

An Integrated Promenade Design for Broadway Plaza in Walnut Creek, CA



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An Integrated Promenade Design for Broadway Plaza In Walnut Creek, CA

A Senior Project
Presented to the
Landscape Architecture Department of
University of California, Davis
in Partial Fulfillment of the Requirement
for the Degree of
Bachelors of Science of Landscape Architecture

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Abstract

Decades of automobile-oriented urban design have left many cities with a hostile and unpleasant pedestrian environment. The street, the ultimate public open space serves more of a utilitarian role for traffic engineering rather than a safe and walkable space. The best and most thoughtful modern urban design concepts incorporate the physical, social and environmental aspects in such a way that the perfect balance between them is often unnoticed by the everyday pedestrian; Yet, it is this harmony that enables people to develop a sense of time and place, which creates lasting impressions.

One such concept to link physical, social and environmental factors together through urban design is through the use of integrated promenades and pedestrian networks. These enable even the largest urban cities to define unique neighborhoods and town centers to create a sense of time and place within their cities.

More specifically my project will illustrate one example of how a thoughtfully, integrated promenade and pedestrian network can enhance the pedestrian environment, which often promotes social interaction and community pride. This, in turn, helps to create a healthier, safer community. This project will produce a conceptual promenade design for Broadway Plaza in Walnut Creek, CA. The promenade design will begin at what is now Broadway Plaza Street, connecting it to existing promenades in the shopping mall and linking it to an additional proposed pedestrian network for the downtown core area of Walnut Creek, CA. This proposed design ultimately creates a pedestrian-oriented environment in what is zoned as the city's prime pedestrian retail district.

Dedication

I dedicate this project and academic achievement to my family, Laura, Isabel and Marco. They are my loyal support network, they have help me to keep striving for my goals and dreams.

Acknowledgements

I want to express my most sincere gratitude to my committee members, Patsy Owens, Jim Harding, Elizabeth Boults and faculty senior project advisor Mark Francis. Without their assistance and guidance I wouldn't be here presenting my project.

Also I want thank all of my classmates from which I learned a great deal, Steve Blewett, Robert Nelson and Mayank Patel. They help me become more profficient thechnically specially with computer software.

Table of Contents

Abstract.....	i
Dedication.....	ii
Acknowledgements.....	iii
List of Illustrations.....	iii

CHAPTER 1

Introduction.....	1
Statement of Purpose.....	4
The Importance of Pedestrian-Oriented Designs.....	10
Definitions and Terminology.....	11

CHAPTER 2

Pre-automobile & Post-automobile Urban Design.....	12
The Resurgence of Pedestrian-Oriented Designs.....	18
New Urbanism.....	21

CHAPTER 3

Socioeconomic Benefits of Pedestrian-Oriented Designs.....	24
Environmental Benefits of Pedestrian-Oriented Designs.....	29
Physiological Benefits of Pedestrian-Oriented Designs.....	31

CHAPTER 4

Site analysis.....	33
--------------------	----

CHAPTER 5

Pedestrian Promenade Design.....	49
Pedestrian Network Design.....	55

CHAPTER 6

Conclusion.....	62
-----------------	----

List of Illustrations

CHAPTER 1

- Figure 1.1** 2007 Citizen Survey Graphed Results Source: City of Walnut Creek website <http://www.walnut-creek.org/transportation.dept>.
- Figure 1.2** Current and proposed downtown development map.
- Figure 1.3** Los Angeles 1909 Red Car Trolley System. Source: <http://www.flickr.com/trolley.cars>
- Figure 1.4** 1930s Automobile Ad. Source: <http://www.flickr.com>
- Figure 1.5** City of Santa Monica, 3rd Street Promenade. Source: <http://www.flickr.com>
- Figure 1.6** Portland Oregon, Pearl District. Source: <http://www.flickr.com>

CHAPTER 2

- Figure 2.1** New York car City. Source <http://www.flickr.com>
- Figure 2.2** New York Car City 1935. Source <http://www.flickr.com>
- Figure 2.3** Broadway Plaza 1954. Source: Contra Costa County Historical Society Web Site <http://www.cocohistory.com>
- Figure 2.4** Pedestrian Friendly Sidewalks
- Figure 2.5** Non-pedestrian friendly sidewalks
- Figure 2.6** Portland Oregon Street Life. Source: <http://www.flickr.com>
- Figure 2.7** Picture of Aggie Village , Davis, CA.

CHAPTER 3

- Figure 3.1** City of Walnut Creek Public Services Department 2008-2009 Budget
- Figure 3.2** Escuela Plaza, Walnut Creek
- Figure 3.3** Liberty Bell Plaza, Walnut Creek
- Figure 3.4** Pedestrian-Oriented Design. Source: <http://www.flickr.com>
- Figure 3.5** Urban Forests in the City. Source: <http://www.flickr.com>
- Figure 3.6** Progressive Urban Design. Source: <http://www.flickr.com>
- Figure 3.7** Portland Oregon Complete streets. Source: <http://www.flickr.com>

CHAPTER 4

- Figure 4.1** Broadway Plaza Mall. Source: City of Walnut Creek, 2006 Transportation Study website: <http://www.walnut.creek.transportation//dept>.
- Figure 4.2** Study Site Map.
- Figure 4.3** Traffic Volume Map. Source: City of Walnut Creek transportation Department
- Figure 4.4** Study Site Traffic Volume Activity Map.
- Figure 4.5** Behavior Map.
- Figure 4.6** Pedestrian Activity Level Map.
- Figure 4.7** Pedestrian Circulation Patterns Analysis Map.
- Figure 4.8** Broadway Plaza. Source: City of Walnut Creek Transportation Department
- Figure 4.9** Escuela Plaza
- Figure 4.10** Current Proposed Development Map

CONTINUING CHAPTER 4

Figure 4.11 Urban Analysis Map

figure 4.12 City of Walnut Creek Parking Inventory Summary. Source: City of Walnut Creek Transportation Department

Figure 4.13 Study Site Existing Parking Facilities Analysis

CHAPTER 5

Figure 5.1 Former Trampas Creek Channel Course. Source Contra Costa County Historical Society Website: <http://cocoohistory.com>

Figure 5.2 Promenade Concept Design


Figure 5.3 Promenade's North Cross Section

Figure 5.4 Promenade's Perspective View

Figure 5.5 Pedestrian Network Design

Figure 5.6 Street Cross Section

Figure 5.7 Street Model Perspective



Chapter 1



Chapter 1

INTRODUCTION

For the last twelve years the city of Walnut Creek, CA has experienced continuous re-development in its downtown commercial and retail district. As a matter of fact, with a current population of about 66,000 residents and an area of 19.45 square miles, the city has experienced great growth and success in its local economy since its establishment in the late 1800s. As an example of a vibrant downtown area, the city's core has become a regional "downtown playground" for social, civic and commercial activity. Because of its vibrant local economy and its present and future commercial prosperity, the city has become a developer's target location in which to invest, proposing new development projects in the commercial and retail district.

Despite the positive economic forecast, however, the city has also become victim to the rise in

automobile transportation. In addition to residential, commercial and economic growth, heavy traffic congestion in the downtown core area has substantially increased. According to a 2007 Citizen Survey based on 1,200 residents and conducted by the National Citizen Survey (The NCS), for the city of Walnut Creek, revealed that traffic congestion and urban growth were the two major problems people identified as the most problematic in the city. (See Figure 1.1) (City of Walnut Creek Citizen Survey, 2007) The city's

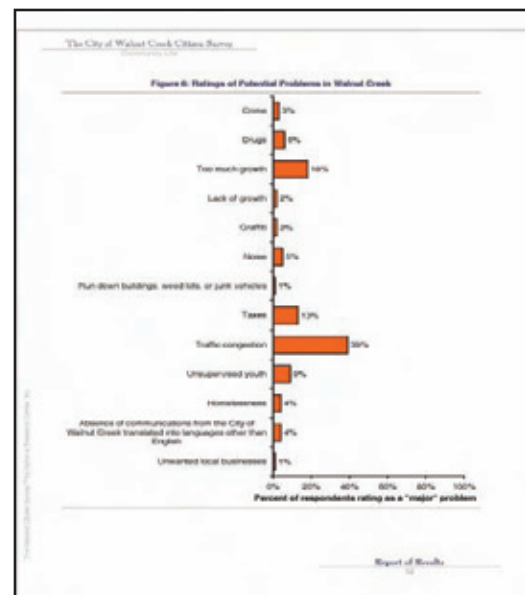


Figure 1.1 City of Walnut Creek, 2007 Citizen Survey Graphed Results.

Chapter 1

planning department has acknowledged that pedestrian safety and recreational outdoor opportunities are urgent and necessary to the vitality and sociability of the city's center (Walnut Creek General Plan Agenda 2006)

Preserving the historical character and ensuring the safety of the pedestrian environment has been one of the items on the city's agenda to address. In its 2025 General

Plan adopted April 2006, the city has aim more focus to the existing and future improvements and enhancements of areas with high levels of pedestrian activity. (City of Walnut Creek 2025 General Plan) Currently, there are five different project proposals under consideration for redeveloping the town's center. (See figure 1.2) The negative impact on the pedestrian environment and to the already congested traffic can be mitigated if careful attention is paid to preserving and protecting the existing pedestrian environment.

The following pages will illustrate how public open-space designs—specifically an integrated pedestrian promenade—can establish, enhance and promote more social public places and achieve pedestrian connectivity within the city. Most importantly, by integrating the research findings outlined in this project with the proposed promenade design and modern urban-

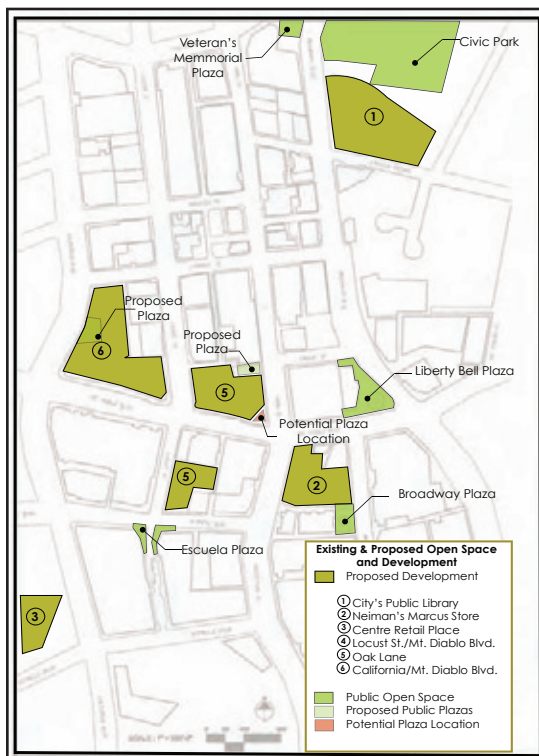


Figure 1.2 City of Walnut Creek Current Downtown Proposed Redevelopment

design principles, Broadway Plaza in Walnut Creek will serve as the anchor point that will improve, sustain and protect the proposed and existing pedestrian environment.

STATEMENT OF PURPOSE

The main objective of this project is to design a conceptual pedestrian promenade on what is now Broadway Plaza Street. The street divides Broadway Plaza Mall on the east and west. The proposed promenade design connects to existing promenades within the mall, as well as links it to existing and proposed public outdoor plazas within the city, creating a pedestrian network that will foster a vibrant and livable public space.

The research questions that I intend to answer are the following:

- 1. What makes a place memorable?**
- 2. What are the environmental,**

social and physical factors that promote such places?

- 3. What are the elements that serve as the foundation for its appeal from a social, environmental and physical point of view?**

- 4. How can landscape design comply with contemporary urban social demands and still promote environmental stewardship?**

One of the most important objectives in modern urban planning, coined the New Urbanism movement or Smart Growth, is enhancing and promoting pedestrian activity and connectivity in center towns. This project will demonstrate how pedestrian-oriented urban design in the form of pedestrian promenades will promote and foster healthier communities and a stronger social, environmental and cultural community identity.

As mentioned earlier, there

are currently five different redevelopment proposals under consideration for downtown Walnut Creek. These developments vary in the type, size and location. The proposed developments include mixed-use and commercial retail, and all of the development is within less of a quarter of a mile radius from the downtown center core. The proximity of high-density residential zones makes the downtown areas more vulnerable to conflicts between the pedestrian and vehicle traffic patterns. The redevelopment proposals labeled as current projects in the planning department website (City of Walnut Creek Planning Department 2009, accessed April 12, 2009) if approved the impact of this redevelopment will significantly alter the vehicular and pedestrian circulation in the downtown area. In the city's existing and future pedestrian built-environment deserves an in-depth and thoughtful analysis. At the very

least, the redevelopment proposals should enhance, improve and guarantee the sustainability of a vibrant pedestrian-friendly community.

THE IMPORTANCE OF PEDESTRIAN-FRIENDLY URBAN DESIGNS

Before people relied on automobiles for their primary source of transportation, neighborhoods and downtown areas were not destination spots, but were places where people lived, worked and socialized, all within walking distance. Pedestrians ruled the streets. Walking, biking and public transportation were the main modes of transportation that most pre-automobile generations relied upon. The physical, social and environmental aspects of the city street made walking an enjoyable activity.

The New Urbanism movement is actively trying to bring back the type of street life that once created this sense of community that en-

Chapter 1

abled people to develop strong social connections to each other. The street, the ultimate social and civic space, is regaining its significance in modern urban design, where the main objective is to protect, retain and promote pedestrian-friendly communities while enhancing pedestrians' experiences.

As time changes, places and people change, too. As exposed by Frumkin, Frank and Jackson (2004) now, there is growing evidence that the way our automobile-oriented urban design, and our built environment has negatively affected our health, lifestyles and environment, and generally inhibits community social interaction (Frumkin et al., 2004, p. 107) Five decades of vehicle-dominated development has often determined the form of street layouts and has carved an everlasting negative effect on the physiological, environmental and social components of American culture

and its landscape. Schmitz and Jason (2006) comment:

“The built environment that has emerged over the last half-century is now designed to support inactive lifestyles.... Parks, squares and other open spaces that contribute to the public realm are often either missing from today's commercial districts and residential communities or are inappropriately located or designed”. (Schmitz & Jason 2006 pp. 2 & 7)

Unequivocally the inception of mass transportation systems in the late 19th century such as street cars, stem fer-



Figure 1.3 Los Angeles CA 1909 Trolley Red Car Transportation System

ries and the trolley systems changed the way cities were built, changed

Chapter 1

the way people lived and affected the American landscape. These changes, although not subtle did not threaten the street which, own and remain as the ultimate civic open space. (See figure 1.3)

The next massive public transportation revolution following the late 19th and early 20th century was the automobile age. The automobile culture developed rapidly and by the mid-1920s automobile ownership was an essential component of normal, middle-class life. (Frumkin et al., 2004, p. 35) Automobile fever overtook the public transportation

system and had created far more drastic changes than earlier modes of transportation had and essentially changed the American city street forever. (See figure 1.4) The once livable and pedestrian-friendly streets, with individual identities unique to individual neighborhoods, now become utilitarian and unsafe places that were designed strictly to serve automobiles, which quickly moved from one place to the next in this new urban environment.

Over the last twenty years the New Urbanism or Smart Growth movement has challenged and reformed the conventional approach to regional and urban planning that has been done for decades. This new globally adopted manifesto champions regional and urban design that promotes the importance of mixed land uses, pedestrian and transportation oriented designs. Efforts to repurpose under-utilized public infrastructure in order to re-



Figure 1.4 A 1930s Automobile ad showing the commodity and convenience of the car.

Chapter 1

duce urban sprawl and create more compacted neighborhoods helps to facilitate and encourage pedestrian activity and promotes healthy and sustainable cities. In short, this concept aims to reintroduce and refurbish the old American downtown and helps it to regain its civic importance.

The idea that the community, the landscape and the pedestrian must all connect in a meaningful way for a successful landscape design is best illustrated by relating a notable failure, the Third Street Mall in Santa Monica, California. In 1965 the City of Santa Monica designated 3rd Street, a regular street with moderate vehicular traffic, to be a pedestrian shopping mall. It failed due to its disconnection with the larger community and its lack of pedestrian activity, as it's clearly described in this article by The Bay Side District Corporation (BSDS, 1992).

"The Third Street Promenade was a commercial district made

into a pedestrian mall in the 1960s. Over the years it had become neglected and had fallen into disrepair. By the early 1980s, competition emerged from a new regional shopping center nearby. Twenty years after it was created, the Third Street Mall, or "The Old Mall," as it was known, was unsafe, blighted, and considered an economic disaster. Efforts to restore economic health to the district and the greater "Bayside District" community surrounding it were badly needed".



Figure 1.5 Santa Monica CA. 3rd Street Promenade after the city's urban revitalization Program of the late 1980s

Accessibility to the mall, as is common throughout many like malls in the nation, was heavily oriented to accommodate automobile use, causing little pedestrian activity. As a consequence, the mall failed miserably until efforts began in the

Chapter 1

1980s to bring it back by making it more accessible to bikers and pedestrians.

“A three-block segment of Third Street was closed to vehicle traffic to enhance the pedestrian experience on the Promenade. Shop owners said that they initially felt that preventing cars from accessing their front doors was destroying their business. As a result, when the project was built, the City constructed a road through the Promenade, but placed removable bollards at the ends of each block. The bollards were put in place the first weekend to test it as a pedestrian mall, and the experiment was so successful that it was eventually closed for good. Now, Third Street competes with local shopping centers by providing a festive pedestrian space protected from auto traffic in the heart of downtown Santa Monica, which is a frequent destination for tourists visiting the Los Angeles area. The Third Street Promenade was developed in the late 1980's by the City of Santa Monica to revitalize the deteriorated downtown area and create a vibrant center for community life and retail activity. Financed through a citywide bond measure, the Third Street Development Corporation hired architectural firm Roma Design Group to plan the redesign of the 25-year-old outdoor Santa Monica Mall. The renamed Third Street Promenade opened on September 16, 1989. The District has more than surpassed the City's original ob-

jectives and has become one of the most successful award-winning downtown revitalization projects in the country”. (See figure 1.5)

Bay Side District Corporation,
Third Street Promenade, Web site:



Figure 1.6 Santa Monica, CA. 3rd Street Promenade has become a vibrant center for community life.

http://www.walkinginfo.org/ped-safe/casestudy.cfm?CS_NUM=39

With the successes of pedestrian-oriented designs, many cities in the United States are shifting their focus to invest in pedestrian-friendly environments. As Paumier notes, (1988) “This action emphasizes the need to improve and provide more aesthetic, safer, healthier, and so-

Chapter 1

cially significant designs that enable and promote active living and establishes a distinctive sense of place.” (Paumier, 1988, p. 3)

In the United States, cities built after the 1930s are experiencing an urban rehabilitation. Their vehicle-oriented street layouts have made them unsafe and ineffective in promoting and fostering pedestrian activity. Responding to these problems, modern urban design has incorporated more pedestrian-friendly design concepts. The most important principle of pedestrian-oriented design is that it promotes and advocates for social and environmental equality. At the administrative level, regional and local governments need to amend and adopt new zoning codes that will facilitate and foster the proliferation of environmental and socially significant designs. Architect Jan Gehl argues, (1987) that “Decisions at the city and site planning levels can es-

tablish the basis for the creation of well-functioning outdoor spaces.” (Gehl, 1987, p. 133)

The constant environmental, urban and social change that American cities are currently facing has exposed the reality that health and social isolation are directly correlated to our automobile dependency. Since the 1930s, traffic engineering and urban design have heavily focused on creating efficient vehicular circulation rather than pedestrian movement. Schmitz, and Scully (2006) have identified the more recent shift towards more pedestrian-focused urban design by stating that, “Now the focus has shifted and the New Urbanism movement addresses the need for higher density as well as the demand for a more pedestrian focused, community-oriented lifestyle.” (Schmitz et al., p. 15) This time the objective is to promote walking and public transportation ridership.

Chapter 1

The ultimate goal of pedestrian and transportation-oriented designs is to stop sprawl, decrease our ecological footprint on the environment, re-

duce our reliance on fossil fuels and promote more healthy and social-oriented life styles. (See figure 1.7)



Figure 1.7 The city of Portland Oregon has led the way in promoting pedestrian and transportation-oriented urban design in the nation.

DEFINITIONS AND TERMINOLOGY

Active Living:

A way of life that integrates physical activity into daily routines, like walking to the store or biking to work.

New Urbanism:

An urban design movement that began in the early 1980s that promotes a new approach to urban design. Its main goal is to design a diverse range of housing with transit and pedestrian oriented designs.

Smart Growth:

Sharing the same principles and concepts with the New Urbanism movement, Smart Growth proposes and promotes urban growth within the city center.

Traffic Calming methods:

Involves a set of strategies utilized to slow down and deter traffic congestion.

Pedestrian Oriented Design:

Urban design that focuses heavily on pedestrian needs rather than the automobile.

Pedestrian Friendly Cities:

These are cities where streets and urban open-spaces accommodate and provide adequate protection and safety to the everyday walker.

Pedestrian Promenade:

Pedestrian walkway that usually is wider horizontally and motorized transportation is limited.

Pedestrian Network:

A system or group of walkable spaces that is interconnected.

“Third places”:

Places that are not home or work, rather they are urban places that through the years develop an identity of their own. Some examples of such places can be street corners, outdoor coffee houses, pedestrian promenades, ect.

Heath Island Effect:

Is a metropolitan area whose central area is significantly warmer than its surrounding rural areas. This is caused by the abundant concrete and asphalt pavement surfaces which radiate heat out.



Chapter 2



PRE-AUTOMOBILE & POST-AUTOMOBILE URBAN DESIGN

Americans major transportation devices began to appear in the mid to late 19th century, which included steam locomotives, steam automobiles, streetcars and bicycles. All of these transportation improvements had a strong impact on how highways, housing developments and city streets were designed. New street standards were introduced and the layout of streets and the American landscape change forever. By the early decades of the 20th century, the United States was well in its way to become one of the most modernized countries in the world.

Pre-automobile urban design typically planned new housing subdivisions close to the streetcar and trolley systems. In the city centers pedestrians commanded city life and downtown businesses thrived, primarily because the streetcars

and trolleys supported this type of urban activity. (See figure 2.1) The center towns' vibrant commercial activity was very much dependent



Figure 2.1 New York 1918, public transportation and automobiles sharing the street.

on pedestrian traffic. Convenience stores and housing were all interconnected into a city's urban fabric, encouraging more active lifestyles, such as walking to work. This is best described in this excerpt from the National Museum of American History:

"In Washington, as in most cities in 1900, people usually walked or took public transportation. Some used bicycles. Wealthier residents owned their own carriages and usually stored carriages

Chapter 2

and stabled horses at commercial liverys. Improved streets allowed more traffic, but vehicles were still slow enough that pedestrians could walk in and cross the street at any point. Over the next 20 years this would change, as growing numbers of autos took over city streets. Independent grocers established stores near their customers' homes. Although there were tensions between public market officials and neighborhood shopkeepers, the businesses complemented each other. People could shop at the corner store when the markets were closed, and shopkeepers often tailored their stock to the needs, economic level, and ethnic character of a neighborhood.

National Museum of American History, *America on the Move, A Street Car City*, Web site: http://american-history.si.edu/onthemove/exhibition/exhibition_4_6.html

Urban design in this era was dictated by the location and layout of public transportation systems. Streets within the center of towns and neighborhood streets display a vibrant and active social network that supported massive public transportation. Urban design fo-

cused entirely in developing compact and transportation-oriented designs. Most of new housing developments were influenced by the major role that trolley systems played in creating new urban corridors to development. Streetcars and trolleys expanded their routes to accommodate urban growth and would forge alliances with real state developers, promoting large residential developments along streetcar lines and keeping their fares low, in cities like Oakland, Los Angeles, and Washington. As Frumkin explains: (2004) "The trolley and streetcar route lines extended their routes to serviced farther areas of the central downtowns the amount of housing developments increased giving them the name of "Railroad suburbs". (Frumkin et al., p. 33) What began as a skeptical attitude to the car by the American turn into an unbreakable love affair that impacted the American life-style sig-

Chapter 2

nificantly. Up until the early 1900s the automobile dependency as a main transportation device was not yet heavily adopted by the American people, Americans were initially slow to adopt cars. Frumkim (2004) comments that: "Laws restricted the use of cars and roads were poorly surfaced. (Frumkim et al., 2004, p.35) and as roads were built and the sprawl expanded private for-profit interests like developers began to aim their focus to American families to promote home ownership initiating a perpetual disconnection of the American culture to its downtown, and according to Southworth and Eran-Ben(1997) the decentralization of the American city got a major boost at the end of World War I. The effort stimulated the economy and in order to keep it aloft there was research for new investment, which culminated in the formation of Better Homes In America, a network of developers and interests groups.

"The movement encouraged home ownership and spread the knowledge of financing for homes purchases and home improvements. With the new construction cycle- the acquisition of land, the opening of new routes to the suburbs for the automobile, and the highway development program a new metropolitan fringe based on speculative development began to take shape" (Southworth, & Eran-Ben, 1997, p.59).

This was the early stage of what was to become the irremediable vehicle oriented housing development.

During the late 19th and early 20th centuries, American culture experienced a significant revolution in public transportation systems that gave the city street a new identity and a new meaning. Traffic engineering was tailored to proliferate the success of the automobile in the urban environment. But it was during the 1930s that the urban and rural

Chapter 2

landscape experienced a transcendental shift as automobile ownership dramatically increased. "The Model T Ford was mass-produced and the car became affordable. Numerous interests promote the growth of automobiles. Road building became a publicly financed enterprise instead of, say, dependant of user fees-a major policy decision that greatly subsidized and encouraged driving." (Frumkin et al., 2004, p.35),

Major American urban and industrial towns morphed their grid-like street pattern to parallel layouts to accommodate the automobile space demands. (See figure 2.1) As



Figure 2.2 New York City 1935, the car becomes a dominant element of the street.

argued by Southworth (1997) "despite the early resistance, by the 1930s the motor vehicle was in full control of the transportation scene. From 8,000 vehicles in 1900, to 23 million vehicles in 1930, the car had become a recognized and indispensable part of modern life. It immensely impacted the social, economic, and political structure of modern society" (Southworth et al., p.57).

This cultural acceptance of the automobile brought Americans the flexibility to live farther from city centers; it also brought with it a plague of social and environmental problems that would stay in American society for decades.

The new automobile era demanded new approaches to design, bringing with it new regulations to residential and downtown streets. Southworth and Ben-Joseph (1997) argue that as car ownership and mobility increased, engineers

assumed that streets must be enlarged accordingly (Southword et al., p. 4) It wasn't long before the engineers' assumptions evolved



Figure 2.3 Broadway Plaza, 1954 shows the city's perpetual traffic congestion issue

into widely accepted regulations. These regulations have since been adopted and legitimized by local governments as the conventional approach for cities and new development. The change that came as a result of the new street regulations was most noticeably seen in big urban cities, but also affected smaller, more rural towns like Walnut Creek, which also catered to increased vehicular movement in its streets. Two of the most noticeable street reconstruction projects,

in Walnut Creek, to conform to the new traffic engineering standards post-1930s include Ignacio Valley Road and Mount Diablo Boulevard. (See figure 2.1) By the 1940s Walnut Creek's major transportation arteries showed the spatial patterns of an automobile-oriented street design.

Undoubtedly the 1930s were the epoch of the automobile. It was the beginning of a major shift in the American life style. The once loyal riders of public transportation systems became infatuated with the automobile and the freedom it brought. In their book, Frumkin, Frank and Jackson (2004) explain the impacts of the automobile on the streetcar and trolley systems. In short, "the nation's trolley system crumbled. The number of trolley cars peaked in 1917 and ridership peaked in 1923. Both declined precipitously in the 1930s" (Frumkin et al., p.35). As the automobile

became a dominant influence in American culture, urban, expressway and car-oriented shopping centers surfaced. Southworth and Ben-Joseph describe in their book, that (1997) “in less than a century, American conceptions of good residential street networks shifted dramatically from the interconnected rectilinear grid of the turn of the century, to the fragmented grid and warped parallel streets of the 1930s and 1940s, to the discontinuous, insular patterns of cul-de-sacs and loops that have predominated since World II until the present time” (Southworth et al., p.2). At one time, city streets were the ultimate civic open space and the major artery for social and commercial development. City street life as we knew it ended and the automobile took over the street, forcing present and future generations the monumental task of fixing this issue.

RESURGENCE OF PEDESTRIAN-FRIENDLY DESIGNS

The resurgence of pedestrian-oriented urban design is geared toward redesigning the physical aspects of streets and residential developments to enhance the communal and civic realm, and the pedestrian environment. It's primary objective is to reorganize the engineering and zoning ordinances of the American street to foster healthier communities, and promote environmental stewardship. In order to reduce our dependency on our automobile-oriented lifestyles, walking and bicycling as alternative modes of travel is paramount. The growing demand for pedestrian-friendly spaces is the outcome of decades of increased traffic congestion, unsafe pedestrian environments, social isolation and the eminent threat of climate change primarily fueled by fuel emissions.

Chapter 2

The recognition of pedestrian-friendly development is increasing nation wide. Small towns such as Walnut Creek have acquired and



Figure 2.4 City of Walnut Creek Pedestrian friendly sidewalks



Figure 2.5 City of Walnut Creek non-pedestrian friendly sidewalks

implemented very progressive goals to protect, and improve the community's social and economic vital-

ity by investing in the improvement of its downtown pedestrian environment and retail district. As Schmitz and Scully state, (2006) "designing pedestrian-oriented places means embracing the human scale over vehicular convenience while still accommodating vehicular traffic and parking" (Schmitz et al., p. 25). Much of the redeveloped areas of Walnut Creek's downtown have followed design principles that are unique to the New Urbanism Movement. (See figure 2.2 & 2.3) Like many small and large urban cities in the nation, Walnut Creek is aware of the benefits of pedestrian-oriented development. Many areas in the central core of the town have undertaken redevelopment projects, while more proposals for infill and redevelopment are in the works. However, the pedestrian environment lacks connectivity. The most noticeable barriers are unimproved sections of sidewalks where the space is narrow, and busy traffic

Chapter 2

on arterial streets inhibits cohesiveness and integration of the major pedestrian routes in the retail and commercial districts.

Numerous studies have associated the lack of pedestrian-friendly cities with obesity. Obesity is connected to a number of grave health problems, most notably diabetes and heart disease. According to the United States Surgeon General, 60 percent of Americans do not engage in physical activity on a regular basis, and 25 percent do not engage in any physical activity at all (US Department of health and Human Services, Center for Disease Control and Prevention, *Physical Activity and Health*, 1996). Clearly one can conclude that promoting walkable communities and center towns can foster more active and healthier communities.

Pedestrian-friendly communities support abundant health benefits: people tend to walk if the built

environment allows it, pedestrian-friendly communities promote physical activities, and air pollution can be significantly reduced if walking and biking replace our the automobile as our main mode of transportation.

The demand for change has been recognized and increasing focus on creating pedestrian-oriented urban design has generated a broad variety of residential and commercial redevelopments all over the nation. The discipline of urban design is undergoing an important reformation. Since the 1980s the New Urbanism Movement has promoted compact, walkable and mixed-use development that is primarily tailored to create places that encourage and facilitate pedestrian activity and reduce traffic congestion.

In chapter one I pose the following question, "What makes a place memorable?" Surely the visi-

tor of any urban city perceives the environment different, the predominant characteristics that appeal to most people, according to William H. Whyte (1988), are a lively street environment and social activity.



Figure 2.6 Street life in Portland Oregon.

What attracts people most is interacting with other people (Whyte, 1980, p. 19). This involves aesthetics—whether the street has amenities like seating, benches, trees and, most importantly, whether the scale and architectural style of the existing built environment complements the pedestrian experience. (See figure 2.4) Experiencing a place void of these environmental characteristics

is unpleasant at best, miserable at its worst. So a place will be remembered and will create a lasting impression when it satisfies elemental human desires like protection from climatic factors and lively social activity (this can be greatly increased if the area has outdoor cafes or it has localities where food is served outdoors). Lastly, the existing built environment should complement pedestrian activity.

NEW URBANISM

Germane to the New Urbanism Movement is enhancing, promoting and improving diversity, social equity, pedestrian activity and connectivity in the new urban realm. These are the major driving forces of the movement, and represent some of the over arching goals of modern urban planning. The movement embodies a renaissance of sorts of urban, environmental and social values, and rather progres-

Chapter 2

sive civic geopolitical ideals. These contemporary concepts of urban design are anchored by concepts of sustainability. According to Peter Calthrope, (2005) “New Urbanism is a coalition of many different individuals, professions and vantage points” (Calthrope, 2005, p. 16). It is a new perspective of urban design principles that challenge present zoning codes, traffic engineering



**Figure 2.7 Aggie Village, Davis CA 2009
Mixed-used Development.**

and regional planning. The movement includes new forms of housing

as it aims to reform our addiction to over-sized single-family housing which fuels and perpetuates the problem of urban sprawl.

The movement is the most progressive—and aggressive—approach to reforming the regional and urban design practices of the last sixty years. In the nation many big and small cities are rethinking their options revitalizing or developing center towns, housing developments by following the smart design principles. Aggie Village in Davis, California is a supreme example that embodies the New Urbanism principles. (See figure 2.7) It includes small-lot homes and pedestrian responsive streets, making it a prime model of a walkable, mixed-use development. (Site visit June, 2009)

New urbanism is more than a movement; it is the most efficient way to reduce traffic congestion, preserve farmland and natural ecosystems,

Chapter 2

reinforce social cohesiveness and promote compact and pedestrian-friendly cities. Another great example of a bigger magnitude involving various counties in the greater Sacramento region, is the Sacramento Council of Governments (SACOG) Preferred Blueprint Scenario. This plan is labeled as the Metropolitan Plan 2035, (MTP 2035) this progressive approach towards smart regional

and urban planning and growth, promotes compact mixed-used development and more transportation alternatives as a tool to reduce outward development for the next four decades. It also serves as a framework to guide local governments in growth through the year 2050 (SACOG, MTP 2035, 2008).



Chapter 3



SOCIOECONOMIC BENEFITS OF PEDESTRIAN-ORIENTED DE- SIGNS

The social and economic elements of modern American communities greatly depend on whether existing and future built environments fosters or inhibits local pedestrian activity. In America, decades of inefficient, automobile-oriented urban design has promoted an inactive and sedentary lifestyle. Social isolation, struggling retail districts and unsafe and poor pedestrian environments are the main outcomes of this form of urban design. These issues, together with urban sprawl, have sparked a growing need and demand for mixed use and more compact developments. Since the 1990s this trend has revealed that compact pedestrian districts successfully sustain a healthy social and economic condition of regional and local busi-

nesses while creating a rich public life. Schmitz and Scully (2006) asset that PODs that are designed more compactly relate to their surroundings and generate more focus to the long-term life of their communities. (Schmitz et al., p. 83) This is the challenge that many American cities face, specifically those developed in the decades following the 1950s. Decades of inefficient urban design have cost American society social isolation, health issues and a monumental expenditure for local and regional governments to revert these vast concrete jungles and decentralized developments into lively, vibrant, and successful urban centers that can sustained quality of life and create a sense of place.

The main objective and benefits of PODs is sustainability. The concept advocates less dependency on the automobile. It is designed to increase public transportation ridership, promote mixed use

Chapter 3

partment, Web site:

<http://www.walnut-creek.org/civica/filebank/blobdload.asp?BlobID=2360>.

As American cities' work towards improving their quality of public open space and become more vehicle independent, a significant percentage of the cost associated with improvements and maintenance can be reallocated to improving public sidewalks. As Schmitz and Scully (2006) express, "the sidewalk is the most important open space and the focal point of community life. In retail district, the sidewalk is the generator of commerce. In residential neighborhoods it is the social connector" (Schmitz et al., p.43).

Another significant benefit that PODs support is the ability to foster and promote social interaction within a community, by providing adequate and attractive spaces with visual diversity for people to

meet and hangout. (See figure 3.2) It is also a great tool to revitalize local retail districts by attracting pe-



Figure 3.2 Escuela Plaza in Walnut Creek facilitates good public open space

destrian traffic. People socializing, is the common thread that binds a neighborhood together and constitutes the foundation that maintains social integration within a community. Architect Jan Gehl (1987) argued that: "the changed conditions in urban societies are expressed most clearly by recent in street life patterns. And life in the public spaces has increased markedly, well above and beyond the extended commercial activities" (Gehl, 1987, p.52). In

Chapter 3

designing or improving pedestrian urban environments, the designer should carefully give consideration to the environmental, physical and social factors.

The environmental factors include shelter to provide protection from heat, rain, noise and air pollution. To do this, the site should provide trees—they not only provide environmental benefits as outlined above, but they also improve the appeal of the area. A well-shaded urban public space attracts and retains more people than one with few or none. As William H. Whyte (1980) suggests, “trees ought to be related much more closely to sitting spaces than they usually are” (Whyte, 1980, p. 46). Tree shading, seating and greenery inject a positive environmental perception for public space among people. (See figure 3.3)

As designers, we know that the existing built environment of a



Figure 3.3 Liberty Bell Plaza, in Walnut Creek provides an important pedestrian retreat for the downtown’s busiest pedestrian areas.

site can represent opportunities or constraints. By identifying potential assets the designer can offset the form and function of the design. However, if the existing physical built environment yields very few or limited design options, the designer should take this as an opportunity to promote or suggest other alternatives such as eliminating on-street parking, closing the street to create a traffic-free zone—or at least reducing the width of the street. All of these suggestions are in essence bold and create opposition, but

past similar actions have been successful. Maintaining and improving the public realm of the pedestrian environment aids to preserve central city functions, facilitates access for shoppers, enhances the city image, reduces noise and air pollution and improves city's appearance. As Paumier (1988) points out, "buildings, and open spaces are the primary components that shape downtown's urban design character" (Paumier, 1988, p. 47). Inviting pedestrian environments and rich community ambiance helps to create memorable and socially signifi-



Figure 3.4 A pedestrian friendly neighborhood displaying the principles of New Urbanism Design.

cant civic spaces. (See figure 3.4)

ENVIRONMENTAL BENEFITS OF PEDESTRIAN-ORIENTED DESIGNS

Pedestrian-oriented designs significantly improve urban ecology and its environment, while improving aesthetic appeal. Tree and shrub planting is essential to enhance the urban and pedestrian environment. In today's urban planning and design discipline, trees constitute a fundamental contributor to the urban environment and should be an essential part of the planning process. Trees transform places. They improve a landscape's aesthetics, improve air quality, reduce air and noise pollution, reduce the "Heat Island Effect" by keeping paved surfaces' temperatures cool, and strategically placed trees can increase energy conservation by heating and cooling buildings during the winter and summer seasons.

Chapter 3

By carefully selecting the right tree species for the right locations, PODs maximize the numerous environmental incentives that trees provide for urban environments as pollution removers. In a study conducted in Sacramento County, CA, where the estimate for its urban forest reflects six million trees, Mc. Pheron, and Simpson (1998), using the Urban Forests Effects Model (UFORE), “revealed that approximately 1,450 tons of atmospheric contaminants were intercepted and removed with a value of more than \$28 million. Using the estimate of 6 million trees within the study area, the value of its benefit was \$5 per tree.” (Harris, Clark & Matheny, 2004, p.103).

Because the center of inner-cities have more paved surfaces and infrastructure, their microclimates have been identified to be 2° to 5° C (4-9° F) warmer than nearby rural locations. These inner city cores are comprised of abundant

concrete structures and paving that contributes to higher amounts of smog, often creating “The Heat Island Effect”. According to Harris (2004) “in locations with hot summers, the effect adds significantly to the cost of energy and atmospheric pollution.” (Harris et al., 2004, p. 105), The inclusion of tree planting in any urban design or revitalization project signifies a very effective way to acquire financial and environmental incentives. Pedestrian-oriented designs in this way are poly-functional, meaning they enhance the appeal of the urban environment while sig-



Figure 3.5 Urban forests provide great social and environmental benefits.

nificantly improving the social and environmental mechanisms of the urban sphere. (See figure 3.5)

PHYSIOLOGICAL BENEFITS OF PEDESTRIAN-ORIENTED DESIGN SIGNS

America is a nation of drivers. (Schmitz et al., 2006, p.4). With the rise of the automobile era, American culture suffered a major lifestyle change; it fostered an inactive lifestyle that has had significant consequences on public health in America. According to Jackson (2004) "Sedentary lifestyles have emerged as a pressing public health challenge, because some of the consequences—overweight, Type 2 diabetes, and other conditions—have reached epidemic proportions" (Jackson et al., p.91) Besides promoting environmental sustainability, pedestrian-oriented designs encourage active living. The new

trend to reintroduce and transform urban areas into pedestrian-friendly environments has shown positive signs in improving the nation's level of physical activity. People will walk if the environment supports it. This innate human activity enables people to incorporate physical activity into their daily lives. (See figure 3.6)

"Research has established



Figure 3.6 Good urban design fosters and promotes physical activity.

that people who live in pedestrian-oriented areas generally walk more and are healthier than people who live in areas where walking is difficult." (B.E. Saelens, JF Sallis, & L.D. Frank, 2003, pp. 80-91). Incorporat-

Chapter 3


ing appealing destinations within a city encourages and facilitates pedestrian activity. As Schmitz and Scully (2006) describe, "These kinds of public places provide people with opportunities for physical activity and a reason to venture out on foot." (Schmitz et al., 2006, p. 47). It is evident that modern urban revitalization and design projects will encounter the monumental task to revert the noxious lifestyle trends that have been vastly supported by the disconnected and inefficient urban infrastructure; in many of the nation's major metropolitan areas.

The New Urbanism or Smart Growth Movement has paved the way to continue promoting pedestrian-friendly communities. A growing number of non-profit agencies


like Active Living advocate for more socially responsible and pedestrian-friendly urban design. (See figure 3.7) As we encourage and facilitate walkability throughout the nation, the level of physical activity will increase and the nation's generally poor public health will evolve into a more positive forecast.



Figure 3.7 The Pearl District in Portland Oregon, has many socially responsible and pedestrian friendly urban environments as the one above.



Chapter 4



SITE ANALYSIS

As already discussed in this document most retail malls in the nation are located at the edge of many urban cities. Broadway Plaza, however, does not fit that norm. The mall is located right in the heart of downtown Walnut Creek, and is framed by four major transportation arteries within the city: Mount Diablo Boulevard is to the north, South Broadway Boulevard to the east, Main Street to the west and Newell Street to the south.

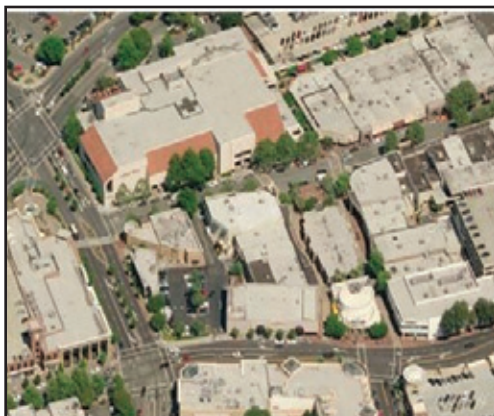


Figure 4.1 Broadway Plaza Mall in Downtown Walnut Creek.

(See figure 4.1) Because these transportation arteries fall adjacent to

the pedestrian retail district, the city deals with very high traffic congestion at peak weekday hours and during the weekends.

The site analysis was conducted to obtain the most accurate data of the present pedestrian and vehicular activity within the central core of Walnut Creek. (See figure 4.2) The data includes behavior mapping, pedestrian activity volume, vehicle traffic volume, urban analysis, existing private and public parking infrastructure, on-street parking, existing and proposed open space, and urban development within the area.

In a 2008 Traffic Volume map produced by the transportation department of Walnut Creek, CA. (City of Walnut Creek Transportation Department 2008) the daily average traffic volume between these four arteries accounts for more than 62,000 vehicle trips on daily basis. (See figure 4.3) Because of the

Study Site Map

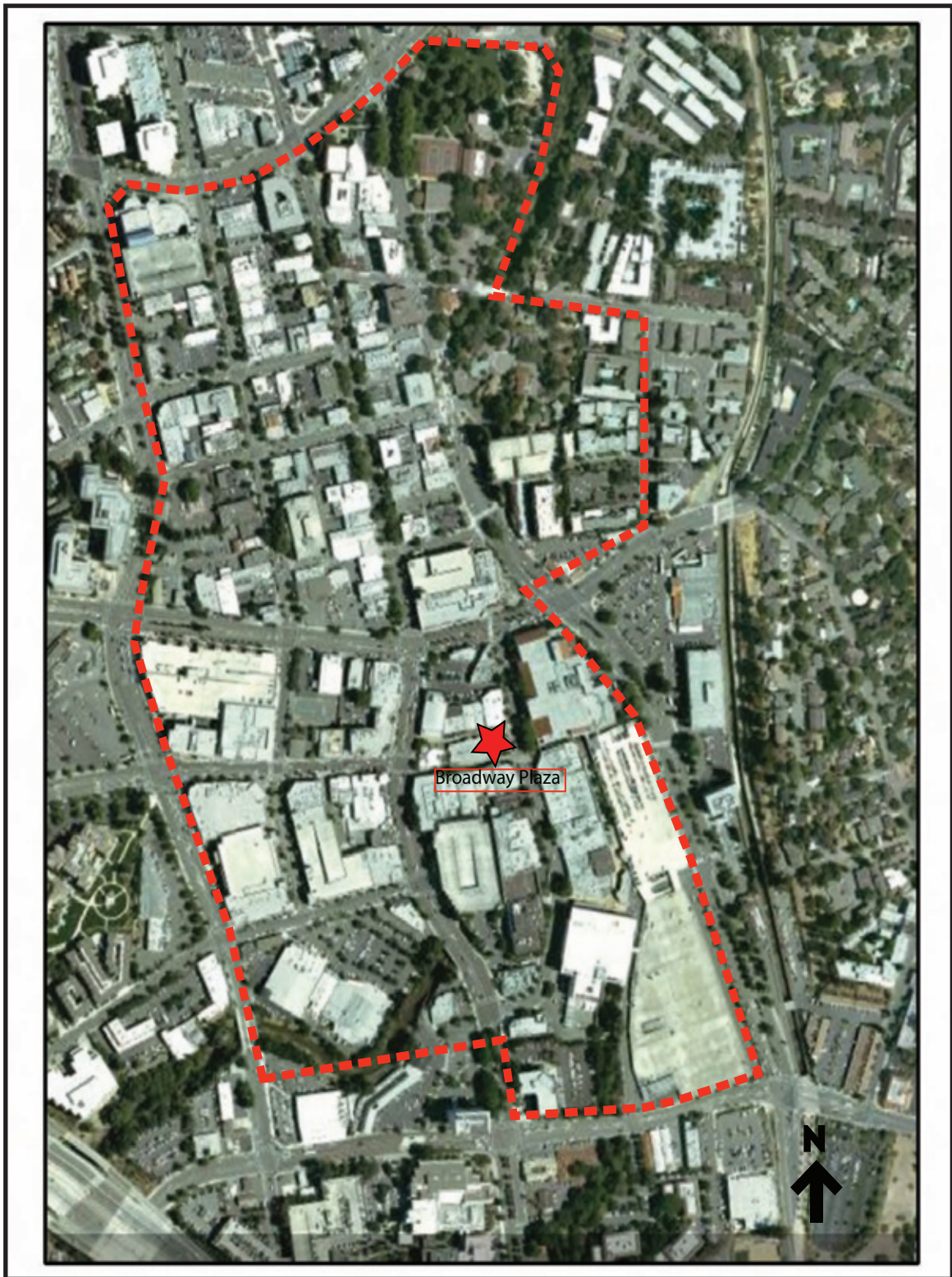


Figure 4.2 Walnut Creek's Downtown study site map.

Chapter 4

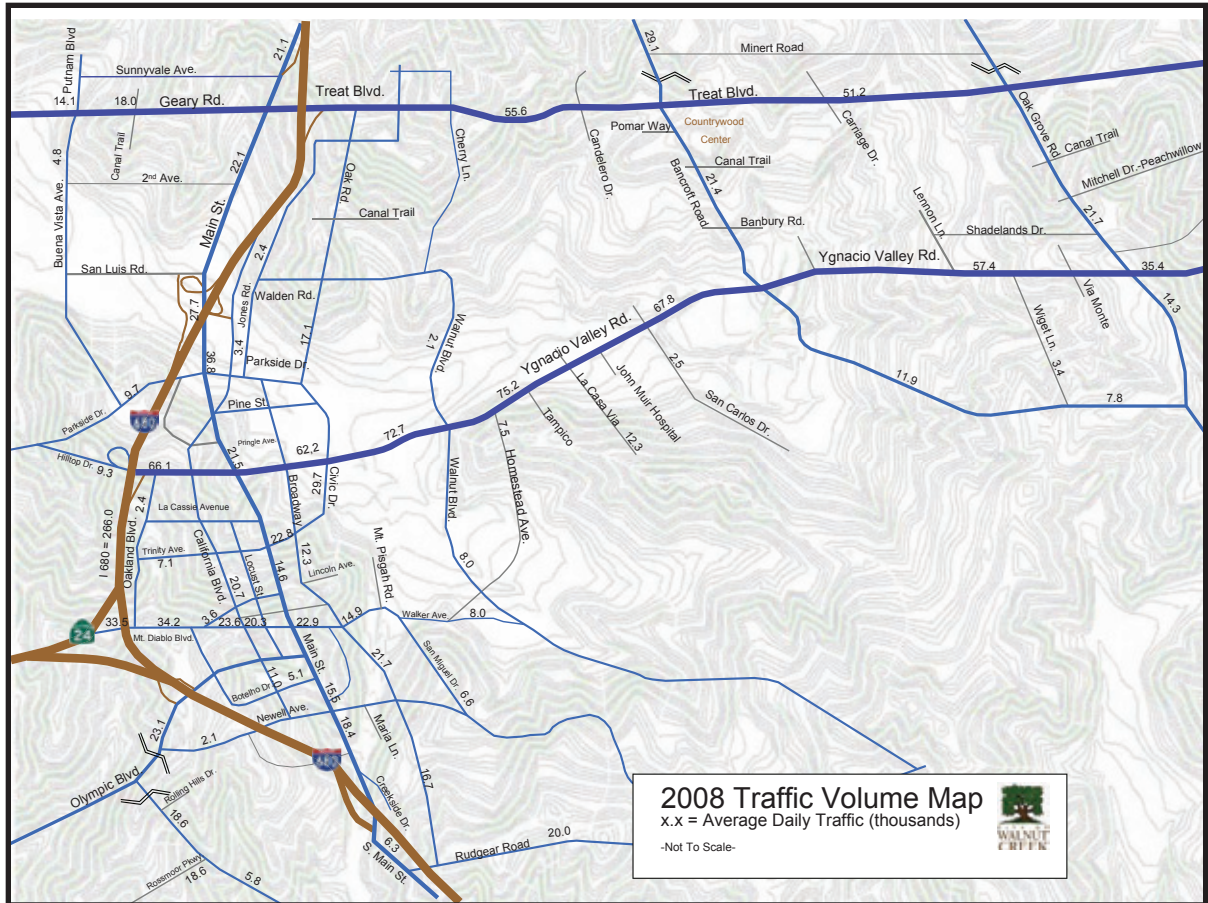


Figure 4.3 City of Walnut Creek, 2008 Traffic Volume Map, shows the arteries that handled the most vehicle traffic in the downtown area.

closeness of the transportation arteries and to its adjacency to the pedestrian retail district, the city deals with a very high traffic congestion problem at pick hours and during the weekends.

The site's analysis was conducted and aimed to obtain the most accurate data about the area and the present pedestrian environ-

ment; as well as vehicular activity within the central core. The data includes maps for behavior mapping, pedestrian activity volume, vehicle traffic volume, urban analysis, existing parking infrastructure privately and public, on street parking and existing and proposed open space and urban development.

Vehicle Traffic Volume Mapping

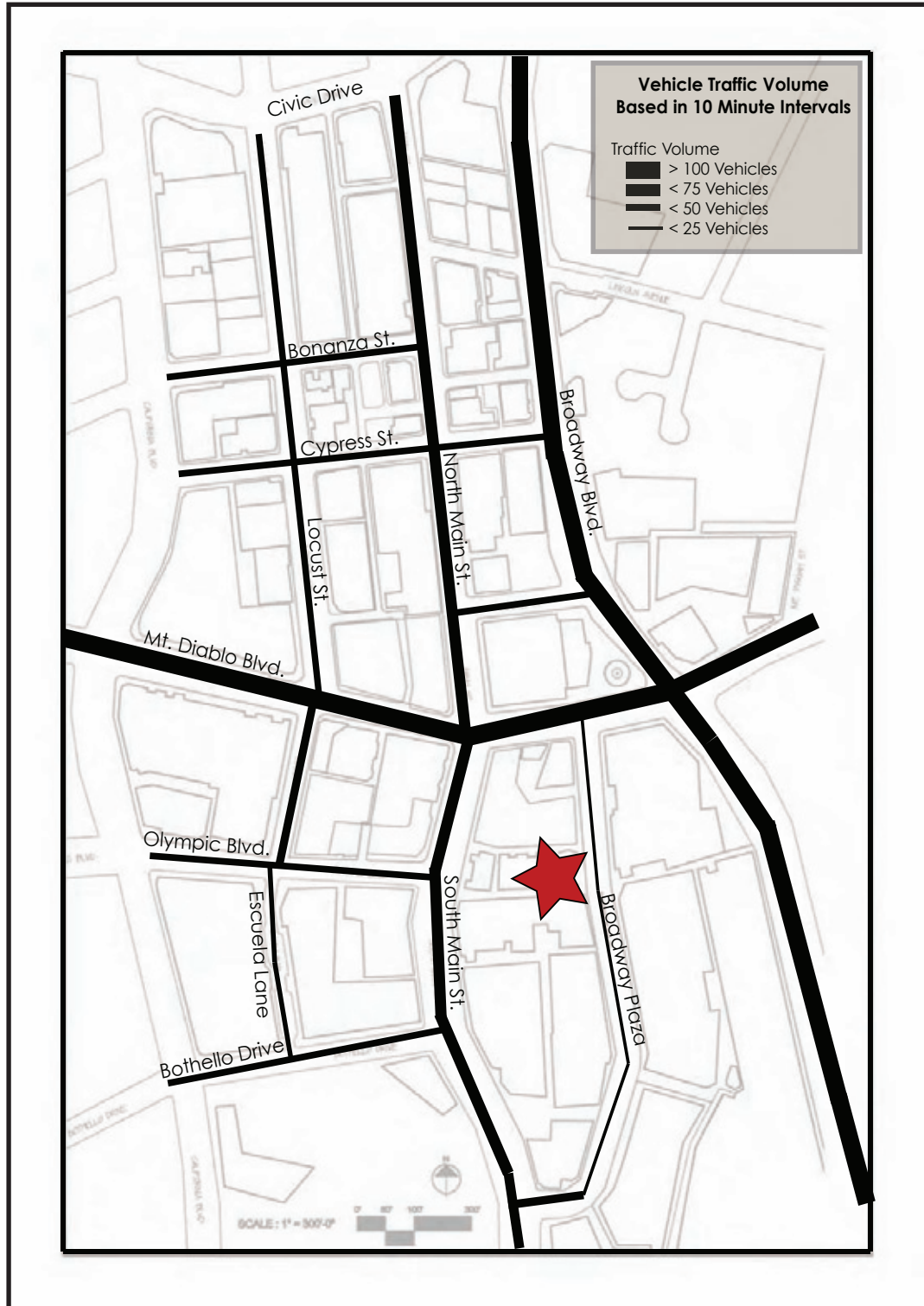


Figure 4.4 Major transportation arteries adjacent to the study site.

BEHAVIOR MAPPING

Every public open space functions and used differently, which alters human behavior in many ways. For my project this analysis represents a solid foundation to develop a pedestrian network that responds to the user needs. The behavior mapping was conducted on April 18th 11:25–12:30, and based on fifteen-minute intervals. (See figure 4.4) After reviewing the behavior analysis data the areas that record the highest numbers of people are between Olympic Blvd. and Bonanza Street, and Broadway Mall. Main Street serves as the main pedestrian artery that feeds a high pedestrian volume to the mall and the adjacent streets.

HIGH PEDESTRIAN ACTIVITY MAPPING

Because of the city's chronic traffic congestion problem, it was important to identify and map the areas that handle high pedes-

trian activity levels. (See figure 4.5) The importance to identify these locations is to accurately implement design solutions that help to reduce conflicts between pedestrians and vehicular traffic. The mapping was completed on April 25th between 12:15–1:45 P.M. Among locations that showed the most constant pedestrian activity with more than fifty walkers during fifteen-minute intervals are the streets closest to Broadway Plaza Mall. Extending from Olympic Blvd., to Mt. Diablo Blvd., Main Street and the promenades in Broadway Plaza, high levels of pedestrian traffic were identified. This analysis illustrated that Main Street, Olympic Blvd. and the Eastern most location of Mt. Diablo Blvd. handle a significant influx of pedestrian activity. The mapping, enable me to indentify that Main Street functions as a significant pedestrian spine for the city's retail district. (See figure 4.6)

Behavior Mapping Analysis



Figure 4.5 Walnut Creek's downtown behavior mapping

Downtown's mapping of Locations w/ High Pedestrian Activity

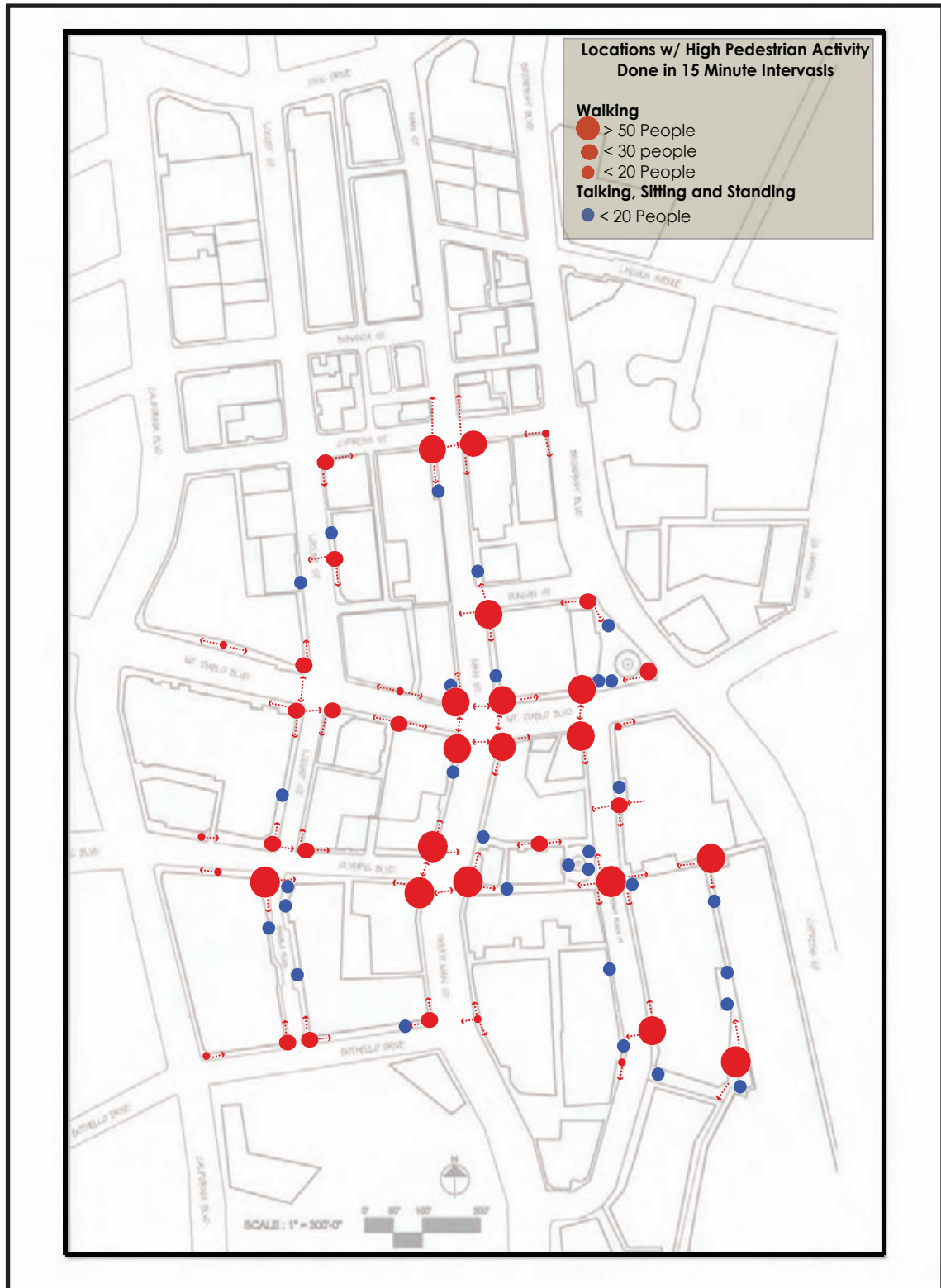


Figure 4.6 Pedestrian activity map. Shows the areas that handle the most pedestrian circulation within the downtown core.

Chapter 4

Mapping of Downtown's Current Pedestrian Corridors Patterns

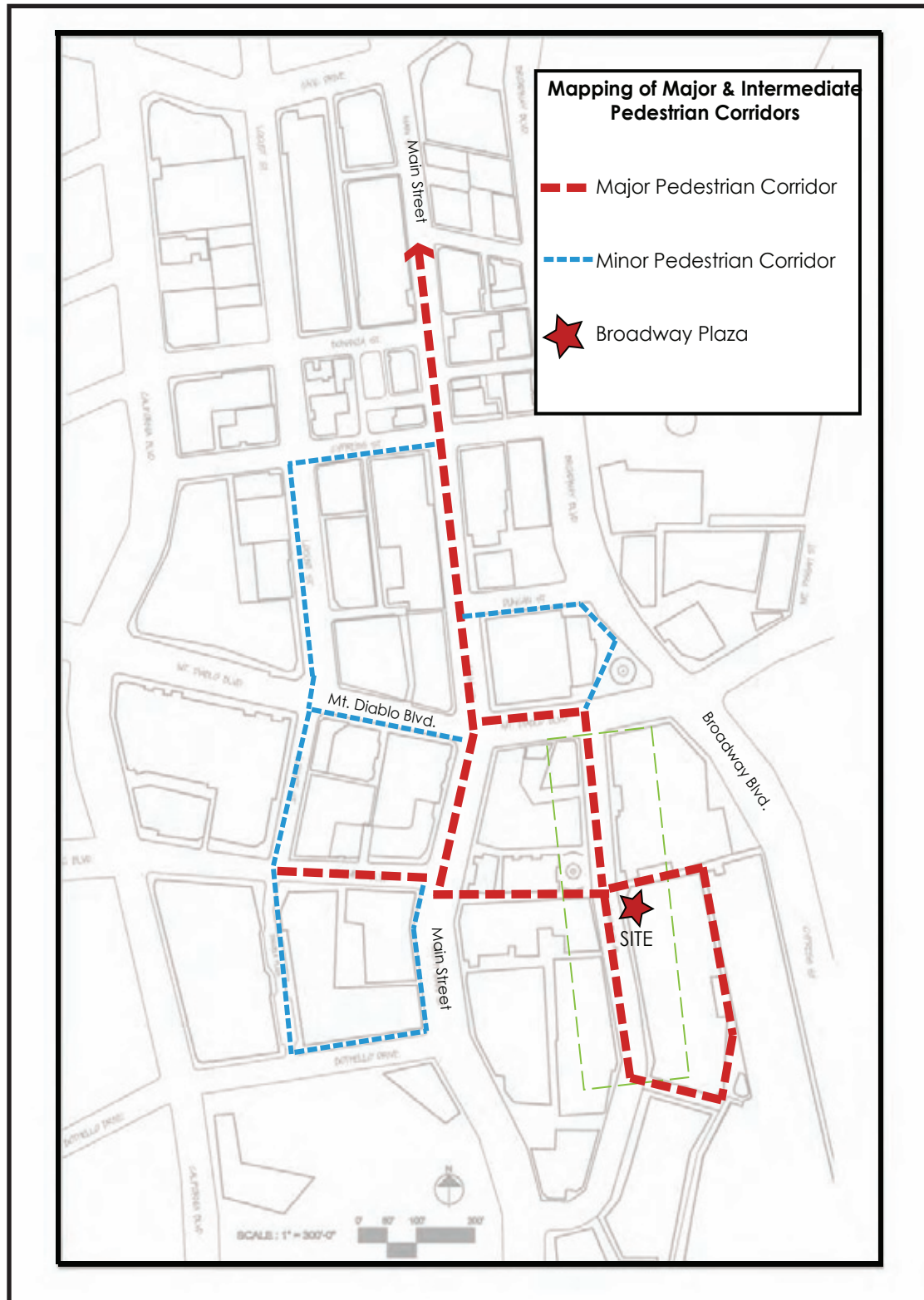


Figure 4.7 Downtown's current pedestrian corridors mapping.

EXISTING & PROPOSED OPEN SPACE/DEVELOPMENT

Since the city handles high levels of vehicular and pedestrian activity, pedestrian friendly spaces are valuable recreation facilities that provide safety and a sense of enclosure from the city's vehicular traffic. The city's downtown area only has three public plazas, Liberty Bell Plaza, Broadway Plaza and Escuela Plaza. (See figures 4.8, 4.9, & 4.10) The Existing and proposed open space and development mapping was conducted in the same date as the behavior mapping. The mapping revealed that Liberty Bell Plaza and Broadway Plaza handle the most pedestrian activity. Liberty Plaza has a larger open space and sufficient seating space of the three plazas surveyed. One great asset about Liberty Bell Plaza is its adjacency to Il Fornaio restaurant and Broadway Plaza. Its location enables a constant pedestrian

traffic as well as allowing ample seating around the fountain and the seat walls around the fountain.

Proposed developments within the retail district account for a total of six (See figure 4.11). According to the city of Walnut Creek Planning Department (City of Walnut Creek Planning Department 2008) only two of the projects are zoned as mixed-use development, the rest are zoned as retail space. The project that proposes two plazas is Locust Street and Mt. Diablo Blvd. strategic plan. This project is the largest of the six being proposed currently.

URBAN ANALYSIS

The central core of the city constitutes the main retail district. (See figure 4.12) According to the city of Walnut Creek general Plan adopted, April 2006, (City of Walnut Creek 2006) the district's geographical boundaries include Newell Street to the South, Civic Drive to the North, California Blvd. to the

West, and Broadway Blvd. to the East. Within a quarter of mile radius the district includes Community facilities as well as adjacent residential areas.

A significant percentage of land zoned as pedestrian retail covers most of the existing and future building infrastructure. The analysis



Figure 4.8 Liberty Bell Plaza



Figure 4.9 Broadway Plaza



Figure 4.10 Plaza Escuela

brings important questions such as, How is the existing pedestrian and vehicular environments responding to present and future development? And, Will the present pedestrian environment sustain future retail space growth? These questions will be the driving motive of improvements that my design will respond to.

EXISTING PARKING INFRASTRUCTURE ANALYSIS

As a contemporary example of a vibrant and prosperous city, Walnut Creek's parking facilities have successfully sustained the present parking demand of visitors and residents of the city. According

Mapping of Existing & Proposed Open Space & Development

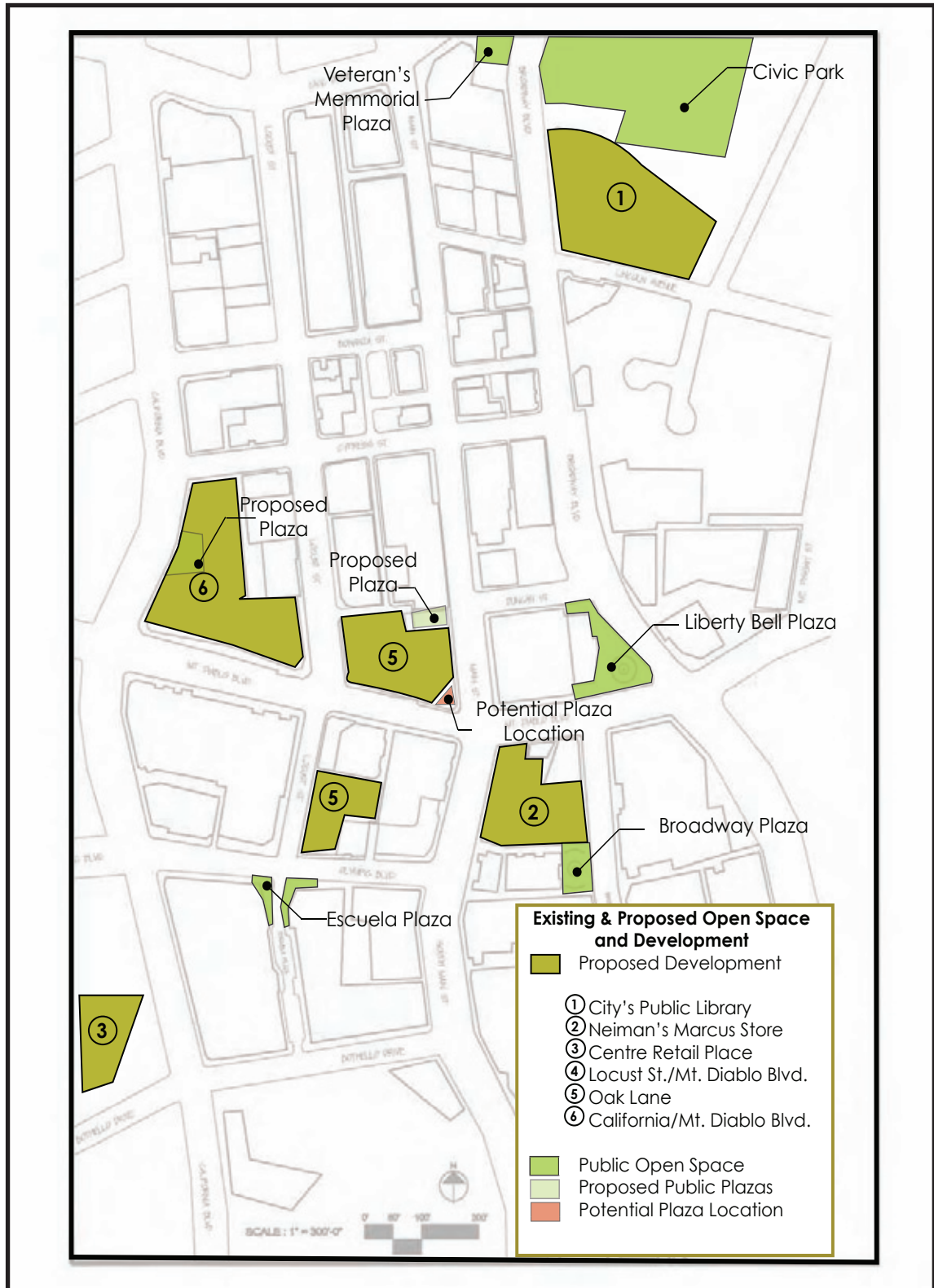


Figure 4.11 City of Walnut Creek's Downtown proposed development Projects

City of Walnut Creek's Downtown Urban Analysis Map



Figure 4.12 City of Walnut Creek urban analysis

Chapter 4

to a transportation study, led and financed by the City of Walnut Creek (Walnut Creek 2006) and conducted by Nelson/Nygaard Consulting Associates, the city's downtown parking facilities provide 7,040 parking spaces public and privately owned. (See figure 4.13) The study also revealed that on street parking accounts for 8% of the total parking. Additionally the study also revealed that only 80% of the total parking in the city is occupied at peak hours leaving 1,400 spaces available during the highest demand for parking facilities in the city. (See figure 4.14) This particular occupancy study was done on Friday in July 2005.

Based on my site analysis find-

ings, Main Street currently has significant pedestrian activity levels and undoubtedly serves as the downtown's main pedestrian spine. From the intersection of Olympic Blvd. and South Main Street to Lincoln Avenue the street provides 71 on-street parking spaces (Walnut Creek 2006) which accounts for 1.3% of the total on-street parking in the city. My design suggestions will eliminate the equivalent of 12 parking spaces along Main Street and Olympic Blvd. The elimination of these spaces will account for 2% of the total on-street parking availability in the city.

City of Walnut Creek's Existing Parking Facilities

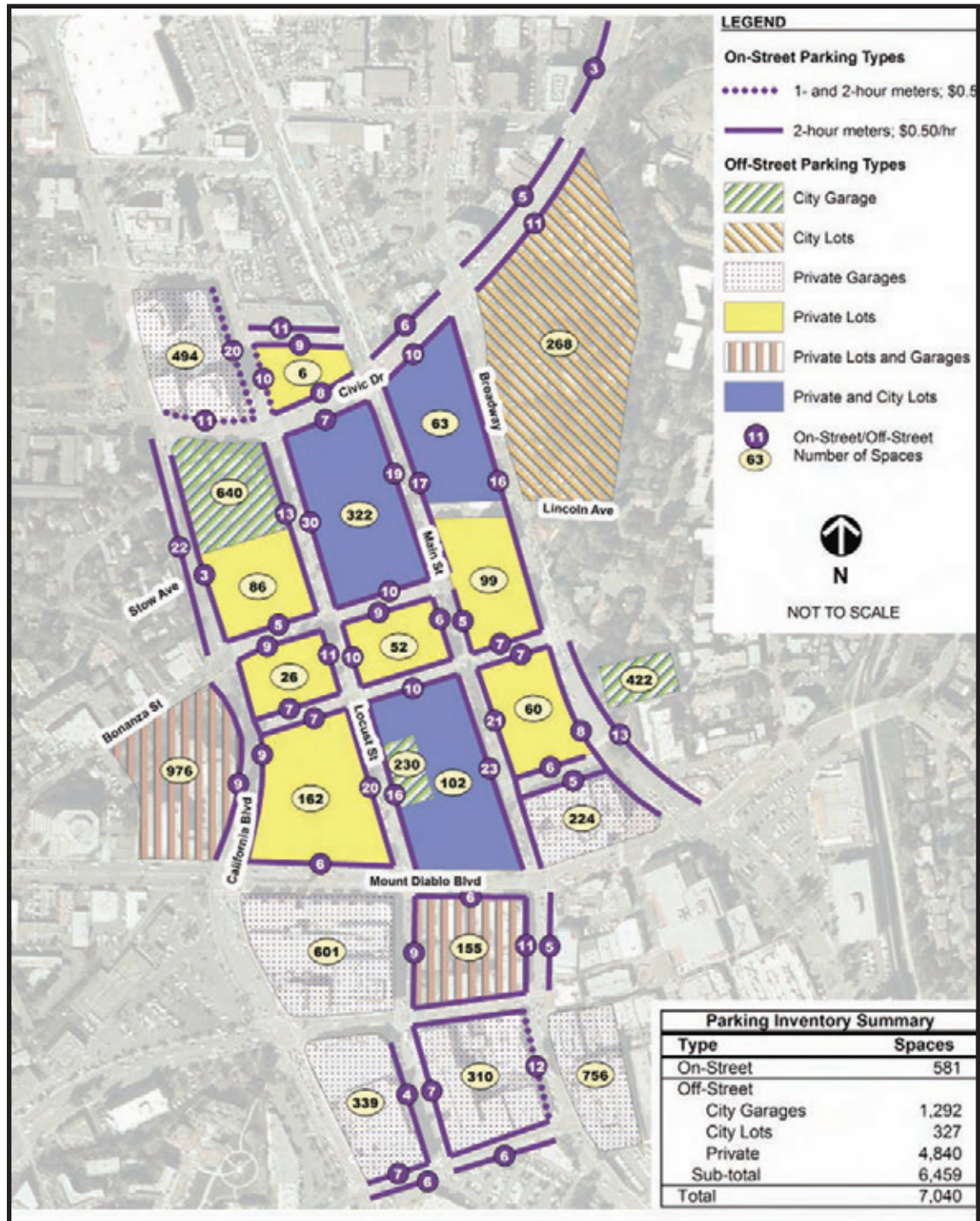


Figure 4.13 City of Walnut Creek Parking Inventory summary

Study Site Existing Parking Facilities Analysis

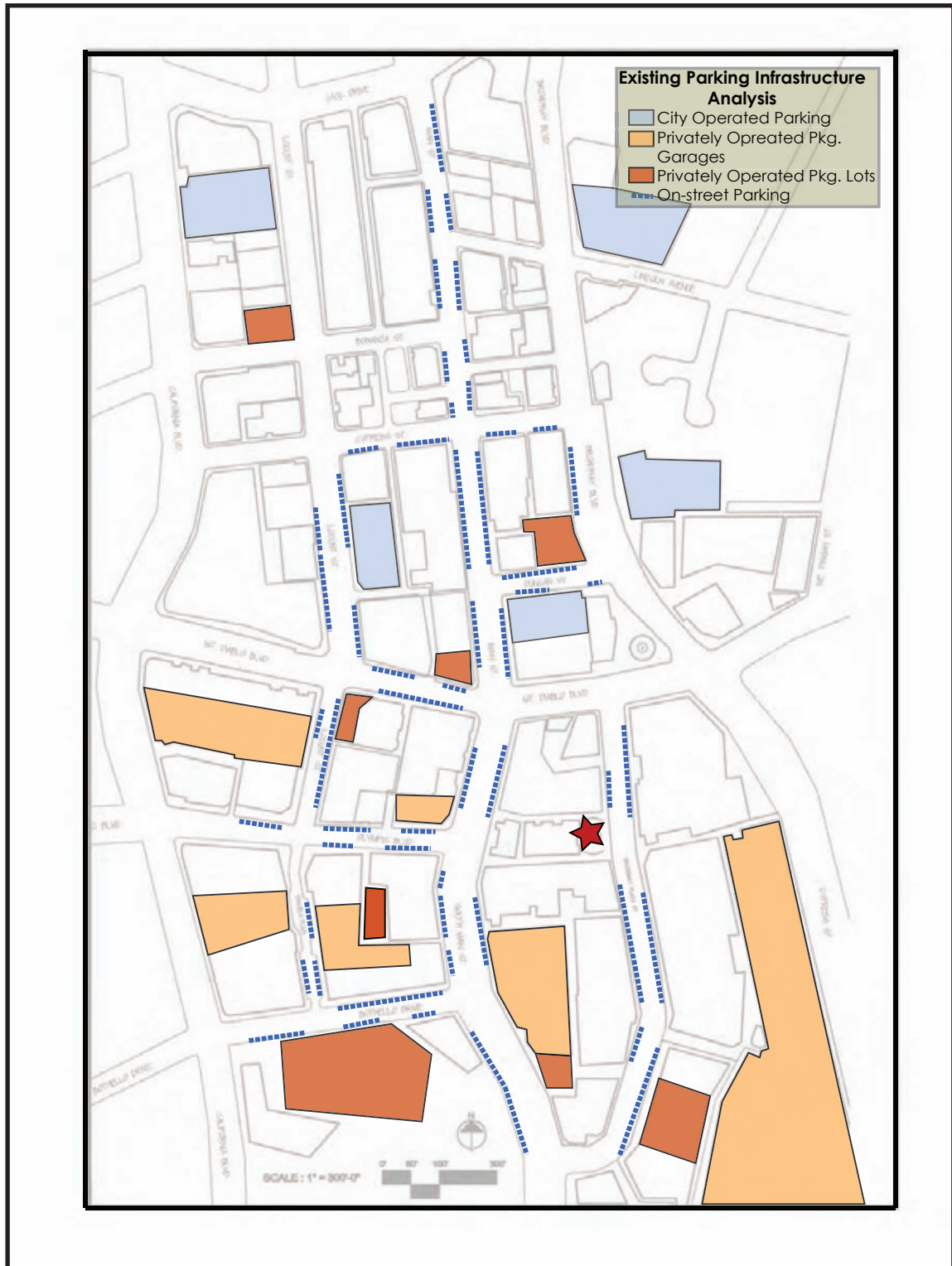


Figure 4.14 Mapping of public and privately own parking facilities.

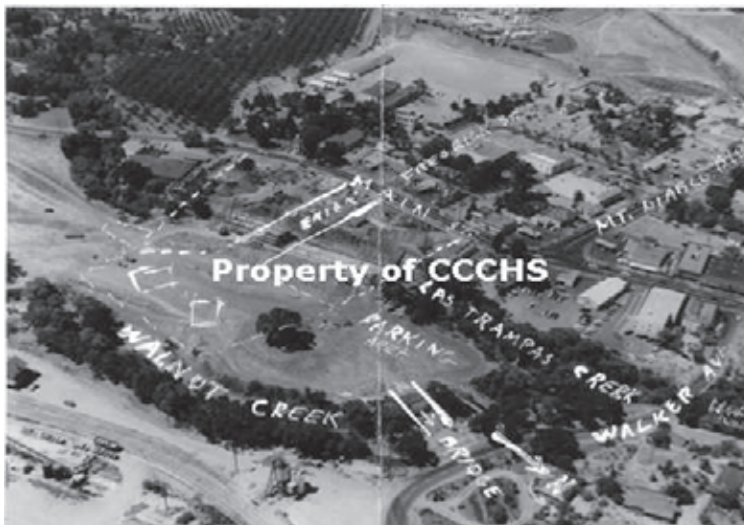


Chapter 5



PEDESTRIAN NETWORK AND PROMENADE DESIGN

The driving concept about my proposed designs is based in protecting and promoting walkable urban environments. The promenade's design relates and expresses the regional terrains, natural character and historic heritage of the site. It also promotes and brings back the town's historical and ecological heritage. (See figure 5.1) In the past the site was carved by The Trampas Creek, which used to run where Broadway Plaza Street is located now. The creek was channelized and it now runs underground.



the meandering walking path symbolize the creek's banks.

Figure 5.1 Former Trampas Creek meandering course to what now is Broadway Plaza

Proposed Promenade Design

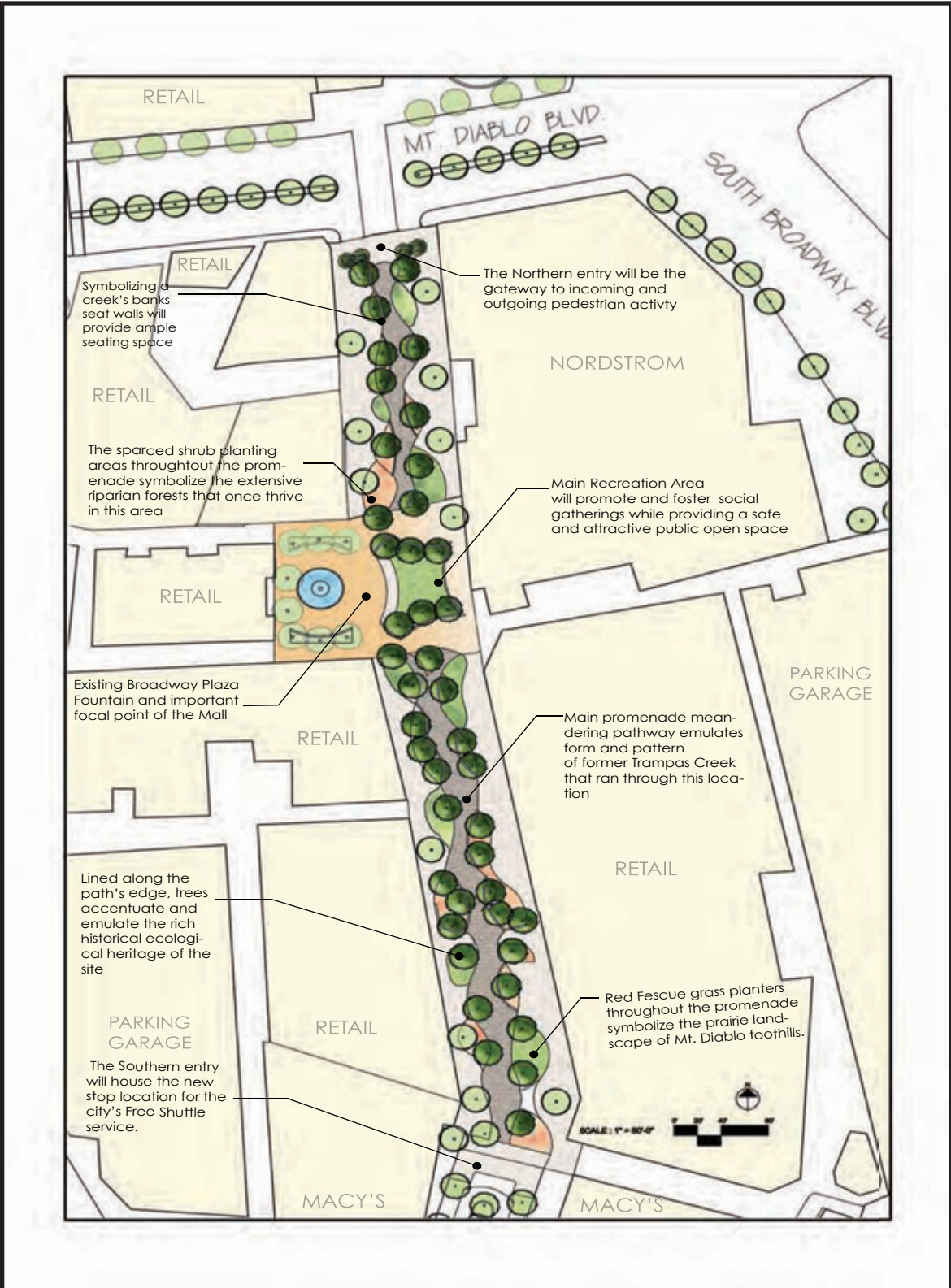
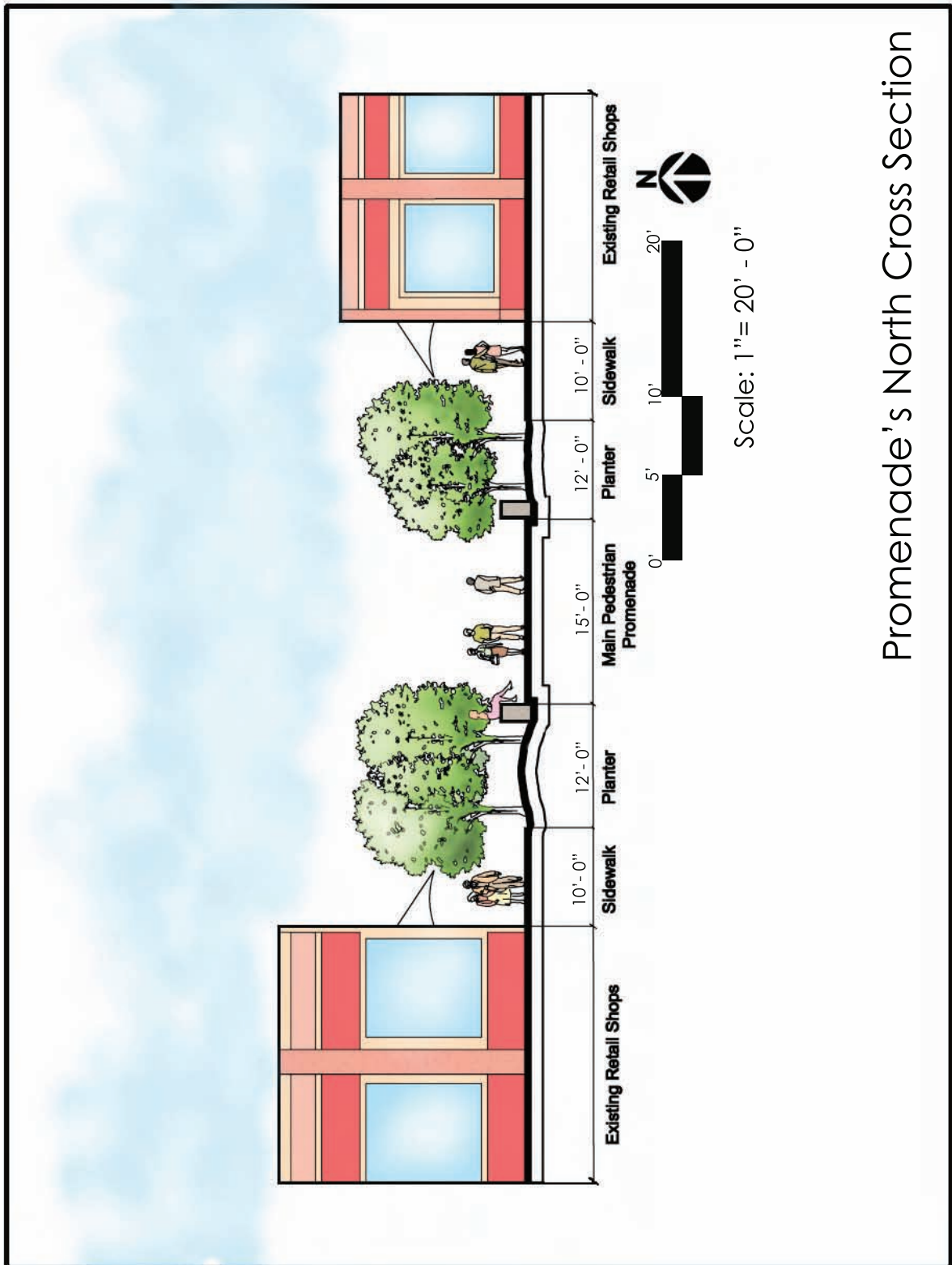


Figure 5.2 Promenade design concept

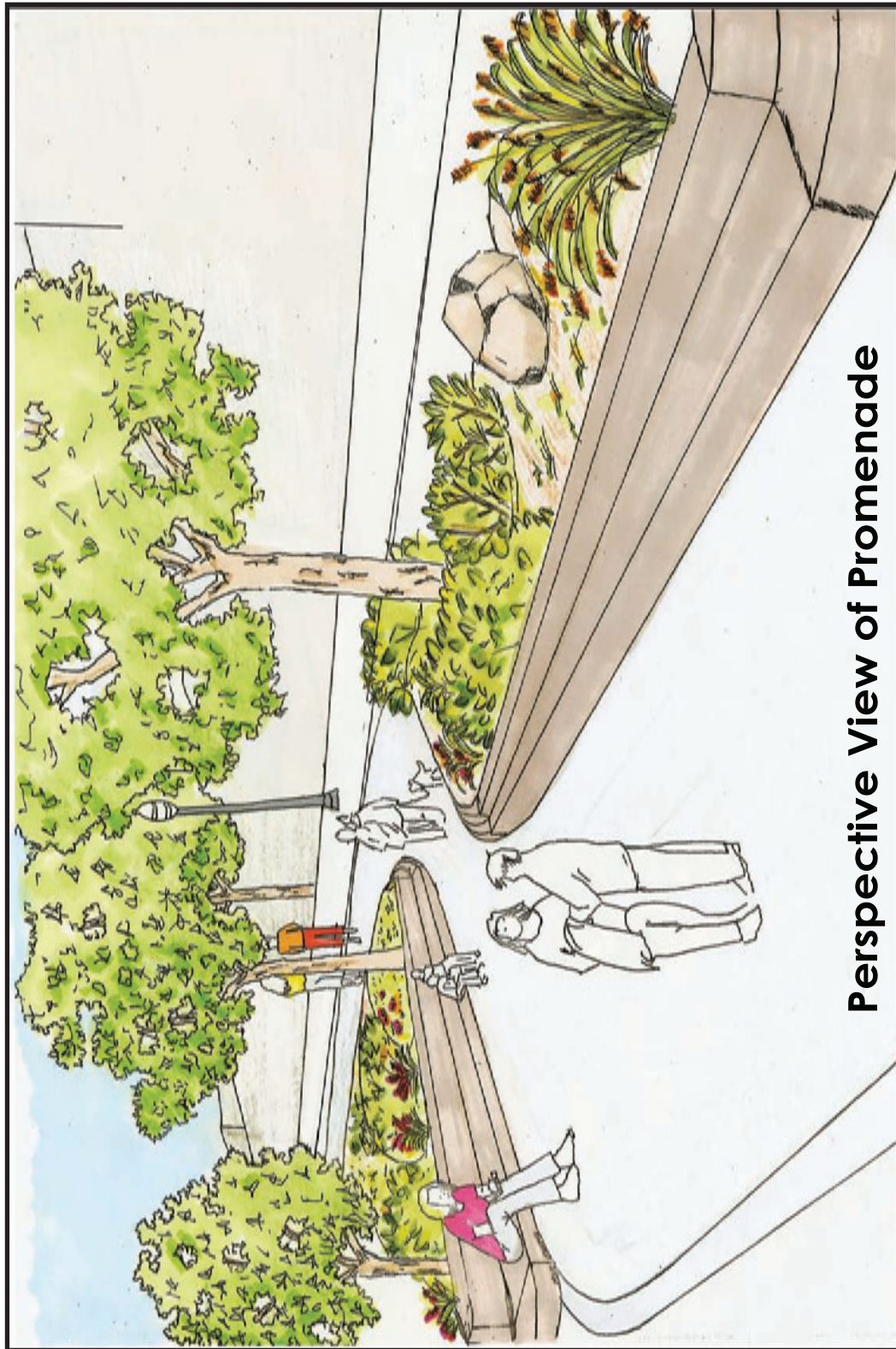
Promenade's North Cross Section



Promenade's North Cross Section

Figure 5.3 Promenade Cross Section

Promenade's Perspective Angle View



Perspective View of Promenade

Figure 5.4 Promenade's perspective view.

PEDESTRIAN NETWORK DESIGN

The pedestrian network design is a statement that advocates for the rehab and revival of the ultimate civic space, the street. (See figures 5.5, 5.6, 5.7 & 5.8) The design responds to the city's traffic congestion problems by identifying the town's most prominent pedestrian arteries and enhancing its main pedestrian routes by improving the continuity and connectivity of the pedestrian environment. The design also responds to areas where con-

flict between pedestrian and vehicular traffic is most likely to occurred. By proposing traffic calming design methods where existing pedestrian crossings represent potential conflictive zones, extending the street's curb radii and enhancing mid-street pedestrian crossings automobile speeds will be reduced. Also the design utilizes existing mature trees by capitalizing in their environmental benefits and the form and visual interest they provide.

Chapter 5

City of Walnut Creek Proposed Pedestrian Network

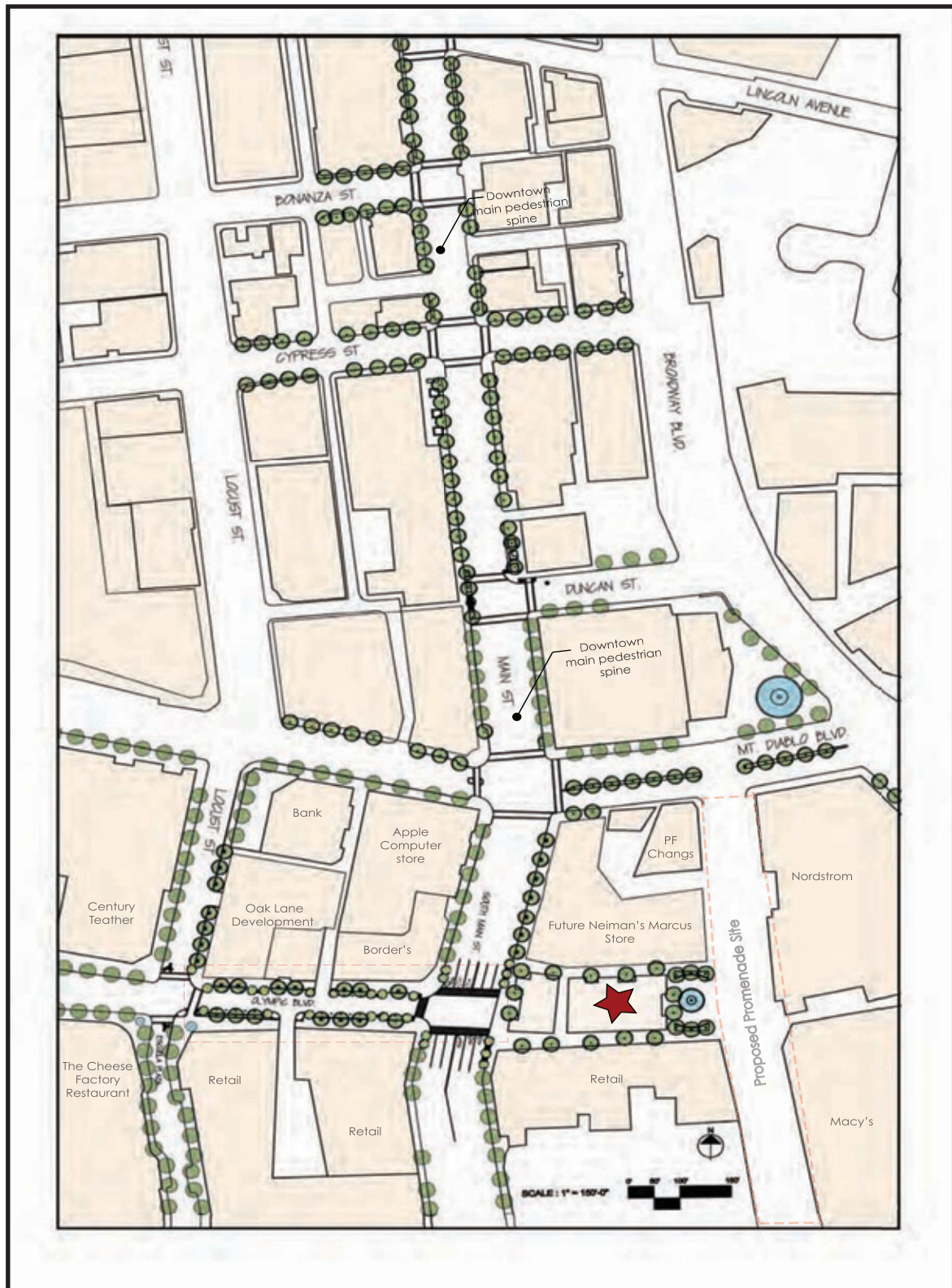


Figure 5.5 Pedestrian Network Design

Proposed Model for Pedestrian Network Street Improvements

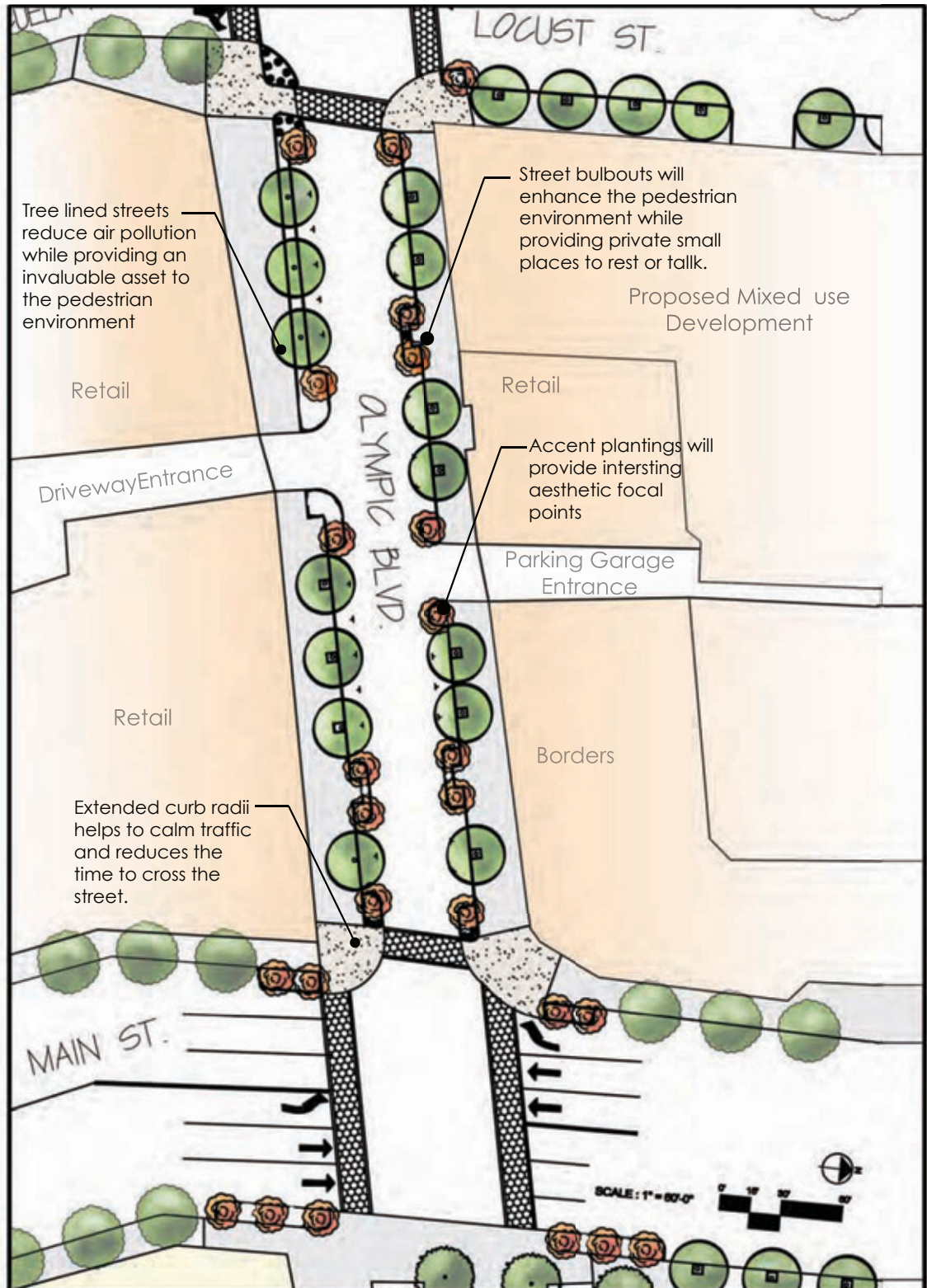


Figure 5.6 Proposed street improvements model.

Street West Cross Section

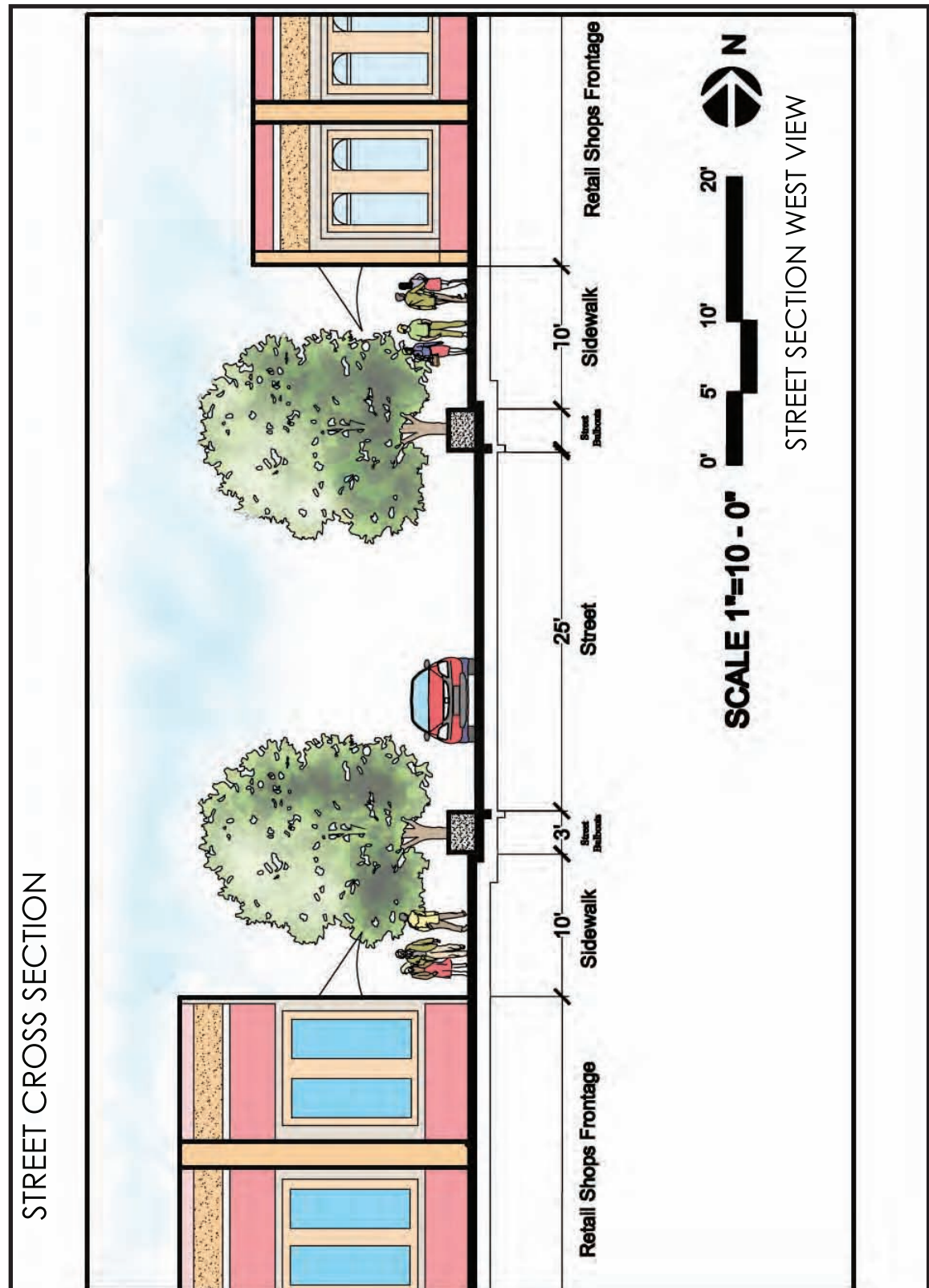
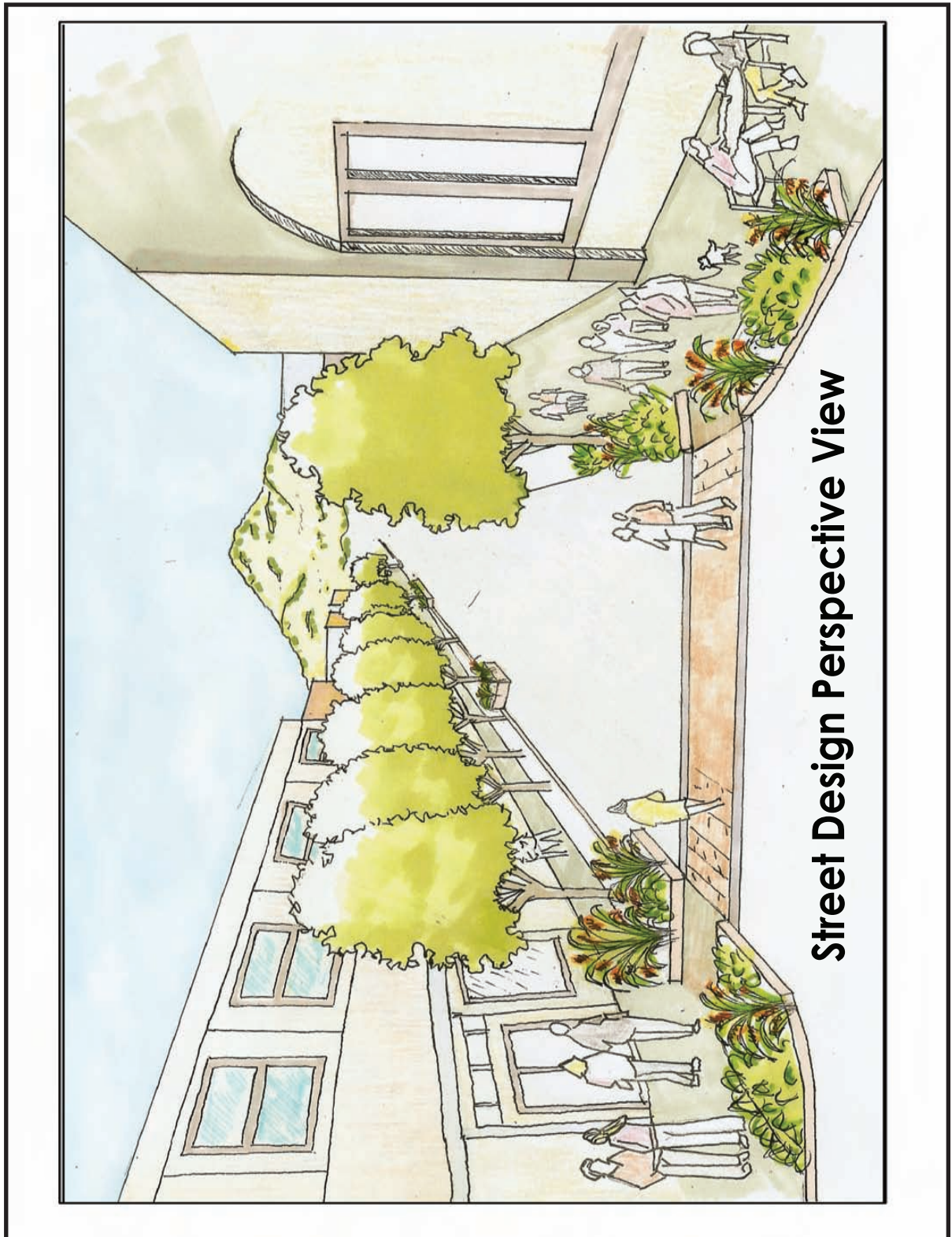


Figure 5.7 Olympic Blvd. proposed model street section west view.

Perspective View




Street Design Perspective View

Figure 5.8 Perspective view of proposed street improvements



Chapter 6



CONCLUSION

Decades of vehicle-oriented urban design have created isolated downtowns, inactive and unhealthy lifestyles, social disintegration, environmental degradation and of course traffic congestion which has become a common problem that many American cities shared.

The demand and rising awareness of pedestrian-oriented urban design has paved the way to reintroduce the importance of the pedestrian in the public realm. The revival of the old American city is a new theme among many leading experts in the urban design discipline. Many cities in the nation have adopted new principles of urban design that promote long-term solutions for the nation's endemic issues of traffic congestion, urban sprawl, and unhealthy lifestyles.

Even in a city like Walnut Creek that prides itself for having a

vibrant and prosperous community and very progressive environmental principles is not immune to traffic congestion issues. As discussed on chapter one, traffic congestion has become the city's downtown major problem. Less driving more walking is the main objective on my proposed design.

The objective of my research and conceptual design, is to illustrate how to develop a long-term solution to mitigate pedestrian and automobile conflicts, while guaranteeing a safe pedestrian environment that promotes active living, environmental stewardship, and contributes to the community's economic development. The design also accounts to sustain the forces of traffic congestion and urban growth of the city.

Although my design is a conceptual approach the foundation from which it developed, reveals important findings, including how the

Chapter 6

study area responds to user needs and the automobile circulation. By conducting extensive site analysis of the study area I was able to identify important patterns of pedestrian and vehicular circulation. This allowed me to develop a design that responds the user needs as well as the its rich and ecological history.

This design approach aims to provide the visitors and citizens of Walnut Creek a pedestrian promenade and pedestrian network that will serve as the hearth of the city's downtown, where the user senses the pulse and health of the city through its downtown.

BIBLIOGRAPHY

Schmitz, A. and Scully J, 2006, *Creating Walkable Spaces*. Washington, D.C: ULI Urban Land Institute

Unterman, R.1984, *Accommodating the Pedestrian*, New York, NY: Van Nostrand Reinhold Publishing Company Inc.

Howard, Franklin., Lawrence Frank, and Richard Jackson. 2004, *Urban Sprawl and Public Health*. Washington, D.C: Island Press.

Gehl, Jan. 1987. *Life Between Buildings*. New York NY: Van Nostrand Reinhold Publishing Company Inc.

Lang, Jon. 1994. *Urban Design: The American Experience*. New York, NY: Van Nostrand Reinhold Publishing Company Inc.

Paumier, C.B. 1988, *Designing the Successful Downtown*. Washington, D.C: ULI Urban Land Institute

Rubenstein, H.M. 1978, *Central City Malls*. New York, NY: John Wiley & Sons, Inc.

Harris, W. R, Clark, R. J., and Matheny, P. N. 2004, *Arboriculture: Integrated management of Trees, Shrubs and Vines*. New York, NY: Prince Hall Publishing Company Inc.

Calthrope, P., and Lerup, L. 2005 *New Urbanism: Michigan Debates on Urbanism: Volume II*. New York, NY Distributed Art Press.

Whyte, H. W. 1980, *The Social Life of Small Urban Spaces*. Tuxedo, Maryland: Printed by Printers II Inc.

Southworth, M., and Eran-Ben, J. 1997, *Streets and Shaping of Towns And Cities*. New York, NY: McGraw-Hill Company.

City of Walnut Creek Planning and Zoning Department. (2006) *General Plan 2025*. Retrieved April 12, 2009 from http://www.walnut-creek.org/citygov/depts/cd/planning/gp2025_sp.asp

Chapter 6

California Transportation Department. (2008) *2008-2009 Summary Budget*. Retrieved April 19th, 2009, from

<http://2008-09.archives.ebudget.ca.gov/Enacted/BudgetSummary/BTH/32287724.html>

City of Santa Monica. (2002) *Bay Side District Corporation, Third Street Promenade*. Retrieved March 27th, 2009 from [http://www.walkinginfo.org/pedsafe/](http://www.walkinginfo.org/pedsafe/casestudy.cfm?CS_NUM=39)

[casestudy.cfm?CS_NUM=39](http://www.walkinginfo.org/pedsafe/casestudy.cfm?CS_NUM=39)

National Museum of American History. (2009) *America on the Move, A street Car City*. Retrieved April 8th, 2009, from [http://americanhistory.si.edu/onthe-](http://americanhistory.si.edu/onthe-move/exhibition/exhibition_4_6.html)

[move/exhibition/exhibition_4_6.html](http://americanhistory.si.edu/onthe-move/exhibition/exhibition_4_6.html)

Sacramento Council of Governments (December,2008) SACOG Blueprint Plan MTP 2035. Retrieved May 12th, 2009, from <http://www.sacog.org/mtp/2035/>