due, in part, by the restoration of the Hawai'i Theatre. The result has created an interesting dichotomy between the traditional markets and family stores that are now mixed with modern art galleries and bars like never before. As of today, two different communities now exist within Chinatown: the traditional community and the contemporary/art community. For the most part, the traditional community, made up of Chinese markets and shops flourishes during the day whereas the contemporary community takes over at night with clubs, bars, and galleries.

Mufi Hannemann, the Mayor of the City and County of Honolulu, has recognized the cultural and economical significance of Chinatown. He has made the preservation and revitalization of the area an utmost priority. Multiple neighborhood board meetings along with discussions by the Mayor, amongst others, have taken place on possible solutions to continue reviving the two distinct Chinatown communities, most of which have been successful.⁷⁴ Some of the conclusions drawn from these discussions include encouraging mixed-use areas that are oriented towards the pedestrian, maintaining the low-rise urban form, and protecting the historic, cultural, and architectural significant buildings and sites by enforcing new developments to resemble their surroundings. One question that is often raised, however, is how exactly to encourage new activity and developments? As the next step to this research document, various studies have been conducted, based on the provided hypotheses, to prove how the planned transit station can utilize TOD and community design principles to provide a solution for Chinatown. Similar to the case with the Hawai'i Theatre, the future Chinatown rail transit station can act as a catalyst for boosting the area's economy as well as provide the community with a sense of place and someday even mix the traditional and contemporary communities.

⁷⁴ Mayor Mufi Hanneman, "Exciting Prospects Ahead for Chinatown", *Chinatown Summit*, http://www.honolulu.gov/mayor/chinatownsummit_mf.htm (Accessed on 18 August 2009).

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Today, Honolulu's Chinatown is known for having a very diverse community with residents from a variety of backgrounds and ages. According to a study on the customer perception of Chinatown, conducted by the City and County of Honolulu Planning Departments in 2006, the residents of Chinatown can be separated into two groups: immigrants and locals. The immigrant residents date back to the beginnings of Chinatown when the Chinese and Japanese contract workers moved to Chinatown from the plantations to start small businesses close to the harbor.⁷⁵ Since then, the immigrant population has grown to include various nationalities from Asia including Filipinos, Vietnamese, Cambodians, and Laotians. With each nationality bringing their own culture with them, Honolulu's Chinatown has a reputation for being considered a 'melting pot' of cultures.⁷⁶ As for the local population, the majority of residents have moved to Chinatown for the affordable housing. The community of Chinatown, however, encompasses much more than just Chinatown residents with its daily visitors from around the island as well as multiple tourists. It's these daily visitors that come from outside Chinatown who bring most of the business. The majority of people come for the culture, open markets, gifts, dining, and cheap prices. More than that, the community and businesses of Chinatown rely heavily upon reputation and generational relations. A large group of visitors from not only around the island, but also various parts of Asia and the mainland come to Chinatown because of family and historical relations. As for tourists, most come to Chinatown for the unique and diverse culture, shops, and restaurants.⁷⁷

The residents of Chinatown, both the immigrant and local populations, are usually merchants or employees, property owners, organizations, or part of the Honolulu Culture & Arts District. According to the same study, conducted by the Planning Department, the spirit of Chinatown is owed to the merchants and employees. Most of the merchants and their employees are of the immigrant population with business in fruits and vegetable markets, meat markets, seafood

⁷⁵ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006, <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 48.

⁷⁶ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 155.

⁷⁷ Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006, <http://honoluluodpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 52.

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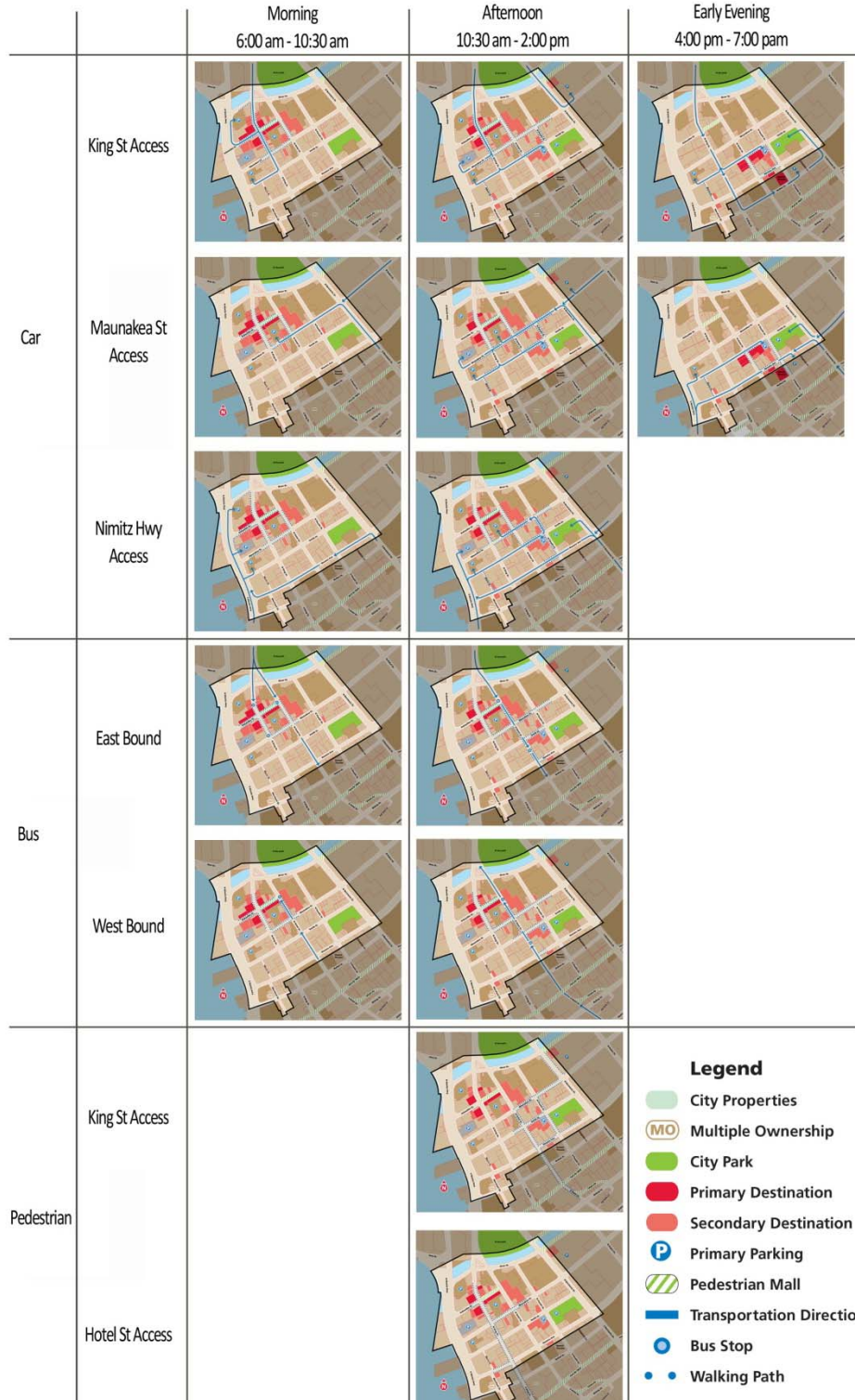
markets, diner or restaurants, and tailors. The neighborhood of Chinatown is made up of 150 different properties, the majority of which are privately owned and have been since Chinatown was first built. With only 19 properties owned by the city, the property owners of Chinatown have an extensive history with deeds staying in the same family, for several generations. In addition, Chinatown also has over 200 organizations that all have separate agendas. The organizations range from Asian immigration services to homeless and abused spouse services. As a whole, the organizations come together to represent and serve every culture and ethnicity located within Chinatown. The newest community within Chinatown, the Honolulu Culture & Arts District, consists of newly renovated bars, shops, restaurants, and art galleries. This particular community brought a new life to Chinatown in the form of many art and cultural events that are growing larger each year. As seen, multiple communities, all with their own agenda, are located within and outside the boundaries of Chinatown and, together, make Chinatown a unique, diverse, and culturally rich community.⁷⁸

There are currently three modes of transportation in Chinatown: by car, by bus, or by foot. The same 2006 study looked into how people arrive to Chinatown, for what purpose, and what time of day. In the study five groups of people were interviewed: local residents, tourists, property owners, Chinatown residents, and the Honolulu Culture & Arts District. The various customer journeys to Chinatown that were identified in the study are shown in Figure 40. These studies were able to show which route people took to reach their destinations as well as where they parked. The overall objective of this particular study was to identify and discuss the factors that needed improvement along these routes. The focus was based on such issues as the sense of arrival, traffic and parking conditions, street and building conditions, and way-finding.⁷⁹ One aspect of the study that surprisingly isn't discussed is the identification of primary and secondary destinations. In each map, these destinations are called out and are defined as areas of interest dependant on the type of journey. It's interesting to note that the majority of the destinations, although slightly different, have many overlaps no matter the person, time, or mode of transport. The study does mention that the focus was on areas that received the most activity and does not imply the other parts of Chinatown aren't traveled to, which raises the

⁷⁸ Bedrock Brand Consulting and Design Firm 2006, 53.

⁷⁹ Bedrock Brand Consulting and Design Firm 2006, 77-78.

Figure 40 Chinatown Customer Journeys



Source: Image adapted from Bedrock Brand Consulting and Design Firm. *Rediscovering Chinatown Honolulu: A Commitment to Partnership*. City of Honolulu Department of Planning and Permitting. 17 November 2006, <http://honolulu.dpp.org/Planning/Chinatown/Chinatown.pdf> (Accessed on 12 September 2009), 79-91.

question: what areas do these people consider Chinatown?

This study concluded with a SWOT analysis that determined the existing strengths, weakness, opportunities, and threats that currently exist in Chinatown. A few of the strengths include diverse culture, historic character, multiple destinations including restaurants, shops, markets, specialty stores, amongst others. Weaknesses ranged from lack of parking, cleanliness, safety, marketing, signage, and building conditions to the deterioration of Chinatown being Chinese—with multiple ethnicities currently living and working in the area, the question is raised, should Chinatown still be called Chinatown? The various opportunities identified the potential to mix the traditional and arts community, become a destination and economical attraction for the island of 'Oahu, and providing more housing and businesses. Threats included immigrants no longer moving to Honolulu's Chinatown and, instead, moving to San Francisco's or Vancouver's Chinatowns. Gentrification was also considered a potential threat. From here, multiple recommendations were given making statements like "improve way finding" and "clean the parking lots".⁸⁰ A long term solution or plan for Chinatown to grow and evolve sustainably wasn't given. Chinatown needed an incentive to actually take action on fixing the issues discussed in the 2006 study. The future Chinatown rail transit station can provide that incentive if the history and culture are not threatened. Whenever a new stimulus is implemented into a historic community, special precautions and additional studies need to take place.

In an attempt to ensure the overall success of the mass-transit system, the city of Honolulu has chosen to apply TOD at each rail transit station. In 2007, the City Council of Honolulu approved the Ordinance 07-01, which states not only that the rapid transit system is a fixed guideway, but also that zoning ordinances are required for TOD's at each station before construction money can be budgeted. A year later, Mayor Mufi Hannemann signed a Transit-Oriented Development Bill, referred to as Bill 10, defining how the city plans to implement the TODs into the surrounding communities. Approved by the council in March 2009, this bill requires basic guidelines to be created for each neighborhood TOD plan, which can later be adopted by the City Council. The overall objective is to ensure that each station will be supported by economically viable and sustainable communities. The bill requires each TOD to create specific

⁸⁰ Bedrock Brand Consulting and Design Firm 2006, 77-78.

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zoning regulations that include such factors as guidelines for parking, new density provisions, open space and affordable housing as well as the various financial incentives (public-private partnerships, real property tax credits and infrastructure financing). Once the bill was passed, community workshops began in April of 2009 to create TOD neighborhood plans for each station. At the moment, workshops have already been completed for the Waipahu, Leeward Community College, and East Kapolei stations. The TOD community workshop for Chinatown will not take place until sometime in late 2010 or early 2011.⁸¹ The city has continued to spread awareness of the benefits of TOD at a larger scale through a new series of workshops, held by the Urban Land Institute, or ULI, called Transit Oriented Development: Shaping 'Oahu's Future. The first workshop, Making Transit Oriented Development Work, was held on 13 November 2009 to inform and discuss the overall opportunities, impacts and integration into existing communities.

Other studies have included the work conducted by Peter Flachsbart and Makena Coffman from the University of Hawai'i at Mānoa's Department of Urban and Regional Planning. Their studies focused on both a telephone and online questionnaire conducted over the summer of 2009. The telephone and online questionnaires used two different samples that represented different demographics within the population of 'Oahu. Overall, the questionnaires set out to determine how residents of Honolulu responded to the increased gasoline prices of 2008 as well as the current transportation system. The overall objective of the questionnaires was to identify how residents of Honolulu may respond to the concepts of smart growth and TOD for the future rail transit system. In response to increased gasoline prices, the results of this questionnaire were able to show and compare exact percentages of residents who would be willing to live close to a bus or rail transit stop, in a smaller space, amongst other factors, in order to live a more energy-efficient lifestyle. An interesting observation pointed out in this study was the online participants had a better response to smart growth and TOD concepts in comparison with telephone participants.⁸² Although the exact reason for this difference was not identified, it is

⁸¹ Mayor Mufi Hannemann, "Exciting Prospects Ahead for Chinatown". *Chinatown Summit*. http://www.honolulu.gov/mayor/chinatownsummit_mf.htm (Accessed on 18 August 2009).

⁸² Peter Flachsbart and Makena Coffman, *Attitudes Toward Transit Oriented Development: Results of a Joint Telephone and Web based Survey in Honolulu during Summer 2009* (Honolulu: University of Hawai'i at Mānoa, 2010), 2-22.

most likely due to the ability of online participants to refer to graphics. This shows that graphics allow for a greater understanding and should be utilized in future participation methods.

Figure 41 Station and Canopy Designs for Honolulu's Rail Transit Project

Proposed Kapolei Transit Station



Proposed Waipahu Transit Station



Proposed Canopy Design for all Stations



Source: Images provided by Honolulu Rail Transit, "Honolulu on the Move: Honolulu High-Capacity Transit-Corridor Project", *Honolulu Rail Transit*, (Accessed on 12 July 2009), <http://www.honolulutransit.org/>

Shown in Figure 41 are the final design images for both the transit stations of Kapolei and Waipahu. The concept of applying TOD to each station and having community workshops is a great exercise for the city to conduct because it gives the people who will be using the station a chance to get involved. However, when each station design begins to look the same, the question of how successful these workshops are is raised. For example, it is very doubtful that both the communities of Waipahu and Kapolei wanted the exact same building. Also depicted in this figure is an image of the canopy design that the city has proposed for every station. The canopies are to resemble the sails from traditional Hawaiian way finding vessels.⁸³

However, this prototype building and canopy design will not suit every station. The Chinatown station, in particular, is located within the Chinatown Special District. In fact, the entire

⁸³ Honolulu Rail Transit, "Honolulu on the Move: Honolulu High-Capacity Transit-Corridor Project", *Honolulu Rail Transit*, (Accessed on 12 July 2009), <http://www.honolulutransit.org/>

Chinatown historic community is located within half a mile of the future transit station. In order to successfully integrate TOD into this historic community, multiple considerations must first be taken into account. Below is a recap of the five hypotheses for how TOD can provide sustainable growth for a historic community without diminishing the unique character of the area. Community design and TOD principles need to be taken to the next level to ensure that the unique culture and history that is nested in every historic district is not sacrificed in any way. The new stimulus should serve and blend in with the existing community as best possible while simultaneously boosting the community's economy.

.1. Density—Doesn't Always Mean In Height

Hypothesis | Historic communities achieve the high density requirement specified by TOD regulations without breaking their distinct low-rise urban form.

.2. Growth—Depends on Relationship with Greater Community

Hypothesis | The overall success of a historic community is directly related to the economic and social make-up of surrounding neighborhoods.

.3. Zoning—Historic Communities as the Original TOD

Hypothesis | Thriving historic communities require a mix of permitted land uses as well as multiple means of transport for both residents and visitors to travel to and from the area.

.4. Place-Making and Integration—Location, Design, Building Material, Scale, Setbacks

Hypothesis | The success of a transit station in a historic community depends on its integration into that community, specifically the connectivity to significant sites and buildings.

.5. Partnerships—Relationship between City, Transit Authority, and Community

Hypothesis | The active participation of municipal government officials in collaboration with the community is essential for historic communities to be successful.

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As stated previously, historic communities already contain relatively dense neighborhoods even though the area is required to maintain a low-rise urban form. In some cases, when implementing a TOD, incorporating mid-rise buildings could provide another means for the historic community to continue to grow. The population of Chinatown will continue to grow due to the allowed high rise developments along the perimeter of the district. This drastic change in building height has caused the low-rise buildings within the historic precinct of Chinatown to drastically contrast with the surrounding high-rise buildings along the perimeter, as shown in Figure 43. As seen in the Olde Town Arvada case study, another way for the community to grow sustainably without sacrificing the skyline is to allow for new mid-rise developments within the historic district. Therefore, this could be a viable option for Honolulu’s Chinatown to embrace when implementing TOD into the community. Currently, few mid-rise buildings exist within the Chinatown historic district. As stated previously, the allowable building height for the future transit station is set at 80 feet; therefore, mid-rise buildings may provide an additional means for the Chinatown community to continue to grow sustainably.⁸⁴

Figure 42

Potential Density Growth for Chinatown



Source: Image adapted from google earth

⁸⁴ Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 5.

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For both the first and second hypotheses, conducting an analysis of various vacant lots and buildings will be beneficial for determining where to locate new developments. Figure 42 shows how Chinatown would look if every lot was maxed out to the designated building height. As shown, Chinatown could almost double its density without breaking the allotted building height restrictions. As explained in the second hypothesis, the relationship between historic communities and adjacent neighborhoods is vital to the growth of the area. Therefore, when designing for TOD at the Chinatown station, it is important for sites around the historic district to continue to provide additional housing for the community. TOD principles recommend high density at the station to provide residents with easy access to the provided transit system. Honolulu’s Chinatown will be able to accommodate some additional density at the station; however, the majority of future developments and increased density will continue to be located around the outskirts. The walking distance from the station to the high-rise apartment buildings located along Beretania Street is approximately a half-mile. As a means to encourage transit use for those living along the outskirts of Chinatown, supporting buses and/or shuttles will need to be provided. Based on the allotted building height regulations in the area, the future TOD station design currently has potential to consist of mixed-use, mid-rise buildings directly adjacent to the station with high-rise buildings located farther east in the Makai Precinct.⁸⁵

Figure 43



Current Scale of Honolulu’s Chinatown

The building height of Chinatown is restricted in order to prevent erosion of the mauka-makai views as well as the street character.

The scale and location of buildings should promote strong street character and pedestrian activity therefore new floor additions should be set back in order to not interrupt the perceived scale.

New buildings should be built to the property line/sidewalk. They should also resemble the character of the surrounding buildings and not be more than one story higher.

Source: Photo taken by author; Information provided by Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 5.

⁸⁵ Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 5.

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As the third hypothesis states, in order for Honolulu's Chinatown station TOD to be successful, the zoning must continue to allow for a mix of uses that encourages the original live/work lifestyle. It is important to note that in order to achieve mid-rise apartments within the historic core as stated previously, the current building regulations will need to change. Discussed previously, all new developments within the historic core are not allowed to exceed more than one story above adjacent buildings. This causes problems when an owner of a two story building within the historic core wants to increase his building height to the 40 foot limit but can't because next door is a one story shop. To encourage mid-rise buildings within the historic core, building regulations will have to change to allow all new developments and additions to achieve the current 40 foot limit regardless the height of adjacent buildings.

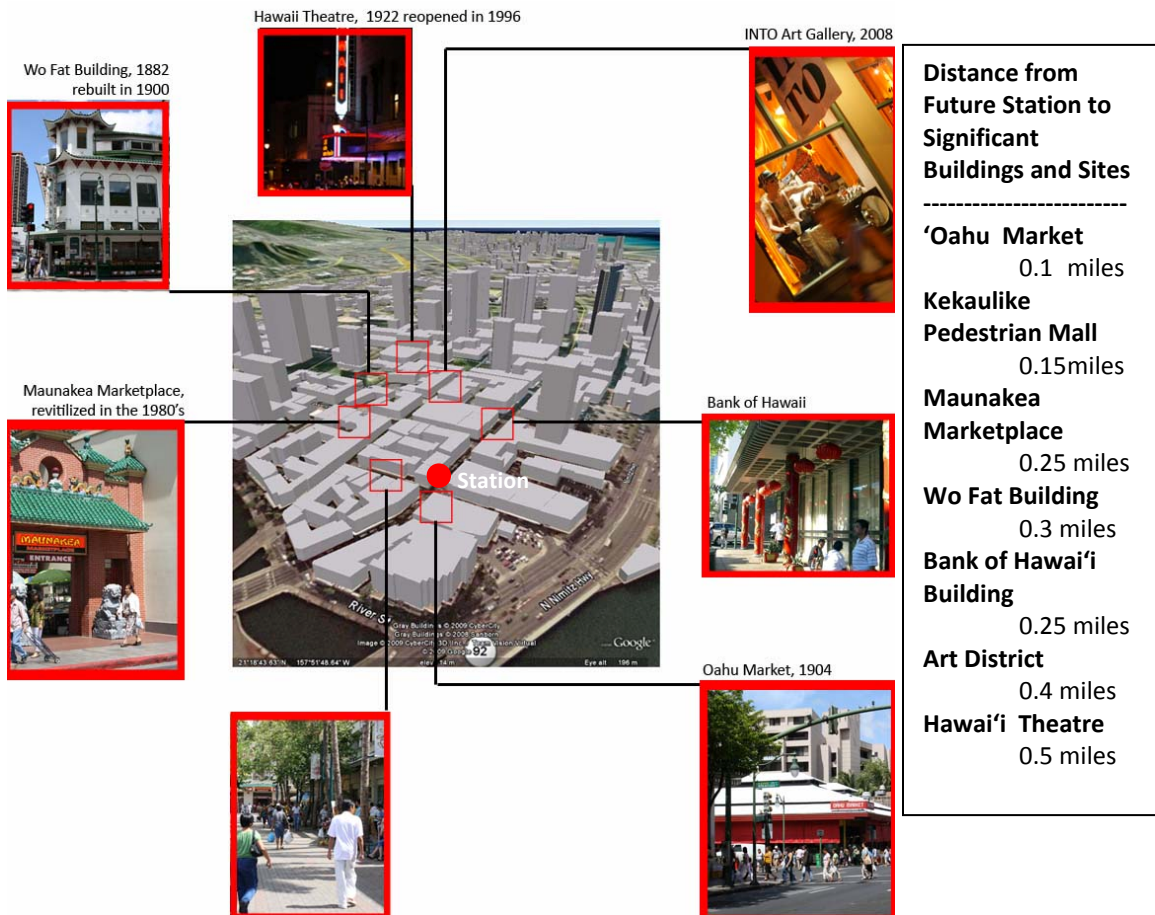
Adjacent to the site is a parking garage, low-income apartments, various shops and services, restaurants, as well as multiple meat and produce markets. Overall, the current site already consists of a variety of uses and the station should, also, consist of multiple uses. In addition, the adjacent 'Oahu market could be extended to the station. Multiple service shops such as Chinese medicine, jewelry, or clothing stores could be located just off the platform. Additional uses could include a bar and restaurant in an attempt to mix the contemporary and traditional communities. A daycare and/or business center with senior housing could be provided as well. By providing a variety of uses at the station that reference areas within Chinatown and serve the community, the station will be one step closer to being successfully integrated into the community. As shown in the ridership analysis for Mockingbird Station TOD, Powell Street Station in San Francisco, and Cermak-Chinatown Station in Chicago, the majority of mass-transit riders who use the stations are commuters and/or visitors. Through integrating the station into the community, the station can better serve the community as a destination point and potentially bring more business to the area. With that said, the station must be supported with surrounding development that strengthens the community and celebrates the unique culture.

The mass-transit system should embrace the historic community and provide a means to redesign history. In doing so, the station should be integrated in a way that references the past, but also allows the community to move forward. As the fourth hypothesis states, the integration and connectivity to significant sites and buildings is critical. Depicted in Figure 44 are

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a few of the significant buildings and sites in Honolulu's Chinatown. This figure also depicts the distance from the station to the sites, which are located within a half mile range from the station. Overall, the station should provide the community with a mixed-use center that enhances the area as well as provides better pedestrian connectivity to significant buildings and sites. As already explained 'Oahu Market could be expanded to the station providing transit users with a small taste of what the Chinatown community has to offer. Furthermore, Kekaulike pedestrian mall could be expanded to the station to provide visitors with a direct link to Maunakea Marketplace. Additionally, the historic architecture could be referenced in the design of the station with use of materials, appropriate building scale, doors, and windows. Lastly, partnerships between the city, the public, private parties, and the transit agency are vital to the success of TOD, as proven in the Mockingbird Station case study.

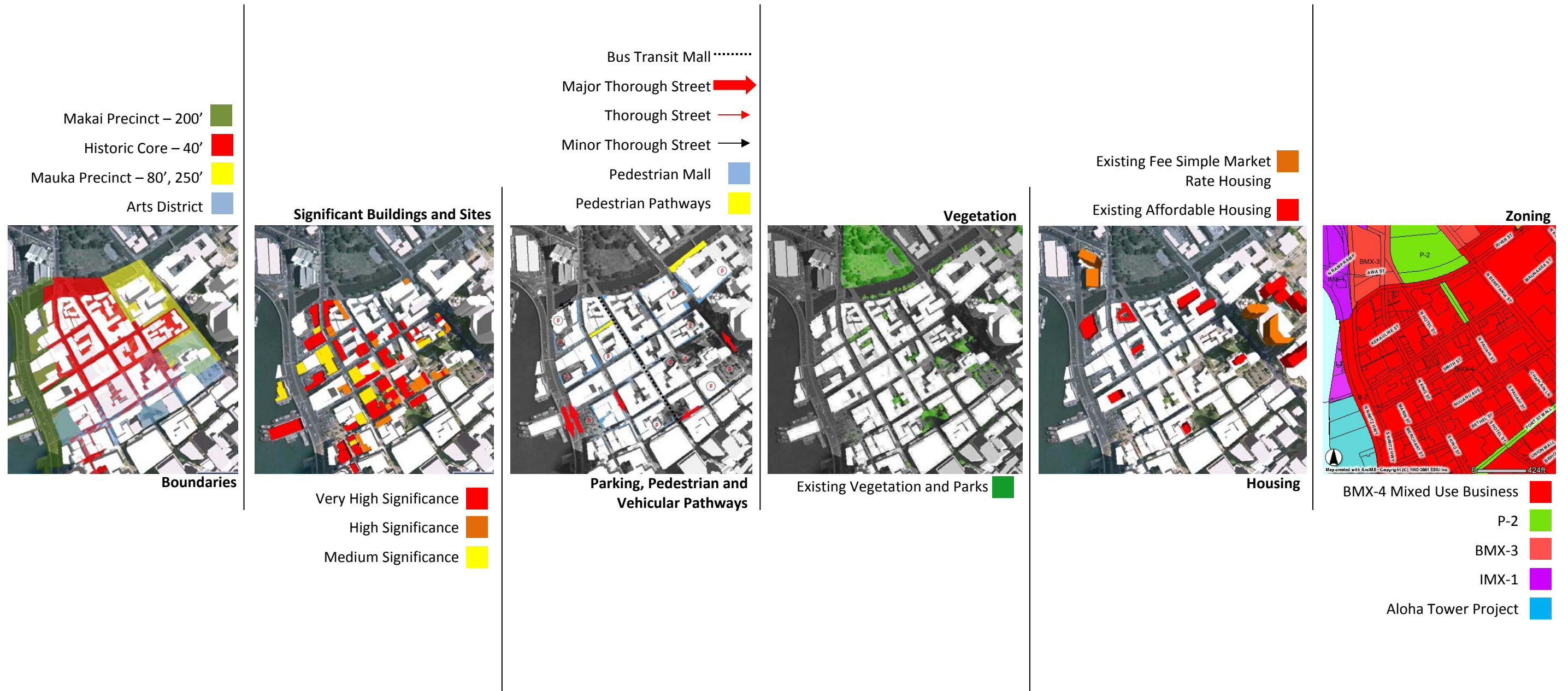
Figure 44 Significant Buildings and Sites with Approximate Distances to Future Transit Station



Source: Images collaborated from Google Earth and photos taken by author and James Anthony Van Tromp

Figure 45

Existing Conditions: Honolulu's Chinatown



In order to test the hypotheses and before design could begin for the future Chinatown rail transit station, various site studies were first conducted to show existing conditions in graphic form. Simplified maps that identify the existing boundaries, building height restrictions, significant buildings and sites, pedestrian pathways, vehicular traffic, existing vegetation and parks, as well as initial studies on the existing zoning and housing types were completed. Through the completion of these maps, preliminary design decisions can begin to be made. Shown in Figure 45 are the existing site conditions as depicted by the City and County of Honolulu Department of Planning and Permitting. The maps provided are adapted from the Special District Design Guidelines as well as the study conducted in 2006 on the customer perception of Chinatown study, refer to Figure 40. Discussed previously was how this particular customer perception study showed but didn't discuss the primary and secondary destinations people were traveling to. This raised the question about what does the community consider Chinatown? In addition, in each map, the exact same boundary line for the community of Chinatown is shown. This boundary line was assigned to Chinatown by the city of Honolulu's Planning Department, however, is this actually how the residents and visitors of Chinatown would map Chinatown? Do the residents and customers of Chinatown actually agree with the boundaries and significant sites and buildings designated by the city?

In order to conduct this study, direct involvement with the community was a necessity. As seen, the Chinatown community is actually made up of multiple social groups that see and experience Chinatown in a different way. What may be considered a primary destination to one person may be insignificant to another. An area that may seem critical to the overall life of Chinatown may not even be considered Chinatown to another. If all the various social groups were asked to draw their own boundaries for Chinatown, would they all be the same? Then, as a next step, if all these individual maps were combined, could an overall collective community map be able to be identified based on the overlaps? Could the same process be done for primary and secondary destinations? Through various mapping exercises, the overall objective is to further community design methods by identifying what the community of Chinatown, as a collective whole, feels is vital for the survival of the area and how the station can best serve them.

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Figure 47 **Blank Map of Chinatown: Participants to Call out Boundaries and Significant Buildings and Sites**



Source: Image created by James Anthony Van Tromp, manipulated by author

Figure 48 **Typical Questions Asked to Participants**

- .1. Based on the map provided, where would you draw the boundary line for the Chinatown community? The historic core of Chinatown? The Honolulu Culture & Arts District?
- .2. What areas, specific shops and/or businesses, restaurants, art galleries, and/or bars do you visit in Chinatown? Of these, which would you recommend to other visitors of Chinatown? Why?
- .3. What do you feel are some of the key features in Chinatown? Issues and problems? Immediate and long-term concerns?
- .4. Would you use the rail transit system when completed? Why or Why not?
- .5. How do you feel the Chinatown rail transit station can best serve the community of Chinatown? What would you like to see at the station?

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In addition to the community evaluation, a series of preliminary sketches were developed in order to hold discussions with participants about their individual take on the design of the future rail transit station. As a means to integrate the station into the community, the preliminary sketches, shown in Figure 49, depict Kekaulike pedestrian mall being extended to the station as well as introducing the concept of turning River Street into a pedestrian mall and giving Chinatown a new gateway that could give the community a new sense of ownership. A sketch of one possible solution for the station design was also provided, which used the same concept of sails as the canopy but simply changed the color to red instead of white, since red is often a color associated with Chinese culture. Each participant was asked if this design would be appropriate for Chinatown's future rail transit station.

Figure 49 Preliminary Concepts for Honolulu's Future Chinatown Rail Transit Station



Source: Image drawn by author

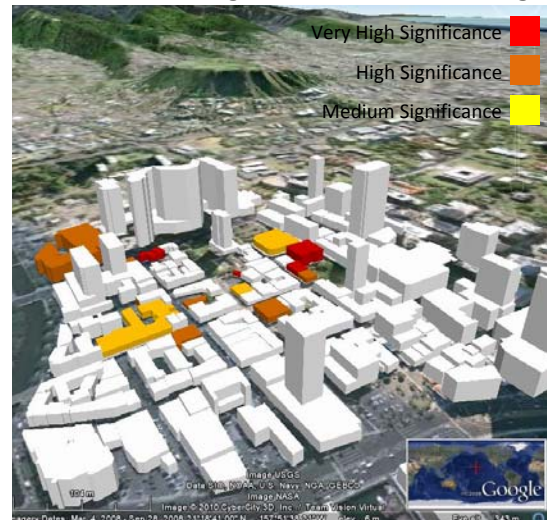
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According to a real-estate agent living in Honolulu Park Place Apartments, located just outside of Chinatown special district, the most vital aspect of Honolulu's Chinatown is its diversity. The participant absolutely loves living next to Chinatown; the only time she leaves is to go to work. Although she doesn't shop in the markets herself, she does consider them significant to Chinatown and always takes guests for a tour to Maunakea Marketplace. For her, Chinatown serves as a sense of pride. Whether it's buying leis and flowers or going to the various shops and restaurants, Chinatown is part of her daily life. She has lived in Honolulu Park Place since it was built in the 1970s and explained how the skyline of Chinatown has changed drastically over the years with the addition of new high rises. She went on to express that although she feels there is some room for development with the new transit station, she thinks it should be kept to a minimum in order to preserve what is left of the historic skyline and visual connection to the harbor. Depicted in Figure 50 is her interpretation of where the boundaries are and significant sites and buildings of Honolulu's Chinatown. Even though she feels it has great potential, she never goes to River Street because of the homeless and drug use. She spends most of her time east of Maunakea Street and feels some of the most significant areas are located in the Honolulu Culture & Arts District including the Hawai'i Theatre, Indigo's restaurant, and Bar 35, amongst others. She said the future rail transit station should incorporate First Friday events and loves the idea to combine the traditional and contemporary communities in one, shared space. That way, the station could become a full time destination for residents and tourists.

Figure 50 **Boundaries**



Significant Sites & Buildings

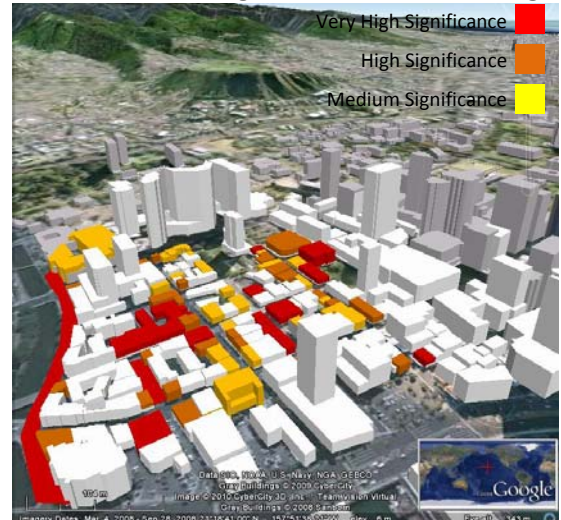


The manager of an affordable housing building in the Historic Core, another participant said that he is a third generation Chinese resident and wouldn't live anywhere but Chinatown—he feels at home here. Currently, his residents range from immigrant Chinese and Laotian to locals. The majority of residents within the Chinatown special district are workers; business owners tend to move to areas outside including Makiki and Kaimuki. He, too, expressed that Chinatown's major problems are the homeless and drug use. He continued to explain that through community development and management, these can be minimized as seen with Bethel Street. Bethel Street used to be filled with homeless; but, when the Honolulu Culture & Arts District was formed, business owners began managing the area, activity increased, and the homeless moved out. His personal take on the homeless and drug use problem, is by providing activity. It's only through activity that the homeless will leave. His individual opinion for the boundaries and significant sites and buildings are shown in Figure 51. As seen, he feels the Chinatown boundary runs from River Street to Nu'uauu and Beretania to Nimitz. He explains that the Honolulu Culture & Arts District is considered a grey area, but points out the Chinese Characters on street signs begin at Nu'uauu so that must be the border line. As for the significant sites and buildings, the participant reminisces about how Chinatown was when he was growing up. He pointed out how River Street used to be the highlight of activity with daily open markets running all along Nu'uauu River. This was one aspect he, in particular, thought the station could reintroduce and provide direct activity for visitors traveling to Chinatown by the rail transit station.

Figure 51 **Boundaries**



Significant Sites & Buildings



Source: image created by author and layered with GoogleEarth

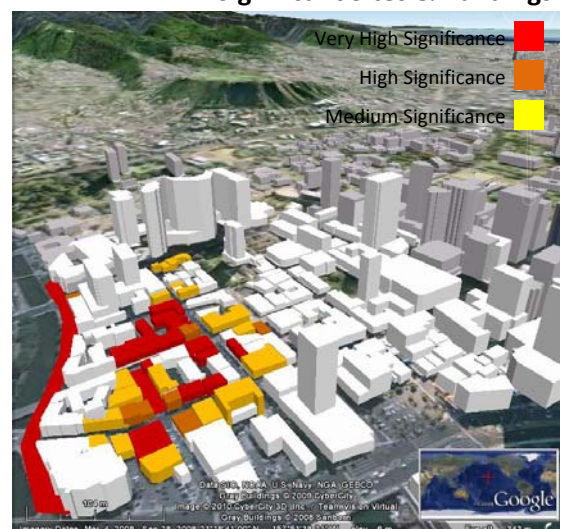
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A shop owner and worker of Chinatown proclaimed that few tourists come to Chinatown, and that business is mainly residents and locals. The only business they have from mainland customers is through online ordering. She said it's too gritty for tourists, and the lack of parking seems to keep them away. Growing up in the loft above the lei shop, the boundary of Chinatown for her is much larger than most as seen in Figure 50. For her, Chinatown embraces A'ala Park and Fort Street Mall, Vineyard and Nimitz Highway, and has potential to grow. Once her family had the money to move out of Chinatown, they did. She went on to explain that's a common trend for shopkeepers of Chinatown. According to her, no one actually wants to live in Chinatown. Currently she and her family live in Kaimuki and she travels to Chinatown on a daily basis to run the store. Even though her perception of Chinatown has an expansive boundary, the only significant sites and buildings of Chinatown are west of Smith Street. She explains that this is mainly due to the formation of the Honolulu Culture & Arts District that took over Chinatown east of Smith Street, Figure 52. As many participants agree, she explains that River Street is not being used to its potential. She continues to say that the station should utilize River Street as a way to provide incentives for rail transit users to explore the area of Chinatown. By cleaning up River Street and opening it up to daily activities including fishing competitions, boat rides, gondolas, daily open markets Chinatown will be a more active, vibrant place for tourists. Overall, she feels that Chinatown needs to be more Chinese and the rail system should cater to Chinese events; an example she gave was boat races down Nu'uuanu Stream.

Figure 52 **Boundaries**



Significant Sites & Buildings



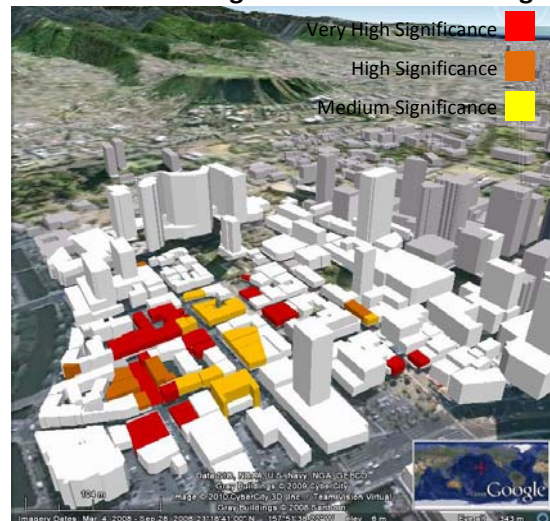
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The next participant, a lawyer, works on the corner of King and Fort Street Mall, and lives at Honolulu Tower Apartments off Beretania. Although only a mile apart, he drives to work. Despite that, he goes into Chinatown on a weekly basis whether it's to buy produce or dine in one of the many authentic restaurants. Personally, he often shops at the 555 market located along Kekaulike pedestrian mall and feels it would be a great idea to extend the pedestrian mall to the station. He said the most important objective for the station is to attract tourists. The more tourists Chinatown receives, the more the economy will improve. Giving the example of Fort Street mall, he explains that pedestrian malls tend to attract transit users. Fort Street Mall's success is due to transit and the bus transit mall that run down Hotel Street. He also said that the art district was a positive change for Chinatown, bringing in new restaurants, bars, and art galleries including Bar 35, Indigo's, Café Joy, and Hank's Café, to name a few; refer to Figure 53. He said that the rail system has the potential to bring the same type of positive change to the other side of Chinatown, too. He said to bring markets to the station but also bring nightlife. Changing the subject, he goes on to discuss the issue of gentrification and how the station may cause some but the reason Chinatown has stayed away from it this long is the lack of parking. For many people, as seen in the 2006 study conducted by the city of Honolulu's Planning Department, parking is one of the main issues of Chinatown. It is also one of the main reasons Chinatown retains such a unique character. He said that he personally thinks the less inviting a place is, the more character it has, although many may disagree.

Figure 53 **Boundaries**



Significant Sites & Buildings



Source: image created by author and layered with GoogleEarth

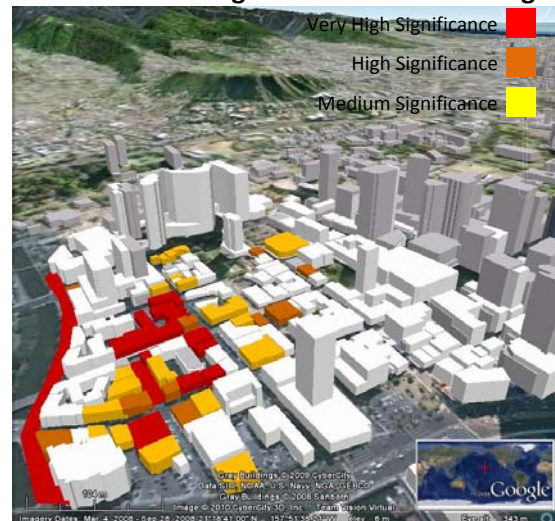
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An owner of one of the art galleries in Honolulu's Chinatown is excited for the future rail transit station. She said it's "the first time something big is coming to Chinatown." She said this will finally give Chinatown the needed boost to make necessary changes, like renovating deteriorating structures. With much enthusiasm, she spoke about Chinatown in the old days, explaining how the Wo Fat Building used to be the center of activity with three stories of restaurant and banquet space. It used to be the place to go after any formal or group event, she explained. Currently, the entire restaurant is shut down and only now has a market on the ground floor. She also explained how River Street used to be filled with residents and visitors daily in the open markets. She said the station should have a direct link to River Street and thinks closing River Street to make space for a pedestrian mall from Hotel Street to the Cultural Plaza is a great idea since most of Chinatown's traffic runs along Smith and Maunakea Street, not River. She also said that the rail transit station has much potential to act as an economy boost for the various businesses in the area, but that it could also revitalize many areas and buildings that have been lost over the years. She feels the main areas of interest for Chinatown includes business along the streets of River, Kekaulike, and Maunakea. Smith and Nu'uanu streets are still important to Chinatown, but in recent years have been taken over by the Honolulu Culture & Arts District, which she explains is the best thing to happen to Chinatown, Figure 54. As for the station itself, she states that Chinatown is one of the largest mixed-use centers and it should be celebrated. The station should act as a collective cultural museum.

Figure 54 Boundaries



Significant Sites & Buildings



Source: image created by author and layered with GoogleEarth

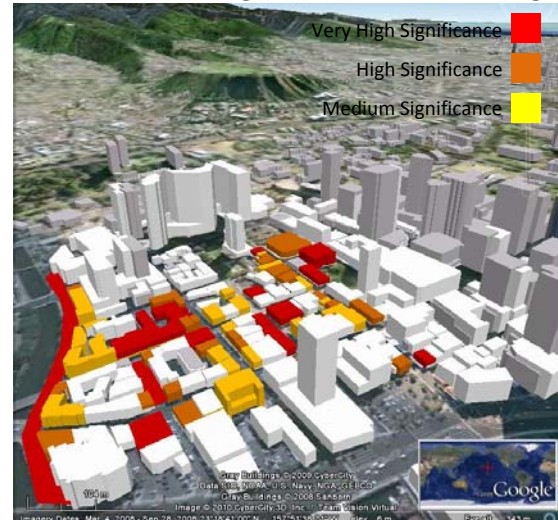
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A member of Historic Hawai'i and an active member of the Chinatown community will be directly involved in the design of the transit station. She said that the historic agreement for the rail system has yet to be finished; therefore, discussions have been limited for what the city has planned for the Chinatown rail transit station. She continued to say the station should have art installations portraying the unique culture and history of the area as well as household convenience stores ranging from Chinese medicine to immigrations services. The most important aspect of the station is the ease of access, transferring people from the station platform to Chinatown. She said that one way to do this is to physically feed people through O'ahu market rather than sending them to Kekaulike Street. She also said that many opportunities exist for the Chinatown rail transit station but feels it will take Chinatown a long time to get to that point. The reason, she said, is Chinatown's problem isn't necessarily with the building or zoning code, but the reality of the situation. Historic communities don't like change. She said that she personally doesn't think Chinatown has a specific border, but if she had to assign one it would run from Beretania Street to Nimitz Highway, River Street to Fort Street Mall. For her, Chinatown is a collective community that has a series of significant streets rather than individual buildings. She went on to call out the streets of Nu'uuanu, Maunakea, King, potentially River, as well as Hotel. She also said that all buildings and businesses along those streets are important but called out the Hawai'i Theatre and Wo Fat buildings as two of the most critical in the area, refer to Figure 55.

Figure 55 **Boundaries**



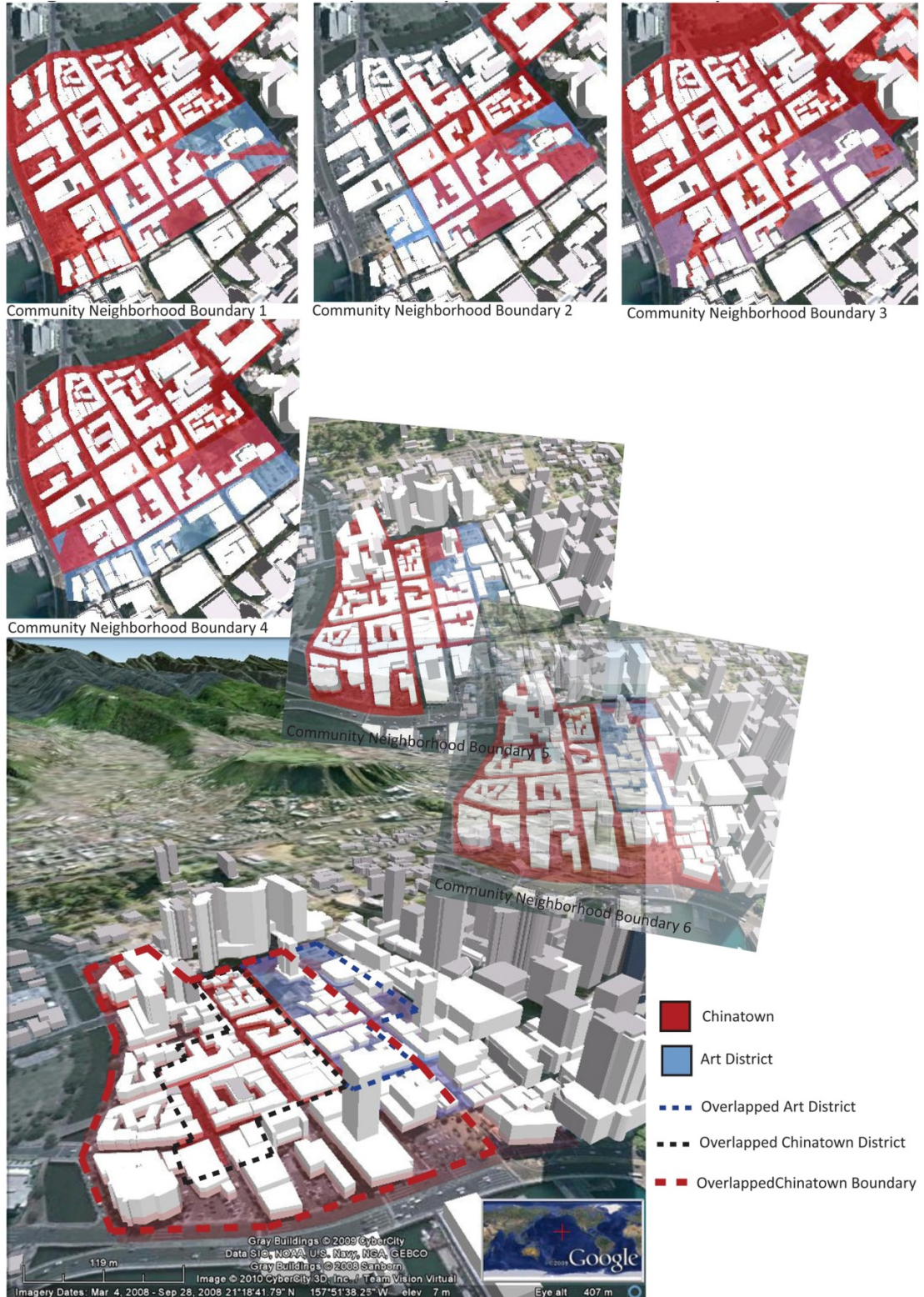
Significant Sites & Buildings



Source: image created by author and layered with GoogleEarth

Figure 56

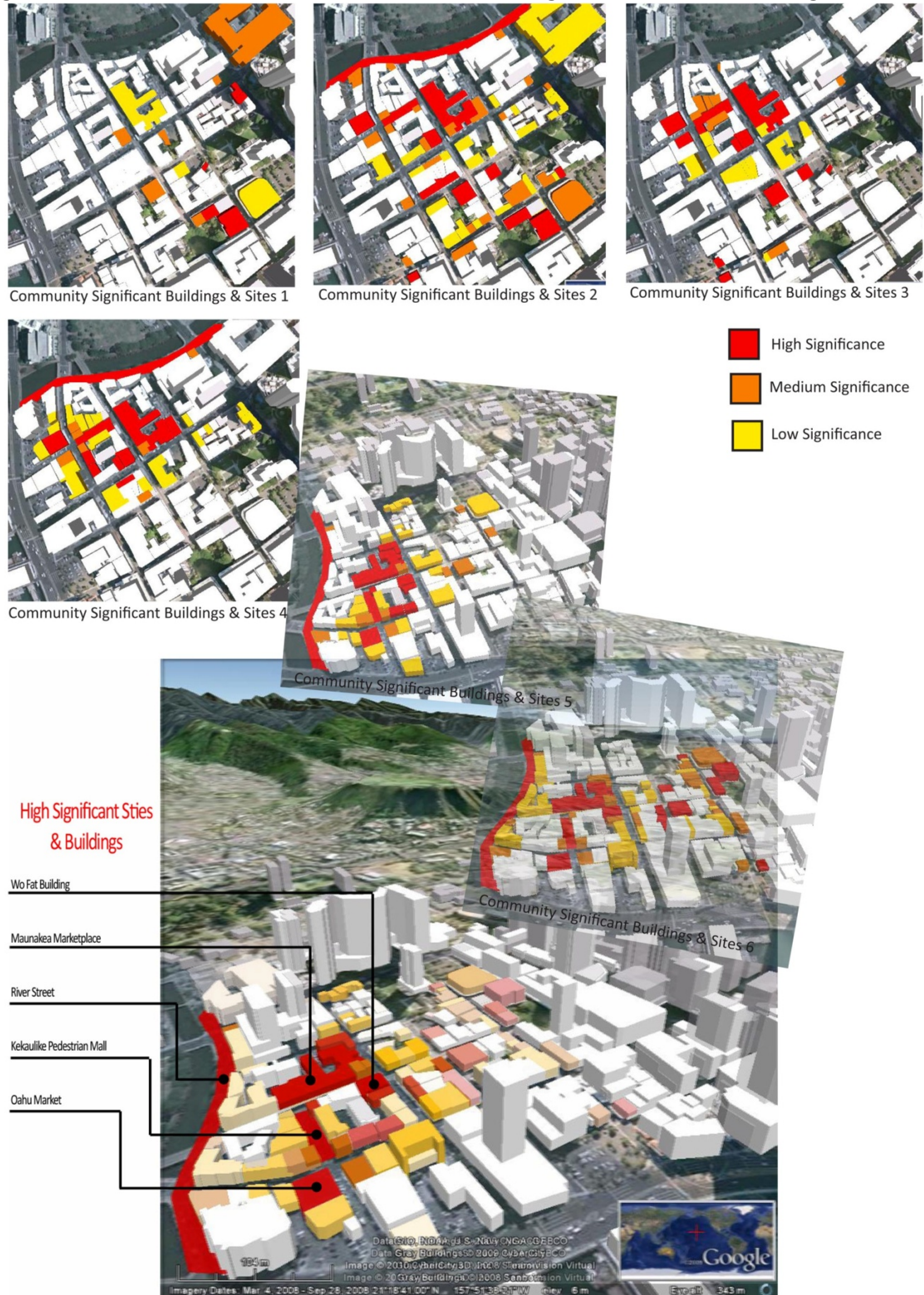
Boundary Maps Combined



Source: image created by author and layered with GoogleEarth

Figure 57

Significant Sites and Buildings Combined



Source: image created by author and layered with GoogleEarth

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Figures 56 to 57 all show each of the six maps for significant sites and buildings as well as boundaries created by residents and visitors of Chinatown that all use Chinatown in different ways. In both figures, the maps are overlaid one on top of the other to create one, unified community map of Chinatown. Multiple discussions and interviews were conducted, however, shown in the figures is only a selective sample of maps to show how the boundaries depicted by residents and visitors of Chinatown differ drastically than that set out by the city. This is why it is necessary to hold studies with various community residents and visitors to determine what they feel the community boundary line is as well as significant sites and buildings that need to be protected when implementing a new stimulus, such as mass-transit and creating a community design.

Another discussion was held with one of the members of the downtown neighborhood board. He felt that one of the largest concerns for the rail transit station is that Chinatown must be treated uniquely. The concept of sails that seems to be a repetitive theme for each station, won't work here. The Chinatown station needs to say "Chinatown". It needs to act as a representative marker for the Chinatown community. In an interview with a Chinatown property owner who has worked here for the past 35 years, he said that transit and development go hand in hand. However, in Hawai'i, it will never happen. He has become cynical over the years and said that the City of Honolulu is too inconsistent. One year the planning department said that all streets in Chinatown were going to be lined with trees, and then a few years later they changed their mind. This is why some blocks in Chinatown are lined with trees and others are still left bare. He also explains that Chinatown's problem with homeless and drug use is also due to the city's inconsistency and lack of planning. After the fires that took place around 1900, all buildings in Chinatown had to have recessed doors because doors had to swing out toward the street to satisfy fire codes, but couldn't swing over the sidewalk. This created a perfect shelter for the homeless. In addition, no new developments in the area could have lights that spilled over to the streets at night. This created dark alleys and the perfect place for drug use. Even more so, the community of Chinatown is poorly managed and has no public restrooms, which is why it always seems so dirty and unsafe, hence the reason property values are so low. He continued to express that Chinatown will never suffer from

gentrification or rising property values with the future rail transit station because necessary improvements are required to clean up Chinatown before gentrification will happen. He said that some gentrification would be good for Chinatown, as long as it is controlled. Shown in Figure 58, are the collective community maps in comparison with the city's maps for both significant sites and community boundaries.

Figure 58

Community Map vs City and County of Honolulu

Collective Community Significant Sites



Collective Community Boundaries



City & County of Honolulu Significant Sites



City & County of Honolulu Boundaries



- Chinatown Special District
- Art District
- Mauka Precinct
- Makai Precinct

- High Significance
- Medium Significance
- Low Significance
- City & County Boundary Line
- Community Boundary Line

Source: Images created by author and layered with GoogleEarth. City maps adapted from Department of Land Utilization, *Chinatown: Special District Design Guidelines*, (Honolulu: City and County of Honolulu, 1991), 5.

As seen, the majority of significant sites and buildings selected by the community are located between Maunakea and River streets—specifically the areas of Maunakea Marketplace, Kekaulike Pedestrian Mall, 'Oahu Market, and the Wo Fat building. Even though, the majority of participants feel that the bulk of Chinatown engulfs Maunakea Marketplace (refer to Figure 55), they also consider the Hawai'i Theatre was a significant site to Chinatown whereas the city doesn't. Furthermore, the city considers all of two or three buildings along River Street to be significant, whereas the community feels that River Street is a vital aspect to Chinatown and should be one of the first areas to be revitalized and strengthened—especially the connection with the heart of Chinatown and the cultural center. As for the station, all participants agreed that extending the Kekaulike pedestrian mall would be a positive attribute for transit riders. The majority of participants also agreed that the station should mix the contemporary and traditional communities of Chinatown with bars and restaurants mixed with traditional shops and markets as well as housing. Other discussions included turning the station into a collective community museum with historic images and facts that designate various areas acting as a marker to encourage visitors to explore the unique area as well as providing a direct connection from the station to the cultural plaza via River Street.

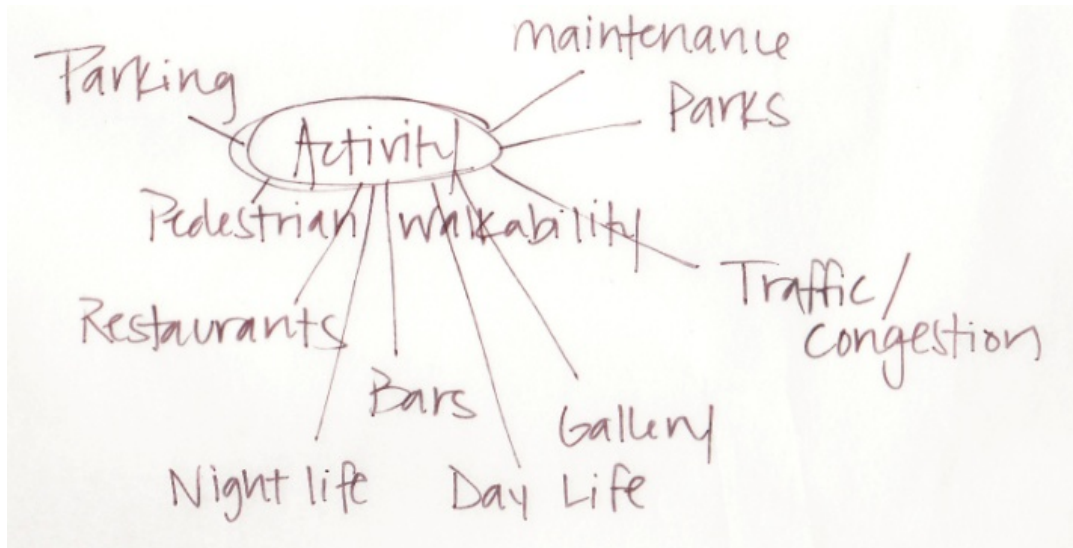
Lessons Learned

The studies conducted questioned the information provided by the city. This included testing whether or not the significant buildings and boundaries identified by community participants matched that of the city. From these studies, actual community information began to be accumulated. By determining what the individual residents and visitors consider the boundary of Chinatown, a collaborative community map was created. As shown, the heart of Chinatown is located right at Maunakea Marketplace. The boundary also includes the Cultural Plaza and the Hawai'i Theatre, whereas the city boundary line omits both places. This shows that the Chinatown rail transit station should incorporate both areas. Taking the community involvement one step further, participants were also asked what their wants and needs are and how the station could serve them specifically. Overall, this section has shown that many key factors often set by the city are fluid and should be defined by the community instead. Historic communities are usually evaluated based on its boundaries, buildings, and sites. Through the

various discussions held with interviewees, it can be seen that residents and visitors of Honolulu's Chinatown evaluate the community based not only on its boundaries, buildings, and sites but also its streets and, more importantly, its activity, as depicted in Figure 59. Whether it's the parking, pedestrian connectivity, restaurants, bars and night life, events, markets, parks, maintenance, or traffic and congestion, a healthy historic community is dependent on activity and how efficiently that activity is handled and managed. Through this evaluation process, the most up-to-date wants and needs of the Chinatown community have been identified, graphically represented, and compared. This paved a way for design to begin for the future rail transit station. As initial design sketches were created, residents and visitors of Chinatown were continued to be interviewed simultaneously to receive community feedback.

Figure 59

Evaluation Criteria



Source: Image created by author

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Based on the initial interviews and studies conducted, it is safe to say that the community of Chinatown wants their future rail transit station to contain all sorts of activity as well as to act as a unique, mixed-use building that combines the traditional and contemporary communities like never before. It should bring a new life to this part of Chinatown and act as a collective community museum for all residents and visitors. The overall objective is for the rail transit station to act as an economic stimulus for the area while simultaneously providing a sense of place for the different ethnic and social groups of Chinatown. The information gained from the interviewing process with various residents and visitors of Chinatown can now be combined to be compared and discussed as a unified whole, as was seen previously with the collective community maps. As a recap, one of the major points mentioned by multiple participants was to make use of River Street by bringing back the traditional daily markets along Nu’uanu River.

Figure 60 Distance from Future Station to Significant Buildings & Sites

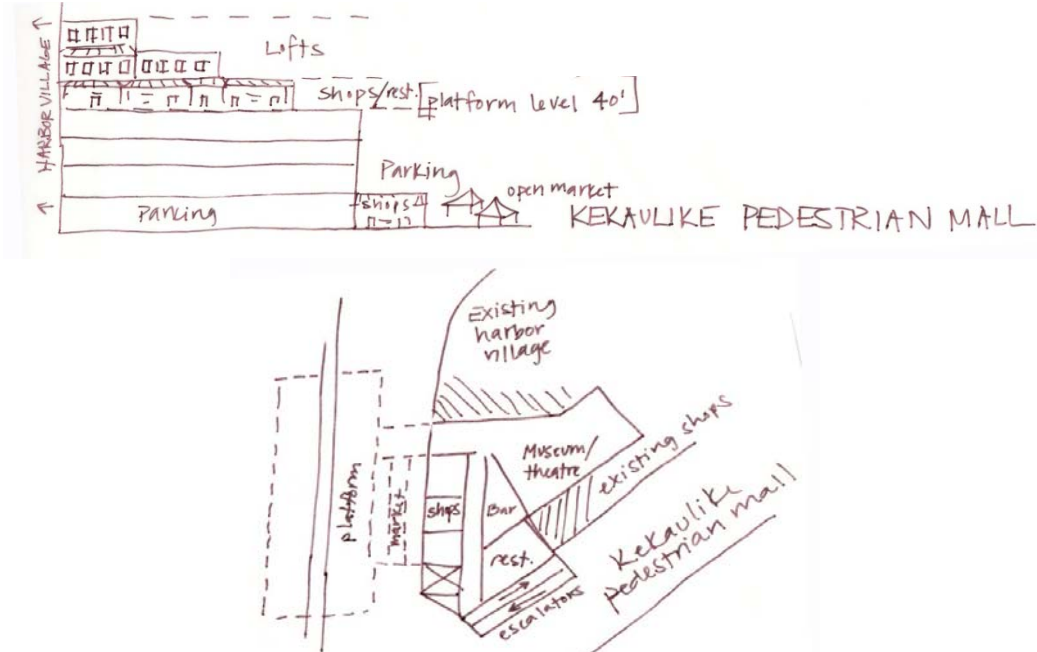


Source: Image created by author

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In addition, the majority of participants stressed the importance of providing a direct link, via River Street, from the station to the Cultural Plaza. Another major point was to treat the Chinatown rail transit station unique. The platform should stay away from the sails that are seen at every station design thus far and be replaced with something that says “Chinatown”. Chinatown has a unique history and culture that is different than any other place on the island and this should be celebrated. Figure 60 shows that the entire Chinatown community is located within a half mile of the station. One of the most notable features of Chinatown is its mixed-use nature; the station, too, should have many uses. Shops should be located at the platform level with traditional housing located above to encourage the live/work lifestyle. Kekaulike pedestrian mall should be extended to the station and with it, traditional markets. Bars, restaurants, and nightlife should also be brought to the station. For Chinatown, it’s all about activity. Initial design sketches are shown in Figures 61 through 62. It is important to note that this is an experimental design, one of many options for the Chinatown rail transit station. The design shown is based on a collective knowledge gained from various participants of the Chinatown community. By no means, is the design provided the only or the best option for Chinatown’s future rail transit station, simply a new perspective.

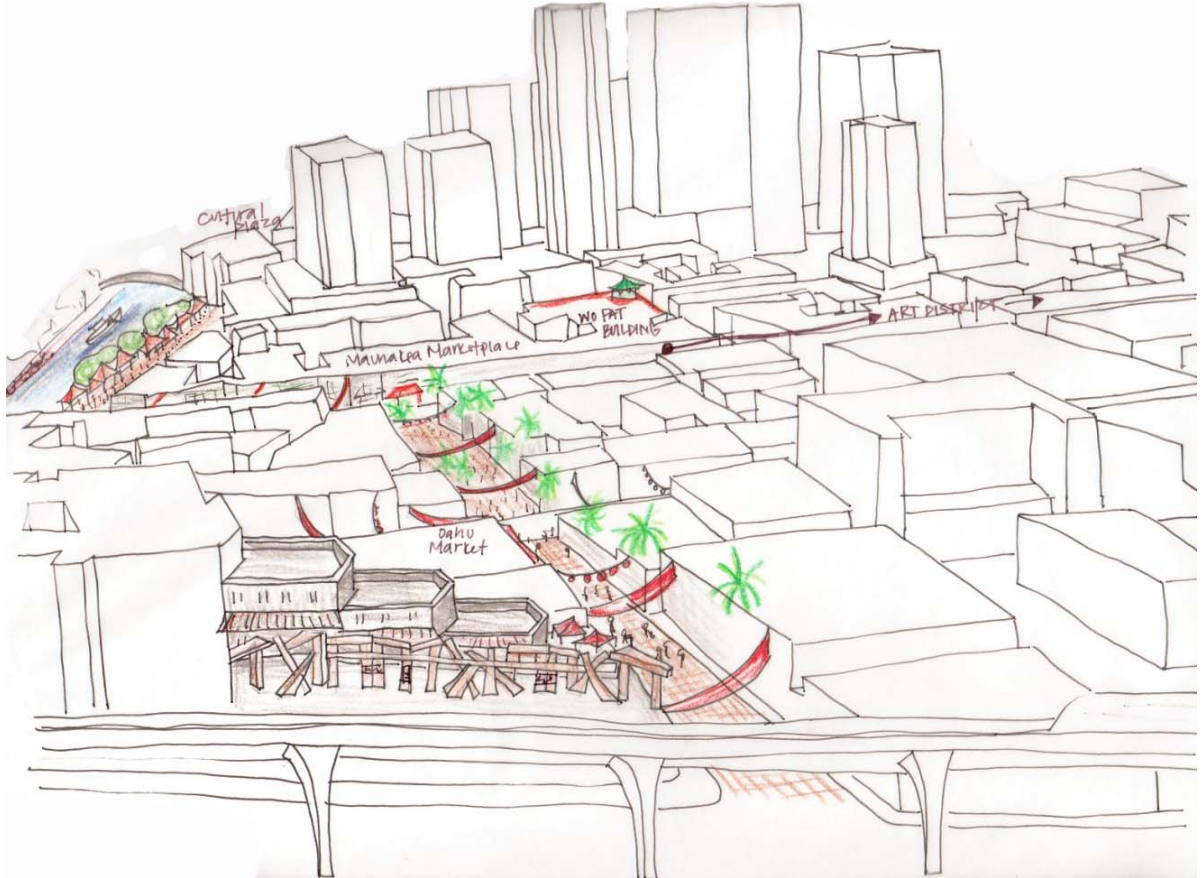
Figure 61 Initial Design Sketches – Spatial Studies



Source: Sketches created by author

Figure 62

Initial Design Sketches – Collective Community Building

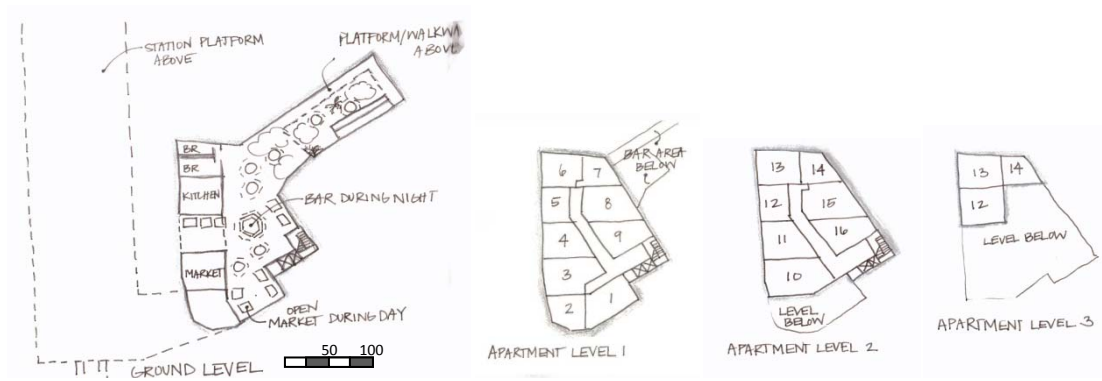


Source: Sketches created by author

Shown in the initial design sketches are open markets at ground level accompanied by a parking garage for the first four levels. At the station level, open space for temporary art exhibits is provided along with various shops and a bar with loft apartments above. As for the overall building form, the building is stepped down to link the 80 foot Harbor Village apartments with the 12-25 foot buildings on Kekaulike Street. This is done to promote strong street character and pedestrian activity. The building is to be built to the property line with shop fronts facing the street. As more interviews and discussion were held, it became clear that even though parking is a major problem for Chinatown, it does not necessarily need to be provided at the station since adjacent to the site is the Harbor Village parking garage. Furthermore, parking demands will most likely decrease with the introduction of a new means of transportation. Another historic feature that was brought to attention was Chinatown's secret gardens.

Figure 63

Initial Design Sketches – Movement & Spatial Studies



Source: Sketches created by author

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Originally, when Chinatown was built with shops on ground floors and living units above, residents would often have gardens hidden from the street for personal use. Today, vegetation still exists in the center of many city blocks within Chinatown and is even celebrated in various places, including Bar 35. Many participants agreed that reintroducing historic secret gardens in the site would provide a pleasant environment for not only visitors to Chinatown but residents as well. Overall, even though the transit station will be a modern stimulus in a historic community, it provides ample opportunity to incorporate and celebrate the unique history and culture of Chinatown. For the final design, multiple uses are provided ranging from open markets, shops, a restaurant, a bar, a secret garden, senior housing, and lofts, Figure 63. In order to heighten pedestrian experience and better connect with surrounding buildings, the station is stepped from floor to floor. By doing this, a connection is not only made with the 80 foot Harbor Village apartments on Nimitz Highway, but also the one story restaurants and markets on Kekaulike Street, as shown in Figure 64 to 65.

Figure 64 Extension of Kekaulike Pedestrian Mall to Future Transit Station



Source: Top images provided by Crystal Kua, “Rail Line Rendering Ring Alarm Bells”, *StarBulletin.com* (23 June 2006) <http://archives.starbulletin.com/2006/06/23/news/story02.html> (Accessed on 11 September 2009).

As a means to treat the Chinatown station uniquely, and to “stay away from sails”, as one participant expressed, the platform utilizes stylized Asian characters to provide shelter. The characters are all around 15 to 20 foot concrete pillars that together support a 10 foot glass canopy. The characters are to resemble the Chinese characters that are found on shop fronts as well as the street signs in Chinatown while also referencing other Asian languages in an abstract form. In this way, the platform not only acts as a marker for the Chinese residents and visitors to Chinatown, but also the various ethnicities including Thai, Vietnamese, Korean, and Japanese. The architecture references the scale, proportion, material, window type, door type, and canopy type that are used and seen throughout Chinatown. Figure 63 shows a 3D rendering of one solution for the Chinatown’s future rail transit station. This particular design brings together the wants and needs of all participants involved to provide Chinatown with a collaborative community building.

Figure 65 **3D Rendering of Possible Chinatown Transit Station Design**

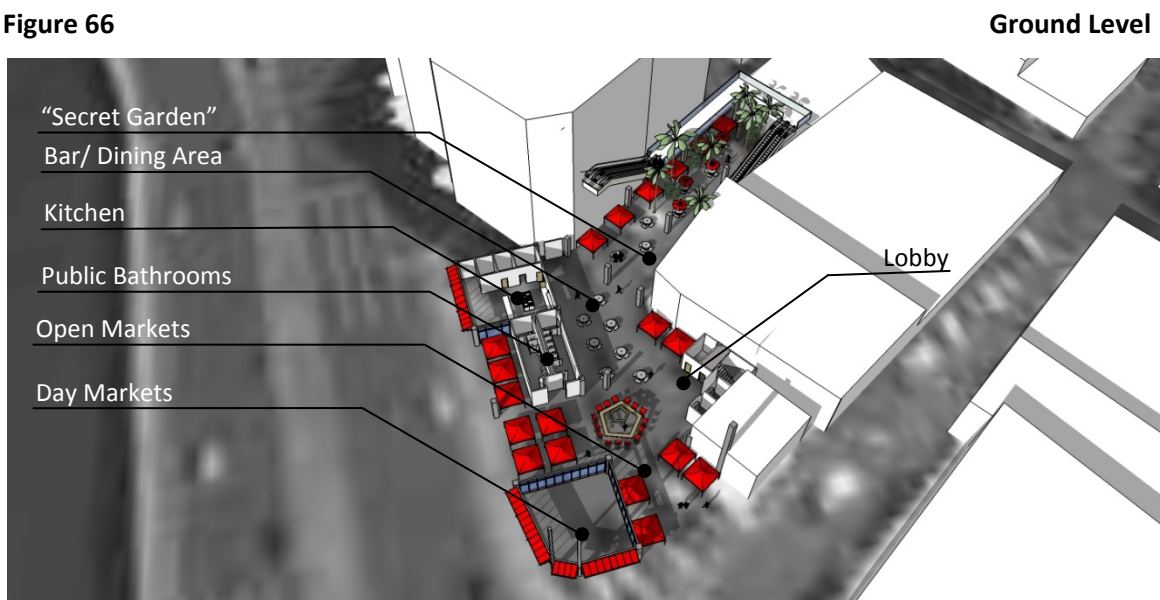


Source: Image created by author and uploaded to GoogleEarth.

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At ground level, Figure 66, visitors and residents of Chinatown can enter the site via Kekaulike proposed pedestrian mall or Nimitz Highway. During the day, the ground level is filled with open markets as well as day markets. The floor is filled with seating areas that can be utilized as an outdoor eating area. Located at this level is a restaurant/kitchen that services walk-ins from Nimitz Highway as well as the open restaurant located inside where guests are waited on. The open markets are characterized by temporary, covered stands that close up individually at night whereas the day market, similar to ‘Oahu Market, is completely closed off with sliding doors. The day sliding doors are made of glass and wood door panels that fold up similar to a partition wall, so the market can be opened completely during the day. As the day ends and night begins, the open and day markets close as the bar opens. The bar can remain open throughout the day providing refreshments for shoppers; however, the feel is similar to Bar 35, located on King Street, with bar seating throughout and a secret garden hidden in the back. The escalators located in the secret garden lead to the platform level. As an alternative, rather than closing off Kekaulike Street to be a pedestrian mall, transit riders can enter and leave the site from the corner of King and Kekaulike streets. This will feed riders directly through ‘Oahu Market, into the secret garden and up the escalators to the platform level. The overall objective of this level is to combine the traditional and contemporary communities of Chinatown through providing markets during the day and bar/restaurant area at night.

Figure 66



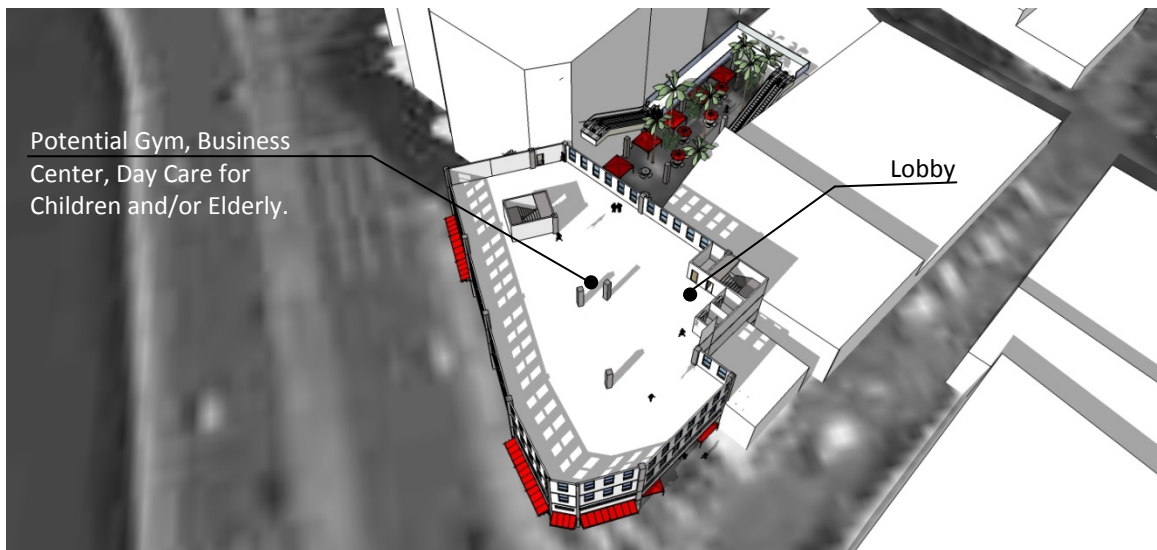
Source: Image created by author and uploaded to GoogleEarth.

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Many participants expressed that even though parking is a problem for Chinatown, as a whole it does not necessarily need to be located at the station. With that said, above the ground level are three optional floors, Figure 67. Currently, the ground floor height is set at 12 feet to relate to the heights and proportion of adjacent buildings whereas the next floor, the mezzanine level, is 8 feet tall. As expressed by one of the community participants, senior housing is critical for the community of Chinatown. In addition, another community participant expressed that affordable children day care for workers that commute into Chinatown would be useful to be located at the station. With that said, the mezzanine level could house a potential day care for both seniors and children in the same space. Above the mezzanine level are two additional levels that could house various uses ranging from a gym to a business center. Many participants want to encourage residents and visitors of Chinatown to use the station by providing various incentives. Some suggested, and liked, the idea of developing new events to take place at the station as well as extending the Honolulu Culture & Arts District . Another suggestion was to include discount memberships for the optional gym and/or business center to transit users. That way, people will be more influenced to use the Chinatown transit station for their means of travel. People working in downtown even could have a gym or business center membership and walk to and from the station to work after using these services. Each floor located between the ground and platform levels are optional, therefore, each floor consists of an open plan.

Figure 67

Optional Mezzanine, Second, and Third Levels

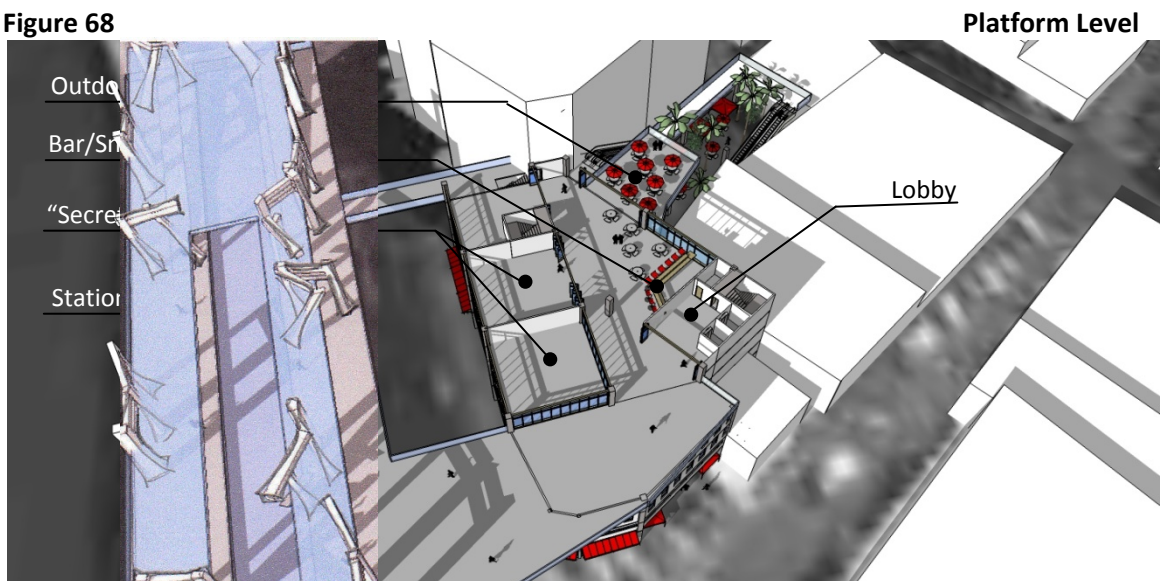


Source: Image created by author and uploaded to GoogleEarth.

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At the platform level, Figure 68, transit riders are greeted with large-scaled Chinese-stylized characters that hold up a 20 foot canopy. The pillars are designed to house images and facts of Chinatown’s unique history and culture. Furthermore, ample space is provided for temporary exhibits, similar to the San Francisco International Airport that will provide the community of Chinatown with a collective cultural museum that encourages visitors to explore the area. From the platform, transit users are provided with multiple exits. For riders who require a direct route to reach their destination, they can take the outdoor staircase leading straight to Nimitz Highway. Visitors and riders who wish to experience the various activities the station has to offer are filtered through the platform to the secret garden located in the center of the city block and onto the various day and open markets at ground level to Kekaulike pedestrian mall. On the way, the transit rider passes by various service shops that can range from a bubble tea shop to a clothing store to laundry services. In addition, the platform level provides a bar/snack area that has balcony seating that overlooks the secret garden. Similar to the day markets on the ground level, the shops are characterized by partition-like wood and glass sliding doors that can be opened completely during operating hours. Also, there is a lobby that provides transit riders with handicap access to and from the station. By providing various service shops, accompanied by a bar and snack shop, the platform also brings together traditional and contemporary communities of Chinatown in one place. In doing so, the transit station can act as a 24/7 community building.

Figure 68



Source: Image created by author and uploaded to GoogleEarth.

Figure 69

Fifth and Sixth Apartment Levels



Source: Image created by author and uploaded to GoogleEarth.

Above the platform, are two apartment levels shown in Figure 69 and 70. These apartments could be lofts for the younger community, or senior housing, or both. Each apartment is around 1000 square feet but can easily be divided to provide additional units. The platform will block the majority of noise pollution from Nimitz Highway; therefore, increased noise pollution from the rail system will be minimal. As it stands now, the station provides 18 units that range from studio lofts to three bedroom two story apartments. With shops and restaurants located at the platform, these apartments provide transit users with the original live/work lifestyle.

Figure 70

Seventh Apartment Level

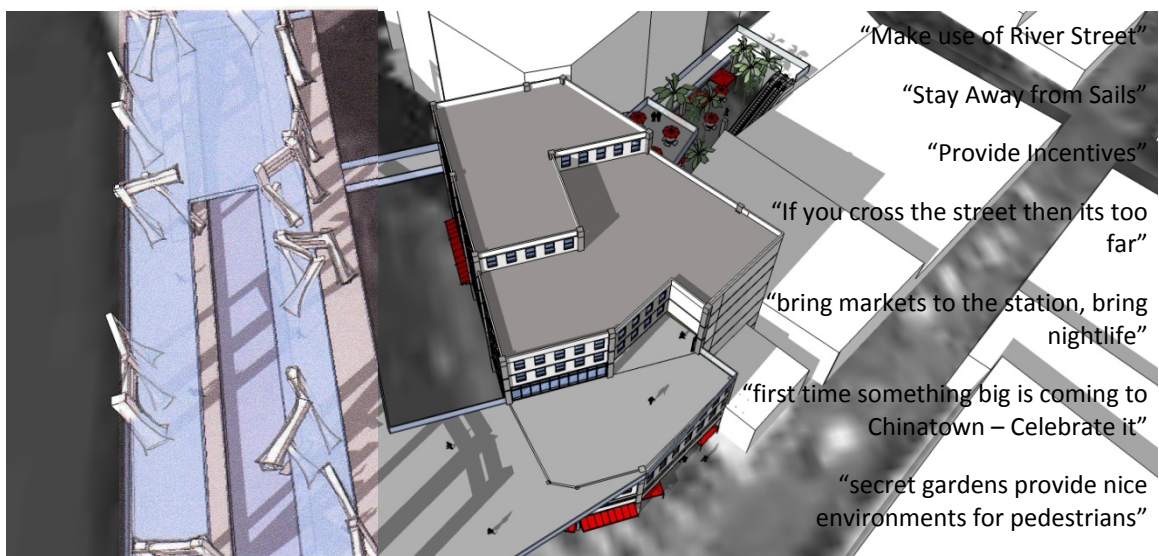


Source: Image created by author and uploaded to GoogleEarth.

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Through the interviews with various residents and visitors of Chinatown, a design was created that meets all the needs and wants of the community as a collective whole. The design encourages people to utilize the transit system through providing multiple incentives including the gym, day care, and business center that set out to improve the overall economy for the area. The platform allows for temporary exhibits that will give residents a sense of place and identity while simultaneously educating visitors of the unique history and culture of Chinatown. The various shops, restaurants, bars, and markets located at the station reference what Chinatown has to offer, encouraging visitors to explore while providing residents with various services. The extension of Kekaulike pedestrian mall to the station provides transit users with a direct connection to Maunakea Marketplace and will greatly improve business. In addition, turning River Street into a pedestrian mall from Beretania Street to Hotel Street will provide transit users with pedestrian access to the Cultural Plaza. The provided design along with the community interviews were completed as an experiment to develop a process for historic communities to follow when facing the implementation of a modern stimulus, refer to Figure 71. The station brings together the traditional shops and markets with housing above and the contemporary bars, galleries, and restaurants like never before. By doing so, a community building that service all branches of the Chinatown community has been created. Depicted in Figure 72 is the site model for the Chinatown design example and the surrounding height limits.

Figure 71 3D Rendering of Possible Chinatown Transit Station Design



Source: Image created by author and uploaded to GoogleEarth.

Figure 72

Site Model of Chinatown Rail Transit Station Design Example



As a means to receive public feedback for the provided design example for Chinatown's future rail transit station, a presentation was given to Exchange Club of Downtown Honolulu. The overall objective of the exchange club is to provide a service to the community, business interaction, and fellowship for members. With over fifty members who meet weekly, all attendees were asked if and how often they travel to Chinatown; if they feel the design presented is suitable for Chinatown; and how they feel the design could improve, refer to Figure 73. Overall, the majority of respondents felt the design was suitable to very suitable for the community of Chinatown. One particular comment expressed, "[This design is a] significant improvement to the current plan and well thought out." A small handful of respondents felt the design was unsuitable for Chinatown and should be redesigned. One such respondent expressed that the design was intrusive to the community and that less usable space should be provided at the platform level and, instead, be replaced with more open, flexible space. Two respondents expressed the design needed to be more 'Asian' looking. The design follows the guidelines and proportions set out by the Chinatown Special District Design Guidelines. In defense to the respondents, there is no reason the station couldn't have more 'Asian' flair, similar to San Francisco's Chinatown. Another respondent did not understand the concept of TOD and expressed that the design should be no more than a platform with a roof and that the community can choose to embrace it or not. In response to this particular comment, the Chicago case study has proven that this response provides little economic incentive to the community and is arguably unsuccessful. Of the 32 respondents, 17 voted the design as suitable or very suitable for the community of Chinatown; five voted unsuitable; and 10 were neutral. In conclusion, the majority of the Exchange Club of Downtown Honolulu felt the design for Honolulu's Chinatown is suitable for the community.

Figure 73 Questionnaire Given to the Exchange Club of Downtown Honolulu

Andrea Kirby
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School of Architecture
Doctoral Candidate
Spring 2010

How can the Chinatown rail transit station example improve?

Please take a moment to comment on how the design example for the future rail transit station for the historic community of Chinatown can improve as well as how the overall process for how historic communities can successfully integrate a modern stimulus in a sustainably.

.1. How often do you visit the historic community of Chinatown?

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Never | Yearly | Monthly | Weekly | Daily |

Comments: _____

What do you travel to Chinatown for? _____

.2. Is the design example for the future Chinatown rail transit station suitable for this historic community?

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Very Unsuitable | Unsuitable | Neutral | Suitable | Very Suitable |

Comments: _____

How can the design improve? _____

Lessons Learned

The overall objective was to conduct an experiment to determine how the community of Honolulu's Chinatown evaluate themselves based on the given hypotheses. Through the series of community mapping exercises and interviews, a collaborative design was created through community involvement. This design can vary in use, material, architecture, and even design; however, the overall objective was successful. The design was able to take a modern stimulus in a historic community and transform it to benefit the community. From the interviews, it became apparent that in order for the future Chinatown rail transit station to be successful, it needed to be engulfed in activity. It is only through activity, and the maintenance and

management of that activity that the homeless and drug use issues of Chinatown will be solved. To embrace that activity, the station was designed in such a way to provide residents and visitors with a taste of what Chinatown has to offer. In a way, the station can be considered a mini version of Chinatown. Through the platform exhibit space and improved pedestrian experience of Kekaulike pedestrian mall, however, transit riders will still be encouraged to explore what else the community has to offer.

Overall, the community studies conducted for this research document have proven to be beneficial for Honolulu's Chinatown; however, some limitations do exist. The participants came from various backgrounds including a resident on the outskirts of Chinatown, a resident from within Chinatown's historic core, a landowner, a businessman, a shopkeeper, an art gallery owner, and an organization worker. These participants, however, were hand-picked by the researcher's committee and only represent a small portion of the Chinatown community. The limitation for the methodology used is simply numerical—six to ten participants is too small to represent an entire community. Multiple opportunities exist, however, to expand numbers. If the study was open to the public, a larger pool of people would be able to participate allowing for the boundaries, significant buildings and sites, as well as the needs and wants of the community to be better defined. The overall objective of the methodology presented here was to receive feedback from a random sample of residents and visitors of Chinatown.

To receive larger numbers, lists could be created that categorize people within and around the community into landowners, businessmen, shopkeepers, etc. Once the lists are completed, a random number generator could be used to select the number of people in each category to be interviewed. One problem with this approach, however, is the difficulty in eliminating bias in the creation of lists. Another opportunity to increase numbers is to select a random sample of participants from the voter list for the area. A combination of the two approaches listed above could be combined as well. Furthermore, rather than interviewing participants on a one to one basis, the pool of people selected could be asked to join a focus group to fulfill the various mapping exercises as a group. The downside of this approach, however, is that the most verbal and opinionated participants can sometimes take over. All in all, multiple opportunities exist to expand the methodology presented to include a larger pool of participants. Another approach is

to have the graphic based mapping exercises uploaded online. This could expand the number of participants by the thousands. Even though this approach could increase participants by the thousands, it will also cause the human to human contact to decrease. Rather than having personal interviews with participants, participants would most likely be asked to answer questions and fulfill the various mapping exercises by a computer.

In addition, the methodology used consisted of interviews that were conducted as discussions. This has proved to be both beneficial and limiting. The discussions were limiting because it is harder to make comparisons among the interviews. A questionnaire would have been a better option to analyze and compare. As seen with Peter Flachsbarth and Makena Coffman's work, through conducting both a telephone and online questionnaire, many comparisons were made between the two. An interesting observation made in this study is how the online participants had a better response to smart growth and TOD concepts in comparison with telephone participants. Most likely due to the ability for online participants to refer to graphics, this shows that graphics allow a greater understanding. Therefore, graphics should be utilized in future participation methods. All in all, questionnaires are a positive participation technique to compare and analyze various factors vital to a community; however, the questionnaires are not able to go beyond yes and no answers. Through discussions, however, a better idea of the individual needs, wants, and views of the future Chinatown rail transit station were able to be identified and incorporated into the design.

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The foundation for the research conducted was based on the City of Honolulu's plan to implement a mass-transit system providing an alternative means of transportation for those traveling to and from the west side of the island to the downtown business district. The city has chosen to apply TOD at each transit station to potentially ensure success for the system in its entirety. The objective of TOD is a recent strategy to provide cities with a way to create successful communities around transit that integrate convenient and efficient transportation links with retail centers allowing residents to conduct everyday tasks close to home. These communities are to be designed in such a way that encourages walking, biking, and using the provided transit system similar to the historic streetcar days when town centers were developed around transit stations. Recent studies show that these dense urban communities encourage residents to own fewer cars, drive less, walk more, and ride transit more than residents of dispersed suburban areas, which is why the City of Honolulu, along with multiple other cities around the U.S., have decided to implement these strategies along its mass-transit systems.⁸⁶

According to the Historic Hawai'i Foundation, the proposed transit line for Honolulu is expected to impact over 33 historic sites and three historic districts. Adjacent to the downtown business district, the Chinatown station in particular is currently planned to be located just within Chinatown Special District. As of today, the site houses an at-grade public parking lot. Within the same city block are the Harbor Village apartments, multiple shops, fish markets, a municipal parking garage, and the historic 'Oahu Market. The entire Chinatown historic community is located within half a mile of the future transit station. Even though historic communities were the original TOD, times have changed and in order to successfully integrate TOD into this historic community, multiple considerations must first be taken into account. When implementing a new stimulus, such as a mass-transit system into a historic community, multiple concerns arise on how the historic integrity as well as the community as a whole will be impacted. The overall objective of this particular thesis was to determine how future developers, city officials, urban planners, architects, and members of the community can evaluate themselves in order to best integrate a mass-transit system, or any modern stimulus, in such a way that will strengthen historic communities and allow them to adapt and evolve sustainably over time. The researcher

⁸⁶ Dena Belzer and Gerald Autler, *Transit Oriented Development: Moving From Rhetoric to Reality*, (California: The Brookings Institution and Great American Station Foundation, 2002) 9.

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engaged in multiple studies and analyses conducted for Honolulu's Chinatown in order to develop a process to serve as a benchmark for other historic communities that are facing similar issues to follow.

As discussed previously, Honolulu's Chinatown was the original center for the city's commerce and has always served as a gateway for immigrants of various ethnic backgrounds. With a current demographic make-up of multiple cultures including Vietnamese, Laotian, Chinese, Japanese, Thai, Filipino, Hawaiian, Korean and even Caucasians, Chinatown acts as a melting pot of culture. The unique community has faced many hardships; however, through various revitalization projects Chinatown is once again becoming a lively destination for residents and tourists. As previously seen, the restoration of the Hawai'i Theatre caused a wave of businesses to open in the area and created a new nightlife for Chinatown. The traditional small businesses and day markets of Chinatown were juxtaposed with modern art galleries, shops, bars and restaurants like never before. Similar to the case with the Hawai'i Theatre, the initial thoughts presented in this doctorate project were to use the future Chinatown rail transit station as a catalyst for boosting the area's economy as well as provide the community with a sense of place and mix even merge the traditional and contemporary communities. At this time, multiple case studies of Chinatowns as well as historic communities were researched throughout the U.S. drawing together similar characteristics and trends.

This doctorate project has proven that the majority of historic communities throughout the U.S. share multiple features including a low-rise urban form, a streetscape oriented towards the pedestrian, a distinct boundary, unique architectural style, and compact mixed-use centers that are highly dependent on daily visitors, amongst others. Almost every historic community has a series of guidelines and/or building regulations for how to treat any new construction activity in the area. These regulations often cover such factors as the community's needs, appropriate land use, pedestrian orientation, streetscape, architectural design features, historic and cultural significance, and transportation requirements. More often than not, maps and images are depicted by the city government and/or planning department distinguishing the various factors above. Furthermore, TOD guidelines include many of the same factors, but do not contain specifications for certain aspects that are considered critical to historic communities such as the

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architectural style, materials used, building height, setbacks, signage, and cultural and historical significance. Through logical argumentation, this research document initially set out to compare multiple case studies that analyzed both historic communities and TOD in order to determine how to marry the two. The basic definition of TOD is usually presented with a one-size-fits-all mentality. The guidelines and principles are usually established to be applied to any situation. This becomes problematic when applying these generic TOD principles to a historic community because they could destroy the individuality and historic character of the community. During this time, it became apparent that more often than not, TOD is associated with high-rise buildings to achieve the required high density requirements. Through multiple studies, however, it was proven that historic communities already achieve the high density requirement. Therefore, the typical hierarchy that is often illustrated with TOD principles is not necessarily needed in historic communities. All in all, the studies conducted proved that implementing TOD principles in a historic community is not as simple as it may seem. Multiple factors must be taken into consideration to prevent the unique character from being diminished. Through the comparison and analysis of the previous case studies, a series of hypotheses were determined for how a city should treat density, growth, zoning, place-making and integration, and partnerships when implementing TOD into a historic community. As the hypotheses became solidified, it was recognized that the research did not have to be limited to only TOD in a historic community, but also any type of modern stimulus. From analyzing how historic communities have responded to modern stimulus in the past, a process for how it should be handled in the future can be created.

To begin the analysis of Chinatown, it was understood that a series of site studies needed to first be conducted to call out existing conditions in graphic form. As stated previously, historic guidelines and/or building regulations created by the city government and/or planning department usually depict in text as well as maps and images already exist for site conditions as well as how to treat any new construction in the area. These raise many questions including: Who created these maps? Does the community agree with these maps? And who is the Community? In order to answer these questions, a handful of residents, workers, landowners, and visitors of Honolulu's Chinatown were interviewed to develop a series of community maps.

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By asking a series of questions including: What buildings and/or sites in Chinatown do you visit and travel to most? Which buildings do you feel are vital to the historic and cultural character of the community? Which areas and/or buildings used to be critical to Chinatown historically? Where do you feel the boundaries of Chinatown are? What is working for Chinatown currently; what isn't? And how do you travel to and from and within Chinatown—by foot, bike, car, or public transportation? Based on these answers, individual maps for each interviewee were able to be produced that depict the significant sites and buildings, neighborhood boundaries, and an overall idea for how Chinatown can utilize this new stimulus in a way that will enhance the historic character rather than diminish it. Each individual's community map was overlaid, one on top of the other, to depict overlaps. By observing the overlapped significant buildings and sites as well as neighborhood boundaries, a combined community map was produced. When compared to the city's map of significant sites, buildings, and neighborhood boundaries, the maps differed drastically. This study proved that community involvement is vital for depicting the actual factors that are considered significant and in need of protecting and/or enhancing with implementing a modern stimulus into a historic community. The overall objective is to create a series of simplified, graphic based process that is easy to interpret as well as adapt and apply to other historic communities. This is based on the idea that once these community site studies are completed, design analysis' can begin.

From the community interviews along with the various case studies, the factors needed to successfully integrate a station TOD into a historic community were formed. From this process, it was determined that the station should be located as close to the community center as possible. In a sense, the transit station should become the new center of activity for the area. However, this is highly dependent on the transit route depicted by the city and/or transit authority. Locating the transit station in the center of the community may not always be possible, as seen with Honolulu's Chinatown where the station is located along the outskirts of the community. In addition to station location, to prevent diminishing the unique historic character of the area, the station should also be oriented in a way that provides a visual connection to various landmarks. This can be done through increased pedestrian connectivity. Furthermore, design integration is also an important aspect to take into consideration. As

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discussed previously, historic communities usually contain a series of design standards and guidelines to protect the historic and cultural characteristics of a historic community that refer to such factors as building openings and orientation, ground floor windows and building facades, building setbacks, location of off-street parking, and outdoor signage. TODs often stress dense, concentrated, mixed-use developments, as well as pedestrian-oriented streetscape and live/work communities, but regulations referring to the community's history and unique architectural character are minimal. Overall, the station location, pedestrian connectivity, and integration of TOD into the surrounding environment are of the most important aspects to consider for historic communities, however, certain design precautions must also be taken into account to minimize any negative impact the station may have on the community. These graphic-based community activities are a way to depict an accurate account of the most significant buildings, sites, pedestrian pathways, streetscape, scale, and open and private areas, among other vital factors, in need of protecting and/or enhancing.

Five Action Steps for Historic Communities in a Changing World

In order to conduct the necessary studies, direct involvement with the community was a necessity. In doing so, multiple community studies, interviews, and discussions were held to determine how Chinatown could incorporate a TOD to enhance the unique culture. Participants came from different backgrounds and interests including: a resident from the outskirts of Chinatown, a resident within the Chinatown historic core, a landowner, a businessman, a shopkeeper, an art gallery owner, and an organization worker. Each participant was asked to conduct a series of exercises determining their individual neighborhood boundaries and areas of interest. In addition, discussions were held as to each participant's individual wants, needs, and concerns in regards to the future rail transit station. Once identified, design decisions could begin. Based on the process used to test the hypotheses on Honolulu's Chinatown, five action steps were able to be distinguished: research, identify, challenge, discover, and apply. These action steps accomplish the following: to observe and research the community's culture and history; identify information provided by the city; challenge that information; discover the needs and wants of the community; and apply the knowledge gained to the new stimulus. In doing so, this process provides historic communities with an alternative methodology to convention community design methods. By following the provided process, historic communities can

ensure that a new stimulus will be implemented without diminishing the areas unique culture and history.

.1. Action Step

| Research

As an initial step for historic communities to take when implementing a modern stimulus into a historic community, multiple observations and research should be conducted to accumulate all existing information. The research should focus on the current history and culture of the area as well as the boundaries, demographics, transportation, architecture, streetscape, scale, and zoning. It has been shown that historic communities throughout the U.S. often share multiple features including a low-rise urban form, a streetscape oriented towards the pedestrian, a distinct boundary, unique architectural style, and compact mixed-use centers that are highly dependent on daily visitors, amongst many other factors. It is important for these features to be protected. In order to do so, almost every historic community has a series of guidelines and/or building regulations for how to treat any new construction activity in the area. These regulations often cover such factors as the appropriate land use, architectural design features, historic and cultural significance, and transportation requirements. This information along with various images, charts, and graphs should be provided to all participants in a concise, easy to read document.

.2. Action Step

| Identify

As a next step, site studies should be conducted to call out existing conditions in simplified, easy to interpret, graphic form. These simplified maps are for identifying the existing boundaries, building height restrictions, significant buildings and sites, pedestrian pathways, vehicular traffic, existing vegetation and parks, as well as initial studies on the existing zoning and housing types as depicted by the city. During this process, participants are asked to identify which maps are fixed versus which can be questioned or challenged. The point of this exercise is to acknowledge the community may not necessarily agree with the maps designated by the city. More often than not, community design methods and techniques utilize maps called out by the city rather than the community. These maps often include neighborhood boundaries, significant

sites and buildings. When using community design methods and techniques, community members should be able to identify what they feel the existing community conditions are.

.3. Action Step | Challenge

Whenever conducting a community design, an important question to ask is who is the community? More often than not, a community is actually made up of multiple social groups that see and experience the area in a different way. Talking about a historic community as a solidified whole could be problematic. What may be considered a primary destination to one person may be insignificant to another. An area that may seem critical to the overall life of the community may not even be considered within the neighborhood boundary to another. It is important to note that participants should range in backgrounds and interests. All social groups should be represented in order to successfully create a collective community design. From here, an important exercise for all participants to partake in is drawing their own neighborhood boundary line. The point of this exercise is not to have participants guess the actual boundary set by the city, but to identify what areas they personally consider to be a part of the community. The same exercise should be conducted for significant buildings and sites. Participants should identify their primary and secondary areas of interest. Discussions at this point can also begin for determining which areas used to be a primary destination, but over time has been neglected. Participants should draw their own maps for all features that weren't identified as fixed in Action Step 2. From here, all the individual participant maps are combined in order to create an overall collective community maps based on the overlaps. The overall objective is to further community design methods, as they stand today, by identifying what the historic community members, as a collective whole, feel are vital for the survival of the area and how the modern stimulus can best serve them.

.4. Action Step | Discover

Created in Action Step 3, the collective community maps determine not only the actual community boundary line, but also shared areas of interest. As the next step, participants should discuss what is and isn't working in the community. During this step, the overall objective is to identify how the new stimulus should incorporate and how it can respond to the

various factors identified by the community as vital, such as significant buildings and sites. In addition, participants should identify the various types of activities that should be located at the station and how these activities can work to solve the short-term and long-term issues in the community. At this time, participants can divide into various focus groups where preliminary design sketches can be generated. Each focus group is expected to develop one unique design. The design can range in complexity from simple spatial studies to architectural style and façade studies. There are no limitations during this phase; however, each participant must express their individual wants and needs as well as what they feel will best benefit the community as a whole.

.5. Action Step

| Apply

Now that the initial site studies are completed, design analysis can begin. Community design and TOD principles need to be taken to the next level to ensure that the unique culture and history that is nested in every historic district is not sacrificed in any way. Once each focus group settles on one design, all groups are to come back together and discuss each design. From here, similarities and common themes are to be identified in order to narrow the designs down to one collective community design. The new stimulus should serve and blend in with the existing community as best as possible while simultaneously boosting the community's economy. The new stimulus should also reference the community's significant sites and buildings as well as provide a vibrant environment that encourages walking, biking, and use of the provided public transit system.

Lessons Learned

All in all, multiple opportunities exist for historic communities, as seen in Honolulu's Chinatown, to embrace a modern stimulus as a way to evolve and grow sustainably towards the future. From testing the given hypotheses on Honolulu's Chinatown, a process was determined on how other historic communities should implement a new stimulus. The future role of designers and planners in the preservation of historic districts faced with a modern stimulus is dependent on community involvement. In every historic community, significant building and sites exist that should not only be referenced to, but also protected if planners and designers are to celebrate and enhance a historic community's sense of identity. Through the various case studies and

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analyses conducted, it was discovered that these features are community defined meaning various features may change as the community continues to grow and evolve over time.

Provided in Appendix A is a workbook of the five action steps, included is a completed workbook produced by the author for Honolulu's Chinatown. As seen, by taking the five action steps, historic communities can graphically identify and represent the most vital features of the community. Individual community maps are created based on the information provided by participants that can then be compared in order to begin making design decisions. In order to successfully implement a modern stimulus in a historic community, participants must range in backgrounds and interests so that all social groups are represented in the process. As a next step, these studies and exercises could easily be uploaded online. By uploading the studies online, a larger representation of the community can be achieved. One of the most notable features of the methodology used in this doctorate project, however, was the human to human contact. If the study is uploaded online, a certain degree of emotion will be stripped away—participants will be interviewed by a computer rather than a human being. The advantage of human to human contact is to build a relationship between the designer and the participant. The participant's wants, needs, and emotions are clearly understood by the designer when. When uploading the online, one way to minimize the lack of emotion is to allow participants to speak their minds freely digitally. By providing blogs and various opportunities throughout the online process for participants to speak their mind, participants will feel a sense of accomplishment and achievement in comparison to a multiple choice survey or something along those lines.

Wiki-planning is an online, interactive tool that allows people to participate in online surveys, blogs, mapping exercises, amongst many other activities⁸⁷. Through wiki-planning, these studies could be furthered to include, rather than a handful, hundreds if not thousands of residents, workers, land owners, and visitors in order to create more accurate community maps and images of significant sites and buildings, neighborhood boundaries, vital pedestrian pathways, park areas, important architectural features, streetscape character, etc. All in all, an entire

⁸⁷ Deborah E. Ryan and Janine Clifford, *Planning for the Digital Citizen*, (Charlotte and Honolulu: University of North Carolina at Charlotte and University of Hawai'i at Mānoa, 2010), 1.

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community could sign in and create individual maps to be overlaid and compared, creating the most accurate and up-to-date community maps for planners and/or designers to utilize when designing or implementing a modern stimulus into a historic community. Participants could also be provided with multiple opportunities to express their personal wants and needs through various blogs. Therefore, even though a degree of human touch will be lost, participants will still feel a sense of accomplishment and overall involvement in the design process of a modern stimulus in their community. Community design methods that usually involve a small room of people could multiply by the hundreds if not thousands.

Wiki-planning allows participants to be digitally interconnected with hundreds and thousands of people from their community. In doing so, participants will be able to receive a broader vision and understanding of themselves and their community through a digital world. The collective community maps would be able to be managed, and change over time. Planners and designers will have the opportunity to sign in at anytime and get the most up to date information for the various community needs, wants, concerns, and other factors. All in all, this doctorate project has suggested a process for future developers, city officials, urban planners, architects, and community stakeholders of historic communities to follow when facing similar situations. Through testing the hypotheses on Honolulu's Chinatown, a simplified, graphic-based process has been suggested that could eventually be uploaded online to increase the representative sample. The process defines how other historic communities can evaluate themselves and can utilize a modern stimulus as a means to grow and evolve sustainably over time without compromising the unique culture of the area.

APPENDIX A | **WORKBOOK**

The In-Sync City: 5 Steps For Historic Communities in a Changing World

APPENDIX B | **BACKGROUND**

APPENDIX C | **RESEARCH DOCUMENTATION | Case Studies**

TOD: One Size Doesn't Always Fit All—Dallas Case Study

A Closer Look: Mass-Transit at the Urban Core—San Fran Case Study

A Closer Look: Mass-Transit at the Urban Core—Chicago Case Study

TOD: A Catalyst For Regeneration—Denver Case Study

APPENDIX D | **SUPPORTING TABLES**

APPENDIX A

WORKBOOK | The In-Sync City: 5 Steps for Historic Communities in a Changing World

by Andrea Kirby

Graphics by James Van Trump

5 STEPS FOR HISTORIC COMMUNITIES IN A CHANGING WORLD | THE **IN SYNC** CITY

Based on the process used to test the hypotheses on Honolulu's Chinatown, five action steps were able to be distinguished:



These action steps set out to.....

- "observe and research the community's culture and history"
- "identify information provided by the city"
- "challenge that information"
- "discover the needs and wants of the community"
- "apply the knowledge gained to the new stimulus"

[M]
RESEARCH

HISTORY

CULTURE

ARCHITECTURE
& STREETScape

[MAP OF COMMUNITY]

DISTANCE TO SIGNIFICANT SITES

[2]
IDENTIFY . . .

[EXISTING
BOUNDARIES]

[SIGNIFICANT
BUILDINGS & SITES]

[PARKING, PEDESTRIAN
AND VEHICULAR PATHWAYS]

[VEGETATION]

[HOUSING]

[ZONING]

[3]
CHALLENGE

FIXED | FLUID

.....

.....

.....

.....

1.

.....

.....

.....

.....



2.

.....

.....

.....

.....

[4]
DISCOVER

[NEEDS] [WANTS]

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Two horizontal dotted lines for writing in the 'NEEDS' column.

Empty dotted-line box for writing in the 'NEEDS' column.

Two horizontal dotted lines for writing in the 'NEEDS' column.

Empty dotted-line box for writing in the 'NEEDS' column.

Two horizontal dotted lines for writing in the 'NEEDS' column.

Empty dotted-line box for writing in the 'WANTS' column.

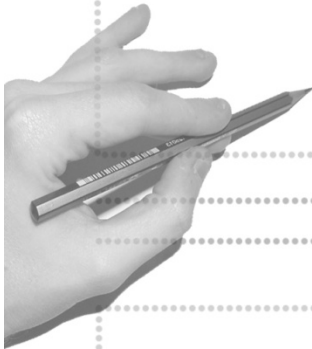
Two horizontal dotted lines for writing in the 'WANTS' column.

Empty dotted-line box for writing in the 'WANTS' column.

Two horizontal dotted lines for writing in the 'WANTS' column.

Empty dotted-line box for writing in the 'WANTS' column.

Two horizontal dotted lines for writing in the 'WANTS' column.



[5]

APPLY



A vertical column of ten horizontal dotted lines for writing.

A large rectangular area with a red dotted border, intended for drawing or sketching.

APPENDIX B

Background

BACKGROUND |

This day in age, historic districts are located all over the world and in almost every large city. Interestingly enough, the development of historic districts are a relatively new concept that came about in the past fifty years. The first designated historic district was the city of Charleston located on the coast of South Carolina. Recognized by the U.S. federal government, the creation of the Charleston historic district encouraged the creation of multiple historic districts in the surrounding area. This created a domino effect that eventually reached areas all over the country. Due to this wave of historic districts, the U.S. Government created the National Register of Historic Places in 1966 with the overall intention to protect the history of places that have been deemed to hold significant characteristics of American heritage. By the mid 1980s, thousands of historic districts were recognized by the federal government as being:

“..a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.”⁸⁸

As it stands today, historic districts are defined as including any group of buildings, properties, or sites that have been acknowledged by one or multiple authorities as being historically or architecturally significant. Appointed by either the federal government or the state, historic districts can vary greatly in size but are always divided into one of two categories: contributing or non-contributing. Contributing properties add to the historical or architectural character of the area whereas non-contributing properties do not. Properties designated by the federal government are automatically listed on the National Register of Historic Places and are then divided amongst five different categories: building, structure, site, district or object. Some restrictions do apply for certain properties to be considered for the National Register of Historic Places, such as religious structures, moved structures, reconstructed structures, or properties without any legitimate significance in the last fifty years. However exceptions are always made for properties that are considered integral to the community. State governments have a listing similar to the National Register of Historic Places that provides similar services, such as qualification for grants and tax incentives. However, the state protects historic properties under

⁸⁸ Robert T. Stipe, *A Richer Heritage: Historic Preservation in the Twenty-First Century*, (Durham: Preservation Foundation of North Carolina, Inc., 2003) 7.

BACKGROUND |

state law or the State Register of Historic Places which differs in the sense that each state has the freedom to contain different requirements. Under the National Historic Preservation Act of 1966, all states must possess a State Historic Preservation Office; however, how the historic districts are handled, if at all, is open to each state.⁸⁹

In general, land use decisions are made at the local level; therefore local historic districts usually experience more protection and strict regulations in comparison with federal historic districts. In the United States alone, over 2,300 local historic districts exist and are managed at the county, municipal level or, in land use cases, both. Local laws for such factors as design regulations, amongst others, differ drastically. For renovations, most areas follow the U.S. Secretary of Interior's Standards for the Rehabilitation of Historic Buildings, which forces property owners to follow set guidelines that specify the roof form and materials, front and side porch designs as well as the shape, style and placement of windows and doors, construction materials, lighting fixtures, fences, paving, even paint color.⁹⁰ Over the years, many limitations have been created for historic districts at the local and federal level, but why? What is it about these neighborhoods that have all of a sudden become so valued?

Originally, the concept of the "American" historic district was simply a protective barrier for important, individual historic sites. As time passed, the district regulations evolved to include structures at a larger scale surrounding the individual historic site. Preservationists claimed that many properties acted as key elements for the overall historic integrity of a community. Historic districts no longer included just one or two buildings but encompassed an entire area integrating surrounding structures, streets, open space, and even landscaping in order to protect the historic character in its entirety. By the early 1980s, the National Trust for Historic Preservation recognized almost 900 American cities and towns to have some form of historic 'zoning'.⁹¹ Historic districts have come to include many different types of communities, beyond American heritage, such as multiple ethnic communities, in particular Chinatowns.

⁸⁹ David Hamer, *History in Urban Places: The Historic Districts of the United States*, (Ohio: Ohio State University, 1998), 20.

⁹⁰ Robert T. Stipe, *A Richer Heritage: Historic Preservation in the Twenty-First Century*, (Durham: Preservation Foundation of North Carolina, Inc., 2003) 15.

⁹¹ Stipe 2003, 7.

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Throughout the world are communities, outside of China, that contain large numbers of Chinese residents. Most commonly known as Chinatowns, these communities are located throughout East Asia, Southeast Asia, the Americas, Australia, as well as Europe. The majority of Chinatowns are located in an urban context on the outskirts of large cities and currently acts as a means for commercial tourism as well as actual living and working communities. Originally founded by Chinese merchants, the first Chinatowns developed over 200 years ago in Southeast Asia beginning with Manila's Chinatown. Chinatowns have since expanded outside of Asia, reaching other parts of the world. In the mid-nineteenth century, the city of Honolulu became home to the first Chinatown outside of Asia whereas San Francisco founded the first, and one of the largest Chinatowns, in all of North America. Chinatowns usually were known as places of cultural insularity; however, through many revitalization projects beginning in the late 20th century, many investments have been created in order to transform Chinatowns into economic and social centers. Unfortunately, these investments have, more often than not, caused gentrification as well as deterioration of culture and the unique Chinese character in the Chinatown communities.⁹²

American Chinese communities, alongside historic districts, have received notable recognition in the past 50 years. During the 1960s, when historic districts were increasingly popping up throughout the country, Chinatown communities experienced a significant population boom. This increase in population was mainly due to the Immigration Act of 1965, which allowed numbers of Chinese immigrants to enter into America each year. This increase in population caused a domino effect for new Chinatowns to begin developing in the cities of Miami, Houston, and San Diego, while sparking new Chinese suburban communities throughout America simultaneously. Chinese populations continued to increase after 1979 when the U.S. and the People's Republic of China established formal relations. During the second half of the 20th century, the Chinese populations increased by 241.4 percent from 236,084 in 1960 to 807,027 in 1980. As of today, the Chinese are ranked the second largest immigrant population in the United States. Overall, the rapid growth in Chinese population in American cities during the

⁹² Peter Kwong *The New Chinatown*, (New York: Hill and Wang, 1996), 3.

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second half of the 20th century paved the way for the redevelopment and recognition of American Chinatowns as unique and culturally rich historic communities.⁹³

When determining how to correctly implement and zone a modern stimulus into a historic community, it is important to understand the evolution and impact zoning has had on these unique communities. The concept of zoning first came into play with the rise of industrialization. Multiple new land uses developed during this time that came to threaten traditional residential, commercial, and agricultural activities, which caused many major cities in America to suffer from overpopulation and urban sprawl. This has caused, amongst other factors, decentralization, heavy congestion on roadways, and an increase in pollution. This unplanned growth experienced by the majority of large cities throughout America during the 20th century led to the need to begin regulating development. In doing so, all new buildings and land uses were required to follow set guidelines based on both building codes and zoning codes whereas existing structures were allowed to remain. Through building code requirements, all buildings or genre of buildings are forced to follow a series of design regulations based on the use of materials, fire safety, as well as the use of water and electricity within a structure. The building code has since evolved to include other aspects such as space per occupant, parking, lighting, ventilation, and plumbing. In addition to these amendments, a housing code was also created to focus on the minimum requirements solely for residential buildings. On top of this, all new developments must also follow land use and construction requirements set out by the zoning code which can be much more restricting depending on the type of code.⁹⁴

Zoning

Based on designated geographical subdivisions, the main purpose of zoning is to differentiate the various land uses throughout a city with the overall idea to call out areas that are considered incompatible. Zones are labeled as inclusive or exclusive: inclusive involves a hierarchy of land uses within each zone ranging from least to the most offensive; exclusive is a less common form of zoning and is characterized by only allowing one use per zone. The five major activities

⁹³ Kwong 1996, 3.

⁹⁴ Encyclopedia Britannica Online, "Urban Planning," Encyclopedia Britannica 2009, <http://www.britannica.com/EBchecked/topic/619445/urban-planning> (accessed September 23, 2009).

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involved within urban zoning clauses are residential, mixed residential and commercial, commercial, industrial, and special which includes, but is not limited to, power plants, sports complexes, airports, and shopping malls.

Often used as a way to protect certain areas within a community from new developments, zoning is usually controlled and determined by either the state, national planning authorities or some other enabling legislation. Special precautions are, more often than not, used to protect the character of the community as well as the local residents and businesses. In doing so, zoning has come to also include other areas of interest such as building height regulations, densities, location of buildings on the site and setbacks as well as lot coverage including the amount of landscaped areas, impervious surfaces, traffic lanes, and parking requirements. Densities range from low-density such as single family housing to high-density such as high rise apartment complexes. Each category can be subcategorized in order to account for special occurrences. For example, residential uses include R-1, R-2, R-3, and R-4. R-1 residential includes boarding houses, hotels and motels whereas R-2 residential includes apartment houses, convents and dormitories. As a tool of urban planning, zoning code is created by conducting multiple studies on an entire area's economic growth, demographic accounts and land use patterns to develop a master plan.

Urban planning has a very broad and expansive history that dates all the way back to ancient cities with the layout and location of streets water and sewerage systems. Over the years the concept of urban planning has taken many different forms and, today, has evolved to solve, in collaboration with zoning codes, the disorder and decentralization that has become prominent in the majority of large cities throughout the world. The overall goal for planners is to balance multiple issues including such factors as social equality, economic growth, environmental considerations, and aesthetics. Outcomes range from a city or metropolitan area master plan to an individual neighborhood or project plan to an amended set of guidelines or policies. The theory for urban planning has changed over the years causing zoning codes to evolve, legal

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constraints to fluctuate and political priorities to shift.⁹⁵ As of today, four main categories exist for zoning: Euclidean, Performance, Incentive, and Design-based.

Euclidean zoning, the traditional form of zoning, is based on the concept of “building-blocks” due to its geometric nature for creating geographic districts based on the separation of various land uses. One of the oldest types of zoning, Euclidean zoning was named after the town of Euclid, Ohio for legalizing zoning. However, in actuality, Euclidean zoning is based on the system designed for New York City—the first city to ever pass a major zoning ordinance—restricting the uses for properties of land. The city already had a make-shift building code that regulated building heights for apartment complexes; however, with the continuous influx of immigrants, city leaders came to the conclusion that the city needed an organized system of city planning. Therefore, in 1916, it was decided that every city block was to be categorized into three “zones”: residential, commercial, or industrial. Each block was broken down to include limitations for setbacks and building heights while simultaneously preventing unwanted land use combinations to avoid public health, safety, and fire hazards. The New York City zoning document was simple and to the point, providing concise information about the three zones along with a list of allowed uses, setback and height limits as well as allowed variances. One last chapter was included covering how to amend the document, which soon became the model for all future zoning codes and is what we now refer to as Euclidean zoning.⁹⁶

The original text for zoning was very simplistic and allowed for an infinite number of changes which, in the end, caused many problems as more and more cities began adopting zoning ordinances. Since no law existed against creating additional zones, the three original districts soon became four, six, ten, or even twenty, if the city desired it. Multiple cities in America adopted similar ordinances since the creation of the original New York City zoning code, beginning with Denver in 1923. A year later, President Hoover, a firm believer of the urban reform movement that was spreading through the 1920s, created an Advisory Committee on City Planning and Zoning who created the Standard Zoning Enabling Act of 1924. The main

⁹⁵ Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 2.

⁹⁶ Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 9.

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objective of the Act was to provide a model for states that wished to implement zoning for its cities to use. Furthermore, the Advisory Committee continued to produce the Standard City Planning Enabling Act of 1928, which provided guidelines for each state to develop a planning commission as well as a master plan. Merely two years later, thirty five states had adopted the model zoning Planning Act by 1930.⁹⁷

In general, Euclidean zoning, as it stands today, provides standards for each geographic district by defining limitations for the amount of development activity that can take place on a particular lot. For the most part, Euclidean zoning has stayed the same in concept; however, after World War II, Euclidean zoning experienced the first major change when the automobile introduced a new dimension for urban planning. Based on the same district classifications as the original New York zoning plan, Euclidean zoning has since been taken to a new level that covers more types of uses such as single-family, multi-family, commercial, industrial uses in a hierarchical order, inter-mixing each zoning category into the other. Furthermore, Euclidean zoning now contains a code for parking that has been subcategorized into public, semi-public, and private. This particular type of zoning is widely used due to its effectiveness and ease of implementation. Its descriptive regulations have been legally recognized by planners and designers for generations. Much criticism has been given recently for Euclidian zoning, however, due to its lack of flexibility as well as its outdated planning theory.⁹⁸

During the mid-20th century, a new branch of zoning was established based on the concept that each individual land property should be treated uniquely. Known as Planned Unit Development, or PUD, this form of zoning only concerned the property owner and the city. The law required the land owner and the city to create one document per land parcel that pleased both parties. The overall objective was to take zoning to a new level, moving past the mere setbacks and building height limitations, to create design opportunities that took into account various factors including landscaping as well as parking, pedestrian walkways, bicycle paths and racks, lighting, and building design. This zoning type incorporates concepts of mixed-use, New Urbanism and

⁹⁷ Elliot 2008, 18.

⁹⁸ Eliza Hall, "Divide and Sprawl, Decline and Fall: A Comparative Critique of Euclidean Zoning," *University of Pittsburgh Law Review* 68:923-924.

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highest, but best, use while still simplifying all zoning classifications into a single and uniform system. Land values are controlled by dividing the various zoning districts into levels based on their location in the urban context including neighborhood, community, municipality, and region. Prince George's County in the state of Maryland was the first to adopt PUD ordinances in 1949 and the trend quickly caught on for states across the country during the 1950s and 1960s. PUD's allow for variety and quality for each land property on an individual basis without complicating the zoning code. At the same time, however, PUD's are based on negotiation, which caused more problems in the end, since no limitations existed for what can and cannot be negotiated.⁹⁹

With the complications involved with both Euclidean zoning and PUD's, a new zoning type, Performance zoning, was developed to simplify the system and provide flexibility. This type of zoning is similar to PUD's since site specific regulations were also created for individual developments rather than for a genre of uses. One of the main differences is that all setback and building height limitations were no longer included in the policy, and, instead, site studies were conducted quantifying the levels of tolerable activity in reference to noise, smoke, emissions, glare, radiation, and other negative impacts. The overall objective is to provide a baseline for the performance of buildings. How the baseline is met, is free to the developer.¹⁰⁰ In order to ensure regularity, Performance zoning is applied through a point system where a property developer receives a certain amount of credits or points for following the given zoning requirements. The requirements list various options the developer can chose to receive points—these options include such factors as the response to environmental impacts, providing public amenities and building affordable housing units. Performance zoning is often used in place of Euclidean zoning since marketing principles and private property rights, such as environmental protection, are included.¹⁰¹ On the downside, however, this type of zoning can

⁹⁹ Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 18-22.

¹⁰⁰ Elliot 2008, 23-25.

¹⁰¹ Zoning Matters, "Types of Zoning Codes" Zoning Matters: The Official Site of the Philadelphia Zoning Code Commission, <http://www.zoningmatters.org/facts/trends> (accessed September 20, 2009).

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be difficult to control and many unexpected outcomes can arise, which is why Performance zoning never fully replaced Euclidean zoning.¹⁰²

Created to encourage future developments to follow regulations provided by the city's development growth plans, Incentive zoning was first adopted by both the cities of Chicago and New York. This type of zoning first establishes basic limitations for developments including a detailed list of incentive regulations for developers to follow. Secondly, similar to Performance zoning, Incentive zoning is also based on a reward system created to encourage developers to follow the given design regulations. One of the most common incentives includes floor-area-ratios (FAR) bonuses for such developments as affordable housing provided on-site. Other incentives include height limit bonuses for including on-site public facilities. Therefore, through Incentive zoning, developers can build denser and larger projects by giving open space, plazas or some other design feature that benefits the community. Problems involved with this type of zoning occur when projects take advantage of incentive bonuses. Incentive zoning allows for much flexibility therefore a high level of administration must exist in order to ensure that developments contain a healthy balance between the goals intended by the city as well as the needs of the developer.¹⁰³

Much more flexible than all other types of zoning, form-based codes have recently been created to provide an alternative means to conventional zoning. Form-based codes have changed the focus of land use regulations to specify building form rather than the use, setbacks, and building height restrictions. Additionally, form-based codes recognize that commercial, residential, and industrial uses don't always have to be separated as specified in Euclidean zoning. Instead, this particular type of zoning encourages mix-use developments. More importantly, Euclidean zoning allowed for bad building design, an option form-based codes wanted to eliminate completely. With this in mind, the overall objective of form-based codes is to create well-designed developments that provided communities with a sense of place as well as pedestrian-oriented environments. Included in this is not only regulations for lot size, location of buildings,

¹⁰² Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 18-22.

¹⁰³ Zoning Matters, "Types of Zoning Codes" Zoning Matters: The Official Site of the Philadelphia Zoning Code Commission, <http://www.zoningmatters.org/facts/trends> (accessed September 20, 2009).

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setbacks, and density, but also factors such as the relationship of building height compared to street width, architectural style and façade details, and location of parking in reference to buildings.¹⁰⁴,¹⁰⁵ Two distinct organizations control regulations for form-based codes, Traditional Neighborhood District (TND) focus on neighborhood designs whereas SmartCode is for planning an entire city.¹⁰⁶ This division of zoning is relatively new and therefore has experienced a lot of criticism since it is very challenging to execute.¹⁰⁷ Only a few cities throughout the United States have adopted SmartCode ordinances; however, multiple neighborhoods have increasingly started to adopt the regulations set forth in the TND zoning ordinances. More often than not, cities and neighborhoods have taken the concepts set out by form-based codes and integrated them with Euclidean, PUD, Performance and/or Incentive zoning, creating a hybrid form of zoning, known as form-integrated zoning.¹⁰⁸

Form-integrated zoning or “hybrid code” is a branch of form-based codes that overlay multiple components from the different zoning types with urban design standards as a way to practice composite zoning. Similar to Euclidian zoning guidelines, form-integrated zoning consists of three district components including a use component as well as site and architectural components. Within this type of zoning, the use component is more inclusive and broader in definition than Euclidian zoning. The site component covers multiple site specific conditions ranging from low to high intensity including, but not limited to, the size and scale of buildings as well as parking, additional structures, drive-through commercial lanes, landscaping, and even outdoor storage and display. As for architectural components, elements and materials are usually specified as well as the general character and style of architecture. This particular method is more flexible and appropriate for site-specific communities that don’t perfectly fit into the mold set out by Euclidean zoning regulations. Furthermore, form-integrated zoning allows communities to slowly transition to a more modern stimulus without having to

¹⁰⁴ Emily Talen, “Design by the Rules: The Historical Underpinnings of Form-Based Codes,” *Journal of the American Planning Association*, Vol. 75, No. 2 Spring 2009: 144.

¹⁰⁵ Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 18-22.

¹⁰⁶ Elliot 2008 26-32.

¹⁰⁷ Daniel G. Parolek Parolek, AIA, Karen Parolek and Paul C. Crawford, FAICP, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (New Jersey: John Wiley & Sons, 2008) 4.

¹⁰⁸ Donald L. Elliot, *A Better Way to Zone: Ten Principles to Create More Livable Cities*, (Washington, Covelo, London: Island Press, 2008) 32.

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completely replace the original more traditional zoning code. On the downside, however, this particular zoning type doesn't contain specific standards as form-based codes and traditional zoning types do.¹⁰⁹ As discussed previously, the concept of zoning led to the development of New Urbanism, TOD, and, eventually, community design.

Community Design

Even though the basic idea of community design was practiced in earlier societies, community participation as a movement is a more recent phenomenon that was put to practice by the United Nations (UN), amongst other organizations. The UN, in particular, paved the way for community participation theory and eventually community design through programs that allowed all people to be politically involved in the development process of a community. Starting in the late 19th century, initial interest was in social work, focusing on needy families and individuals. However, recent work has spread to include entire communities to improve the overall social well-being for all. With many successful projects, other organizations such as the World Health Organization (WHO) and the UN International Children's Emergency Fund (UNICEF) began practicing these concepts.¹¹⁰

Due to a series of events that occurred during the mid 20th century—including Western social work and the 1950 and 1960 third world community development movements—and community radicalism, the underlying concepts of community design fell into place. During this same time, the civil rights movement, the rise of women's rights, and the anti-war movement led to an up-rise in America's inner cities to fight against the federal Urban Renewal Program. This was a reaction against centralized authority that eventually led to the development of a participatory democracy. This participatory democracy set out to address the various problems that existed within the city development process including the lack of trust between the government authorities and the community.¹¹¹ Lawyer and planner, Paul Davidoff, was the first in the U.S. to

¹⁰⁹ Kaizer Rangwala, "Hybrid Codes Versus Form-based Codes," *New Urban News* (April May 2009).

http://www.formbasedcodes.org/article percent20PDFs/Hybrid_Codes.pdf (Accessed on 6 October 2009).

¹¹⁰ Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), 1.

¹¹¹ Janice Elliot, Sara Heesterbeek, Carlyn J. Lukensmeyer, and Nikki Slocum, *Participatory Methods Toolkit: A practitioner's manual*, (Belgium: King Baudouin Foundation and Flemish Institute for Science and Technology, 2005), 10.

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promote advocacy planning, an element of participatory democracy, proclaiming that only through positive social change can America overcome poverty and racism. During this time, many planners and designers who supported Davidoff's view began rejecting traditional practice and urban redevelopment, and, instead, introduced community design methods. Two of the original methods are community design centers and community building. Community design centers, in particular, are characterized by an all-inclusive participatory and strategic planning method, which includes not only the selection and financing of development projects, but also supports the management of housing and community facilities for the area. Community building, on the other hand, includes a series of principles stating that residents should be involved in setting goals and strategies—the community's strengths and weaknesses should be identified, and strategies should be developed to enhance the strengths and fix or eliminate the weaknesses. Overall, community building sets out to reinforce community values encouraging partnerships with various institutions within the city.¹¹²

One of the most used community design processes used is strategic planning that is characterized by shaping and guiding what a community is, what it does, and why it does it. Included in this process is identifying a particular community's goals, priorities, and issues as well as evaluating the results. Overall, the main objective for strategic planning is to provide communities with a process to develop strategies and action plans to identify and resolve issues. The initial studies involved, known as an environmental assessment, looks into various factors such as needs, priorities, issues, and opportunities. Data is collected through various means including survey, questionnaires, and observations of people's behavior, as well as focus groups with the prospective users to discuss and determine the best solution for the future environment to best serve them.¹¹³

Once the environmental assessment is complete, the goals can begin to be identified. This process involves community participants to first identify the community's needs and applying a possible objective to solve each need. Multiple scholars and professionals have set out various

¹¹² Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), 2.

¹¹³ New Economics Foundation and UK Community Participation Network, *Participation Works! 21 Techniques of Community Participation for the 21st Century*, (London: New Economics Foundation, 1999).

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principles for how to go about setting goals including Smith and Hester's 12 reasons for setting goals which are:

1. Setting goals provides a sound basis for planning, implementation, and evaluation
2. Setting goals clarifies problems
3. Planning based on goals elicits community support
4. Goal setting leads to positive action
5. Goal setting leads to creative problem solving
6. Goals are based on the potential of a community
7. Plans based on goals can be evaluated and consciously changed
8. Goal setting promotes human resource development
9. Goal setting identifies the community-wide needs and values of minorities and special populations
10. Goal setting has long-term educational value for the participants
11. Goal setting is a good investment
12. Participatory goal setting demonstrates good faith on the part of community leaders.¹¹⁴

The initial goals set out by this process are based on a collaborative effort of all participants bringing together a large range of knowledge, skills, abilities, and experiences in order to call out all existing issues as well as any controversies. The next step is to clarify the goals and rank them by importance and relevancy. This process brings together various parties of different social, political, and economic backgrounds. The most valuable aspect are the residents involved who bring collective community values, history, function, and structure of community institutions to the table. In doing so, all parties involved are able to understand how things in the community work, not just what they are. Once this mutual understanding is met, design decisions can begin to be made. One technique often used for developing goals is to identify PARK, or features to preserve, add, remove, and keep out. This calls out the aspects of the community that are positive, negative, needed, and threatening. Known as an action plan, the final step for strategic planning is identifying a method, or strategy, for how to reach each specified goal.¹¹⁵

Another community participation method, known as visioning, develops a series of guidelines to set out action steps to meet a future vision that will benefit the community as a whole. The

¹¹⁴ Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), 38-41.

¹¹⁵ Sanoff 2000, 38-41.

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overall objective for community participants involved in this particular method are to partake in various activities that identify, strengthen, and work toward one community vision. This includes asking participants such questions as: what they would like their community to be like in twenty years? Participants are then split into a series of groups to identify similarities in each individual vision. These collaborative visions are then presented to the entire group where a discussion is held to identify one common vision. In this stage, government officials and other specialists may call out specific policies and recommendations; however, community residents are in charge of creating the framework for the needs that to be met.¹¹⁶

As it is used for a community participation method, a *charrette* brings together multiple interest groups from different backgrounds to participate in a series of intensive, interactive meetings that last several days. This particular method maximizes participation over a very strict, short schedule including three main tasks: idea generation, *charrette* mechanism, and problem solving. Idea generation involves a discussion where all parties involved express their views, concerns, and visions. This is furthered in the *charrette* mechanism where all opinions brought to the table are narrowed down to develop a series of recommendations and proposals during problem solving. The overall objective for this particular method is to achieve a well diverse representative group of community members and city officials that are committed to taking action to complete the proposed solutions as well as put together the required resources to make it happen. A successful *charrette* includes being able to call out problems, consist of positive user participation with involvement of professionals from within and outside the community, identify immediate and future goals, and put the final solutions into action.¹¹⁷

Developed by Nabeel Hamdi and Reinhard Goethert, community action planning, better known as CAP, has been developed in response to traditional planning methods taking too long and having little relation to the community at hand. This particular method—similar to the *charrette*—is noted for being a fast, community involved process that gives power to the community to be a part of design and in the implementation and management of the

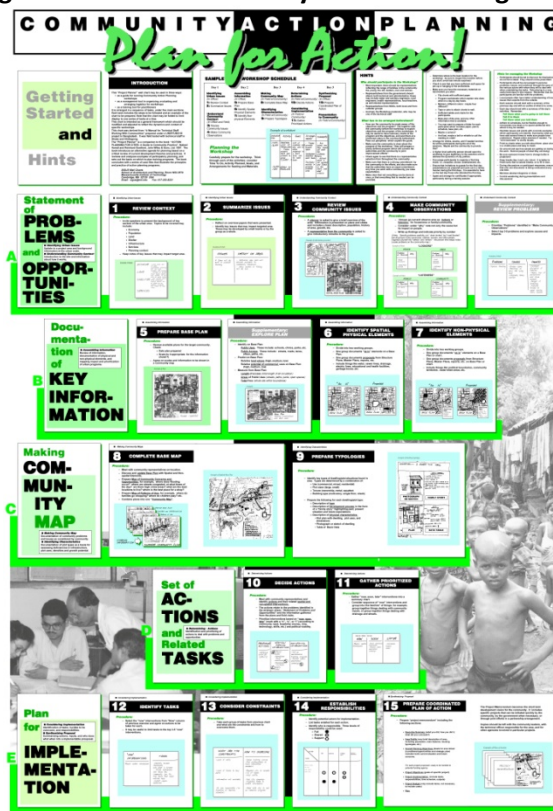
¹¹⁶ Sanoff 2000, 43.

¹¹⁷ Janice Elliot, Sara Heesterbeek, Carlyn J. Lukensmeyer, and Nikki Slocum, *Participatory Methods Toolkit: A practitioner's manual*, (Belgium: King Baudouin Foundation and Flemish Institute for Science and Technology, 2005), 39.

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collaborative action plan set out by all participating parties. Included in this method are a series of games and activities that have been created to better encourage the involvement of residents. Created by the Massachusetts Institute of Technology, the Planning Assistance Kit, or PAK, is similar to a board game with a start and finish. In between are various steps that involve various worksheets, which walk the community through a simple, easy to understand process to plan, implement, and manage their housing, refer to Figure 74. As seen, the worksheets involve such activities as the identification and level of importance of concerns, who is affected and why as well as creation and level of importance of solutions and/or objectives. The overall objective of CAP is to take all other methods to the next level by assuring action will take place by promoting and involving the right technologies and local activities.¹¹⁸

Figure 74 Community Action Planning Guide



Source: New Economics Foundation and UK Community Participation Network, *Participation Works! 21 Techniques of Community Participation for the 21st Century*, (London: New Economics Foundation, 1999).

¹¹⁸ New Economics Foundation and UK Community Participation Network, *Participation Works! 21 Techniques of Community Participation for the 21st Century*, (London: New Economics Foundation, 1999).

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Participatory methods, participatory action research (PAR) is unique to the other community because it brings together researcher, designers, and planners in collaboration with the community to engage in goal discussion, value identification, and problem solving. The overall concept is through the combination of knowledge that design solutions can be made to successfully improve a community. PAR recognizes that poverty and social development issues are multifaceted and collaboration methods are necessary. Based on the notion *research for the people not research by the people*, this particular method sets out to motivate communities to become active participants in identifying the problems in their community and taking action to make the necessary changes.¹¹⁹

As seen in the CAP method, turning decision making objectives into a game or group activity often results in positive feedback from participants involved. The game, as it pertains to community participation methods, represents an actual situation. Actual scenarios are created for participants to act out. These scenarios start off by giving participants a problem and are asked to identify all relevant issues, follow a given procedure that will guide them to discuss values, ideas, and behaviors to come up with a collaborative solution. Multiple factors must be taken into consideration when creating a game such as the people and organizations to be involved, the motive and purpose of participants, the resources to use, the evaluation method and prototype to be followed. For instance, in design based games, activities usually include various materials along with a list of objectives, activities, symbols, and environmental settings. Participants are to work together to come up with a range of possible solutions given the items they have to work with. This type of game simulation steps away from conventional participatory methods and is a unique way to approach problem solving and decision making.¹²⁰

The most common type of community participatory method, workshops, allow for a variety of settings. A community workshop has a broad definition engulfing any activity that provides residents with an opportunity to learn and be involved in human relations. These workshops require participants to be highly interactive and to learn from each other as they work together

¹¹⁹ Henry Sanoff, AIA, *Community Participation Methods in Design and Planning*, (New York: John Wiley & Sons, Inc., 2000), 55-59.

¹²⁰ Sanoff 2000, 76.

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to explore and solve various issues. Workshops should be advertized to the public ahead of time through mailing flyers, press releases to the newspaper, television and/or radio informing prospective participants of the goals, schedules, and events. In addition, workshops are to be well documented from start to finish. Overall a successful workshop includes a well-sized group of multiple community leaders to participate in small study circles to discuss key issues and possible solutions. In addition, appropriate sponsors and media coverage should be brought in with discussion leaders to help promote and ensure the overall success of the workshop.¹²¹

In order to receive a better idea on how historic communities currently respond to mass-transit, a series of case studies throughout the United States were analyzed. The following case study looks into the Mockingbird Station TOD located in Dallas, Texas to define the basic principles and guidelines of TOD that should be applied to a transit station to ensure a sustainable community that supports the transit system.

¹²¹ Janice Elliot, Sara Heesterbeek, Carlyn J. Lukensmeyer, and Nikki Slocum, *Participatory Methods Toolkit: A practitioner's manual*, (Belgium: King Baudouin Foundation and Flemish Institute for Science and Technology, 2005), 39.

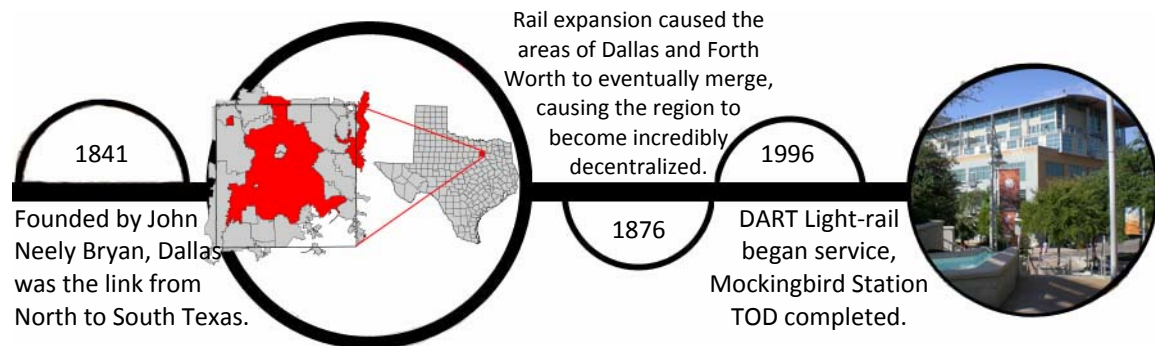
APPENDIX C | Case Studies

RESEARCH DOCUMENTATION | TOD: One Size Doesn't Always Fit All—Dallas Case Study

The city of Dallas, Texas is the sixth largest city in the country, and is noted as being completely decentralized due to the close proximity of Fort Worth and lack of strict zoning clauses. When combined, the Dallas/Fort Worth metropolitan area is actually considered to have the fastest growing population in all of the United States, with over six million people as of July 2008.¹²² With such a high population, the city has recently taken action to minimize traffic congestion and provide residents with a healthier, more sustainable mode of transportation. In doing so, a light-rail system was implemented into the city's downtown in 1996.¹²³ A few years later, the first transit-oriented development, Mockingbird Station, was created along the rail line. This particular station is often referenced in studies conducted by cities that plan to implement mass-transit systems into its community as being an excellent example for defining the basic principles of TOD.

Figure 75

Dallas/ Mockingbird Station Timeline



Source: Photo taken by author, map adapted from Dallas County Commissioner District Map, http://www.dallascounty.org/departments/comcr/department/comcr/media/DC_map.pdf (Accessed on 29 November 2009).

History and Culture

First known as the Three Forks of the Trinity area, Dallas was founded by John Neely Bryan in 1841.¹²⁴ Bryan, a close friend of Sam Houston and many American Indians in the North Texas region, chose the Three Forks of the Trinity area due to the potential for commercial and economic exploitation. Historically, Three Forks was located along Preston Trail, which was used

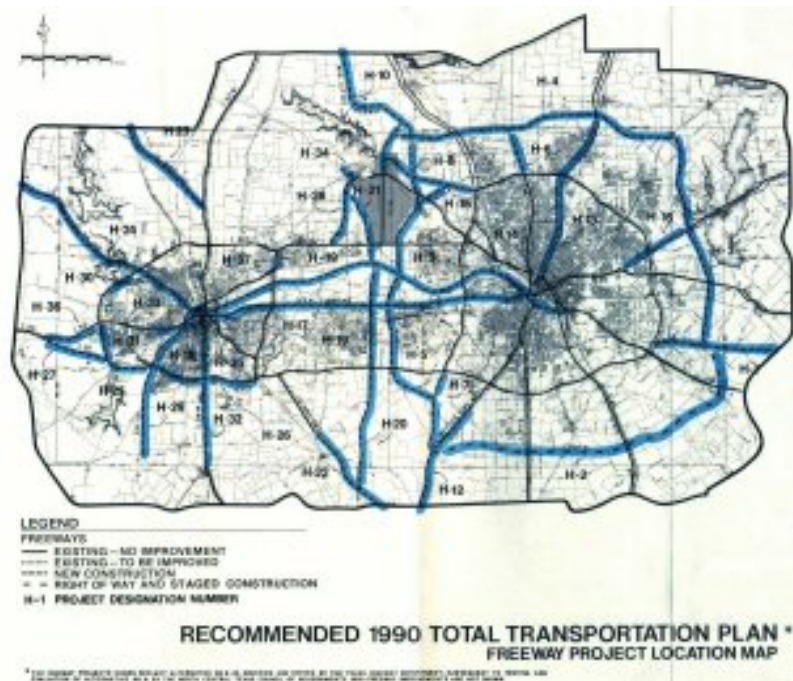
¹²² U.S. Census Bureau (2008) *American FactFinder Annual Population Estimates: Dallas/Fort Worth*, (Accessed on 14 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=PEP&_submenuid=datasets_3&_lang=en

¹²³ *2030 Transit System Plan* (Dallas: DART, 2006), 9.

¹²⁴ Sam Acheson, *Dallas Yesterday* (Dallas: Southern Methodist University Press, 1977), 17.

by the Native Americans as one of the few areas that provided a natural crossing over the wide Trinity River for hundreds of miles. In 1840, William G. Cooke officially surveyed the Preston Trail and stated it to be the only link connecting North and South Texas. In addition, the National Central Road, a highway authorized by the state's Congress of the Republic to be built from St. Louis to San Antonio was constructed, intersecting with the Preston Trail passing right by Bryan's perspective city. Situated at the fork of the National Road and the Preston Trail, the future city of Dallas was already positioned at an important landmark for immigrants and settlers.¹²⁵

Figure 76 **1990 Dallas Fort Worth Transportation Plan**



Source: Image provided by University of Texas Online Library. http://www.lib.utexas.edu/maps/historical/dallas_1920.jpg

During this time, Dallas was the world center for trade of leather and buffalo hide. However, without any natural waterways, shipping goods to and from the city was problematic leading to the development of rail in 1872 when the first rail line from Houston to Dallas was constructed by the Houston and Texas Central Railway (H&TC). The following year, Dallas' rail system expanded as the Texas & Pacific Railway (T&P) added a line through the center of the city

¹²⁵ William L. McDonald, *Dallas A photographic Chronicle Rediscovered: Of Urban Expansion 1870-1925*. (Dallas: Dallas Historical Society, 1978), 7.

sparkling a railroad boom that transformed Dallas into a commercial and industrial center.¹²⁶ In 1876, the T&C Railroad was expanded to the city of Forth Worth, a city about thirty two miles away, refer to the timeline in Figure 75. Forth Worth was developed by the U.S. Army in 1849 just eight years after Bryan founded Dallas. The rail expansion caused the areas of Dallas and Forth Worth to eventually merge, causing the region to become incredibly decentralized which can clearly be seen in the 1990 transportation plan for the area; refer to Figure 76.¹²⁷

Demographics

The population of Dallas gradually increased until the 1860s when the city saw its first construction boom. The city of Dallas grew rapidly and experienced a population increase from 600 in 1860 to 3,000 by 1872.¹²⁸ Over the course of the next century, Dallas grew in population and size to be one of the largest cities in the United States. Depicted in Figure 77 are various images showing the most up-to-date population and density estimates for Dallas and Mockingbird Station based on the census tract number 79.05. This particular tract number encompasses Mockingbird Station in the Southwest corner, as shown in the top right image of Figure 73. Mockingbird Station is only 10 acres therefore the following population and demographic figures provided by the U.S. Census for this particular case study includes part of the surrounding neighborhoods to the northeast of the site. As shown, Dallas city currently has an estimated population of 1,279,910. Zooming in to take a closer look at the location of Mockingbird Station TOD, this particular site is located adjacent to an area of only an estimated population of 14,964 to 26,455. This split in population occurs along the Central Freeway; to the west of the freeway resides low-rise residential areas whereas to the east of the freeway, where Mockingbird Station lies, allows for higher density developments. Shown in the density map, however, the density for the low-rise residential community is actually denser in population than the Mockingbird Station TOD.¹²⁹

¹²⁶ Sam Acheson, *Dallas Yesterday* (Dallas: Southern Methodist University Press, 1977), 269.

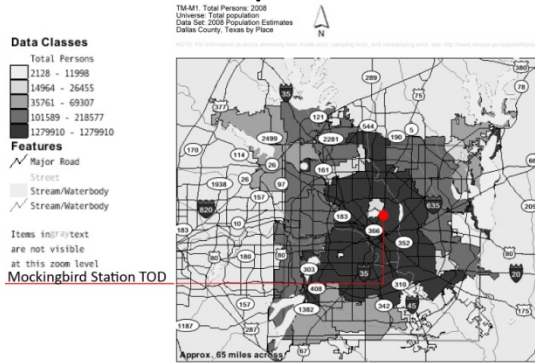
¹²⁷ Acheson 1977, 60-62.

¹²⁸ William L. McDonald, *Dallas A photographic Chronicle Rediscovered: Of Urban Expansion 1870-1925*. (Dallas: Dallas Historical Society, 1978), 17-18.

¹²⁹ U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Dallas City and Dallas Tract Number 79.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pagelid=referencemaps&_submenuId=maps_2

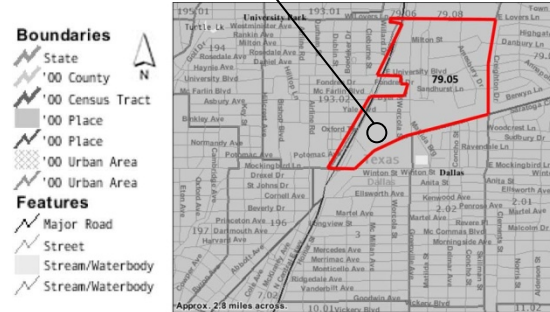
Figure 77

Current Estimated Population for Dallas

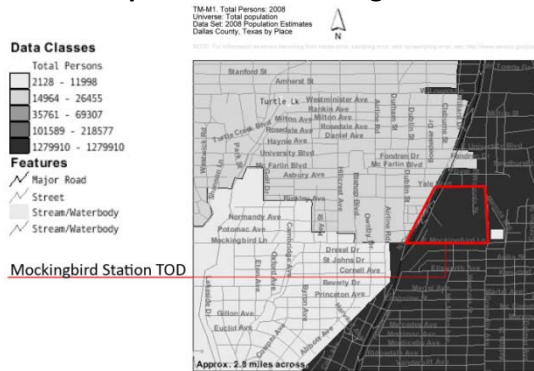


Mockingbird Station TOD Tract Number

Mockingbird Station



Estimated Population for Mockingbird Station



Estimated Density for Mockingbird Station

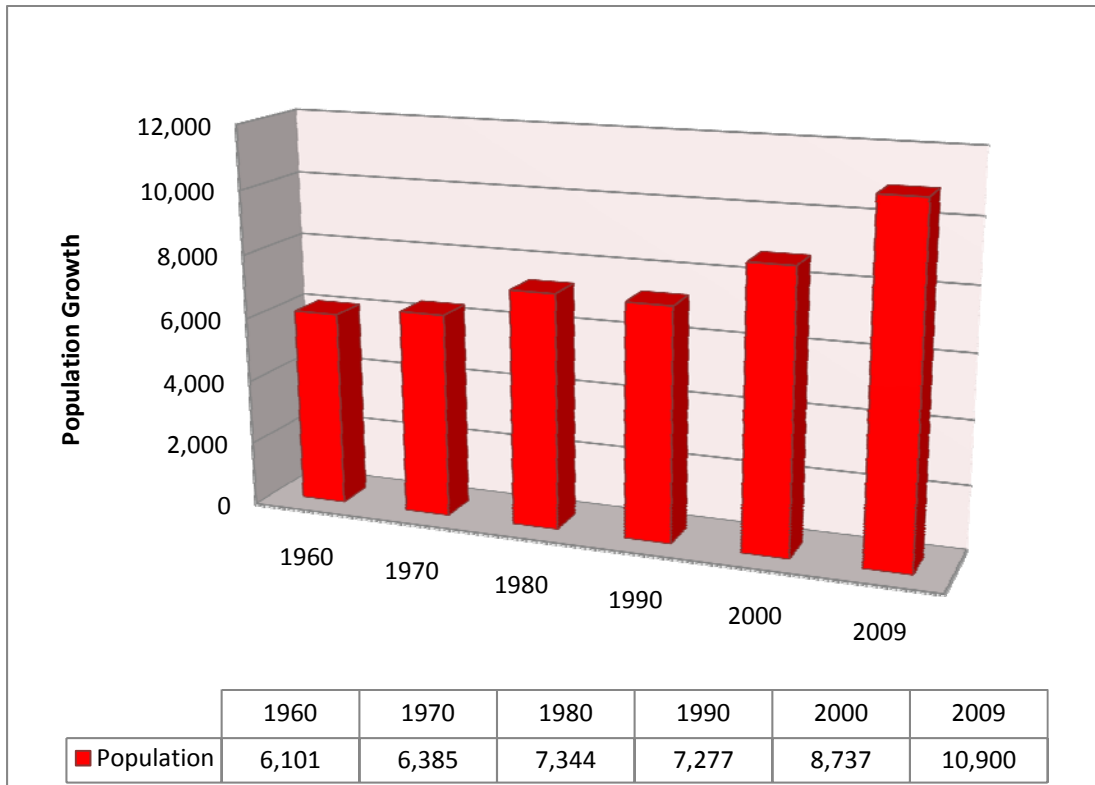


Source: Map adapted from U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Dallas City and Dallas Tract Number 79.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=referencemaps&_submenuld=maps_2

As for the location of Mockingbird station, the population was relatively stagnant for thirty years, from 1960 to 1990, as shown in Figure 78. Also depicted in this particular figure is how the population started to increase significantly in the 1990s when the Mockingbird Station TOD was completed. From 1990 to 2000 the population increased roughly 25 percent from 7,277 to 8,737 and has continued to increase at the same rate from 2000 to present with a current population of almost 11,000.¹³⁰ The population for Mockingbird Station will most likely continue to increase significantly as Dallas continues to grow as a U.S. global city.

¹³⁰ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Dallas City and Tract Number 79.05*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuld=datasets_1&_lang=en

Figure 78 Mockingbird Station Population (Tract 79.05) Growth 1960 to Present



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Dallas City and Tract Number 79.05*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Boundaries

Looking at the city of Dallas as a whole, urban sprawl quickly became a problem as construction and population rapidly increased throughout the 20th century. During this time Dallas continued to grow as a major commercial and industrial center for the state. Automobile sales and the population of Dallas greatly increased from the 1950s to present. In order to accommodate this increase, highways were constructed creating many connections from the city to surrounding suburbs and cities. Despite the expansive network of highways that engulf the city of Dallas, many traffic and congestion problems have developed in recent years. To compensate, multiple highway improvement and expansion projects have been completed in an attempt to provide some relief on the congested highways. The escalating traffic problems have led to an increase

in travel time, which has led the public bus system to become insufficient.¹³¹ As the population of Dallas continued to amplify, highway improvement and expansion projects were unable to keep up with the rapid increase of drivers, which led to the need for a mass-transit system.

Back in 1996, when the DART light-rail system first began service, over \$1.2 billion in new commercial and residential investment went into developing areas in close-proximity to transit stations. Due to the lack of public policy for TODs, most of these developments lacked sufficient planning and could barely be considered transit-oriented. However, Mockingbird Station is a prime example of a typical TOD. The site is located four miles north of Dallas, adjacent to the North Central Expressway and Mockingbird Lane intersection.¹³²

Architecture and Streetscape

The original site of the current Mockingbird Station TOD housed a half-century old abandoned Western Electric building when it was bought by developer Ken Hughes. Hughes restored the existing building to have retail space on the ground level and loft apartments above.¹³³ He continued to develop the site to its current state, which consists of 500,000 square feet of rentable building area and 520,000 square feet of parking all compacted into a total of 4 acres. When construction was completed in 2001, this amount of density was unknown to Dallas outside of the CBD. The site provides residents and visitors with a direct connection with the light-rail, bus, taxi, and shuttle service. With 178,000 square feet of retail and entertainment space, 137,000 square feet of office space, and 211 loft apartments, the main entrance is oriented to the transit station rather than the freeway making the overall layout of the site designed for the pedestrian rather than the automobile. With the majority of parking located underground and only 150 parking spaces located at grade, more area was dedicated to creating a more sustainable, automobile free environment.¹³⁴ The Mockingbird Station TOD is depicted in Figure 79.

¹³¹ William L. McDonald, *Dallas A photographic Chronicle Rediscovered: Of Urban Expansion 1870-1925*. (Dallas: Dallas Historical Society, 1978), 19.

¹³² Robert Cervero, *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*, (Washington, D.C.: Transportation Research Board, 2004), 301-302.

¹³³ Cervero 2004, 302.

¹³⁴ "Awards for Excellence: 2006 Finalist, Mockingbird Station" (*Urban Land Institute*)

Figure 79 Buildings and Areas of Mockingbird Station, Dallas



Source: Photos taken by author. Central image provided by GoogleEarth.

Since there wasn't any form of public policy for TOD projects at the time, Ken Hughes worked hand in hand with DART when developing Mockingbird Station. Being the first TOD project in Dallas, the Mockingbird station has paved the way for all future developments. DART has continued to take the initiative in promoting TOD as a means to increase ridership and provide the community of Dallas with a healthier, more sustainable environment.¹³⁵ Multiple factors can be taken from the Mockingbird Station case study for the application of TOD principles on Honolulu's Chinatown and historic communities in general.

[http://www.uli.org/sitecore/content/ULI2Home/AwardsAndCompetitions/AwardsForExcellenceProgram/2006/Mockingbird percent20Station.aspx](http://www.uli.org/sitecore/content/ULI2Home/AwardsAndCompetitions/AwardsForExcellenceProgram/2006/Mockingbirdpercent20Station.aspx) (Accessed on 3 November 2008).

¹³⁵ Robert Cervero, *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*, (Washington, D.C.: Transportation Research Board, 2004) 299.

The success of most TODs is based on the decisions made before constructions, including such factors as: the location of the station set out by the transit agency; the relationship among the city, the public, private parties and the transit agency; and the design of the station to be pedestrian friendly, and the correct amount of parking and land uses. First of all, the majority of successful for TODs are based on the involvement of the city. In order for cities to develop sustainable communities, the city must be highly involved in the development process including the creation of design guidelines and specialized zoning codes as well as the development of an overall master plan. In doing so, investments made by both the city and the various public and private partners are assured protection. This has been proven not only at the Mockingbird station, but also other areas around Dallas in more recent TODs including both the Addison Development and the Stat/Thomas district. In both cases, the city was directly involved in the permitting process including planning concepts, traffic issues, and development standards. As for Mockingbird station, the city wasn't involved, which caused many difficulties for Hughes.¹³⁶

Transportation

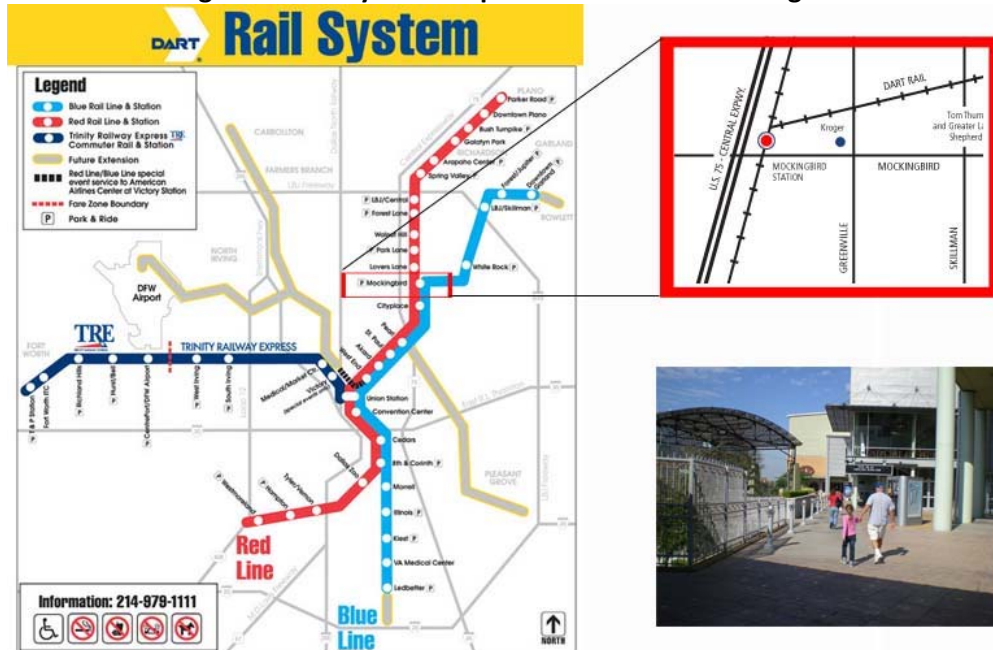
The first phase of Dallas' light-rail became reality in 1996 after many efforts went into the planning and construction. With two lines, Red and Blue, the DART light-rail system of Dallas runs 48.6 miles. It has the greatest numbers for ridership in the state of Texas with a daily ridership of 61,000 people, and is ranked 8th in the country for the most-ridden light-rail system in the U.S. The current light-rail system was broken up into a series of phases, which began in 1996 when the first phase was completed. The second phase extended the line to the areas of Richardson and Plano as well as northeast to Garland. The third phase, partially under construction with some areas still being planned, includes the Orange line and Green line.¹³⁷ The lines currently open are the Red and Blue light-rail lines as well as the TRE commuter line and the volunteer operated Historic McKinney Streetcar line, shown in Figure 80. With the development of its mass-transit system, the city of Dallas has the intention to reinvent itself with transit-oriented developments and to take focus away from the automobile and create walkable communities that encourage multi modal transportation options. When the DART

¹³⁶ Hank Dittmar and Gloria Ohland. *The New Transit Town: Best Practices in Transit-Oriented Development*. (Washington D.C.: Island Press, 2004), 156.

¹³⁷ *2030 Transit System Plan* (Dallas: DART, 2006), 9.

transit system first began operation, it serviced the transit-dependent neighborhoods south of the city, connecting them to the major employment center in the north. This encouraged greater ridership, which paved the way for future expansion. The instant success of Dallas transit system lead multiple groups to begin engaging in multiple studies on the relationship between transit and property values.¹³⁸

Figure 80 Existing DART Rail System Map and Location of Mockingbird Station TOD



Source: Photo taken by Author. Images adapted from DART Rail System Map provided by “DART Agency Overview”. (DART March 2008), <http://www.dart.org>. (Accessed on 19 September 2008).

Scale and Zoning

It's common knowledge that residential and commercial property values are greatly influenced by accessibility, which is most commonly defined as the straight-line distance from the central business district to the property. Therefore a construction project that improves the transportation system to better serve certain areas and reduce transportation costs almost always results in an increase in land values as well as changes in land use. However, when discussing the impact of light-rail on land values, many other factors must be taken into account including the geography of the city, the highway system, the downtown areas, urban areas, the economy, and the local government. In doing so, it becomes difficult to address the impact of

¹³⁸ Hank Dittmar and Gloria Ohland. *The New Transit Town: Best Practices in Transit-Oriented Development*. (Washington D.C.: Island Press, 2004), 156.

light-rail systems on land values as a whole since the numbers tend to be minimally significant. Recent studies have shown that a more efficient way to see the relationship between land value and light-rail systems is through transit-oriented development. For Dallas, TOD is based on a cost-sharing arrangement between a private developer and the public transit authority. This arrangement allows the developer rights to build on land above, below or adjacent to a transit station, and as payment, the developer helps pay for the construction cost of the station or pays the transit authority directly.¹³⁹

When assessing the expected economic impacts that will occur due to the Dallas light-rail system, it is important to note that Dallas does not contain the ideal layout for a transit system. Downtown Dallas is made up of many centers and is a completely decentralized city surrounded by a large system of highways. Despite this, the economy of Dallas-Fort Worth is one of the nation's strongest, and possesses a strong commercial real estate market. Also, the residential real estate market is increasing due to the continuous population increase. This market is also increasing population densities in residential areas with the construction of large scaled apartment buildings in and around the city of Dallas. Moreover, the demographic structure of Dallas is changing in a behavior, which is encouraging mass-transit to expand throughout the city. This expansion will positively affect land value and development along the rail lines.¹⁴⁰

The first studies to quantify the initial impacts of the DART transit system on surrounding land property, value and development were conducted by Bernard L. Weinstein and Terry L. Clower in 1998. Their studies focused on the time period of 1994 to 1998, providing comparable values from before and after the existence of the light-rail system. One study collected appraisal data for almost 700 commercial and residential properties within a quarter mile of the 15 existing light-rail stations in order to assess property value changes. Another 160 properties, almost identical in land value and use, but located away from the rail system were chosen as a standard means for comparison. Among the 15 areas studied along the rail line, the Illinois and Westmoreland stations had construction work during the study period, which had a negative

¹³⁹ Bernard Weinstein Ph.D. and Terry L. Clower Ph.D., *The Initial Economic Impacts of the DART LRT System* (Denton: University of North Texas, 1999), 7.

¹⁴⁰ Weinstein and Clower, 1999, 15, 16.

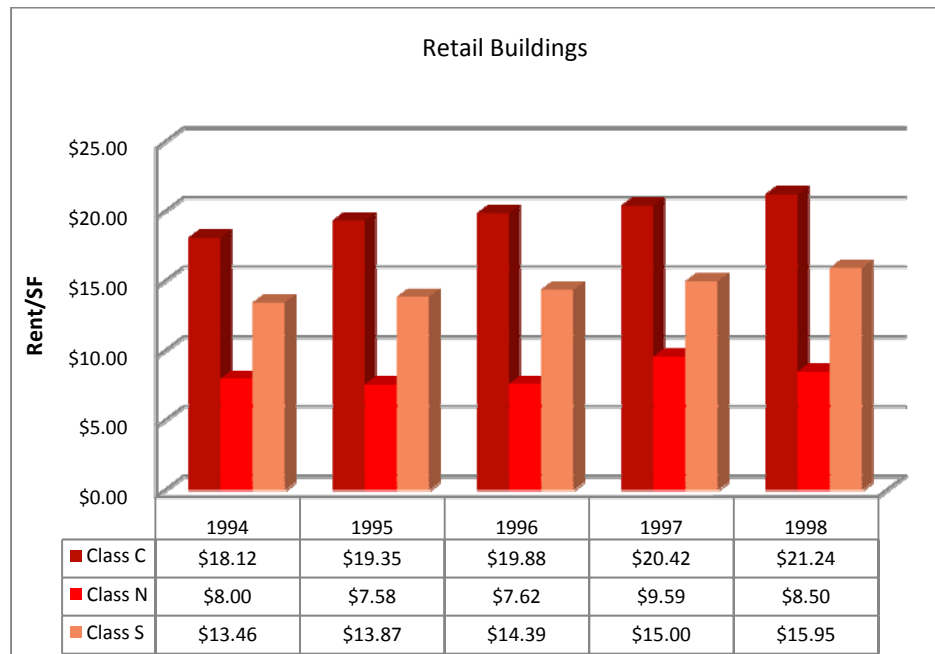
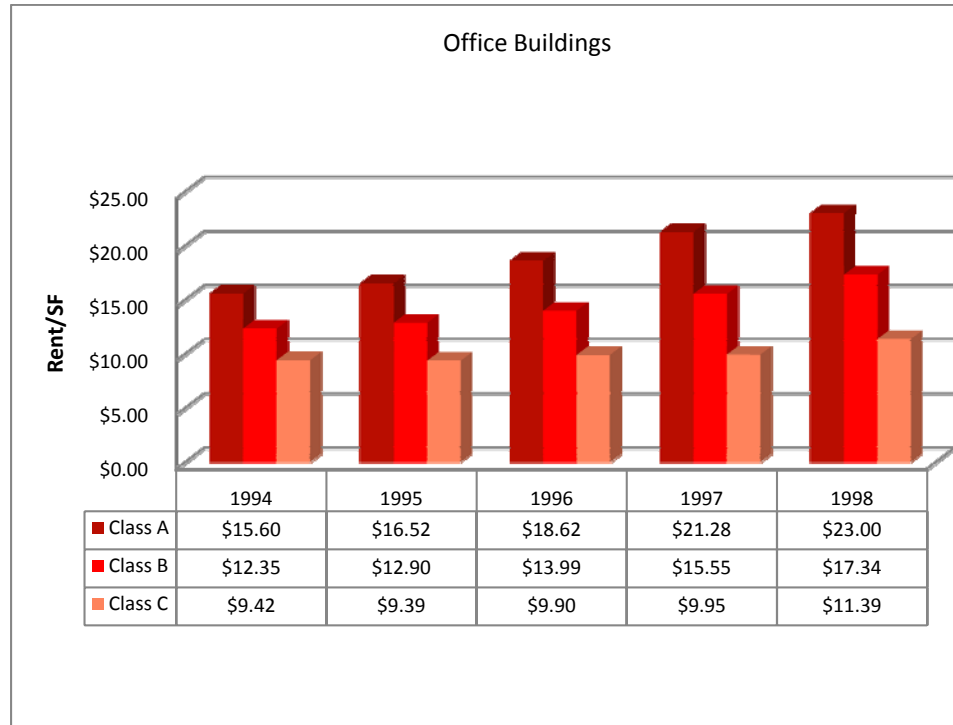
impact on property and land value. Despite this, the results show that 11 of the 15 areas studied increased in total property value, refer to Figures 81 through 83. In particular, the areas around the City Place, Mockingbird and Lovers corridor stations increased drastically. A gradual increase occurred even in the control areas that are located away from the rail line; however, this study shows that the areas serviced by the light-rail are, on average, 25 percent greater. As for land value, the DART service areas show appreciation values double over the control areas. Another initial impact study examined the occupancy and rental rate history for about 200 office buildings, retail properties, and industrial sites within a quarter-mile of the existing light-rail stations for the same time period of 1994 to 1998. The city of Dallas as a whole experienced an increase in commercial real estate; however, properties located along the rail line experienced, in some cases, up to eight times that of other areas during the time period of 1994 to 1998.¹⁴¹ From these studies, areas around DART rail stations increased 25 percent greater in property value, occupancy rates, as well as rental rates than areas away from the rail.

Because of much controversy from the relationship of light-rail systems and land value, more recent studies conducted by Clower and Weinstein focus more on the economic impacts of transit-oriented development and redevelopment along the light-rail system. Data that was collected for the announced value of existing and planned projects between the time period of 1999 and 2005 showed that \$4.26 billion worth of development projects were influenced by the presence of the Dallas' light-rail system. The properties included in the study were determined by the county appraisal districts along with a fiscal planning model developed by Clower and Weinstein, which estimated taxable values. This study determined that \$4.9 billion worth of existing and future transit-oriented development occurs close to rail stations. Of that, \$4.26 billion is accredited to the DART light-rail system. Transit-oriented development will generate over \$660 million in annual taxable retail sales, which will bring \$23.5 million total annually.¹⁴² Clower and Weinstein have shown through their series of studies that economic impacts are more noticeable when rail lines are complimented with transit-oriented developments.

¹⁴¹ Weinstein and Clower, 1999, 20.

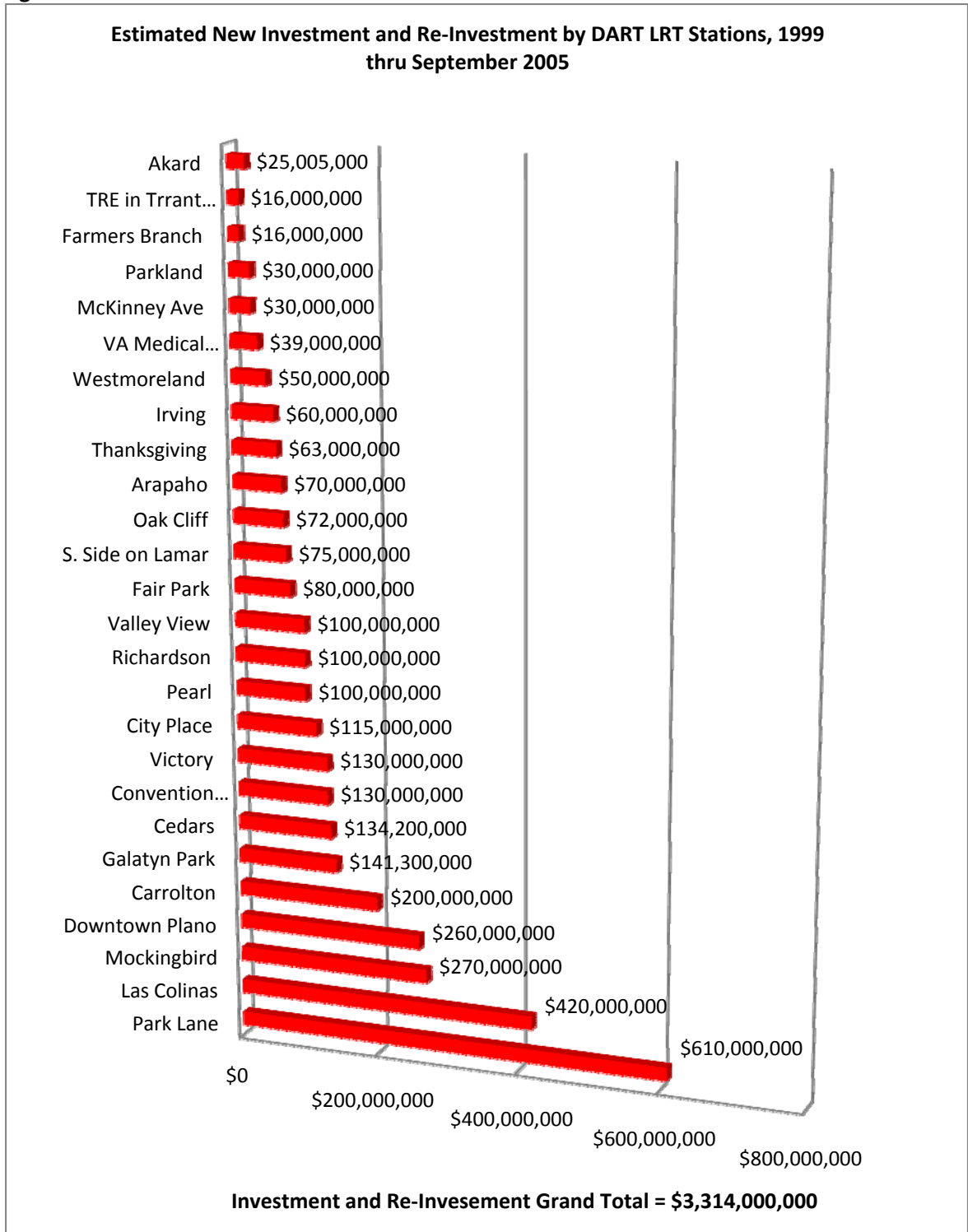
¹⁴² Terry Clower Ph.D., Bernard Weinstein Ph.D., Michael Seman M.S. *Assessment of the Potential Fiscal Impact of Existing and Proposed Transit Oriented Development in the Dallas Area Rapid Transit Service Area* (Denton: University of North Texas, 2007), 6.

Figure 81 Initial DART Economic Impact Study



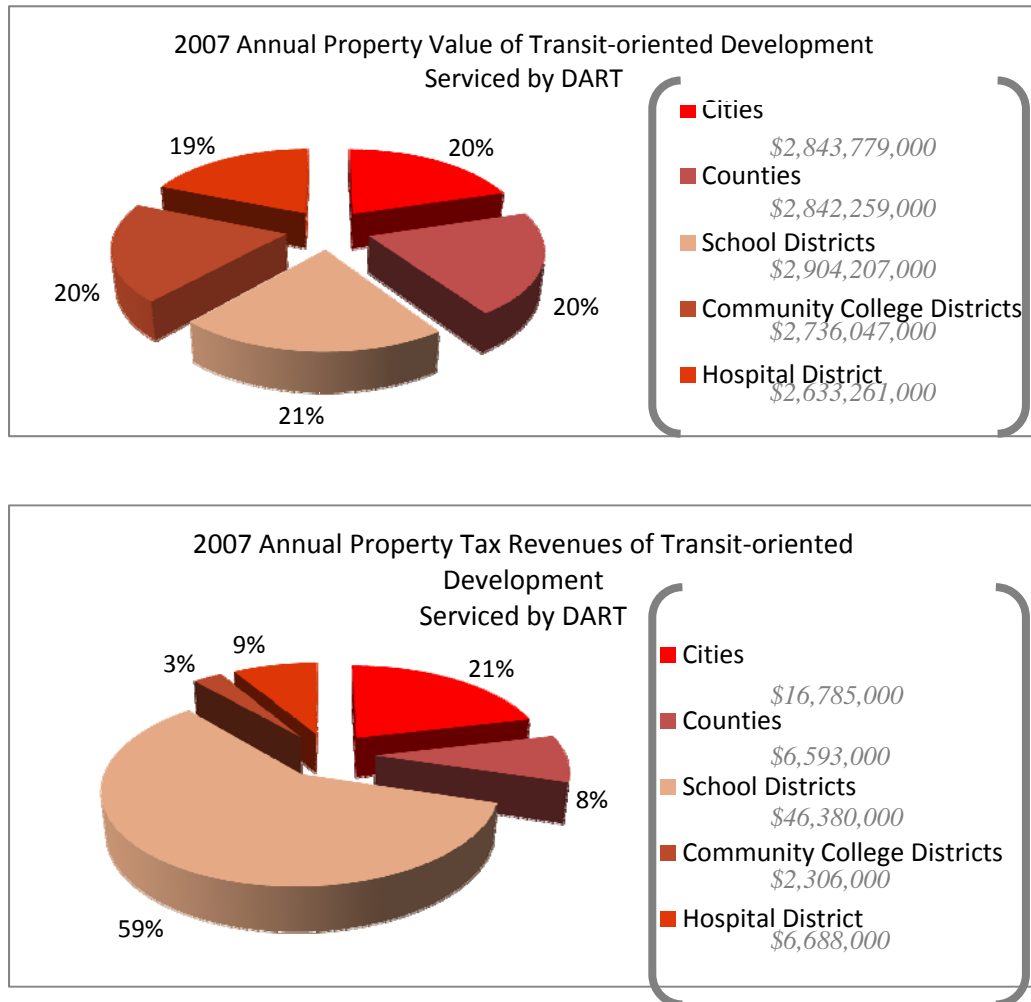
Source: Tables adapted from Bernard Weinstein Ph.D. and Terry L. Clower Ph.D., *The Initial Economic Impacts of the DART LRT System* (Denton: University of North Texas, 1999), 24-25 Table 3

Figure 82



Source: Table adapted from Bernard Weinstein, Ph.D. and Terry L. Clower PhD, *The Estimated Value of New Investment Adjacent to DART LRT Stations: 1999-2000*. (Denton: University of North Texas, 2005), 3, Table 1.

Figure 83 2007 Annual Property Tax Value and Revenues for DART TODs



Source: Figure created from data provided by Terry Clower Ph.D., Bernard Weinstein Ph.D., and Michael Seman M.S., *Assessment of the Potential Fiscal Impact of Existing and Proposed Transit Oriented Development in the Dallas Area Rapid Transit Service Area*, (Denton: University of North Texas), 2007. Both charts adapted from Table 15.

Even though Clower and Weinstein’s studies show that TOD greatly benefits a city’s economy, Texas has struggled to gain local government support for TOD projects unlike most regions in the United States that have mass-transit systems. For Dallas in particular, the North Central Texas Council of Governments (NCTCOG) has yet to put together a set of guidelines or regulations for TOD. The city of Dallas also has no form of supportive public policy for TOD projects. Therefore, surrounding suburban communities and the transit authority, DART, have taken it upon themselves to implement TOD guidelines and regulations. The most successful TOD project in Dallas is the Mockingbird Station located along the Red and Blue transit lines. This project started a trend in surrounding suburban cities to use TOD as a means to revitalize its

downtowns and encourage population growth within the city rather than sprawling further and further out into the country. In the city of Plano, local officials in collaboration with developers have started developing projects with multiple uses around transit stations.¹⁴³

Lessons Learned

Published by the Urban Land Institute, Robert Dunphy and Robert Cervero, amongst others, came together to develop a series of strategies and solutions for how to create successful TODs.

They conclude with ten basic principles:

- Make it better with a vision
- Apply the power of partnerships
- Think development when thinking about transit
- Get the parking right
- Build a place, not a project
- Make retail development market-driven, not transit-driven
- Mix-uses, but not necessarily in the same place
- Make buses a great idea
- Encourage every price point to live around transit
- Engage corporate attention

In general, these principles set out to pave the way for how to create sustainable, and livable communities designed for the pedestrian that encourage the use of public transportation. The principles stress that TODs are to be compact consisting of multiple uses that will transform the area to become a destination for residents, visitors, and investors.¹⁴⁴ Through TOD, the communities and neighborhoods surrounding transit stations have the potential to boost the area's economy. As stated previously, through increased accessibility, residential and commercial property values are greatly influenced. Therefore a construction project that improves the transportation system to better serve certain areas and reduce transportation costs almost always results in an increase in land values as well as changes in land use. Although, not a historic district, the Mockingbird Station TOD provides an excellent example for how to apply the basic guidelines of TOD to a transit station as well as the financial incentives

¹⁴³ Robert Cervero, *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*, (Washington, D.C.: Transportation Research Board, 2004) 299.

¹⁴⁴ Robert T. Dunphy, Robert Cervero, Frederick C. Dock, Maureen McAvey, Douglas R. Porter, Carol J. Swenson. *Developing Around Transit: Strategies and Solution That Work*. Washington D.C.: ULI-Urban Land Institute, 2004. 170-183.

that can be achieved if executed correctly. The station currently contains a variety of uses including retail, offices, a hotel, restaurants, luxury housing, loft housing, a transit station, a cinema, as well as structured parking. As proven by the raised land value and property tax revenues as well as the constant occupancy of all residential, retail, and office spaces, the city of Dallas, an automobile driven city, currently houses one of the most successful TOD's in the country. TOD guidelines, as explained above, are created to be applied to almost any community. In doing so, TOD tends to receive the reputation of forcing a one-size-fits-all solution for how to successfully develop communities located along transit lines.¹⁴⁵ Recognized in this research document is that all communities are different and have multiple conditions that must be taken into account on a site-specific basis. In particular, how TOD is treated in a historic district differs drastically from how TOD is treated at a vacant site, as seen with the Mockingbird Station case study.

¹⁴⁵ Dittmar, Hank and Gloria Ohland, *The New Transit Town: Best Practices in Transit-Oriented Development*, (Washington D.C.: Island Press, 2004), 33.

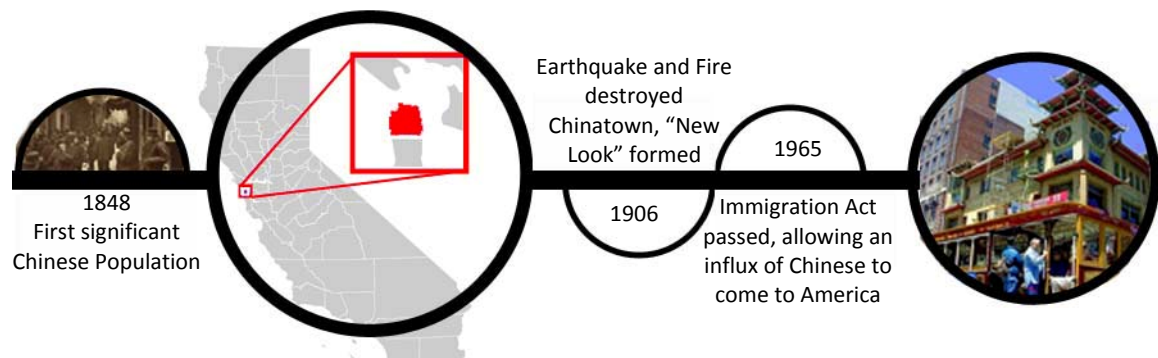
APPENDIX C | Case Studies

RESEARCH DOCUMENTATION | A Closer Look: Mass-transit at the Urban Core San Francisco
Case Study

The Chinatown of San Francisco is one of the city’s most visited tourist attractions in all of U.S.—the country’s oldest and largest. This particular Chinatown has been home to many generations of Chinese immigrants; but as of today most of the new Chinese immigrants settle outside of the original Chinatown in the neighborhoods of Richmond and Sunset as well as the Oakland Chinatown located across San Francisco Bay. Despite this fact, San Francisco’s Chinatown still remains the gateway for many lower-income immigrants.¹⁴⁶

Figure 84

San Francisco Chinatown Timeline



Source: Information provided by Chinatown San Francisco, "History." *Chinatown San Francisco*, <http://www.sanfranciscochinatown.com/history/index.html> (accessed October 22, 2009.); Images adapted from Flickr

History and Culture

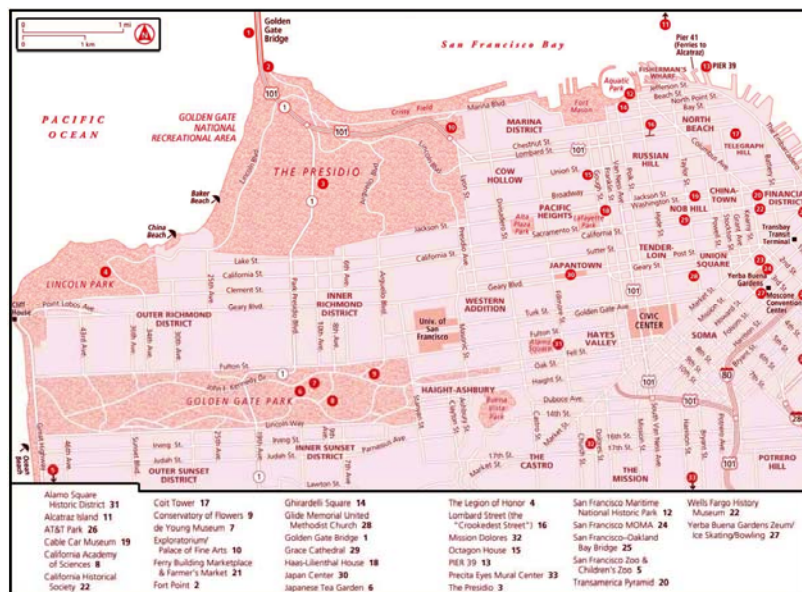
In Chinese, the San Francisco Chinatown is referred to as *dai faw*, which translates to “big port” or “first port” since it is the original home for Chinese Americans. San Francisco has experienced thousands of Chinese immigrants beginning in 1848 when gold was discovered at Sutter’s Mill sparking the gold rush or *gum saan* in Chinese. At the time, China was facing hardship whereas America’s western coast was in need of cheap labor; this influenced many Chinese to come over. However, hostile sentiments developed by the turn of the century leading many Chinese immigrants to settle in other American cities, creating multiple Chinatown social enclaves throughout the country. Within these social enclaves, Chinese heritage and culture became of utmost importance, which led these communities to highly value self image—a characteristic that was carried on to the other Chinatowns throughout America. Therefore Chinese residents

¹⁴⁶ Chinatown San Francisco, "History." *Chinatown San Francisco*, <http://www.sanfranciscochinatown.com/history/index.html> (accessed October 22, 2009.)

of San Francisco took initiative in reshaping the skyline and making Chinatown stand out as a unique community set apart from the rest of the city, refer to the timeline shown in Figure 84.¹⁴⁷

Born in San Francisco's Chinatown in 1926, Phil Choy, an interviewee for Bonnie Tsui in her book, *American Chinatown: A People's History of Five Neighborhoods*, is an architect and a Chinese American historian. During the 1960s, when the immigrant population in America was increasing rapidly, multiple groups were established in order to rediscover and protect the history and culture of the City's Chinatown. These included the San Francisco State College as well as the community's Chinese Historical Society, both founded in 1963. During this time, the first ever college-level course in Chinese-American history was offered in 1969 by Choy and his colleague Him Mark Lai who together eventually wrote a novel documenting their life-long experiences of living through the changes of San Francisco's Chinatown. The class was requested by the Third World Student strikers at San Francisco State College who were eager to learn about their heritage, a trend that still exists today; Figure 85 shows that Chinatown is currently one of San Francisco's top destinations for tourists.¹⁴⁸

Figure 85 Top San Francisco Destinations Including Sites in Chinatown



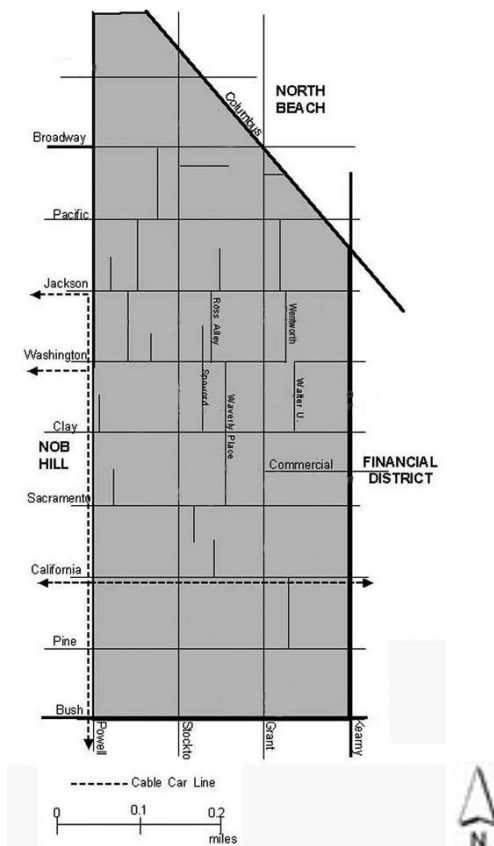
Source: Map adapted from Frommer's Travel Agency, <http://www.frommers.com/destinations/sanfrancisco/0029020790.html> (Accessed on 11 November 2009).

¹⁴⁷ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 5.

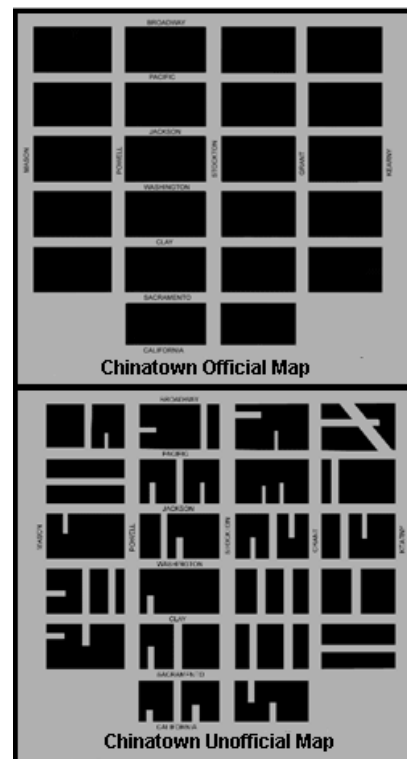
¹⁴⁸ Tsui 2009, 21.

Located in the heart of San Francisco’s Downtown, the city’s Chinatown is located in close proximity to the financial district as well as the areas of North Beach and Nob Hill. The area is currently bounded by Powell Street in the west, Bush Street in the south, Kearny Street in the east and Columbus in the north; approximately a mile long by just over a mile wide, the area has expanded past the 1950s boundary in recent years, as shown in Figure 86. Originally, the Chinatown community was crammed into an area of only 12 city blocks and consisted of approximately the same population as today. In the late 19th century, thousands of Chinese immigrants resided in Chinatown.¹⁴⁹

Figure 86 Current Map of Chinatown



Historical Map of Chinatown Depicting Hidden Alleyways



Source: Images provided by Betsy Malloy, *San Francisco Chinatown Picture: Photo Tour of San Francisco Chinatown*, About.com, <http://gocalifornia.about.com/od/casfmenu/ig/San-Francisco-Chinatown/> (Accessed on 14 November 2009).

¹⁴⁹ Jesse B. Cook, *San Francisco’s Old Chinatown*, The Virtual Museum of the City of San Francisco, <http://www.sfmuseum.org/hist9/cook.html> (Accessed on 27 November 2009).

As mentioned previously, historical accounts state that racism developed during this time as Chinese immigrants continued to enter in large numbers. To try and keep this population from growing, the Chinese Exclusion Act was passed, which greatly impacted the Chinatown community. Simultaneously, racism towards the Chinese continued to increase, which led the boundary for the Chinatown community to be restricted. During this time, the Chinese were forced to reside in a compact, 12 block area that quickly became a cultural enclave. Despite the Chinese Exclusion Act, Chinese immigrants continued to enter the U.S. causing the Chinatown population to increase causing problems for the community since their border was restricted. Since Chinatown couldn't expand externally, the Chinese found a way to expand their community internally, as shown in Figure 84. Privately owned alleyways were created where the community's economic activities were held. At the turn of the 20th century, Chinatown was forced to have its own housing, economy, and recreational activities. In this sense, Chinatown quickly became a city within a city, a feature that is still prominent today. Although the boundaries have since expanded to encompass three times the area, the Chinatown community is still an incredibly dense, self-sufficient entity.¹⁵⁰

Demographics

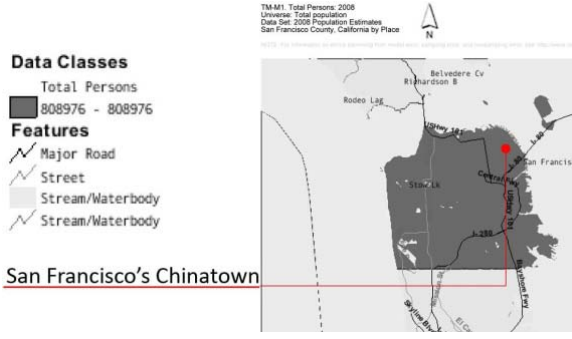
According to Phil Choy, a Chinese American historian, San Francisco's Chinatown practically existed since the city was originally founded; however, the Chinese immigrants are still considered foreigners, a term most Chinatown residents don't necessarily agree with. Beginning in 1848, the first Chinese immigrants to come to America were mainly male peasants who arrived in large numbers to San Francisco's shore. The amount of Chinese immigrants increased during California's gold rush and on through the second half of the 19th century. By the 1870s, over 63,000 Chinese immigrants were in the United States with more than 75 percent located in California. These Chinese immigrants were brought over mainly to provide labor for the railroad as well as local farms. Over the years, however, multiple Chinese immigrants began to branch out and start their own family businesses located in what we now know as Chinatown. In order

¹⁵⁰ Cook.

to protect themselves as well as help new immigrants, they simultaneously developed family and business associations for the growing community.¹⁵¹

Figure 87

Current Estimated Population for San Francisco



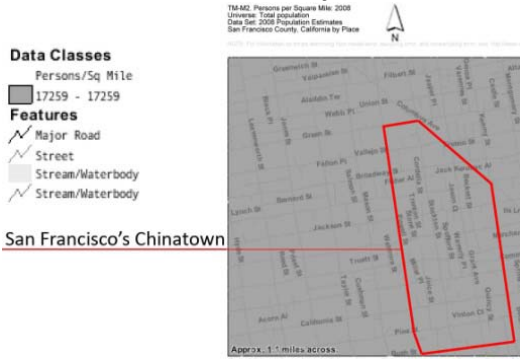
San Francisco's Chinatown Tract Number



Estimated Population for Chinatown



Estimated Density for Chinatown



Source: Map adapted from U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Dallas City and Dallas Tract Number 79.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=referencemaps&_submenuld=maps_2

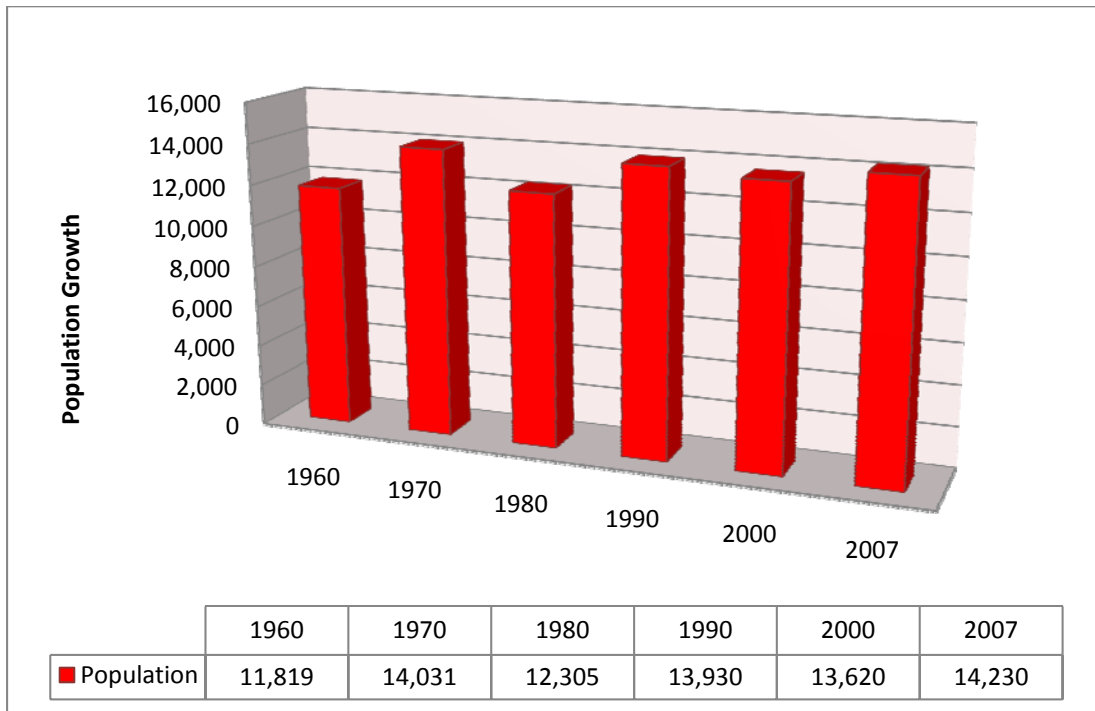
As of today, most community activists agree that the ongoing influx of Chinese immigrants is the main driving factor that ensures the survival of Chinatown. This constant influx of new immigrants makes up for the many Chinese that move out of Chinatown to work their way up on the social scale.¹⁵² Currently the Chinatown community consists of around 15,000 residents. All population and demographic information provided for this case study is based on the data provided by the U.S. census; for San Francisco's Chinatown, the information is based on the

¹⁵¹ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 22.

¹⁵² San Francisco Planning Department, "San Francisco General Plan: Chinatown Area Plan," *San Francisco Planning Department*, http://www.sfgov.org/site/planning_index.asp?id=41403 (accessed October 20, 2009).

tract numbers depicted in the top right image of Figure 87.¹⁵³ Also shown in Figure 87 are the current estimates for density and population for both the city of San Francisco City and its Chinatown. Shown in Figure 88, the population increased rapidly in the 1960s. This increase was due in part to the Immigration Act that was passed by the U.S in 1965. The population has since leveled out, which is most likely because Chinatown has little room to expand.

Figure 88 **San Francisco Chinatown Population Growth**



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : San Francisco City and Tract Numbers 107, 113, 114 and 118*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

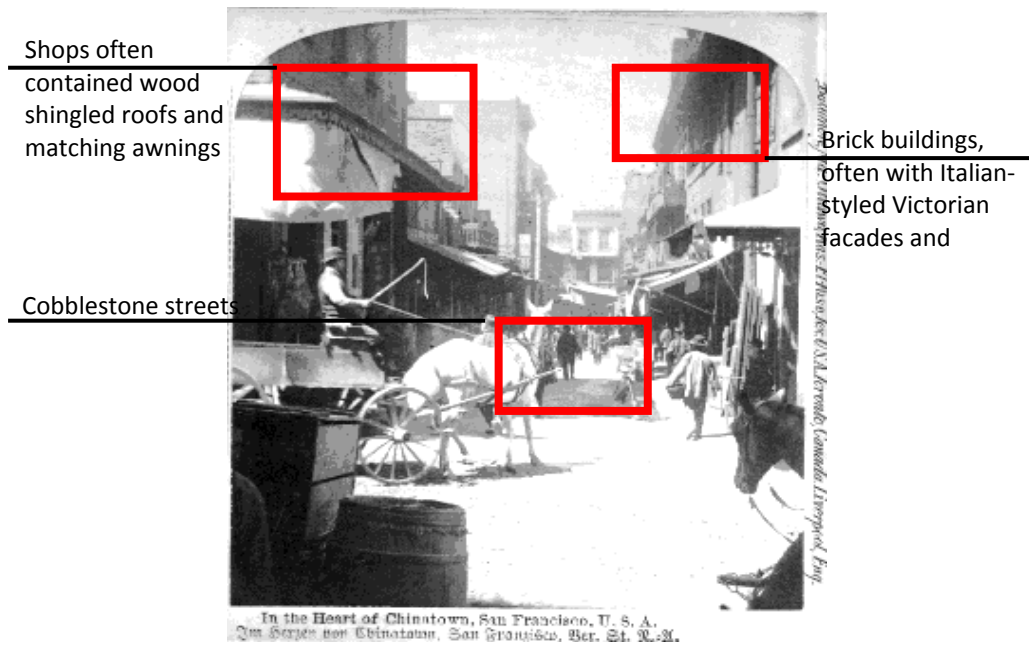
Architecture and Streetscape

Today, most visitors feel the culture and history of San Francisco’s Chinatown is found in the flamboyant architecture and traditional festivals held annually. However, to learn the true culture and history of this particular Chinatown community, one must look beyond the mere streetscape and building designs that are seen today. Currently characterized by a large amount

¹⁵³ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : San Francisco City and Tract Numbers 107, 113, 114 and 118*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

of multistory pagoda-styled buildings with sharp, curved eaves, and ornamental cornices, Chinese lanterns and flags decorate not only the buildings but also the trolley cars. The style of architecture in Chinatown is based on traditional Chinese designs that have been considered a contradiction for many Chinese immigrants, especially during the mid 20th century, who were envisioning moving to a modern U.S. city. Instead, they arrived in an area with architecture closely resembling that of Hong Kong's Kowloon historic district—with architectural ornamentation that hasn't been used in China for decades. However, this ornamental look wasn't developed until the early 19th century when Chinatown was threatened to be shut down after the 1906 earthquake. During that time, San Francisco's Chinatown was an eye sore—the community was considered run-down, crowded, and gritty. In order to ensure the survival, the area was redesigned by white architects to include flashy oriental ornamentation on the already existing small, high-density buildings as well as an enhanced streetscape lined with a variety of retail stalls in order to promote tourism.¹⁵⁴

Figure 89 Original Western Styled Architecture of Chinatown Before the 1906 Fire



Source: Image provided by Jesse B. Cook, *San Francisco's Old Chinatown*, The Virtual Museum of the City of San Francisco, <http://www.sfmuseum.org/hist9/cook.html> (Accessed on 27 November 2009); Information provided by Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 24.

¹⁵⁴ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 24.

It is important to note that the flamboyant architectural décor and traditional building design that is seen in San Francisco's Chinatown today doesn't depict the original culture and history of the area; but rather a self-preservation defense mechanism to keep the community from being shut down. Before the earthquake of 1906, the architecture in San Francisco's Chinatown, much like Honolulu's Chinatown, resembled western styles, as seen in Figure 89. The streets were cobblestone, lined with brick buildings, and Italian-styled Victorian facades accented with balconies and wood-shingled roof residences with matching awnings. The Chinese culture was solely seen in the signs scripted with Chinese characters. The community was known for gambling, prostitution, and opium dens—activities that were greatly looked down upon by the San Francisco Board of Supervisors who was threatening to shut down the entire area. In response, the Chinatown community worked together to close all illegitimate businesses, and instead become active participants in tourism. In doing so, the overall look of the community and its buildings became more oriental and visually attractive in hopes to attract tourists. In this sense, the Chinatown community changed the look of their architecture as well as their economy in order to transform the image of a gritty slum to an appropriate use that demonstrated their ethnicity and ensured their survival.¹⁵⁵

Appointed by Chinese merchants Look Tin Eli and Tong Bong, the first buildings to be built with the new oriental look after the 1906 earthquake were the Sign Fat Co. building and Sing Chong Co. Chinese bazaar, which were designed by American architects T. Patterson Ross and A. W. Burgren. The building designs were based on the pagoda and characterized with exaggerated ornamentation. The outcome was neither Chinese nor Western, rather a representation of how the white man envisioned China. This is depicted in Figure 90. Since then, the Chinatown community has continued to evolve with the changing times. As of the 1930s, San Francisco's Chinatown was an entirely self-sufficient community with its own schools, hospital, and even night clubs. More and more buildings continued to be renovated and built new to resemble Chinese forms, providing a fun and vibrant community for people to visit. Most of the new buildings were concentrated along Grant Avenue making it the center of tourism.¹⁵⁶

¹⁵⁵ Tsui 2009, 23.

¹⁵⁶ "History." *Chinatown San Francisco*. <http://www.sanfranciscochinatown.com/history/index.html> (accessed October 22, 2009.)

Figure 90 **The New Western Interpretation of Chinese Architecture:
Pagoda-Styled Architecture with Exaggerated Ornamentation**

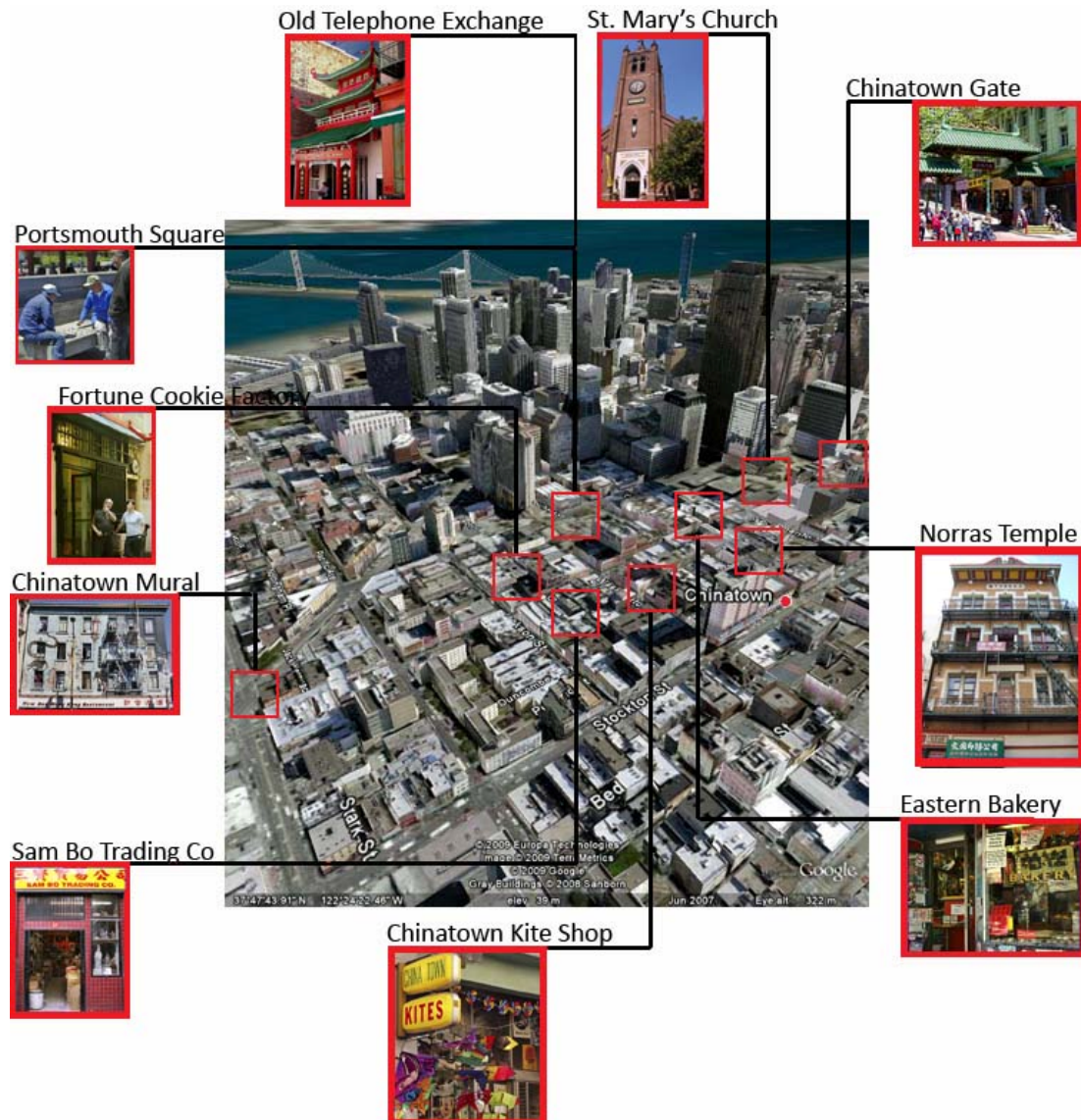


Source: Images adapted from Betsy Malloy, *San Francisco Chinatown Picture: Photo Tour of San Francisco Chinatown*, About.com, <http://gocalifornia.about.com/od/casfmenu/jg/San-Francisco-Chinatown/> (Accessed on 14 November 2009).

Due to influx of Chinese in the 1960s however Chinatown experienced overcrowding and was once again in need of a change. This time, the change was centered on the modernization and increasing rents for not only housing, but also for businesses that directly affected the streetscape as traditional storefronts. Shops were redesigned with glass curtain walls and neon signs whereas various public services were upgraded to better accommodate tourists. Over the past hundred years, San Francisco’s Chinatown has undergone many changes. The Sing Chong building, which was originally the first dry goods shop, is now the Chinatown Food Court with a McDonald’s on the ground floor whereas the Sing Fat building now has advertisements pasted over the retail windows claiming “Fine Jewelry Everything 70 Percent Off!”¹⁵⁷ Both buildings show how a Chinatown community is a living entity that can adapt and evolve over time. In this sense, Chinatown shouldn’t necessarily be preserved but should somehow embrace the past while still being able to move forward with changing times. Shown in Figure 91, are some of the most important buildings and areas that make up this unique community, including such features as the Chinatown Gate, Portsmouth Square and the Fortune Cookie Factory.

¹⁵⁷ Bonnie Tsui, *American Chinatown: A People’s History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 25.

Figure 91 Significant and Historical Buildings and Areas of San Francisco's Chinatown



Source: Images adapted from GoogleEarth and Betsy Malloy, *San Francisco Chinatown Picture: Photo Tour of San Francisco Chinatown*, About.com, <http://gocalifornia.about.com/od/casfmenu/ig/San-Francisco-Chinatown/> (Accessed on 14 November 2009).

Transportation

Multiple transit options currently exist for visiting San Francisco's Chinatown including the BART mass-transit system, Muni Metro light-rail system, the Powell-Mason and Powell-Hyde cable car lines, buses, and scattered metered street parking and designated parking lots for cars. The mass-transit station that services Chinatown, Powell Street station, also services the downtown

district as well as other destinations such as Union Square, Westfield San Francisco Center and even the Theatre District. As seen in Figure 92, this particular station acts as a major transfer point for many destinations with service from four different BART lines and seven Muni Metro lines. It currently serves over 25,000 riders a year, as seen in Figure 93.¹⁵⁸

Figure 92 BART and MUNI System Maps with Powell Street Station Called Out



Source: Images adapted from “About BART,” *BART: Bay Area Rapid Transit* <http://www.bart.gov/> (Accessed on 29 September 2009), “Transit,” *SFMTA: Municipal Transportation Agency*, <http://www.sfmta.com/cms/mhome/home50.htm> (Accessed 30 October 2009), and Flickr.

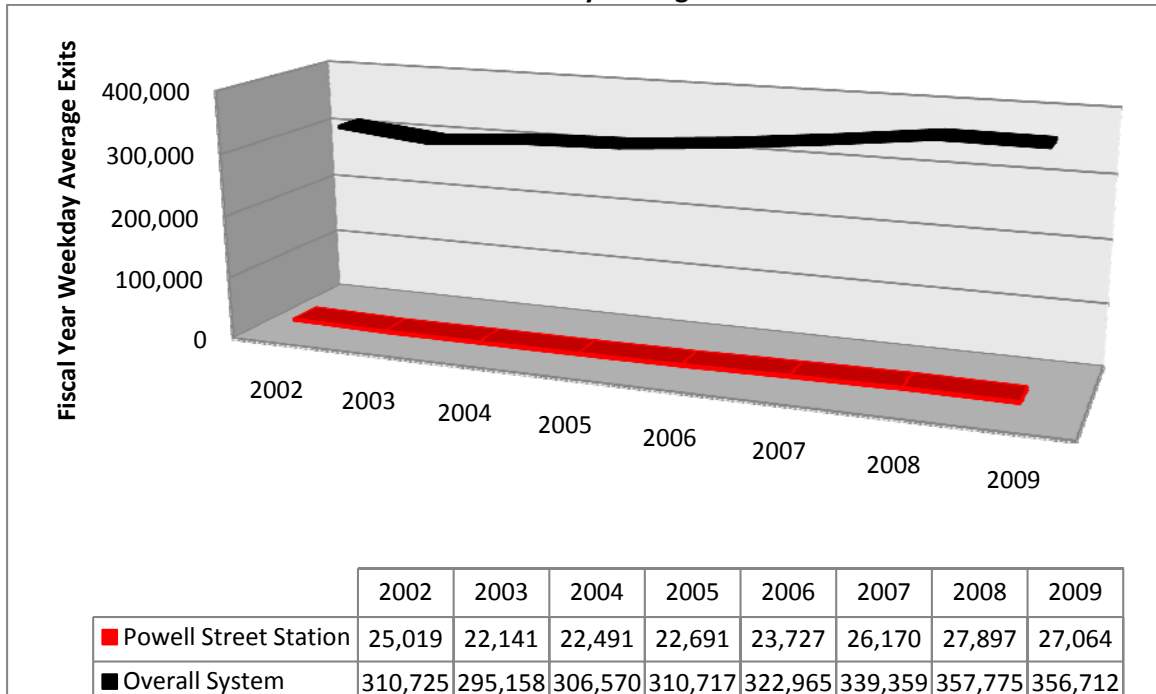
One of the busiest stations in the city, the Powell Street station is located at the corner of Market Street and Powell in downtown San Francisco, approximately half a mile from Chinatown. Since the Powell Street station services multiple districts downtown, no visual relationship exists between the station and Chinatown community. However because of the location, the unique history and the multiple modes of transportation servicing the area, San Francisco’s Chinatown community doesn’t suffer from neglect or lack of visitors and the Powell Street mass-transit station is highly successful.¹⁵⁹

¹⁵⁸ About BART,” *BART: Bay Area Rapid Transit* <http://www.bart.gov/>

¹⁵⁹ “About BART.”

Figure 93

**Powell Street Ridership based on the Fiscal Year
Weekday Average Exits from 2002 to 2009**



Source "About BART," BART: Bay Area Rapid Transit, <http://www.bart.gov/docs/WeekdayExits.pdf> (Accessed 29 September 2009).

Although the Powell Street Station is highly successful and multiple modes of transportation are available, the area still experiences large amounts of congestion on roadways during peak hours due to the location and influx of tourist and commuters coming in and out of the area on a daily basis. In more recent years, the city has taken action to better promote a pedestrian-friendly environment for the community. The city has recognized constant need for parking and has taken action to provide more metered spaces. However, the main solution to minimize congestion is to encourage the use of the city's advanced public transit system. In doing so, the city has promoted the placement of MUNI signage, schedules, and maps in Chinese and English as well as increasing parking fares. Overall, the city has taken action to encourage a pedestrian-friendly environment for Chinatown that also supports the existing public transportation system by discouraging the use of private vehicles.¹⁶⁰

¹⁶⁰ San Francisco Planning Department, "San Francisco General Plan: Chinatown Area Plan," *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009).

As proven through the discussion on the Architecture and Streetscape of San Francisco's Chinatown, the skyline and scale of the community was a response to racism and a way to ensure survival for future generations. During the 1970s and 1980s, multiple community organizations were formed in order to respond to the economic and social needs of San Francisco's Chinatown. At the same time, Phil Choy proposed to make Chinatown a historic district in 1986. However, the plan was quickly rejected by the city. Choy now admits that this decision was ideal since the community of Chinatown is a living entity that must be able to adapt and evolve constantly in order to provide for its residents and businesses. Although an excellent idea, historic districts often discourage growth.¹⁶¹

Although never designated as a historic district, the skyline of San Francisco's Chinatown is still protected with zoning restrictions that prevent high-rise development. In 2000, the San Francisco Planning Department created a Chinatown Area Plan, which provides a series of policies to protect the history and culture of the Chinatown community similar to special district guidelines. The plan promotes growth by allowing for a mix of uses, increasing housing, promoting tourism, and providing better commerce and transportation services for the area. Even though Chinatown is located particularly close to the city's central business district, the city government has recognized that high-rise buildings are not appropriate for the Chinatown community. In order to protect the history and culture of the community, the first series of policies set out to retain the low-rise scale of Chinatown as a means to preserve the urban character, physical environment and cultural character.¹⁶²

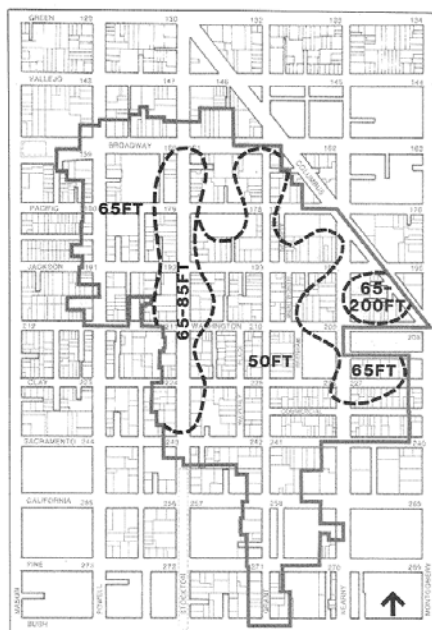
The building height has therefore been restricted to three stories along with a series of setback requirements for any building that exceeds this limitation as seen in Figure 94. By restricting the building height the skyline and scale is not only preserved, but also the comfortable streetscape that San Francisco's Chinatown is known for. Chinatown, like the majority of historic

¹⁶¹ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 26.

¹⁶² San Francisco Planning Department, "San Francisco General Plan: Chinatown Area Plan," *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009).

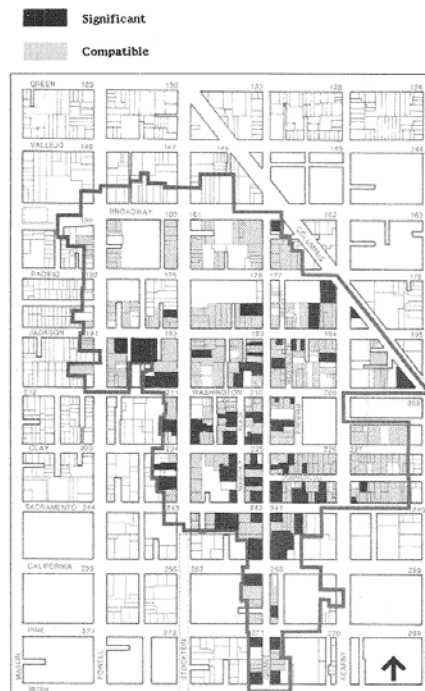
communities, was originally designed for the pedestrian. The introduction of high-rise buildings tends to block sunlight and create wind tunnels, which can quickly become an annoyance to the everyday pedestrian. In addition, over 250 buildings have been designated as historically significant, architecturally significant, or both. Some of these significant buildings and sites in San Francisco’s Chinatown are depicted in Figure 95. Over the years, many historic buildings have either been demolished or redesigned past recognition. The Chinatown Area Plan has set out to prevent this from occurring in the future.¹⁶³

Figure 94 Generalized Height Plan



GENERALIZED HEIGHT PLAN Map 1

Figure 95 Architectural Ratings of Structures



ARCHITECTURAL RATINGS OF STRUCTURES Map 2

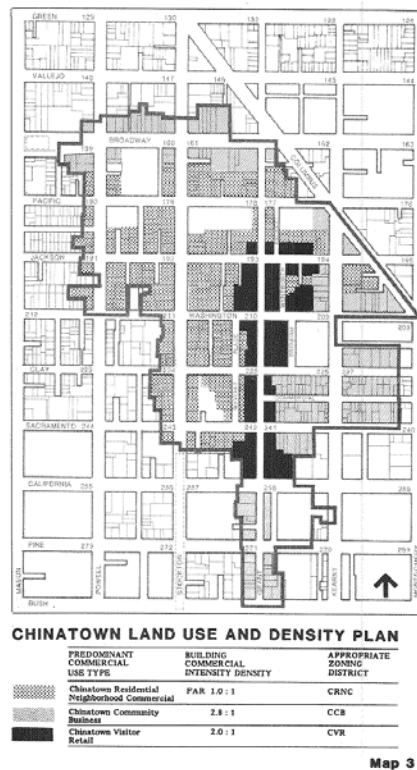
Source: Maps provided by San Francisco Planning Department, “San Francisco General Plan: Chinatown Area Plan,” *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009), Maps 1 and 2.

Overall San Francisco’s Chinatown has three major roles: the area acts as a neighborhood; a capital city for immigrant population; and a tourist center. With a population of about 15,000, Figure 96 depicts the projected land use and density plan for the area. The allowed uses include residential and commercial neighborhood, community business, and visitor retail. The residential and commercial neighborhood uses are spread throughout the area. Large

¹⁶³ San Francisco Planning Department.

businesses and franchised restaurants are discouraged whereas small businesses are promoted, encouraging the original pedestrian-oriented live-work lifestyle originally prominent at the turn of the 20th century. The community business uses are concentrated close to the financial district acting as a center for civic, religious, political, and social services. With close to three million visitors a year, the visitor retail for San Francisco’s Chinatown is located along the traditional Grant Street to promote tourism.¹⁶⁴ In general, the Chinatown Area Plan set out to control growth for the community while giving special attention to the unique culture of the community.

Figure 96 Chinatown Land Use and Density Plan



Source: Map provided by San Francisco Planning Department, “San Francisco General Plan: Chinatown Area Plan,” *San Francisco Planning Department*. http://www.sfgov.org/site/planning_index.asp?id=41403 (Accessed on 20 October 2009), Map 3.

Lessons Learned

Since San Francisco’s Chinatown is not designated as a historic district, conflicts often arise between different parties for how to treat the skyline as well as other factors such as

¹⁶⁴ San Francisco Planning Department.

architectural style and streetscape. Despite this, the San Francisco Planning Department developed the Chinatown Area Plan in the 1990s, which acts to an extent as special district guidelines. Within this plan, significant historic buildings are defined as well as allowed land uses for the area, and building height. Restricting Chinatown's skyline was an important action for the city of San Francisco to take in order to protect the community's history and culture; but, it has also brought up controversy for some Chinese residents who are pro-growth. In particular, Norman Fong, the director of the nonprofit Chinatown Community Development Center or CCDC, said that the skyline needs to shift in order to better provide for the low-income immigrants. On the other hand, others like Tan Chow, a Chinatown community organizer, feel that changing the skyline would take away from the streetscape, which is one of the key factors that makes Chinatown, Chinatown.¹⁶⁵ Indeed, the street life of Chinatown is unique, but many other factors play a significant role in making this specific community set apart including the history, sense of place, the architecture, and, most importantly, the continuing existence of Chinese residents.

One of the most important factors to note in this case study is that San Francisco's Chinatown, like any historic community: it's a living entity. For all historic communities throughout the U.S., cities must take into account that, even though these areas often contain low-rise urban forms that need to be protected, the community needs to be allowed to grow and expand. San Francisco's Chinatown is a perfect example of how historic communities need to reference the past but still be able to adapt for the future. In addition, San Francisco's Chinatown is located less than a mile from the Powell Street transit station. Although not considered a TOD, the Chinatown community receives hundreds of daily visitors that arrive by public transport. Residents and visitors can reach Chinatown through multiple modes of transport including the BART rapid transit system, the MUNI light-rail system, cable cars, buses, and lastly, car. This shows how a transit system is most successful when accented with other modes of transport that service the surrounding community.

¹⁶⁵ Bonnie Tsui, *American Chinatown: A People's History of Five Neighborhoods*, (New York, London, Toronto, Sydney: Free Press, 2009), 27.

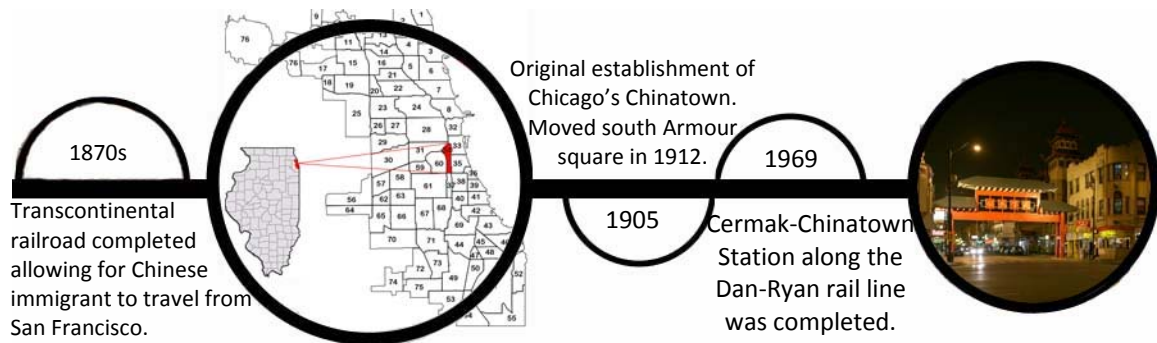
APPENDIX C | Case Studies

RESEARCH DOCUMENTATION | A Closer Look: Mass-transit at the Urban Core Chicago Case Study

The largest city in the state of Illinois, and the third largest in the country is the city of Chicago. It currently houses more than 2.8 million people and was originally founded in 1833. The city grew rapidly in the 20th century as a major transportation and telecommunication hub for North America. Currently considered one of the world’s top ten global Financial Centers, the city of Chicago receives thousands of daily visitors from all over the world. The population consists of multiple ethnicities with ethnic enclaves spread throughout the city that date back to when the city was first founded. The social enclave of Chicago’s Chinatown, in particular, is considered the second largest Chinatown community in the country.¹⁶⁶

Figure 97

Chicago Chinatown Timeline



Source: Information and images adapted from A view on Cities, "Chinatown," A View on Cities: Sights & Attraction in Some of the World's Greatest City <http://www.aviewoncities.com/chicago/chinatown.htm> (accessed on October 15, 2009).

History and Culture

Chinese immigrants first began migrating to Chicago from the west coast in the late 1800s, when the First Transcontinental Railroad was built. However, the city’s Chinatown wasn’t established until 1905. The first Chinese originally settled in Chicago’s Loop; but when the area experienced rent increases in 1912, the Chinese residents were forced to head south to Armour Square.¹⁶⁷ Similar to most Chinatowns, the most unique feature of Chicago’s Chinatown is the sense of community. For the Chinese residents in the area, it provides a direct link to China. Multiple preservation groups have been formed over the years in order to preserve the unique community and to ensure a sustainable, community-based environment for future generations,

¹⁶⁶ "Chinatown, A Chicago Neighborhood Guide." Chicago Traveler <http://www.chicagotraveler.com/neighborhoods/chinatown-feature.htm> (accessed on October 15, 2009).

¹⁶⁷ A view on Cities, "Chinatown," A View on Cities: Sights & Attraction in Some of the World's Greatest City <http://www.aviewoncities.com/chicago/chinatown.htm> (accessed on October 15, 2009).

such as the Chicago Chinese Cultural Institute, Chicago Chinatown Chamber of Commerce as well as the Asian Social Network, refer to the timeline in Figure 97.¹⁶⁸

Various activities and festivals occur throughout the year that bring together the Chinese community and tourists together from Chicago and elsewhere. The Chinese Autumn Moon Festival, one of the most known festivals, celebrates the day the moon is at its brightest, and is held annually based on the Chinese lunar calendar. During the festival, multiple food venues along with live music and performances are a part of the celebration. The most notable features are the Chinese lanterns. Another popular annual festival, the Chinatown Summer Fair, consists of Chinese food, cultural music and performances and a Lion Dance. Other activities include the Dragon Boat Race for Literacy which take place along the Chicago River along with the Double Ten Parade. The Double Ten Parade consists of multiple floats and marchers along with a Mystical Dragon that celebrates the Chinese Independence and is considered the most symbolic Chinese cultural event in Chicago.¹⁶⁹

Boundaries

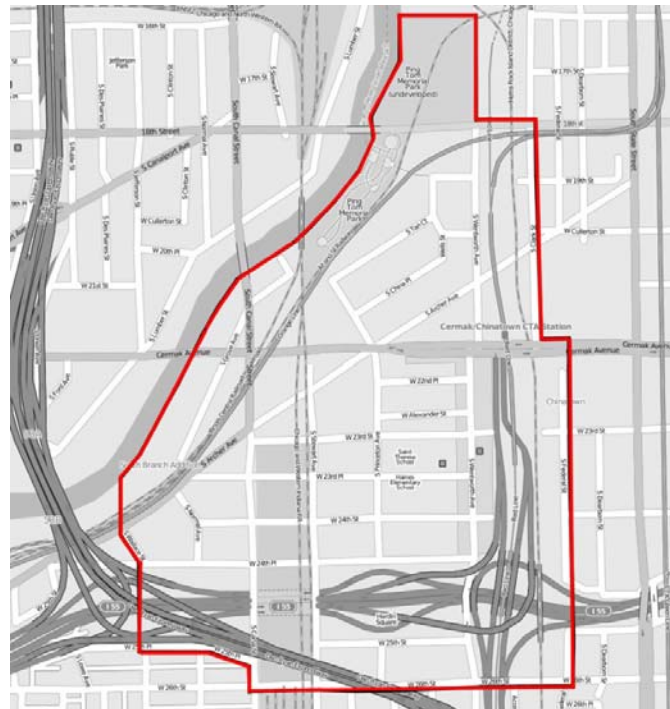
Located approximately 3 miles south of the Loop, Chicago's traditional Chinatown is located at the intersection of Cermak and Wentworth Avenues. The area designated for the community of Armour Square, within which is located Chicago's Chinatown, is characterized by its narrow rectilinear shape, which is 21 blocks in length and about 5 blocks in width, as seen in Figure 98. The community is bound by two railway lines in the south and east as well as a series of freeways running along the southern portion of the community with the Chicago River in the west. Located within this area are a number of banks as well as Chinese restaurants, shops, mini-markets, medicinal stores, and many other services that cater to the Chinese culture. Throughout history, Chicago's Chinatown has provided a means for the Chinese in Chicago to shop, travel, and eat. This unique community has also turned into a destination for many tourists and Chicago residents to visit in recent years.¹⁷⁰

¹⁶⁸ Ink, Zahra, "Chinatown, A Chicago Neighborhood Guide," Chicago Traveler <http://www.chicagotraveler.com/neighborhoods/chinatown-feature.htm> (accessed on October 15, 2009).

¹⁶⁹ Zahra

¹⁷⁰ A view on Cities, "Chinatown," A View on Cities: Sights & Attraction in Some of the World's Greatest City <http://www.aviewoncities.com/chicago/chinatown.htm> (accessed on October 15, 2009).

Figure 98 **Boundary of Chicago’s Chinatown**



Source: Map adapted from GoogleEarth.

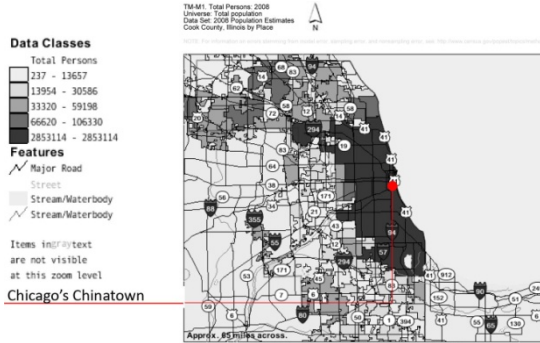
Demographics

Armour Square has always been home to a working class population consisting of multiple groups of immigrants from all over the world. Originally, the first immigrants were the Germans and Irish during the Civil War which later expanded to include a small population of Swedes. The area was used as a transition point for these new immigrants to reside in while they worked to increase their social and economic status in a new country. At the turn of the 20th century, Italian immigrants took over the area establishing a Roman Catholic parish, which paved the way for the development of many commercial and residential centers in the area.¹⁷¹ For all population and demographic figures provided in this case study, the information is based on the U.S. Census data for Chicago city and Chicago’s Chinatown, which is covered by tract number 3402, as shown in the top right image of Figure 99. Also depicted in this figure are the 2008 population and density estimates for Chicago City as well as Chicago’s Chinatown.

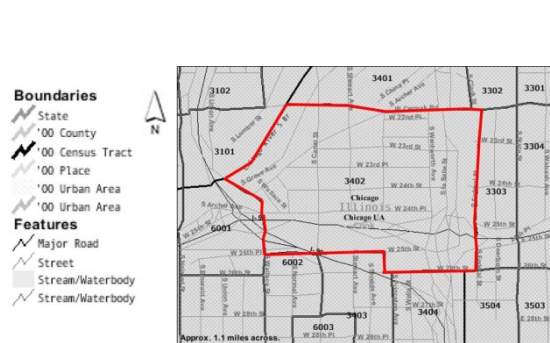
¹⁷¹ Encyclopedia of Chicago, “Armour Square,” Encyclopedia of Chicago: Entries, Historical Sources, Maps, Special Features, User’s Guide <http://www.encyclopedia.chicagohistory.org/> (accessed on October 15, 2009).

Figure 99

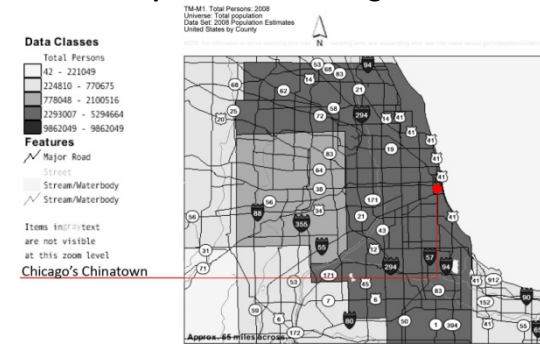
Current Estimated Population for Chicago



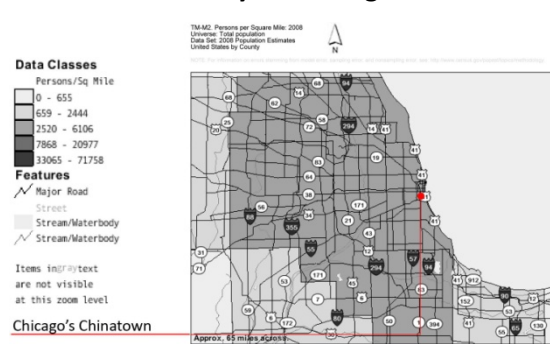
Chicago's Chinatown TOD Tract Number



Estimated Population for Chicago's Chinatown



Estimated Density for Chicago's Chinatown



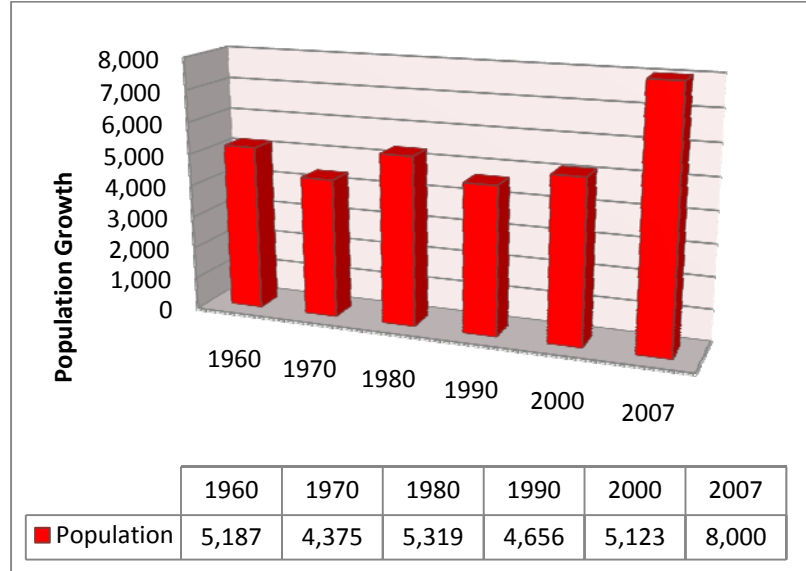
Source: Map adapted from U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Dallas City and Dallas Tract Number 79.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pagelId=referencemaps&_submenuId=maps_2

Chicago had a population of around 500 Chinese in 1890 who all resided just south of the Loop. When the Chinese moved south to Armour Square in 1912, this new district remained a home, creating a cultural enclave for Chinese immigrants that is still there. Concentrated in the northern portion of Armour Square, the Chinese population increased to 7,000 by the 1950s, which quickly doubled to 14,000 in the 1960s due to increased relations between America and China. At that same time, the city's "Black Belt" increased as many African Americans began moving into the southern portion of Armour's Square whereas the Chinese population was in the north. In general, the Armour Square community currently houses three distinct populations: African Americans in the south, Hispanics in the central area with a few Italians mixed in, and Chinese in the northern section making up the area of Chinatown.¹⁷² As seen in Figure 100, the Asian and Pacific Islander population of Chicago's Chinatown has continued to

¹⁷² Encyclopedia of Chicago.

increase from 1960 to present as the white and black populations decreased. The continuous increase in Asian and Pacific Islander population for the area caused Chinatown residents to expand their boundaries.¹⁷³ By 1999, the Chinese population had increased to account for over half of the people in the entire Armour Square district.¹⁷⁴

Figure 100 Chicago Chinatown Population Growth



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Chicago City and Tract Number 3402*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

Architecture and Streetscape

The original Chinese immigrants made their living through opening many small businesses including restaurants, shops and laundry-mats. Today, the streets are still lined with hundreds of shops selling a variety of Chinese goods from gifts to clothing, to house wares to authentic foods. The streetscape for Chinatown is filled with such items like bamboo plants, traditional Chinese outfits, painted ceramic pottery, embroidered fans as well as chimes and Buddha statues amongst a vast variety of both authentic and non-authentic Chinese gift items. Multiple Chinese furniture stores are located in the area as well as jeweler stores selling jade and other fine jewelry. With restaurants serving food from all over Southeast Asia, the cuisine in

¹⁷³ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Dallas City and Tract Number 79.05*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

¹⁷⁴ Encyclopedia of Chicago, "Armour Square," Encyclopedia of Chicago: Entries, Historical Sources, Maps, Special Features, User's Guide <http://www.encyclopedia.chicagohistory.org/> (accessed on October 15, 2009).

Chinatown ranges from authentic noodle shops to sushi venues to take-away barbeque shacks and even bubble tea kiosks. The majority of these shops and restaurants are located in or adjacent to historic buildings and sites dating back to the early 20th century.¹⁷⁵ Currently the most visited historic places in Chicago's Chinatown include the Chinese American Museum, Chinese Christian Union Church, Chinatown Gateway, Moy's Association Building, Won Kow Restaurant, Chinese Consolidated Benevolent Association, 2nd On Leong Building, 1st Leong Building, Hong Mun Building, Nine Dragon Wall, and the Chinatown Square Plaza are noted in Figure 101.

Figure 101 Significant and Historical Buildings and Areas of San Francisco's Chinatown



Source: Images adapted from Chinese-American Museum of Chicago. "Historic Places." *Chinatown Museum Foundation*. <http://www.ccamuseum.org/Places.html> (Accessed on 7 November 2009).

¹⁷⁵ Chinese-American Museum of Chicago, "Historic Places," *Chinatown Museum Foundation*, <http://www.ccamuseum.org/Places.html> (Accessed on 7 November 2009).

The relocation of Chicago's Chinese residents that took place in 1912 was led by the On Leong Merchants Association. This association is noted for setting the stage for the overall look of the city's new Chinatown location. The first building constructed by the association was the On Leong Building, which was built to house their new headquarters. During this time, the association continued to build 15 shops and 30 apartment units at the center of the new Chinatown. The building design was accented with Chinese architectural features including elaborate dragon designs on the trim that can still be seen today. In order to make Chinatown known, Jim Moy took the initiative to have a Chinese-style building constructed in 1926 in the heart of the area to not only act as a monument for the unique Chinese population that reside in Chicago, but also to serve as the new On Leong Merchants Association building which is why there is now a 1st and a 2nd Leong Building located in Chicago's Chinatown. At the time the city of Chicago didn't have Chinese-born architects, therefore the American architects Christian S. Mechaelsen and Sigurd A. Rognstad worked together to study Chinese architecture and the Western interpretation of Chinese architectural forms known as Orientalism in order to come up with an appropriate design for the new building. Opening in 1928, the building acted as an immigrant assistance center including such services as meeting rooms, a school, and a shrine and was referred to as the Chinatown's city hall. Inspired by the Chinese architectural studies conducted by Michaelson and Rognstad, they together continued to design two additional buildings located in Chinatown, Won Kow Restaurant and the Moy Shee D.K. Association building, in the same year.¹⁷⁶ Some of the key architectural features that can be seen throughout Chicago's Chinatown are pointed out and explained in greater detail in Figure 102.

Figure 102

The New Western Interpretation of Chinese Architecture



Source: Images adapted from Chinese-American Museum of Chicago. "Historic Places." *Chinatown Museum Foundation*. <http://www.ccamuseum.org/Places.html> (Accessed on 7 November 2009).

¹⁷⁶ Chinese-American Museum of Chicago.

The overall intent of Mechaelsen and Rognstad, amongst others, was to create a sense of place for the Chinese residents during the 1920s and 1930s; but it stopped there. The 1940s through the 1960s was a time for decline of Chicago’s Chinatown. Enclosed by railway tracks and surrounding neighborhoods, the community of Chinatown had little room to expand, which greatly impacted the areas growth. As seen in Table 5, due to the restricted boundary for Chinatown, building growth declined drastically from 1960 to 1970, which led to a revival in the 1970s. As a marker to the 1970s revival, a colorful gate was designed by Peter Fung in 1975 at Cermak Road and Wentworth Avenue to provide a sense of arrival for the community. The overall look of the gateway is a mix of modern design with little Asian flair and contains very little ornamental detailing except for the Chinese characters stating that the “The World is for all.”¹⁷⁷ As of today, the gateway acts as a sense of arrival for the community as well as a means to advertise the various upcoming activities and festivals.

Table 5 **New Built Units in Chicago’s Chinatown from 1960 to 2000**

	1960	1970	1980	1990	2000
Chicago’s Chinatown	973	131	239	234	268
Chicago City	711,027	109,140	62,472	49,478	52,042

Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Chicago City and Tract Number 3402*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuid=datasets_1&_lang=en

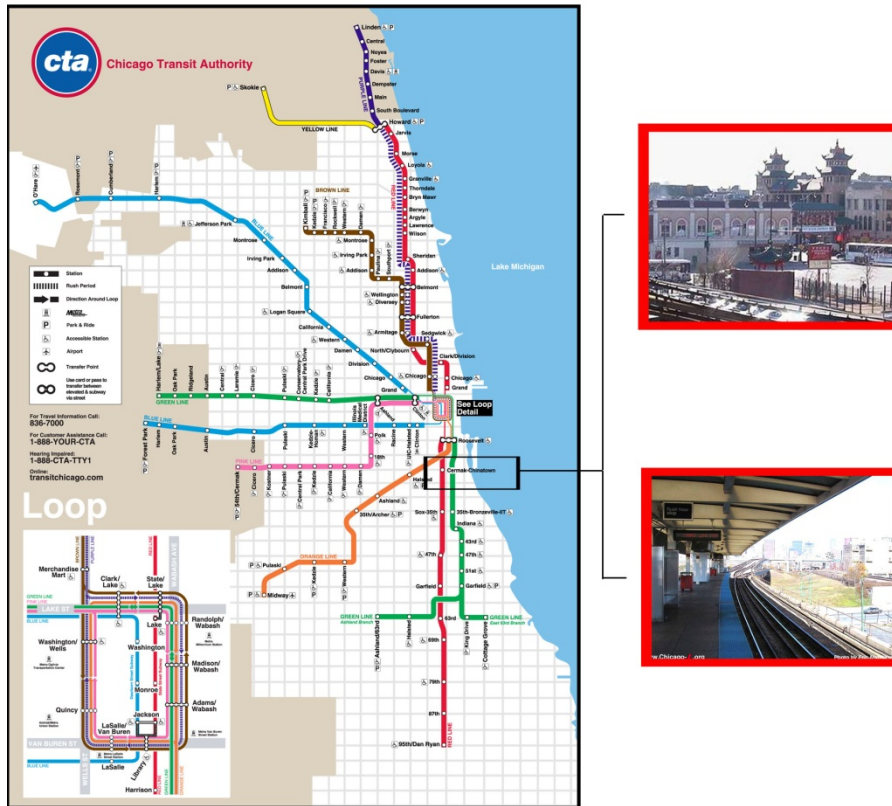
Transportation

To visit Chicago’s Chinatown, multiple modes of transportation are available for Chicago residents and visitors. For those coming by car, the area is lined with metered street parking as well as paid parking lots running all along Wentworth Avenue. Additionally, several forms of public transportation are available including the CTA elevated train and four different bus routes servicing the Cermak-Chinatown station at the heart of Chinatown as well as taxi service along Wentworth Avenue and the water taxi along the Chicago River. Unfortunately, the placement of the CTA Cermak-Chinatown station is completely isolated from the entrance to Chinatown.¹⁷⁸ As seen in Figure 103, the station seems to have turned its back on the unique community rather than embrace it.

¹⁷⁷ Encyclopedia of Chicago, “Chinatown,” Encyclopedia of Chicago: Entries, Historical Sources, Maps, Special Features, User’s Guide <http://www.encyclopedia.chicagohistory.org/> (accessed on October 15, 2009).

¹⁷⁸ “Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown.” *CTA Metropolitan Transit*. <http://www.chicago-l.org/stations/cermak-chinatown.html> (Accessed on 27 September 2009).

Figure 103 CTA Transit System Map with the Cermak-Chinatown Station Called Out



Source: Images adapted from “Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown.” CTA Metropolitan Transit. <http://www.chicago-l.org/stations/cermak-chinatown.html> (Accessed on 27 September 2009).

The original design of the Cermak-Chinatown CTA station, along with the other eight stations that were constructed for the Dan Ryan line, were designed by Skidmore, Owings & Merrill. Completed in 1969, the overall intent of the designers was to create a modern, functional form based on the late international style that was gaining popularity during the 1960s. In doing so, the form of the station was designed for the anticipated function and is characterized with open, uncluttered, well-lit areas creating durable, safe and efficient space for the mass-transit station. All materials and shapes used were designed to complement each other, which can be seen in the stainless steel used for the windbreaks, dividers, and ticket booths throughout the station and in the shape of the building, which relates to shape of the agent booths and even to the trashcans. On the downside, the station, located less than half a mile from the city's Chinatown, doesn't relate in shape or material to the surrounding area.¹⁷⁹

¹⁷⁹ “Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown.”

Figure 104 Picture of Chinese Artwork at Chinatown-Cermak Station



Source: Images adapted from “Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown.” *CTA Metropolitan Transit*. <http://www.chicago-l.org/stations/cermak-chinatown.html> (Accessed on 27 September 2009).

Thirty years later, the city realized the potential for integrating the station into the Chinatown community and in 2001 the CTA began attempting to remedy the situation. Overseen by the Chicago Chinatown Chamber of Commerce, the Cermak-Chinatown station began receiving Chinese flair. Two ‘Welcome to Chinatown’ tile murals were introduced—one in English and the other in Chinese—along with two ‘foo dog’ lion statues at the entrance. Trashcans were painted red and green, colors the Chinese culture associates with prosperity and longevity, with gold lettering spelling out ‘Welcome’ in Chinese too. In addition, Chinese artwork was introduced on the platform level as well as on the windows, as seen in Figure 104. The artwork ranges from a painting of the Great Wall of China created by the community’s own, Chef Yuen Hing Moy, to Chinese theatrical masks. Sponsored by the Chinatown Chamber of Commerce, the newest addition bringing Chinese flair to the station is the traditional style Nine Dragon Wall constructed in 2004. The wall is located along the I-55/I-90 feeder ramp and represents feng shui featuring nine imperial dragon tiles made in China. The President of the Chinatown Chamber, Ray Speath, stated the introduction of Chinese cultural paintings, masks, statues and murals create a relationship between the station and Chinatown and would hopefully encourage

CTA riders to visit the area and spark an increase in revenue for the various restaurants and shops.¹⁸⁰

Figure 105

Richland Center Development, Chicago's Chinatown



Source RG: Richland Group: Richland Construction and Development [http://www.richlandgroup.com/RG percent20CD percent20Current percent20Projects.htm](http://www.richlandgroup.com/RG%20Current%20Projects.htm)

Scale and Zoning

As stated previously, the Chicago's Chinatown experienced 30 years of decline before the revival that began to occur in the 1970s. Due to this decline, many buildings were left vacant and dilapidated. The city of Chicago deemed these buildings as detrimental to the public safety, health and welfare of the community, and in 1986 the city designated the area as a Tax Increment Financing District, or TIF. The overall intent of the TIF was to provide tax incentives encouraging developers to partake in redevelopment and rehabilitation projects in the area. The new plan specifies that the historic skyline for the area must be retained and any new or rehabilitated buildings must stay within the two to three story building height range. In a series of three phases conducted throughout the 1980s, a total of approximately 110 two-story mixed-use commercial buildings in addition to roadway, sewer, water, lighting, and landscaping improvements were completed. Furthermore, in response to the new TIF district, a number of Chinatown business leaders came together and purchased 32 acres of land in the late 1980s—located in close proximity to the Santa Fe Railway on Archer Avenue called Chinatown Square—in order to build a two-story mix-use center including multiple restaurants and commercial uses as well as offices and townhouses. During the same time, another development was underway just north of Chinatown called Richland Center. It consisted of townhomes, condos, and single-family homes. The area's building height was retained, but no guidelines were established for

¹⁸⁰ "Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown."

the architectural character. Therefore, little to no link between the new developments and the historical Chinatown has been established as seen in the Richland Center, Figure 105.¹⁸¹

As of 2002, the initial TIF was amended and became the Chinatown Basin Redevelopment Project Area. Currently zoned as Residential Business Planned Development 383, Chicago’s Chinatown allows for both commercial business and residential uses. In Figures 106 and 107 are maps from the 2002 redevelopment plan, created by the City of Chicago, depicting the most recent Redevelopment Project Boundary followed by the existing land use for the area, and the proposed land use. Even with the multiple development projects that were completed in the late 1980s due to the newly designated TIF, over a hundred buildings were still left vacant in 2000. The overall intent of the most recent plan for the rehabilitation project for Chinatown is to convert these vacant buildings to residential use, while keeping the majority of commercial uses along Archer and Wentworth Avenues. Same as the TIF guidelines developed in the 1980s, the Chinatown Basin Redevelopment Project Area plan retains the historic building height of 2-3 stories. The new plan has continued to encourage new projects for the area including the CASL’s Kam Liu Center built in 2004 creating a social service agency for the Chinatown community.¹⁸²

Figure 106 Existing Land Use



Figure 107 Proposed Land Use



Source: Images provided by Richard M. Daley, *Redevelopment Plan and Project: Chinatown Basin Redevelopment Project Area Tax Increment Finance Program*. (Chicago: Louik/Schneider & Associates Inc, 2002), 24-25 Maps 2 and 3.

¹⁸¹ Richard M. Daley, *Redevelopment Plan and Project: Chinatown Basin Redevelopment Project Area Tax Increment Finance Program*. (Chicago: Louik/Schneider & Associates Inc, 2002), 4.

¹⁸² Daley 2002, 4

Overall Chicago's Chinatown has experienced the same dilemmas that many historic communities throughout the U.S. have dealt with. The area began to decline as the population could no longer expand vertically or concentrically. The Chinatown boundaries limited growth lead the community to decline during the 1940s to 1960s. In the past 30 to 40 years the city of Chicago has made several attempts to remedy the situation through the TIF district as well as the Chinatown Basin Redevelopment project. In addition to the revitalization and rehabilitation projects conducted by the city, the CTA has also attempted to better implement the existing mass-transit station to be more integrated and responsive to the unique community of Chinatown. Although Chicago is now trying to fix the situation, all of this could have been avoided if TOD principles were applied to the station in the beginning.

As of today, Chicago's zoning code doesn't contain guidelines for TOD around its stations. Multiple parties have noted that the existing zoning code does consist of a section pertaining to Pedestrian Street designation, which could easily be transformed to include TOD regulations. At the moment, many areas around Chicago's transit stations have the potential for developing high-density mixed-use neighborhoods; however, these areas also contain density restrictions that obviously contradict TOD guidelines. Recently noted by the president of Chinatown Chamber of Congress, the integration of the transit station can encourage increased revenues for the Chinatown community.¹⁸³ Through the implementation of TOD principles, the Chinatown station can be much more successful. Furthermore, with guidelines depicting the Chinatown historical character, the overall look and character of the community can better be preserved.

¹⁸³ "Cermak-Chinatown (2200S/200W): Cermak Road and Wentworth Avenue, Chinatown." *CTA Metropolitan Transit*. <http://www.chicago-l.org/stations/cermak-chinatown.html> (Accessed on 27 September 2009).

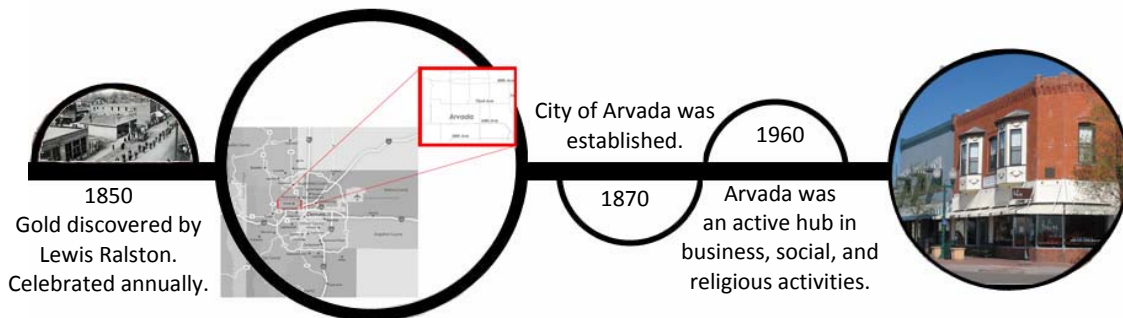
APPENDIX C | Case Studies

RESEARCH DOCUMENTATION | TOD: A Catalyst for Regeneration Denver Case Study

The capital of Colorado, Denver is the largest city in the state and is surrounded by multiple smaller cities that, over the years, have almost been converted to suburban communities. Many of these cities are struggling to remain independent from Denver and in doing so have started to celebrate the community’s unique heritage. The city of Arvada, currently situated within the Denver Metropolitan Area, is a municipality seven miles northwest of the capital.¹⁸⁴

Figure 108

Olde Town Arvada Timeline



Source: Images adapted from, and information provided by, Arvada Historical Society, “Historic Olde Town Arvada Colorado: A National Main Street Community,” Historic Olde Town Arvada <http://www.historicarvada.org/> (accessed on October 11, 2009).

History and Culture

Lewis Ralston a prospector from the southeast of the United States who was headed to California in search for gold found gold in the area in 1850. However, he ended up finding six grams of gold in what is now known as Ralston’s Creek, named in his honor. Ralston and his crew left the next morning continuing on their expedition to California; but returned several years later during the Pike’s Peak Gold Rush in 1858 to find gold in the mountains to the West. Many gold seekers began to quit their search for gold and settled in the area to instead grow crops. By 1861 the territory of Colorado was formed. The Colorado Central Railroad reached the area in 1870 and linked the new community with the Kansas Pacific and Denver Pacific Railroads. During the same year, a plank was placed by Benjamin Wadsworth, a future postmaster for the area, distinguishing the exact location of Ralston Point town site, which was soon renamed Arvada in honor of Hiram Arvada Haskin. Due to the farming that was prominent when the city was first founded, the city of Arvada was known as the “Celery Capital of the World” at the turn of the twentieth century; refer to the timeline shown in Figure 108.¹⁸⁵

¹⁸⁴ Arvada Historical Society, “Historic Olde Town Arvada Colorado: A National Main Street Community,” Historic Olde Town Arvada <http://www.historicarvada.org/> (accessed on October 11, 2009).

¹⁸⁵ Arvada Historical Society.

The city of Arvada is characterized by the river where gold was first found, Clear Creek, now known as Ralston Creek. Due to the close proximity to the city of Denver, the area quickly became absorbed as a suburb. Arvada became a Statutory City in 1951 with a population close to 19,000. Even though this particular city is a large business, social and religious hub for Jefferson County, the community of Arvada constantly struggled to be independent of Denver until 1963 when it became a municipality.¹⁸⁶ As of today, the area of historic Olde Town Arvada is only made up of a few square blocks bounded by Olde Wadsworth Boulevard and Wadsworth Bypass in the east and west and by Ralston Road in the north and by the historic Flour Mill in the south.¹⁸⁷ The city of Arvada has two other historic districts located in close proximity to Olde Town including Reno Park Historic District in the west and the Stocke-Walker Historic District in the east as seen in Figure 109.¹⁸⁸



Source: Map adapted from Arvada Historical Society, "Historic Olde Town Arvada Colorado: A National Main Street Community," Historic Olde Town Arvada <http://www.historicarvada.org/> (Accessed on 11 October 2009).

¹⁸⁶ Arvada Historical Society.

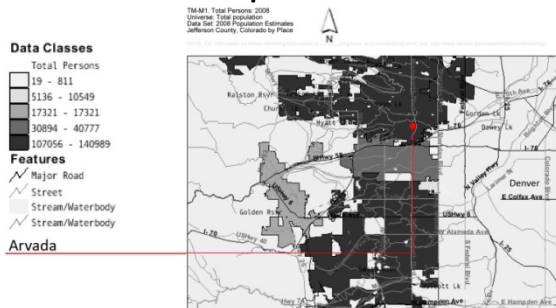
¹⁸⁷ Allyn Feinberg Planning & Design, *Design Guidelines for Olde Town Arvada*, City and Community of Arvada, April 2003., [http://arvada.org/docs/1250610523Design percent20Guidelines percent20for percent20Olde percent20Town percent20Arvada.pdf](http://arvada.org/docs/1250610523Design%20Guidelines%20for%20Olde%20Town%20Arvada.pdf) (Accessed on October 17, 2009), 6.

¹⁸⁸ Allyn Feinberg Planning & Design 2003, 7.

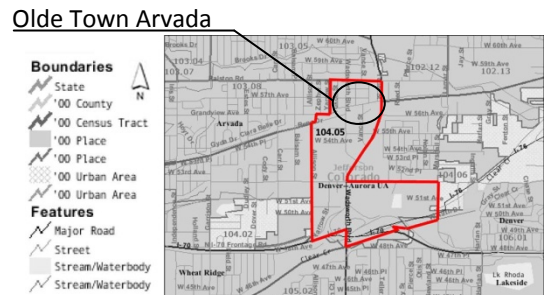
The city of Arvada is the 7th most populated city in the state of Colorado with 106,328 residents as of 2007. All population and demographic data provided for this case study is based on the figures created by the U.S. Census for Arvada City and Arvada Tract Number 104.05, as shown in the top right image in Figure 110. As seen in this image, Olde Town Arvada is situated in the far north of the tract area, therefore, all data provided here also incorporates in part surrounding neighborhoods. As of 1990, the population was only 89,235 therefore in recent years, the population has increased significantly. The city experienced a 14 percent increase from 1990 to 2000 and continued to rise until about 2004 when the population level out to about 103,000 and 41,428 households. Due to this increase in population, multiple opportunities arose to update not only transportation plans for the area, but also future developments.¹⁸⁹

Figure 110

Current Estimated Population for Denver



Olde Town Arvada Tract Number



Estimated Population for Arvada City



Estimated Density for Olde Town Arvada

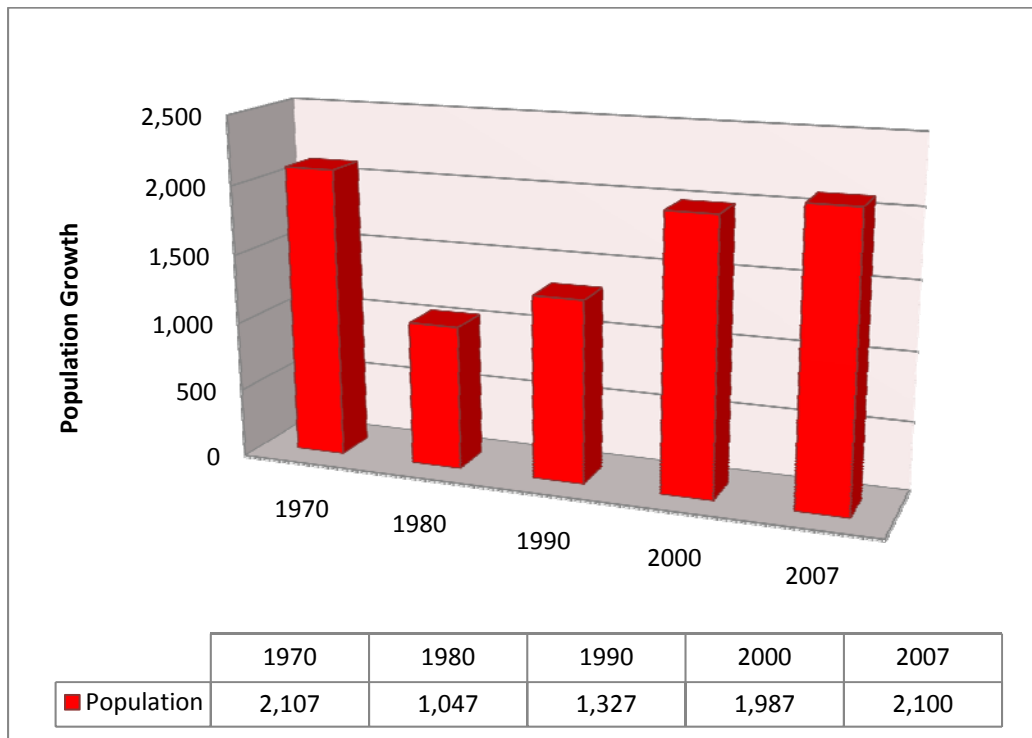


Source: Map adapted from U.S. Census Bureau, *American FactFinder 2008 Reference and Thematic Maps : Arvada City and Arvada Tract Number 104.05*, (Accessed on 27 November 2009), http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pagelid=referencemaps&_submenuid=maps_2

¹⁸⁹ U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Dallas City and Tract Number 79.05*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuid=datasets_1&_lang=en

According to the 2000 U.S. Census, the city of Arvada is populated almost entirely by white at 94 percent. Despite that, the population is actually more diverse than in the past as multiple ethnicities moved in during the population increase of 1990 to 2000. Furthermore, the census also shows that the city of Arvada contains a large number of senior citizens showing more than 18 percent of households are habited by people older than 62. These numbers are expected to grow as baby boomers reach closer to retirement. Therefore, a lot of city planning for the future of Arvada is centered on providing adequate homes for senior citizens.¹⁹⁰

Figure 111 **Olde Town Arvada Population Growth**



Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Arvada City and Tract Number 104.05*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuid=datasets_1&_lang=en

As for the historic community of Olde Town Arvada, located in the heart of the city, the population has experienced a trend common to multiple historic communities throughout the U.S. Population originally was very dense in the urban center; but, due to suburban sprawl many residents began moving outside of the city causing a large decline in population and the

¹⁹⁰ Arvada Historical Society, “Historic Olde Town Arvada Colorado: A National Main Street Community,” Historic Olde Town Arvada <http://www.historicarvada.org/> (accessed on October 11, 2009).

eventual decline of the community as a whole. Beginning in the 1990s, attention was brought back to the urban center to revive the unique historic character and live-work lifestyle. A series of revitalization projects have occurred in Olde Town causing an increase in population as seen in Figure 111. The city of Arvada continues to encourage new developments around the historic community as well as redevelopments within in order to revive the community's unique heritage.¹⁹¹

Architecture and Streetscape

The history of Arvada can be seen in its architecture as visitors walk through the Olde Town center. The historic Arvada Flour Mill is one of the most popular tourist attractions amongst others are listed on the National Register by the Arvada Historical Society. The streets are filled with cobblestone and lined with beautifully preserved historic buildings. Olde Town was the city of Arvada's original downtown, and is still located in the center of the city even though the majority of all economic activity has migrated to other commercial centers. Multiple preservationist groups have formed and have worked hard in order to retain the historical character of the original town center. In doing so, they have create a sense of place for residents. In order to be designated as historic, the building must first be surveyed and evaluated based on its historic and architectural significance. Multiple sources are addressed to conduct the surveys, including county records, insurance maps, city directories and documents, the historical society accounts, historic photos, and even interviews held with property owners. Once identified as a historic property, all significant architectural elements must be preserved including such factors as proportion of height to width to length of the building, roof form, window and door opening arrangement, sizes and locations, and multiple railing and trim details.¹⁹² Some of the key features in Olde Town Arvada include the Arvada Library, St Anne's Church and Catholic School, McIvory Park, Elks Lodge, Masonic Lodge, and Lion's Club; as shown in Figure 112.

¹⁹¹ Allyn Feinberg Planning & Design, *Design Guidelines for Olde Town Arvada*, City and Community of Arvada, April 2003., [http://arvada.org/docs/1250610523Design percent20Guidelines percent20for percent20Olde percent20Town percent20Arvada.pdf](http://arvada.org/docs/1250610523Design%20Guidelines%20for%20Olde%20Town%20Arvada.pdf) (Accessed on October 17, 2009), 15.

¹⁹² Arvada Historical Society, "Historic Olde Town Arvada Colorado: A National Main Street Community," Historic Olde Town Arvada <http://www.historicarvada.org/> (accessed on October 11, 2009).

Figure 112 Significant and Historical Buildings and Areas of Olde Town Arvada



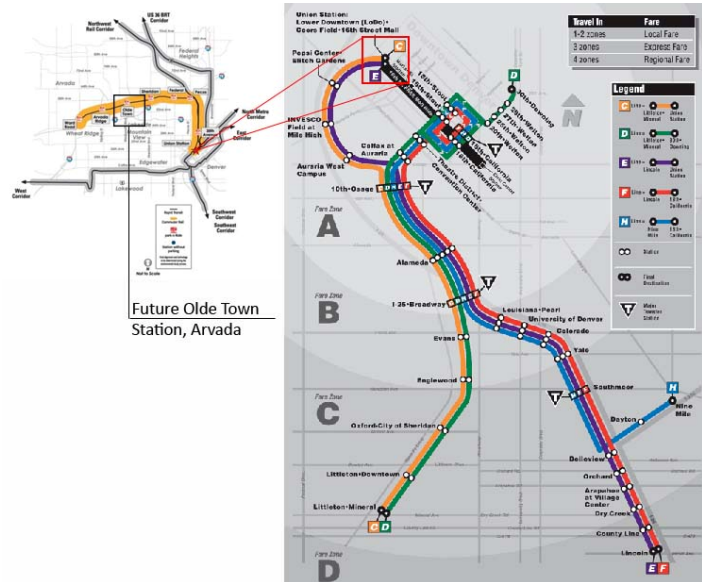
Source: Images adapted from GoogleEarth and Flickr

Transportation

Because of the population increase in 1990 to 2000, amongst other factors, the city of Arvada has since been forced to deal with traffic problems on a daily basis. Studies conducted in 2003 showed that the majority of congestion was located on the major arterial streets through the downtown. Future transportation plans include the widening of multiple streets as well as the completion of Jefferson Parkway, the main transportation project for the city. Many major highways service the city of Arvada. As for public transport, the community has access to the Denver Regional Transportation District or RTD system that provides the region with multiple bus routes. Currently, the RTD has plans to construct a commuter rail by 2015 to service the city

of Arvada along the existing track of the old Colorado Central Railroad. This commuter rail, or RTD Gold Line, is a light-rail line that will connect residents of Arvada from the Ward Road park-n-ride Lot in Ralston Fields of Olde Town Arvada to Union station in downtown Denver, shown in Figure 113. Alongside the future light-rail line, the bus system will be upgraded in order to support the new Gold Line with new regional and express bus routes. In addition, the city of Arvada is working to develop plans for multi-modal hubs at light-rail transit stations that support mixed-use developments and activity centers accented with appropriate parking and park-n-ride lots.¹⁹³

Figure 113 Denver Transit System Map with Future Olde Town Arvada Station Called Out



Source: RTD: Regional Transportation District, <http://www.rtd-denver.com/> (Accessed on 16 November 2009).

Scale and Zoning

Noted on the National Register of Historic Places, all proposed activity within the Arvada Downtown Historic District must follow distinct guidelines set out by the city. This led the city of Arvada to conduct careful studies in order to create a set of guidelines for redevelopment and infill projects throughout the historic community to enhance rather than diminish its character. In doing so, zoning clauses have been formed specifying the overall scale, size, and setbacks of

¹⁹³ Allyn Feinberg Planning & Design, *Design Guidelines for Olde Town Arvada*, City and Community of Arvada, April 2003., [http://arvada.org/docs/1250610523Design percent20Guidelines percent20for percent20Olde percent20Town percent20Arvada.pdf](http://arvada.org/docs/1250610523Design%20Guidelines%20for%20Olde%20Town%20Arvada.pdf) (accessed October 17, 2009).

new buildings that directly relate to the adjacent and existing streetscape in order to ensure that the unique historic character will be maintained and even carried on in the new developments. In doing so, new developments provide a sense of transition by restricting new buildings from being more than two stories higher than adjacent buildings. Furthermore, all redevelopment and infill projects must preserve the existing trees lining the streets as well as any significant landscape features. The overall design of the building as well as any new landscaping feature or material must be able to successfully blend in and integrate with the existing vegetation, parks, trails, and open space. However, little redevelopment and infill projects have actually taken place.¹⁹⁴

The majority of residents and visitors of Arvada agree that the town center is a run-down, dilapidated area that is in need of redevelopment. Therefore, the community of Arvada is using the planned mass-transit system to act as a catalyst for sparking growth. At the moment, multiple groups are coming together to create future master redevelopment plans for the historic town center. The city of Arvada has joined forces with RTD, Colorado Department of Transportation (CDOT), and the public in order to develop appropriate land use and implementation strategies for future transportation plans. In doing so, the city of Arvada has decided to implement TOD strategies for all transit stations, using set guidelines created for all TODs in the area to include:

- A mix of land uses that are both economical and sustainable including commercial and office uses as well as a range of housing types;
- Building lots to be compact with a maximum of 400 feet with building designs that integrate the surrounding streets and walkways;
- Introduce at least one main public space or plaza near the station; design for the pedestrian by including large sidewalks, seating, designated crosswalks, vegetation and landscaping, street facing retail;
- Lastly, and most importantly, incorporate existing historical buildings and features to enhance the area.

¹⁹⁴ Allyn Feinberg Planning & Design 2003.

Furthermore, the TODs are also to be accompanied with multi-modal transportation facilities including connection to the bus system and appropriate vehicular access and parking structures that work in collaboration with pedestrian walkways and bicycle paths.¹⁹⁵

Currently, the future station is to be called Olde Town Station due to its connection to the city's Olde Town historic district. Over the years, much work has been conducted in order to preserve the area. Now, the main concern is how to design a transit-oriented development in a historic area where any new development is, more often than not, highly discouraged. As of now, the existing land uses consist of historic retail and residential to the north, east, and west of the future station. To the south of the future station are non-historic uses including an existing freight rail line, a movie theater, several chain restaurants and retail stores. With the new transit station, an influx of visitors is anticipated by the city of Arvada and special care has been taken in the TOD station design to accommodate for the increase in visitors without distorting the unique historic quality of the community. Olde Town Arvada already contains multiple qualities encouraged by TOD guidelines: a pedestrian-oriented streetscape; mix of uses including retail storefronts along Grandview Avenue and Olde Wadsworth Boulevard; central location within the city; as well as areas for redevelopment including a few places in between Grandview and Ralston roads as well as south of the future station by the theater. The city of Arvada is using the future station as a means to rehabilitate the historic downtown by introducing new residential development and retail as well as to increase historical awareness all along the rail line.¹⁹⁶

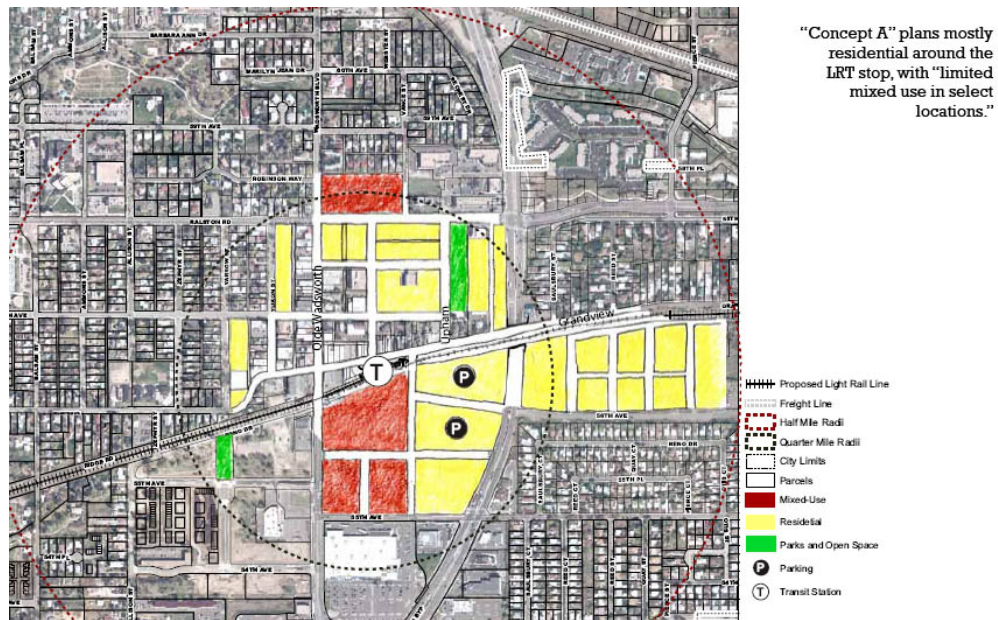
When developing the master plan for Olde Town, the city had to address many issues including the fact that historic districts don't often support new construction. The current market consists of existing retail and office, which can be enhanced and expanded to a degree but the main concern was how to introduce more residential uses. The city has come together with the major land-owners in the areas that were recognized as key places for redevelopment in order to develop a series of solutions for implementing TOD principles for the unique historic

¹⁹⁵ Allyn Feinberg Planning & Design.

¹⁹⁶ PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009).

community. Depicted in Figure 114 through 116, are three concepts reviewed by the public addressing issues such as the impact of increased density as well as what residential and retail uses will have on the historic center, maintaining the historic building height, and parking. The key features present in each master plan are: the introduction of mixed-uses, retaining the historic character of Grandview Avenue including the low building height and views to the south and west, as well as maintaining the connection between Olde Town and New Town. The first concept, or concept A, is mainly focused on residential uses around the station with a handful of mixed-use hubs located sporadically through the area. Concept B shows the entire area transformed into an employment center by providing minimal residential and mixed-uses rather filling the area with commercial uses. Lastly, Concept C has the largest impact on the community with plans to completely rework the street layout, connections, and allow for higher density development.¹⁹⁷ In all the concepts the idea is to create an urban village that not only protects the historic fabric but also allows for new housing, employment shopping, dining, and even cultural festivity opportunities.

Figure 114 **Olde Town Arvada Station Master Plan Concept A**

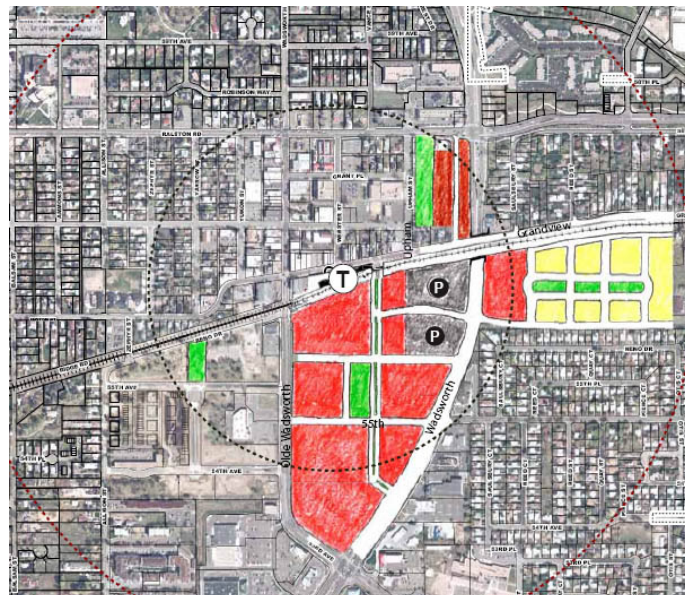


Source: Image provided 1Post2, "Denver Transit Oriented Development Thread," SkyscraperPage Forum, entry posted August 4, 2006, <http://forum.skyscraperpage.com/showthread.php?t=112369> (accessed September 21, 2009), Concept A.

¹⁹⁷ 1Post2, "Denver Transit Oriented Development Thread," SkyscraperPage Forum, entry posted August 4, 2006, <http://forum.skyscraperpage.com/showthread.php?t=112369> (accessed September 21, 2009).

Figure 115

Olde Town Arvada Station Master Plan Concept B

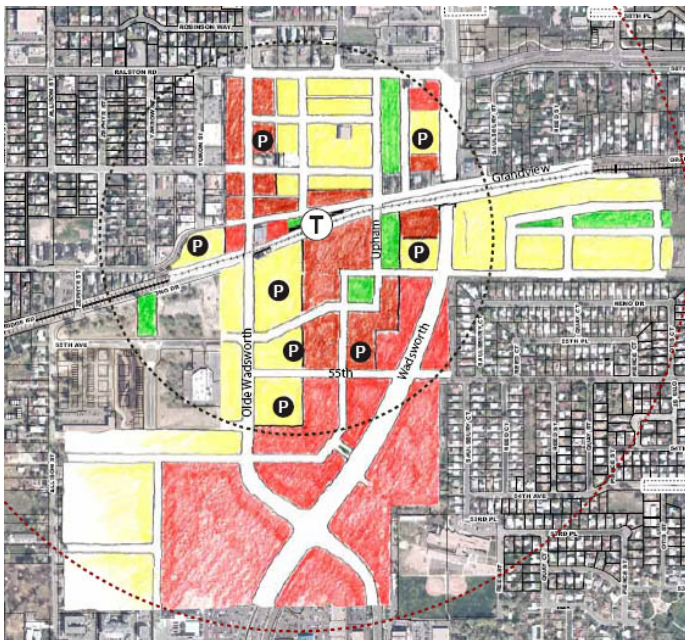


“Concept B” envisions the area as an employment center. As with Concept A, there is little mixed use overall, but this time commercial use dominates instead of residential.

Source: Image provided 1Post2, “Denver Transit Oriented Development Thread,” SkyscraperPage Forum, entry posted August 4, 2006, <http://forum.skyscraperpage.com/showthread.php?t=112369> (accessed September 21, 2009), Concept B.

Figure 116

Olde Town Arvada Station Master Plan Concept C



“Concept C” provides the most comprehensive change for the area; street layout and connectivity is altered, greater densities are allowed, and the largest physical amount of land is considered for redevelopment.

Source: Image provided 1Post2, “Denver Transit Oriented Development Thread,” SkyscraperPage Forum, entry posted August 4, 2006, <http://forum.skyscraperpage.com/showthread.php?t=112369> (accessed September 21, 2009), Concept C.

Generally, Concept A introduces the idea of having residential developments located in and around the historic Olde Town with an overlay zone that allows for higher densities. This zone overlay contains specific design regulations in order to ensure the historic character of Olde Town is not sacrificed. As an example, the design regulations include factors such as allowing two to three story buildings on the high-streets of Old Wadsworth and Grandview if set back a certain distance. In addition to the overlay zone, Concept A also introduces mixed-use developments located south of the station where there currently is a cinema. When completed, the redevelopment is to include both commercial and residential uses as well as parking at the ground level.¹⁹⁸ Concept B, on the other hand, disperses large amounts of commercial and office space throughout the site in order to redevelop the area as an employment center. This concept is characterized by a pedestrian oriented promenade south of the station that is lined with not only retail uses, but also commercial and office spaces as well as parking. Again, an overlay zone has been created allowing for building to reach up to four stories along this promenade. The only residential use proposed is an affordable retirement village located east of the station.¹⁹⁹

Concept C reworks the street pattern in order to allow for increased retail, office, commercial, and residential uses as well as enhance pedestrian connectivity for the entire area. In doing so, design regulations have been created to allow increased building height as long as the upper floors are set back to retain the historic streetscape and scale of the community. Through reworking the streets, Concept C allows for a public plaza to be created south of the station to allow for a four to six story mixed-use development that can serve as the new community center for cultural events, fairs, exhibits, amongst many other activities. Furthermore, this concept allows for future growth by providing multiple residential uses as well as parking throughout the greater area of Olde Town alongside the retail, office, and commercial uses that can increase in size over time through a series of stages. In order to ensure the survival of this historic

¹⁹⁸ 1Post2.

¹⁹⁹ 1Post2.

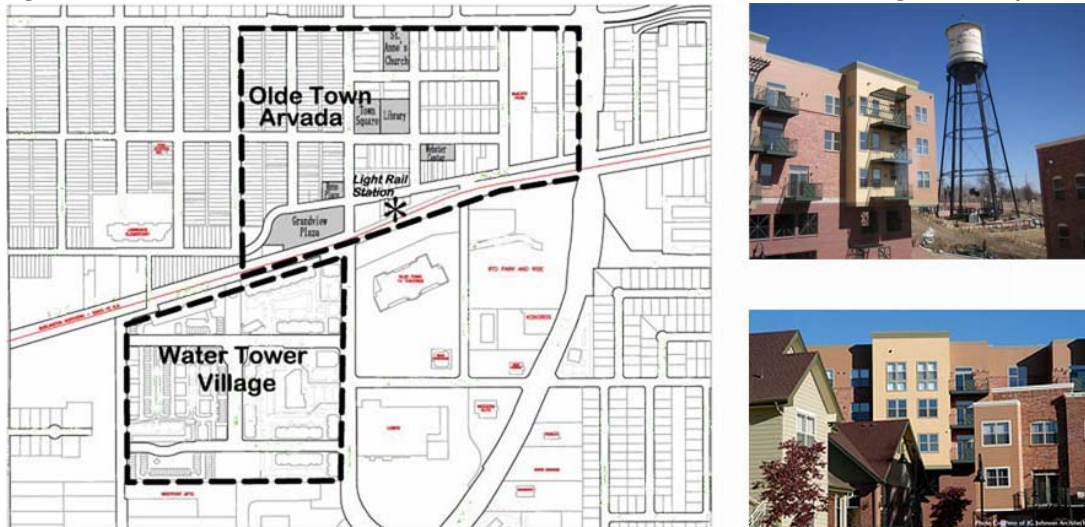
community, the city of Arvada has created the Arvada Urban Renewal Authority to oversee future redevelopment projects for the area.²⁰⁰

Lessons Learned

In general, the city of Arvada conducted multiple studies on how to implement transit-oriented development principles in a historic district to encourage growth for the community without sacrificing the unique historic character. The finalized plan for the historic district consists of two very distinct neighborhoods, the Olde Town district and the New Town district. The New Town district is located south of the station by the existing theater, in an area that has potential for redevelopment. Already some new developments have occurred in this area, such as the Water Tower development, depicted in Figure 117. All new developments in the area as well as the actual station design will reference the historical character of the area through building scale, placement, parking as well as architectural features and gateways that celebrate the community’s history. The station is to provide a direct link to historic buildings and places as well as to the pedestrian priority streets of Olde Wadsworth, Ralston Road, Grandview Avenue amongst others.²⁰¹

Figure 1177

Water Tower Village Development



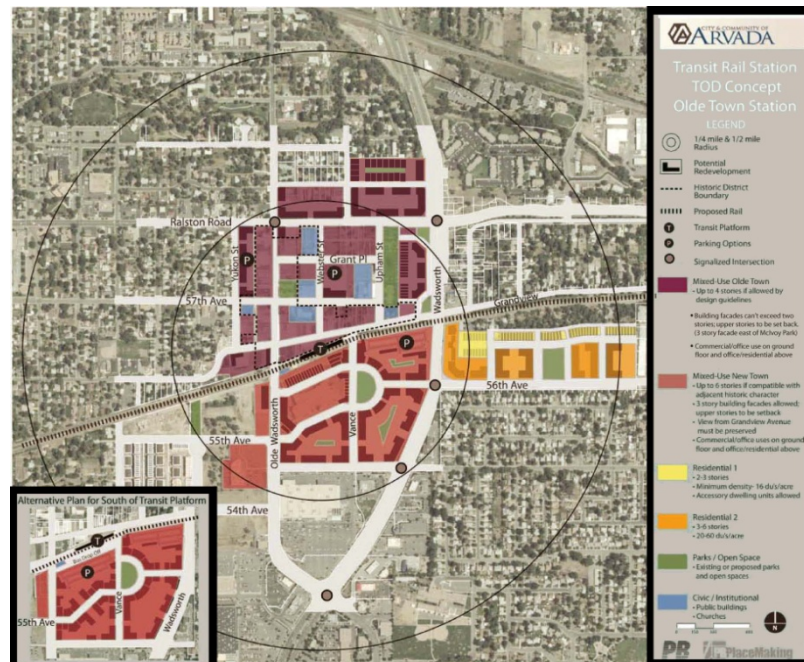
Source: Images provided by Arvada Historical Society, “Historic Olde Town Arvada Colorado: A National Main Street Community,” Historic Olde Town Arvada <http://www.historicarvada.org/> (accessed on October 11, 2009).

²⁰⁰ PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009), 16.

²⁰¹ PB Placemaking, 16.

The finalized plan for the area, depicted in Figure 118, has designated mixed-use areas radiating approximately half a mile from the transit station for both Olde and New Town Arvada. This plan allows new buildings to exceed the historic building height of one to two stories to a certain extent. Within Olde Town Arvada, the building height for new developments is regulated at four stories with all floors above the regulated two story facades to be setback; In New Town Arvada, the building height is set at six stories with all floors above the required three story façade to be setback. The allowed land uses for these mixed-use areas are commercial and office uses at ground level with residential units and/or offices above. In order to encourage population growth, the plan has also designated new residential areas to the east of the station that are regulated at two to six stories. In addition, various parks and public spaces are allotted for as well as civic and institutional land uses throughout the Olde Town District.²⁰² Shown in Figure 119, the projected outcome is a dense, low-rise sustainable, live-work community that encourages growth without sacrificing the unique historic character.

Figure 118 Final TOD Concept Plan for Olde Town Arvada



Source: Image provided by PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009), 23.

²⁰² PB Placemaking, 23.

Figure 119 **Renderings of Potential Redevelopment for Olde and New Town Arvada**



Birds-Eye View of Olde Town



Visualization Facing Northeast

The plan envisions a mix of two to six story buildings sensitively introduced into Olde Town.

Source: Image provided by PB Placemaking, *Arvada Transit Station Framework Plan*, City and Community of Arvada, 20 August 2007, http://arvada.org/docs/1194983579Transit_Station_Plan.pdf (accessed October 17, 2009), 21.

The Olde Town Arvada case study provides an excellent example for how another U.S. city is currently attempting to implement TOD concepts into a historic community. The most important aspect to note for this case study is that the city of Arvada conducted a site analysis for the area that recognized the importance of the low-rise urban form along Olde Wadsworth and Grandview Avenue as being critical to its success. From here, the city called out areas that could withstand new developments without diminishing the community's unique culture. The result is a master plan that establishes the new transit station as a mixed-use center that is able to create a dense, pedestrian-oriented community that respects the area's historic significance and character.

APPENDIX D

SUPPORTING TABLES

Source: Information provided by U.S. Census Bureau (1960, 1970, 1980, 1990, 2000) *American FactFinder Decennial Census : Tract Numbers: San Francisco 107, 113, 114,118; Chicago 34.02; Arvada 104.05 Dallas 79.05; and Honolulu 52*, (Accessed on 12 November 2009), http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en

SUPPORTING TABLES

San Francisco's Chinatown

	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Population	11,819	14,031	12,305	13,930	13,620	39,418	715,674	678,974	723,959	776,733
Total of Housing Units	6,203	6,884	4,520	5,755	7,054	310,559	310,402	316,608	328,471	346,527
Median Household Income	\$4,301	\$6,192	\$10,345	\$14,961	\$20,427	\$7,578	\$10,503	\$15,886	\$33,414	\$55,221
Per Capita Income	\$2,210	\$3,150	\$5,562	\$11,318.50	\$16,658	\$2,976	\$4,283	\$9,263	\$19,695	\$34,556
New Built Units	262	530		368	104	26,198	27,955		20,517	14,186
Unemployment	486	339	498	389	433	21,702	21,834	30,778	25,855	20,609

Economic Factors 1960-Present

	San Francisco's Chinatown					San Francisco City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Housing Units	6,203	6,884	4,520	5,755	7,054	310,559	310,402	316,608	328,471	346,527
Occupied Housing Units	5,260	6,429	4,449	5,384	6,673	291,075	295,174	298,956	305,584	329,700
Median Persons per Unit	1.4	2.5	2.3	2.1	2.2	2.0	1.9	1.78	2.3	2.1
Median rooms per Unit	1.4	1.9	1.7	1.6	1.5	4.0	4.0	4.0	3.7	3.8
Median Value of Housing Units	\$22,500	\$40,500	\$67,700	\$215,000	\$335,700	\$17,300	\$28,100	\$103,900	\$294,800	\$396,400
Median Rent of Housing Units	\$45	\$74	\$163	\$305	\$413	\$73	\$128	\$266	\$653	\$883
Vacant Housing	471	454	188	371	481	14,253	24,287	17,395	22,887	16,827
Boarded Up		-	-	-	-	-	-	452	-	-

Ethnicity

	San Francisco's Chinatown					San Francisco City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Caucasian	2,770	1,080	1,225	1,318	1,495	38,746	511,186	395,081	388,341	385,325
Asian&Pacific Islander	9,452	12,550	11,395	12,414	11,514	553	75,410	147,426	211,000	143,519
African American	97	143	1,225	170	312	119	96,078	395,081	78,931	59,060
Other	-	57	89	28	440	-	33,000	46,505	42,333	85,305
TOTAL	11,819	14,031	12,305	13,930	13,620	39,418	715,674	678,974	723,959	776,733

SUPPORTING TABLES

Transportation

	San Francisco's Chinatown					San Francisco City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Workers	5,418	9,784	5,180	5,593	5,157	336,596	318,741	330,627	382,309	418,553
Private Vehicle	650	605	494	858	1,059	132,245	132,275	113,724	147,187	169,508
Carpool	-	175	237	413	410	-	23,849	42,028	43,925	45,152
Bus/Streetcar	1,599	1,768	1,618	1,815	1,729	123,698	112,189	120,642	93,377	89,443
Rail	-	-	25	164	171	-	-	7,988	31,917	36,704
Walking/Cycling	2,578	3,972	2,620	2,139	1,929	36,295	35,443	36,823	41,245	47,494
Other Means	42	52	60	55	29	4,646	6,004	6,829	2,773	2,761

Economic Factors 1960-Present

	Chinatown					Chicago City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Population	5,187	4,375	5,319	4,656	5,123	3,550,403	3,366,957	3,005,061	2,783,726	2,895,964
Total of Housing Units	1,534	1,267	1,801	1,655	1,911	1,214,958	1,208,418	1,174,703	1,025,174	1,152,871
Median Household Income	\$6,103	\$9,610	\$17,050	\$17,279	\$24,757	\$6,738	\$10,242	\$21,207	\$26,301	\$38,625
Per Capita Income	\$2,874	\$3,046	\$6,986	\$8,339	\$13,784	\$3,207	\$3,948	\$8,903	\$26,301	\$20,175
New Built Units	973	131	239	234	268	711,072	109,140	62,472	49,478	52,042
Unemployment	18	41	86	241	120	101,016	63,524	141,839	154,231	137,421

Economic Factors 1960-Present

	Chinatown					Chicago City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Housing Units	1,534	1,267	1,801	1,655	1,911	1,214,958	1,208,418	1,174,703	1,130,039	1,152,871
Occupied Housing Units	1,467	1,228	1,714	1,552	1,786	1,157,409	1,137,854	1,093,407	1,025,174	1,061,921
Median Persons per Unit	3.2	3.3	2.72	2.6	2.4	2.6	2.4	2.66	2.5	3.1
Median rooms per Unit	4.3	4.2	4.1	3.7	3.5	4.4	4.5	4.7	4.6	4.7
Median Value of Housing Units	\$15,200	\$21,900	\$47,700	\$105,500	\$142,500	\$18,000	\$21,200	\$47,200	\$77,600	\$144,300
Median Rent of Housing Units	\$65	\$72	\$144	\$345	\$365	\$78	\$108	\$188	\$445	\$543
Vacant Housing	44	59	84	103	125	44,719	70,473	80,348	107,865	90,950
Boarded Up	-	-	2	-	-	-	-	3,232	-	-

SUPPORTING TABLES

Ethnicity	Chinatown					Chicago City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Caucasian	3,377	1,007	991	474	359	2,712,748	2,207,767	1,490,214	1,265,953	1,217,702
Asian&Pacific Islander	1,450	3,100	3,941	3,638	4,351	27,706	56,570	69,191	104,141	128,117
African American	363	268	284	389	270	812,637	1,102,620	1,197,000	1,086,389	1,059,594
Other	-	-	103	155	143	-	-	242,584	327,243	490,551
TOTAL	5,190	4,375	5,319	4,656	5,123	3,550,404	3,366,957	3,005,061	2,783,726	2,895,964

Building year built

	Chinatown					Chicago City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
1990 to 1999	-	-	-	-	268	-	-	-	-	52,042
1980 to 1989	-	-	-	234	285	-	-	-	49,478	46,668
1970 to 1979	-	-	239	566	364	-	-	62,472	81,116	97,590
1960 to 1969	-	131	150	199	183	-	109,140	133,288	148,498	156,608
1950 to 1959	973	161	248	126	200	711,072	137,476	173,518	184,027	197,029
1940 to 1949	298	115	90	86	118	306,405	138,383	190,001	157,755	164,839
1939 or earlier	196	885	963	444	493	140,932	803,302	608,487	505,855	438,095
TOTAL	1,467	1,292	1,630	1,655	1,911	1,158,409	1,188,301	1,167,766	1,126,729	1,152,871

Transportation

	Chinatown					Chicago City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Workers	1,236	1,794	2,313	1,886	2,453	1,470,210	1,345,485	1,191,348	1,181,677	1,192,139
Private Vehicle	564	440	409	463	559	605,758	581,169	496,525	546,955	597,598
Carpool	-	168	959	654	844	-	133,802	195,731	175,028	172,722
Bus/Streetcar	216	652	462	463	376	401,560	351,719	269,752	228,222	163,874
Rail	-	112	32	31	120	-	129,387	111,293	93,824	135,342
Walking/Cycling	106	340	443	253	487	167,228	116,361	93,590	79,348	73,512
Other Means	7	-	5	-	-	20,436	14,397	8,673	8,705	8,806

SUPPORTING TABLES

Economic Factors 1960-Present

	Mockingbird Station					Dallas City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Population	6,101	6,385	7,344	7,277	8,737	679,684	844,401	902,619	1,006,877	1,188,204
Total of Housing Units	2,625	5,803	4,768	4,811	5,420	231,270	303,328	389,590	465,600	484,053
Median Household Income	\$10,150	\$12,850	\$20,874	\$35,125	\$55,700	\$9,767	\$10,019	\$22,330	\$27,489	\$37,628
Per Capita Income	\$4,975	\$7,112	\$8,405.50	\$35,125	\$38,090	\$4,110	\$5,191	\$8,603	\$27,489	\$22,183
New Built Units	1,187	1,973	1,038	491	390	94,128	83,727	86,876	115,332	50,864
Unemployment	39	156	102	160	155	9,721	11,930	24,246	41,101	39,194

Economic Factors 1960-Present

	Mockingbird Station					Dallas City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Housing Units	2,625	5,803	3,015	4,811	5,420	231,270	303,328	389,590	465,600	484,053
Occupied Housing Units	2,506	5,105	3,722	4,291	4,981	213,020	280,993	354,859	402,060	451,697
Median Persons per Unit	2.3	2.2	1.6	1.72	0.85	2.8	2.2	2.11	2.46	2.5
Median rooms per Unit	5.4	4.9	5.1	4.3	4.5	4.7	4.8	4.7	4.5	4.4
Median Value of Housing Units	\$17,500	\$22,450	\$61,850	\$94,400	\$131,700	\$11,300	\$16,500	\$43,800	\$78,800	\$87,400
Median Rent of Housing Units	\$77	\$175	\$280	\$487.50	\$753.50	\$62	\$110	\$241	\$375	\$551
Vacant Housing	83	658	375	520	333	13,187	22,306	34,812	63,540	32,356
Boarded Up	-	-	2	4	-	-	-	931	7,831	-

Ethnicity

	Mockingbird Station					Dallas City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Caucasian	5,224	11,100	5,032	6503	7,183	548,473	626,247	553,851	556,760	604,439
Asian&Pacific Islander	-	-	39	86	211	-	-	7,654	4,792	32,806
African American	10	28	167	372	563	129,242	210,238	265,586	296,994	306,122
Other	9	257	281	194	886	1,969	7,916	71,799	131,171	244,837
TOTAL	6,101	11,385	7,344	7,277	8,737	679,684	844,401	902,619	1,006,877	1,188,204

SUPPORTING TABLES

Building year built

	Mockingbird Station					Dallas City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
1990 to 1999	-	-	-	-	390	-	-	-	-	50,864
1980 to 1989	-	-	-	491	803	-	-	-	115,332	97,774
1970 to 1979	-	-	1,038	1,138	1,067	-	-	86,876	99,102	97,504
1960 to 1969	-	1,973	694	1,317	1,245	-	83,727	103,378	92,385	89,509
1950 to 1959	1,187	745	436	486	578	94,128	92,712	90,235	84,696	77,403
1940 to 1949	770	750	530	374	395	52,654	51,048	48,562	42,279	33,742
1939 or earlier	668	1,061	1,015	905	955	84,480	54,966	38,383	31,785	27,698
TOTAL	2,625	4,529	3,713	4,711	5,420	231,262	282,453	367,434	465,579	484,053

Transportation

	Mockingbird Station					Dallas City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Workers	-	6,955	5,228	4,644	5,895	-	365,556	454,281	487,861	537,006
Private Vehicle	-	5,576	4,746	4,069	4,966	-	258,908	306,642	362,811	380,265
Carpool	-	660	667	318	364	-	47,056	88,946	75,894	95,437
Bus/Streetcar	-	431	330	141	98	-	37,621	37,208	32,147	26,821
Rail	-	-	-	-	140	-	-	-	192	1,959
Walking/Cycling	-	58	48	100	102	-	9,846	10,840	12,822	11,187
Other Means	-	93	42	16	33	-	6,105	4,378	3,995	5,479

Economic Factors 1960-Present

	Olde Town Arvada					Arvada City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Population	-	2,107	1,047	1,327	1,987	-	45,231	83,347	89,235	102,505
Total of Housing Units	-	487	499	834	941	-	13,177	28,994	34,541	39,623
Median Household Income	-	\$10,022	\$20,567	\$16,705	\$27,279	-	\$11,953	\$24,741	\$39,014	\$55,541
Per Capita Income	-	\$3,732	\$9,054	\$8,625	\$15,479	-	\$4,177	\$8,760	\$15,642	\$24,679
New Built Units	-	118	305	43	164	-	6,635	13,473	6,353	5,807
Unemployment	-	57	54	88	98	-	314	2,240	2,650	2,063

SUPPORTING TABLES

Economic Factors 1960-Present

	Olde Town Arvada					Arvada City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Housing Units	-	884	499	834	941	-	13,177	28,994	35,541	39,623
Occupied Housing Units	-	719	481	688	925	-	12,029	27,849	32,744	38,914
Median Persons per Unit	-	2.4	2.18	1.93	2.0	-	3.7	2.78	1.61	1.7
Median rooms per Unit	-	5.0	4.8	3.5	3.6	-	6.0	6.5	6	6.5
Median Value of Housing Units	-	\$18,050	\$61,400	\$63,400	\$109,400	-	\$21,300	\$73,600	\$89,800	\$173,200
Median Rent of Housing Units	-	\$84	\$250	\$301	\$553	-	\$131	\$266	\$400	\$654
Vacant Housing Boarded Up	-	20	28	146	16	-	86	1,142	1,797	709
	-	-	1	61	-	-	-	38	141	-

Ethnicity

	Olde Town Arvada					Arvada City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Caucasian	-	1,830	1,009	1,243	1,622	-	44,985	80,308	84,129	93,213
Asian&Pacific Islander	-	-	9	8	61	-	-	738	1,768	2,406
African American	-	1	9	23	37	-	26	368	513	542
Other	-	169	28	53	167	-	220	1,676	2,825	6,344
TOTAL	-	2,003	1,047	1,327	1,987	-	45,231	83,347	89,235	102,505

Building year built

	Olde Town Arvada					Arvada City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
1990 to 1999	-	-	-	-	164	-	-	-	-	5,807
1980 to 1989	-	-	-	43	125	-	-	-	6,353	5,997
1970 to 1979	-	-	305	309	283	-	-	13,473	13,295	13,604
1960 to 1969	-	359	114	199	120	-	6,635	9,170	8,868	8,285
1950 to 1959	-	229	39	176	125	-	3,789	3,955	4,838	4,623
1940 to 1949	-	114	16	15	32	-	346	537	517	598
1939 or earlier	-	101	34	97	92	-	622	778	634	709
TOTAL	-	420	508	839	941	-	11,392	27,913	34,505	39,623

SUPPORTING TABLES

Transportation

	Olde Town Arvada					Arvada City				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Workers	-	792	581	550	1,054	-	17,247	41,867	46,146	53,713
Private Vehicle	-	564	383	391	725	-	14,414	29,401	37,805	44,122
Carpool	-	96	171	58	142	-	1,651	8,995	5,748	4,567
Bus/Streetcar	-	38	8	49	25	-	140	1,688	1,394	3500
Rail	-	-	-	-	-	-	-	-	-	-
Walking/Cycling	-	32	-	37	79	-	313	723	975	593
Other Means	-	30	6	15	10	-	409	430	224	248

Economic Factors 1960-Present

	Chinatown					Honolulu CDP				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Population	1,237	1,405	858	2,480	3,056	294,194	324,869	365,048	365,272	371,619
Total of Housing Units	729	974	868	1,206	1,616	80,758	103,002	142,280	145,796	158,659
Median Household Income	\$3,900	\$9,125	\$6,630	\$13,202	\$19,606	\$7,029	\$12,539	\$25,266	\$37,190	\$45,112
Per Capita Income	\$2,872	\$3,618	\$4,878	\$10,211	\$14,849	\$4,168	\$5,090	\$8,948	\$18,554	\$24,191
New Built Units	17	329	226	1,009	883	28,240	34,660	42,043	15,855	14,639
Unemployment	14	78	93	109	96	3,914	3,853	11,188	5,739	10,679

Economic Factors 1960-Present

	Chinatown					Honolulu CDP				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Housing Units	729	974	260	1,206	1,616	80,758	103,002	142,280	145,796	158,659
Occupied Housing Units	692	933	256	1,169	1,490	76,675	97,228	127,326	134,563	140,328
Median Persons per Unit	1.1	1.2	1.1	1.41	1.5	3.4	2.9	2.36	2.63	2.5
Median rooms per Unit	1.1	1.0	1.39	2.1	1.5	4.1	4	3.7	3.6	3.4
Median Value of Housing Units	-	-	-	-	-	\$25,000	\$43,200	\$146,800	\$353,900	\$317,300
Median Rent of Housing Units	\$30	\$53	\$150	\$287	\$481	\$70	\$132	\$268	\$582	\$721
Vacant Housing	6	26	12	37	126	4,083	5,774	14,685	11,233	18,331
Boarded Up	-	-	-	10	-	-	-	34	77	-

SUPPORTING TABLES

Ethnicity

	Chinatown					Honolulu CDP				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Caucasian	120	150	82	306	336	80,274	110,097	104,688	97,527	72,492
Asian&Pacific Islander	1,086	1,245	749	2,123	2,096	212,601	206,878	240,322	257,552	233,884
African American	31	10	4	7	53	1,319	2,400	4,247	4,821	5,566
Other	-	32	18	44	223	-	-	15,012	5,372	59,677
TOTAL	1,237	1,405	858	2,480	3,056	294,194	324,869	365,048	365,272	371,619

Building year built

	Chinatown					Honolulu CDP				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
1990 to 1999	-	-	-	-	548	-	-	-	-	14,639
1980 to 1989	-	-	-	648	648	-	-	-	15,855	16,464
1970 to 1979	-	-	29	223	129	-	-	42,043	42,835	45,257
1960 to 1969	-	335	80	98	75	-	34,660	42,159	39,373	39,292
1950 to 1959	8	39	30	45	41	28,240	24,839	24,850	24,885	22,881
1940 to 1949	8	37	12	105	41	17,825	16,521	13,227	11,821	10,381
1939 or earlier	713	564	99	87	128	34,664	20,600	15,230	11,027	9,745
TOTAL	729	975	250	1,423	1,616	80,729	96,620	137,509	145,796	159,659

Transportation

	Chinatown					Honolulu CDP				
	1960	1970	1980	1990	2000	1960	1970	1980	1990	2000
Total Workers	655	752	358	1,056	1,305	119,790	150,401	183,677	185,956	173,069
Private Vehicle	175	68	41	377	353	82,271	94,710	97,232	106,223	99,890
Carpool	0	72	46	66	103	8	22,460	41,179	38,109	31,283
Bus/Streetcar	190	299	173	363	480	18,242	16,477	24,359	25,111	19,536
Rail	-	-	-	-	-	-	-	-	-	-
Walking/Cycling	206	289	85	280	322	8,419	11,223	12,831	14,870	13,559
Other Means	10	24	0	31	11	1,709	3,138	4,428	1,643	1,303

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