



CITY HEIGHTS URBAN GREENING PLAN



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BRINGING NATURE BACK INTO THE COMMUNITY.....

.....CONNECTING THE COMMUNITY BACK TO NATURE

←—————□

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CITY HEIGHTS URBAN GREENING PLAN



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Glossary

Best management practices (BMPs): Effective and practical methods with the intent to protect water quality by preventing or reducing the movement of sediment, nutrients, pesticides, and other pollutants from the land to surface and ground water bodies.

Bio-filtration strategies: BMP devices that use vegetation to achieve low-velocity flows to allow settling of particulates and straining of pollutants by vegetation, rock, or media.

Bioretention: A storage and removal process in which contaminants and sediments are removed from stormwater runoff by collection into a treatment area generally consisting of natural media such as grass, sand, mulch, or plants.

Bioswale: A broad, shallow channel with a dense stand of vegetation covering the side slopes and bottom. It is effective in trapping particulate pollutants, promoting infiltration, and reducing the flow velocity of stormwater runoff.

Cistern: A basin or receptacle built to capture and store rainwater. Cisterns are typically larger than rain barrels and can generally hold more than 100 gallons of water. They can be contained either above or below ground. However, below-ground applications often need mechanical pumps requiring electricity and more maintenance.

Compacted soils: Soil that is compressed to a degree that prevents roots from spreading and water from properly soaking into the soil, making the soil unable to support plant growth.

Complete streets: Streets designed to provide safe and equal access for pedestrians, bicyclists, motorists and transit riders of all ages and abilities.

Conveyance system: A network of several components that can include catch basins, storm sewers, creeks, stormwater detention ponds, lift stations, force mains, and ditches designed to accommodate and drain stormwater runoff.

Curb extension: Also called bulbout, is an effective traffic-calming measure that extends the sidewalk into the parking lane to narrow the roadway and provide additional pedestrian space. They enhance pedestrian safety by increasing pedestrian visibility, shortening crossing distances, slowing turning vehicles, and visually narrowing the roadway.

Detention basin/area: An area usually installed on or adjacent to developed areas. It is generally a traditional stormwater management technique to manage excess runoff.

Energy dissipation strategies: Strategies that reduce the speed of runoff so that it does not cause erosion further downstream.

Erosion: The weathering or transport of sediments, soils, and/or rocks due to the adjacent flow of water.

Evapotranspiration: Transpiration by plants that transfers moisture from the earth to the atmosphere by means of evaporation.

Filtration: A physical process that involves passing water through a porous media or vegetation to separate larger solids from smaller solids and liquids.

Filtration BMPs: Stormwater management techniques that strain runoff and effectively trap debris and particulates to prevent them from washing downstream. Soil media and plant stems can be effective in removing trash, coarser particles, and pollutants from stormwater runoff.

Greenways: A corridor of undeveloped land, such as along a river or between urban centers, that is reserved for recreational use or environmental preservation.

Impervious surfaces: Usually artificial surfaces, such as pavement, sidewalks, or rooftops, that consist of a material impenetrable by water. Because of the lack of possible infiltration, such surfaces contribute to stormwater runoff.

Infiltration trench: A type of BMP that is used to manage stormwater runoff and improve water quality. It is a shallow excavation filled with gravel or crushed stone designed to store and infiltrate stormwater through soils for treatment before reaching groundwater.

Interception: The amount of rainfall that remains on pervious and impervious surfaces (leaves, topsoil, pavement, asphalt, and the like), including puddles, and does not infiltrate into the ground or become runoff. Rainfall that is intercepted often evaporates, infiltrates, or is transpired by plants.

Lane diet: Decreasing the width of a lane to reduce vehicle speeds and provide space for other uses.

Low impact development (LID): A land planning and engineering design approach to managing stormwater runoff. LID incorporates conservation design and the use of on-site natural features (evaporation, transpiration, and infiltration) to protect water quality and encourage implementation of engineered hydrologic controls to replicate the predevelopment hydrologic regime of natural watersheds.

Parklet: A parklet repurposes part of the street into a public space for people. Amenities may include seating, planting, bike parking, and art.

Permeable pavement: A stormwater management alternative to conventional concrete that allows water to infiltrate (through surfaces that would normally be impermeable) by replacing impervious areas with a permeable surface that contains media and storage under the surface to reduce pollutant loads and the volume of stormwater runoff.

Pollution prevention: An approach to reduce or eliminate a pollutant at the source of generation.

Rain barrel: A water storage tank used to collect and store rain water runoff, typically from rooftops via rain gutters. Rain barrels are typically less than 100 gallons.

Right of way (ROW): A right of way is an easement granted or reserved over land for transportation purposes. It is reserved for the purposes of maintenance or expansion of existing services.

Road Diet: A technique in transportation planning where the number of travel lanes and/or width of the road is reduced in order to improve safety or provide space for other modes of travel.

Sand filter: A treatment system that uses physical filtration to remove particles and solids from stormwater runoff. Generally suitable for places where vegetated BMPs are not practical.

Sedimentation: The physical process of particle separation as a result of the density differences between solids and water.

Silva cells: A modular suspended pavement system that uses soil volumes to support large tree growth and provide powerful on-site stormwater management through absorption, evapotranspiration, and interception.

Structural BMPs: Mitigative techniques implemented to remove or significantly reduce pollutants in stormwater runoff. They are designed to capture, infiltrate, filter, and treat stormwater runoff from a project or drainage. Structural BMPs might be required to achieve a level of control in terms of water quantity and quality.

Swale: A shallow trough-like depression that conveys stormwater mainly during rainstorms or snowmelts. Swales enhance both filtration and can be designed to increase infiltration of stormwater.

Topography: The description of the characteristics, features, and configurations of the physical terrain or land surfaces such as canyons, streams, and hillsides.

Vegetated filter strip: Vegetated surfaces designed to treat sheet flow from adjacent surfaces by slowing runoff velocities, filtering out sediment and other pollutants, and providing potential infiltration into underlying soils.

Urban forestry: All trees and vegetation in and around a town or city environment. An urban forest is an entire ecosystem that includes trees on both public and private property.

Water discharge: The amount of water and sediment flowing in a channel, expressed as volume per unit of time. The water contains both dissolved solids and suspended sediment.

Watershed resource management: The process of planning, distributing, and managing our water resources.

Urban
Community
Appreciate
Physical
Activity
Walk
Play
Schools
People
Pride
Comfort
Bike
Emotional
Forestry
Trees
Parks
Run
Transportation
Happy
Parents
Neighborhood
Heights
Streets
Destinations
Exposure
City
Value
Kids
Create
Give
Attractive
Reduce
Water
Forestry
Emotional



1 VISION

The City Heights Urban Greening Plan:

- Considers the character and history of City Heights
- Provides a connection between other community improvements
- Defines a Green Streets System
- Incorporates walking, bicycling, transit, and vehicular uses for City Heights
- Establishes street design and street tree guidelines for the Green Streets System
- Presents maintenance concepts and standards for the public landscape
- Establishes a process to help city and community decision-makers set implementation priorities

Streets represent the largest public space resource in City Heights. They take up more space than the City Heights canyons system, schools, and other public facilities combined. Streets are the connections to neighbors, paths to work, school, and play.

This Urban Greening Plan recognizes the importance of street design in providing connectivity for pedestrians, bicyclists, drivers, and transit riders. The plan highlights four design elements: Urban Forestry, Urban Runoff, Multi-Modal Connectivity, and Urban Open Space. These elements can be combined to create streets with comfortable, shaded walkways, efficient use of water, improved water quality, and connections for walking, biking, transit, and driving.

The purpose of this plan is to delineate how each of the four design elements can be incorporated into street design in City Heights. Although streets are intended to move traffic, they should also be efficient and attractive public spaces that positively impact the community and the environment.

WHY GREEN STREETS?

Streets are typically thought of as a route for vehicle traffic. The concept of a Green Street addresses the street as a public space that enhances multi-modal connectivity for pedestrians, bicyclists, transit riders, and motorists. In addition, a Green Street needs to address appearance and functionality through urban forestry, urban forestry, and urban open space design. With this comprehensive approach, Green Streets accomplish a number of positive outcomes including:

Improved Traffic Safety

Green Streets that have trees and are visually attractive can reduce stress on drivers, lower blood pressure, and decrease perceived travel times for motorists. Green Streets can potentially reduce the occurrence of road rage and help make an everyday drive more enjoyable.

Increased Property Values

Green Streets add urban green space, trees, and wildlife experiences to daily routines. Attractive streets enhance properties and increase residential and business property values. The overall pride and investment in properties is often improved when a community's streets look and function properly.

Upgraded Development

Green Streets encourage foot traffic and increase retail sales along commercial corridors. An attractive street environment encourages an upgraded quality for private developments, encourages higher value uses along the streets, and enhances business viability.

Better Image and Community Marketing

Green Streets can physically and visually connect the major destinations found within City Heights. This plan includes a street tree plan identifying streets that should receive specific theme trees to create a distinct character for each street. Street trees can aid in wayfinding and attractive public streets can create positive community image.

Increased Pedestrian and Bicycle Routes

This plan integrates the concept of "complete streets", designing streets for both motorized and non-motorized modes of transportation, into Green Street design. By providing safe environments for pedestrians and bicyclists, Green Streets encourage residents to walk and bike, ultimately helping to reduce air pollution, lowering vehicle miles traveled, and contributing to improved public health.

Better Stormwater and Urban Runoff Management

Tree canopies and landscaped areas can increase the permeability of street right-of-ways and prevent rainfall from becoming runoff. Green Streets reduce water velocity and water discharge in opens space areas, reduce the strain and cost to the storm drain, and ultimately help protect valuable surface and groundwater resources. Green Streets also help meet regulatory requirements for pollutant reduction and watershed resource management for the City of San Diego.

1.1 PURPOSE

This Urban Greening Plan establishes a system of Green Streets within City Heights based on surrounding land use, traffic intensity, and function of the streets. Additionally, the plan provides recommendations on how to successfully implement and maintain these Green Streets. Major themes of this plan are to:

- Connect community destinations through safe walking, biking, and transit access
- Unify streetscape design and improve the function, aesthetics, and sustainability of City Heights’ streets
- Create an urban forest through expanded parkways, trees in tree grates, and trees in bulbouts
- Reduce speeding and enhance bicyclist and pedestrian safety through traffic calming
- Reduce water discharge into the storm drain system and erosion of canyons.
- Incorporate permeability into hardscape areas
- Maximize and optimize pedestrian walking areas
- Incorporate pedestrian and bicycle facilities such as raised crossings, speed tables, and clearly identified bike routes
- Identify opportunities for urban open space such as the temporary use of the parking lane for restaurant seating or landscape planters and parklets
- Create public space by reclaiming excess street width

The plan aligns with the City of San Diego General Plan, Mid-City Community Plan, City of San Diego Street Design Manual, Street Tree Selection Guide, and Climate Action Plan. In addition, this plan considers the ongoing works of multiple community organizations in City Heights who are also advocating for a more sustainable City Heights, healthy kids, green energy, and jobs.

City Heights has evolved into a diverse community that has experienced the cumulative impacts of environmental, social, political, and economic vulnerabilities that affect quality of life and the built environment. This plan addresses the challenges to the built environment.

This plan is organized into the following chapters:

- Chapter 1:* Vision
- Chapter 2:* Design Elements
- Chapter 3:* Green Streets
- Chapter 4:* Street Design Toolbox
- Chapter 5:* Pilot Projects
- Chapter 6:* Street Tree Plan
- Chapter 7:* Implementation Strategies



Figure 1-1: Commonly traveled commercial routes
 Figures 1-1 to 1-4 reflect community input from workshops. This input helped to inform subsequent chapters.

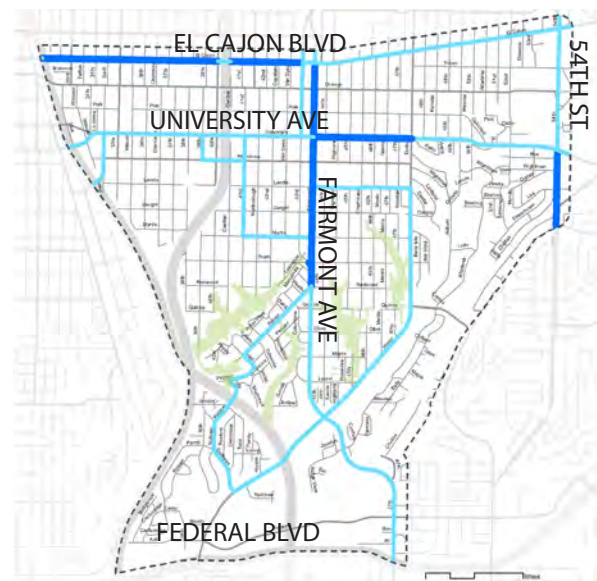


Figure 1-2: Commonly traveled transit routes

1.2 MID-CITY COMMUNITY PLAN VISION

City Heights is currently part of the larger planning area of Mid-City. The Mid-City Community Plan includes the communities of Normal Heights, Kensington-Talmadge, Eastern Area, and City Heights. This plan focuses solely on the City Heights community, but does incorporate regional bike and transit planning. The Mid-City Community Plan established the following vision statement for City Heights.

Our vision is for the re-establishment of a deep-rooted community, one that attracts new residents and whose inhabitants are planning to stay. We envision a stable community close to everything within San Diego's urban core that offers a high quality of life and is characterized by the following:

- *Neighborhoods that recognize, maintain, and enhance their unique identity and provide an excellent environment for family living*
- *A community, in partnership with local government and surrounding communities, that sees its physical, economic, and social evolution as a continuing process of planning and development activity oversight that endures beyond the completion of this planning stage*
- *An integrated open space system of natural canyons, park grounds, urban plazas, and landscaped streets*
- *Preserved environmental, cultural, and historic resources*
- *First class schools, educational and recreational facilities*
- *Vital commercial, business, and employment centers*
- *A functioning transportation system that connects to the larger regional system and features landscaped streets, fixed rail, electric buses and trolleys, and intra-community shuttles*
- *Streets, businesses, and public gathering spaces that promote interaction among residents of Mid-City and that will draw people from elsewhere to discover Mid-City*



Figure 1-3: Commonly traveled pedestrian routes

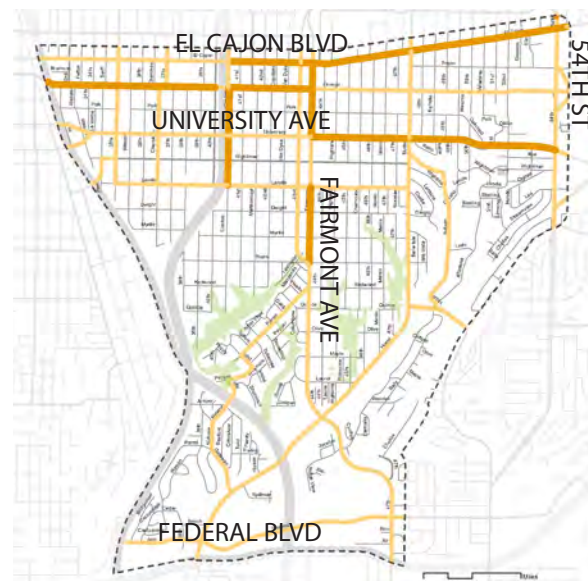


Figure 1-4: Commonly traveled bike routes

1.3 STUDY AREA

City Heights is one of the oldest communities in San Diego. Today, City Heights is a large, dense, and ethnically diverse community that has a high concentration of retail outlets, restaurants, and other examples of self-employment resulting from the Hispanic, Somali, Cambodian, Vietnamese, and Ethiopian immigrant communities. The concentration of ethnic diversity and growth has been so strong that El Cajon Boulevard has been designated specifically for a commercial district and international marketplace that highlights these cultures (Mid-City Community Plan).

City Heights is a walkable neighborhood with many community destinations, but it faces walking, biking, and accessible transit challenges and safety concerns due to the presence of the canyons that are spread throughout the community. When compared to other San Diego communities, City Heights has a higher rate of transit and pedestrian activity. This is one of the key reasons why an emphasis has been placed on improving the physical walking, biking, and transit environment. Creating more attractive streets and safer access also reduces air pollution and has many social and physical health benefits.

This Urban Greening Plan will result in physical changes to City Heights that will improve air quality, water quality, safety, energy savings, walkability, bikeability, and enhance the social, economic and physical opportunities of the community and its residents.

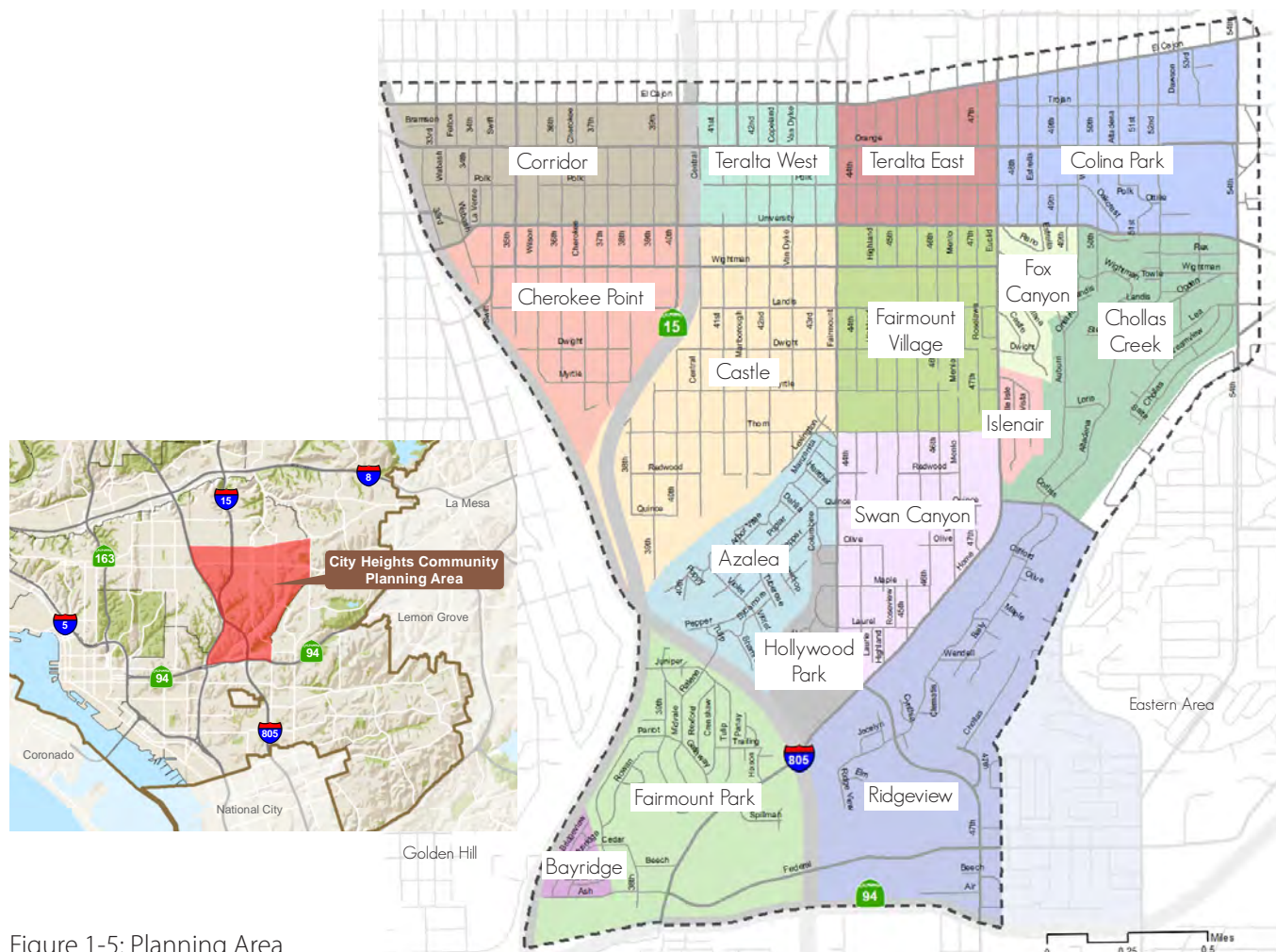


Figure 1-5: Planning Area

1.4 PREVIOUS PLANNING EFFORTS

This Urban Greening Plan considers policies and planning efforts that reflect the community's values. Since 1995, there have been at least 35 projects within the City Heights Planning Area aimed at revitalizing and strengthening the community. Below is a summary of planning efforts and the initiating agency or organization.

1995	FaceLift CHCDC	2010	Redevelopment Implementation Plan La Maestra Community Health Centers Redevelopment Agency
1998	Mid-City Heights Community Plan (MCHCP) City of San Diego		City Heights Safe Routes to School CHCDC
	Mid-City Public Facilities Financing Plan City of San Diego		Building Healthy Communities Survey California Endowment
2000	Euclid Ave. Revitalization Action Plan City of San Diego	2011	Mixed use project - Price Charities (Part of City Heights Square Project) Redevelopment Agency
2002	Azalea Park-Hollywood Park Revitalization Action Program City of San Diego		Swan Canyon Restoration Project (Provided funding) Redevelopment Agency
	Regional Transportation Center (RTC) Redevelopment Agency		Colina Park Upgrades Redevelopment Agency
	Chollas Creek Enhancement Program City of San Diego		Mid-City SR-15 Bus Rapid Transit Station Area Planning Study SANDAG
	City Heights Urban Village Master Plan Redevelopment Agency		CPTED Initiative - 44th Street Plaza, Fairmount Village, Monroe Clark Middle School - Community
2003	Mid-City Heights CP Amendment City of San Diego		Health Equity by Design CHCDC, IRC, Proyectco, San Diego County
2004	Metro Career Center & Villas Redevelopment Agency		SANDAG Regional Transportation Plan SANDAG
2006	Talmadge Senior Village Redevelopment Agency	2012	Full Access Community Transport System (FACTS) Project CHCDC
	Extension of Plan Effectiveness for City Heights Redevelopment Area Redevelopment Agency	2013	Little Saigon District The Boulevard
2007	Auburn Apartments Redevelopment Agency	2014	Mid-City SR-15 Bus Rapid Transit (BRT) Station Area Planning & Design SANDAG
	City Heights Square Senior Housing (Part of City Heights Square Project) Redevelopment Agency		City Heights Canyons Restoration, Cleanup, & Trail Design SD Canyonlands
2008	San Diego Pedestrian Master Plan - City Heights Pedestrian Audit City of San Diego		Walk & Shop Program CHCDC
	San Diego General Plan City of San Diego		Central Avenue Park Plan Mid City Skate Park Advocates
2009	Redevelopment Implementation Plan Redevelopment Agency		Mid-City Regional Bike Corridors Project - SANDAG
	Colina Park Quality of Life Report LISC San Diego		
	SANDAG Design for Smart Growth guidelines SANDAG		





2 DESIGN ELEMENTS

Design elements seek to enhance key community corridors and destinations in order to establish an overall character and identity for City Heights. This section:

- Discusses the benefits of urban forestry
- Highlights opportunities to integrate urban runoff into street design
- Provides visual examples of how multi-modal connectivity can add functionality to a street
- Identifies strategies for incorporating new urban open space into existing public right-of-ways
- Provides recommendations for street lighting
- Defines “Greening” space versus a “Green Street”

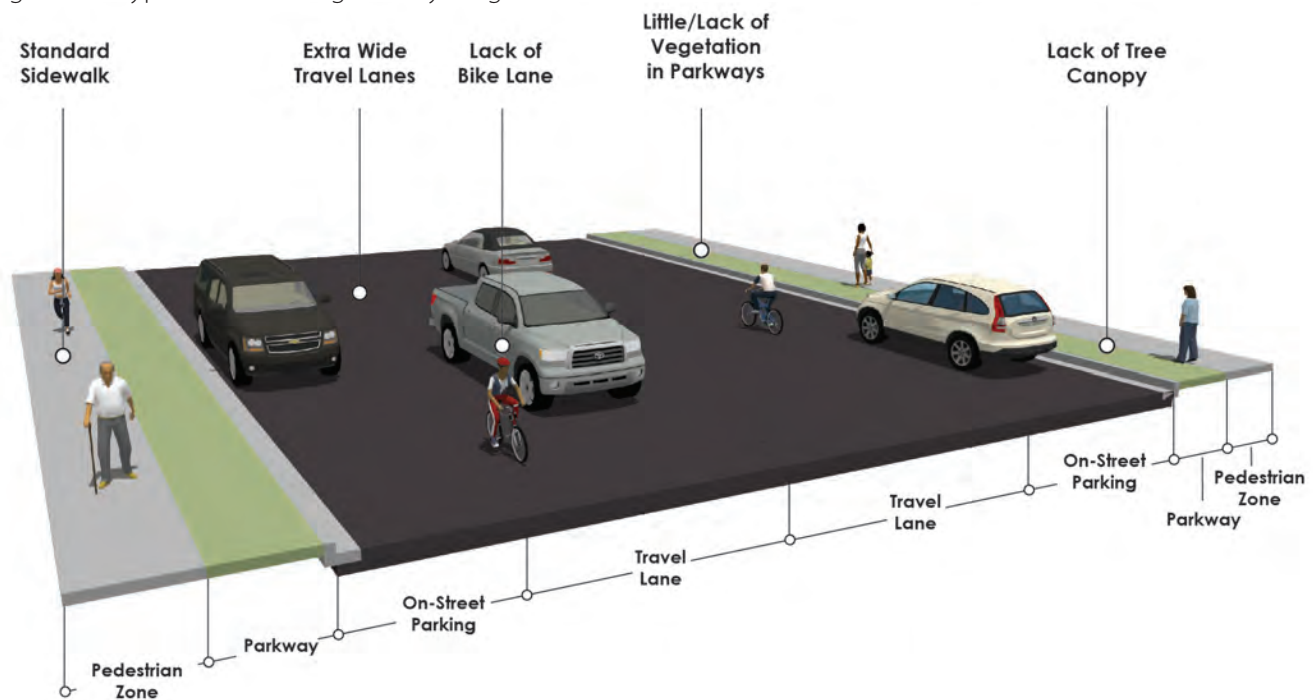
2.1 PUBLIC REALM

The urban greening plan categorizes recommendations into four elements: urban forestry, urban runoff, multi-modal connectivity, and urban open space. This chapter discusses the importance of these four design elements and key design strategies necessary for creating Green Streets. Chapters 3 and 4 identify specific design strategies and where these strategies can be applied within the public realm.

The public realm includes two areas: the pedestrian zone and multi-modal zone as seen in Figure 2-1. Although street design is commonly considered only what is occurring between two curb widths, it actually includes design considerations for the sidewalk and parkway that make up the pedestrian zone. Safety and quality of life in a community is tied to good design of the public realm.

“A Green Street addresses the needs of pedestrians, bicyclists, transit, street trees, urban runoff management, utilities, livability, vehicular circulation, and parking.”

Figure 2-1: Typical Street Design in City Heights



Pedestrian Zone: It is the pedestrian’s primary street experience.

The Multi-Modal Zone: The area shown above is commonly called the Street. It refers to the curb to curb width. The Multi-modal zone includes on-street parking, bike routes or lanes, vehicle travel lanes, medians, and intersection treatments such as crosswalks.

2.2 DESIGN ELEMENTS

The four design elements focus on the following topics.

Urban Forestry: Increasing the quantity and quality of plants and trees to provide a variety of benefits, including shade and improved air quality.

Urban Runoff: Increasing permeable areas that can increase water filtering and absorption.

Multi-Modal Connectivity: Connecting bicycle and pedestrian facilities throughout City Heights and the region.

Urban Open Space: Integrating parks and parklets into new streets.

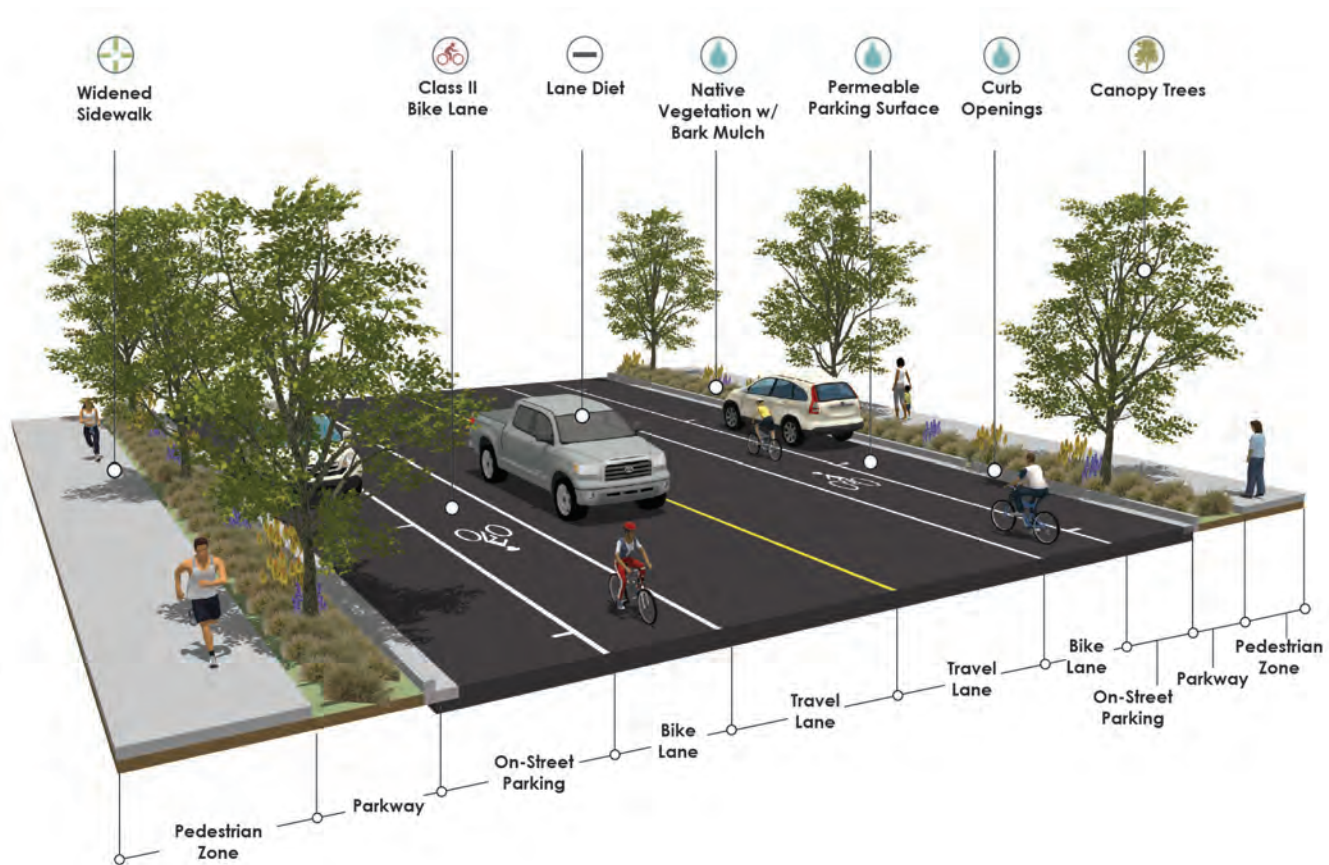
Green Street design brings these four elements together to transform auto-oriented thoroughfares into attractive multi-modal public spaces.

Figure 2-1 shows a typical street condition in City Heights. The streets are older and were not designed for pedestrian or bicycle access. The streets in City Heights often have non-ADA compliant sidewalks, concreted parkways, numerous sidewalk interruptions from driveways, and oversized vehicular travel lanes with no intentional bicycle access.

In contrast, Figure 2-2 shows a Green Street Design that brings the four elements of this plan together in the public realm. The trees and plants of urban forestry work together with the surface drainage and swales of urban runoff which in turn provide additional street capacity for bicycles in the street and pedestrians on the sidewalk or linear park space.

Although each design element is discussed separately in this chapter, these elements should work together for optimum performance. Chapters 3 and 4 identify specific design strategies and ways to combine these elements to provide an integrated street design.

Figure 2-2: Preferred Green Street Design



2.3 URBAN FORESTRY

This plan focuses on increasing the number of trees to create a canopy that will maximize the positive benefits of urban forestry. Urban forestry can:

- Reduce stormwater flooding
- Protect people from rain, sun, and heat
- Reduce traffic speeds
- Improve overall emotional and psychological health
- Connect human senses to nature
- Create safer walking environments
- Screen unattractive street features
- Increase security
- Increase street character through regular spaced trees and consistent species selection
- Improve business opportunities
- Add value to homes and businesses
- Reduce exposure to harmful exhaust fumes
- Lower ozone creation
- Lower urban air temperatures
- Lower energy costs for residents and businesses
- Increase pavement life
- Increase nursery production and tree planting job opportunities



The images above show a contrast of how the street tree species selection can make a significant difference in the amount of shade produced.



The image above shows Fern Street in Golden Hill and highlights how street trees can contribute to the character of a street.

Primary Goal: Increase the street tree canopy of City Heights.

Secondary Goal: Improve the character of retail districts and enhance shading along primary routes of travel.

Action 1: Increase the number of trees in City Heights by 250 trees per year. This represents a 5% increase in the total number of trees.

Action 2: Establish a street tree plan to encourage a positive street character and neighborhood identity.

Action 3: Eliminate invasive species that pose a threat to the canyons of City Heights.

Framework for Selecting Trees in City Heights

Street trees give each street a distinct identity as well as provide mental and physical health benefits and positive environmental conditions. The framework for selecting street trees includes the following qualities:

- Drought and heat tolerance
- Minimal allergy problems (pollen production)
- Native to California or adopted to this region
- Minimal root damage potential
- Long life span
- Good branch strength and structure
- No major insect/disease problems
- Low maintenance
- Shading potential
- Low amount of natural hydrocarbon production
- No messy fruit/other plant parts
- Colorful, attractive flowers

Street Tree Master Plan Summary

The street tree master plan discusses four specific focus areas. Please see Chapter 6 for the detailed street tree master plan and to get additional information.

Community Corridors

- Streets that are well traveled and have been identified as major thoroughfares
- Streets that should have consistent character due to their high visibility and importance as a connection to City Height's destinations

Residential Corridors

- Select streets that have been identified through the public outreach process as critical streets that provide access and connectivity throughout City Heights for residents and visitors

Landscape District 1: Local Streets

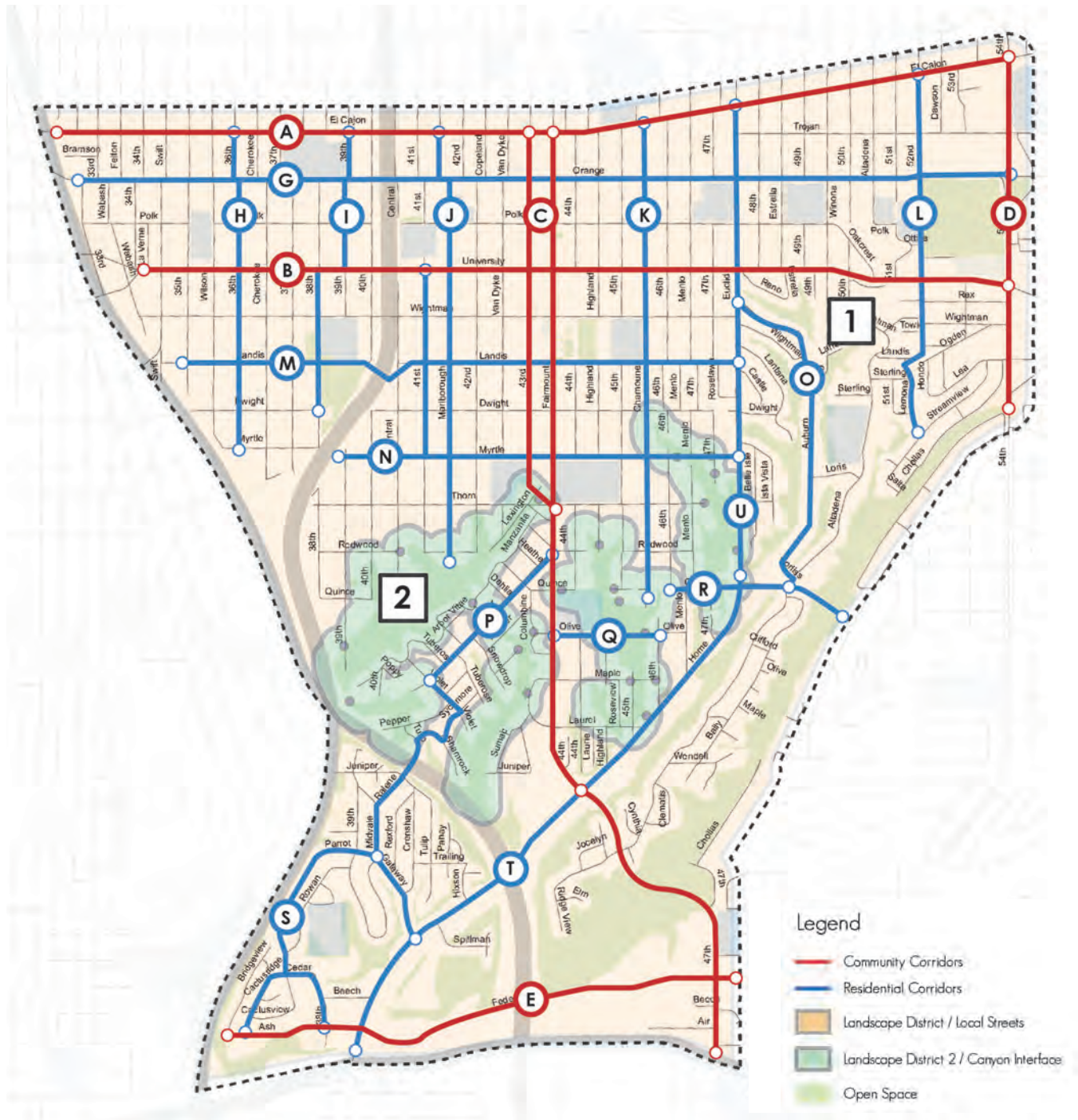
- All local streets as identified by the Mid-City Community Plan and the City of San Diego Street Design Manual
- Streets found most commonly throughout City Heights
- No particular dominant species or theme tree is required - any recommended species can be established for a particular block or neighborhood street or area

Landscape District 2: Canyon Interface

- Streets within 200 feet of the canyon edge
- Streets have a specific palette due to the sensitivity of the canyons from seeds and potentially invasive roots
- Streets should be sensitive of the impact to the canyon when considering street trees

DESIGN ELEMENTS

Figure 2-3: Street Tree Framework



Landscape Districts

1	Local Streets	All species listed on page 104 are preferred species		
2	Canyon Interface	Arbutus 'Marina'	Marina Strawberry Tree	Theme
		Platanus racemosa	California Sycamore	Theme
		Quercus agrifolia	Coast live Oak	Theme
		Heteromeles arbutifolia	California Toyon	Accent

CITY HEIGHTS URBAN GREENING PLAN

Figure 2-4: Street Tree Palette

Map Key	Community Corridor	Botanical Name	Common Name	Category	
A	El Cajon Boulevard	Lophostemon confertus	Brisbane Box	Theme	
		Jacaranda mimosifolia	Jacaranda	Accent	
B	University Avenue	Koelreuteria bipinatta	Chinese Flame Tree	Theme	
		Afrocarpus gracilior	African Fern Pine	Theme	
		Jacaranda mimosifolia	Jacaranda	Accent	
C	43rd Street and Fairmount Avenue	Afrocarpus gracilior	African Fern Pine	Theme	
		Arbutus 'Marina'	Marina Madrone	Theme	
D	54th Street	Geijera parvifolia	Australian Willow	Theme	
		Ulmus parvifolia	Chinese Elm	Theme	
E	Federal Boulevard	Plantanus acerifolia 'Bloodgood'	London Plane	Theme	
		Quercus agrifolia	Coast Live Oak	Theme	
G	Orange Avenue	Any of These Trees Can Be Used	Cassia leptophylla	Gold Medallion tree	Theme
H	36th Street		Fraxinus oxycarpa	Raywood Ash	Theme
I	38th / 39 Street		Melaleuca linarifolia	Flaxleaf Paperbark	Theme
J	Marlborough Street		Pinus canariensis	Canary Island Pine	Theme
K	Chamoune Avenue		Pistachia chinensis	Chinese Pistache	Theme
L	52nd Street		Podocarpus macrophyllus	Yew Pine	Theme
M	Landis Street		Tipuanu tipu	Tipu Tree	Theme
N	Myrtle Avenue		Bauhinia purpurea	Purple Orchid Tree	Accent
O	Wightman Street		Cupaniopsis anacardioides	Carrotwood	Accent
P	Olive Avenue		Koelreuteria paniculata	Golden Rain Tree	Accent
Q	Quince Street		Lagerstroemia indica	Crape Myrtle	Accent
R	Poplar Street		Magnolia grandiflora	St. Mary's Magnolia	Accent
S	Parrot Street		Pyrus calleryana	Bradford Pear	Accent
T	Home Avenue		Platanus racemosa	California Sycamore	Theme
U	Euclid Avenue	Quercus agrifolia	Coast live oak	Theme	

2.4 URBAN RUNOFF

In San Diego, runoff can flow untreated to San Diego Bay, Mission Bay, and the Pacific Ocean. Unfortunately, water flowing on the surface of a street can pick up trash, oil, chemicals, and other contaminants. This contaminated water is called urban runoff and is considered the biggest contributor to coastal water pollution. Urban runoff can result in beach closures and drinking water contamination, putting our health and the integrity of our natural resources at risk. Low impact design (LID) strategies can help mitigate urban runoff by slowing, filtering, and absorbing runoff into planting areas and hardscape surfaces. Implementing LID strategies can:

- Reduce the amount of sediment, metals, oil, fertilizers, and pesticides reaching the coastal waters of San Diego
- Filter contaminants and pollutants
- Provide an additional water source that does not increase demand on potable water
- Slow runoff
- Minimize erosion and sedimentation within the canyons
- Lead to healthier and cleaner canyons, Chollas Creek, and San Diego Bay



Shallow infiltration strategy in parking lot



Green wall with public plaza

Primary Goal: Maximize the capture of urban runoff and reuse of runoff water resources for supplemental watering of trees and plants.

Secondary Goal: Improve water quality by filtering urban runoff through the roots and soil of planting zones and street infrastructure.

Action 1: Increase on-street runoff capture areas to reduce flooding conditions in City Heights.

Action 2: Incorporate stormwater filtration into all street designs, and encourage the retention of runoff within soil in the street tree root zone when feasible.

Action 3: Develop strategic ways that erosion control measures can be incorporated near the canyons.

Low Impact Development (LID) Strategies

The following three LID strategies can be used alone or in conjunction with each other to mitigate urban runoff: bio-filtration, vegetated swales, and energy dissipation.

LID concepts shown throughout this plan may need to be altered in response to site conditions and other practical constraints during implementation. Conditions that need to be addressed include:

- Compatibility with existing soils and geologic conditions
- Compatibility with existing practices for operating and maintaining improvements in the street right-of-way
- Accommodation of above and below grade utilities and amenities, including future needs
- Accommodating pedestrian connections between street parking and sidewalk

Bio-Filtration Strategies: Focus on using tree wells and planted parkway strips as zones to absorb urban runoff, filter it through the soil, and allow excess water to flow into a sub-drain connecting to the larger storm drain system. These strategies can be implemented wherever storm drain connections are available.

Vegetated Swales Strategies: These are similar to shallow infiltration strategies, but they don't have a sub-drain that connects to the storm drain system. They often have less soil volume designed to capture runoff and are instead designed to fill to capacity and allow runoff to continue to flow through the area.

Energy Dissipation Strategies: Energy dissipation strategies should be included at outfalls within 100 feet of canyons edges. This reduces the speed of runoff so that it does not cause erosion further downstream. These areas include planting areas designed to capture some runoff, but their primary focus is on slowing it down and reducing its erosive energy.



Shallow infiltration strategy



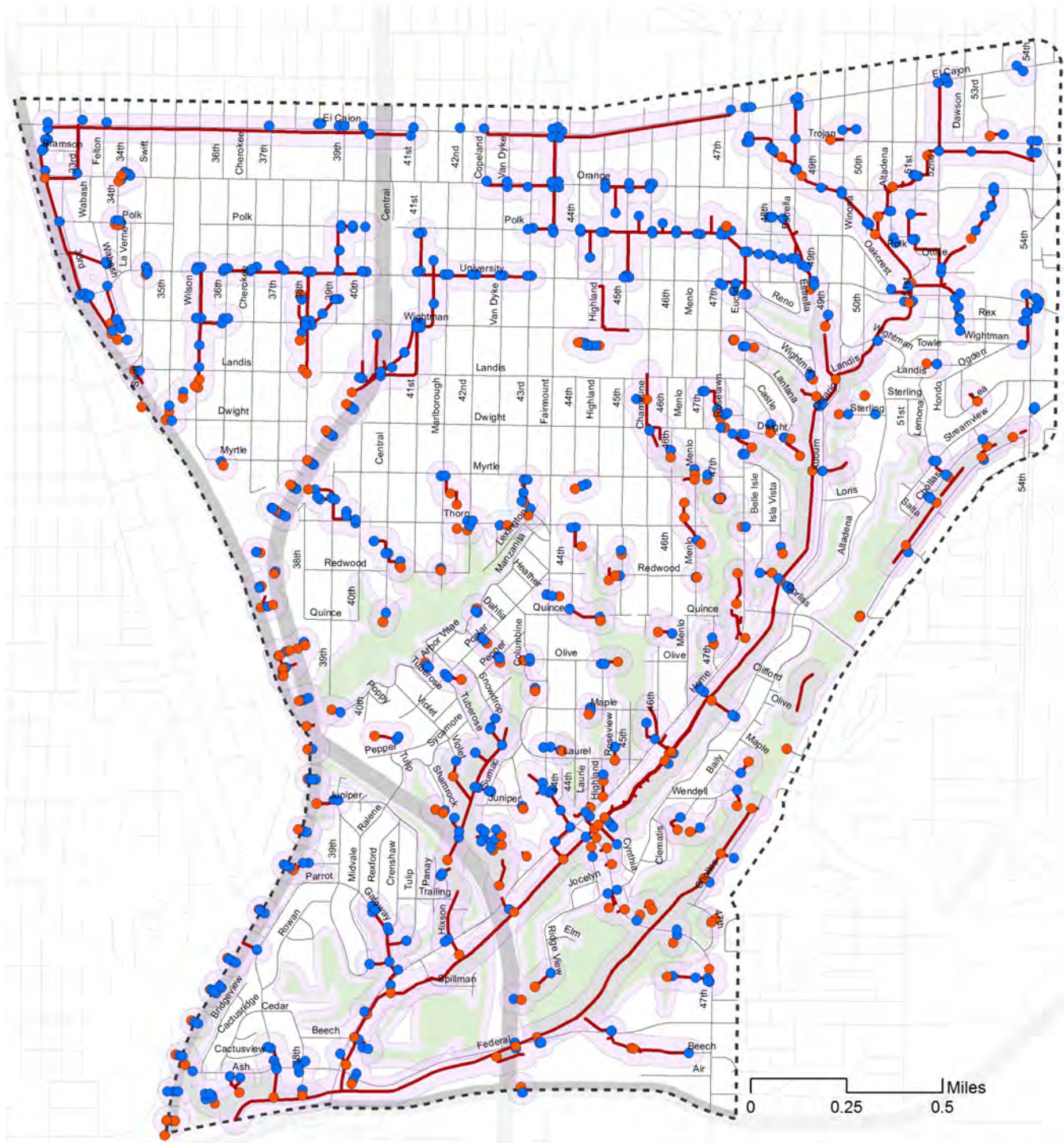
Vegetated swales strategy



Energy dissipation strategy

DESIGN ELEMENTS

Figure 2-5: Targeted LID Areas

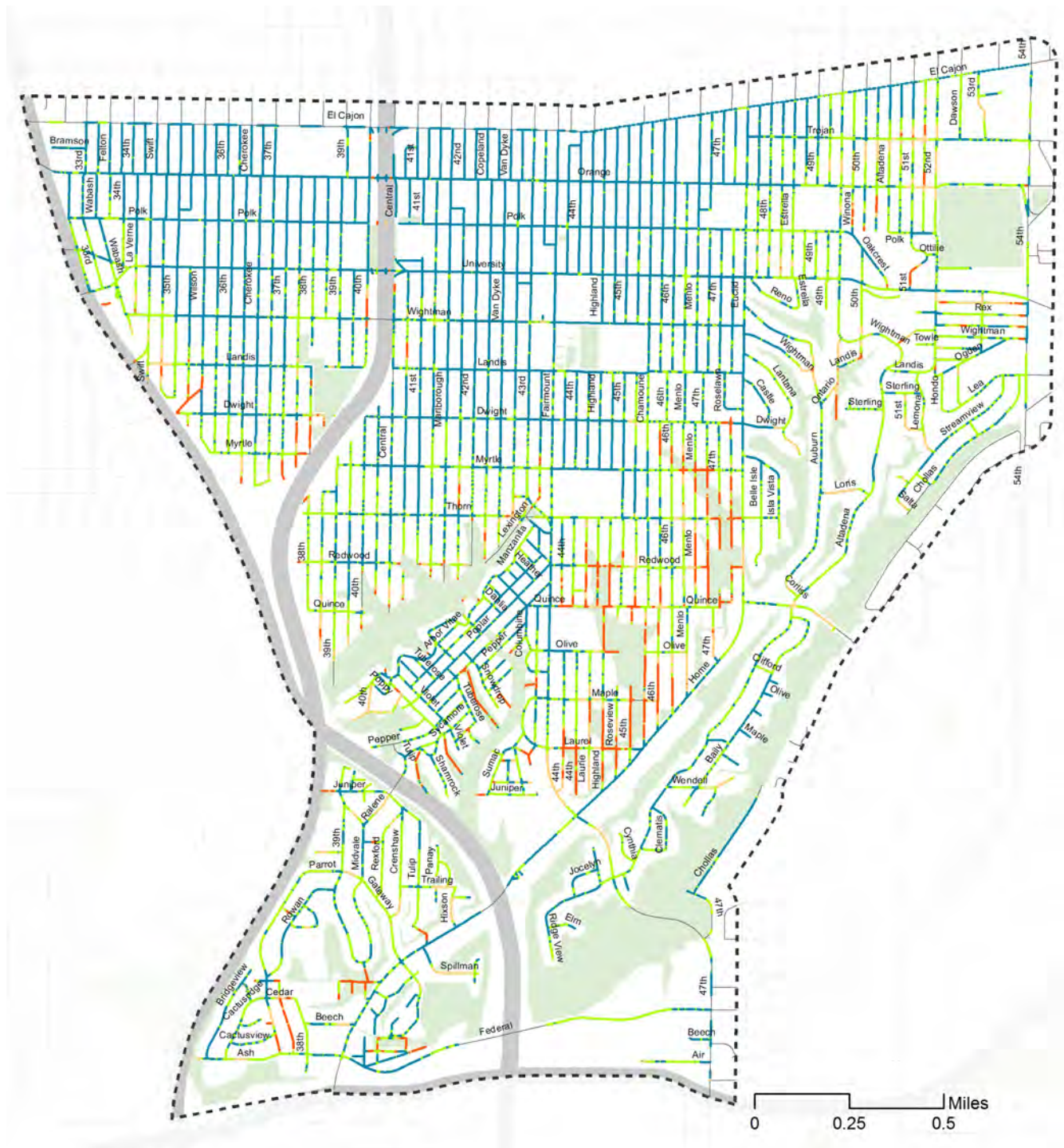


- Legend**
- Drainage Conveyance
 - Drainage Inlet
 - Drainage Outlet
 - LID Focus Area
 - Canyons

Figure 2-5 and 2-6 identify target areas in City Heights that are particularly sensitive to runoff. Figure 2-5 highlights the drainage infrastructure. Figure 2-6 shows how the streets slope in City Heights and the estimated vertical change.

Based on drainage areas, slope analysis, and drainage facilities, the areas highlighted in pink in Figure 2-5 are particularly sensitive to urban runoff and must incorporate LID strategies into the street design.

Figure 2-6: Slope Study



Legend

- Streets with 0-3% Slope- Bio-filtration Strategies Recommended
- Streets with 3-10% Slope- Vegetated Swales Strategies Recommended
- Streets with 10-20% Slope- Energy Dissipation Strategies Recommended
- Streets with 20% Slope and Greater- Too Steep for BMP Strategies

Figure 2-6 provides recommendations on which LID strategies should be implemented in specific areas.

- Streets within 100 feet of storm drain inlet - bio-filtration mandatory
- At storm drain outlets - energy dissipation strategies recommended
- Streets within 100 feet of canyon edge - energy dissipation strategies recommended

2.5 MULTI-MODAL CONNECTIVITY

The need for a roadway system that supports choices to walk, bike, or use transit is especially important in City Heights due to the low rate of private vehicle ownership. The term multi-modal connectivity or “complete streets” refers to the method of street design that addresses all users and modes. This design element builds on San Diego’s Street Design Manual to offer quality transportation choices for residents, businesses, and the general public. Complete streets can:

- Offer transportation choices for all ages and users
- Reduce pollution through lower emissions including runoff capture strategies and urban forestry
- Create a more attractive street environment that brings people together in neighborhood streets
- Encourage physical activity opportunities
- Use the entire right-of-way to increase street capacity and provide safe and easily navigable streets
- Make streets easier to cross and walk/bike to community destinations
- Improve safety and social health of residents by reducing social isolation
- Reduce the number of accidents by slowing cars down when necessary and improving visibility
- Give control of expenses back to people by providing options for modes of transportation



Bike lane next to vehicle lane



Example of a “complete street”

Primary Goal: Increase walking, bicycling, and transit use through physical street changes incorporating the elements of complete street design.

Secondary Goal: Create safe physical and social connections by incorporating lighting and signage.

Action 1: Establish a guide for pedestrian focused street design.

Action 2: Establish a guide for bicycle focused street design.

Action 3: Establish a safe routes plan that builds on Circulate San Diego’s safe routes to schools, but also adds safe routes to businesses, employment centers, parks, and transit.

CITY HEIGHTS URBAN GREENING PLAN

Figure 2-7: Bicycle Facilities

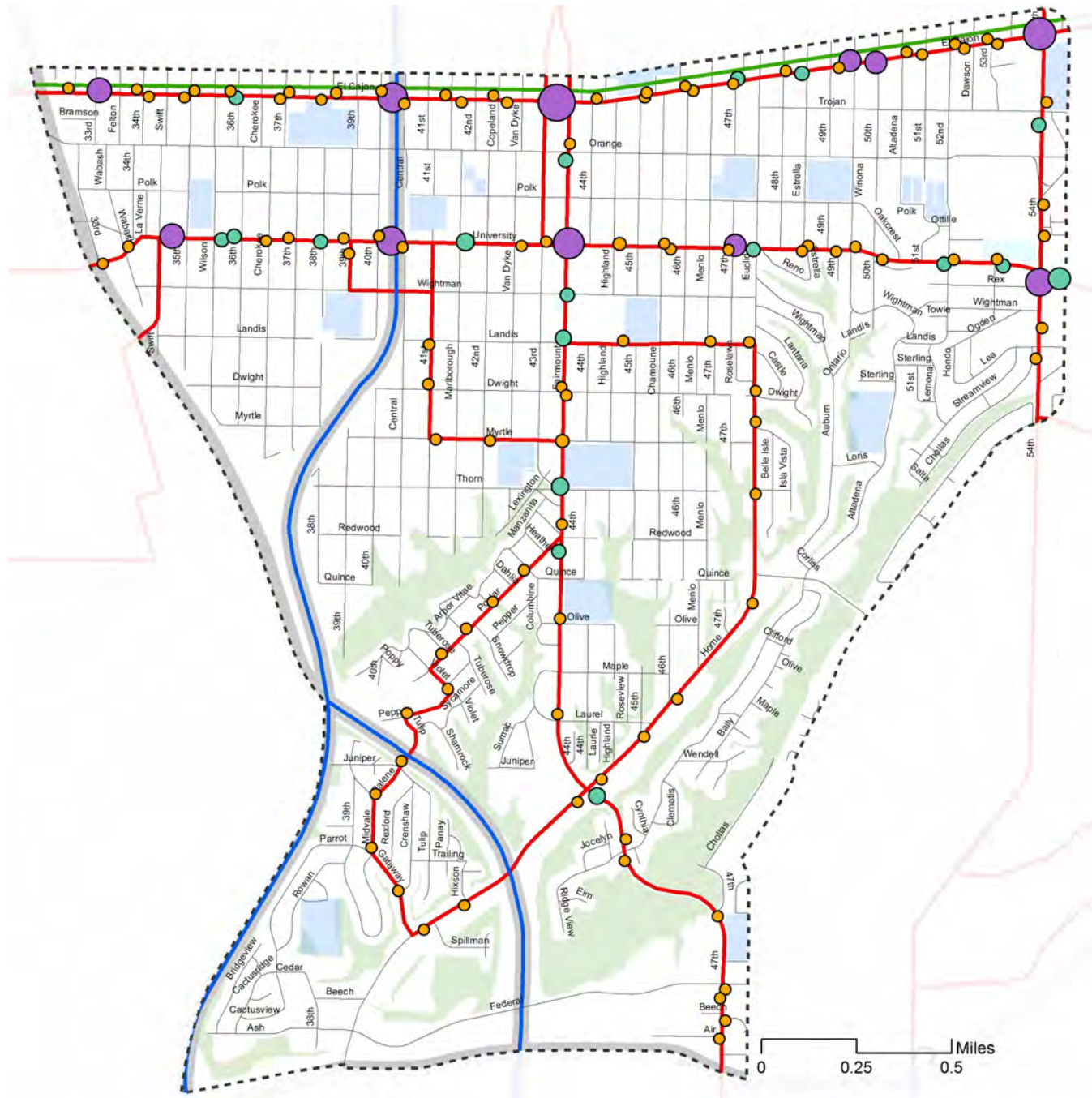
Figure 2-8: The map highlights the bike routes in City Heights. Two key regional SANDAG bike routes are Orange Boulevard and 43rd St and Fairmount Ave. These two routes connect City Heights to adjacent neighborhoods.



DESIGN ELEMENTS

Figure 2-9: MTS Transit Routes

Figure 2-10: The map below highlights the MTS transit routes in City Heights. The circles also indicate transit ridership in City Heights based on a 2011 survey.



Legend

Public Transit Routes

- MTS BRT Bus
- MTS Express Bus
- MTS Local Bus

Total Transit Ridership (2011)

- < 100
- 100-300
- > 300

2.6 WARRANTS ANALYSIS

Installing a new signal or making a change to a street environment can be an involved process. The California Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) gives guidance on how traffic changes can be made. Per the MUTCD, the City of San Diego requires a warrants analysis in order to install a new intersection signal or pedestrian signal.

There are ten different kinds of analysis that must be performed in order to verify a need for a new traffic signal. In addition, to these warrants, there are design parameters that need to be met according to the MUTCD. For any recommendations in pilot projects, additional analysis is required to move forward from conceptual design.

Warrant 1, Eight-Hour Vehicular Volume

This warrant mandates that a traffic control signal should be considered if certain conditions exist during an 8 hour period on an average day.

Warrant 2, Four-Hour Vehicular Volume

This warrant mandates that a traffic control signal should be considered if vehicles per hour counts fall above a certain standard during a four hour period on an average day.

Warrant 3, Peak Hour

This warrant mandates a traffic control signal should be considered if for a minimum of 1 hour of an average day, the street traffic on a minor street is negatively impacted by the movements on a major street.

Warrant 4, Pedestrian Volume

This warrant mandates a traffic control signal should be considered if pedestrians experience excessive delays as a result of traffic volumes.

Warrant 5, School Crossing

This warrant mandates a school crossing signal should be considered if a major street is in an area where school children cross a major street.

Warrant 6, Coordinated Signal System

This warrant mandates a coordinated signal system be installed in order to maintain proper vehicle movement in one way street areas or where adjacent traffic signals require a coordinated approach.

Warrant 7, Crash Experience

This warrant mandates a traffic control signal should be considered for areas that experience severe and frequent crashes.

Warrant 8, Roadway Network

This warrant mandates a traffic control signal should be considered in order to encourage concentration and organization of traffic flow on a roadway network.

Criterion for School Crossing Traffic Signals

For intersections near schools, a school crossing signal needs to be designed for full time operation. Pedestrian signal faces shall be installed at all marked crosswalks with the safe routes to school signage. In addition, the entire intersection shall be signalized and pedestrian push buttons or detectors must be incorporated.

Bicycle Signal Warrant

A bicycle signal should be considered when certain volume and collision frequencies have been met. A bicycle signal is only considered at an intersection when the signalized phase is for bicycles only. This warrant is not needed for standard bike sensitive detector loops for signal phasing.

2.7 URBAN OPEN SPACE

Open spaces can include small parks, plazas, canyons, and many other types of public spaces. The open space design element identifies opportunities for increasing open space or parks by reclaiming excess space in existing right-of-ways and other publicly owned land. Open space, parks, and recreation can:

- Improve physical health with increased use of parks and frequency of exercise
- Improve psychological health through exposure to nature and greenery
- Improve emotional health through increased opportunities for social interaction and reduced social isolation
- Strengthen communities and make neighborhoods more attractive places to live and work
- Increase the value of residential property
- Increase the value of commercial property and increase revenues
- Incorporate urban forestry and plantings for environmental benefits
- Capture and manage urban runoff and reduce stress on the drainage system
- Provide opportunities for community gardens

Like many neighborhoods in San Diego, City Heights faces a shortage of usable park space. City Heights has a total of 122.8 acres of usable park space. According to the Mid-City Community Plan, City Heights should have a total of 215.97 acres of park space, resulting in a deficit of 93.17 acres.

Urban Open Space Opportunities

The canyons and parks in City Heights are shown in Figure 2-9. Canyons are an important natural open space resource, but it is important to incorporate other forms of open space into street design. Several of these opportunities are listed below.

Canyons: Canyons provide passive recreation in an ecologically sensitive area of City Heights. They also provide an opportunity for environmental-based education. Canyons are an important natural resource, but some are in need of restoration. Others need both visual and physical access improvements for resident use. San Diego Canyonlands has been working in City Heights on a trail system, the Canyons Loop Trail, that connects all four canyons: Manzanita, Chollas Parkway, 47th St., and Swan.

Parklets: Parklets serve as permanent or temporary urban parks that provide the opportunity to integrate outdoor seating, greens space, or extended sidewalks into a street parking spaces. Figure 2-9 identifies streets that have excess width and could be reconfigured to add a parklet.

Potential parklet locations are identified in Figure 2-10. These identified areas could require parcel acquisition but would require additional design. However, the locations and sizes are possible for a community organization to undertake as a park opportunity.

Primary Goal: Connect the community with its open spaces and parks by well lit, safe and connected walkways, green corridors and bike facilities.

Secondary Goal: Allow, where appropriate, access and connections through open space and provide for nature appreciation and environmental education.

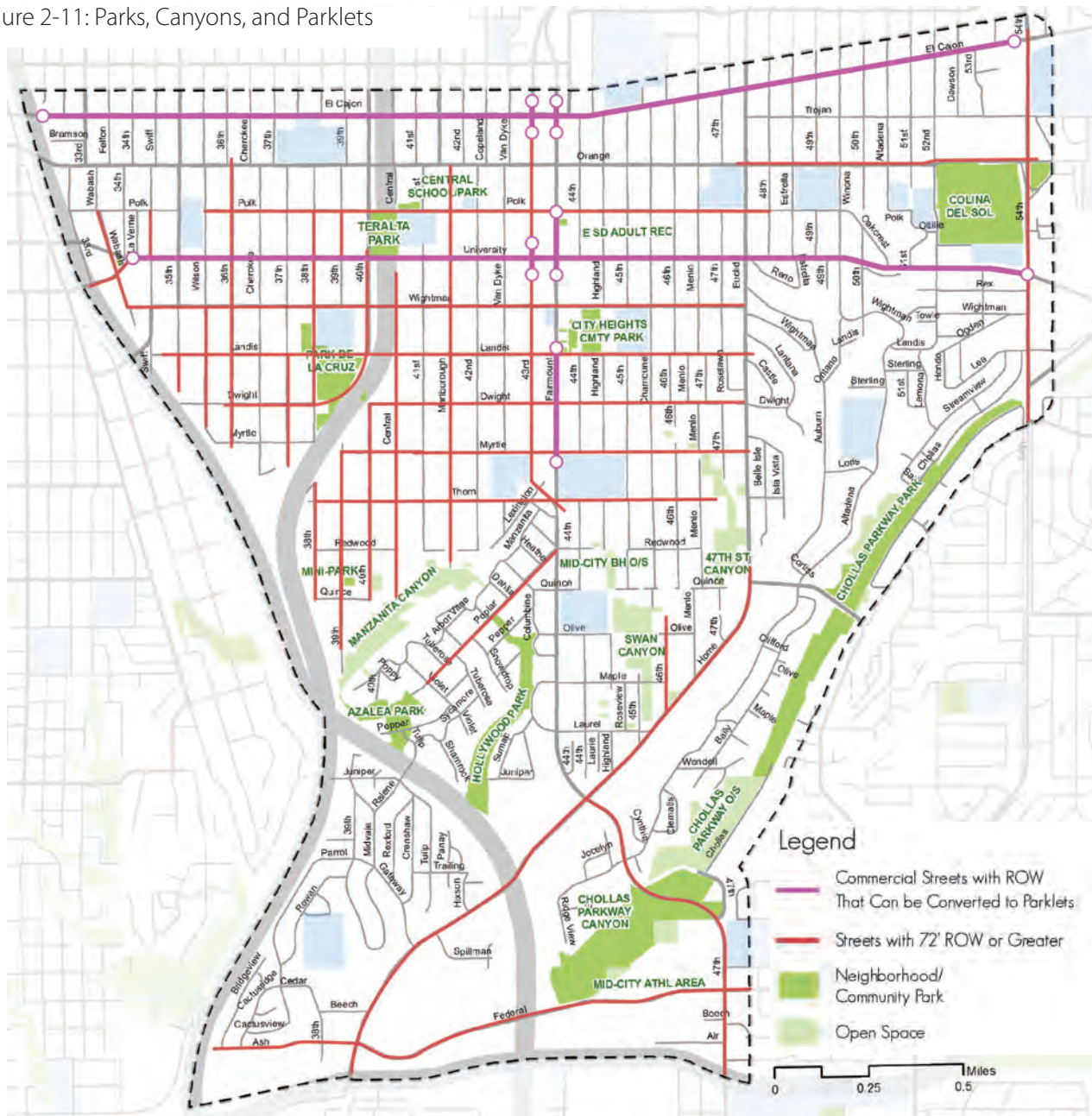
Action 1: Identify opportunities for new linear public spaces and parklets.

Action 2: Identify linkages between open space, parks and the broader community.

Action 3: Identify opportunities for urban agriculture.

CITY HEIGHTS URBAN GREENING PLAN

Figure 2-11: Parks, Canyons, and Parklets



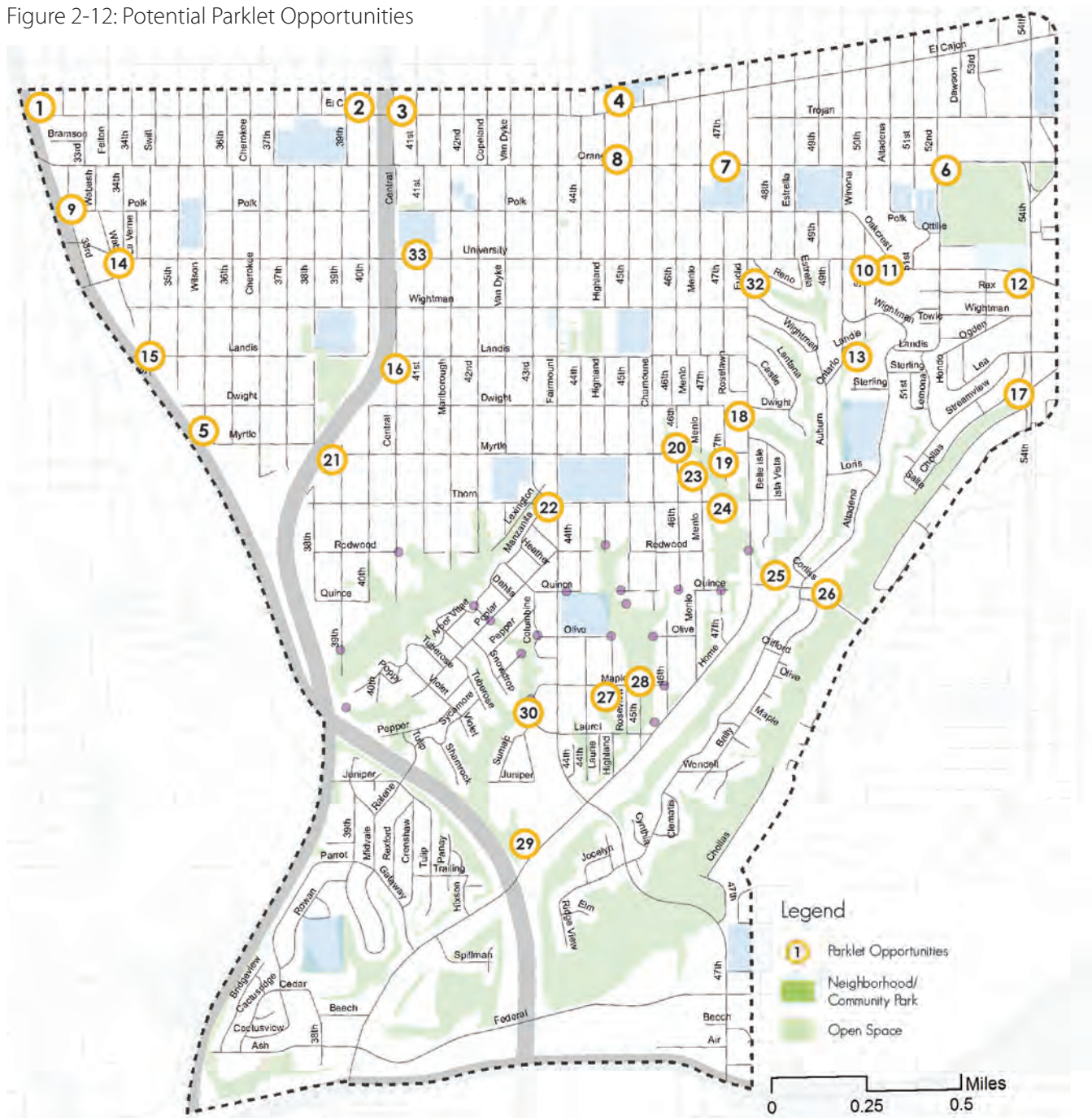
Re-purposing a dumpster to enhance urban forestry and provide public seating as part of a temporary parklet



A low cost way of expanding the sidewalk and creating urban open space as a parklet (shown with cafes and plants)

DESIGN ELEMENTS

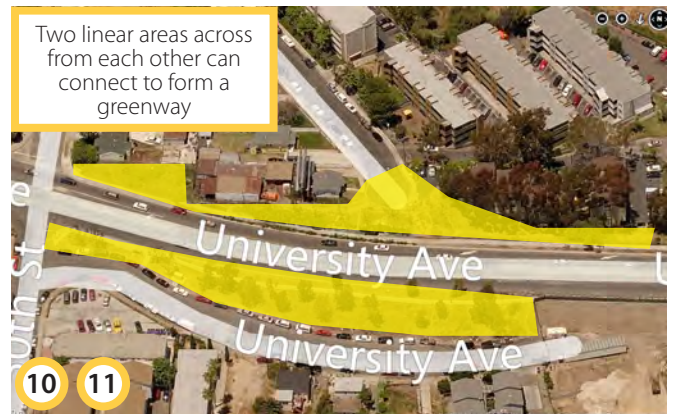
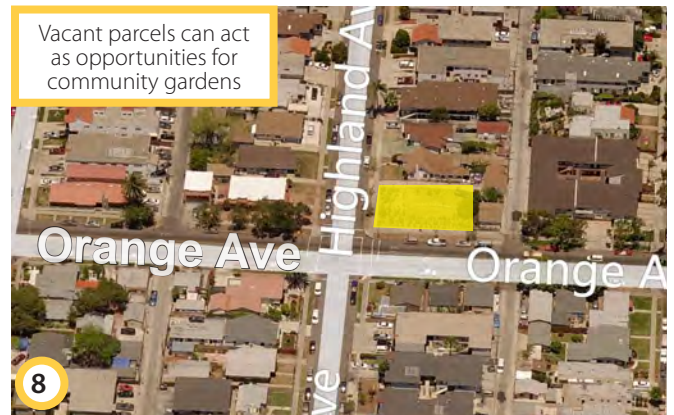
Figure 2-12: Potential Parklet Opportunities



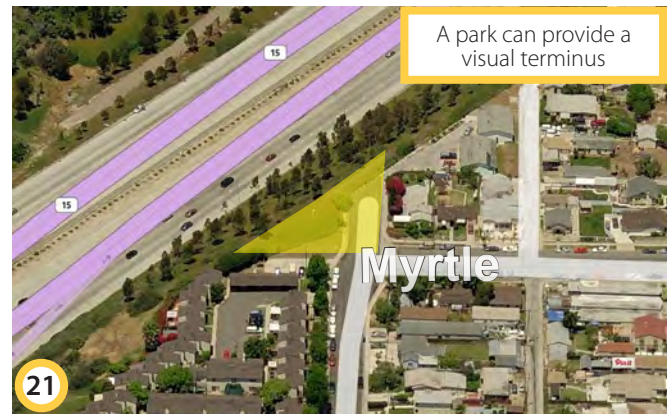
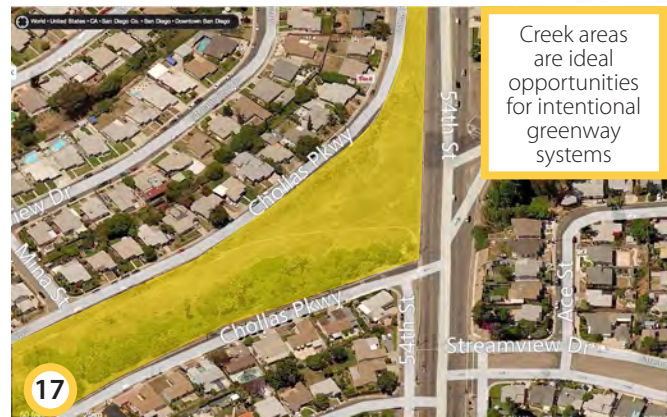
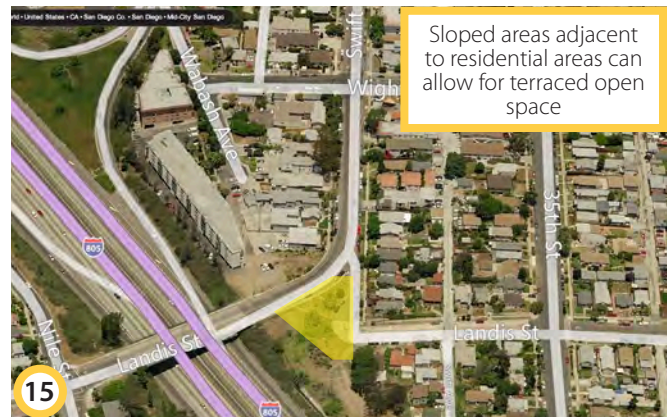
The map above identifies potential parklet opportunities based on vacant parcels, parking lots, or left over space. Additional analysis is required for land ownership and zoning conflicts. However, there are a number of opportunities to incorporate urban open space in City Heights. These are ideal opportunities for a community organization to take the initiative to design, construct, and maintain,

Images on page 27 and 28 highlight some of the parklet opportunities. They correspond with Figure 2-10. Specific limits, ownership analysis and capacity to allow for some form of passive or active public realm improvement has not been completed. These locations are simply possible opportunities to explore.

CITY HEIGHTS URBAN GREENING PLAN



DESIGN ELEMENTS



2.8 VISIBILITY

Street lighting is an important element within the public realm. Lighting can provide better visibility for drivers and pedestrians, enhance the character of an area, and create a sense of safety and security. Light poles can also provide additional functions by incorporating banners, decorations, or planters.

Successful lighting addresses pedestrians, motorized vehicles and non-motorized vehicles. For example, pedestrian activity can be better emphasized by replacing standard overhead street lights with smaller-scale lighting fixtures that are more regularly spaced.

Several factors need to be taken into account when selecting lighting, including type, placement, height and wattage. Each of these elements affect how a street is perceived and utilized. Street lighting should also be conscious of energy usage by incorporating LED lights.

Chapter 5 shows existing and proposed lighting for several areas within City Heights. In addition, the recommendations below should be utilized for all street lighting throughout City Heights.



Pedestrian scaled street lighting that integrates banners and branding

Street Lighting Recommendations for City Heights:

- Change all street lights to LED lights to save energy and provide more light
- Change all street light to artistically designed metal poles with pole setbacks approximately five feet from the curb (behind the sidewalk)
- Provide mid-block street lighting in front of schools, parks, and commercial areas in accordance with City of San Diego guidelines
- Use a minimum of two (2) street lights per intersection
- Restrict LED street lights purchases to the following best-in-class LED chip manufacturers such as Philips Lumileds, Cree, Nichia and Osram
- Require an LED warranty including the following:
 - › Company with a ten year experience in manufacturing
 - › 10-year warranty on entire fixture including fixture, LED driver, and LEDs
 - › Require manufacturer claims to be supported by data or tests
 - › Require technical/product data with definition of input power, lumen output and photometric data
 - › Require revelation of a company's history and financial record to verify a sound financial footing
 - › Laboratory reports - make sure the testing bodies are ISO17025 certified for correct and independent testing

2.9 "GREENING" VS. A "GREEN STREET"

Greening: Greening is the strategy of making a street attractive and sustainable. When a street has trees and plants added, it is referred to as "greening."

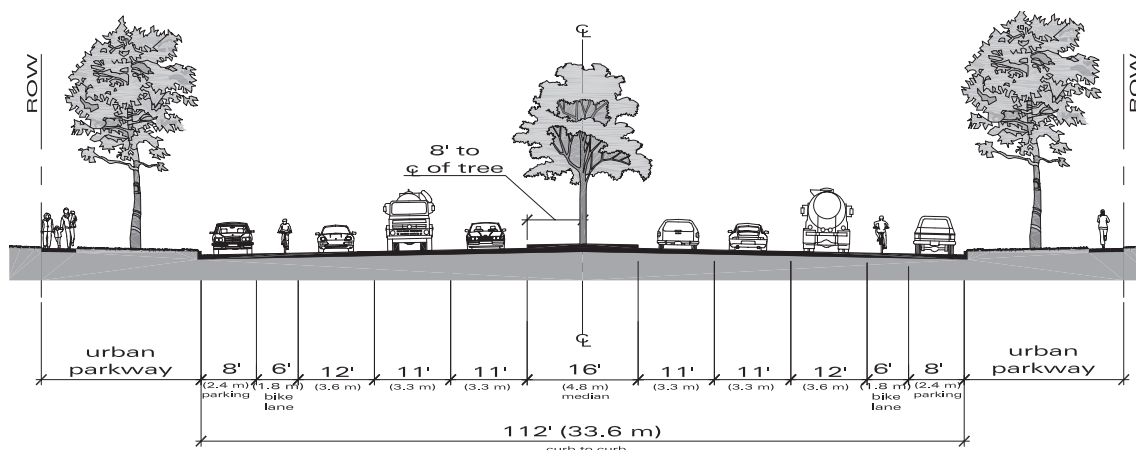
Green Street: A Green Street is a street that is transformed and designed to intercept rainwater and runoff, clean that water through soil and vegetation, and allow the water to percolate and return to the earth naturally.

The City of San Diego has a Street Design Manual (CSDSDM) primarily for new development. The Manual is divided into six sections: Roadway Design, Pedestrian Design, Traffic Calming, Street Lighting, Parkway Configurations, and Design Standards. The CSDSDM classifies each street type and indicates the appropriate parkway configuration and traffic calming devices. This plan builds on guidance from the CSDSDM and the Mid-City Community Plan in terms of street hierarchy and regional connectivity. Streetscape guidelines for specific streets in City Heights are described in the Mid-City Community Plan adopted in 1998. Refer to the Mid-City Community Plan for details.

The Green Streets system in City Heights considers the street designations per the CSDSDM, related adjacent land uses, transit patterns, and non-vehicular uses on the street rather than solely looking at the vehicle capacity and flow. This chapter highlights why each element is important and Chapter 3 identifies specific design strategies for creating Green Streets in City Heights.



The above images contrast two existing conditions in City Heights. The top shows street trees in the median; the lower shows a median without street trees.



The image above shows a street section from the CSDSDM for an urban major street. See the manual for specific street guidance.



3 GREEN STREETS

This section highlights the different types of Green Streets and related information for each Green Street type. This section includes:

- Green Streets System
- Street design solutions for the design elements
- Sample solutions for City Heights

3.1 GREEN STREETS SYSTEM

The streets in City Heights were analyzed based on their functions, surrounding land uses, and community prioritized use of the streets. In addition, streets were evaluated for street use and right-of-way width.

The study area was divided into a number of multi-block segments so the community could select the areas they felt needed the most improvement. The community was asked to address topics of walkability, bicycle access, transit access, and commercial destinations, and selected potential improvement areas for each topic. Their top selections assisted in selecting pedestrian focus, bicycle focus, transit focus, and commercial focus streets.

For each Green Street type, recommendations are made based on the use, width, and character of the street. Each Green Street type will be discussed in this section based on the four design elements of Urban Forestry, Urban Runoff, Multi-Modal Connectivity, and Urban Open Space.

Types of Green Streets

Figure 3-2 shows the proposed Green Streets system for City Heights.

Commercial Focus Green Street: Emphasizes specific branding to establish a strong retail presence. The street includes coordinated streetscape furnishings. Surrounding buildings are typically mixed-use with ground floor retail.

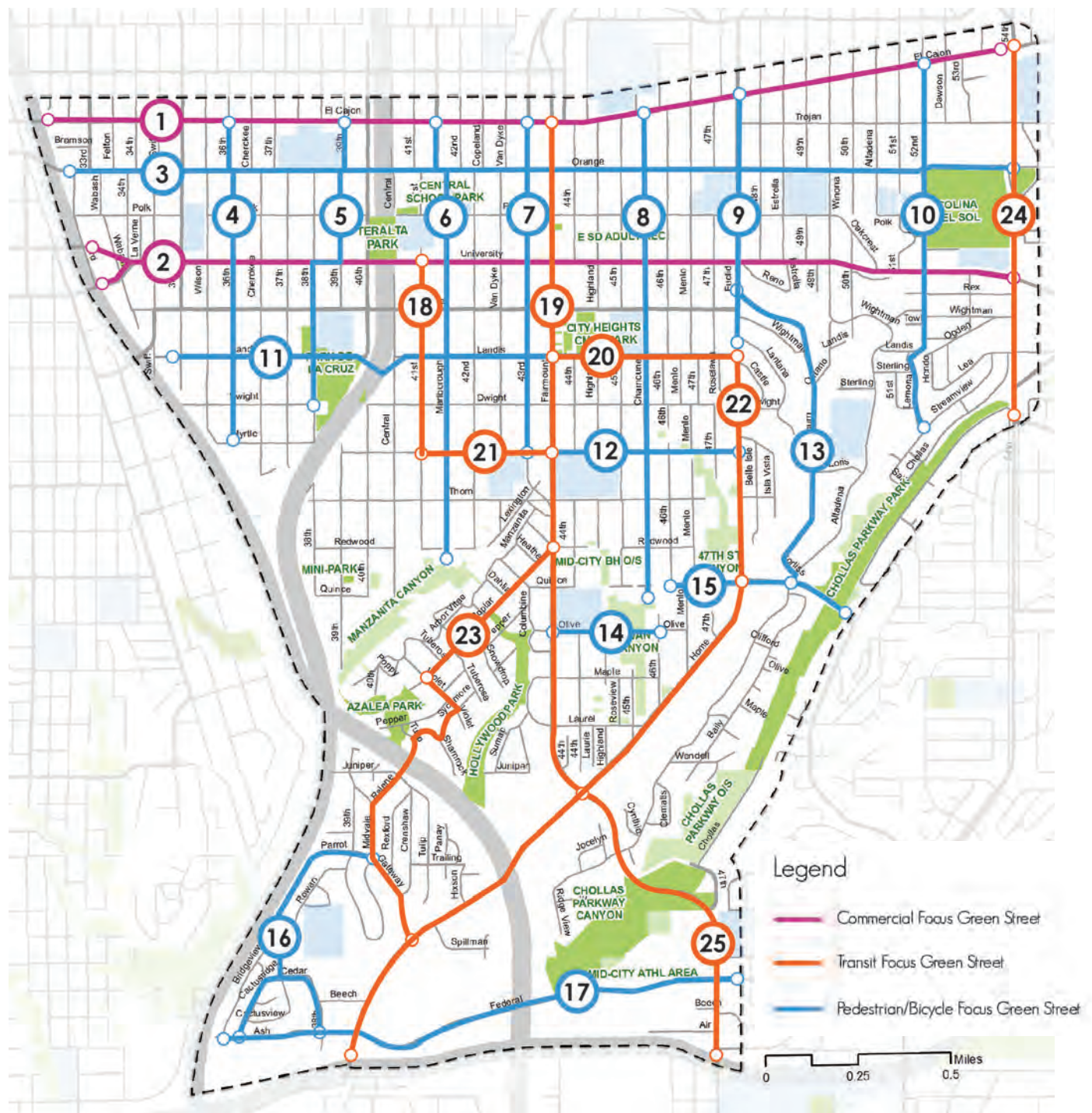
Transit Focus Green Street: Highlights the transit stops on specific streets. These streets focus on creating safe, attractive pedestrian and/or bicycle connections as a priority to allow optimized access to transit stops.

Pedestrian/Bike Focus Green Street: Creates a comfortable and safe walking environment which includes a minimum bicycle facility of a Class 3 bike route. The street design focuses on walking, biking, and connecting major origins and destinations.

Figure 3-1: Green Streets Inventory

Commercial Focus Green Street	Transit Focus Green Street	Ped/Bike Focus Green Street
1 El Cajon Boulevard	18 41st Street	3 Orange Avenue
2 University Avenue	19 Fairmount Avenue	4 36th Street
	20 Landis St. east of Fairmount Avenue	5 38th/39th Street
	21 Myrtle Ave west of Fairmount Avenue	6 Marlborough Avenue
	22 Euclid Ave to Home Avenue	7 43rd Street
	23 Poplar to Violet to Ralene to Gateway	8 Chamoune Avenue
	24 54th Street	9 Euclid Ave El Cajon Boulevard to Landis Street
	25 47th Street	10 52nd Street
		11 Landis Avenue west of Fairmount Avenue
		12 Myrtle Avenue east of Fairmount Avenue
		13 Wightman Avenue to Auburn Drive to Corliss Avenue
		14 Olive Street
		15 Quince Avenue connecting Euclid Avenue
		16 Parrot Avenue to Cactus Ridge Avenue
		17 Federal Boulevard

Figure 3-2: Green Streets System



3.2 COMMERCIAL FOCUS GREEN STREET

Commercial focus green streets are defined by their retail focus. The land uses surrounding a commercial focus green street should be a blend of retail, office, and small businesses. To support these uses, the commercial focus green street should provide a continuous pedestrian path with limited driveway interruptions. The sidewalk should include an expanded walking area that incorporates broad canopied, high branching street trees in tree grates, significant pedestrian and bike amenities, and cohesive streetscape furnishings.

Considerations

- High levels of retail activity, transit, vehicles, pedestrians, and bike activity
- Desire for generous sidewalk zone and increased sense of character
- Connections to businesses and active retail use in the sidewalk
- Potential runoff storage in tree grates and adjacent below grade areas



Figure 3-3: Green Streets Inventory

Street	Extent	ROW Width	Excess Width	Existing Street Classification
1A El Cajon Blvd.: 1-5 story mixed-use commercial buildings with ground retail floor	I-805 to Fairmount Ave	120 feet	No	6 Lane Major
1B El Cajon Blvd.: 1-3 story mixed-use commercial buildings with retail ground floor	Fairmount Ave to 54th St.	83 feet	No	4 Lane Major
2A University Ave: Historic Main Street District*	I-805 to Fairmount Ave	83 feet	No	3 Lane Major
2B University Ave: 1-3 story mixed-use commercial buildings with retail ground floor	Fairmount Ave to 54th St.	83 feet	No	3 Lane Major

Figure 3-4: City Heights CDC Walk and Shop Program Character Districts



* These districts have a focus on pedestrian scale buildings and street furnishings. El Cajon Boulevard is a high intensity mixed use commercial street. It supports a broad range of mode types including buses, bicycles, pedestrians, and the bus rapid transit. The character along University Ave changes several times throughout the corridor. The City Heights CDC Walk and Shop Program identifies two different character districts for University Ave. Contact the City Heights CDC for any improvements in these districts.

CITY HEIGHTS URBAN GREENING PLAN

Figure 3-5: Commercial Focus Green Streets



Figure 3-6: Example of El Cajon Boulevard with Green Street Design

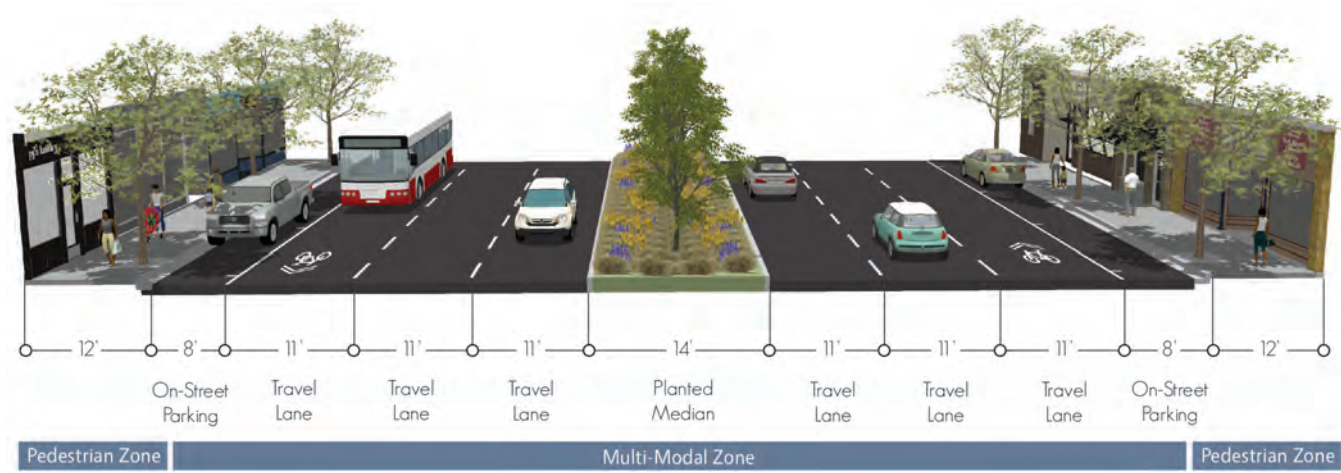
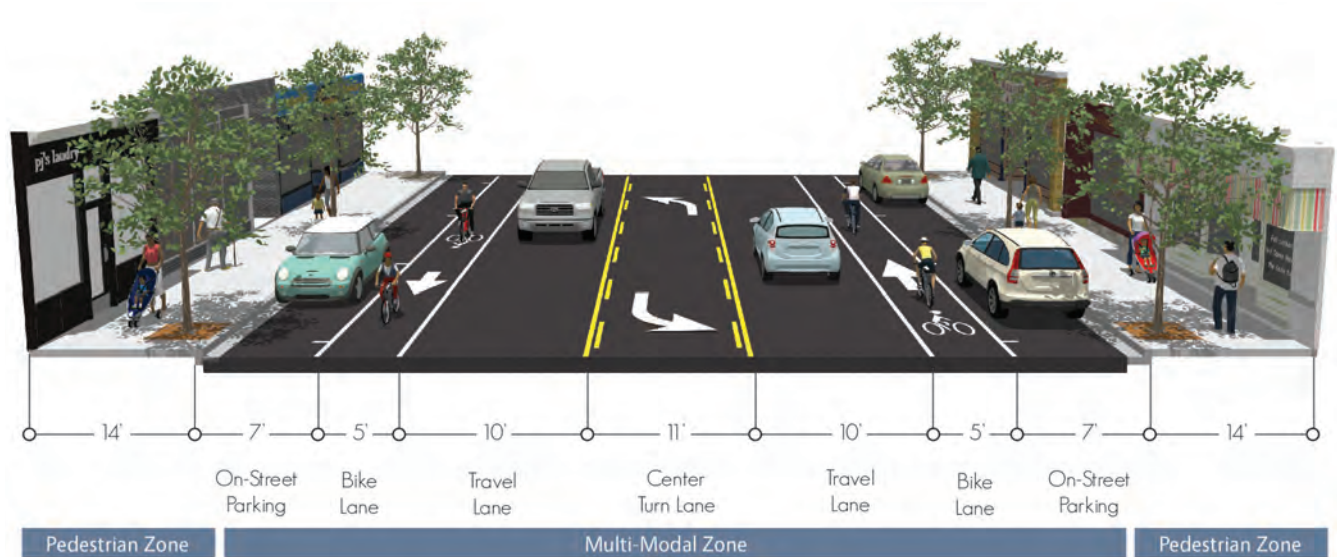


Figure 3-7: Example of University Ave with Green Street Design



WHAT DEFINES A COMMERCIAL FOCUS GREEN STREET?

Urban Forestry Element

Commercial focus green streets require consistent street trees to create an attractive retail environment that, in turn, encourages people to stop, stay and shop. The canopy of the street trees should provide shade for cafes and walking areas.

Commercial Focus Tree Characteristics


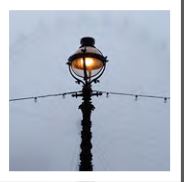

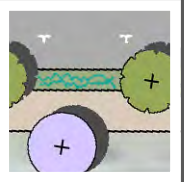

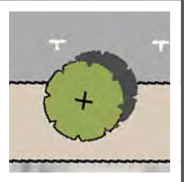


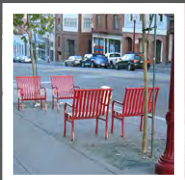

Consistent street tree character	✓
Regular spacing of street trees	✓
Broad shade canopy (Removing the tops of street trees is strictly prohibited)	✓
Vertical accent	✓
High branching (bottom of limbs are a minimum of 7 ft.. above the top of sidewalk)	✓
Full	✓

Street Tree Palette

	El Cajon Boulevard Community Corridor			University Avenue Community Corridor	
	Lophostemon confertus Brisbane Box	Jacaranda mimosifolia Jacaranda	Koelreuteria bipinnata Chinese Flame Tree	Afrocarpus gracilior African Fern Pine	Jacaranda mimosifolia Jacaranda
Type*	E.	D.	D.	E.	D.
Height	20-40	20-40	20-40	40+	20-40
Crown Spread	20-40	20-40	20-40	20-40	20-40
Spacing	30-35	35-40	30-35	30-35	35-40
Parkway Size	4-6	6-8	6-8	6-8	6-8
Drought Tolerant	Yes	No	No	No	No
Native	No	No	No	No	No
With Drain	Yes	Yes	Yes	Yes	Yes
Flow Through	No	No	No	No	No

* Tree Types: E - Evergreen, D - Deciduous

STANDARD IMPROVEMENTS

Corner Curb Extensions			Pedestrian Scale Lighting
Marked Crosswalks			Parkway Plants
Ped Signals (Count-down)			Street Trees
Special Paving in Sidewalk Zone			New Signals and Signal Calibration
Street Furnishings			Class 3 Bike Route Class 2 Bike Lane

Case by Case Improvements

- Planted Medians
- HAWK (High-Intensity Activated crosswalk Beacon) for Mid-block Crossings
- Parklets
- Integral Public Seating

Urban Runoff Element

Low impact development (LID) strategies for commercial focus green streets balance the need for improving stormwater with the pedestrian focus of the retail land use. The LID strategies assume street trees are in tree grates and the parkway is used to improve the walking environment. LID strategies include:

- Street trees in tree grates with subsurface drain (C.U. soil or silva cells are integrated with the adjacent tree grates and have open curb faces or pipe to allow water to flow into the street tree soil)
- Colored, permeable pavers that coordinate with the area's branding/character
- Permeable asphalt in parking areas
- Shrubs and groundcover with bioretention soil in bulb-out planting areas with flow through drainage



Planting area with incorporated LID strategy

Multi-Modal Connectivity Element

The commercial focus green street is primarily concerned with the pedestrian environment. However, El Cajon Boulevard and University Avenue both support bus routes and bicycle facilities as well.

- El Cajon Boulevard has a planned Class 2 bike lane
- University Ave has a planned Class 2 bike lane
- Street furnishings should include bike corrals and bike racks
- Timing of intersections and signal calibration
- Raised crosswalks and pedestrian signal countdowns



Bike lane adjacent to the sidewalk



Bike lane adjacent to on street parking

Urban Open Space Element

There are limited opportunities for urban open space on El Cajon Boulevard or University Avenue. One opportunity for additional urban open space is capitalizing on parklets. A parking space can be converted into a public plaza, seating area, or passive green space with vertical separation between traffic and the parklet use.



Permanent parklet

3.3 TRANSIT FOCUS GREEN STREETS

Transit focus green streets follow the bus routes in City Heights. There are eleven bus routes that run throughout City Heights. These transit focus green streets are vital to community connectivity in City Heights.

People commonly bike or walk to bus stops. Transit focus green streets are key community destinations; they need to accommodate bus specific transportation while integrating safe pedestrian and bike access to transit stops. Transit access is critical to facilitating regional bus connections to and from City Heights.



Considerations

- MTS Bus Route(s) along the streets
- Street design accommodates bus pads and stops while allowing vehicles, pedestrians, and bike visibility and access
- Bus stops are recommended to include transit plazas with shade devices and seating with artful design
- Expanded sidewalks and pedestrian scale street lighting for increased visibility and safety
- Integrated bike facilities, including bike locks, racks, and corrals

Transit Focus Street Summary

	Street Name	Extents	ROW Width	Excess Width	Existing Street Classification
18	41st Street	University to Myrtle Avenue	64 feet	No	Local Street
19	Fairmount Avenue		64 feet	No	2 Lane Major
20	Landis Street	Fairmount to Euclid Avenue	72 feet	Yes	2 Lane Collector
21	Myrtle Avenue	41st to Fairmount Avenue	72 feet	Yes	2 Lane Collector
22	Euclid to Home Avenue	South of Landis Street	56 to 72 feet	No	2 Lane Collector
23	Poplar Street		72 feet	Yes	2 Lane Collector
23	Violet to Gateway		48 feet	No	2 Lane Collector
24	54th Street		100 feet	No	3 Lane Collector
25	47th Street	Home Avenue to SR-94	100 feet	No	4 Lane Collector

Figure 3-8: Transit Focus Green Streets



Figure 3-9: Typical Existing Street Condition (72 ft.. ROW)

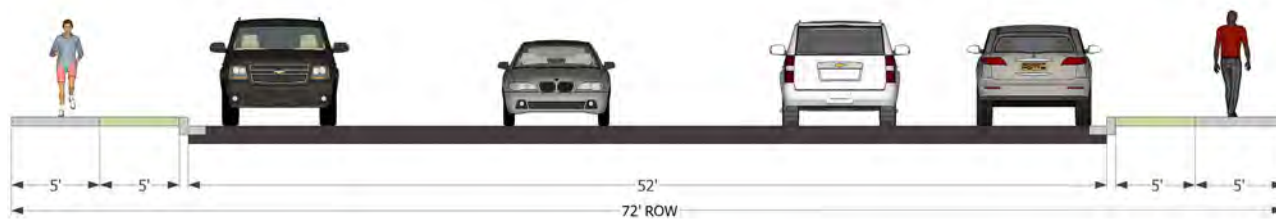
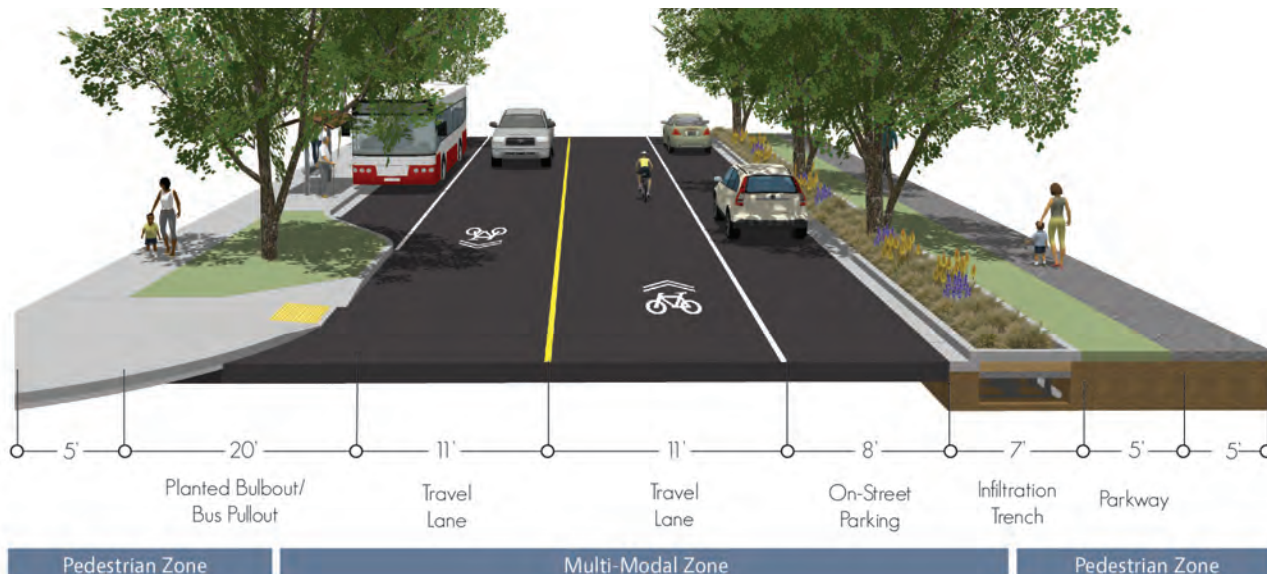


Figure 3-10: Example of Transit Focus Green Street Design applied to a 72 ft. ROW*



* Assumes existing curbs are not demolished

WHAT DEFINES A TRANSIT FOCUS GREEN STREET?

Urban Forestry Element

Transit focus green streets provide good shade canopy for residents who walk to transit stops. In addition, tree branches are pruned and maintained and visibility to transit stops is maintained.

Transit Focus Tree Characteristics

Native Tree Species	✓
Highly consistent tree character	✓
Pedestrian scale street tree character	✓
Vertical accent	✓
Broad shade canopy	✓
Screen/windbreaker	✓
Color accent	✓


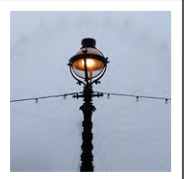
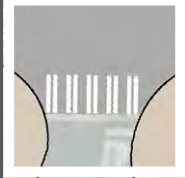
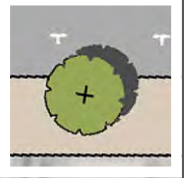




Street Tree Palette

Street Name	Street Tree Plan Information
41st Street	Landscape District A
54th Street	Community Corridor
Euclid and Home Avenues	Community Corridor
Fairmount Avenue	Community Corridor
Landis Street	Residential Corridor
Myrtle Avenue	Residential Corridor
Poplar to Violet	Landscape District B
Ralene to Gateway	Landscape District A

	54th St.		Euclid/Home Ave		Fairmount Ave	
	Geijera parviflora Australian willow	Ulmus Parvifolia Sempervirens Chinese elm	Platanus racemosa California Sycamore	Lophostemon confertus Brisbane Box	Afrocarpus gracilior African Fern Pine	Arbutus 'Marina' Marina Strawberry Tree
Type ⁺	E.	E.	D.	D.	E.	E.
Height	20-40	20-40	20-40	20-40	40+	40+
Crown Spread	20-40	20-40	20-40	20-40	20-40	40+
Spacing	30-35	35-40	35-40	30-35	30-35	35-40
Parkway Size	6-8	6-8	6-8	6-8	6-8	6-8
Drought Tolerant	Yes	Yes	No	No	No	Yes
Native	No	No	No	No	No	Yes
With Drain	Yes	Yes	Yes	Yes	Yes	Yes
Flow Through	No	Yes	No	No	?	No

⁺Tree Types: E - Evergreen, D - Deciduous

STANDARD IMPROVEMENTS

Corner Curb Extensions			Pedestrian Scale Lighting
Marked Crosswalks			Street Trees
Ped Signals (Count-down)			New Signals and Signal Calibration
Transit Amenities			Special Paving in Sidewalk Zone

Case by Case Improvements

- Planted Medians
- Below Grade Water Capture and Storage
- Permeable Surfaces
- HAWK (High-Intensity Activated crosswalk Beacon) for Mid-block Crossings
- Parklets
- Double Row of Trees with Seating
- Integral Public Seating
- Bike Corral
- Bike Lockers
- Combination Vehicle and Pedestrian Light Standards

Figure 3-10 shows how these strategies can come together to form a “green street” solution. See the City Heights Street Design Toolbox for details. See Chapter 6 for Street Tree Plan.

Urban Runoff Element

Fairmount Avenue has a wide sidewalk instead of parkways adjacent to the sidewalk. Recommendations for Fairmount Avenue between El Cajon Boulevard and Poplar Street are:

- Tree grates with CU-Structural Soil or silva cells with sub drains are recommended to allow for maximum walkway width
- Permeable pavers, concrete, or asphalt are strongly recommended

Recommendations for other transit focus streets include:

- Street trees in parkways with bioretention soil and flow through infiltration
- Pedestrian bulb-outs at corners with bioretention soil, sub drain, and flow through infiltration
- Tree bulb-outs that maintain curb and gutter



Tree grates with silva cells



Roadway signage and sharrow markings

Multi-Modal Connectivity Element

People commonly walk or bike to a bus stop. It is important for adjacent streets to provide safe pedestrian and bicycle routes. Multi-modal connections include:

- Class 3 bike routes with sharrow markings and roadway signage that bikes may take the lane

Urban Open Space Element

Recommendations include:

- 41st Street, Myrtle Avenue, and Landis Street have excessive width that should be recaptured to create urban open spaces
- Expand parkways with a double row of street trees
- Create plazas with integrated public art next to transit stops
- Expand plazas into parking spaces to provide larger public spaces



Public art integrated into transit stop



Corner curb extensions provide larger public spaces near transit stops

3.4 PEDESTRIAN/BIKE FOCUS GREEN STREETS

In a series of workshops, participants identified key community destinations including businesses, schools, parks, and other day-to-day amenities. Ped/bike focus green streets connect these destinations. In addition, they are the streets used to connect residents to transit focus green streets.

Residents were asked to give input on which streets they commonly walked and biked. The community’s input was distilled to the ped/bike focus green streets shown in Figure 3-11.

In some instances, the consultant team shifted the ped/bike focus to a different street to capitalize on the opportunity to improve on an excessively wide street. 36th and 38th street are the only shifted ped/bike focus green streets.

Considerations

- Streets need to support high levels of pedestrian and/or bicycle activity
- Urban Runoff solutions should be integrated into the planting areas and parking areas
- Parallel on-street parking and angled on-street parking should be integrated into street design
- Excessively wide streets should be recaptured when possible to incorporate urban open space
- Broad canopied trees should be used to provide shade, but they must maintain a clearance of 7 feet from top of sidewalk to bottom of tree branches to allow for cyclists
- Planting areas incorporate street trees and shrubs shall be maintained to a maximum height of 30 inches for visibility

Street Name	Extent	ROW Width	Excess Width	Existing Street Classification
3 Orange Ave		64-72 feet	Yes	3 Lane Collector
4 36th St.		72 feet	Yes	Local Street
5 38th/39th St.		72 feet	Yes	Local Street
6 Marlborough Ave		72 feet	Yes	2 Lane Collector
7 43rd St.		72 feet	No	2 Lane Major (one way)
8 Chamoune Ave		48 feet	No	Local Street
9 Euclid Ave	El Cajon Boulevard to Landis	56 feet	No	2 Lane Major
10 52nd St.		48 feet	No	Local Street
11 Landis Ave		72 feet	Yes	2 Lane Collector
12 Myrtle Ave	East of Fairmount Ave	72 feet	Yes	2 Lane Collector
13 Wightman Ave to Auburn to Corliss Ave		48 feet	No	Local Street
14 Olive St.		56 feet	No	Local Street
15 Quince Ave to Euclid Ave		40 feet	No	Local Street
16 Parrot Ave to Cactus Ridge Ave		48 feet	No	Local Street
17 Federal Blvd.		72 feet	No	2 and 3 Lane Collector

Figure 3-11: Ped/Bike Focus Green Streets



Figure 3-12: Example of Bicycle Focus Green Street Design applied to a 72 ft. ROW

This design assumes new curb and gutter. It adds a Class 2 buffered bike lane and maintains on-street parking and vehicle travel lanes. Buffering a bicycle lane from the swing of car doors is important for bicycle safety.

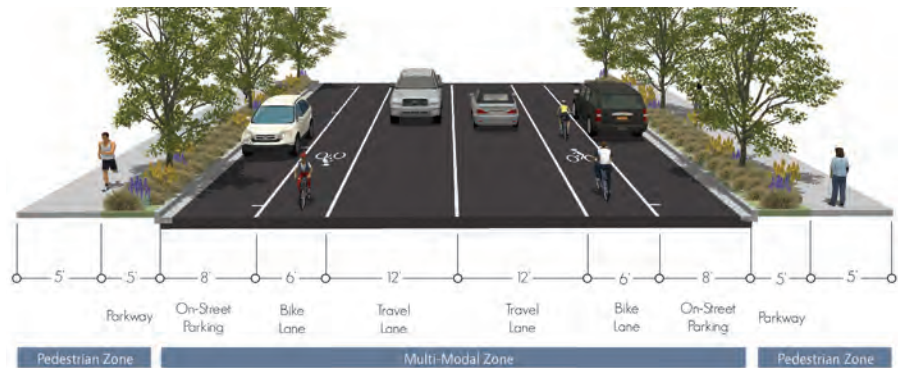
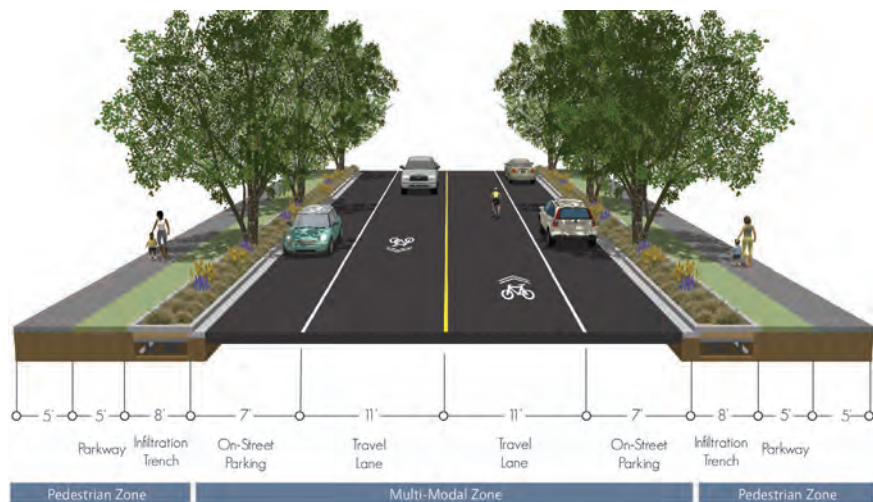


Figure 3-13: Example of Pedestrian Focus Green Street Design applied to a 72 ft. ROW

This design retains the existing curb and gutter, and adds a bioretention or infiltration trench to the planting area. On-street parking and vehicle lanes are restriped and a Class 3 bike route is supported by adding sharrow markings and vertical signage.

If new curb and gutter were assumed, the parkway and infiltration trench could be combined to provide 13 feet of parkway. If the infiltration trench were combined from both sides of the street, this would allow for 21 feet of parkway space (additional roadway design is required) for a small park or garden.



WHAT DEFINES A PED/BIKE FOCUS GREEN STREET?

There is a dual focus for the ped/bike focus green streets. The street must provide a minimum seven foot clear unobstructed pedestrian route. However, a pedestrian focus street could allow for a wider sidewalk adjacent to a planted parkway. A bike focus street could use additional street width to provide a Class 2 buffered or non-buffered bike lane. A ped/bike focus street could incorporate a multi-use path for pedestrians and cyclists.

Urban Forestry Element

Ped/bike focus green streets should incorporate street trees but do not require a consistent character throughout the entire street. The character of the street can change based on the neighborhood area or community input.

Ped/Bike Focus Street Tree Characteristics

Native tree species	✓
Drought tolerant species	✓
Pedestrian scale lighting	✓
Consistent street tree character	✓
Regular spacing of street trees	✓
Broad shade canopy	✓
Vertical accent	✓
High branching (bottom of limbs are a minimum of 7 ft.. Above the top of sidewalk)	✓


Street Tree Palette

Street Name	Street Tree Plan Information
36th Street	Residential Corridor
38th/39th Street	Residential Corridor
43rd Street	Community Corridor
52nd Street	Residential Corridor
Chamoune Street	Residential Corridor
Euclid Avenue	Community Corridor
Federal Boulevard	Community Corridor
Landis Street	Residential Corridor
Marlborough Street	Residential Corridor
Myrtle Street	Residential Corridor
Olive Street	District B
Orange Street	Residential Corridor
Parrot Avenue to Cactus Ridge Avenue	District A
Quince Avenue to Euclid Avenue	District B
Wightman to Auburn to Corliss Avenue	District A

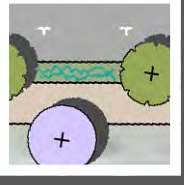
Standard Improvements

Corner Curb Extensions 

Pedestrian Scale Lighting 

Marked Crosswalks 

Street Trees 

Parkway Plants 

Case by Case Improvements

- Parking Pop Outs`
- Sidewalk with Planting Areas
- Water Capture and Storage Swales
- Permeable Surfaces
- Double Row of Trees
- Combination Vehicle and Pedestrian Light Standards
- Bike lanes/facilities

Urban Runoff Element

The image at right highlights how water can flow through a parkway. Recommendations for ped/bike street include:

- Parkway and bulbouts with bioretention soil and flow through infiltration



Multi-Modal Connectivity Element

Each ped/bike focus green street prioritizes pedestrian and bicycle connectivity throughout City Heights. Recommendations include:

- Five ft. minimum clear, unobstructed walking route (utilities and other small objects should not infringe on this clear area)
- All ped/bike focus green streets should include a minimum of a Class 3 bike route and bike racks

Orange Avenue is highlighted as a bicycle boulevard. Recommendations include:

- A low stress, continuous and direct bicycle route
- Low traffic street that diverts traffic to other streets
- Enhanced wayfinding signs and pavement markings
- Smooth, even pavement surface

The two images to the right show an example of how a diverter at an intersection could keep continuous bicycle movements on Orange Avenue.



Urban Open Space Element

Ped/bike focus green streets have the greatest opportunities for urban open space. The typical 72 foot ROW street in City Heights has about 16 feet of additional space. This space can be captured as urban open space, including:

- Design a street with a chicane to allow 16 feet to be added to one side of a street. This will increase the parkway to 21 foot.
- Add 8 foot to each side of the street without demolishing the curb. The additional area could be used as an expanded self-treating planting area or could include a multi-use path.



The arrows highlight how pedestrian connections can be made from a street through a canyon and back up to a street

3.5 EXAMPLES OF HOW TO APPLY GREEN STREET DESIGN

The existing ROW widths for typical streets in City Heights range from 40 feet to 100 feet. The most common street width is 72 feet. For streets narrower than 72 feet, there is a limited ability to change the curb and gutter location and gain a significant benefit.

Green Street Design requires additional design consideration. They should all include street trees (see Chapter 6) and urban runoff/LID strategies.

Recommendations for all green streets:

- Small to medium canopy in the parkway
- Shrubs and groundcover in the parkway
- Self-treating soil in the parkway with flow through curb design
- Bioretention soil and sub-drain in the parkway (when connection to stormwater system is available)
- Curb openings to allow water to enter parkway and any bulbouts
- Permeable pavers in the sidewalk
- Permeable concrete in on-street parking areas (stormwater analysis is required to identify where this is appropriate)
- Class 3 bike routes with sharrow symbols in roadway and vertical signage
- A minimum of 5-foot clear unobstructed continuous pedestrian route

Recommendations for all 56-foot right-of-way streets:

- Shrubs and groundcover in the parkway
- Self-treating soil or bioretention soil in the parkway
- Permeable concrete in on-street parking areas
- Curb extension with street tree and groundcover

Recommendations for all 64-foot right-of-way streets:

- Small to medium canopy in the parkway
- Shrubs and groundcover in the parkway
- Self-treating soil or bioretention soil in the parkway with flow through curb design
- Angled and parallel parking with permeable concrete
- Lane diet
- Curb extension with small to medium street trees

Figure 3-14: 56 foot ROW Green Street Design



Figure 3-15: 64 foot ROW Green Street Design





4 STREET DESIGN TOOLBOX

The City Heights Street Design Toolbox is a tool that can be used to build a desirable street and attractive public realm. The Toolbox is organized by the four design elements and also considers where a solution is applied in a street cross section. This section includes:

- Options for Urban Forestry, Urban Runoff, Multi-Modal Connectivity, and Urban Open Space
- Reference Codes that refer to a specific design solution used in the Preferred Street Concepts as well as Pilot Project recommendations found in Chapter 5

4.1 CITY HEIGHTS STREET DESIGN TOOLBOX

The improvements shown in the preferred concept street graphics reference the Toolbox. The toolbox is a matrix that includes the physical elements of a street and where these improvements should take place. The following pages identify the various improvements organized by the design elements of urban forestry, urban runoff, multi-modal connectivity, and urban open space. Multi-modal connectivity is separated into three focus areas of Pedestrian Focus, Bicycle Focus, and Vehicle Focus.

What are the Elements of the Toolbox?

Urban Forestry Element

This Element addresses improvements that relate to “greening” the street. The improvements in this element must coordinate with the Urban Runoff Element.

Urban Runoff Element

The Urban Runoff Element addresses improvements as they relate to capturing water. These strategies can be incorporated into the sidewalk, parkway, median and even the roadway as the toolbox and cross sections highlight.

Multi-Modal Connectivity Element

Pedestrian Focus: One part of the Multi-Modal Connectivity Element is the pedestrian experience. The design solutions found here focus on enhancing the pedestrian experience by providing a range of design options from crosswalks to lighting and wayfinding improvements.

Bicycle Focus: Another focus in the Multi-Modal Connectivity Element is the bicycle safety and access improvements. These design options include bike lanes as well as bike lockers and racks.

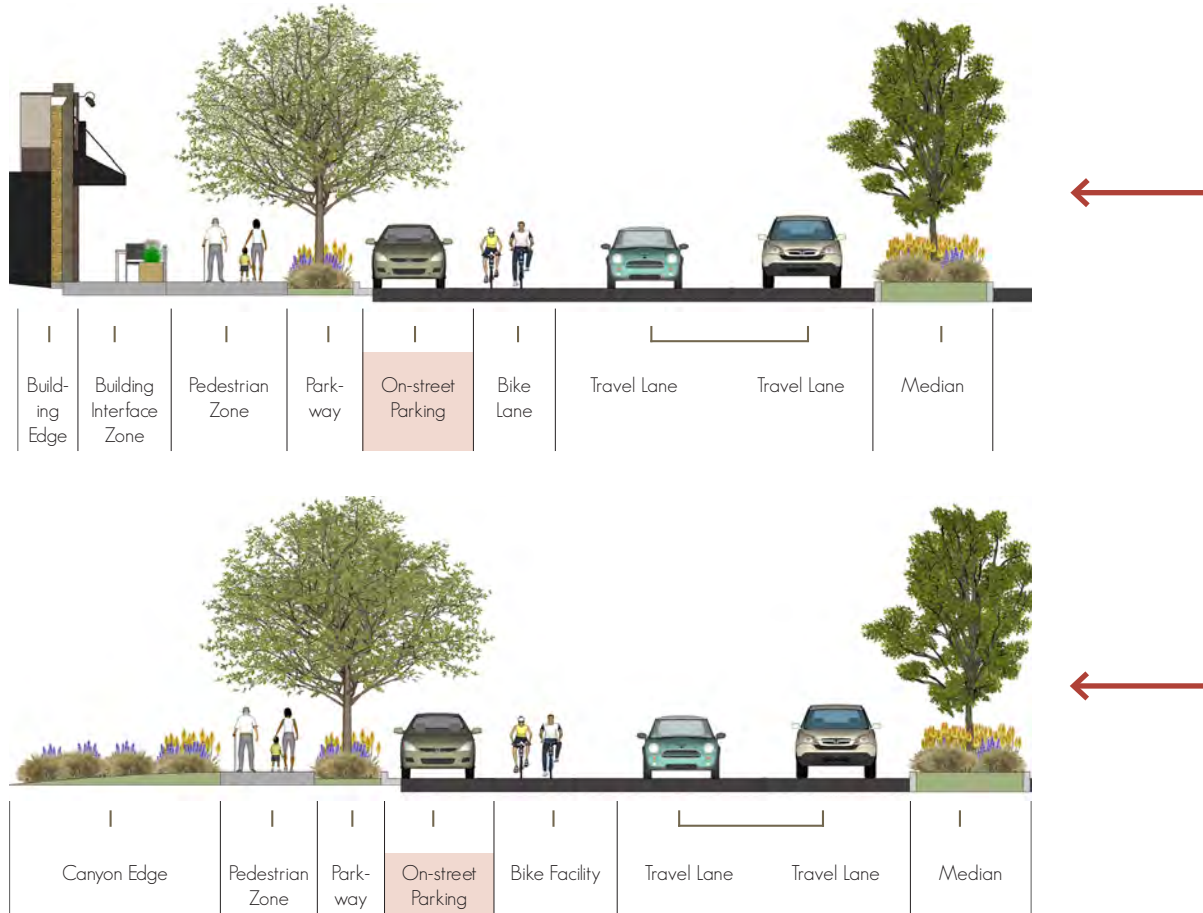
Vehicle Focus: The vehicle efficiency and visibility are an important part of this Element. Design solutions for vehicles primarily focus on enhancing safety by slowing vehicle speeds and simultaneously increasing efficiency. It includes cars but also buses, trucks, and all vehicle types.

Urban Open Space

Open spaces ideally occur adjacent to or part of the street. These can include canyons, parks, parklets, plazas, and other options. This Element describes how open spaces can be placed in the public realm and integrated into all parts of street design.

Figure 4-1: How to Use the Toolbox

The Toolbox shows two options for the Public Realm Section. The first section is for a street section with buildings and the second section is for a street that is adjacent to a canyon.



Element Types

- Multi-Modal Connectivity - Bicycle Focus
- Urban Open Space Element
- Multi-Modal Connectivity - Pedestrian Focus
- Urban Forestry Element
- Urban Runoff Element
- Multi-Modal Connectivity - Vehicle Focus

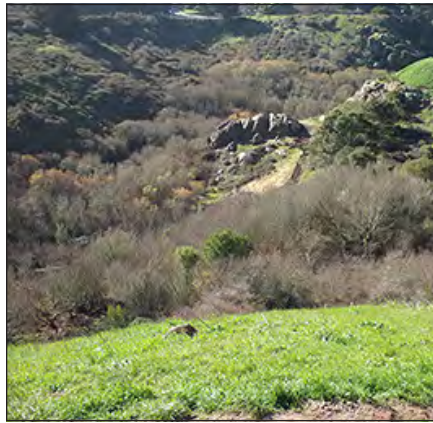
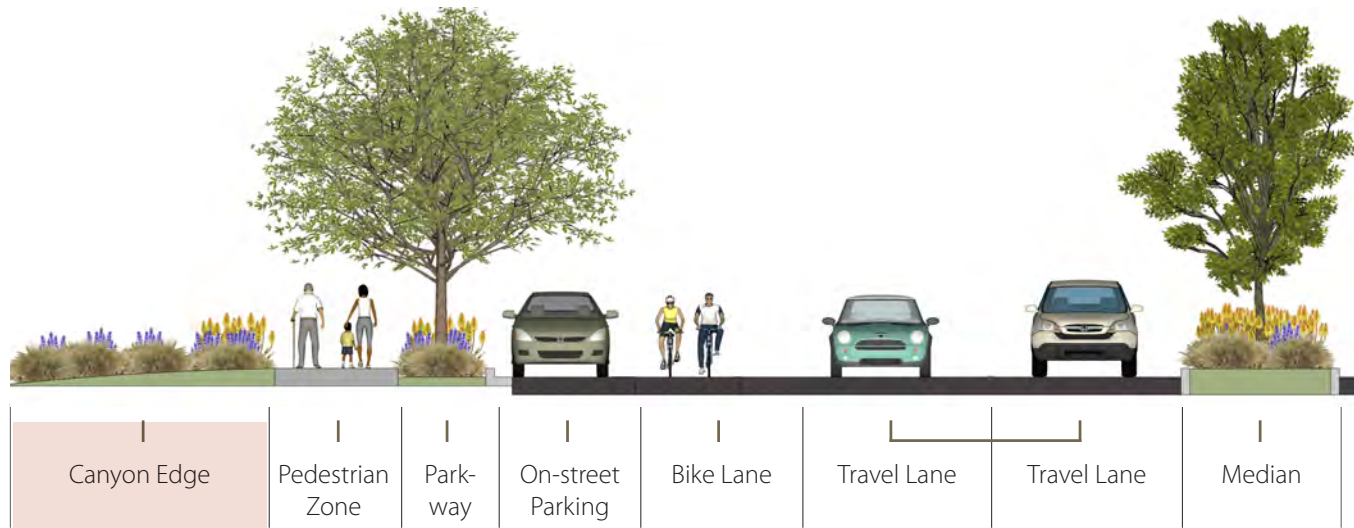
Public Realm Locators

- Building Interface Zone
- Pedestrian Zone
- Parkway
- On-street Parking Lane
- Bike Facility
- Travel Lane
- Median
- Street Crossing

Edge Conditions

- Building Edge
- Canyon Edge

URBAN FORESTRY ELEMENT: CANYON EDGE OPTIONS



Native Shrubs, Groundcovers and Trees Planted on Slope Transitions

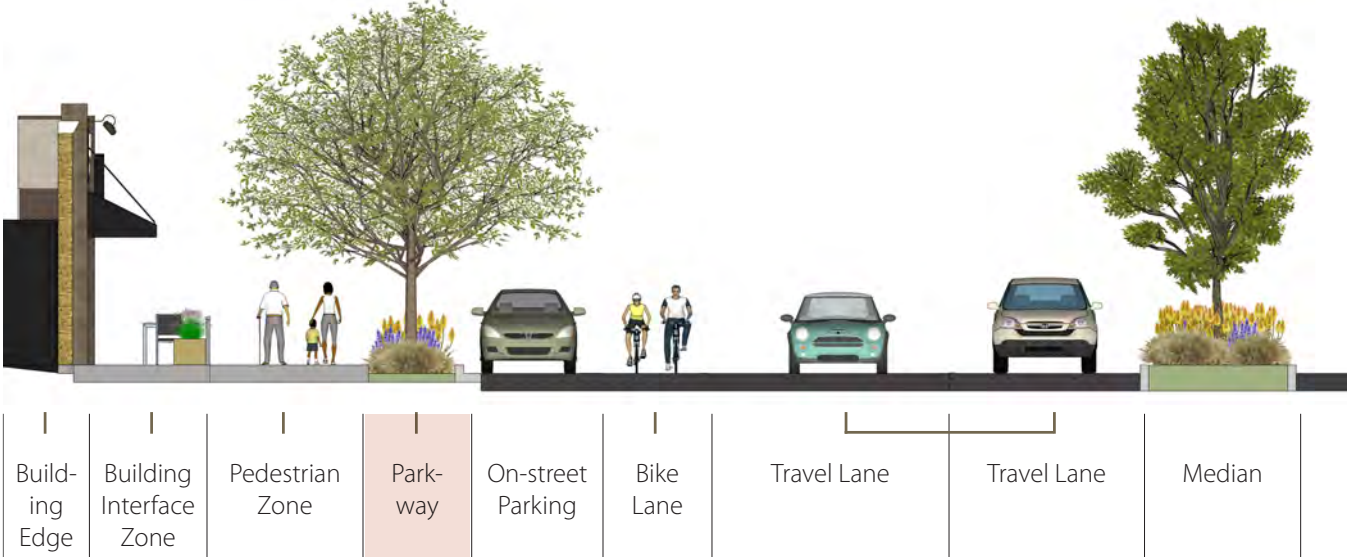


Native Groundcover on Slope Transitions



Native Groundcover on Slope Transitions

URBAN FORESTRY ELEMENT: PARKWAY OPTIONS



Medium to Large Canopy Tree



Small Open Tree



Native Shrubs, Succulents, Grasses with Rock Mulch



Shrubs and Low Plants with Bark Mulch

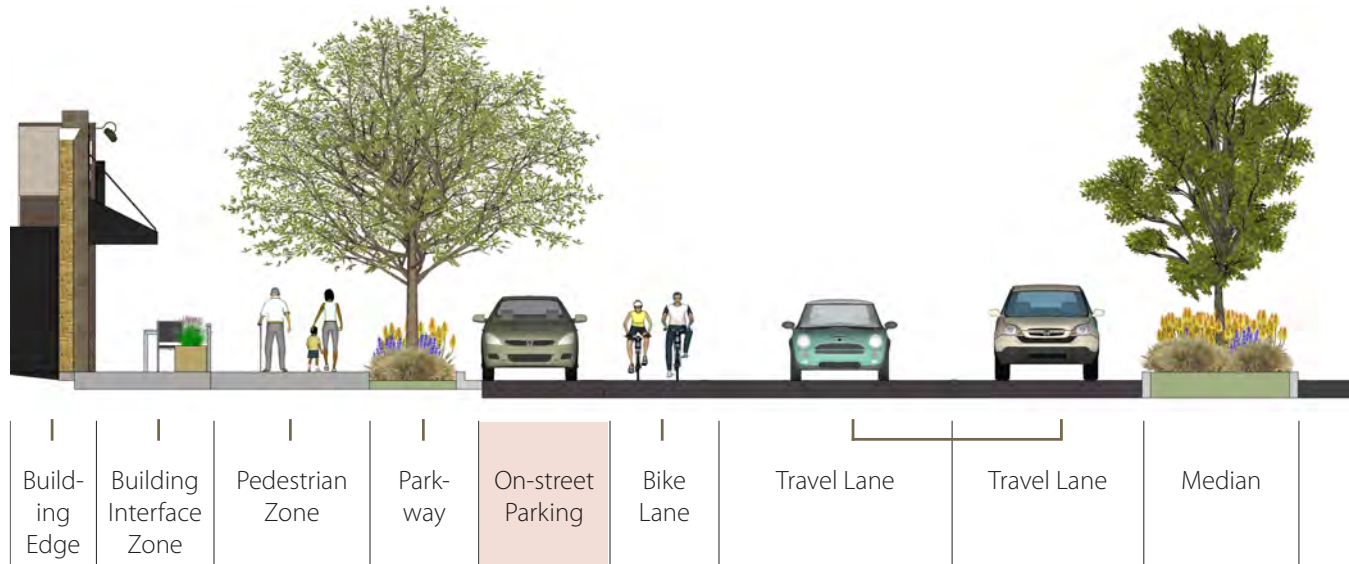


Small to Large Tree with Tree Grate



Small to Large Tree with Tree Grate

URBAN FORESTRY ELEMENT: PARKING LANE OPTIONS (WITH BULBOUTS)



Medium to Large Canopy Trees



Small Open Tree



Native Shrubs, Succulents, Grasses with Bark Mulch



Low Shrubs and Groundcover in a Mid-block Bulbout

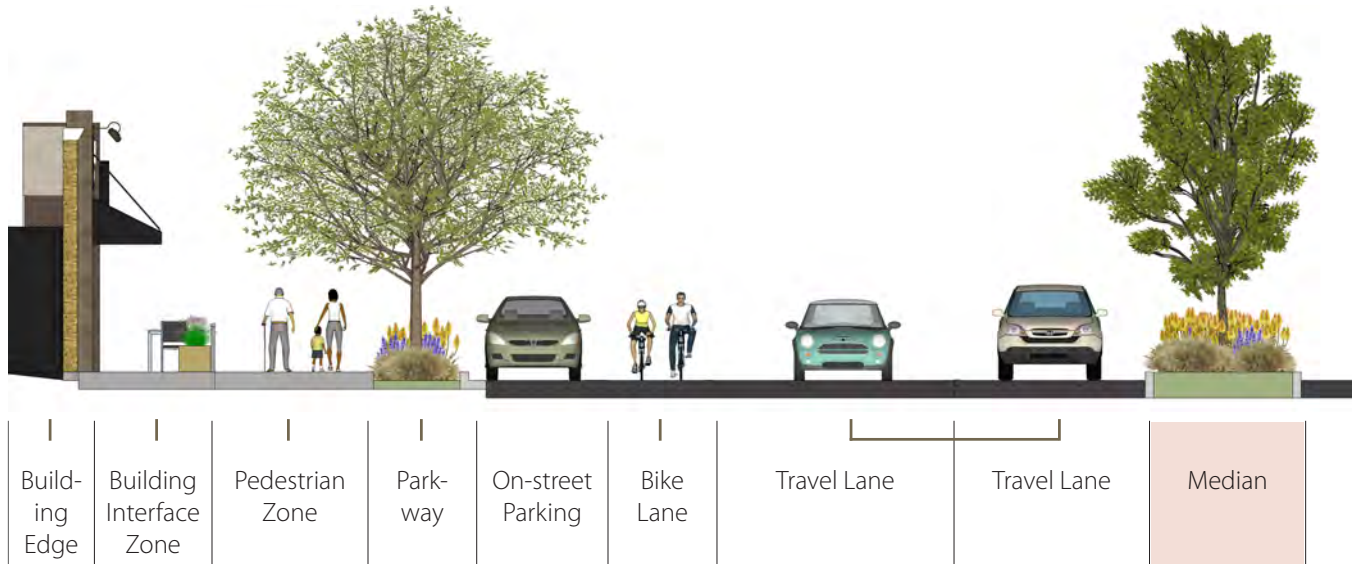


Small Open Tree



Native Shrubs, Succulents, Grasses with Bark Mulch

URBAN FORESTRY ELEMENT: MEDIAN OPTIONS



Medium to Large Canopy Trees



Small Tree



Vertical Tree/Palm



Native Shrubs, Succulents, Grasses with Rock Mulch

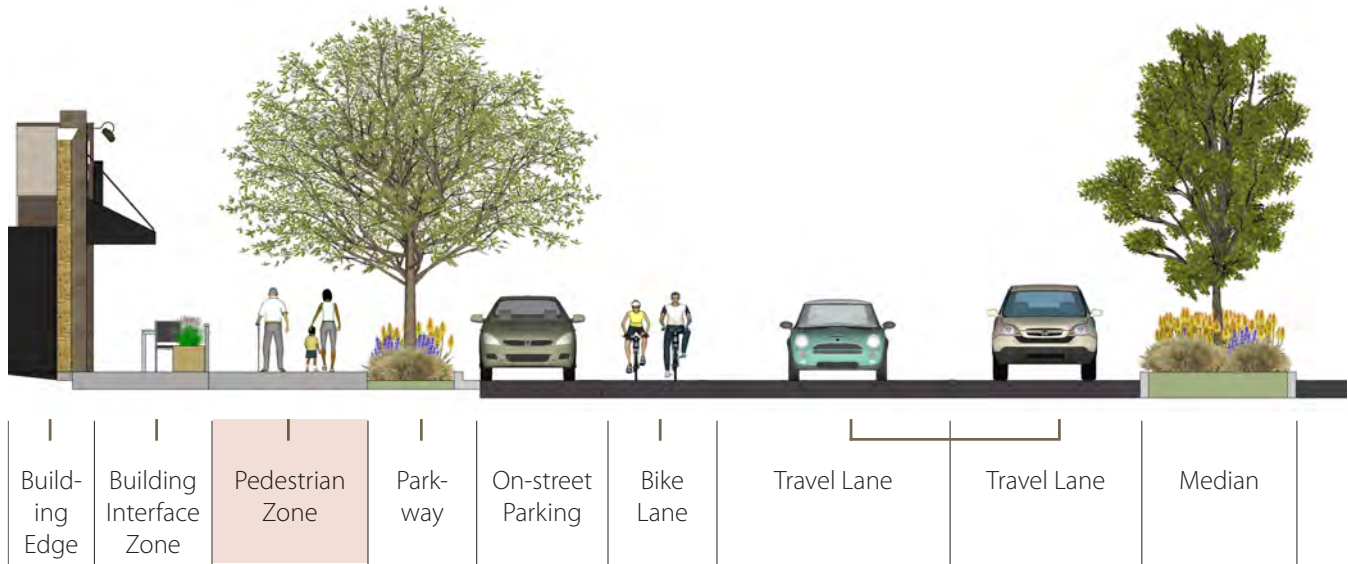


Shrubs/Groundcover



Shrubs with Bark Mulch

URBAN RUNOFF ELEMENT: HARDSCAPE OPTIONS



Permeable Pavers



Permeable Asphalt or Concrete



French Drain with Grates



Subsurface Silva Cell with Subsurface Drain (Use with RS2.1)

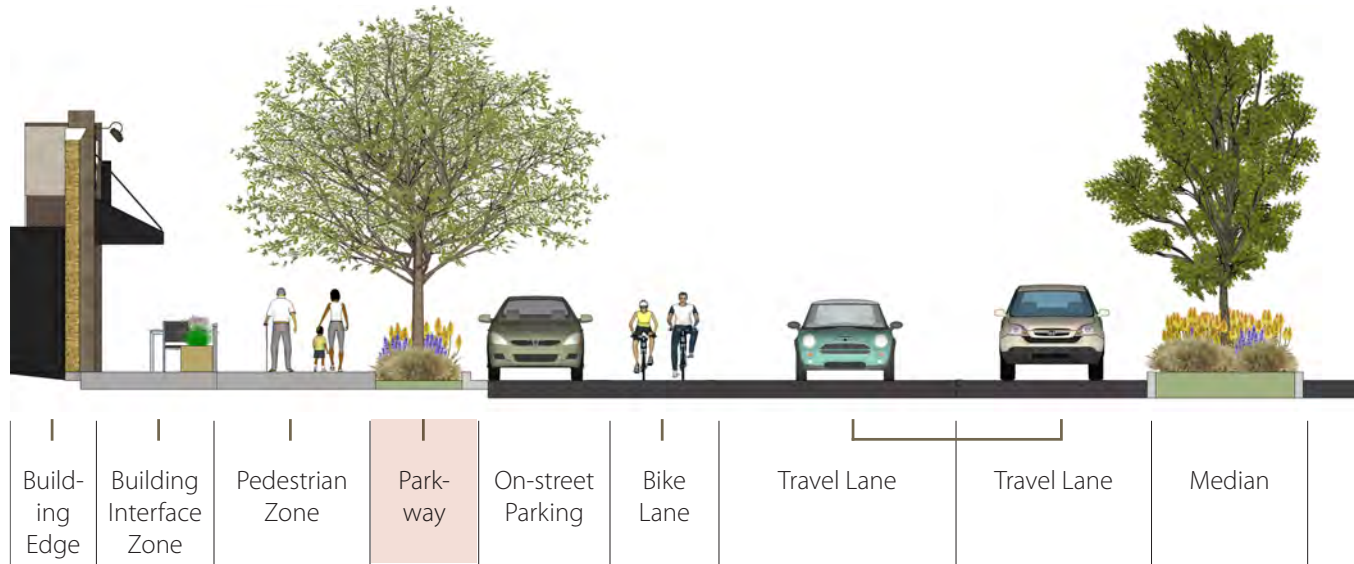


Compacted Decomposed Granite Walkway



Permeable Pavers

URBAN RUNOFF ELEMENT: PARKWAY OPTIONS



Rain Garden with Bioretention Soils and Subsurface Drain



Tree Basin with Filters and Subsurface Drain



Infiltration Basin with Bioretention Soils and Subsurface Drain



Curb Openings Draining to Bioretention, Filtration, or Infiltration Areas

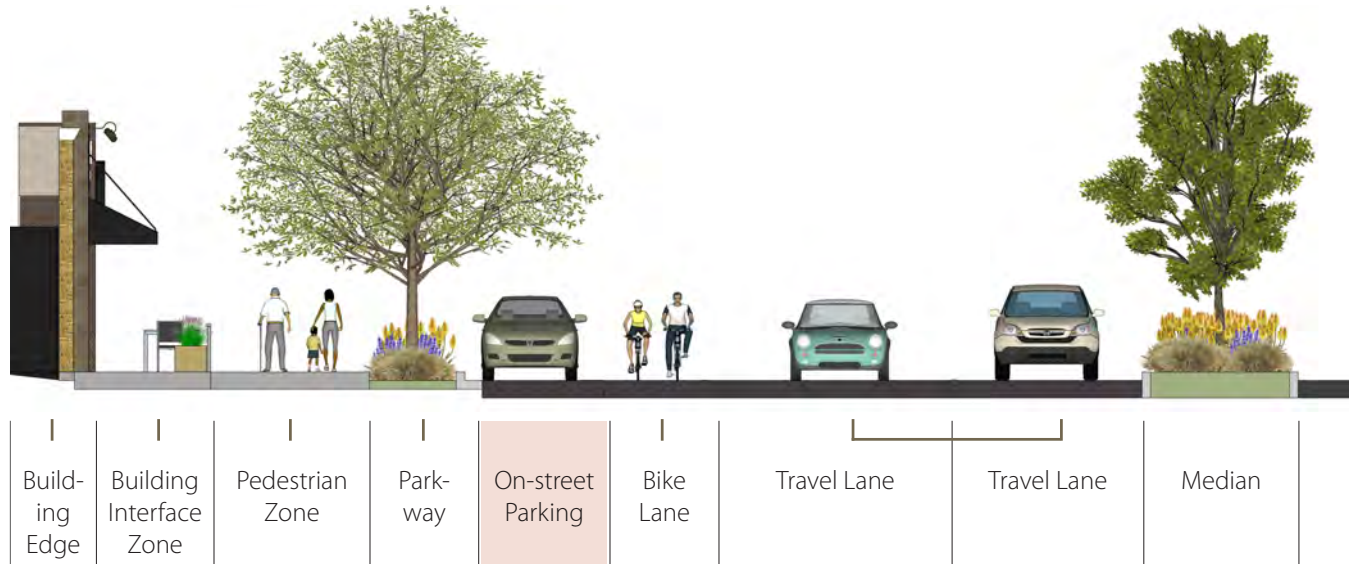


Tree Grates with Permeable Pavers (Only Commercial Streets)



Subsurface Silva Cells and Drain (Use with Permeable Surface)

URBAN RUNOFF ELEMENT: PARKING LANE OPTIONS



Subsurface Silva Cell and Drain (Use with Permeable Surfaces)

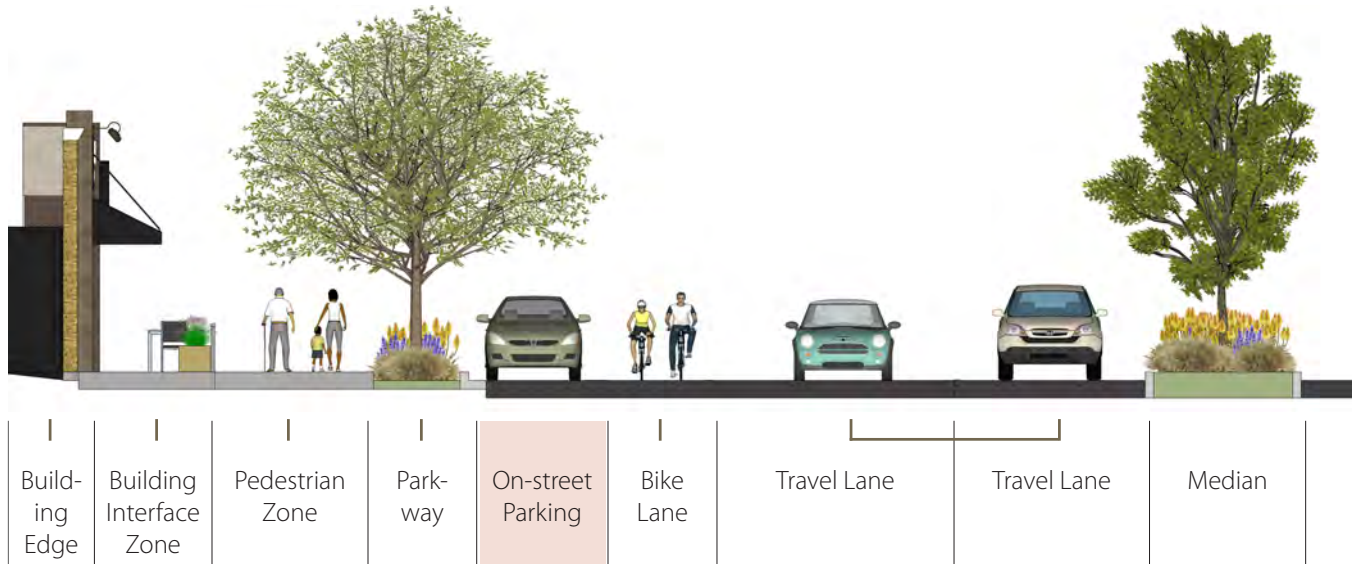


Permeable Pavers



Permeable Concrete

URBAN RUNOFF ELEMENT: PARKING LANE OPTIONS (WITH BULBOUTS)



Intersection Bulbout with Bioretention Soil and Subsurface Drain

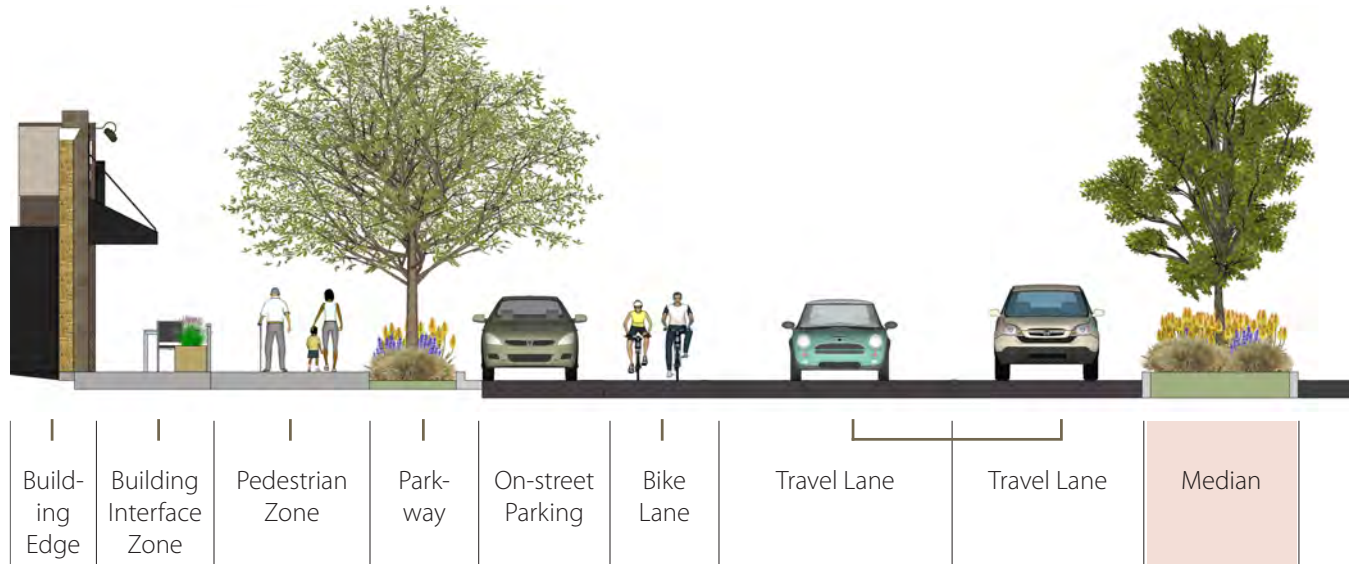


Mid-block Bulbout with Bioretention Soil and Subsurface Drain



Bulbout as an Infiltration Basin with Bioretention Soils and Subsurface Drain

URBAN RUNOFF ELEMENT: MEDIAN OPTIONS



Permeable Paver with Subsurface Filtration and Drains



Permeable Concrete with Sand Filtration and Subsurface Drain



Decomposed Granite/Rock Swale/Gravel Trench



Curb Openings Draining to Bioretention, Filtration, or Infiltration Areas

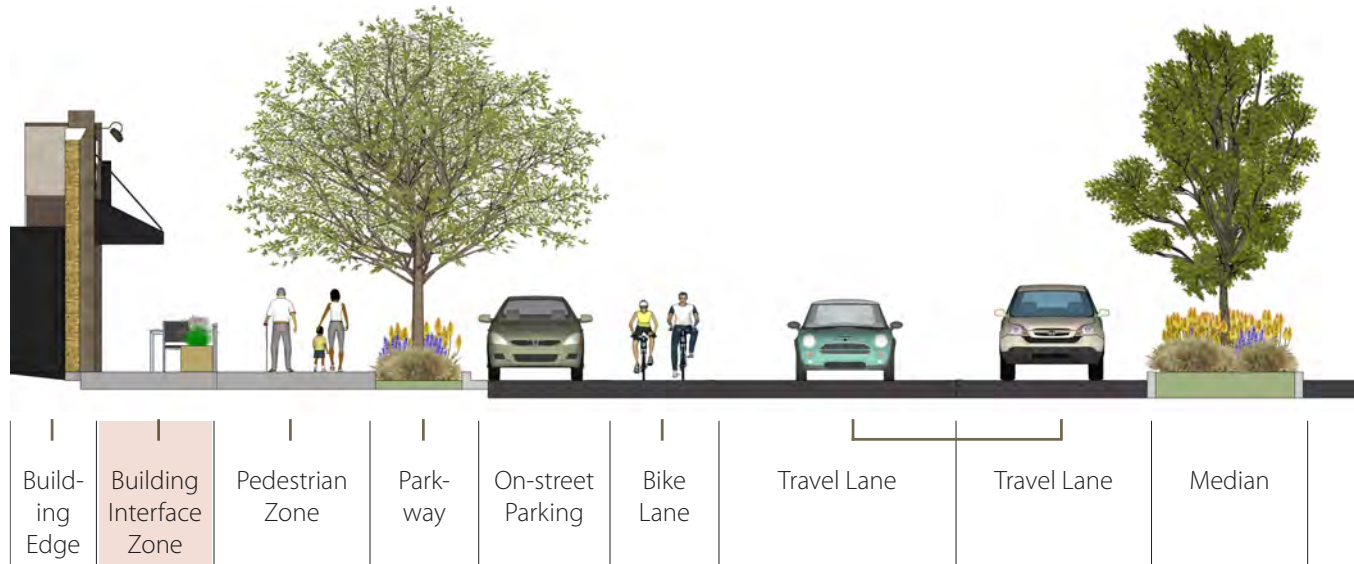


Infiltration Basin with Bioretention Soils and Subsurface Drain



Tree Basin with Bioretention Soils and Subsurface Drain

MULTI-MODAL CONNECTIVITY ELEMENT: BUILDING INTERFACE OPTIONS



Outdoor Cafes and Restaurant Seating



Merchandise Display or Sidewalk Sale



Public Seating



Bicycle Rack

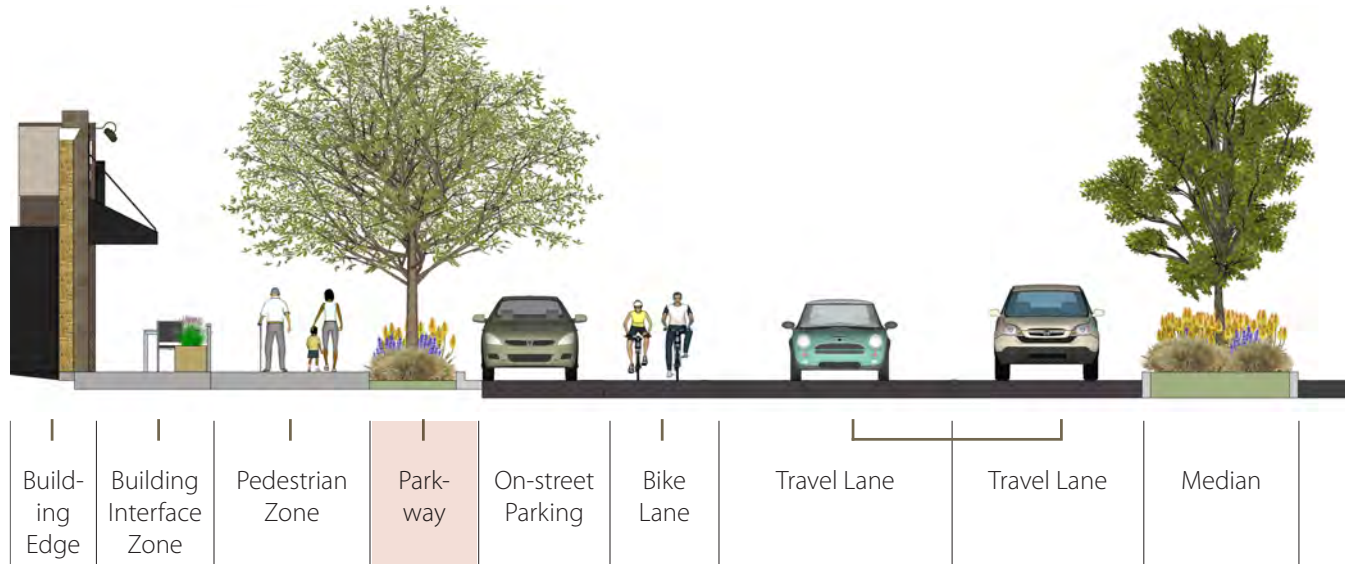


Bike Lockers



Walkway Over Tree Grate

MULTI-MODAL CONNECTIVITY ELEMENT: PARKWAY OPTIONS



Meters, Waste and Recycling Bins



Public Art/Wayfinding Banners



Pedestrian Scale Lighting



Transit Facilities with Shelters and Seating

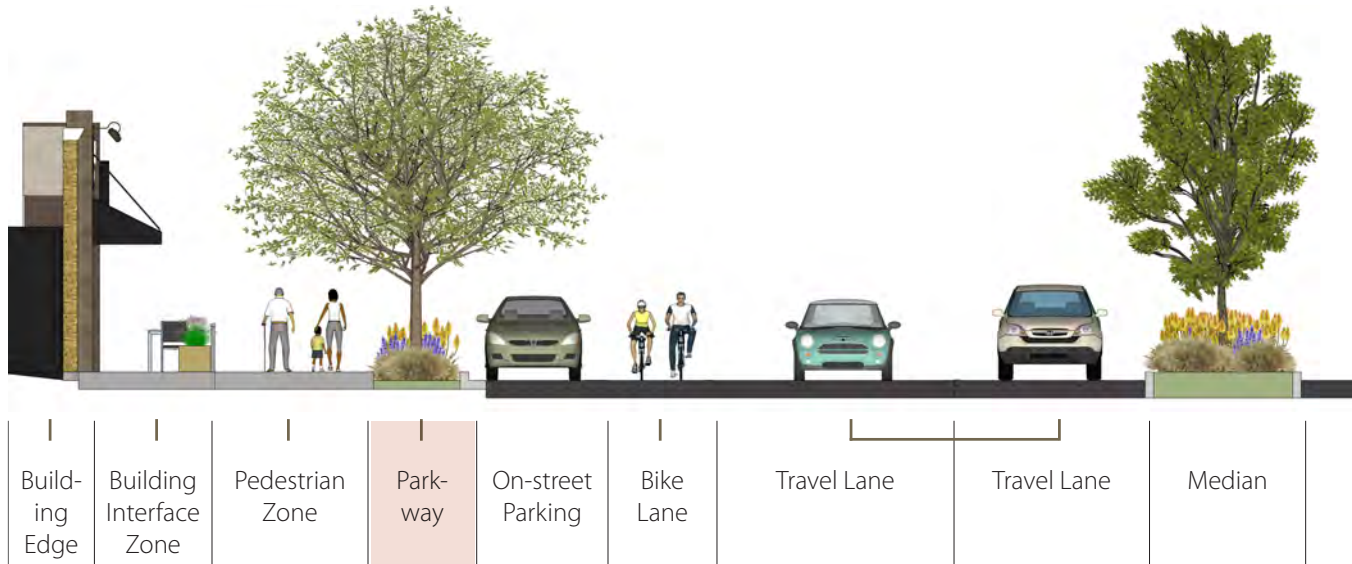


Public Information and Transit Kiosks



Public Seating

MULTI-MODAL CONNECTIVITY ELEMENT: PARKWAY OPTIONS



Bike Parking Corral

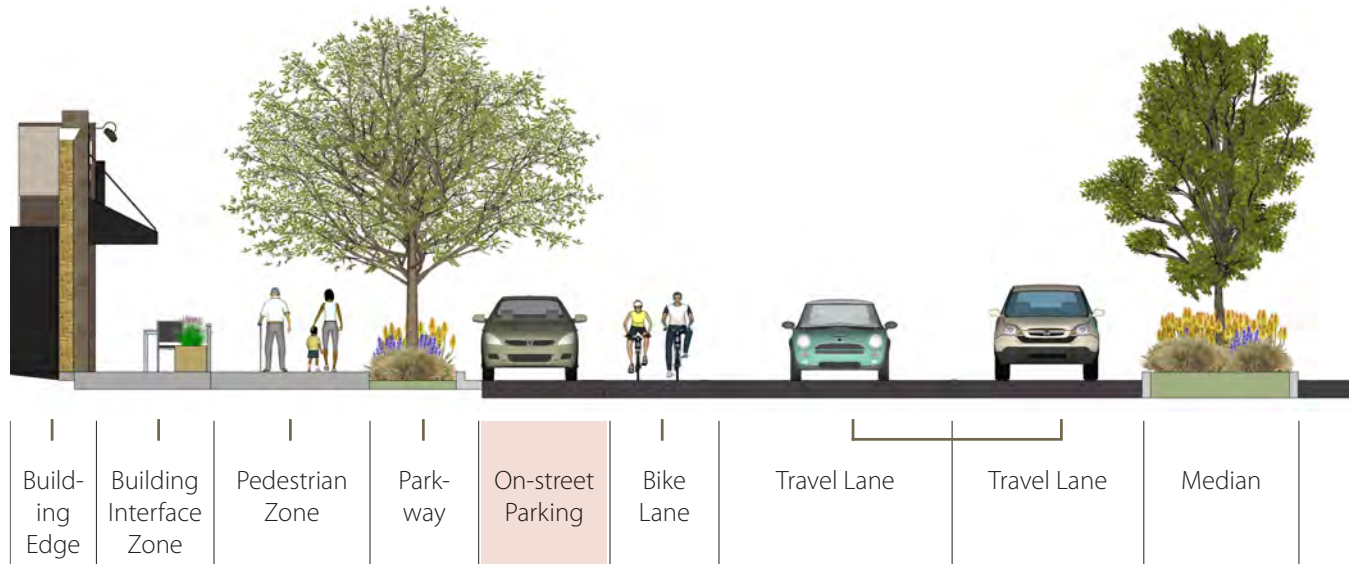


Individual Bike Rack



Individual Bike Racks

MULTI-MODAL CONNECTIVITY ELEMENT: PARKING LANE OPTIONS



Convert On-Street Parking Into a Bike Corral

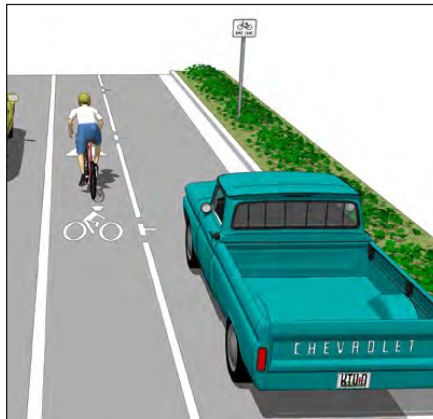
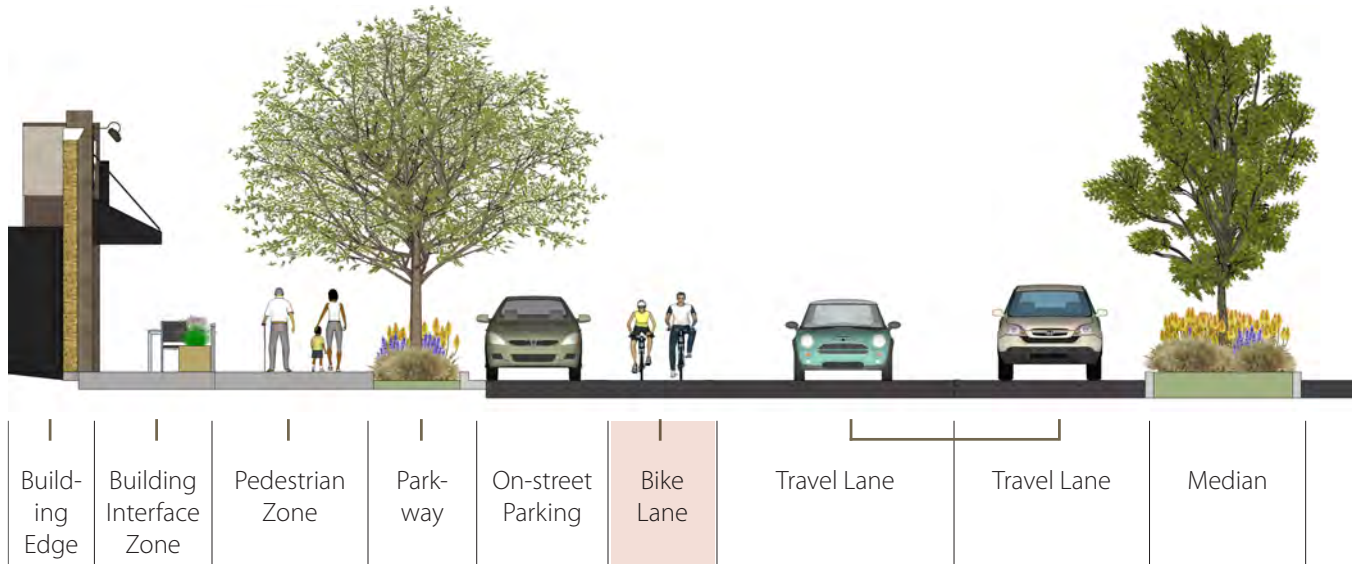


Back-in Angled Parking



Wrap-Around Parking Bulbouts

MULTI-MODAL CONNECTIVITY ELEMENT: BIKE FACILITY OPTIONS



Class 2 Bike Lane



Class 2 Bike Lane with Inside Buffer



Class 2 Buffered Bike Lane - Both Sides Buffered



Class 3 Bike Sharrow

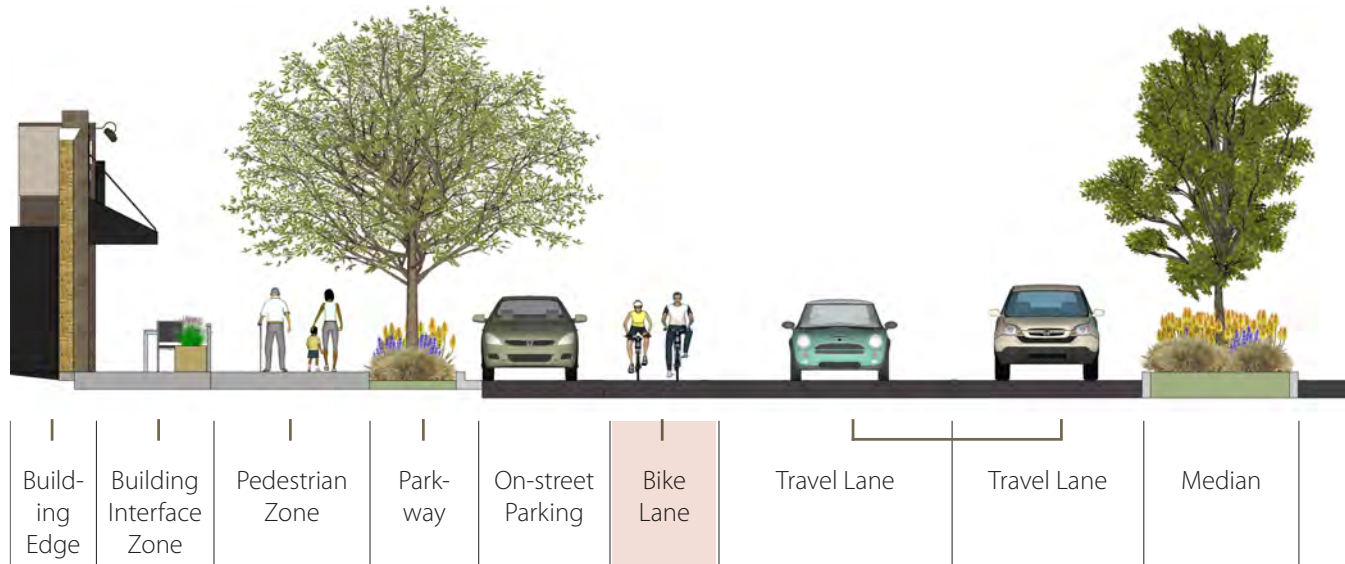


Class 3 Bike Route



Two-Way Cycle Track with Barrier or Class 1 Multi-Use Path

MULTI-MODAL CONNECTIVITY ELEMENT: BIKE FACILITY OPTIONS



Cross-Over Lane

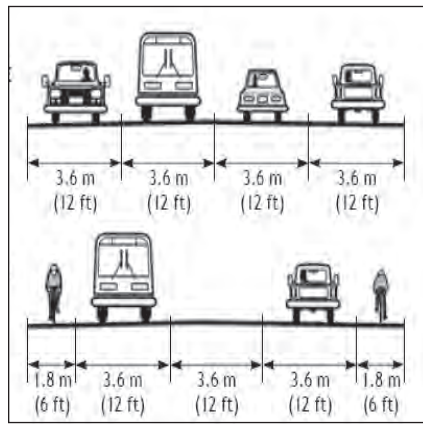
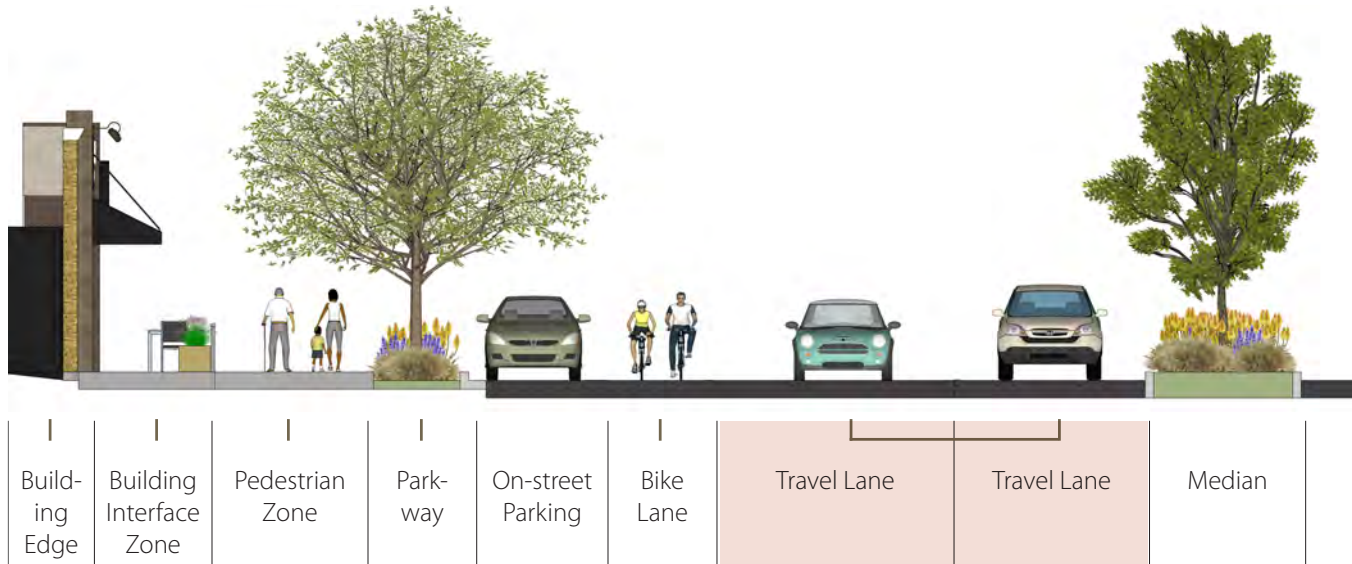


Bike Boulevard with Vehicle Diverters to Limit through Traffic

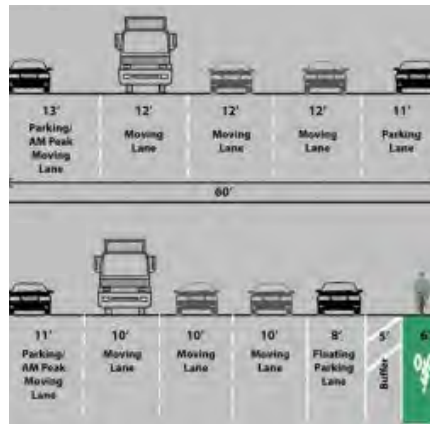


Bike Boulevard with Vehicle Diverters to Limit through Traffic

MULTI-MODAL CONNECTIVITY ELEMENT: TRAVEL LANE OPTIONS



Road Diet (Number of Lanes)

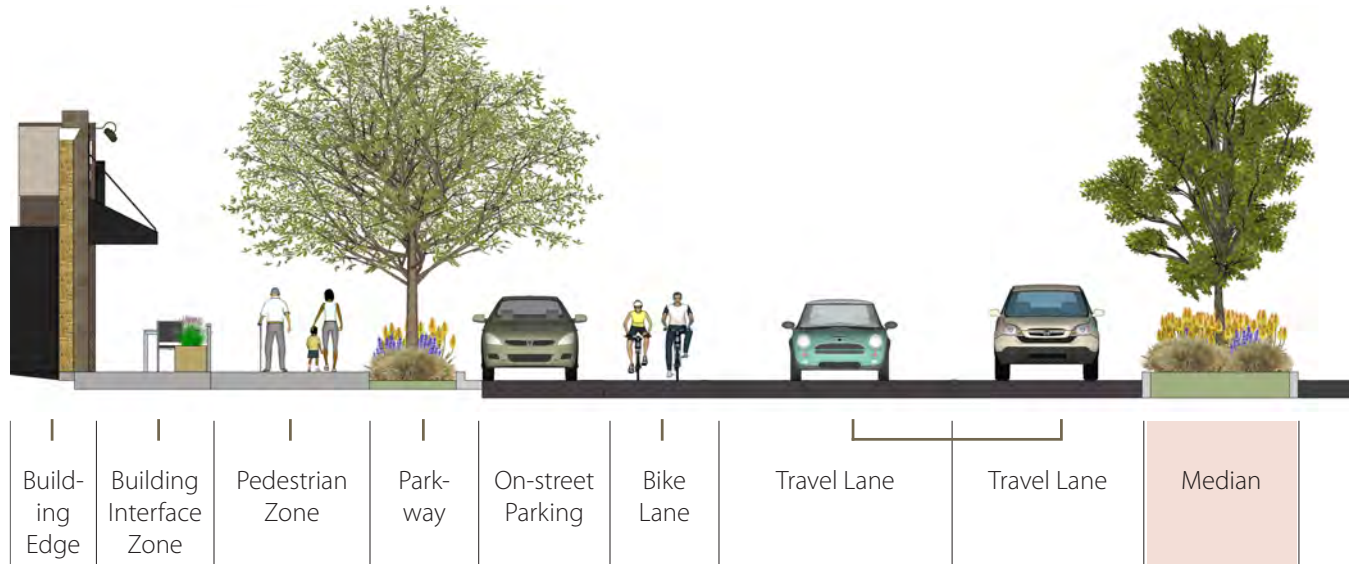


Lane Diet (Size of Lane)



Speed Table

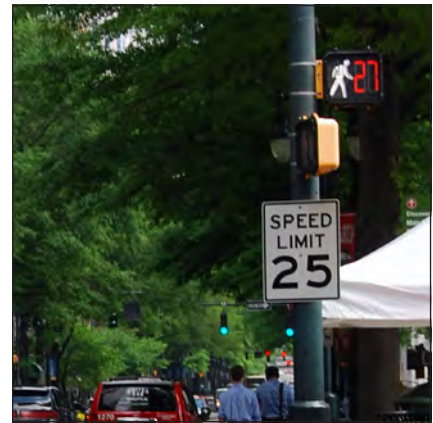
MULTI-MODAL CONNECTIVITY ELEMENT: MEDIAN OPTIONS



Left Turn Pocket

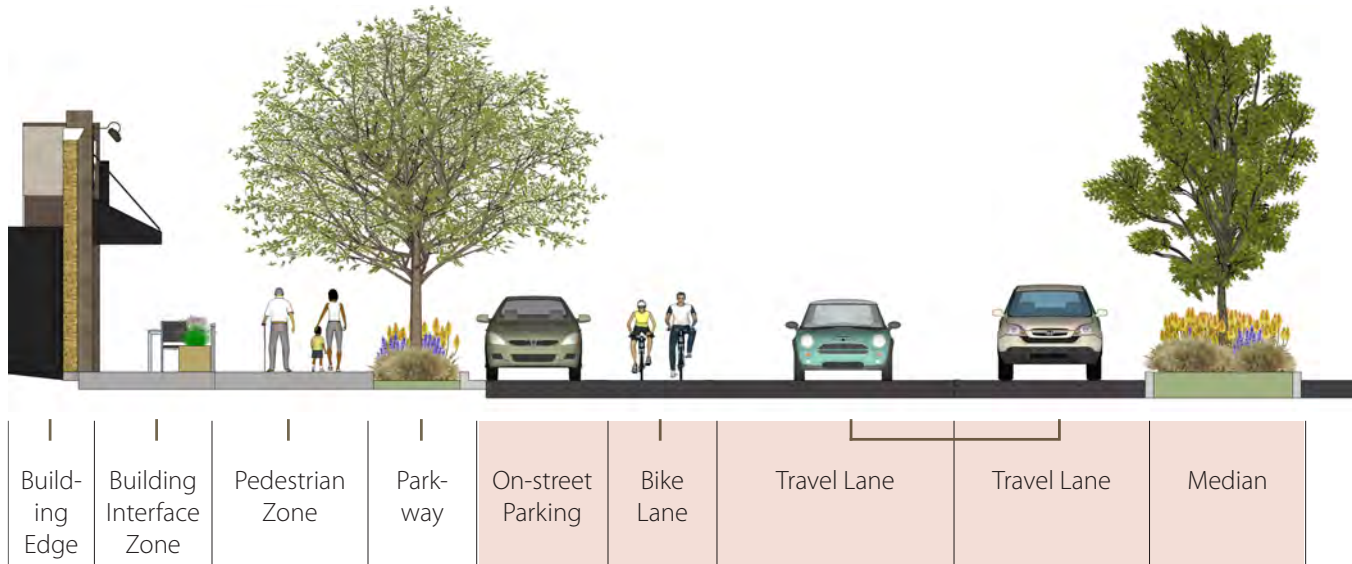


Signage/Monumentation

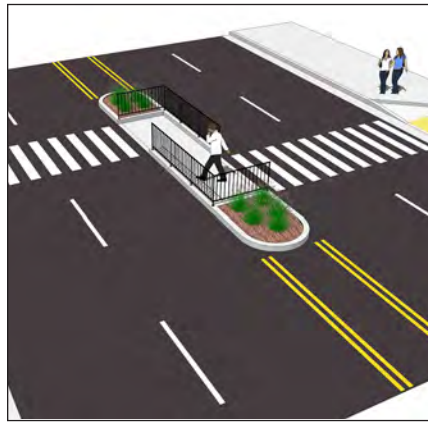


Median Based Pedestrian Signal

MULTI-MODAL CONNECTIVITY ELEMENT: STREET CROSSING OPTIONS



Median Refuge (Use with SC.3 Pedestrian Crosswalk)



Staggered Pedestrian Crosswalk (Use with SC.1)



Enhanced Marked Pedestrian Crosswalks



Pedestrian Ramp and Bulbout (Midblock or Intersection)

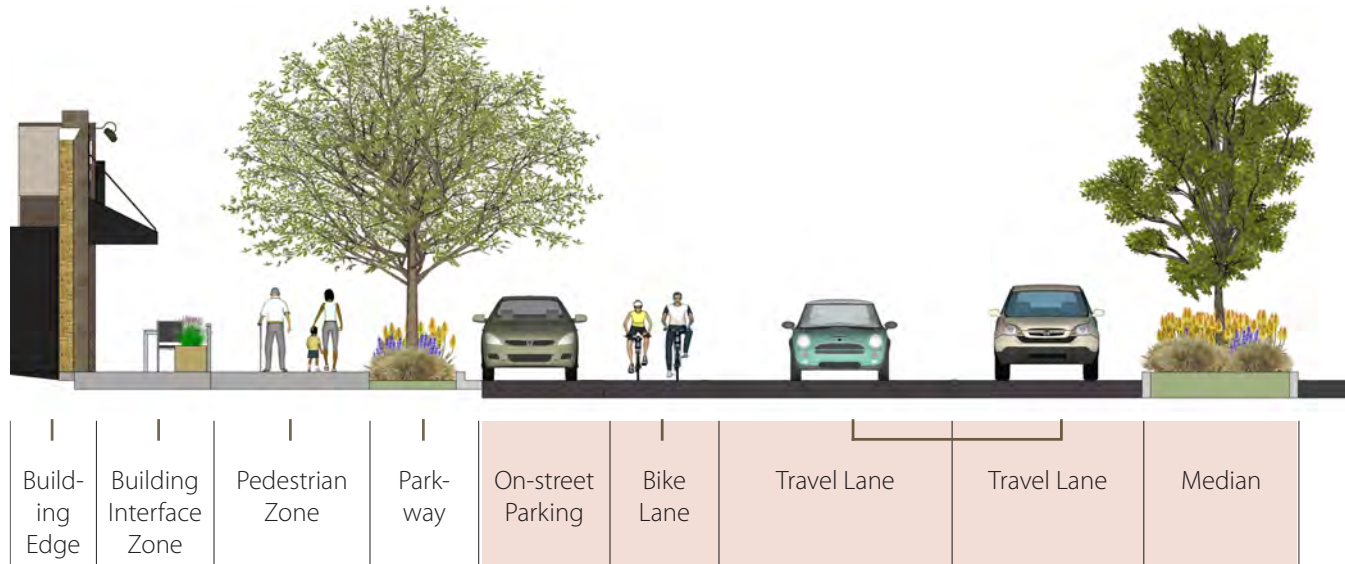


In-Road Flashers at Mid-block Crossing



High Intensity Activated Crosswalk Beacon (HAWK)

MULTI-MODAL CONNECTIVITY ELEMENT: STREET CROSSING OPTIONS



Pedestrian Signal

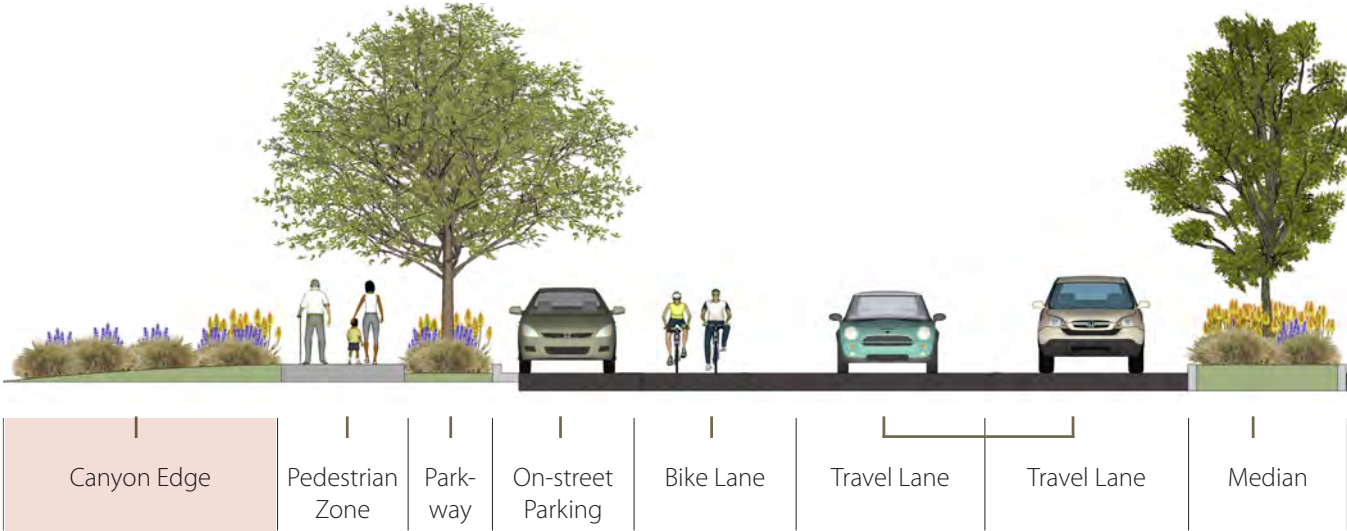


Rectangular Rapid Flashing Beacon



Traffic Signals at Intersection

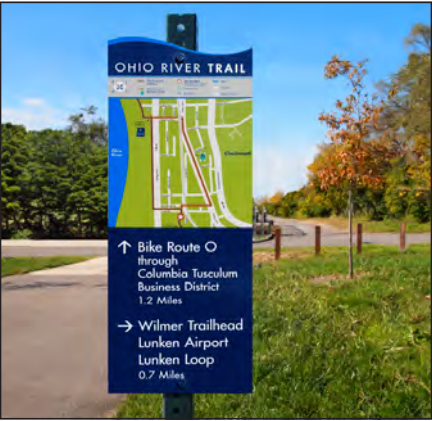
URBAN OPEN SPACE: CANYON EDGE OPTIONS



Trailhead Kiosk

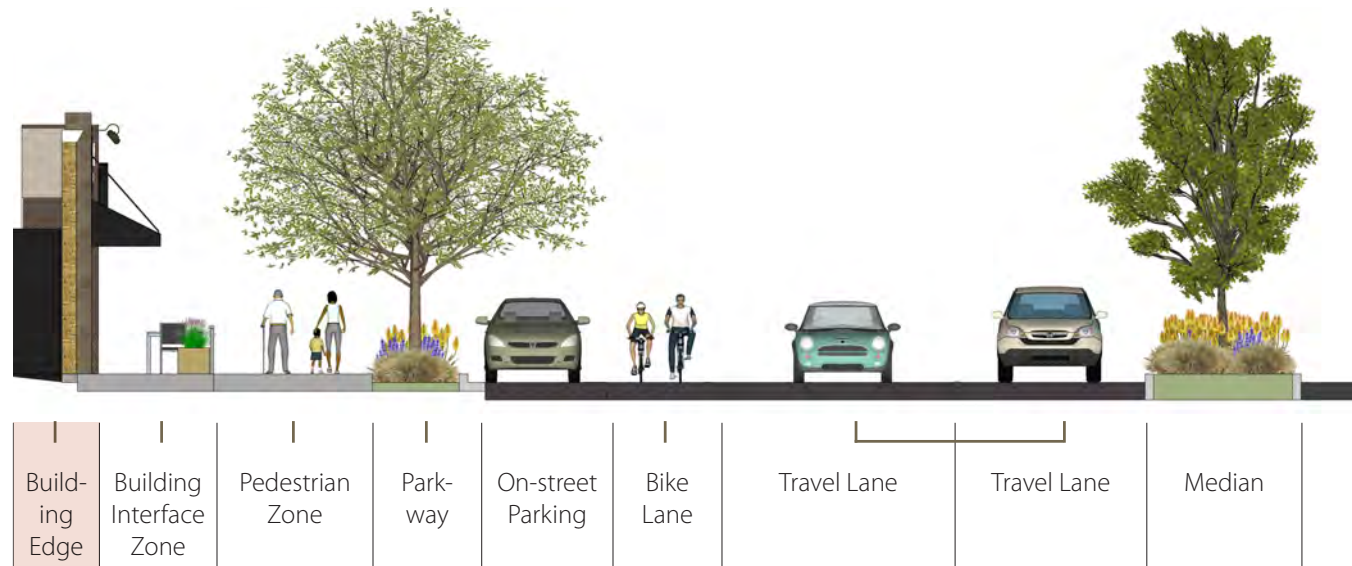


Trailhead Access



Trailhead Signage

URBAN OPEN SPACE: BUILDING EDGE OPTIONS



New Park/Plaza on Private Development or Parklet on Public Land

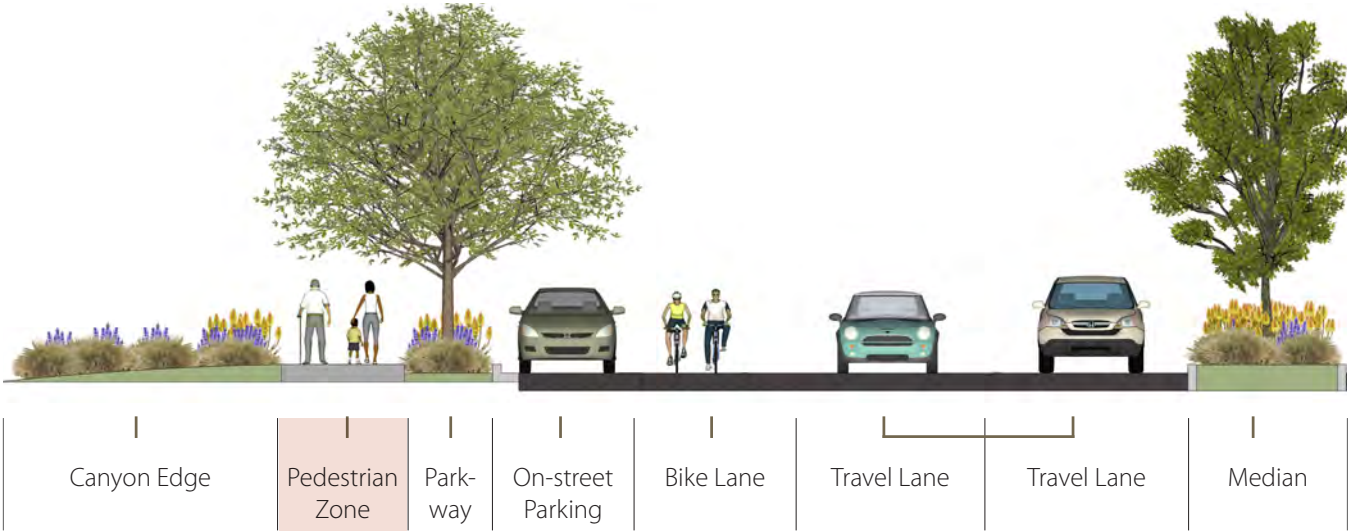


New Park/Plaza on Private Development or Parklet on Public Land



New Rooftop Park on New Development

URBAN OPEN SPACE: HARDSCAPE OPTIONS



Compacted Decomposed Granite Walkway

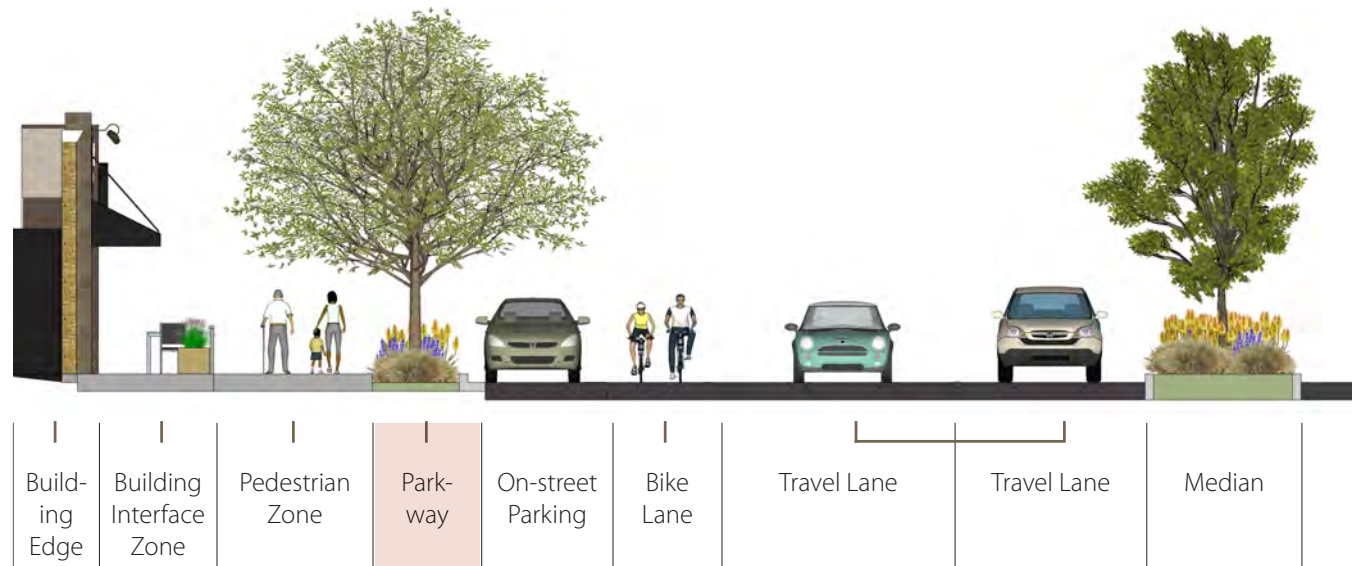


Colored Integral Concrete Walkway



Stabilized Gravel Walkway

URBAN OPEN SPACE: PARKWAY OPTIONS



Wayfinding/Signage for Safe Route to Parks

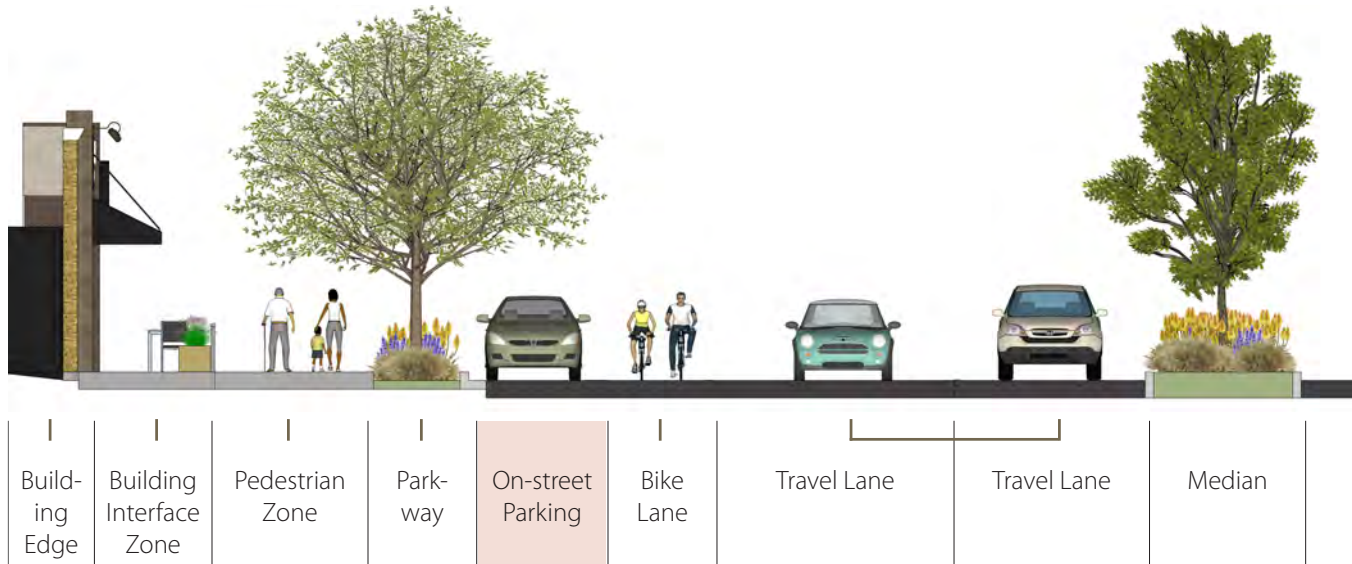


Urban Park on Wide Parkway or Double Row of Trees (3.3)



Decomposed Granite/Rock Swale/Gravel Trench

URBAN OPEN SPACE: PARKING LANE OPTIONS



Convert On-Street Parking Into Public Cafe Seating



Convert On-Street Parking to extend Sidewalk and Public Seating



Convert a Paper Street into a Park

Neighborhood City
Walk Community
Pride Value Physical People
Give Forestry Run
Comfort Parks
Water Parents Appreciate Emotional
Activity Bike Create
Attractive Trees Reduce
Kids Happy Transportation
Destinations Exposure
Health Urban
Schools Heights
Street Play

5 PILOT PROJECTS

The Pilot Projects demonstrate how Green Street elements can be implemented throughout City Heights. This section includes:

- Pilot Project Details
- Conceptual Designs for Pilot Projects
- Conceptual Cost Estimates

5.1 PROJECT LOCATIONS

The pilot projects in this chapter highlight a cross-section of community connections and improvement opportunities throughout City Heights. Each of these projects incorporates information gathered through previous planning efforts, field observations, and community input. Although specific projects have been identified, the pilot projects are intended to demonstrate how the Green Street Elements discussed in previous chapters can be implemented within City Heights. Specific approaches shown in these pilot projects are for demonstration purposes and may need to be updated during the actual design process. However, the final design should maintain the goals of the original concept plans.

Since the City of San Diego has limited capital improvement funds, it is important to seek grant funds to facilitate the construction of these projects. Cost estimates are provided for each pilot project to facilitate the grant writing process.

The pilot projects include:

Pilot Project 1: 52nd Street and El Cajon Boulevard

Pilot Project 2: El Cajon Boulevard between 45th Street and Chamoune Avenue

Pilot Project 3: University Avenue between Euclid Avenue and Winona Avenue

Pilot Project 4/5: 43rd Street between Myrtle Avenue and Fairmount Avenue

Pilot Project 6: Olive Avenue between Fairmount Avenue and Menlo Avenue

Pilot Project 7: Fairmount Avenue between Laurel Street and Home Avenue

Pilot Project 8/9: 43rd Street and Fairmount Avenue between El Cajon Boulevard and University Avenue

Pilot Project 10: University Avenue between Swift Avenue and 39th Street

CITY HEIGHTS URBAN GREENING PLAN

Figure 5-1: Pilot Projects



PILOT PROJECT 1: 52ND STREET AND EL CAJON BOULEVARD

Pilot Project 1 identifies 52nd Street as a Ped/Bike Focus Green Street and Safe Route to Parks. This street connects El Cajon Boulevard to Colina del Sol Park.

It increases community access to Colina del Sol Park and enhances urban runoff capture and filtration on 52nd Street and Trojan Avenue.

Community Connectivity: Provides a connection to Colina del Sol Park for pedestrians and bicyclists.

Previous Planning: The Full Access Community Transport System (FACTS) Project was completed in February 2012 to identify key recommendations for the Colina del Sol Park neighborhood. Recommendations included:

- Support the Regional Complete Streets Policy
- Explore funding options
- Establish a Built Environment Team
- Integrate complete streets into design
- Support the development of performance measurements for multi-modal level of service

This pilot project builds upon this effort and is consistent with the residents' desire for increased connectivity within the Colina Park neighborhood.

Urban Forestry: 52nd Street is heavily utilized by pedestrians due to its proximity to schools, but currently has very few trees. It has been identified as a Community Corridor and the recommended street tree palette can be seen on pages 14-15.

52nd Street between El Cajon Boulevard and Trojan Avenue has been targeted for 30 additional street trees. Assuming a 40 year lifespan, these trees will provide \$19,200 in oxygen benefit, \$37,200 in air pollution control, \$22,500 in water retention for adjacent landscapes, and \$18,600 in soil erosion prevention. An additional 30 trees representing the same values have been recommended along El Cajon Boulevard as well.

Urban Runoff: Currently, urban runoff flows unimpeded and unfiltered along 52nd Street and Trojan Avenue directly into two curb inlets near the intersection. This pilot project will incorporate flowthrough tree planters along 52nd Street and trees with silva cells and sub-drains within the proposed build-out at this intersection. In addition, permeable pavers or asphalt/concrete will be incorporated into the parking lanes along 52nd Street and El Cajon Boulevard. These stormwater management strategies will significantly improve the quantity and quality of stormwater reaching the storm drain system.

Multi-Modal Connectivity: 52nd Street has been identified as a Pedestrian/Bike Focus Green Street. The street is 64' wide with parallel on-street parking and five foot sidewalks. However, the sidewalk is immediately adjacent to the on-street parking with no parkway buffer. Improvements will need to be carefully integrated into this limited street width.

Based on this existing street width, El Cajon Boulevard would need to be redesigned to accommodate the proposed Class 2 bike lane identified in the City of San Diego Bicycle Master Plan.

The pilot project identifies both existing and proposed street lighting. This project includes 20 existing street lights and 7 proposed street lights. See Chapter 2 for all street lighting recommendations.

Open Space Access: This project incorporates wayfinding elements and signage that assist pedestrians and identify the street as a safe route to school. The project could also convert on-street parking space into parklets.

Cost Estimate for Pilot Project:

Total:	\$306,409
20% Contingency/Escalation	\$61,282
Total with Contingency/Escalation	\$367,691

See pages 90-92 for details



Urban Forestry

Parkway Options

- Small to large trees with grates

Parking Lane Options (with bulbout)

- Small open trees

Median Options

- Vertical trees/palms
- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch



Urban Runoff

Parking Lane Options

- Intersection bulbouts with bioretention soils and subsurface drains
- Permeable pavers or asphalt/concrete

Median Options

- Tree basins with bioretention soils and subsurface drains

Parkway Options

- Tree grates with permeable pavers
- Subsurface Silva Cells and drains (with permeable pavers)
- Hydrodynamic separators



Multi-Modal Connectivity

Pedestrian Zone Options

- Bicycle racks
- Minimum five foot clear walkway space

Parkway Options

- Meters, waste, and recycle bins
- Pedestrian-scale lighting (19 existing, 7 proposed)
- Transit facilities with shelters and seating

Parking Lane Options (with bulbout)

- Wrap-around parking bulbouts

Bike Facility Options

- Class 2 bike lane on El Cajon Boulevard

Street Crossing Options

- Enhanced marked pedestrian crosswalks
- High Intensity Activated Crosswalks (H.A.W.K.) when 20 pedestrian/hr volume during peak hours demand is met



Urban Open Space

Parkway Options

- Wayfinding/signage for safe route to parks

Parking Lane Option

- Parklets

PILOT PROJECT 2: EL CAJON BOULEVARD BETWEEN 45TH STREET AND CHAMOUNE AVENUE

Pilot Project 2 identifies El Cajon Boulevard as a Commercial Focus Green Street. This projects addresses the 45th Street and Chamoune Avenue intersections, as well as improvements along El. Cajon Boulevard.

It improves pedestrian safety near Hoover High School, creates a better pedestrian environment for students and residents, and increases urban runoff capture and filtration.

Community Connectivity: Pilot Project 2 is located in a mixed-use area that focuses on neighborhood uses. The proposed design is intended to create a Commercial Focus Green Street on El Cajon Boulevard.

In addition, Herbert Hoover High School, located to the north of El Cajon Boulevard, produces a large amount of pedestrian and vehicular traffic in this area each day. There are a number of safety conditions that could be improved to create a safer pedestrian environment.

Urban Forestry: El Cajon Boulevard is identified as a Community Corridor in the street tree plan (see pages 14-15). The recommended street tree palette includes:

- **Theme Tree:** Lophostemon confertus (Brisbane Box)
- **Accent Median Tree:** Jacaranda mimosifolia (Jacaranda)

Although there are currently palm trees on El Cajon Boulevard, it is recommended that small canopy trees be incorporated to enhance the walking environment. Canopy trees need to be used with the palms to obtain the proper level of urban forestry benefits associated with canopy trees.

Urban Runoff: El Cajon Boulevard functions as a head-water street. Flowthrough parkway planters and intersection pop-outs near the intersections would integrate planting areas and sub-surface retention areas.

Multi-Modal Connectivity: El Cajon Boulevard is identified as a Commercial Focus Green Street due to the large number of businesses and high-volume traffic. El Cajon Boulevard is also identified as a Bus Rapid Transit (BRT) corridor and has numerous bus routes running along it. However, this traffic can lead to unsafe conditions for the pedestrians around Herbert Hoover High School, located to the north of El Cajon Boulevard. Pilot Project 2 proposes a number of elements to create a safer walking environment for pedestrians in this area. Any new traffic calming measures should take into account the potential slow down of service and increase in traffic volumes.

Based on this existing street width, El Cajon Boulevard would need to be redesigned to accommodate the proposed Class 2 bike lane identified in the City of San Diego Bicycle Master Plan.

The project identifies the five existing street lights in the area. Additional pedestrian-oriented lighting will be incorporated based on street lighting recommendations in Chapter 2.

Open Space Access: This area of El Cajon Boulevard will incorporate wayfinding/signage to identify safe routes to schools and parks.

Cost Estimate for Pilot Project:

Total:	\$239,988
20% Contingency/Escalation	\$47,997
Total with Contingency/Escalation	\$287,985

See pages 90-92 for details



Urban Forestry

Parkway Options

- Small to large tree with grate
- Medium to large canopy tree

Median Options

- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch



Urban Runoff

Parkway Options

- Tree grates with permeable pavers
- Infiltration basin with bioretention soils and subsurface drains

Median Options

- Tree basins with bioretention soils and subsurface drains



Multi-Modal Connectivity

Parkway Options

- Meters, waste and recycle bins
- Pedestrian-scale lighting (5 existing)
- Transit facilities with shelters and seating

Bike Facility Options

- Class 2 bike lanes

Pedestrian Zone Options

- Bicycle corrals or racks
- Minimum five foot clear walkway space

Street Crossing Options

- Enhanced marked pedestrian crosswalks
- Median refuges
- Pedestrian signals
- New traffic signal at intersection of 45th St. and El Cajon Blvd: Engineering Study will determine if traffic Warrant 3 (Peak Hour) Warrant 5 (School Crossing), Warrant 6 (Coordinated Signal System) and Warrant 7 (Crash Experience) are met

Parking Lane Options

- Wrap-around parking bulbouts



Urban Open Space

Parkway Options

- Wayfinding/signage

PILOT PROJECT 3: UNIVERSITY AVENUE BETWEEN EUCLID AVENUE AND WINONA AVENUE

Pilot Project 3 will improve the identity of University Avenue as a main street area by improving bicycle and pedestrian access and incorporating a new plaza into the University Avenue and Reno Drive area. A mini-park will also be created in the vacant lot at Euclid Avenue and Auburn Drive.

This project will improve bicycle connectivity and safety along University Avenue, reduce urban runoff, improve vehicular flow, and provide additional park space for the City Heights community.

Previous Planning: This project area is included in the CHCDC’s Walk and Shop Program and is highlighted in the Gateway/Tower District. The Walk and Shop Program will provide direction on signage and branding for the Gateway/Tower District.

The Mid-City Community Plan (MCCP) also includes the City Heights Planning Area. The recommendations are consolidated from the MCCP and include:

- Angled parking and wider sidewalks
- Street trees, attractive bus stops, and direction signage
- Paved alleys, urban plazas/mini-parks
- Public acquisition of vacant or under-used land for parks

The Euclid Revitalization Action Plan (ERAP) also highlights recommendations for this project area including:

- Urban plaza along University Avenue at Reno Drive
- Sign regulations and parking limitations

Community Connectivity: Euclid Avenue has been identified as a key improvement street by the Euclid Revitalization Area Plan (2000). The project area is located in a mixed-use area that focuses on neighborhood uses.

Urban Forestry: For this section of University Avenue, it is recommended that 27 small canopy trees be planted to enhance the pedestrian environment. Additional street trees are recommended along Reno Drive.

University Avenue is identified as a Community Corridor in the street tree plan (see pages 14-15). The recommended street tree palette includes:

- **Theme Tree:** Koelreuteria bipinnata (Chinese Flame)
- **Alt. Theme Tree:** Afrocarpus gracilior (African Fern Pine)
- **Accent Tree:** Jacaranda mimosifolia (Jacaranda)

Euclid Avenue is also identified as a Community Corridor and has a specific street tree palette including:

- **Theme Tree:** Platanus racemosa (California Sycamore)
- **Alt. Theme Tree:** Quercus ilex (Holly Oak)

This palette should also be incorporated into the park design.

Urban Runoff: Euclid Avenue, Reno Drive, and University Avenue each function as runoff conveyors. The permeable pavers and bioretention soils incorporated into the streetscape design will help capture and reduce excess runoff.

Multi-Modal Connectivity: University Avenue is identified as a Commercial Focus Green Street with a Class 2 bicycle facility. It also supports an MTS local bus route. Improvements to this area include lane striping and a new signal at University Avenue and Estrella Avenue.

Based on this existing street width, University Avenue would need to be redesigned to accommodate the proposed Class 2 bike lane identified in the City of San Diego Bicycle Master Plan.

The pilot project identifies the 11 existing street lights. Additional pedestrian-oriented lighting will be incorporated based on street lighting recommendations in Chapter 2.

Open Space Access: An urban plaza along University Avenue at Reno Drive increases street interest, and a vacant lot at the intersection of Euclid Avenue and Auburn Drive provides an opportunity for a mini-park. These lots are currently privately owned and would need to be acquired by the city.



Urban Forestry

Parkway Options

- Small to large trees with grates
- Medium to large canopy trees

Median Options

- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch



Urban Runoff

Parkway Options

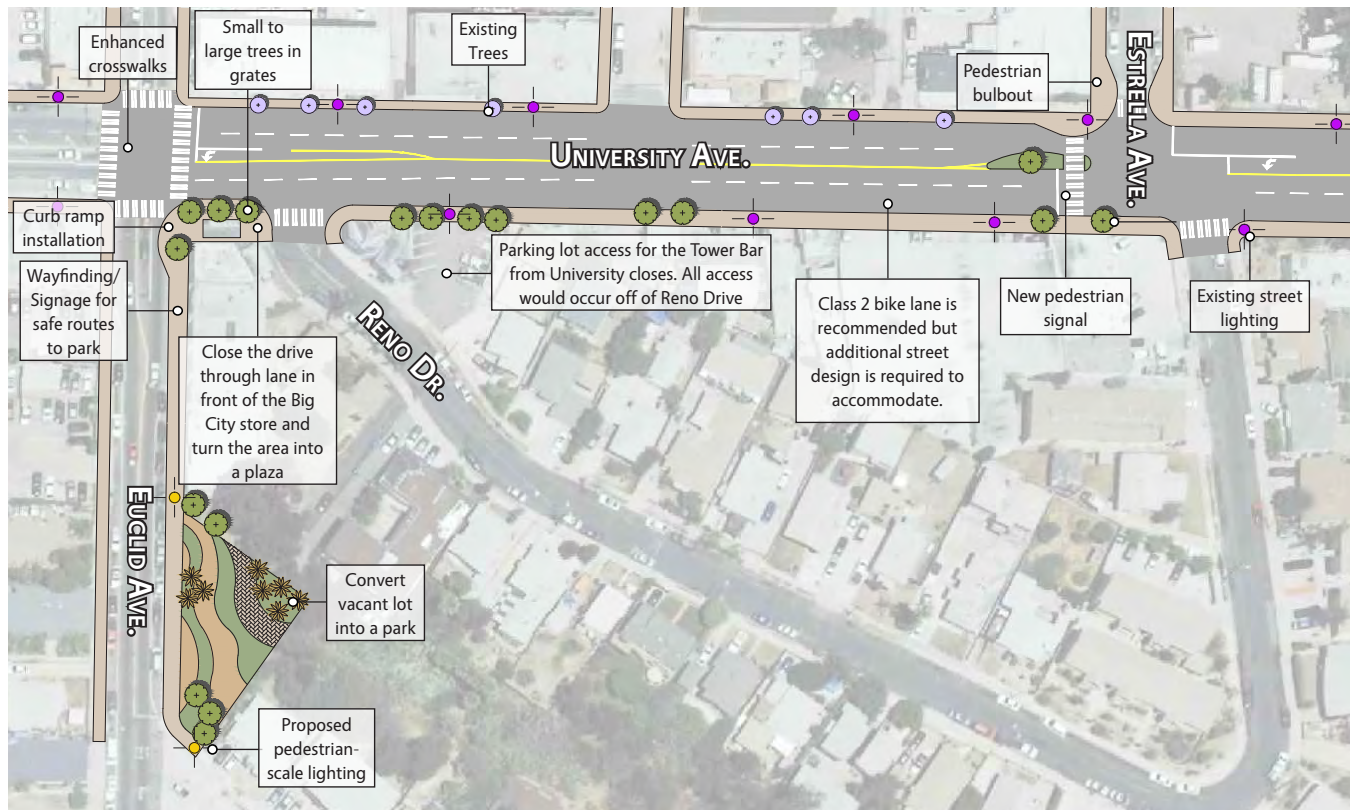
- Tree grates with permeable pavers
- Infiltration basin with bioretention soils and subsurface drain

Parking Lane Options

- Bulbout as an infiltration basin with bioretention soils and subsurface drain

Median Options

- Tree basin with bioretention soils and subsurface drain



Cost Estimate for Pilot Project:

	Total:	\$515,738
	20% Contingency/Escalation	\$103,148
	Total with Contingency/Escalation	\$618,886

See pages 90-92 for details



Multi-Modal Connectivity

Pedestrian Zone Options

- Bicycle corrals or racks
- Minimum five foot clear walkway space

Parkway Options

- Meters, waste and recycle bins
- Pedestrian-scale lighting (11 existing, 2 proposed)
- Transit facilities with shelters and seating

Bike Facility Options

- Class 2 bike lanes

Parking Lane Options

- Wrap-around parking bulbouts
- Angled parking

Street Crossing Options

- Enhanced marked pedestrian crosswalks
- Median refuges
- Pedestrian signals
- New traffic signal at intersection: Engineering study will determine if traffic Warrant 1 (Eight-Hour Vehicular Volume), and Warrant 2 (Four-Hour Vehicular Volume) are met. Sight Distance Analysis will also be needed



Urban Open Space

Parkway Options

- Wayfinding/signage for safe route to parks
- Convert vacant lot into a park

PILOT PROJECT 4 AND 5: 43RD STREET BETWEEN MYRTLE AVENUE AND FAIRMOUNT AVENUE

Pilot Projects 4 and 5 identify two urban open space opportunities that integrate urban forestry and urban runoff capture and re-use. These pilot projects improve the vehicular flow, decrease urban runoff, and improve bicycle and pedestrian access on 43rd Street.

Increases on-street parking and provides safe school access to Joyner Elementary School and Monroe Clark Middle School. Creates a mini-park in the vacant lot and integrates the open space opportunity and trail access with the future Ocean Discovery Institute (ODI).

Previous Planning: This pilot project received attention from the Safe Routes to School Study. The Mid-City Community Plan (MCCP) identifies this area as a place of pedestrian interchange. The recommendations include:

- Integrate street trees and a landscaped urban plaza and provide good lighting conditions
- First floor of buildings should be set back to create large public areas
- Sidewalk pop-outs should provide protection and vehicular intersections should be marked

Community Connectivity: This pilot project focuses on 43rd Street as an opportunity to naturally filter and slow urban runoff before it reaches Manzanita Canyon. It also creates a new public space for the community.

Urban Forestry: Fairmount Avenue and 43rd Street are identified as Community Corridors in the street tree plan (see pages 14-15). It is recommended that native plantings and an additional 11 trees be included along 43rd Street. The recommended street tree palette includes:

- **Theme Tree:** *Afrocarpus gracilior* (African Fern Pine)
- **Alt. Theme Tree:** *Arbutus 'Marina'* (Marina Strawberry Tree)

Additionally, this project is located in the Canyon Interface District and should be sensitive to the impact of the trees on the canyon (see pages 104-105).

Urban Runoff: 43rd Street functions as a conveyor within this area. The drain inlet discharges the urban runoff under 43rd Street and into a drainage channel that flows south into Manzanita Canyon. The proposed mini-park could be used as a demonstration garden to showcase different types of urban runoff capture and management.

Multi-Modal Connectivity: 43rd Street is identified as a Pedestrian/Bike Focus Green Street and Fairmount Avenue is identified as a Transit Focus Green Street. Fairmount Avenue has a much larger volume of traffic than 43rd Street in this area. It is recommended that a Class 1 multi-use path be integrated into 43rd Street to provide a safe route of travel separate from Fairmount Avenue. As 43rd Street joins back to Fairmount Avenue, it is important that bicycle access be integrated into the street design.

The project identifies both existing and proposed street lighting. This project includes seven existing street lights and eight proposed street lights. See Chapter 2 for all street lighting recommendations.

Open Space Access: Two plazas or open space opportunities exist within this pilot project. The first is located along 43rd Street as the edge drops off into the canyon. The second is located at the intersection of 43rd Street and Fairmount Avenue. The MCCP and CHUG both recommend that building setbacks allow for reclaimed urban space at this intersection.

Cost Estimate for Pilot Project:

	Total:	\$327,848
20% Contingency/Escalation		\$65,570
Total with Contingency/Escalation		\$393,418

See pages 90-92 for details



Urban Forestry

Parkway Options

- Medium to large canopy tree
- Native shrubs, succulents, grasses with rock mulch

Parking Lane Options (with bulbout)

- Small open trees
- Native shrubs, succulents, grasses with rock mulch

Canyon Edge Options

- Native plants and trees planted along slope transitions
- Native groundcover on slope transitions



Urban Runoff

Pedestrian Zone Options

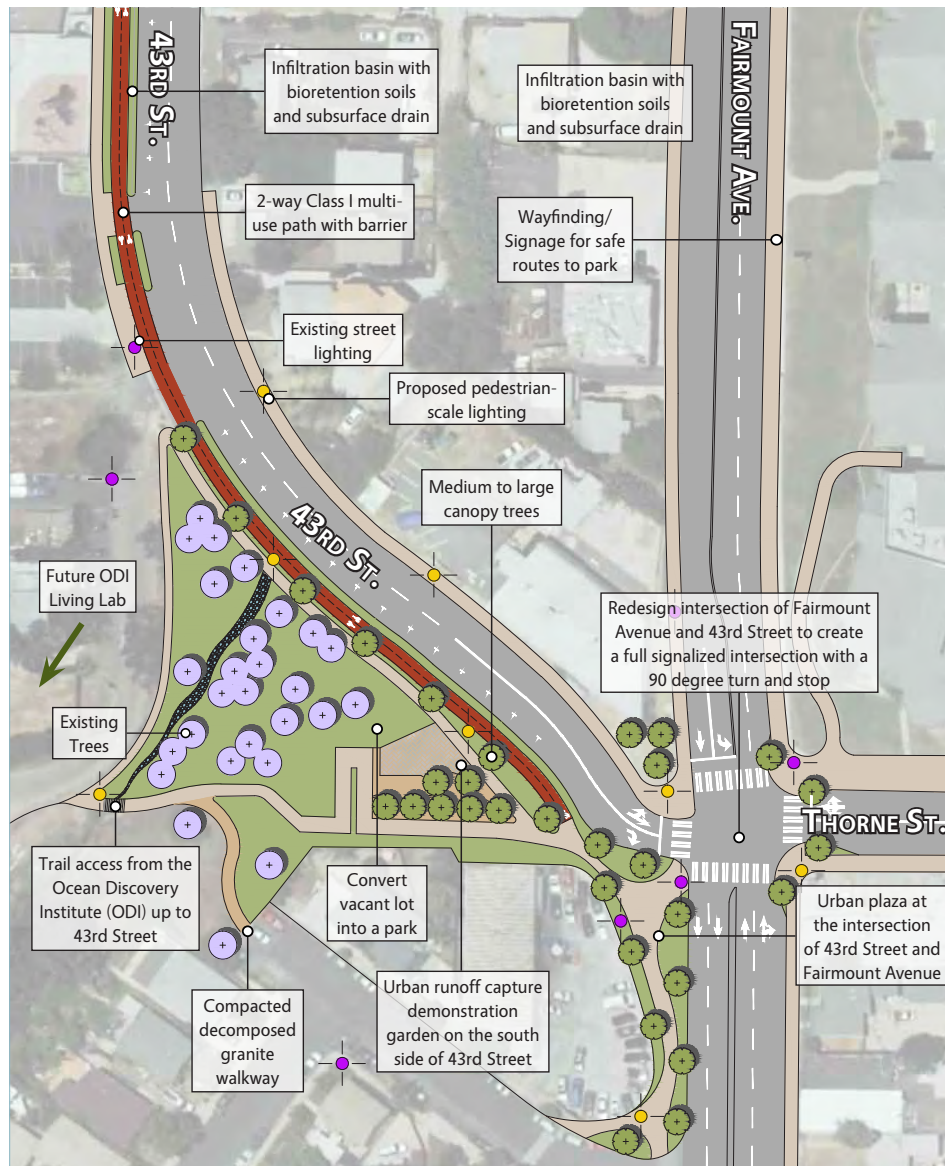
- Permeable pavers
- Permeable asphalt or concrete
- Compacted decomposed granite walkways

Parking Lane Options

- Bulbouts as infiltration basins with bioretention soils and subsurface drains

Parkway Options

- Infiltration basins with bioretention soils and subsurface drains
- Tree basins with filters and subsurface drains
- Subsurface Silva Cells and drains (use with permeable pavers)



Multi-Modal Connectivity

Parkway Options

- Meters, waste and recycle bins
- Public art/wayfinding banners
- Pedestrian-scale lighting (6 existing, 8 proposed)
- Transit facilities with shelters and seating
- Public seating

Bike Facility Options

- Class 1 multi-use paths with barriers

Travel Lane Options

- Lane diet

Parking Lane Options

- Wrap-around parking bulbouts
- Angled parking

Street Crossing Options

- Enhanced marked pedestrian crosswalks
- Pedestrian signals
- New traffic signal at intersections

Urban Open Space

Canyon Edge Options

- Trailhead kiosks
- Trailhead access

Parkway Options

- Wayfinding/signage for safe route to parks
- Convert vacant lots into a park

PILOT PROJECT 6: OLIVE STREET BETWEEN FAIRMOUNT AVENUE AND MENLO AVENUE

Pilot Project 6 identifies Olive Street as a Canyon Interface Street. It increases the trail access, improves the bicycle and pedestrian environment, and reduces urban runoff.

Increases trail access to Swan Canyon. Slows urban runoff flows to the canyon and improves pedestrian and bicycle connectivity.

Previous Planning: San Diego Canyonlands has been working extensively on the canyons clean up, restoration, and trailhead design. This plan defers to these designs for construction of the trail heads. However, this pilot project focuses on access from the trailheads from Olive Avenue.

Community Connectivity: This pilot project focuses on the integration of Swan Canyon and Olive Avenue as a pedestrian and bicycle connection point for City Heights. The canyons that are spread throughout City Heights are an amenity, but can also act as a barrier. This pilot project identifies a connection through Swan Canyon in conjunction with the work being done by San Diego Canyonlands.

Urban Forestry: This pilot project focuses on Olive Avenue as a native landscape street due to its adjacency to the canyon. This is an area that is within the Canyon Interface Zone and plants and trees should be carefully considered for their impact to the canyon.

It is recommended that street trees be used with native plantings and that opportunities to use street trees similar to the existing trees be encouraged. In addition, the street tree master plan identifies three trees that are particularly well suited within the Canyon Interface Zone (see pages 104-105). These include:

- Arbutus 'Marina' (Marina Strawberry Tree)
- Platanus racemosa (California sycamore)
- Quercus agrifolia (Coast live oak)
- Heteromeles arbutifolia (California Toyon)

Urban Runoff: Olive Avenue and Menlo Avenue both function as headwater streets in this area. There are no drain inlets diverting urban runoff before it enters the canyon. Integrating urban runoff capture and filtration within the streets will directly benefit the volume and quality of urban runoff entering Swan Canyon.

Multi-Modal Connectivity: The streets in this pilot project are identified as local streets and do not have any bus routes that run in this area or land uses that suggest commercial street interfaces. Because pedestrian access is a key concern due to topography, Olive Avenue is classified as a Ped/Bike Focus Green Street and should provide additional connectivity for the area. However, Olive Avenue is also a relatively narrow street. East of Swan Canyon, Olive Avenue has a 56 foot right-of-way and west of the Canyon, it has a 48 foot right-of-way. It is strongly recommended that bicycle and pedestrian connectivity be improved along Menlo Avenue as well.

Pedestrian-scale lighting should be incorporated along Menlo Avenue and Olive Street to increase safety and accessibility. The pilot project identifies the three existing street lights and four proposed street lights. See Chapter 2 for all street lighting recommendations.

Open Space Access: This pilot project includes way-finding and signage to improve accessibility and connectivity with Swan Canyon. See SD Canyonlands plans for additional details regarding trailheads.

Cost Estimate for Pilot Project:

Total:	\$114,612
20% Contingency/Escalation	\$22,922
Total with Contingency/Escalation	\$137,534

See pages 90-92 for details



Urban Forestry

Parkway Options

- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch

Canyon Edge Options

- Native plants and trees planted along slope transitions
- Native groundcover on slope transitions



Urban Runoff

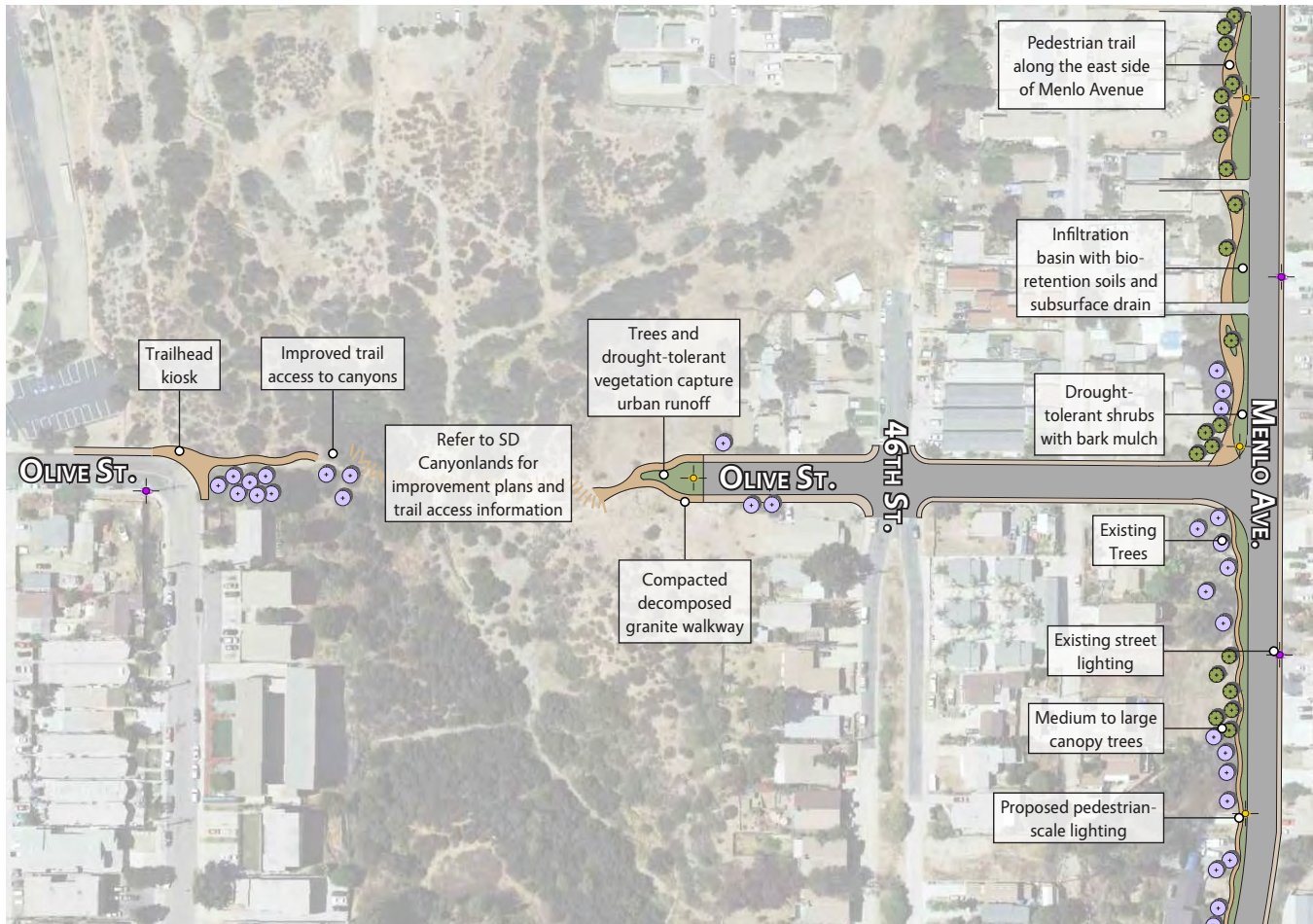
Pedestrian Zone Options

- Compacted decomposed granite walkways

Parkway Options

- Infiltration basins with bioretention soils and subsurface drains
- Tree basins with filters and subsurface drains

CITY HEIGHTS URBAN GREENING PLAN



Multi-Modal Connectivity

Parkway Options

- Pedestrian-scale lighting (3 existing, 4 proposed)



Urban Open Space

Canyon Edge Options

- Trailhead kiosks
- Trailhead access

Parkway Options

- Wayfinding/signage for safe routes to parks

PILOT PROJECT 7: FAIRMOUNT AVENUE BETWEEN LAUREL STREET AND HOME AVENUE

Pilot Project 7 identifies Fairmount Avenue from Laurel Avenue to Home Avenue as a key area for pedestrian and transit access. This project increases transit amenities and provides new and improved bicycle and pedestrian connections. It also provides street trees for shading and opportunities for urban runoff capture.

Increases pedestrian access to the multi-family residential areas in the southern area of City Heights, increases transit amenities, and reduces urban runoff flow.

Previous Planning: Although the Azalea Park-Hollywood Park Revitalization Action Program addresses Fairmount Avenue in this area, there are no specific previous planning recommendations for this pilot project area.

Community Connectivity: This pilot project focuses on connecting the southern area of City Heights to the northern area. The connectivity between the more intensely developed area of City Heights and the more residential end of City Heights is separated by large topographic changes. Fairmount Avenue is the main north to south thoroughfare in addition to Poplar Street.

Urban Forestry: The pilot project area has significant grade changes and a number of transit stops. Because of the high number of transit users in this area, this pilot project incorporates 21 new street trees to provide increased canopy cover for pedestrians and bicyclists.

Fairmount Avenue is an important street due to its north to south access through the center of the City Heights planning area. It is identified as a Community Corridor in the street tree plan (see pages 14-15) and the recommended street tree palette includes:

- **Theme Tree:** *Afrocarpus gracilior* (African Fern Pine)
- **Alt. Theme Tree:** *Arbutus 'Marina'* (Marina Strawberry Tree)

Assuming a 40 year lifespan, the additional trees on Fairmount Avenue provide \$13,440 worth of oxygen, \$26,040 worth of air pollution reductions, \$15,750 of water retention for adjacent landscapes, and \$13,020 of soil erosion control. This is a total value of \$68,250 in benefits by planting an additional 21 canopy trees.

Urban Runoff: In this area, Fairmount Avenue functions as a conveyor street with urban runoff flows gaining speed and volume as they flow downhill from Laurel Avenue to Home Avenue. Urban runoff diversions in the proposed expanded parkway improvements would enhance capture and filtration opportunities before the runoff reaches Chollas Creek just on the other side of Home Avenue.

Multi-Modal Connectivity: Fairmount Avenue is identified as a Transit Focus Green Street. Although there are two MTS bus stops in the pilot project area, there are no specific improvements to either transit stop. Instead, this pilot project focuses on improving pedestrian access to each of these stops.

Fairmount Avenue is excessively wide in this area. It is recommended that a pedestrian connection be made from Home Avenue up to Laurel Avenue. In addition, there is an opportunity to narrow the street through a lane diet and incorporate a Class 2 bike lane. This solution allows new urban runoff elements to be implemented as well.

The pilot project identifies the nine existing street lights. Additional pedestrian-oriented lighting will need to be incorporated along Fairmount Avenue to increase safety and accessibility for bicyclists and pedestrians. See all street lighting recommendations in Chapter 2.

Open Space Access: This pilot project recommends repurposing excess right-of-way on the east side of Fairmount Avenue as a linear park.

Cost Estimate for Pilot Project:

Total:	\$300,310
20% Contingency/Escalation	\$60,062
Total with Contingency/Escalation	\$360,372

See pages 90-92 for details



Urban Forestry

Parkway Options

- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch

Canyon Edge Options

- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch



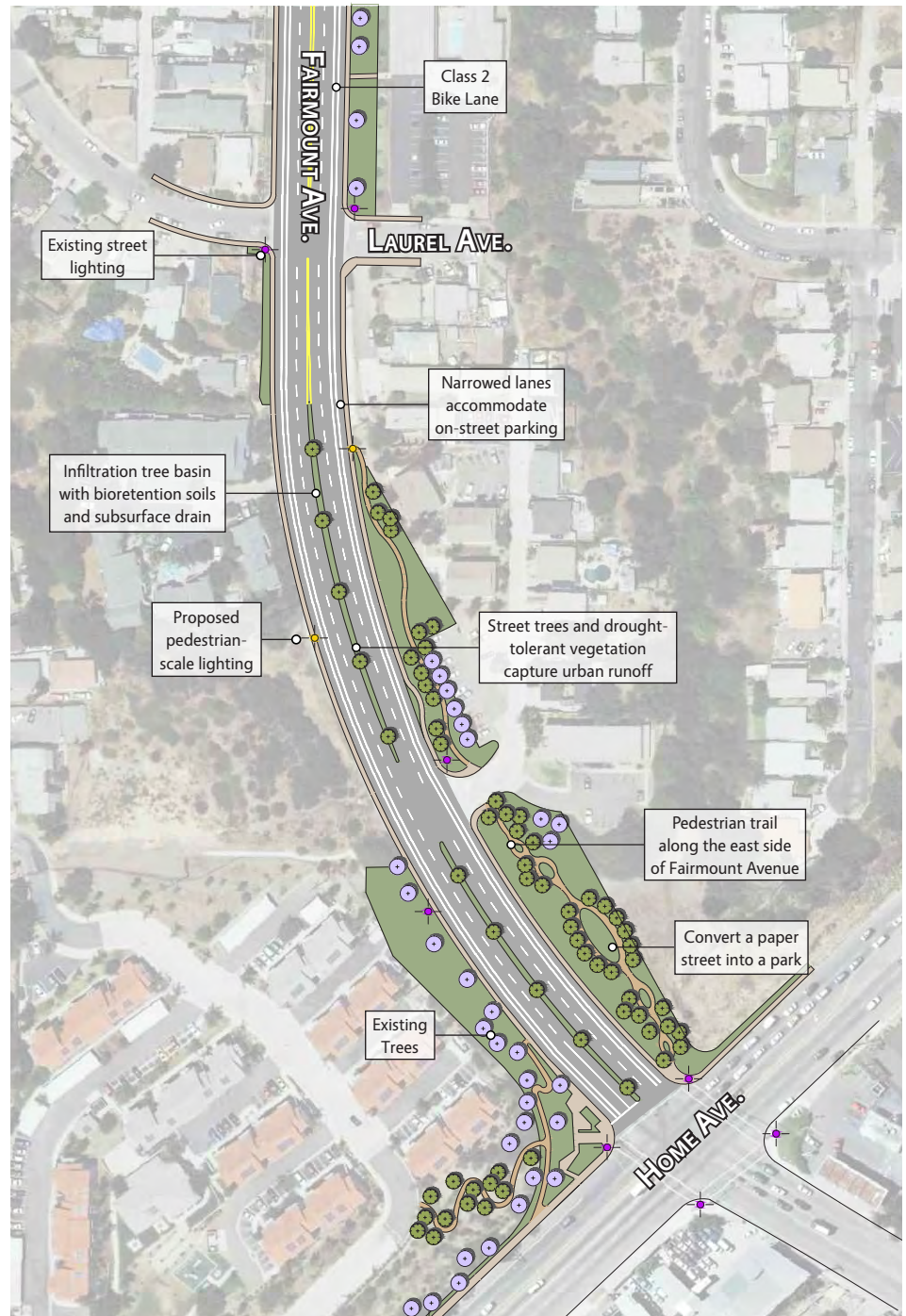
Urban Runoff

Parkway Options

- Infiltration basins with bioretention soils and subsurface drains
- Rain gardens with bioretention soils and subsurface drains

Median Options

- Tree basins with bioretention soils and subsurface drains
- Drainage study will be needed



Multi-Modal Connectivity

Travel Lane Options

- Lane diets

Bike Facility Options

- Class 2 bike lanes

Parkway Options

- Pedestrian-scale lighting (9 existing, 2 proposed)
- Sight distance analysis will be needed



Urban Open Space

Canyon Edge Options

- Wayfinding/signage for safe routes to parks

Parking Lane Options

- Convert a paper street into a park

Pedestrian Zone Options

- Compacted decomposed granite walkways

PILOT PROJECT 8 AND 9: 43RD STREET AND FAIRMOUNT AVENUE BETWEEN EL CAJON BOULEVARD AND UNIVERSITY AVENUE

Pilot Projects 8 and 9 modify 43rd Street and Fairmount Avenue into sustainable, one-way streets that provide multi-modal access.

Increases canopy cover to provide a shaded pedestrian environment, and expands the pedestrian walkway to incorporate a bicycle facility on both streets.

Community Connectivity: These pilot projects focus on creating the infrastructure to support a commercial district and international marketplace. El Cajon Boulevard and University Avenue are key east-west streets and 43rd Street and Fairmount Avenue are heavily traversed Community Corridor streets need to support the businesses that are located on them.

Previous Planning: The Walk and Shop program identifies this area as the Fairmount/43rd Street Mall district. See the Walk and Shop program for signage, branding, and art recommendations.

The Mid-City Community Plan identifies this area as the International Promenade. The goal for this area is to encourage an international trade center for ethnically oriented-goods and services. Recommendations from the MCCP include:

- Additional street trees and wider sidewalks
- Angled parking bays
- Outdoor eating and sales areas
- Banners advertising the area’s ethnic assets
- Enhanced intersection paving and gateway structures

In addition, the intersection of 43rd Street and Fairmount Avenue have been highlighted as a BRT station by the Mid-City Regional Transportation Planning project through MTS and SANDAG.

Urban Forestry: These pilot projects increase tree canopy along Fairmount Avenue and 43rd Street by incorporating 79 new trees. 43rd Street and Fairmount Avenue are both Transit

Community Corridors (see page 14-15) and include the following street tree palette:

- **Theme Tree:** *Afrocarpus gracilior* (African Fern Pine)
- **Alt. Theme Tree:** *Arbutus ‘Marina’* (Marina Madrone)

Urban Runoff: The areas north of Polk Avenue drain to the San Diego River and the areas south drain to Chollas Creek. Improvements north of Polk Avenue can be incorporated into existing storm drain pipes, so larger volumes of urban runoff can be captured and filtered.

Multi-Modal Connectivity: 43rd Street is identified as a Pedestrian/Bike Focus Green Street and Fairmount Avenue is a Transit Focus Green Street. Both are heavily traveled MTS bus routes. Providing safe pedestrian access is a necessity for these two streets as there is a large student population that traverses this area.

In addition, bike routes/lanes will be incorporated onto both streets to increase bicycle connectivity. Based on this existing street width, both streets will need to be redesigned to accommodate the proposed Class 2 and Class 3 bike facilities identified in the City of San Diego Bicycle Master Plan.

The project also identifies 19 existing street lights in the area. Additional pedestrian-oriented lighting will be incorporated based on street lighting recommendations in Chapter 2.

Open Space Access: This project incorporates signage and wayfinding elements. In addition, the larger pilot project area can incorporate parklets near the commercial areas (see parklets map on page 23).

Cost Estimate for Pilot Project:

	Total:	\$676,527
20% Contingency/Escalation		\$135,305
Total with Contingency/Escalation		\$811,832

See pages 90-92 for details



Urban Forestry

Parkway Options

- Small to large trees with grates
- Medium to large canopy trees
- Native shrubs, succulents, grasses with rock mulch

Parking Lane Options (with bulbouts)

- Small open trees
- Native shrubs, succulents, grasses with rock mulch



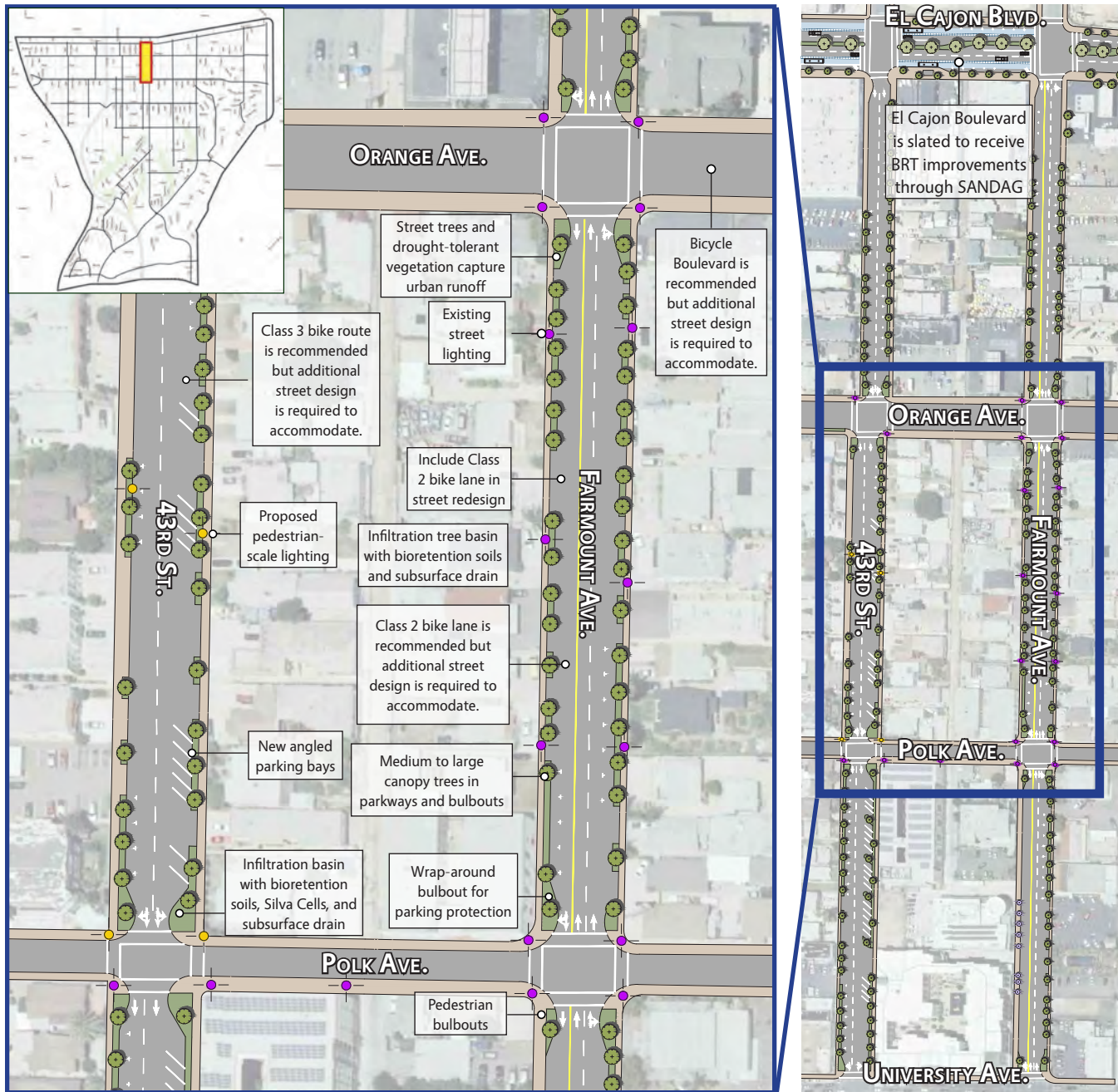
Urban Runoff

Parkway Options

- Tree basins with bioretention soils and subsurface drains
- Subsurface silva cells and drains

Parking Lane Options

- Intersection bulbouts with bioretention soils and subsurface drains



Multi-Modal Connectivity

Parking Lane Options

- Wrap-around parking bulbouts
- Angled parking

Street Crossing Options

- Enhanced pedestrian crosswalks

Parkway Options

- Pedestrian-scale lighting (18 existing, 4 proposed)

Bike Facility Options

- Class 2 bike lanes
- Class 3 bike routes
- Bicycle boulevard. Level of Service/ Capacity Analysis and Phasing Study may be needed.

Pedestrian Zone Options

- Minimum five foot clear walkway space



Urban Open Space

Building Edge Options

- Parklets

Parkway Options

- Wayfinding/signage

PILOT PROJECT 10: UNIVERSITY AVENUE BETWEEN SWIFT AVENUE AND 39TH STREET

This location along University Avenue is considered the old heart of City Heights, including the former East San Diego City Hall, former movie theater, and other significant structures. Although this area is now a heavy commercial corridor, the vision is to return University Avenue to a Main Street of Commerce.

Increasing the canopy cover and expanding the pedestrian walkway on University Avenue facilitates new commercial activity.

Previous Planning: The Walk and Shop program identifies this area as the Historic District. See the Walk and Shop program for signage, branding, and art recommendations.

According to SANDAG’s Regional Bikeway Plan, University Avenue is slated to accommodate a Class 2 bicycle facility.

The Mid-City Community Plan (MCCP) also includes the City Heights Planning Area. The recommendations are consolidated from the MCCP and include:

- Angled parking and wider sidewalks
- Street trees, attractive bus stops, and directional signage
- Paved alleys, developed urban plazas/mini-parks
- Public acquisition of vacant or under-used land for park/recreation development along the street
- Widened eastbound University Avenue to provide one left-turn, two through, and one right-turn lane
- Widened northbound Euclid Avenue to provide one left-turn, one through, and one right-turn lane

Community Connectivity: This pilot project focuses on University Avenue as a Main Street of Commerce and Community Corridor.

Urban Forestry: While the Walk and Shop program will specifically identify signage, branding, and urban design recommendations, there is an opportunity to add 68 new trees in this pilot project area.

University Avenue is identified as a Community Corridor by the street tree plan (see pages 13-14) and as a historic district

by the Walk and Shop Program. The tree palette for this area includes:

- **Theme Tree:** *Koelreuteria bipinnata* (Chinese Flame Tree)
- **Alt. Theme Tree:** *Afrocarpus gracilior* (African Fern Pine)
- **Accent Tree:** *Jacaranda mimosifolia* (Jacaranda)

Assuming a 40 year lifespan, the additional trees on University Avenue provide \$43,482 worth of oxygen, \$84,246 worth of air pollution savings, \$50,955 of water retention for adjacent landscapes, and \$42,122 of soil erosion control. This is a lifespan total value of \$220,805 in benefits by planting an additional 68 canopy trees.

Urban Runoff: University Avenue within this area is positioned as a headwater street and includes a series of drain inlets located along its length. Improvements can tie into the existing storm drain pipes, so larger volumes of urban runoff can be captured and filtered. In addition, permeable pavers or asphalt/concrete will be incorporated into the parking lanes along University Avenue.

Multi-Modal Connectivity: University Avenue is identified as a Commercial Focus Green Street. However, it does not currently accommodate pedestrians, cyclists, and transit users. It should safely accommodate cyclists and enhance pedestrian access by adding additional facilities such as bike lanes, pedestrian-scale lighting, and marked crosswalks.

Based on this existing street width, University Avenue will need to be redesigned to accommodate the proposed Class 2 bike lane identified in the City of San Diego Bicycle Master Plan.

The project also identifies 11 existing street lights in the area. Additional pedestrian-oriented lighting will be incorporated based on street lighting recommendations in Chapter 2.

Open Space Access: This project incorporates signage and wayfinding elements. In addition, University Avenue is identified as street that should incorporate parklets into the streetscape design.



Urban Forestry

Parkway Options

- Small to large trees with grates



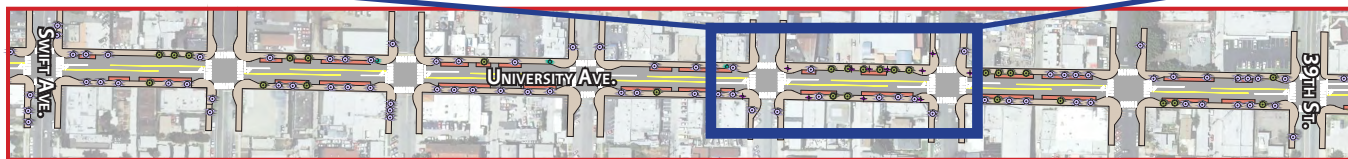
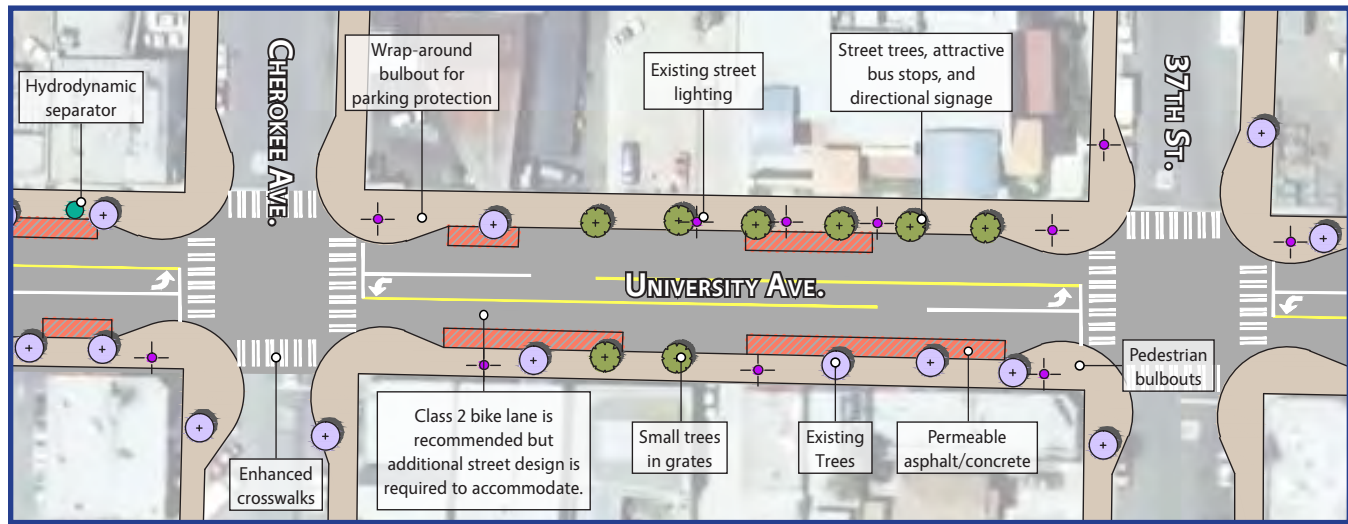
Urban Runoff

Parkway Options

- Tree grates with permeable pavers
- Hydrodynamic separators

Parking Lane Options

- Tree grates with permeable pavers
- Permeable pavers or asphalt/concrete



Cost Estimate for Pilot Project:

Total:	\$617,128
20% Contingency/Escalation	\$123,425
Total with Contingency/Escalation	\$740,553

See pages 90-92 for details.



Multi-Modal Connectivity

Pedestrian Zone Options

- Meters, waste and recycle bins
- Pedestrian-scale lighting (11 existing)
- Transit facilities with shelters and seating

Bike Facility Options

- Class 2 bike lanes

Parking Lane Options

- Wrap-around parking bulbouts

Street Crossing Options

- Enhanced marked pedestrian crosswalks



Urban Open Space

Building Edge Options

- Parklets

Parkway Options

- Wayfinding/signage

PILOT PROJECTS

Pilot Project 1 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$.33	10500	\$3,465
Trees - 36" Box	EA	\$900	66	\$59,400
Plant material for bulbouts, median, and parkway	SF	\$3	10500	\$31,500
New Tree Grates	EA	\$672	22	\$14,784
Tree Pop outs	EA	\$1,000	15	\$15,000
			Subtotal:	\$124,149
Lighting				
Street Light	EA	\$5,000	7	\$35,000
High Visibility Pedestrian Beacon/HAWK (3)	EA	\$45,000	1	\$45,000
			Subtotal:	\$80,000
Demolition				
Demo - Curb and Gutter	LF	\$4	440	\$1,760
Civil Improvements				
Pedestrian Ramps	EA	\$2,500	10	\$25,000
Construct Median Curb	LF	\$15	1700	\$25,500
Bulbouts	EA	\$12,500	4	\$50,000
			Subtotal:	\$100,500
			Total:	\$306,409
			20% Contingency/Escalation:	\$61,282
			Total with Contingency/Escalation:	\$367,691

Pilot Project 2 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$0.33	1000	\$330
Trees - 36" Box	EA	\$900	29	\$26,100
Plant material for bulbouts, median, and parkway	SF	\$3	1000	\$3,000
New Tree Grates	EA	\$672	24	\$16,128
			Subtotal:	\$45,558
Lighting				
Rectangular Rapid Flashing Beacon/Pedestrian Signal	EA	\$5,000	2	\$10,000
Demolition				
Demo - Curb and Gutter	LF	\$4	1320	\$5,280
Civil Improvements				
Pedestrian Ramps	EA	\$2,500	16	\$40,000
Construct Median Curb	LF	\$15	110	\$1,650
Bulbouts	EA	\$12,500	11	\$137,500
			Subtotal:	\$179,150
			Total:	\$239,988
			20% Contingency/Escalation:	\$47,998
			Total with Contingency/Escalation:	\$287,986

Note: Although costs show great deal of detail and have not been rounded, these conceptual costs should not be used for budgeting. The costs will change, potentially a large amount, once detailed site conditions, base mapping, utility relocations and engineering solutions have been provided in subsequent design and engineering construction document phases.

CITY HEIGHTS URBAN GREENING PLAN

Pilot Project 3 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$0.33	4050	\$1,337
Trees - 36" Box	EA	\$900	13	\$11,700
Plant material for bulbouts, median, and parkway	SF	\$3	1300	\$3,900
New Tree Grates	EA	\$672	12	\$8,064
Landscape - Groundcover	SF	\$2	2750	\$6,188
Stabilized and Compacted Decomposed Granite	SF	\$2	2600	\$5,200
Unit Pavers (including base)	SF	\$12	1000	\$12,000
			Subtotal:	\$48,388
Lighting				
Street Light	EA	\$5,000	2	\$10,000
Traffic signal	EA	\$200,000	2	\$400,000
			Subtotal:	\$410,000
Demolition				
Demo - Curb and Gutter	LF	\$4	200	\$800
Civil Improvements				
Pedestrian Ramps	EA	\$2,500	3	\$7,500
Construct Median Curb	LF	\$15	370	\$5,550
Construct 6" Curb and Gutter	LF	\$25	240	\$6,000
Bulbouts	EA	\$12,500	3	\$37,500
			Subtotal:	\$56,550
			Total:	\$515,738
			20% Contingency/Escalation	\$103,148
			Total with Contingency/Escalation	\$618,886

Pilot Project 4 and 5 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$0	29600	\$9,768
Trees - 36" Box	EA	\$900	31	\$27,900
Plant material for bulbouts, median, and parkway	SF	\$3	8000	\$24,000
Landscape Groundcover (native vegetation for slopes)	SF	\$2.25	21600	\$48,600
Cobble	SF	\$5	700	\$3,500
Stabilized and Compacted Decomposed Granite	SF	\$2	2600	\$5,200
Unit Pavers (including base)	SF	\$12	1200	\$14,400
			Subtotal:	\$133,368
Lighting				
Street Lights	EA	\$5,000	8	\$40,000
Demolition				
Demo - Curb and Gutter	LF	\$4	220	\$880
Civil Improvements				
Lane and Parking Stripes, Crosswalks and Lane Markers	LF	\$1	1100	\$1,100
Pedestrian Ramps	EA	\$2,500	7	\$17,500
Construct Concrete Sidewalks	SF	\$5	10000	\$50,000
Construct 6" Curb and Gutter	LF	\$25	700	\$17,500
Bulbouts	EA	\$12,500	3	\$37,500
Bicycle lane paint	SF	\$5	6000	\$30,000
			Subtotal:	\$153,600
			Total:	\$327,848
			20% Contingency/Escalation	\$65,570
			Total with Contingency/Escalation	\$393,418

Pilot Project 6 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$0	11400	\$3,762
Trees - 36" Box	EA	\$900	24	\$21,600
Landscape - Groundcover	SF	\$2.25	11400	\$25,650
Stabilized and Compacted Decomposed Granite	SF	\$2	12800	\$25,600
			Subtotal:	\$76,612
Lighting				
Street Light	EA	\$5,000	4	\$20,000
Civil Improvements				
Construct Concrete Sidewalks	SF	\$5	3600	\$18,000
Subtotal:				\$18,000
			Total:	\$114,612
			20% Contingency/Escalation	\$22,922
			Total with Contingency/Escalation	\$137,534

PILOT PROJECTS

Pilot Project 7 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$0.33	62,000	\$20,460
Trees - 36" Box	EA	\$900	71	\$63,900
Plant material for bulbouts, median, and parkway	SF	\$3	18,000	\$54,000
Landscape - Groundcover	SF	\$2.25	44,000	\$99,000
Stabilized and Compacted Decomposed Granite	SF	\$2	7350	\$14,700
			Subtotal:	\$252,060
Lighting				
Street Lighting	EA	\$5000	2	\$10,000
Civil Improvements				
Construct Median Curb	LF	\$15	2550	\$38,250
			Subtotal:	\$38,250
			Total:	\$300,310
			20% Contingency/Escalation:	\$60,062
			Total with Contingency/Escalation:	\$360,372

Pilot Project 8/9 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Soil Preparation	SF	\$0.33	27900	\$9,207
Trees - 36" Box	EA	\$900	96	\$86,400
Plant material for bulbouts, median, and parkway	SF	\$3	27900	\$83,700
New Tree Grates	EA	\$672	25	\$16,800
			Subtotal:	\$196,107
Lighting				
Street Lighting	EA	\$5000	4	\$20,000
Demolition				
Demo - Curb and Gutter		\$4	2530	\$10,120
Civil Improvements				
Lane and Parking Stripes, Crosswalks and Lane Markers	LF	\$1	4500	\$4,500
Pedestrian Ramps	EA	\$2,500	54	\$135,000
Construct Median Curb	LF	\$15	720	\$10,800
Bulbouts	EA	\$12,500	24	\$300,000
			Subtotal:	\$450,300
			Total:	\$676,527
			20% Contingency/Escalation:	\$135,305
			Total with Contingency/Escalation:	\$811,832

Pilot Project 10 Cost Estimate	Unit	Unit Cost	QTY	Line Item Total
Planting and Hardscape				
Trees - 36" Box	EA	\$900	29	\$26,100
New Tree Grates	EA	\$672	29	\$19,488
			Subtotal:	\$45,588
Demolition				
Demo - Curb and Gutter	LF	\$4	1760	\$7,040
Civil Improvements				
Lane and Parking Stripes, Crosswalks and Lane Markers	LF	\$1	4500	\$4,500
Pedestrian Ramps	EA	\$2,500	64	\$160,000
Bulbouts	EA	\$12,500	32	\$400,000
			Subtotal:	\$564,500
			Total:	\$617,128
			20% Contingency/Escalation:	\$123,426
			Total with Contingency/Escalation:	\$740,554



6 STREET TREE MASTER PLAN

This section includes:

- Street Tree Palettes
- Community Corridors
- Residential Corridors
- Landscape Districts

6.1 STREET TREE SELECTION FRAMEWORK

The City Heights street tree master plan is designed to provide an optimum range of tree species that have been selected to reinforce community character and reduce future problems and expense. This plan is intended to be used to facilitate the species selection based on a review of tree size at maturity, as well as physical characteristics.

The street tree framework was developed with an emphasis on choosing the right tree for the right place. Street trees were selected with three major categories in mind: visual aesthetic, function, and viability. These factors are interrelated, and although one may stand out as more dominant, all three categories need to be considered.

The City of San Diego manages the selection of street trees through an approved street tree master plan for a planning area or through the City's Street Tree Selection Guide. City Heights does not have a previous street tree master plan, thus the selection guide was the initial starting point for developing this street tree master plan. This plan considers the existing tree species in City Heights in conjunction with the City's Guide.

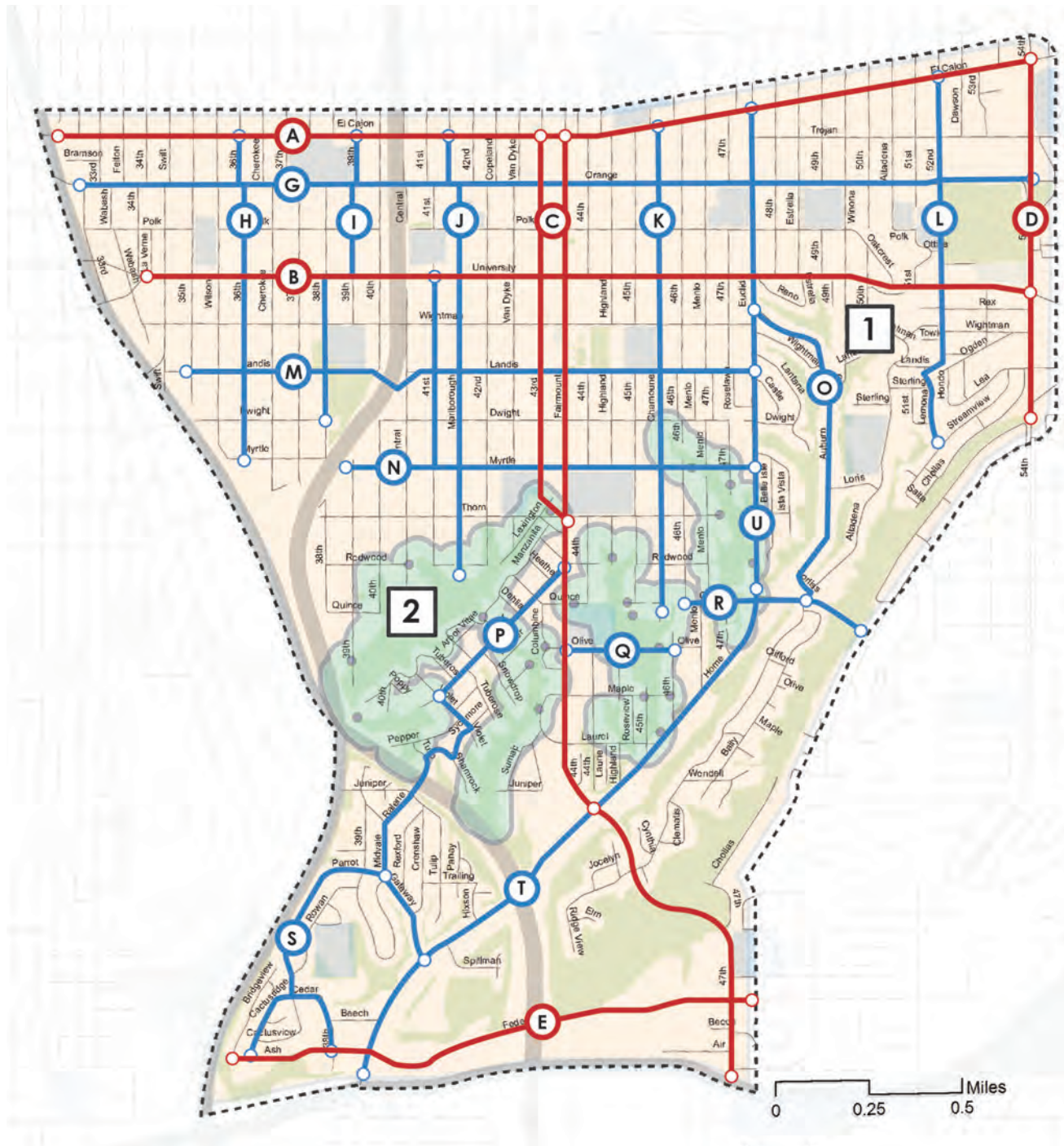
The framework for the street tree master plan includes how to use street trees and also establishes the street tree selection criteria. The table below highlights the various criteria. The framework for selecting street trees includes the following qualities:

- Drought and heat tolerance
- Minimal allergy problems
- Native to California
- Minimal root damage potential
- Long life span
- Good branch strength and structure
- No major insect/disease problems
- Good cold tolerance
- Low maintenance
- Shading potential
- Low amount of natural hydrocarbon production
- No messy fruit/other plant parts

			Community Corridors	Residential Corridors	Local Streets
Aesthetic	Scale of Tree	Large canopy: > 25 ft.	✓		
		Medium: 15-25 ft.	✓	✓	✓
		Small / limited <15 ft.		✓	✓
Function	Branching Height	9-12 Ft. clearance	✓	✓	
		Min. 6-9 Ft. clearance	✓	✓	✓
	Transparency	Broad and high branching	✓	✓	✓
		Open and sparse	✓	✓	✓
		Tall and narrow			✓
	Shade	Filtered shade	✓		
Good shade production			✓	✓	
Viability	Maintenance	Fruiting			✓
		No maintenance required for survival			✓
		Annual maintenance required	✓	✓	
	Watering	Regular watering / irrigation required	✓		
		Infrequent watering		✓	✓
	Urban Durability	Tight tree spacing			
		Resistant to water inundation			
		Resilient to compaction	✓	✓	
	Tree Spacing	Uniform spacing	✓	✓	
Irregular spacing				✓	

CITY HEIGHTS URBAN GREENING PLAN

Figure 6-1: Street Tree Map



- Legend
- Community Corridors
 - Residential Corridors
 - Landscape District / Local Streets
 - Landscape District 2 / Canyon Interface
 - Open Space

6.2 COMMUNITY CORRIDORS

Community Corridors in City Heights are heavily traveled streets that are identified as major thoroughfares. They should have consistent character due to their high visibility and importance as a connection to City Heights' destinations.

Figure 6-2 identifies the community corridors. The community corridors identified in this plan include three different types of green streets: commercial focus, transit focus, and pedestrian/bike focus. See Chapter 3 for details on design strategies and considerations for each type of green street.

Goals for Trees along Community Corridors

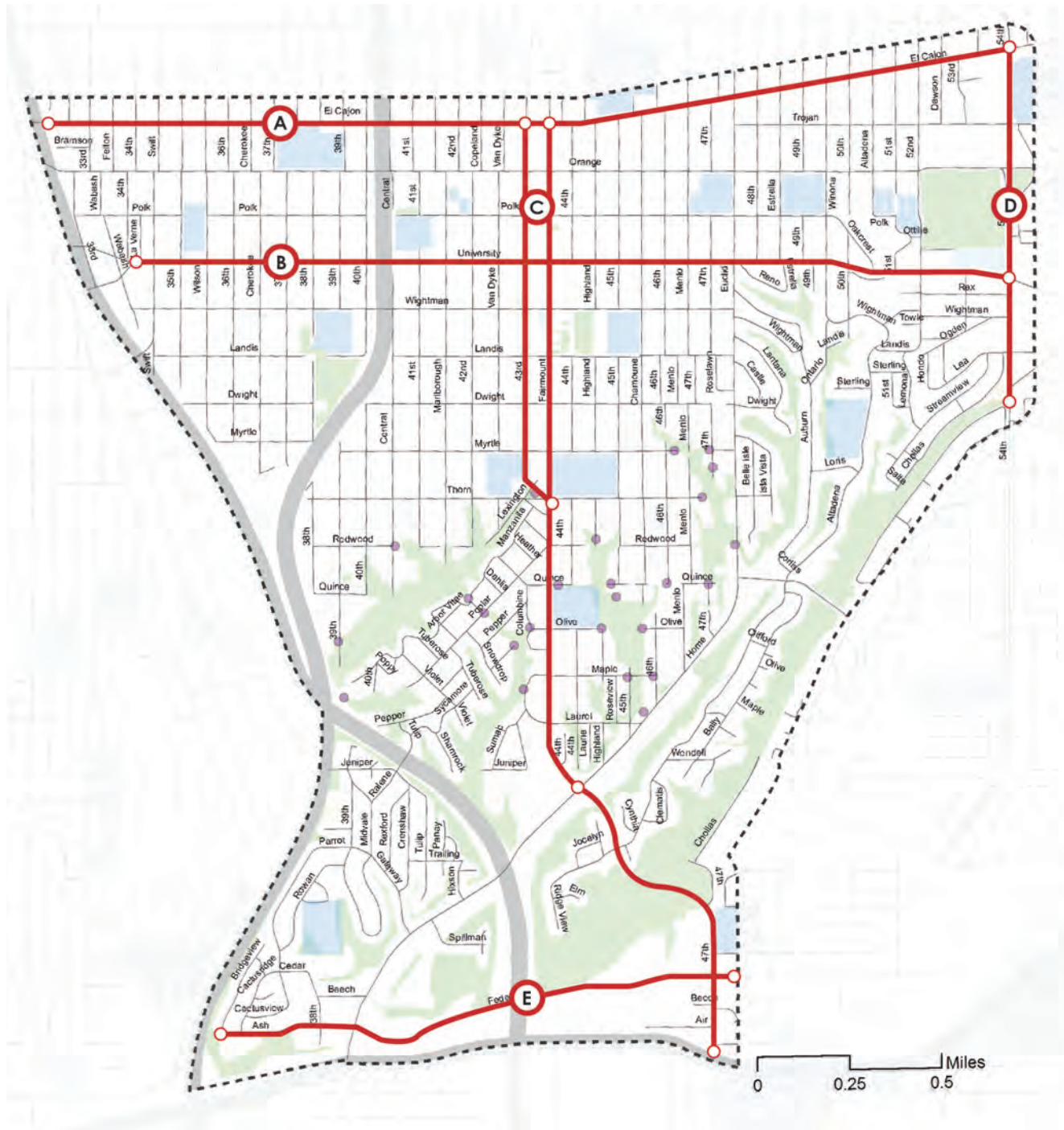
- Highly consistent tree species and consistent tree spacing
- Protect all existing healthy trees
- Replant new trees where existing trees cannot be safely retained, where new development is planned or where other major projects require the removal of existing street trees that are not on the list
- Plant the largest tree size possible (24" box is considered to be the minimum)
- When necessary for removals, perform tree replacements in phases to retain shade and character

Map Key	Community Corridor	Botanical Name	Common Name	Category	Min. Size
A	El Cajon Boulevard	Lophostemon confertus	Brisbane Box	Theme	36" Box
		Jacaranda mimosifolia	Jacaranda	Accent	24" Box
B	University Avenue	Koelreuteria bipinnata	Chinese Flame Tree	Theme	36" Box
		Afrocarpus gracilior	African Fern Pine	Theme	36" Box
		Jacaranda mimosifolia	Jacaranda	Accent	24" Box
C	43rd Street and Fairmount Avenue	Afrocarpus gracilior	African Fern Pine	Theme	36" Box
		Arbutus 'Marina'	Marina Madrone	Theme	36" Box
D	54th Street	Geijera parvifolia	Australian Willow	Theme	36" Box
		Ulmus parvifolia	Chinese Elm	Theme	36" Box
E	Federal Boulevard	Plantanus acerifolia 'Bloodgood'	London Plane	Theme	36" Box
		Quercus agrifolia	Coast Live Oak	Theme	36" Box

See pages 128-130 for details

CITY HEIGHTS URBAN GREENING PLAN

Figure 6-2: Community Corridors



6.3 COMMUNITY CORRIDORS STREET TREE PALETTES

City Heights currently has a large range of different tree species. The list below identifies recommended tree species for City Heights based on the species' existing presence in the planning area and the street tree framework identified in section 6.1

University Avenue

Existing Trees

- Jacaranda
- African Fern Pine
- Brisbane Box

Street Tree Palette

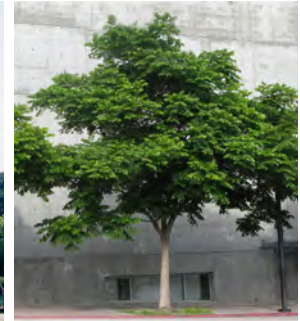
Theme Tree: *Afrocarpus gracilior*
(African fern pine)

Alternate Theme Tree: *Koelreuteria bipinnata*
(Chinese Flame Tree)

Accent Tree: *Jacaranda mimosifolia* (Jacaranda)



Afrocarpus gracilior
(African Fern Pine)



Koelreuteria bipinnata
(Chinese Flame Tree)

54th Street

Existing Trees

- Flaxleaf Paperbark
- Cajeput Tree
- Carob
- Eucalyptus

Planting Recommendations

- Eucalyptus is not recommended for future planting due to its invasive nature.

Street Tree Palette

Theme Tree: *Geijera parvifolia* (Australian Willow)

Alternate Theme Tree: *Ulmus parvifolia* (Chinese Elm)



Geijera parvifolia
(Australian Willow)



Ulmus parvifolia
(Chinese Elm)

Fairmount Avenue and 43rd Street

Existing Trees

- Jacaranda
- African Fern Pine
- Carrotwood
- Chinese Elm

Street Tree Palette

Theme Tree: *Cinnamomum camphora* (Camphor Tree);
Afrocarpus gracilior (African Fern Pine)

Alternate Theme Tree: *Arbutus 'Marina'* (Marina
Strawberry Tree); *Jacaranda mimosifolia* (Jacaranda)



Cinnamomum camphora
(Camphor Tree)



Arbutus 'Marina'
(Marina Strawberry Tree)

El Cajon Boulevard

Existing Trees

- Jacaranda
- African Fern Pine
- Eucalyptus

Planting Recommendations

- Eucalyptus is not recommended for future planting due to its invasive nature.

Street Tree Palette

Theme Tree: Lophostemon confertus (Brisbane Box)

Accent Tree: Jacaranda mimosifolia (Jacaranda)



Jacaranda mimosifolia (Jacaranda)



Lophostemon confertus (Brisbane Box)

Ash Street/Federal Boulevard

Existing Trees

- Acacia
- African Fern Pine
- Brazilian Pepper Tree
- Canary Island Pine
- Carrotwood
- Date Palm
- Evergreen Pear
- Eucalyptus
- Red Ironbark

Planting Recommendations

- Brazilian Pepper Tree is not recommended for future planting due to its invasive nature.
- Eucalyptus is not recommended for future planting due to its invasive nature.

Street Tree Palette

Theme Tree: Pinus canariensis (Canary Island Pine); Eucalyptus tricarpa (Red Ironbark)

Alternate Theme Tree: Afrocarpus gracilior (African Fern Pine)



Pinus canariensis (Canary Island Pine)



Eucalyptus tricarpa (Red Ironbark)

Euclid Avenue/Home Avenue

Existing Trees

- Jacaranda
- Brisbane Box
- Carrotwood
- Eucalyptus

Planting Recommendations

- Eucalyptus is not recommended for future planting due to its invasive nature.

Street Tree Palette

Theme Tree: Plantanus racemosa (California Sycamore) along Home Ave; Quercus ilex (Holly Oak) along Euclid Ave

Alternate Theme Tree: Lophostemon confertus (Brisbane Box)



Plantanus racemosa (California Sycamore)



Quercus ilex (Holly Oak)

6.4 RESIDENTIAL CORRIDORS

Residential Corridors are key streets that have been identified through the public outreach process as critical streets that provide access and connectivity throughout City Heights for residents and visitors.

Figure 6-3 identifies the residential corridors. The residential corridors focus specifically on creating pedestrian/bike green streets. See Chapter 3 for design strategies and considerations for Green Streets.

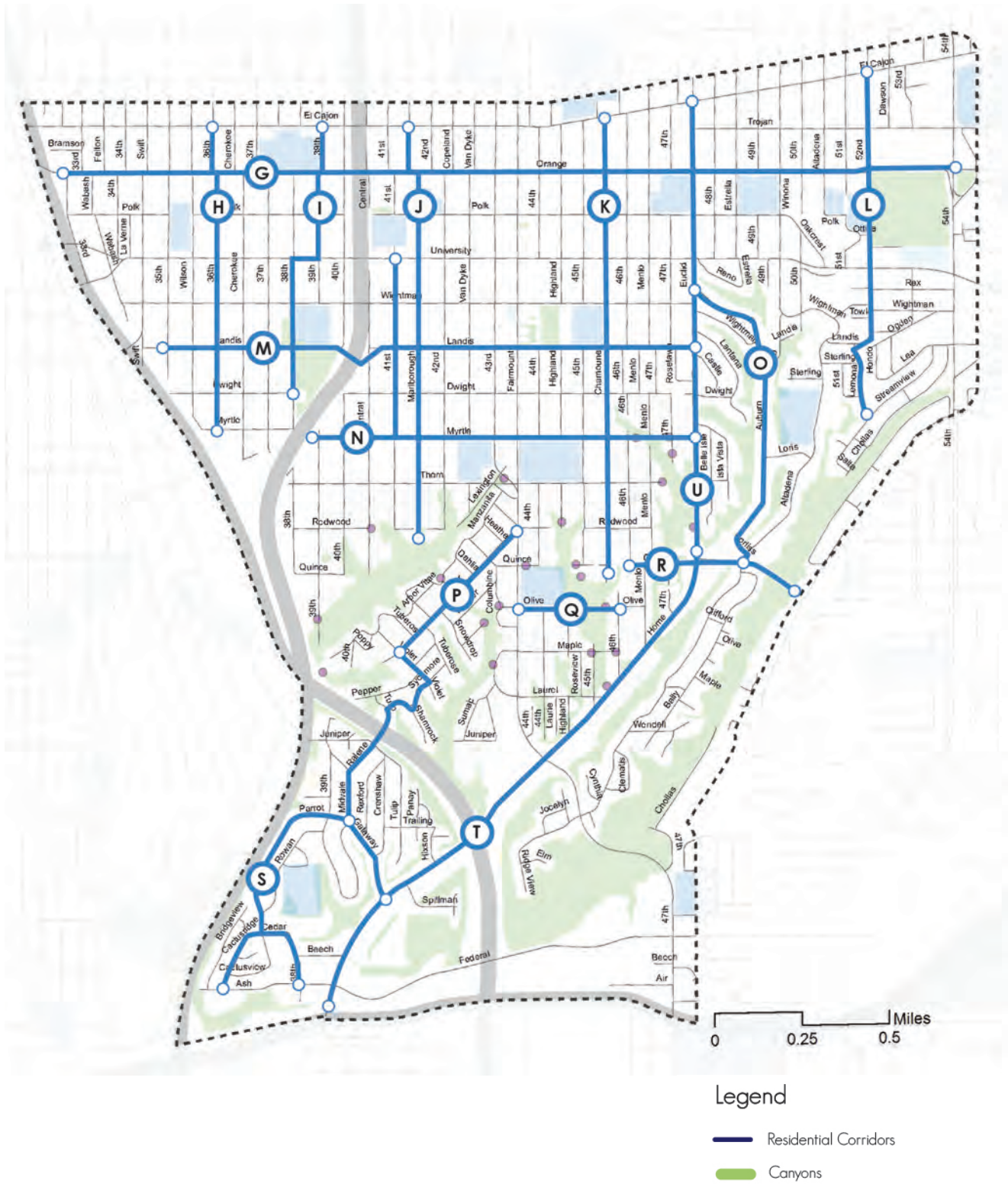
Goals for Trees along Residential Corridors:

- Provide an integrated approach to visual wayfinding by using a specific plant palette
- Where feasible, enlarge parkways
- Protect healthy trees
- Replant new trees where existing trees cannot be safely retained
- Maximize shading opportunities through tree species
- Increase the ranges of recommended trees - this achieves a balance between retaining existing desirable trees and offering a choice of trees

Map Key	Residential Corridors		Botanical Name	Common Name	Category
G	Orange Avenue	Any Of These Trees Can Be Used	Cassia leptophylla	Gold Medallion tree	Theme
H	36th Street		Fraxinus oxycarpa	Raywood Ash	Theme
I	38th / 39 Streets		Melaleuca linarifolia	Flaxleaf Paperbark	Theme
J	Marlborough Street		Pinus canariensis	Canary Island Pine	Theme
K	Chamoune Avenue		Pistachia chinensis	Chinese Pistache	Theme
L	52nd Street		Podocarpus macrophyllus	Yew Pine	Theme
M	Landis Street		Tipuanu tipu	Tipu Tree	Theme
N	Myrtle Avenue		Platanus racemosa	California Sycamore	Theme
O	Wightman Street		Quercus agrifolia	Coast Live Oak	Theme
P	Olive Avenue		Bauhinia purpurea	Purple Orchid Tree	Accent
Q	Quince Street		Cupaniopsis anacardioides	Carrotwood	Accent
R	Poplar Street		Koelreuteria paniculata	Golden Rain Tree	Accent
S	Parrot Street		Lagerstroemia indica	Crape Myrtle	Accent
T	Home Avenue		Magnolia grandiflora	St. Mary's Magnolia	Accent
U	Euclid Avenue		Pyrus calleryana	Bradford Pear	Accent

CITY HEIGHTS URBAN GREENING PLAN

Figure 6-3: Residential Corridors



6.5 LANDSCAPE DISTRICTS

There are two landscape districts in City Heights:

Landscape District 1: Local Streets

All local streets are categorized into landscape district 1. This classification is identified by the Mid-City Community Plan and the City of San Diego Street Design Manual. These are the streets found most commonly throughout City Heights. There is no particular dominant species or theme tree. Any of the recommended species can be established for a particular block, neighborhood street, or area. These species are identified in Appendix A.

Landscape District 2: Canyon Interface

Streets within 250' feet of the canyon edge are categorized into landscape district 2. This district has a specific palette due to the sensitivity of the canyons to seeds and potential root problems and invasive species. All streets within the district should be sensitive to the impact to the canyon when considering street trees. The table below highlights theme trees that are recommended. The boundaries for Districts 1 and 2 is shown in Figure 6-4.

Map Key	Landscape District	Botanical Name	Common Name	Category
1	Local Streets	All species listed in Figure 2-5 are acceptable		
2	Canyon Interface	Arbutus 'Marina'	Marina Strawberry Tree	Theme
		Platanus racemosa	California Sycamore	Theme
		Quercus agrifolia	Coast live Oak	Theme
		Heteromeles arbutifolia	California Toyon	Accent

Trees for District B: Canyon Interface



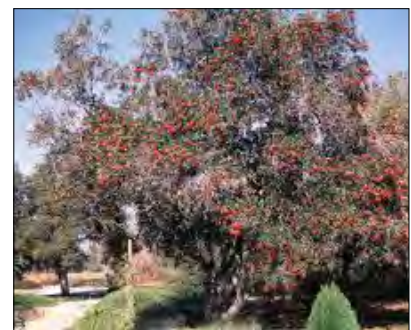
Arbutus 'Marina'
(Marina Strawberry Tree)



Platanus racemosa
(California Sycamore)

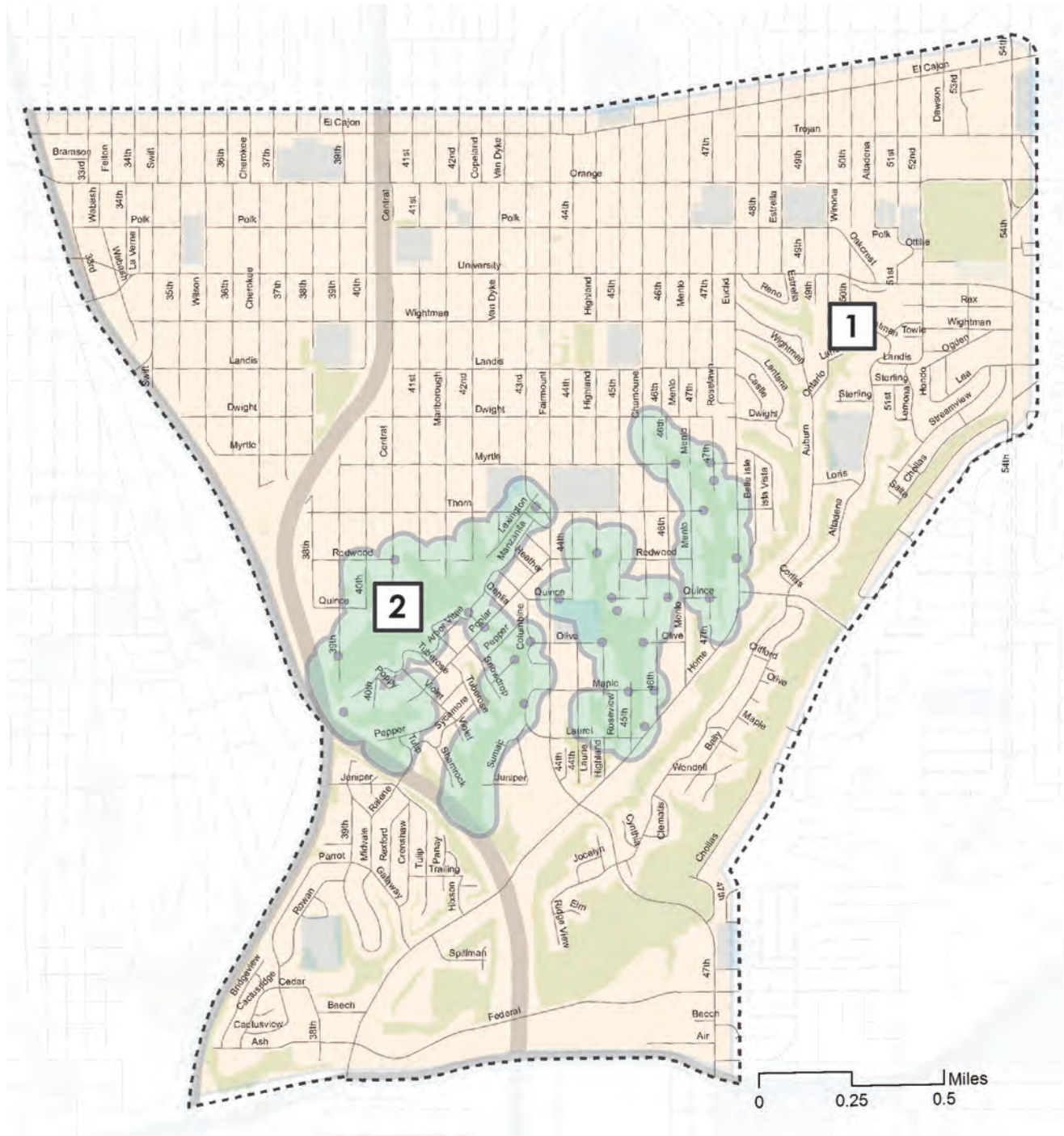


Quercus agrifolia
(Coast Live Oak)



Heteromeles arbutifolia
(California Toyon)

Figure 6-4: Landscape Districts



6.6 RECOMMENDED TREE SPECIES

A canopy of trees provides a much greater return on the benefits of urban forestry than ground or shrub level plantings. City Heights currently has a large range of different tree species. The recommended tree species list below identifies preferred species for City Heights based on the species' existing presence in the planning area and the street tree framework identified in section 6.1

Botanical Name	Common Name	Type	Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Thru
<i>Acacia baileyana</i> 'Purpurea'	Purple Fernleaf Acacia	E.	20-30	20-40	30-35	4-7	Yes	No	Yes	No
<i>Acacia stenophylla</i>	Shoe String Acacia	E.	20-40	15-20	25-30	3-4	Yes	No	Yes	Yes
<i>Afrocarpus gracilior</i>	African Fern Pine	E.	40+	20-40	30-35	6-8	Yes	No	Yes	No
<i>Arbutus</i> 'Marina'	Marina Strawberry Tree	E.	30+	20-30	30-35	4-8	Yes	Adapted	Yes	No
<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree	D.	30-35	-25	25-30	3-4	Yes	No	Yes	No
<i>Bauhinia purpurea</i>	Purple Orchid Tree	D.	20-40	-20	25-30	3-4	Yes	No	Yes	No
<i>Brachychiton discolor</i>	Lacebark Tree	D.	20-40	20-35	30-40	8+	Yes	No	Yes	Yes
<i>Brachychiton populneus</i>	Bottle Tree	E.	30-45	30	20-30	4-8	Yes	No	Yes	No
<i>Calodendrum capense</i>	Cape Chestnut	D.	20-40	40+	35-40	8+	Yes	No	Yes	No
<i>Cassia leptophylla</i>	Gold Medallion Tree	E.	20-40	20-40	30-35	4-6	No	No	Yes	No
<i>Ceratonia siliqua</i>	Carob Tree	E.	30-35	-25	30-35	6-8	Yes	No	Yes	No
<i>Chilopsis linearis</i>	Desert Willow	D.	15-20	15-20	25-30	4-7	Yes	Yes	Yes	Yes
<i>Chionanthus virginicus</i>	White Fringe Tree	D.	-20	15	25-30	4-6	No	No	Yes	No
<i>Chitalpa tashkentensis</i>	Chitalpa	D.	20-40	20-40	25-30	4-6	Yes	No	Yes	Yes
<i>Cinnamomum camphora</i>	Camphor Tree	E.	20-40	40+	35-40	8+	Yes	No	Yes	No
<i>Cupaniopsis anacardioides</i>	Carrotwood	E.	30-35	-20	25-30	4-6	Yes	No	Yes	Yes
<i>Eriobotrya deflexa</i>	Bronze Loquat	E.	-20	-20	25-30	3-4	No	No	Yes	No
<i>Eucalyptus conferruminata</i>	Bushy Yate	E.	10-25	15-30	20-30	4-7	Yes	No	Yes	Yes
<i>Eucalyptus torquata</i>	Coral Gum	E.	20-30	20-30	20-30	3-4	Yes	No	Yes	No
<i>Fraxinus oxycarpa</i> 'Raywood'	Raywood Ash	D.	30	-25	25-30	4-6	No	No	Yes	Yes
<i>Geijera parvifolia</i>	Australian Willow	E.	20-40	20-40	30-35	6-8	Yes	No	Yes	No
<i>Jacaranda mimosifolia</i>	Jacaranda	D.	20-40	20-40	35-40	6-8	Yes	No	Yes	No
<i>Koelreuteria bipinnata</i>	Chinese Flame Tree	D.	20-40	20-40	30-35	6-8	Yes	No	Yes	No
<i>Koelreuteria paniculata</i>	Golden Rain	D.	20-40	20-40	30-35	6-8	Yes	No	Yes	No
<i>Lagerstroemia indica</i>	Crape Myrtle	D.	-20	-20	25-30	3-4	Yes	No	Yes	No
<i>Lophostemon confertus</i>	Brisbane Box	E.	20-40	20-40	30-35	4-6	Yes	No	Yes	No
<i>Magnolia grandiflora</i>	St. Marys Magnolia	E.	-20	-20	25-30	3-4	No	No	Yes	Yes
<i>Melaleuca linarifolia</i>	Flaxleaf Paperbark	E.	20-40	20-40	30-35	4-6	Yes	No	Yes	No
<i>Metrosideros excelsus</i>	New Zealand Christmas Tree	E.	-20	-20	25-30	3-4	Yes	No	Yes	No
<i>Pinus canariensis</i>	Canary Island Pine	C.	40+	20-40	35-40	6-8	Yes	No	Yes	No
<i>Pistacia chinensis</i>	Chinese Pistache	D.	40+	40+	35-40	6-8	Yes	No	Yes	No
<i>Plantanus racemosa</i>	California Sycamore	D.	40+	40+	35-40	6-8	No	Yes	Yes	No
<i>Platanus acerifolia</i> "Bloodgood"	London Plane	D.	40+	40+	35-40	6-8	No	No	Yes	Yes
<i>Podocarpus macrophyllus</i>	Yew Pine	E.	20-40	-20	25-30	4-6	No	No	Yes	No
<i>Prunus ilicifolia</i> ssp <i>lyonii</i>	Catalina Cherry	E.	15-25	10-15	20-25	3-4	Yes	Yes	Yes	No
<i>Prunus lusitanica</i>	Portugal Laurel	E.	20-30	10-20	25-30	4-6	Yes	No	Yes	No
<i>Pyrus calleryana</i>	Bradford Pear	D.	20-40	-20	30-35	3-4	Yes	No	Yes	Yes
<i>Quercus agrifolia</i>	Coast Live Oak	E.	40+	40+	35-40	8+	Yes	Yes	Yes	No
<i>Quercus ilex</i>	Holly Oak	E.	-50	-50	35-40	4-6	Yes	No	Yes	No
<i>Quercus tomentella</i>	Island Oak	E.	40-60	20-30	30-35	8+	Yes	Yes	Yes	No
<i>Stenocarpus sinuatus</i>	Firewheel Tree	E.	20-40	20-40	30-35	4-6	No	No	Yes	No
<i>Tipuana tipu</i>	Tipu	D.	40+	40+	35-40	8+	Yes	No	Yes	No
<i>Tristaniaopsis laurina</i>	Water Gum	E.	25-40	10-20	20-25	3-4	No	No	Yes	Yes
<i>Ulmus parvifolia</i>	Chinese Elm	E.	20-40	20-40	35-40	6-8	Yes	No	Yes	Yes

ACACIA BAILEYANA 'PURPUREA' (PURPLE FERNLEAF ACACIA)

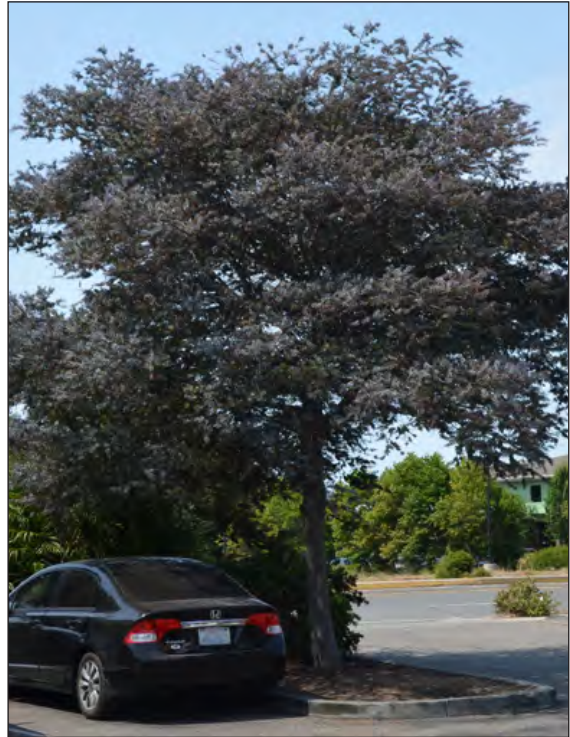
Type of Tree
Evergreen/Flowering

Tree Form
Small Canopy

Clearance
4'-7' parkways or larger

Considerations
A fast growing evergreen tree with purple colored new growth and fragrant flowers. Plant in full sun to partial shade.

Use in Street Tree Palettes
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-30+	-20	25-30	4-7	Yes	No	Yes	No

ACACIA STENOPHYLLA (SHOE STRING ACACIA)

Type of Tree
Evergreen/Flowering

Tree Form
Small Canopy

Clearance
2' parkways or larger

Considerations
Open, fast growing evergreen tree with weeping form and fragrant flowers. Plant in full sun.

Use in Street Tree Palettes
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20	-20	25-30	3-4	Yes	No	Yes	Yes

STREET TREE MASTER PLAN

AFROCARPUS GRACILIOR (AFRICAN FERN PINE)

Type of Tree
Evergreen

Tree Form
Large Canopy

Clearance
7'-10' parkways or larger

Considerations
Dense, tall, graceful evergreen tree, tolerant of poor soils, less than average litter. Plant in full sun to shade.

Use in Street Tree Palettes:
Community Corridors: University Avenue
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	20-40	30-35	6-8	Yes	No	Yes	No



ARBUTUS 'MARINA' (MARINA STRAWBERRY TREE)

Type of Tree
Evergreen/Flowering

Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger.

Considerations
Handsome, ornamental evergreen tree with striking red copper bark, rosy pink flowers, and edible fruits. Plant in full sun to part shade.

Use in Street Tree Palettes:
Community Corridors: Fairmount Avenue and 43rd Street
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
30+	20-30	30-35	4-8	Yes	Adapted	Yes	No



BAUHINIA BLAKEANA (HONG KONG ORCHID TREE)

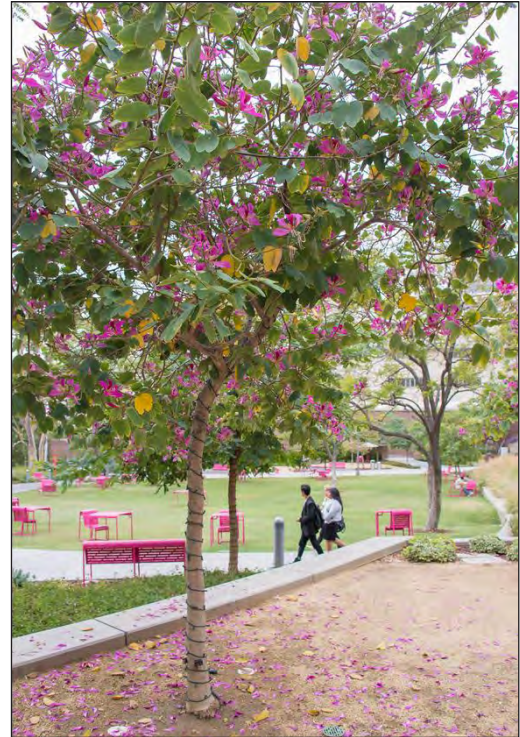
Type of Tree
Deciduous/Flowering

Tree Form
Small Canopy

Clearance
2' parkways or larger

Considerations
Noteworthy, fast-growing tree with heart-shaped foliage
Orchid-like magenta blooms appear in winter. Inconspicuous litter, plant in full sun.

Use in Street Tree Palettes
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
30-35	-25	25-30	3-4	Yes	No	Yes	No

BAUHINIA PURPUREA (PURPLE ORCHID-TREE)

Type of Tree
Deciduous/Flowering

Tree Form
Small Canopy

Clearance
4'-7' parkways or larger

Considerations
Distinguished, fast-growing tree with showy magenta blooms.
Drought tolerant and tolerates a variety of soils and well-drained soils. Plant in full sun.

Use in Street Tree Palettes
Residential Corridors
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	-20	25-30	3-4	Yes	No	Yes	No

STREET TREE MASTER PLAN

BRACHYCHITON DISCOLOR (LACEBARK TREE)

Type of Tree
Partially Deciduous/Flowering

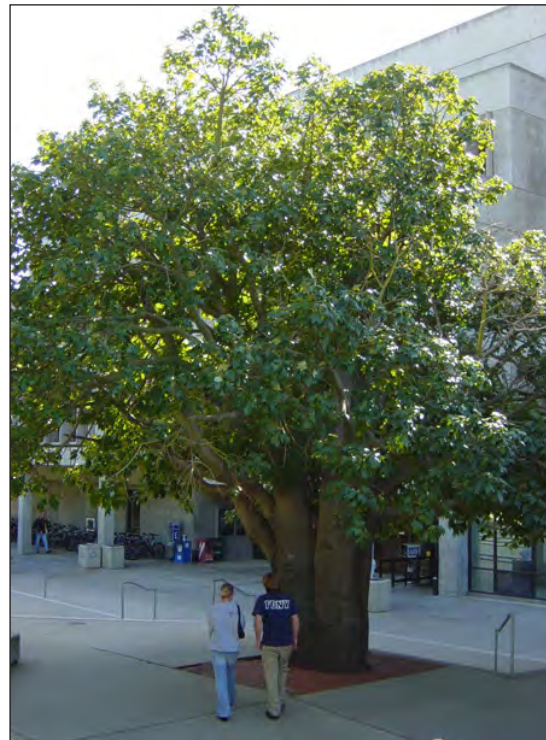
Tree Form
Large Canopy

Clearance
8' parkways or larger

Considerations
Fast growing, partially deciduous tree with showy deep pink or red flowers. Plant in full sun to partial shade.

Use in Street Tree Palettes
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-35	30-40	8+	Yes	No	Yes	Yes



BRACHYCHITON POPULNEUS (BOTTLE TREE)

Type of Tree
Evergreen/Flowering

Tree Form
Medium Canopy

Clearance
4'-8' parkways or larger

Considerations
Moderately fast growing evergreen tree with white flowers. Plant in full sun.

Use in Street Tree Palettes
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
30-45	30	20-30	4-8	Yes	No	Yes	No



CALODENDRUM CAPENSE (CAPE CHESTNUT)

Type of Tree

Deciduous/Flowering

Tree Form

Medium Canopy

Clearance

4'-7' parkways or larger

Considerations:

Semi-evergreen tree provides year-long interest thanks to its showy lilac flowers that attract birds, bees, and butterflies as well as its foliage that turns an attractive yellow in autumn. Plant in full sun to partial shade.

Use in Street Tree Palettes:

Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	40+	35-40	8+	Yes	No	Yes	No



CASSIA LEPTOPHYLLA (GOLD MEDALLION TREE)

Type of Tree

Deciduous/Flowering

Tree Form

Small Canopy

Clearance

4'-7' parkways or larger

Considerations:

A handsome, spreading, fast-growing tree with bright, showy yellow flowers that tolerates heat and a variety of soils. Plant in full sun.

Use in Street Tree Palettes:

Residential Corridors

Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	4-6	No	No	Yes	No



STREET TREE MASTER PLAN

CERATONIA SILIQUA (CAROB TREE)

Type of Tree
Evergreen

Tree Form
Medium Canopy

Clearance
7'-10' parkways or larger

Considerations:
Slow-growing, evergreen tree with a dense canopy that tolerates pollution and most soils. Plant in full sun.

Use in Street Tree Palettes:
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
30-35	-25	30-35	6-8	Yes	No	Yes	No



CHILOPSIS LINEARIS (DESERT WILLOW)

Type of Tree
Deciduous/Flowering

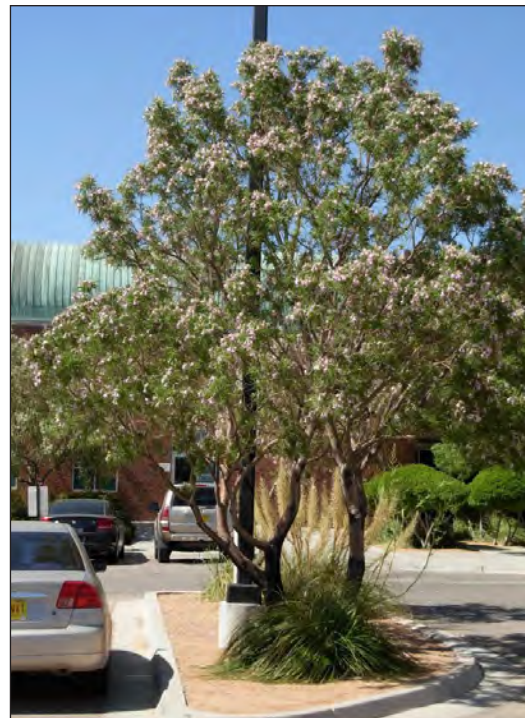
Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger

Considerations:
Moderately fast growing deciduous flowering tree that is typically multi-trunked and low branching. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-25	-30	25-30	4-7	Yes	Yes	Yes	Yes



CHIONANTHUS VIRGINICUS (WHITE FRINGE TREE)

Type of Tree
Deciduous/Flowering

Tree Form
Small Canopy

Clearance
4'-7' parkways or larger

Considerations:
Medium-sized tree that provides year long interest with its showy, fragrant white blooms and autumn color. Tolerates air pollution. Plant in full sun to part shade.

Use in Street Tree Palettes:
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-20	15	25-30	4-6	No	No	Yes	No

CHITALPA TASHKENTENSIS (CHITALPA)

Type of Tree
Deciduous/Flowering

Tree Form
Small Canopy

Clearance
4'-7' parkways or larger

Considerations:
Popular, fast-growing hybrid that performs well in xeriscapes and native plantings. Showy blooms attract hummingbirds, butterflies, bees, and beneficial insects. Tolerates a variety of soils and has less than average liter. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	25-30	4-6	Yes	No	Yes	Yes

STREET TREE MASTER PLAN

CINNAMOMUM CAMPHORA (CAMPHOR TREE)

Type of Tree
Evergreen

Tree Form
Large Canopy

Clearance
7'-10' parkways or larger

Considerations:
Large, aromatic evergreen tree that provides great shade. A hardy tree that tolerates air pollution, variety of soils, poor drainage/compacted soils, and drought. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Community Corridors: Fairmount Ave and 43rd Street
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	40+	35-40	8+	Yes	No	Yes	No



CUPANIOPSIS ANACARDIOIDES (CARROTWOOD)

Type of Tree
Evergreen

Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger

Considerations:
Handsome, fast-growing evergreen tree that provides dense shade. Tolerates poor soils, poor drainage, droughts, and heavy watering. Plant in full sun.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
30-35	-20	25-30	4-6	Yes	No	Yes	Yes



ERIOBOTRYA DEFLEXA (BRONZE LOQUAT)

Type of Tree
Evergreen

Tree Form
Small Canopy

Clearance
4'-7' parkways or larger

Considerations:
Attractive, medium-sized evergreen tree that is noted for its copper colored new foliage, fragrant flowers, and small fruit that benefit wildlife. This species bears an oval, orange-yellow inedible fruit. Low maintenance and less than average litter. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-20	-20	25-30	3-4	No	No	Yes	No



EUCALYPTUS CONFERRUMINATA (BUSHY YATE)

Type of Tree
Evergreen

Tree Form
Small Canopy

Clearance
4'-7' parkways or larger

Considerations:
Moderately fast growing evergreen tree that is typically multi-trunked. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
10-25	15-30	20-30	4-7	Yes	No	Yes	Yes



STREET TREE MASTER PLAN

EUCALYPTUS TORQUATA (CORAL GUM)

Type of Tree
Evergreen/Flowering

Tree Form
Small Canopy

Clearance
3-4' parkways or larger

Considerations:
Moderately slow growing evergreen tree with showy red or yellow flowers. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-30	20-30	20-30	3-4	Yes	No	Yes	No



FRAXINUS OXYCARPA 'RAYWOOD' (RAYWOOD ASH)

Type of Tree
Deciduous

Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger

Considerations:
Attractive, hardy tree that provides excellent shade and autumn color. Easy care, tolerates variety of soils, and less than average litter. Plant in full sun

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
30	-25	25-30	4-6	No	No	Yes	Yes



GEIJERA PARVIFOLIA (AUSTRALIAN WILLOW)

Type of Tree
Evergreen/Flowering

Tree Form
Large Canopy

Clearance
4'-7' parkways or larger

Considerations:
Graceful evergreen tree noted for its clean look, low maintenance, and less than average litter. Performs well in a variety of soils and watering conditions. Plant in full sun.

Use in Street Tree Palettes:
Community Corridors: 54th Street
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	6-8	Yes	No	Yes	No



JACARANDA MIMOSIFOLIA (JACARANDA)

Type of Tree
Deciduous/Flowering

Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger

Considerations:
Striking, hardy specimen tree renowned for its showy purple blossoms and excellent filtered shade. Performs well in street medians and tolerates a variety of soils. Not as appropriate for parkways because of heavy leaf/flower litter and sap residue. Plant in full sun.

Use in Street Tree Palettes:
Community Corridors: El Cajon Blvd., University Avenue
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	35-40	6-8	Yes	No	Yes	No



STREET TREE MASTER PLAN

KOELREUTARIA BIPINNATA (CHINESE FLAME TREE)

Type of Tree
Deciduous/Flowering

Tree Form
Medium Canopy

Clearance
7'-10' parkways or larger

Considerations:
Attractive, tough, low maintenance tree that provides year-long interest. Tolerates air pollution, wind, salt, drought, heat and poor soils. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Community Corridor: University Avenue
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	6-8	Yes	No	Yes	No



KOELREUTARIA PANICULATA (GOLDEN RAIN)

Type of Tree
Deciduous/Flowering

Tree Form
Medium Canopy

Clearance
7'-10' parkways or larger

Considerations:
Tough, low maintenance tree with remarkable bright yellow flowers in early summer. Tolerates air pollution, drought, heat, poor soils and is essentially insect and disease free. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	6-8	Yes	No	Yes	No



LAGERSTROEMIA INDICA (CAPE MYRTLE)

Type of Tree

Deciduous/Flowering

Tree Form

Small Canopy

Clearance

2' parkways or larger

Considerations:

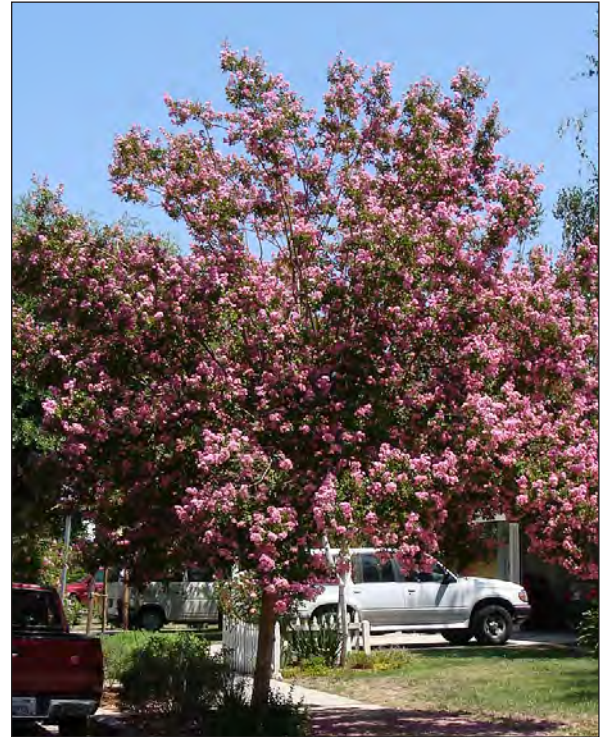
Handsome, hardy tree with attractive bark, showy flowers, and great autumn color. Tolerates heat and a variety of soils. Plant in full sun.

Use in Street Tree Palettes:

Residential Corridors

Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-20	-20	25-30	3-4	Yes	No	Yes	No



LOPHOSTEMON CONFERTUS (BRISBANE BOX)

Botanical Name

Lophostemon confertus

Type of Tree

Evergreen

Tree Form

Large Canopy

Clearance

4'-7' parkways or larger

Considerations:

Large, reliable tree that tolerates all soil types, high alkalinity, air pollution, drought, and poor drainage. Low maintenance, disease and pest resistant tree. Plant in full sun.

Use in Street Tree Palettes:

Community Corridor: El Cajon Boulevard

Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	4-6	Yes	No	Yes	No



STREET TREE MASTER PLAN

MAGNOLIA GRANDIFLORA (ST. MARY MAGNOLIA)

Type of Tree
Evergreen/Flowering

Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger

Considerations:
Attractive, evergreen tree noted for its glossy dark green leaves and large, fragrant showy white flowers. Tolerates drought, heat, air pollution, slopes, and wind. Plant in full sun.

Use in Street Tree Palettes:
Residential Corridors
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-20	-20	25-30	3-4	No	No	Yes	Yes

MELALEUCA LINARIFOLIA (FLAXLEAF PAPERBARK)

Type of Tree
Evergreen/Flowering

Tree Form
Large Canopy

Clearance
4'-7' parkways or larger

Considerations:
Hardy, fast-growing tree with attractive, unique bark and showy white flowers. Low maintenance, disease resistant tree and drought tolerant. Plant in full sun.

Use in Street Tree Palettes:
Residential Corridors
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	4-6	Yes	No	Yes	No

METROSIDEROS EXCELSUS (NEW ZEALAND CHRISTMAS TREE)

Type of Tree
Evergreen/Flowering

Tree Form
Medium Canopy

Clearance
4'-7' parkways or larger

Considerations:
Large, evergreen tree with striking red blooms in summer that attract hummingbirds and other pollinators. Tolerates a variety of soils and drought. Plant in full sun.

Use in Street Tree Palettes:
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-20	-20	25-30	3-4	Yes	No	Yes	No

PINUS CANARIENSIS (CANARY ISLAND PINE)

Type of Tree
Evergreen

Tree Form
Vertical/Upright

Clearance
7'-10' parkways or larger

Considerations:
Large, graceful, fast growing evergreen conifer that tolerates all soil types, drought, and pollution. Plant in full sun.

Use in Street Tree Palettes:
Residential Corridors
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	20-40	35-40	6-8	Yes	No	Yes	No

STREET TREE MASTER PLAN

PISTACIA CHINENSIS (CHINESE PISTACHE)

Type of Tree
Deciduous

Tree Form
Large Canopy

Clearance
4'-7' parkways or larger

Considerations:
Striking, hardy, reliable tree that provides excellent filtered shade and impressive autumn color. Tolerates heat, variety of soils, and drought. Plant in full sun.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	40+	35-40	6-8	Yes	No	Yes	No



PLATANUS RACEMOSA (CALIFORNIA SYCAMORE)

Type of Tree
Deciduous

Tree Form
Large Canopy

Clearance
7'-10' parkways or larger

Considerations:
Large, stately, towering California native tree with attractive branching pattern and bark. Essential in native planting and ecological corridors. Tolerates a variety of soils, heat and wind resistant. Plant in full to partial sun.

Use in Street Tree Palettes:
Community Corridors: Euclid Avenue and Home Avenue
Canyon Interface District
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	40+	35-40	6-8	No	Yes	Yes	No



PLATANUS ACERIFOLIA 'BLOODGOOD' (LONDON PLANE)

Type of Tree
Deciduous

Tree Form
Medium Canopy

Clearance
7'-10' parkways or larger

Considerations:
Large, hardy pyramidal tree with attractive bark and maple-like foliage. Will tolerate air pollution, poor drainage, variety of soils, compacted soil, and drought. Plant in full sun.

Use in Street Tree Palettes:
Community Corridors: Ash Street and Federal Boulevard
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	40+	35-40	6-8	No	No	Yes	Yes



PODOCARPUS MACROPHYLLUS (YEW PINE)

Type of Tree
Evergreen

Tree Form
Vertical/Upright

Clearance
4'-7' parkways or larger

Considerations:
Reliable, upright growing, versatile tree. Drought, heat and air pollution tolerant, disease and pest free. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	-20	25-30	4-6	No	No	Yes	No



STREET TREE MASTER PLAN

PRUNUS ILICIFOLIA SSP LYONII (CATALINA CHERRY)

Type of Tree
Evergreen/Flowering

Tree Form
Small Canopy

Clearance
3'-4' parkways or larger

Considerations:
Moderately slow growing evergreen tree with showy cream/white flowers, typically multi-trunked and low branching. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Community Corridors: Ash Street and Federal Boulevard
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
15-25	10-15	20-25	3-4	Yes	Yes	Yes	No



PRUNUS LUSITANICA (PORTUGAL LAUREL)

Type of Tree
Evergreen/Flowering

Tree Form
Upright Small Canopy

Clearance
3'-4' parkways or larger

Considerations:
Moderately slow growing evergreen tree with showy cream/white flowers. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Residential Corridors
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-30	10-20	20-25	3-4	Yes	No	Yes	No



PYRUS CALLERYANA (BRADFORD PEAR)

Type of Tree

Deciduous/Flowering

Tree Form

Small Canopy

Clearance

4'-7' parkways or larger

Considerations:

Popular, charming, medium sized tree noted for its showy white flowers and autumn color. Tolerates a variety of soils, drought and air pollution. Plant in full sun.

Use in Street Tree Palettes:

Residential Corridors

Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	-20	30-35	3-4	Yes	No	Yes	Yes



QUERCUS AGRIFOLIA (COAST LIVE OAK)

Type of Tree

Evergreen

Tree Form

Large Canopy

Clearance

10' parkways or larger

Considerations:

Majestic and picturesque California native tree that is essential in native plantings and ecological corridors. Shade tolerant, drought, heat, cold, and fire resistant.

Use in Street Tree Palettes:

Residential Corridors

Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	40+	35-40	8+	Yes	Yes	Yes	No



STREET TREE MASTER PLAN

QUERCUS ILEX (HOLLY OAK)

Type of Tree
Evergreen

Tree Form
Large Canopy

Clearance
4'-7' parkways or larger

Considerations:
Large, hardy, evergreen tree that creates deep shade. Grows in a variety of soils, drought and wind tolerant, low maintenance. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Community Corridors: Euclid Avenue and Home Avenue
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
-50	-50	35-40	4-6	Yes	No	Yes	No



QUERCUS TOMENTELLA (ISLAND OAK)

Type of Tree
Evergreen

Tree Form
Medium Canopy

Clearance
8' parkways or larger

Considerations:
Moderately slow growing evergreen tree that can tolerate a wide range of soil conditions. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Community Corridors: Euclid Avenue and Home Avenue
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-50	20-30	30-35	8+	Yes	Yes	Yes	No



STENOCARPUS SINUATUS (FIREWHEEL TREE)

Type of Tree
Evergreen/Flowering

Tree Form
Vertical/Upright

Clearance
4'-7' parkways or larger

Considerations:
Upright, slow growing tree with attractive dark green, lobed foliage and stunning, unique red blooms. Drought tolerant once established and less than average litter. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	30-35	4-6	No	No	Yes	No

TIPUANA TIPU (TIPU)

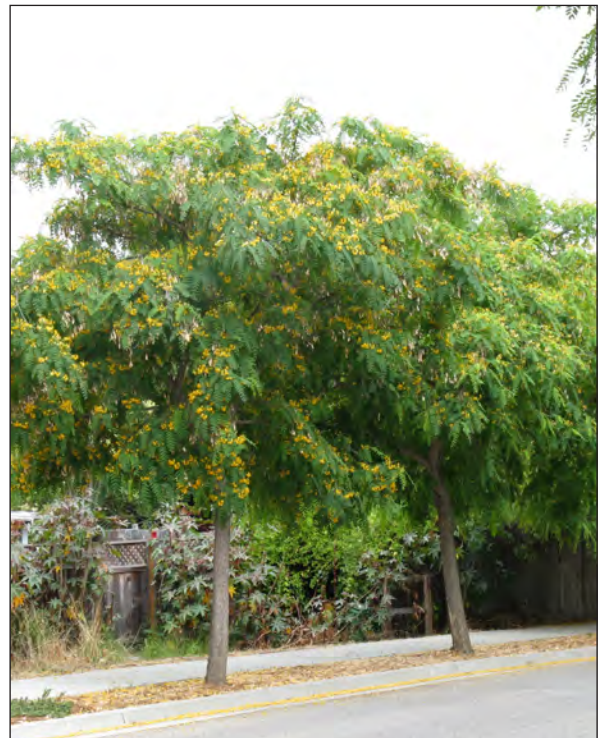
Type of Tree
Deciduous/Flowering

Tree Form
Large Canopy

Clearance
7'-10' parkways or larger

Considerations:
Elegant, reliable, fast growing shade tree with showy apricot-yellow flowers. Tolerates a variety of soils and drought. Plant in full sun.

Use in Street Tree Palettes:
Residential Corridors
Local Streets



Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
40+	40+	35-40	8+	Yes	No	Yes	No

STREET TREE MASTER PLAN

TRISTANIOPSIS LAURINA (WATER GUM)

Type of Tree
Evergreen/Flowering

Tree Form
Medium Canopy

Clearance
3'-4' parkways or larger

Considerations:
Slow growing evergreen tree with showy yellow flowers and dense shade. Plant in full sun to partial shade.

Use in Street Tree Palettes:
Community Corridors: Euclid Avenue and Home Avenue
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
25-40	10-20	20-25	3-4	No	No	Yes	Yes



ULMUS PARVIFOLIA (CHINESE ELM)

Type of Tree
Deciduous

Tree Form
Large Canopy

Clearance
4'-7' parkways or larger

Considerations
Graceful, tough, fast growing tree with bright green foliage and attractive bark. Tolerates air pollution, grows in all soil types, and is resistant to heat and drought. Plant in full sun to partial shade.

Use in Street Tree Palettes
Community Corridor: 54th Street
Local Streets

Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant	Native	With Drain	Flow Through
20-40	20-40	35-40	6-8	Yes	No	Yes	Yes





7 IMPLEMENTATION

Making a project a reality is a challenge. This section includes:

- How Residents can get involved
- Potential Funding Sources
- Implementation Strategies
- Potential Community Partners
- City of San Diego Processes for planning and construction of streetscape improvements projects

7.1 IMPLEMENTATION GUIDE

The City Heights Urban Greening Plan presents strategies and recommendations advocated by the community. Implementation is an overarching concern heard throughout the process. This section identifies steps to facilitate implementation of the Plan and its pilot projects

Funding Street Maintenance

Faced with budget challenges, the City of San Diego has had to make difficult decisions in recent years to delay scheduled street improvement projects and other capital expenditures. Although capital funding may be present, the ability to maintain new features is generally lacking. Identifying funding for on-going maintenance is a persistent challenge for many municipalities, including the City of San Diego. The maintenance of the public right of way outside of the travel lanes is typically the responsibility of the adjacent landowner. In newer areas, the city has required the establishment of assessment districts such as Landscape or Lighting Maintenance District (LMD) or a Maintenance Assessment District (MAD). In other cases, the developer has provided the capital investment as part of a Development Agreement, Exaction or Development Impact Fee (DIF). Older districts do not have the ability to exact improvements out of smaller infill development beyond their fair share of impacts. Older built out areas have few choices for additional revenue sources and are limited to private or philanthropic investments, or self-assessment. In cases where an assessment district is established, property owners are assessed annually through property tax payments for specified improvements. While there are concerns with additional assessments on property owners for maintenance, if a nexus can be established, then the assessments provide a direct benefit to those assessed and an indirect benefit to the broader community.

Maintenance is the most significant obstacle to implementing many of the types of projects shown in this urban greening plan. Greening an urban community requires plant material that need watering, pruning, and other forms of maintenance. Similarly, most storm water facilities require some level of maintenance. City Heights currently lacks options and mechanisms for building new street infrastructure or attracting/retaining business investment that spurs public infrastructure improvements.

City Heights faces unique challenges in identifying funding sources for maintenance of capital projects. New funding sources need to be identified that can combine locally-derived assessments with corporate and philanthropic donations to increase community benefits and reduce the burden of assessments to residents and property owners. Establishing partnerships between sectors (government, business, non-profit) and community organizations could enhance the benefits of improvements.

7.2 MAINTENANCE STEPS

Step 1: Form an approach involving community partners

There are several different approaches which the City of San Diego may consider taking that will assist with the implementation of this plan. The options should be considered as part of the implementation package. However, with changing decisions, priorities and opportunities that may vary over time, the approach and use of these options should be strategically adjusted.

Partnership Type 1: Grant Based Cooperating Partners

The City of San Diego could authorize community partners such as San Diego Canyonlands, Tree San Diego, Urban Corps of San Diego, City Heights Community Development Corporation (CDC) or other non-profit organizations (NPOs) to prepare and administer grants. The City of San Diego would allow access and the ability to make improvements to city property and would ultimately accept the improvement areas. The benefit of this approach

is to relieve city staff of preparing the grants, and would allow organizations such as Urban Corps to provide job training, employment and skill development for City Heights youth. This would not only support the permanent improvements to be located in City Heights, but would keep much of the grant spending within the community as well. For these partnerships to work, the NPO would need to take on the following tasks:

- Prepare the grant application;
- If awarded, hire consultants to prepare the final plans for permit and environmental review;
- Administer the grant's accounting and reporting requirements;
- Provide a clearinghouse of youth that have reached certain skill sets to be employable by the NPO or contractor;
- Solicit bids for approved bidding documents for construction;
- Manage and provide overview and inspection of the contractor or provide the contracting services directly;
- Close out projects with final inspections and provide for a three year maintenance period for establishment;
- Solicit endowment funds for longer term maintenance and replacement; and
- Create brochures describing the project benefits and identifying supporters to increase chances of obtaining future grants.

The city's role would be to:

- Review and approve the grant applications and be listed as a co-grantee;
- Provide input and assistance on environmental review (if any) and construction permitting;
- Accept the right-of-way improvements upon final inspection and the end of the maintenance establishment period and approve the long term maintenance agreements.

Partnership Type 2: Non-grant Based Partnerships

The City of San Diego would allow various community partners, private corporations, for profit organizations and other City Heights organizations to improve certain areas with their own funding or in conjunction with partial city funding. This strategy may work best for open space areas that have no habitat value, but can work for recreation, open space access, stormwater runoff or other restoration and access improvements. This approach can also be used for other street right-of-ways that are excess for public transportation purposes. Instead of street right-of-way vacations where the public's transportation rights are relinquished, the properties could be use with signed agreements of maintenance funding, indemnification and encroachment removal agreements (ERAs). The private use of these spaces should require public access and benefits as well.

Partnership Type 3: Foundations and Philanthropies

Because of the ethnic demographics, socioeconomic conditions and environmental justice considerations of City Heights, the community has the ability to attract a great deal of funding from foundations and philanthropic organizations. Price Charities has been remarkably benevolent in their contributions and have committed to the community for many years. The Ford Foundation has also become involved more recently in the community and is another possible organization for partnership, especially if the efforts help in getting under represented community members involved in the political process. The use of endowments could be very effective in getting the maximum return on grant investments. The following sequence of investment returns is used to illustrate the ways invested money can return multiple benefits to City Heights:

IMPLEMENTATION

- Formational funding for administrative efforts and organizational requirements will result in local job opportunities;
- Planning and design of future projects, including the outreach programs needed to obtain this public input, can be kept locally if local business requirements are part of these efforts;
- Support of vocational and employment training programs oriented towards construction skills, nursery vocations, horticultural professions and jobs related to landscape construction and maintenance will increase the local labor force available for construction projects and maintenance contracts;
- Development of a community garden and foundational nursery growing grounds for tree stock;
- Local contractor preferences or contract bidding requirements or bonus points for hiring local youth;
- Long term maintenance that would include watering, pruning, trash cleanup, fertilizing, plant material replacement, and disease control that would result in jobs creation. Maintenance of stormwater runoff devices, erosion control prevention programs and revegetation efforts would be included in employment opportunities.

The results of these improvements would be local investment, local training, local employment and local physical improvements that would increase property values, customer visitation and the overall quality of life for the community. An endowment fund could be established for multiple years to assure that this full range of benefits could be realized.

Partnership Type 4: Volunteer Organizations and Community/Neighborhood Associations

With some coordination efforts by one or more organizations, a great deal of local volunteer support is possible, especially for community service oriented organizations within City Heights or San Diego in general. The same is possible with local neighborhood groups or private individuals interested in helping their community. Tree plantings, parkway improvements and horticultural maintenance does not require high levels of training, and with some overview and instructions, volunteers can be quickly activated for special work parties and community efforts.

Partnership Type 5: Partnerships with State and Regional Agencies

The city and the community should continue to pursue state level grant programs such as CalFires Urban Forestry and California ReLeaf programs, the Strategic Growth Council's Sustainable Community Planning Grants, and Urban Greening Grants and the California Air Resources Board Cap and Trade program. These programs understand the benefits of urban forestry and all have significant available grants, as long as maintenance costs are assumed by local organizations. Other regional programs, such as Smart Growth Incentive Program planning and construction grants, as well as other programs from the San Diego Air Resources Board and the Regional Water Quality Control Board, should be considered.

Step 2: Coordinate Community Improvements with other construction efforts

Opportunity 1: City of San Diego Capital Improvement Program

Most all of the pilot projects as well as many of the other intended street improvements can be done as part of larger street improvement plans. Any proposed capital improvement project to a roadway alignment, lane configurations or upgrades of damaged or missing walkways, is a candidate to combine with the recommendations of this plan. The Capital Improvement Program within the Public Works Department could incorporate the Plan's recommendations into future CIP projects.

Opportunity 2: Utility Undergrounding Program

Utility undergrounding is a huge effort throughout San Diego. In City Heights, there is an opportunity to leverage this effort into coordinated street improvements. The city could negotiate and partner with San Diego Gas & Electric (SDGE) to improve City Heights' streets. An Urban Forestry program is already in place, allowing SDG & E to plant trees in parkway strips, assuming the adjacent property owner would agree to maintain the trees.

Opportunity 3: Water Quality Management

Regional water quality management is a standard that is established in the San Diego region under the new MS4 permit. Any project requiring Low Impact Development or any other stormwater permit is required to install, register and maintain these facilities in perpetuity. The new permit structure also allows for off-site mitigation banking of stormwater runoff improvements. Major projects can pay into an in-lieu fee fund that would pay for improvements in other off-site areas. The extensive canyonlands, water courses and lack of a stormwater conveyance systems makes City Heights valuable for banking these opportunities.

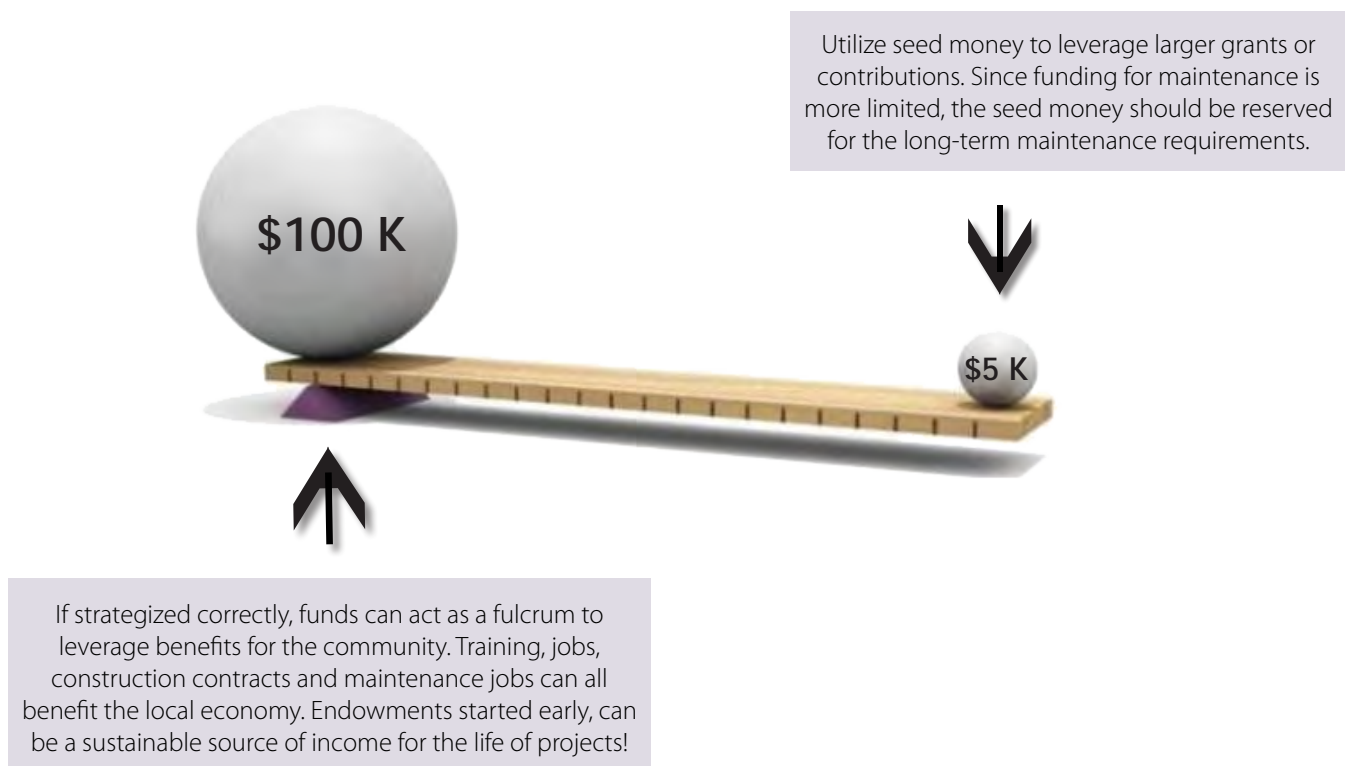
Step 3: Assist in the Formation of Special Funding Districts

Infrastructure Financing Districts (IFDs)

Infrastructure financing districts are funded through tax-increment financing. However, there have been numerous barriers to advancement of these IFDs. Currently, there is legislation at the state level that would lower the voter threshold from 66 to 55 percent. The IFDs would be able to fund a variety of improvements that could include street improvement, urban forestry and stormwater runoff recommendations from this plan.

Maintenance Assessment Districts (MADs) and Landscape Maintenance Districts (LMDs)

Maintenance assessment districts are managed by the City of San Diego's Park & Recreation Department (unless self administered by another organization). A MAD is a legal mechanism that property owners can vote on to assess



themselves to receive services above and beyond what the City of San Diego normally provides. The purpose of a MAD is to finance special benefit services, including installation or maintenance of open space, street medians, rights-of-way, mini-parks, street lighting, security, flood control, and/or drainage. These special benefit services are provided at a level over and above the standard City general benefit level. MADs are also known as Landscape Maintenance Districts (LMDs) or Lighting and Landscape Maintenance Districts (LLMDS).

For City Heights, a self-managed MAD would be recommended. The purpose of “self-managed” Maintenance Assessment District (MAD) is identical to other MADs except for the management of the fund. “Self-managed” MADs may differ from City-managed MADs in that district property owners select, by ballot, a non-profit corporation to contract for the provision of enhanced goods and services while the City provides administrative oversight only. The San Diego Municipal Code allows non-profit corporations to administer MADs when an assessment weighted majority of district property owners support the selection of a particular non-profit corporation for their district. Selected non-profit corporations are typically managed by boards comprised of representative property owners who are interested in assuming responsibility for managing and providing for the delivery of enhanced goods and services to assessment district property owners. A community partner could be instrumental in the efficiency of a self-managed MAD. Overall, limited funding sources can be stretched a long way if there are less reserve requirements and administrative overhead expenses that do not result in direct maintenance tasks.

Step 4: Encourage Private Development to Include Plan Recommendations

Development Projects

All plan process type 2, 3, 4 & 5 projects have the opportunity to go to the local community planning group. Although a nexus is commonly needed to require a project include improvements off of the immediate edge of properties, it is within the purview of the local community planning group to ask for voluntary agreement to include improvements that are not directly required by CEQA mitigations, code, or permit. When a future community plan update is prepared for City Heights, the recommendations in this plan should be incorporated. This integration will allow staff and community members to review a project for conformance with the adopted plan’s goals and policies. Developers should integrate relevant recommendations into their proposals to provide for community benefit.

Future changes to the Land Development Code or other applicable ordinances should consider incorporating the plans recommendations and guidelines where appropriate.

Ministerial Review Projects

All plan process type 1 projects should also be reviewed for conformance to the guidelines in this plan for right of way improvements located adjacent to the development project. Future changes to the Land Development Code or other zoning ordinances, should take these guidelines into account as well.

CITY HEIGHTS URBAN GREENING PLAN

The following table provides a list of potential steps needed to implement some of the items proposed in this plan.

Figure 7-1: Implementation Strategies			
No.	Actions	Lead	Notes
1	Identify items on the city's CIP list that can incorporate recommended improvements and projects outlined in this plan	City of San Diego	Major projects are defined as a street reconfiguration of lanes, geometry, curbs, drainage systems or other major utility improvements requiring a substantial percentage of the pavement to be removed and/or replaced.
2	Integrate the recommendations and projects from this Plan into all applicable grant applications	City of San Diego	In some cases, grants could be pursued specifically for only projects identified in this plan, while in others, parts of this plan can be used to strengthen benefits for other projects.
3	Perform an Environmental Review for each project to determine level of impact	City of San Diego	Projects classified as maintenance or replacement can be considered categorical exemptions under CEQA. Major projects affecting traffic, natural areas land, or ROW acquisitions may require full environmental review.
4	Develop design and engineering documents and obtain appropriate permits for each project	City of San Diego	Permitting will be required even for City of San Diego CIP projects.
5	Identify sources of funding for ongoing maintenance of street enhancements	City of San Diego	Ongoing maintenance responsibilities will likely need to be identified prior to implementation.
6	Identify alternate sources of funding including assessment programs	City of San Diego, community stakeholders	Consider additional assessment districts, including MADs, lighting districts, BIDs or other funding sources applied to those who will benefit from the improvements.
7	Develop a volunteer program focused on implementation and sustainment of this Plan	City of San Diego, community organizations	Utilize neighborhood residents, community leaders, and volunteers from schools, churches, community organizations and businesses.
8	Identify alternative funding sources and fund-raising opportunities	City of San Diego, Local Planners and community activists	Examples include philanthropic offers, donations, endowment funds, corporate sponsorships, capital fund-raising efforts, grants, government sources. Highlight the economic, environmental, health, engagement, urban forestry, safety and connectivity improvements that these projects will bring to City Heights.
9	Develop employment and job creation programs that assist with the installation and maintenance of the projects in this Plan	City of San Diego	Tasks would include development of a growing grounds for street trees, the installation and ongoing maintenance of trees, maintenance of public realm spaces and ongoing graffiti and trash removal programs.
10	Identify opportunities to incorporate plan recommendations and projects into proposed redevelopment projects	City of San Diego, Local Planners and community activists	For major projects, the improvements should go beyond the immediate project parcel boundaries.
11	Integrate this plan into all applicable Development Service processes and projects	City of San Diego, Development Services Department	Require projects to implement portions of this plan when relevant

IMPLEMENTATION

Table below identifies potential funding opportunities that may be used from design to maintenance phases of projects. The sources are arranged by Federal, State, Local, and Private, and the uses that the funds may address.

Figure 7-2: Funding Sources

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES								
		TYPICAL APPROACHES			ATYPICAL APPROACHES					
FUNDING SOURCE	FUNDING ORIGIN	Park Land Acquisition	Park CIP Development	Maint. & Operations	URBAN FORESTRY 	SAFE & HEALTHY ACCESS 	BACK TO NATURE 	COMMUNITY GARDENS 	LOW IMPACT DEVELOPMENT 	CULTURE AND HISTORY 
Federal Funding Sources										
Land and Water Conservation Fund (LCWF)	U.S. National Park Service/California Dept. of Parks and Recreation	✓	✓				✓		✓	
Urban Community Forestry Program	U.S. National Park Service		✓		✓			✓		
EPA Brownfields Clean Up & Assessments	U.S. Environmental Protection Agency		✓			✓			✓	
Sustainable Communities Planning Grant and Incentive Program	U.S. Dept. of Housing and Urban Development (HUD)	✓				✓				
Urban Revitalization & Livable Communities Act	U.S. Dept. of Housing and Urban Development (HUD)	✓				✓		✓		
Community Development Block Grants	U.S. Dept. of Housing and Urban Development (HUD)	✓	✓			✓	✓	✓		✓
ACHIEVE, Communities Putting Prevention to Work, Pioneering Communities	Center for Disease Control & Prevention					✓	✓	✓		
Wildlife Services	Department of Agriculture, Animal and Plant Health Inspection	✓	✓		✓		✓		✓	
Urban and Community Forest Program	Department of Agriculture, Forest Service		✓		✓		✓		✓	
Community Forest and Open Space Conservation	Department of Agriculture, Forest Service	✓	✓		✓		✓		✓	
Choice Neighborhoods Implementation Grants	Department of Housing and Urban Development, Office of Public and Indian Housing		✓			✓	✓		✓	
Undesirable/Noxious Plant Species	Department of the Interior, Fish and Wildlife Service			✓	✓		✓			
Recovery Act Funds - Habitat Enhancement, Restoration and Improvement	Department of the Interior, Fish and Wildlife Service		✓	✓	✓		✓		✓	
Cooperative Landscape Conservation	Department of the Interior, Fish and Wildlife Service	✓	✓	✓	✓		✓		✓	
Save America's Treasures	Department of the Interior, National Park Service	✓	✓	✓						✓
Safe Routes to School, Mini-grants	National Center for Safe Routes to School & Caltrans		✓			✓				

CITY HEIGHTS URBAN GREENING PLAN

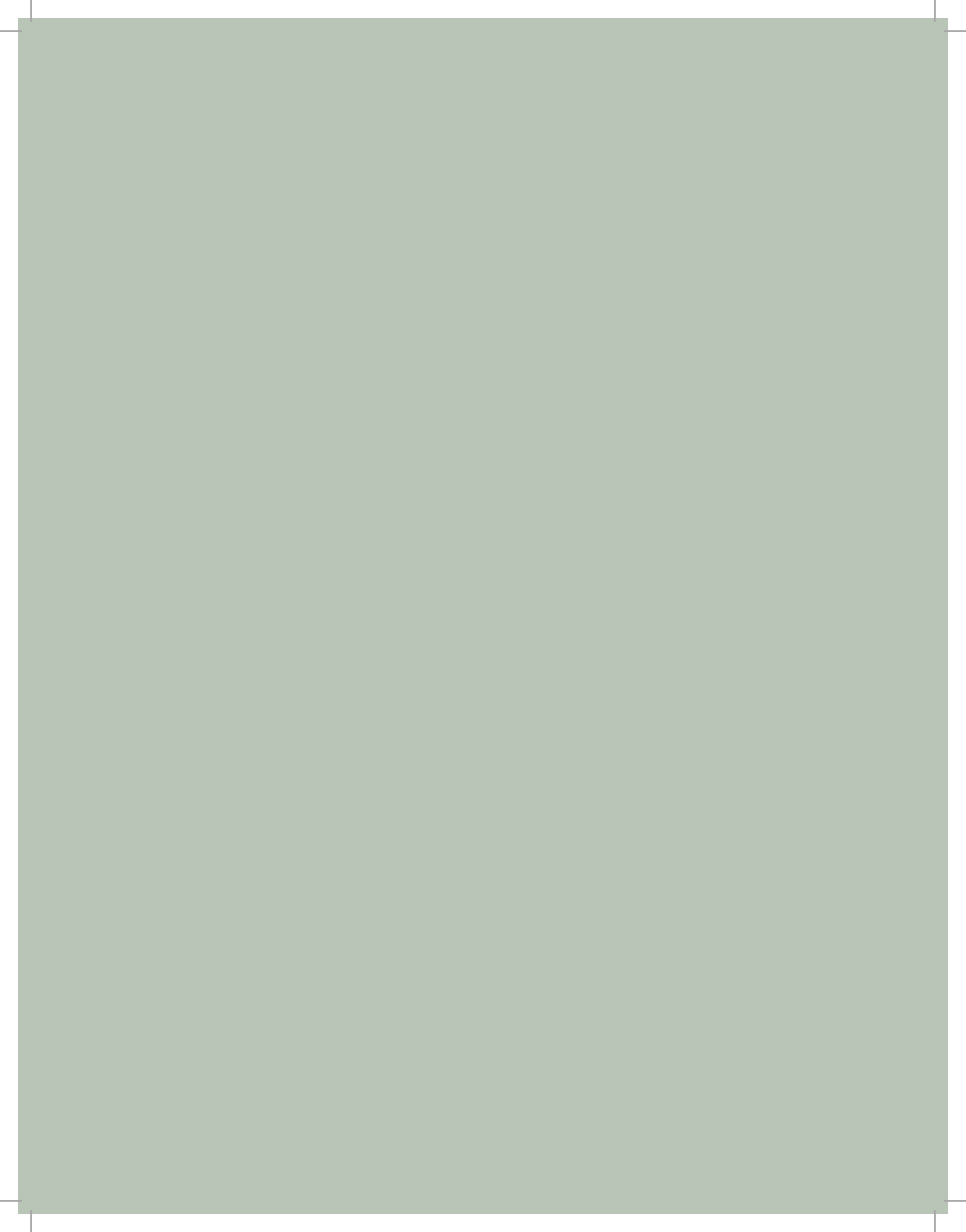
FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES								
		TYPICAL APPROACHES			ATYPICAL APPROACHES					
FUNDING SOURCE	FUNDING ORIGIN	Park Land Acquisition	Park CIP Development	Maint. & Operations	URBAN FORESTRY	SAFE & HEALTHY ACCESS	BACK TO NATURE	COMMUNITY GARDENS	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
State Funding Sources										
Land and Water Conservation Fund (LCWF)	CA Dept. of Parks & Rec	✓	✓			✓	✓		✓	
Proposition 12 - 2000 Parks Bond Act	CA Dept. of Parks & Rec	✓	✓				✓	✓		
Proposition 40 - 2002 Resources Bond	CA Dept. of Parks & Rec	✓	✓				✓	✓		
Prop 84 Stormwater Grant	CA Dept. of Parks & Rec		✓	✓					✓	
Statewide Park Program Prop 84 Round 2	CA Dept. of Parks & Rec	✓	✓			✓		✓		
Recreational Trails Program	CA Dept. of Parks & Rec		✓	✓		✓	✓		✓	
Proposition 117 - Habitat Conservation	CA Dept. of Parks & Rec	✓	✓		✓		✓		✓	
Nature Education Facilities	CA Dept. of Parks & Rec		✓	✓			✓			✓
Watershed Program	CA Dept. of Parks & Rec	✓	✓				✓		✓	
Stormwater Flood Management Prop. 1E	CA Dept. of Parks & Rec		✓		✓		✓		✓	
Boat Launching Facilities	Dept. of Boating and Waterways		✓			✓				
Aquatic Center Grants	Dept. of Boating and Waterways		✓			✓				✓
Community Based Transportation Planning, Environmental Justice & Transit Planning	Caltrans		✓			✓			✓	
Traffic Safety Grants	Office of Traffic Safety		✓			✓				
Coastal Conservancy Grants	CA Coastal Conservancy	✓	✓		✓	✓	✓		✓	✓
Non-point Source Pollution, Watershed Plans, Water Conservation (Props 13, 40, 50 & 84)	State Water Resources Control Board		✓	✓	✓				✓	
Sustainable Communities Planning, Regional SB 375	Strategic Growth Council/Dept of Conservation		✓		✓	✓	✓	✓	✓	✓
Environmental Enhancement & Mitigation (EEMP)	California Natural Resources Agency & Caltrans		✓				✓		✓	
California River Parkways and Urban Streams Restoration Grant	CA Natural Resources Agency /Dept of Water Resources		✓	✓		✓	✓		✓	
California Cap and Trade Program	Cal EPA, Air Resources Board	✓	✓		✓		✓	✓		
Urban Forestry Program (Leafing Out, Leading Edge and Green Trees Grants)	California Department of Forestry and Fire Protection (CAL FIRE)		✓		✓			✓		

IMPLEMENTATION

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES								
		TYPICAL APPROACHES			ATYPICAL APPROACHES					
FUNDING SOURCE	FUNDING ORIGIN	Park Land Acquisition	Park CIP Development	Maint. & Operations	URBAN FORESTRY	SAFE & HEALTHY ACCESS	BACK TO NATURE	COMMUNITY GARDENS	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Local Funding Sources										
Special Habitat Conservation Programs	Regional MPOs / Local Cities	✓			✓		✓		✓	
Special Parks and Recreation Bond Revenues	Regional MPOs / Local Cities	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special Transportation Bonds and Sales Tax Initiatives	Regional MPOs / Local Cities	✓	✓	✓	✓	✓	✓	✓	✓	✓
Advertising Sales/Naming Rights	Local Jurisdictions	✓	✓	✓	✓	✓				✓
Community Facilities District (CFD) Infrastructure Financing District (IFD) Facilities Benefit Assessment District (BFA)	Local Jurisdictions		✓	✓	✓	✓	✓	✓	✓	✓
Business Improvement (BID) Maint. Districts (MAD) Property Based Improvement Districts (PBID) Landscape Maint. District (LMD)	Non-profits, business organizations or City			✓	✓	✓			✓	✓
Easement Agreements/Revenues	Local Jurisdictions	✓	✓	✓	✓			✓		
Equipment Rental Fees	Local Jurisdictions	✓	✓	✓		✓	✓	✓		✓
Facility Use Permits Fees	Local Jurisdictions	✓	✓	✓		✓	✓	✓		✓
Fees and Charges/Recreation Service Fees	Local Jurisdictions	✓	✓	✓		✓	✓	✓		✓
Food and Beverage Tax	Local Jurisdictions	✓	✓	✓		✓	✓	✓		✓
General Fund	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
General Obligation Bonds	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Intergovernmental Agreements	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lease Revenues	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mello Roos Districts	Local jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Park Dedication Fees	Local Jurisdictions	✓	✓		✓	✓	✓	✓	✓	✓
Park Impact Fees	Local Jurisdictions	✓	✓		✓	✓	✓	✓	✓	✓
Pouring Rights Agreements	Local Jurisdictions	✓	✓		✓	✓	✓	✓	✓	✓
Private Development Agreements	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Surplus Real Estate Sale Revenues	Local Jurisdictions	✓	✓		✓	✓	✓	✓	✓	✓
Revenue Bond Revenues	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sales Tax Revenues	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transient Occupancy Tax Revenues	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Utility Taxes	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓

CITY HEIGHTS URBAN GREENING PLAN

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES								
		TYPICAL APPROACHES			ATYPICAL APPROACHES					
FUNDING SOURCE	FUNDING ORIGIN	Park Land Acquisition	Park CIP Development	Maint. & Operations	URBAN FORESTRY	SAFE & HEALTHY ACCESS	BACK TO NATURE	COMMUNITY GARDENS	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Private Funding Sources										
Community Stories Grant	California Council for the Humanities		✓							✓
Community Impact Grants Program	Home Depot		✓					✓		
California ReLeaf Urban Forestry Grant	California ReLeaf		✓		✓					
Preservation Funding	National Trust for Historic Preservation		✓	✓						✓
Grants for Parks	California State Parks Foundation	✓	✓			✓	✓		✓	
Various Sports Field Grants	Various Agencies, Foundation & Corporations	✓	✓	✓		✓				
America's Historical Planning Grants	National Endowment for the Humanities		✓							✓
Corporate Sponsorships	Corporate Citizens	✓	✓	✓	✓	✓	✓	✓	✓	✓
Private Sector Partnerships	Private Corporations	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-Profit Partnerships	Non-Profit Corporations	✓	✓	✓	✓	✓	✓	✓	✓	✓
Foundation Grants	Private Foundations	✓	✓	✓	✓	✓	✓	✓	✓	✓
Private Donations	Private Individuals	✓	✓	✓	✓	✓	✓	✓	✓	✓
Irrevocable Remainder Trusts	Private Individuals	✓	✓	✓					✓	✓
Targeted Fund-raising Activities	Local Jurisdictions	✓	✓	✓	✓	✓	✓	✓	✓	✓
Land Trusts	Non-Profit Corporations	✓	✓		✓		✓		✓	✓



Neighborhood City
Walk Community
Pride Value Physical People
Give Forestry Run
Comfort Parks
Water Parents Emotional
Activity Appreciate Bike Trees Create
Attractive Reduce
Kids Happy Transportation
Destinations Exposure
Health Urban
Schools Heights
Street Play

