

CITY OF SACRAMENTO



# swanston station

TRANSIT VILLAGE SPECIFIC PLAN



# Swanston Station Transit Village

## Specific Plan

Volume One

*December 2007*

Moore Iacofano Goltsman, Inc.

PBS&J  
Bay Area Economics  
Kimley-Horn Associates, Inc.  
Criterion Planners  
Barry Wasserman



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# acknowledgements

## CITY OF SACRAMENTO

Council Member Sandy Sheedy, Council District Two

Council Member Steve Cohn, Council District Three

Joann Cummins, Council District Two

Sue Brown, Council District Three

Brian Abbanat, Project Manager & Associate Planner

Fedolia “Sparky” Harris, Senior Planner

## STEERING COMMITTEE

RAC - Revelopment Advisory Committee

PBID - Property Based Improvement District

TMA - Transit Management Agency

Tom Armstrong, North Sacramento RAC

Joann Cummins, Council District Two

Buddy Bergstrom, Del Paso Blvd PBID

Jan McCleary, North Sacramento RAC

Elmer McCleary, North Sacramento RAC

Rebecca Garrison, Point West TMA

Janet Pineta, North Sacramento School District Representative

Phil Harvey, Petrovich Development

Allen Warren, New Faze Development

David Nybo, Signature Properties

Laurie Koike, Arden Fair Mall

Erica Manuel, Cal Expo

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Eric Poerio, Police Department

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Michele Rudek, Parks & Recreation Department

Angie Shook, Fire Department

Stu Williams, Utilities Department

### SACRAMENTO HOUSING & REDEVELOPMENT AGENCY

Marti Brown

Katherine Klein

Chris Pahule

### REGIONAL TRANSIT

Fred Arnold

Taiwo Jaiyeoba

James Robinson

## CONSULTANT TEAM

### MOORE IACOFANO GOLTSMAN, INC.

Daniel Iacofano, PhD, FAICP, Principal & Project Director

Mukul Malhotra, Project Manager & Urban Designer

Dan Drazen, Deputy Project Manager & Planner

Julia Abbassi, Planner & Urban Designer

Maria Landoni de Rose, Landscape Architect

Anchi Mei, Planner

### PBS&J

Rod Jeung, AICP, Senior Program Manager

Amber Grady, Senior Scientist - Historic Resources

### BAY AREA ECONOMICS

Matt Kowta, Principal

Linda Matthew, Senior Associate

Keren Costanzo, Associate

### KIMLEY-HORN AND ASSOCIATES, INC.

Steve Pyburn, C.E., T.E., Project Engineer

### CRITERION PLANNERS

Eric Main, AICP, Project Manager

### BARRY WASSERMAN



# executive summary







# executive summary

## in this chapter

PROJECT OVERVIEW

PLANNING GOALS

KEY ELEMENTS

**THE SWANSTON STATION TRANSIT VILLAGE SPECIFIC PLAN** puts forth a vision and a roadmap for the future of a highly challenged area. The Swanston area, encompassing roughly a 1/2-mile radius around the Swanston Light Rail Station, is dissected by rail lines and arterial overpasses resulting in poor connectivity and constrained development opportunities. Characterized by a mix of uses, well-established nearby neighborhoods, multi-modal access, neighborhood amenities, community and public commitment, and development momentum from recent projects, the Swanston area has many assets that support its transformation. In addition, there are significant opportunities to strengthen connectivity, improve image, upgrade infrastructure, build on the transit station synergy, and maximize development potential around the station.

Through a set of planning and design strategies developed through extensive public workshops and coordination with the City of Sacramento’s staff and elected officials, a guiding framework for the station area was established.

The five planning strategies are:

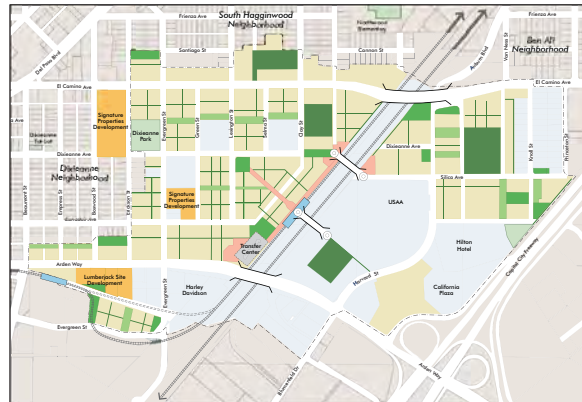
1. Create a Sense of Place
2. Improve Circulation and Connectivity
3. Maximize TOD Potential
4. Build Upon Synergy of Existing Assets and Planned Development
5. Provide Redevelopment Incentives

These strategies help establish two distinctive neighborhoods on either side of the tracks that build off of the surrounding contexts.

In addition, the specific plan addresses key elements that layered together create a unique transit-oriented development. The key elements are:

1. Open Space
2. Transportation
3. Land Use & Zoning
4. Infrastructure
5. Phasing & Financing

**Open Space:** The open space plan incorporates a hierarchy of open space amenities that support a strong and vibrant community life, providing gathering opportunities, amenities for a variety of users, relief from the intensity of development, and improved access to the transit station and other major destinations.



Open Space

**Transportation:** The circulation network for the transit village includes a hierarchy of streets, which provide increased identity and connectivity for the area. Main streets provide strong neighborhood foci and link key destinations. Pedestrian and bicycle connections augment the street system providing an additional level of connectivity and access to the station.



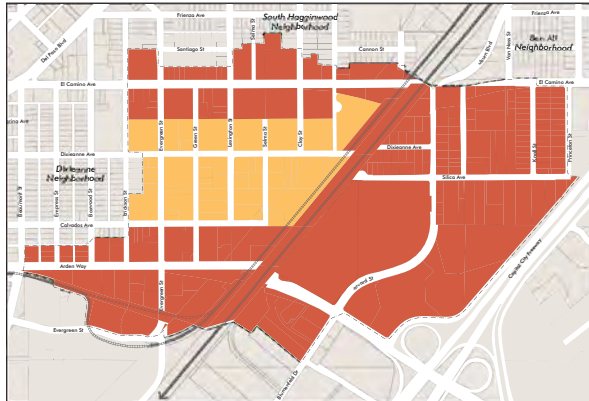
Transportation: Pedestrian, Bicycle and Transit



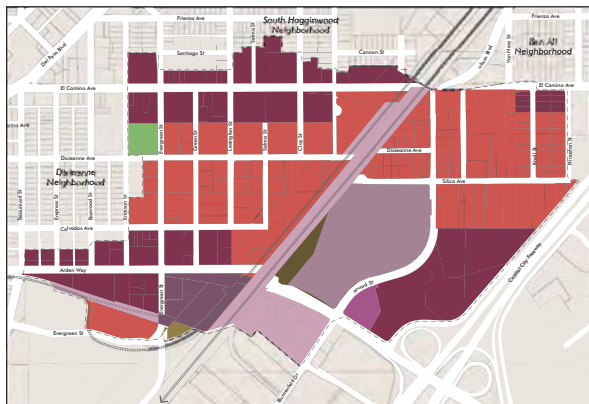
Transportation: Vehicles and Transit

**Land Use and Zoning:** The regulatory framework supports the implementation of the plan with two new land uses and nine zoning designations. These provide maximum flexibility for new development while respecting the existing residential context west of the tracks and the “mini-downtown” employment-oriented context east of the tracks proposed in the General Plan 2030 process.

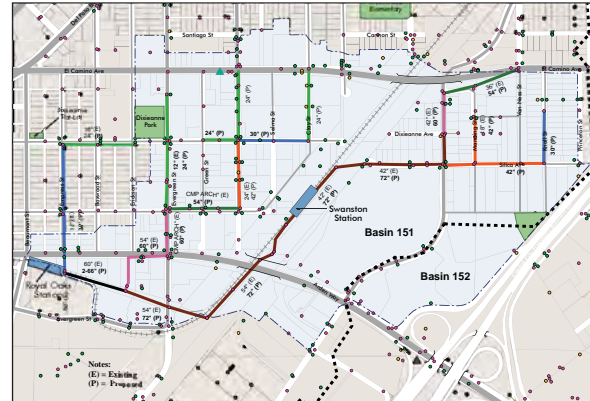
**Infrastructure:** Necessary improvements to water supply, storm drainage and sanitary sewer systems aim to support new development in the Swanston area.



Land Use



Zoning

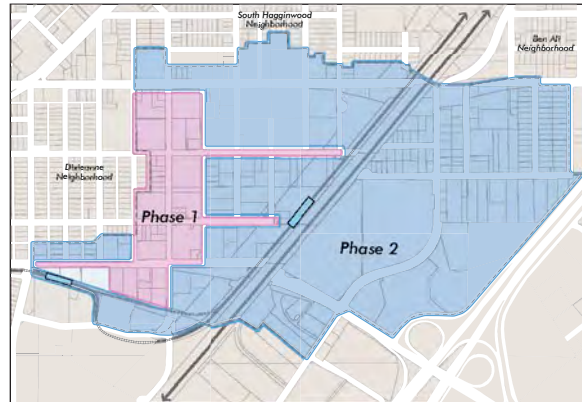


Storm Drain Improvements

LEGENDS

<b>Open Space</b>	
Underutilized Parcels	Pocket Parks
Planned New Development	Greenways
Existing Open Space	Mews
Neighborhood Parks	Plazas and Promenades
<b>Transportation A: Pedestrian, Bicycle and Transit</b>	
Residential Main Street	Planned Pt. West Shuttle
Prop. Pedestrian Connection	Prop. Pt. West Shuttle Extension
Ex. Bicycle Connection	Prop. Traffic Circle
Prop. Bicycle Connection	Prop. Intersection Improvement
Ex. Bus Route	
Prop. Bus Route	
<b>Transportation B: Vehicles and Transit</b>	
Commercial Area	Ex. Bus Route
Arterials	Prop. Bus Route
Entry Streets	Planned Pt. West Shuttle
Neighborhood Streets	Prop. Pt. West Shuttle Extension
	Prop. Traffic Circle
	Prop. Intersection Improvement
<b>Land Use</b>	
Mixed Use	Residential Mixed Use
<b>Zoning</b>	
RMX-TO	M-2
C-2-TO	OB-LI
M-1	OB-PUD
M-1, OB-PUD	A-OS
M1-LI	
<b>Infrastructure</b>	
Gutterdrains	72"
Manholes	24"
Outfalls	30"
Sumps	42"
Valves Reducers Vents	54"
	60"
Basin Boundary	66"

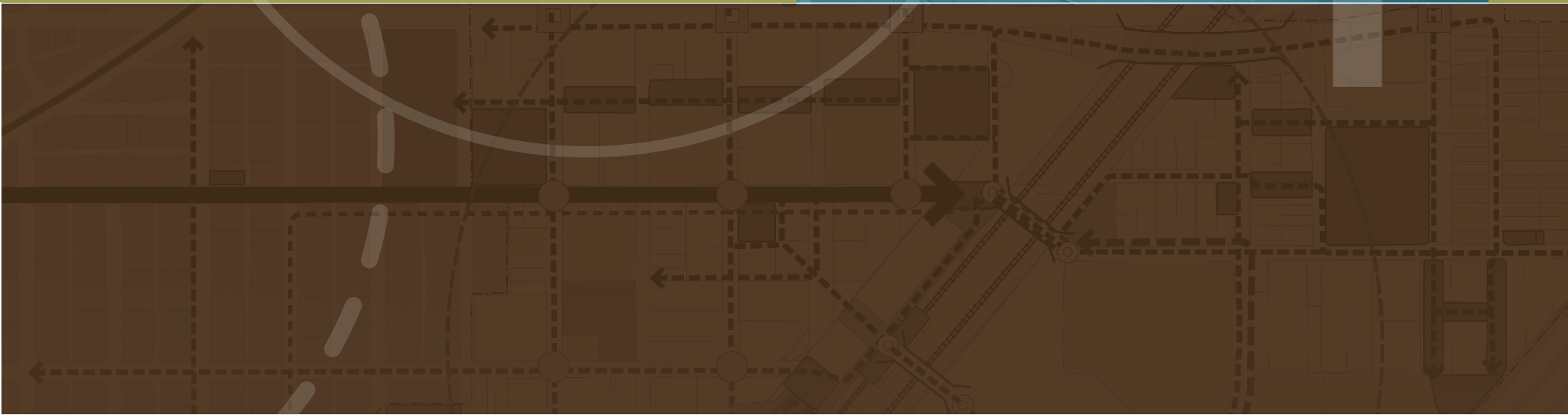
**Phasing:** The first phase of improvements is expected to be focused west of the tracks, catalyzed around new and planned developments in that area. The second phase would see development throughout the remaining area east and west of the tracks. Phase 2 would build off of the momentum of the first phase, and the area east of the tracks would develop as current uses are replaced with higher intensity uses.



**Financing:** The Plan's financing strategy recommends pursuing grant funds aggressively in order to underwrite the majority of the costs for the Strategic Plan phase of the project. The Swanston Station Transit Village Plan should be very competitive for grant funding because it is oriented around transit characterized by infill development and is focused on higher density mixed-use development. As the initial phase improvements begin to further enhance the desirability of the Swanston Transit Village Area, the City may find it feasible to fund infrastructure improvements through a special planning area impact fee.

CHAPTER ONE

# introduction



*The two most potent factors in the development of property and the appreciation of values in any suburb are: LOCATION and RAPID TRANSIT. North Sacramento has both!*

North Sacramento Brooke Realty Brochure (Early 1900's)

CHAPTER ONE

# introduction

in this chapter

PROJECT BACKGROUND & PURPOSE

LEGAL CONTEXT

PLANNING PROCESS

DOCUMENT OVERVIEW

**THE REVITALIZATION OF THE SWANSTON STATION AREA PRESENTS AN OPPORTUNITY**

to transform an underutilized light rail station into an active, mixed-used transit village. This station can become a synthesizing force for change and redevelopment in the area by stitching together the urban fabric of the communities on either side of the tracks. Swanston Station has the potential to become an asset for not just North Sacramento, but the City as well, by leveraging its existing light rail infrastructure to attract housing, employment and shopping to the area.

Historically, the Swanston area was envisioned as a thriving center for jobs and housing served by streetcars and public transit. However, as manufacturing needs changed and employment patterns shifted, goals for the Swanston Station area went unfulfilled, leaving an area that is largely blighted, neglected and unsafe. Further, the infrastructure associated with the light rail lines, heavy rail lines, and vehicular overpasses for the Arden Way and El Camino Avenue arterials have dissected the area, isolated it from surrounding neighborhoods, and strangulated development opportunities.

By capitalizing on the transit-oriented development (TOD) potential, concentrating new housing and employment growth around the transit hub, and improving connections throughout the area, the transit village plan presents the opportunity to meaningfully realize the historic and present community vision for the Swanston area as a vibrant, mixed-use neighborhood.

**SCOPE OF THE PROJECT**

- Overall vision for the project area
- Analysis of existing opportunities and challenges
- Land use and urban design recommendations
- Guidelines for public and private improvements that encourage transit-oriented development
- Increased pedestrian and bicycle movement in the area

**PREVIOUS PLANNING EFFORTS**

- North Sacramento Redevelopment Plan (1992)
- North Sacramento Community Plan Land Use and Design Study - “Brady Study” (1993)
- Swanston Station “Transit Village Concept” INDEX Study (1998)
- City of Sacramento & Regional Transit’s Transit for Livable Communities (2002)
- Regional Transit Northeast Corridor Rail Service and Facilities Enhancement Project (2002)
- North Sacramento Community Design Guidelines Update (2007)

**CURRENT PLANNING EFFORTS**

- City of Sacramento General Plan Update & Environmental Impact Report
- Regional Transit Master Plan
- Sacramento Area Council of Governments (SACOG) Blueprint Study
- Northeast Line Light Rail Stations Plan Project (2007)

**PROJECT BACKGROUND & PURPOSE LEGAL CONTEXT**

The Swanston Station Transit Village Specific Plan is a long-range urban design and implementation plan that guides public and private improvements in the Swanston Station area over the next 20-25 years.

The project area is roughly bounded by El Camino Avenue on the north, Arden Way on the south and the Capital City Freeway (Business 80) on the east. Beaumont and Erickson Streets define the western edge of the project area.

The Plan addresses land use and zoning, traffic and circulation, infrastructure, financing strategies, and implementation measures that are needed to support the Plan’s vision.

**PREVIOUS & CURRENT PLANNING EFFORTS**

Since the early 1990s, the Swanston Station area has been the focus of several planning studies. Portions of the project area reside within the North Sacramento Redevelopment Project Area, which was adopted by the Sacramento Housing and Redevelopment Authority in 1992. The study area is adjacent to the Del Paso Boulevard Special Planning District, which was established in 1994 and covers the area along Del Paso Boulevard.

The Swanston Station Transit Village Specific Plan is compatible with the goals and policies of the City of Sacramento’s General Plan that was adopted in 1988. Volume II of the Plan includes texts and diagrams that address land use, infrastructure and other supporting facilities, as well as development standards, and implementation measures.

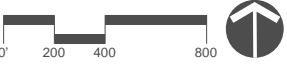
In addition, efforts for the Swanston Station have been coordinated with the City’s General Plan 2030 process currently in progress. Ultimately, the Swanston Station Transit Village Specific Plan will be adopted as part of the City’s General Plan 2030 process and reflected in the City’s Zoning Ordinance.



FIGURE 1.1 PROJECT AREA



- Project Area Boundary
- Open Space
- North Sacramento Redevelopment Area
- Del Paso Blvd, Special Planning District
- Major Highway/Freeway
- Major Road/Arterial
- RT Light Rail Route
- Planned Lumberjack LRT Realignment
- LRT Platform
- Railroad
- Quarter Mile Radius
- Bridge



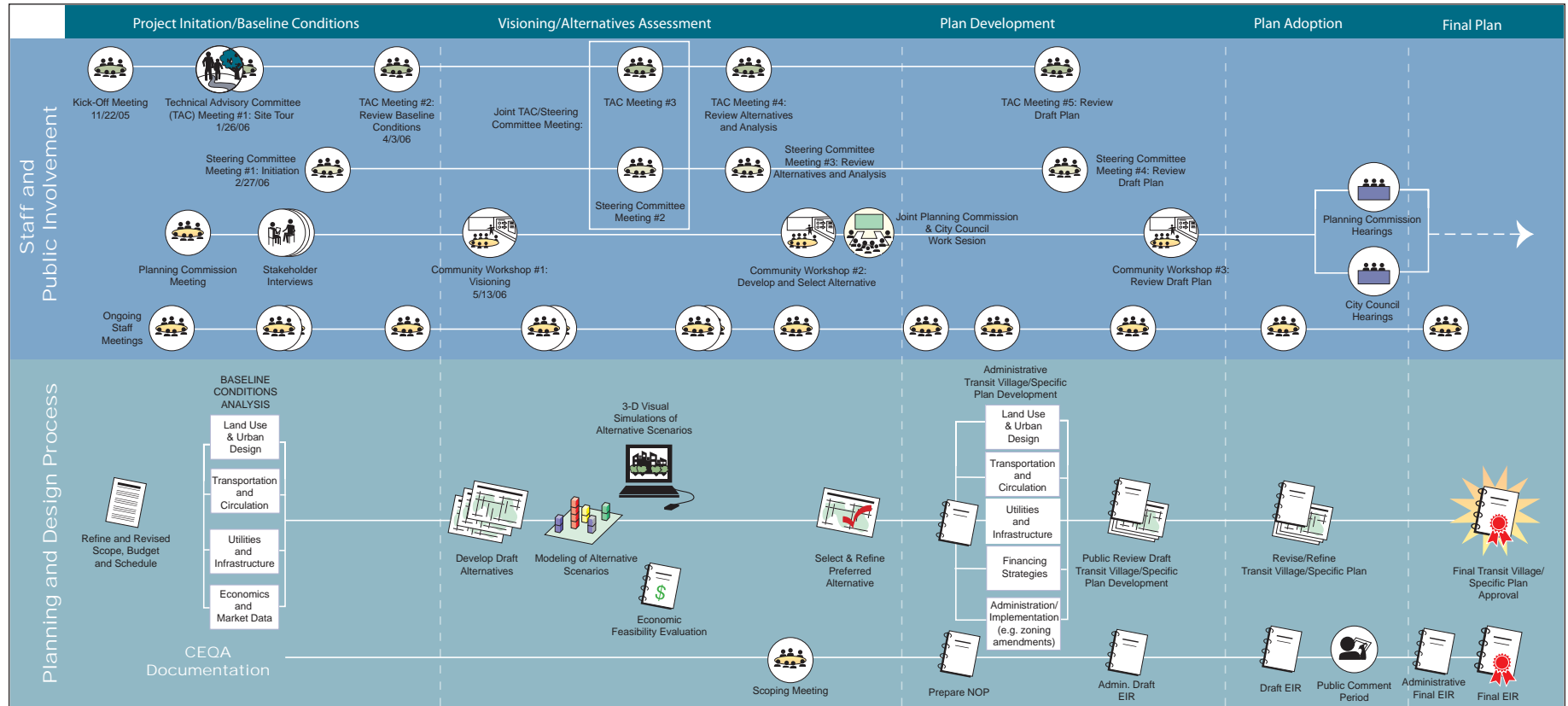
### PLANNING PROCESS

The City of Sacramento undertook the Swanston Station Village Specific Plan in December of 2005. The project team collaborated with a range of City departments, including Planning, Current Planning, Development Services, Economic Development, the Department of Transportation, the Utilities Department, and other City

agencies including the Sacramento Housing and Redevelopment Authority (SHRA), and Sacramento Regional Transit.

The project's planning process was designed to ensure that the community's vision for the station was reflected in the

FIGURE 1.2 PROCESS GRAPHIC



final plan. The planning process included a series of six stakeholder interviews and three community workshops. The stakeholder interviews were conducted in early 2006 and included representatives from neighborhood and community organizations, as well as area businesses. The process also incorporated a series of meetings with a Steering Committee, comprised of local residents, and business and political leaders, at critical project milestones.

Extensive public outreach was done to maximize turn-out at the three community workshops. In April 2006, the City publicized the Swanston project with two mailer/flyers and posters, introducing the public to the project and listing the schedule of community workshops. Door-to-door flyers were circulated prior to all workshops to encourage turn-out and raise community awareness of

planning efforts underway. At the first workshop, held in May 2006, community members developed a vision for the station area. During the second workshop, held in October 2006, community members discussed and indicated their preferred alternative for the station. At the third workshop in April 2007, approximately 60 people reviewed and commented on the chief components of the project's draft Plan.

The Swanston Station Transit Village Specific Plan will be finalized in the fall of 2007. The final Specific Plan dovetails with the project's Environmental Impact Report (EIR), which will be finalized in 2008. The Specific Plan and the EIR will then be adopted in the spring of 2008.



*Walking tour of Swanston area*



*Community workshop #1*

## DOCUMENT OVERVIEW

The Swanston Station Village Specific Plan consists of two volumes. Volume One is the community plan, presented in user-friendly and accessible language and format. Volume Two is the technical document, which satisfies the requirements of the specific plan and provides the necessary tools for implementation.

Volume One is organized in the following chapters:

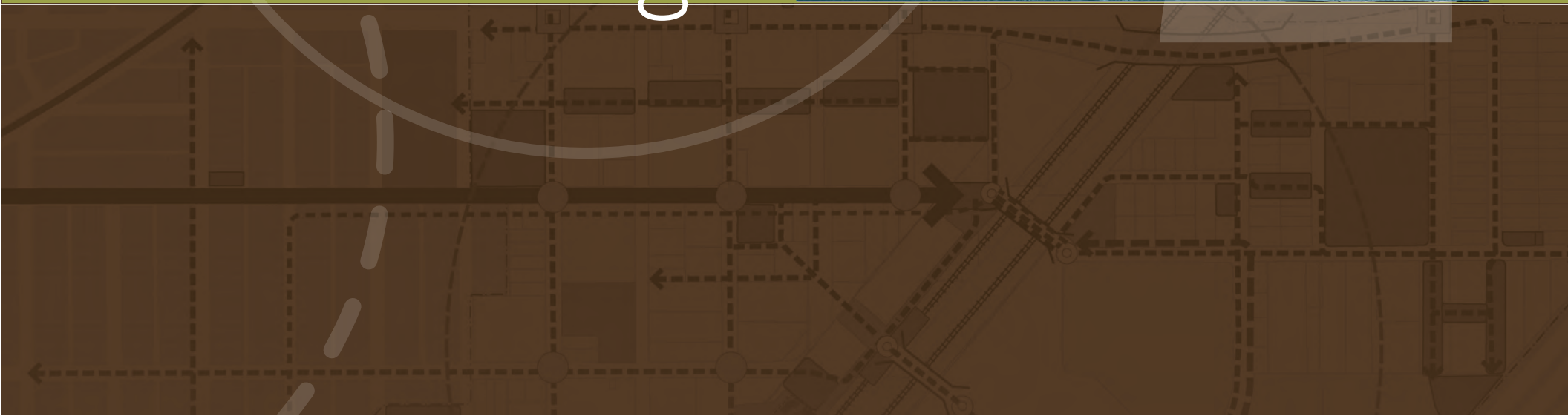
- **Chapter I: Introduction** – explains the Plan’s background and purpose, discusses the relationship of the Plan to other City plans, provides an overview of the overall project process, and outlines the organization of the Plan document;
- **Chapter II: Existing Conditions** – describes existing conditions, reviews the area’s local, regional, and historical context, and identifies the key assets, challenges, and opportunities to realizing the area’s potential;
- **Chapter III: Planning Framework** – describes the five overarching planning strategies and supporting policies that will guide the area’s urban design and development; and
- **Chapter IV: Urban Design Concept** – presents the overall urban design framework for the study area, and highlights the key design parameters that will guide the character of the private and public realms.

Volume Two is organized in the following chapters:

- **Chapter I: Land Use, Zoning and Community Facilities** -- describes the proposed regulatory changes to the land use and zoning of the area, and identifies the programs and types of community facilities;
- **Chapter II: Circulation** – details the traffic, circulation and parking elements of the station area;
- **Chapter III: Infrastructure** – identifies the specific standards for infrastructure improvements to the water, sewer and storm water;
- **Chapter IV: Design Guidelines and Standards** – building on the adopted North Sacramento Design Guidelines, this chapter details the urban design guidelines that will shape the character of the public and private realm including development of buildings, streetscape design, and open spaces in the study area; and
- **Chapter V: Implementation** – presents recommendations for Plan implementation, including a prioritized list of phased improvements, prospective financing tools and funding strategies to best move the project forward, and administration of the Specific Plan.

CHAPTER TWO

# existing conditions



People have a nice sense of the number of the number that is right for a place, and it is they who determine how many is too many. They do not, furthermore, seek to get away from it all. If they did, they would go to the lonely empty places where there are few people. But they do not. They go to lively places where there are many people. And they go there by choice-not to escape the city, but to partake of it.

William H. Whyte.

The Social Life of Small Urban Spaces (The Conservation Foundation, 1979), 100

CHAPTER TWO

# existing conditions

**in this chapter**

CONTEXT

HISTORICAL CONTEXT

ASSETS

CONSTRAINTS & OPPORTUNITIES

**THE SWANSTON AREA HAS MANY STRENGTHS**, as well as some significant constraints that need to be addressed. Future planning should build upon the area's existing assets, maximize promising opportunities, and work to counter challenges. This chapter describes the Swanston Station Area's regional, local and historical context as well as constraints and potential opportunities. This chapter also includes a series of maps that illustrate key concepts described herein.

Figure 2.9 at the end of the chapter provides a summary of the primary assets, issues and opportunities in the project area.



*El Camino Avenue to the north of the project area*

## CONTEXT

The Swanston Station Transit Village project area is located approximately three miles northeast of Downtown Sacramento.

The project area is bifurcated by the Regional Transit light rail lines and the Union Pacific heavy rail lines. The El Camino Avenue and Arden Way overpasses also serve as barriers between the station area and adjacent neighborhoods. The Capitol City Freeway further isolates the area from the Arden Fair Mall and Cal Expo site to the east.

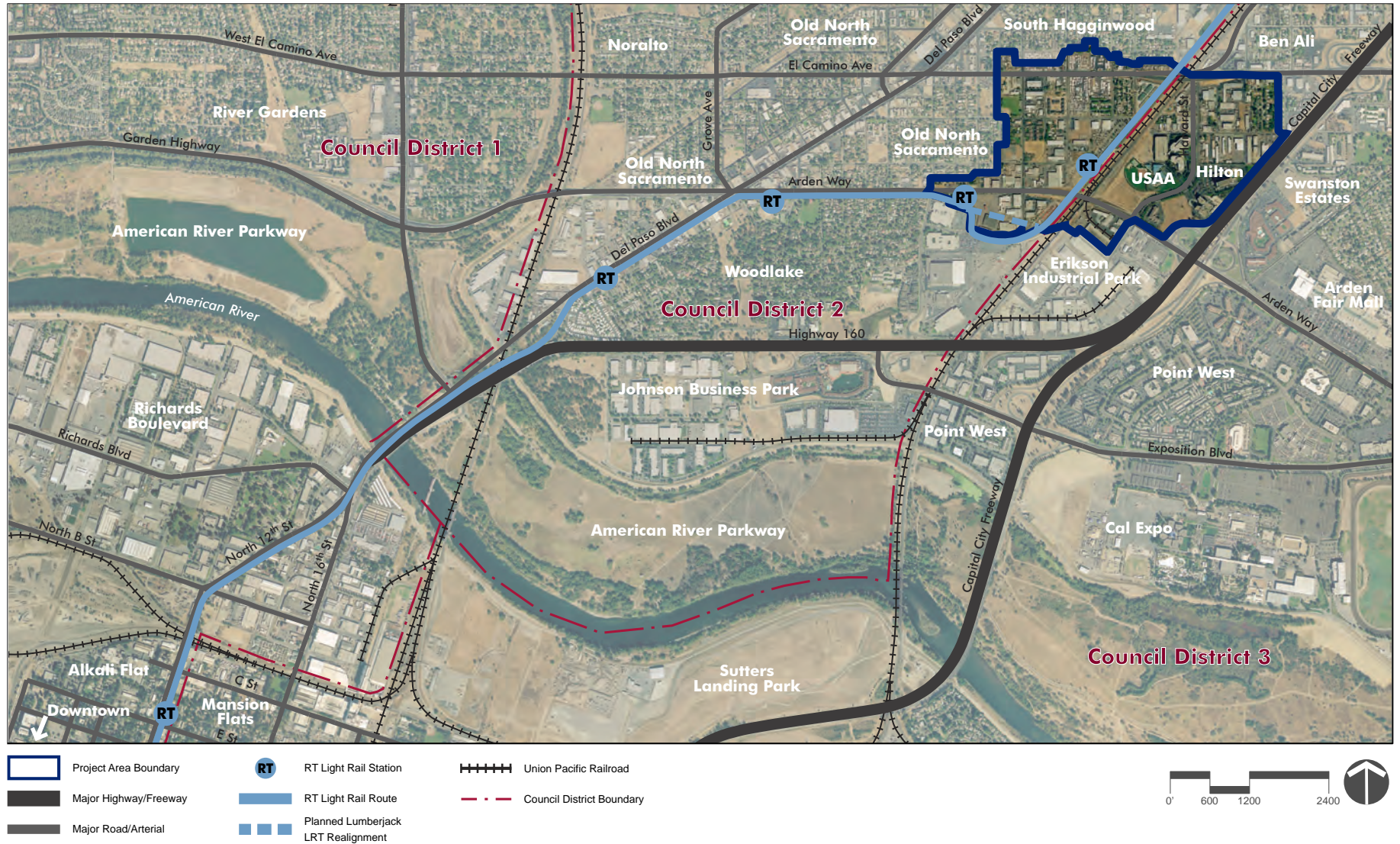
The west side of the project area contains a mix of low-density, single-family homes, industrial buildings and minor commercial uses along with many vacant and underutilized parcels. The area to the east of the tracks is characterized by newer, five- to six-story office and commercial structures, including the United Services Automobile Association (USAA) complex and the Hilton Sacramento Arden West Hotel. These uses are large scale buildings surrounded by parking lots. Older industrial uses exist along Silica Avenue and Knoll Street is lined with small-scale residential.



*Light rail and Union Pacific tracks through the project area*



FIGURE 2.1 REGIONAL CONTEXT





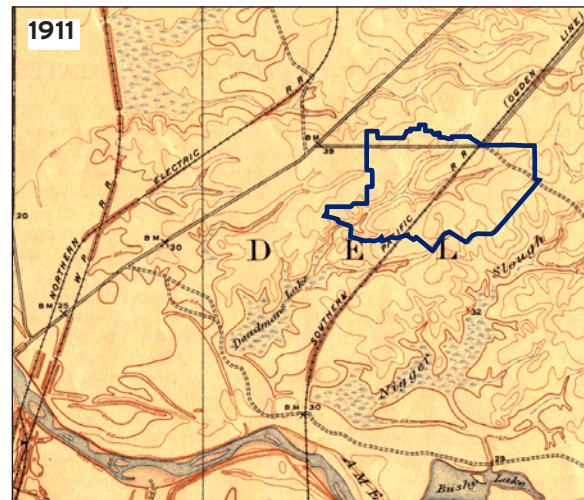
Historic advertisement for the North Sacramento area

### HISTORICAL CONTEXT

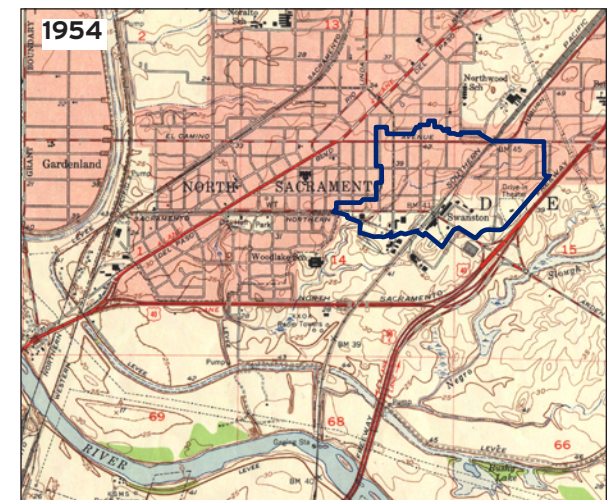
The North Sacramento area was originally envisioned as a thriving center for employment and housing well-served by public transit, though the area surrounding Swanston Station was almost entirely devoted to agriculture. In the 1880's, James Haggin, a prominent lawyer and businessman, established a 44,800-acre horse-breeding ranch in the area. Haggin's prize-winning horses live on in the names of local area streets, such as "Ben Ali", "Calvados" and "Dixieanne." The area remained largely undeveloped until 1915 when George Swanston, the area's namesake, opened the Swanston & Son meatpacking plant. Located adjacent to what is now Swanston Station, Mr. Swanston

used refrigerated rail cars to distribute his goods throughout California and the greater United States.

By 1930, North Sacramento was recognized as a center for light and heavy industrial businesses, many of which were clustered around the area's railroad lines. Several of these factories and plants, including the Swanston Meat Packing Company, the Essex Lumber Company, and the Sacramento Wool Company brought the area national recognition. Throughout the latter half of the 20th century, many of the businesses surrounding Swanston Station declined as rail transport fell out of favor. The eco-



Historical maps showing development in the Swanston and greater North Sacramento area



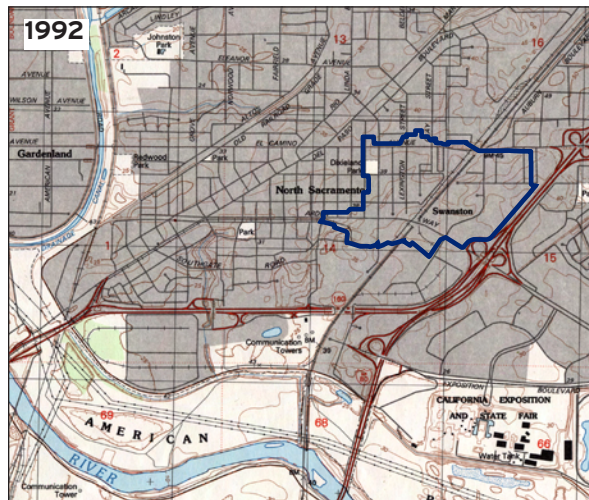
conomic struggles of the area were only compounded by construction of the North Sacramento Freeway (Highway 160) in 1955, which served to physically isolate the area from the rest of Sacramento.

By 1992, Regional Transit, Sacramento’s transit provider, had begun light rail operation at Swanston Station. The 18.3-mile system provided service along the region’s northeastern (Interstate 80) and eastern corridors (Highway 50) into Downtown Sacramento. In the late 1990s and early 2000s, residential redevelopment and investment along Dixie Avenue began to revitalize and invigorate the Dixie Neighborhood. Today, Swanston

Station is poised for a second wave of development that will help to further improve the area and maximize the station’s transit-oriented potential.



*Industrial uses around the Swanston station*



## ASSETS

Swanston Station and the surrounding area offer a number of unique and strategic assets. Leveraging these positive attributes will help to create a truly vibrant, mixed-use transit village.

## DIVERSE, WELL-ESTABLISHED NEIGHBORHOODS

Several well-established neighborhoods and officially designated planning districts are located within and around the project area. The Ben Ali, Cannon Industrial Park, Erikson Industrial Park, Northwood, Old North Sacramento, and South Hagginwood planning districts all surround the project area. The Ben Ali Planning District contains the Ben Ali Neighborhood and the Old North Sacramento Planning District includes the Dixianne Neighborhood.

The multitude of planning districts and neighborhoods around the project area are characterized by a diverse set of uses: destination retail and large employment centers at Arden Fair and Point West, large-scale industrial in

the Erickson and Canon industrial parks, and well-established residential in the Woodlake, Dixianne and Ben Ali neighborhoods.

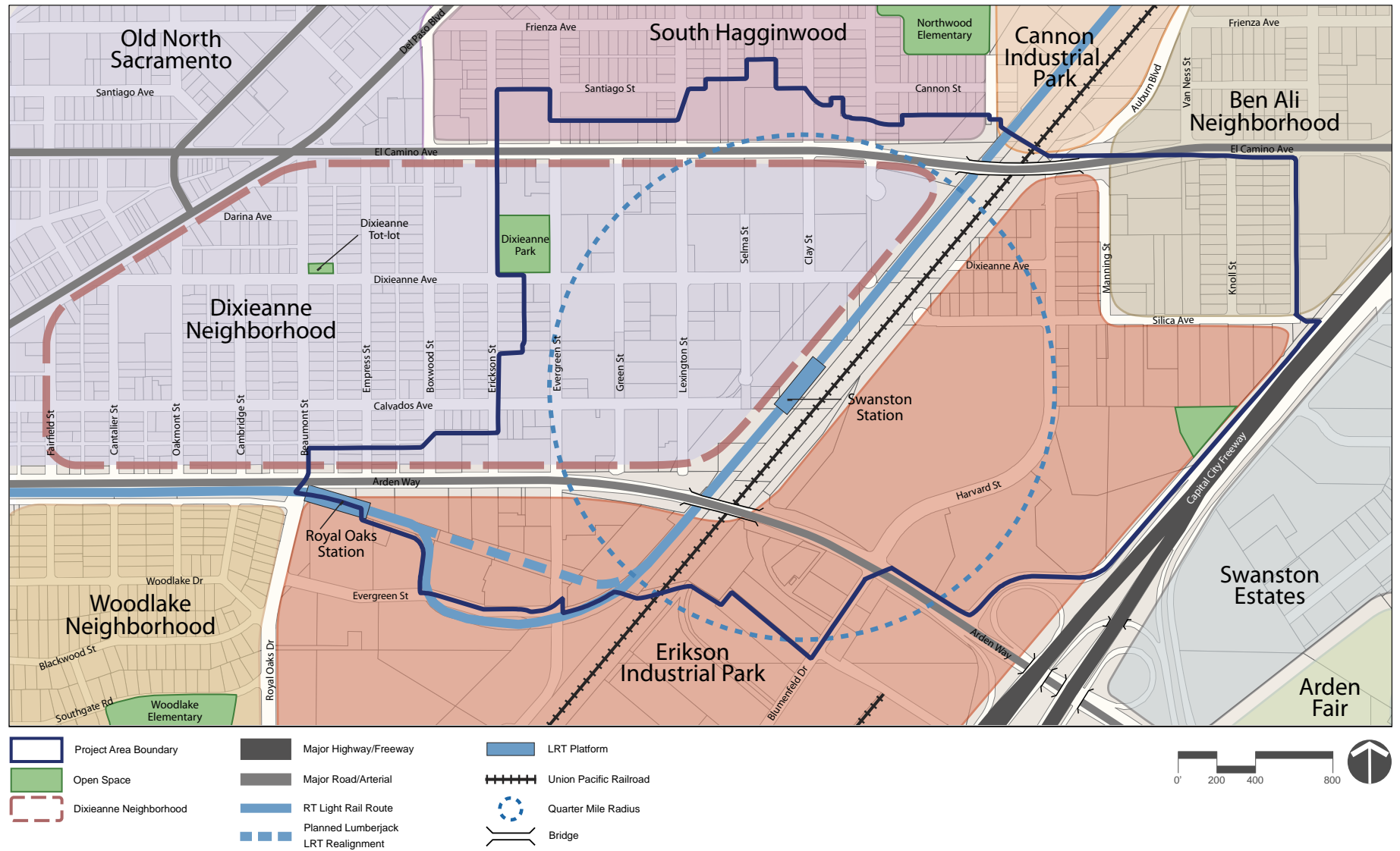
Within the project area the residential character of the Dixianne and Ben Ali Neighborhoods is predominantly small single-family homes, with some utilitarian apartment buildings in the Dixianne Neighborhood. They both have neighborhood-scaled, well-defined, tree-lined streets, which have the potential for an intimate urban residential experience. In contrast, larger-grain brick buildings and industrial warehouses are scattered throughout the project area. Newer, large-scale office buildings also characterize the area east of the tracks.



*Diverse neighborhoods surrounding project area*



FIGURE 2.2 PLANNING DISTRICTS AND NEIGHBORHOODS





*Heavy rail lines through the station area*

### EAST MULTI-MODAL ACCESS

The study area is easily accessed by regional highways including the Capital City Freeway (Business 80), State Highway 160, and major arterials including El Camino Avenue and Arden Way. The project area is served by an extensive public transportation system, including the Swanston and Royal Oaks Light Rail Stations and several bus lines. A majority of residents within the project area are located less than a quarter-mile (as the crow flies) from one or both of these light rail stations.

There are also existing and proposed bike routes located on portions of El Camino Avenue. A proposal for a streetcar/shuttle route that would link the Swanston Station area with the Point West neighborhood is under consideration. In addition, Amtrak, which provides local and regional commuter rail service on its Capitol Corridor line, is exploring the possibility of adding a stop at Swanston Station.



*Swanston light rail station*

FIGURE 2.3 TRANSPORTATION AND CIRCULATION





*Hilton Hotel east of the tracks*

### DIVERSE MIX OF USES

The project area is comprised of a mix of residential, commercial, industrial land uses, and open spaces. A variety of residential types, including single family homes, duplexes, mobile home units, multi-family apartments and condominiums, exist around the Swanston station. Scattered local-serving retail uses line Arden Way and El Camino Avenue. A mix of industrial and residential uses characterize the area west of the tracks. The project area's office uses, including the USAA complex, California

Plaza and the Hilton Sacramento Arden West Hotel, are concentrated in the southeast corner of the project area. Dixianne Park and the Dixianne Tot-lot, on the west side of the tracks, are the project area's only open spaces. This mix of land uses helps to create stable economic and social base with solid job opportunities and inexpensive housing options.



*Industrial uses within project area*



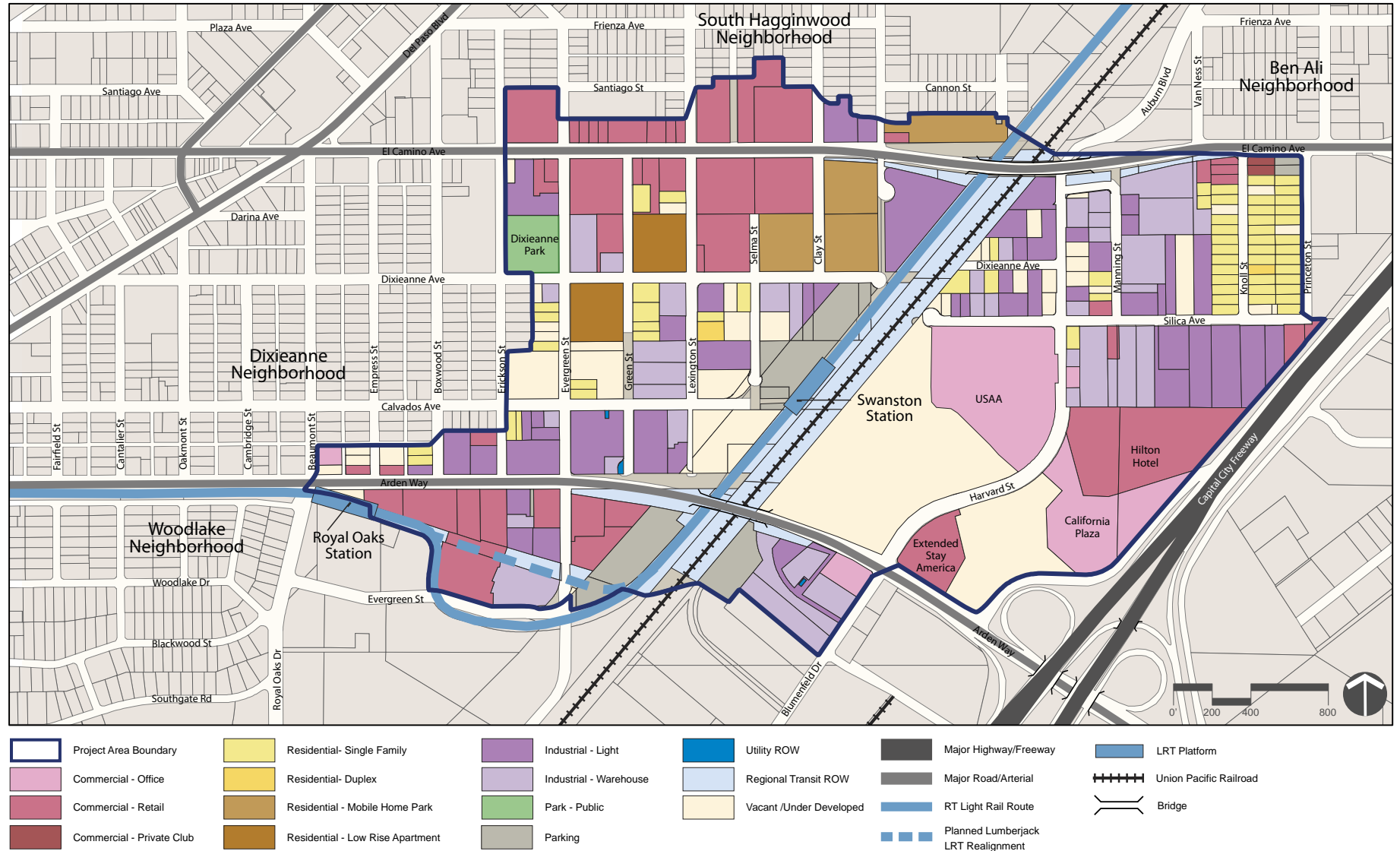
*Single family homes*



*New multi-family residential units*



FIGURE 2.4 BUILDING USES AND OPEN SPACES





*Dixianne tot-lot*

**NEIGHBORHOOD AMENITIES**

The Dixianne Tot-lot, located immediately adjacent to the project area, provides a valuable open space to the neighborhood. Dixianne Park, which is currently under renovation, has historically been an eye-sore and a magnet for crime. Two nearby schools, Woodlake and Northwood Elementary, and the North Sacramento-Hagginwood Neighborhood Library serve the neighborhood. Retail and commercial stores along Arden Way and El Camino Avenue offer some convenient services to area residents. Proximity to nearby key destinations like Del Paso Boulevard and Arden Fair Mall also add value to the

area. Del Paso Boulevard is experiencing significant revitalization, becoming known as a commercial destination and the “Main Street” of North Sacramento. Improvements along Del Paso Boulevard include diagonal parking and pedestrian-friendly streetscape amenities include planting and lighting. These amenities strengthen the resources of the community and their value will increase as local area connections and access are improved.



*Woodlake Elementary School*



*Del Paso Boulevard with streetscape improvements*

FIGURE 2.5 NEIGHBORHOOD AMENITIES





*Victory Townhomes development on Dixieanne Avenue*

**RECENT & PLANNED DEVELOPMENT PROJECTS**

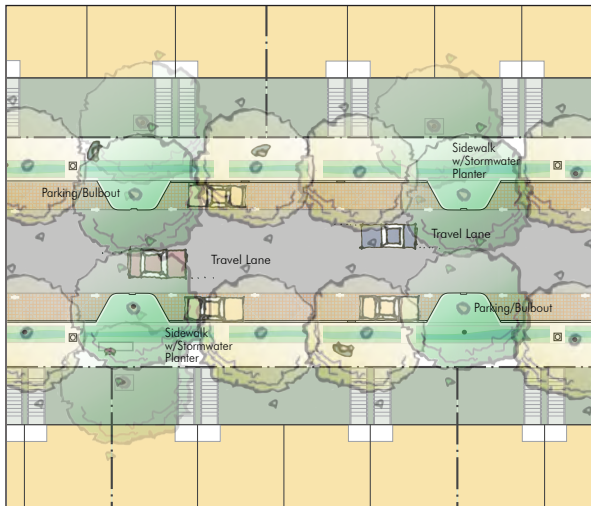
Recent developments in and around the project area, including Surreal Estates, Victory Town Homes, and the renovation of Evergreen Estates and the Dixieanne Park have initiated the momentum for positive change. Street-light and streetscape improvements along Dixieanne Avenue and Del Paso Boulevard have also helped to revitalize and enhance the safety of the area.

Planned new development, including redevelopment of the Lumberjack site along Arden Way and new residential developments along Evergreen Street and Dixieanne Avenue are bolstering investment in the station area. Additionally, Dixieanne Avenue is currently being redesigned to be the first “green street” in Sacramento, incorporating stormwater detention elements and a more pedestrian-friendly streetscape.

Proposed connections underneath the Arden Way overpass and an overhead pedestrian crossing at the station would further connect the area. The light rail tracks are also planned to be realigned in concert with the Lumberjack site development to improve peak hour service.

**COMMUNITY AND POLITICAL COMMITMENT**

Through the development and implementation of several innovative programs, neighborhood organizations and elected officials have demonstrated their determination to improve the area and create visible results on the ground. The Phantom Galleries program has helped to activate the Del Paso Boulevard corridor, while creating an identity for the area. City leaders have also made improvements in the Dixieanne Neighborhood by adding streetlights along Dixieanne Avenue and by closing several crime-prone alleys.



*Proposed plan for Dixieanne Avenue as a ‘green street’*

FIGURE 2.6 DEVELOPMENT SYNERGY



**CONSTRAINTS AND OPPORTUNITIES**

From strengthening pedestrian connections to maximizing the transit station synergy, Swanston Station faces a number of challenges and potential opportunities. Identifying and addressing these issues will ensure an implementable plan document and a successful revitalization effort.

**STRENGTHENING CONNECTIONS**

Various transportation rights-of-way (roads and railway tracks) bound and traverse the study area, creating strong visual and physical barriers that inhibit connectivity. These barriers are most pronounced along the light and heavy rail lines and at their intersection with El Camino Avenue and Arden Way. El Camino Avenue and Arden Way are pedestrian-unfriendly street with narrow sidewalks along the overpasses.

The opportunity exists to improve pedestrian and bicycle connections in the following areas:

- Better connect Swanston Station better to the surrounding residential neighborhoods and the office/industrial uses east of the track;
- Strengthen existing pedestrian connections to adjacent destinations, such as Arden Fair Mall and the Del Paso Arts District;
- Improve the safety of current routes to neighborhood schools, like Northwood and Woodlake Elementary; and
- Add continuous sidewalks to connect residential areas and open space amenities, such as the Dixianne Tot -lot.

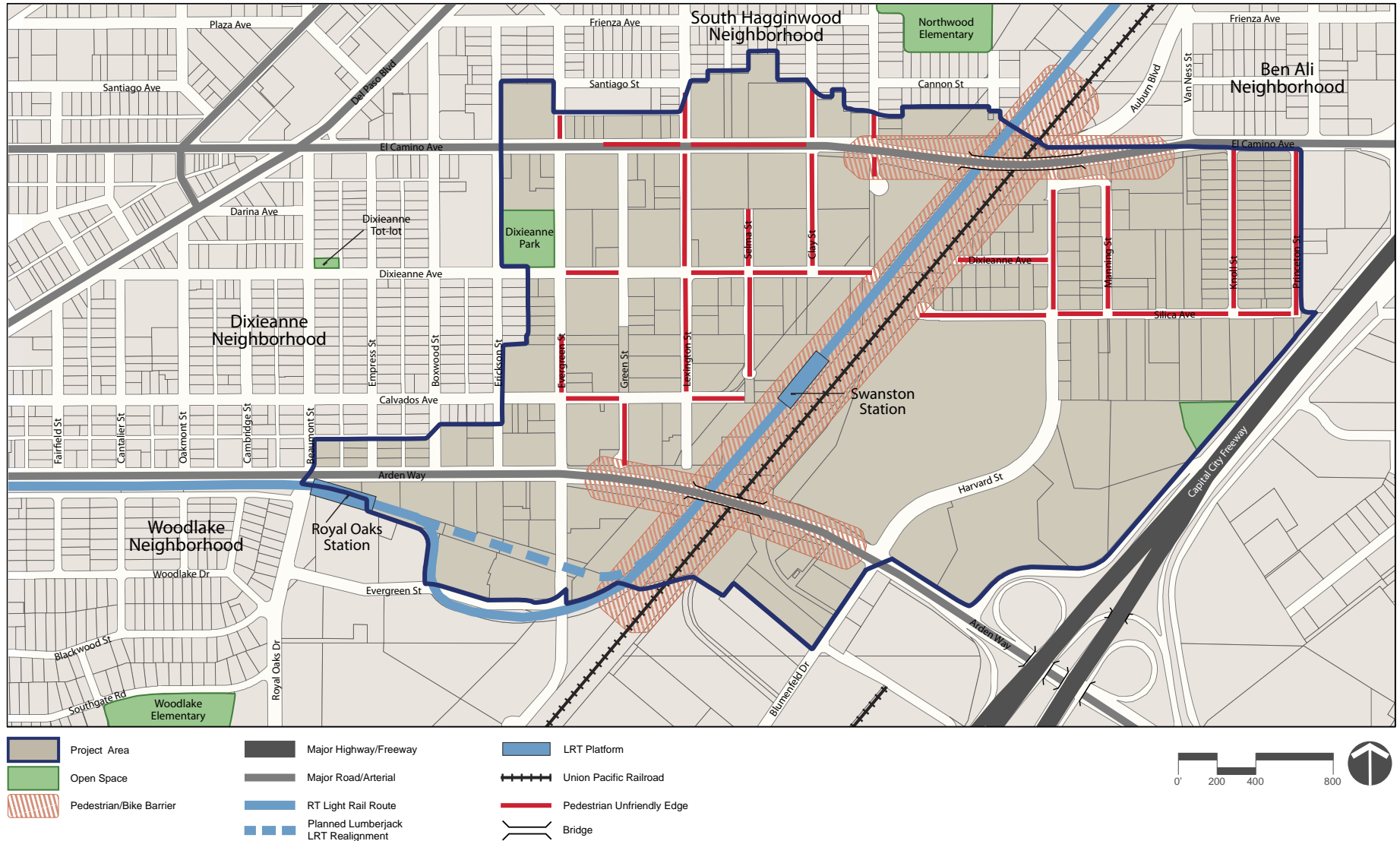


*Narrow and unprotected sidewalks along Arden Way overpass*



*Need to make infrastructure improvements*

FIGURE 2.7 PEDESTRIAN BARRIERS





*Poor pedestrian environment along arterials*

### IMPROVING THE IMAGE AND RESOLVING LAND USE CONFLICTS

Poor maintenance, lack of contiguous sidewalks, dilapidated buildings, crime, and open storm water drainage ditches all contribute to the poor image of the area. Throughout the project area, the public realm and open spaces have been neglected, contributing to a negative perception of the area. This substandard physical environment creates a breeding ground for crime and homeless populations.

While the mixed-use character of the area is in many ways an asset, the proximity of various land uses to each other often presents conflicts. Large, heavy industrial uses impinge on the intimate scale and character of the area's residential neighborhoods. These conflicting land uses also create noise, health and safety concerns for many area residents.



*Industrial uses adjacent to residential uses*



**IMPROVING INFRASTRUCTURE**

While new street lights along sections of the Dixieanne neighborhood have improved the street environment, most of the existing infrastructure and utility systems, especially the stormwater system, is dilapidated and in urgent need of improvement. The water supply system is adequately handling current uses, except for fire protection. Significant deficiencies exist in the storm water drainage system, including roadside ditches, damaged culverts, and too small of pipes. The sewage system's pipes are less than the City standards and problems include infiltration/inflow, illegal taps, and a lack of facilities in undeveloped areas. The lack of adequate infrastructure poses a severe constraint to any future development.

**MINIMIZING ENVIRONMENTAL CONSTRAINTS**

The project area contains a number of sites identified as having chemical leaks, spills, or releases. The majority of these properties appear to involve a plume carrying chemicals or solvents from leaking underground storage tanks and hazardous building components. The extent of contamination and the size of the plume are unclear and will need to be examined more fully in the Phase II Environmental Assessment. However, this uncertainty poses a constraint in attracting developers to the area.



*Swanston light rail station and surrounding area*

**BUILDING ON TRANSIT STATION SYNERGY**

Multiple opportunities exist to build on the synergy of the Swanston station:

**Develop a Walkable Transit-Oriented Village**

The project area includes many vacant and underutilized buildings and parcels, and the public realm is pedestrian unfriendly and unsafe. These conditions should be taken advantage of to maximize the TOD potential of the area.

**Improve the Station Environment**

The existing environment around Swanston station is poorly defined, lacks adequate signage, and any sense of place. The opportunity exists to better provide for transit users with more station amenities, such as coffee shops and newspaper kiosks, and a redesigned station plaza.

**Increase Housing Opportunities**

The project area currently contains many affordable and inexpensive housing units. The residential character of the area should be enhanced by intensifying housing and providing a broader mix of housing options. By increasing density around the station, reducing parking ratios, and providing density bonuses a greater number of housing units can be added to the area.

**Build Home Ownership/Sense of Pride**

By creating higher density for-sale housing units, the home ownership rates can be increased. This has the effect of encouraging residents to take pride in their community and homes.



*For-sale residential townhomes in San Jose*

### Balance Parking

Swanston Station currently has 310 parking spaces, significantly more than needed for current ridership demand. These excess parking spots consume land that could be devoted to higher value uses around the station area. In addition, parking structures on the east side of the tracks remain underutilized. There is a clear need to balance parking demands with other land uses that better complement the station and light rail service.

### Increase Ridership

Opportunities to boost ridership may increase as higher-intensity uses are built around the Swanston Station, and as other stations transition to more pedestrian-friendly, non-automobile uses.

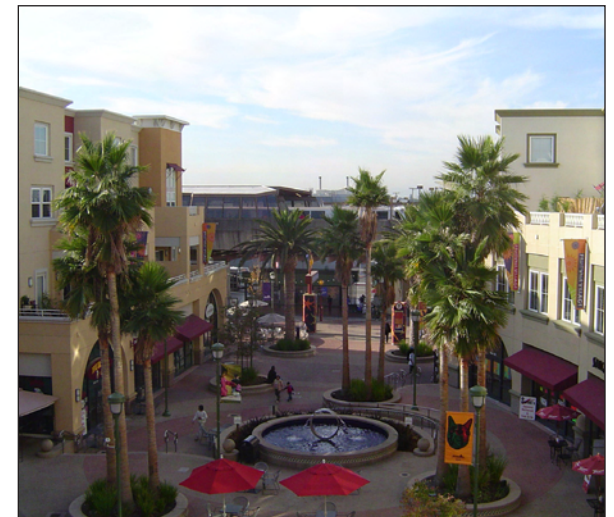
### Create Market-Friendly Solutions

Proximity to the transit station should be maximized in concert with developing market-friendly land use and building prototypes to increase the number of residents in the area and to boost ridership on the light rail system. Housing will likely lead the way, with retail and office development following once the area demonstrates signs of resurgence. Short-term efforts should concentrate on adding to the supply of quality housing within the immediate area to increase the local market's purchasing power and the overall pedestrian activity at Swanston Station.

Pipeline projects and newly built developments, designed to be market-friendly, are predominantly for-sale, detached town homes and neighborhood-serving, boutique commercial uses. New development should build upon the momentum of existing planned developments.



*New development along Dixie Avenue*



*Fruitvale transit station in Oakland*



*Vacant lot in the Swanston station area*

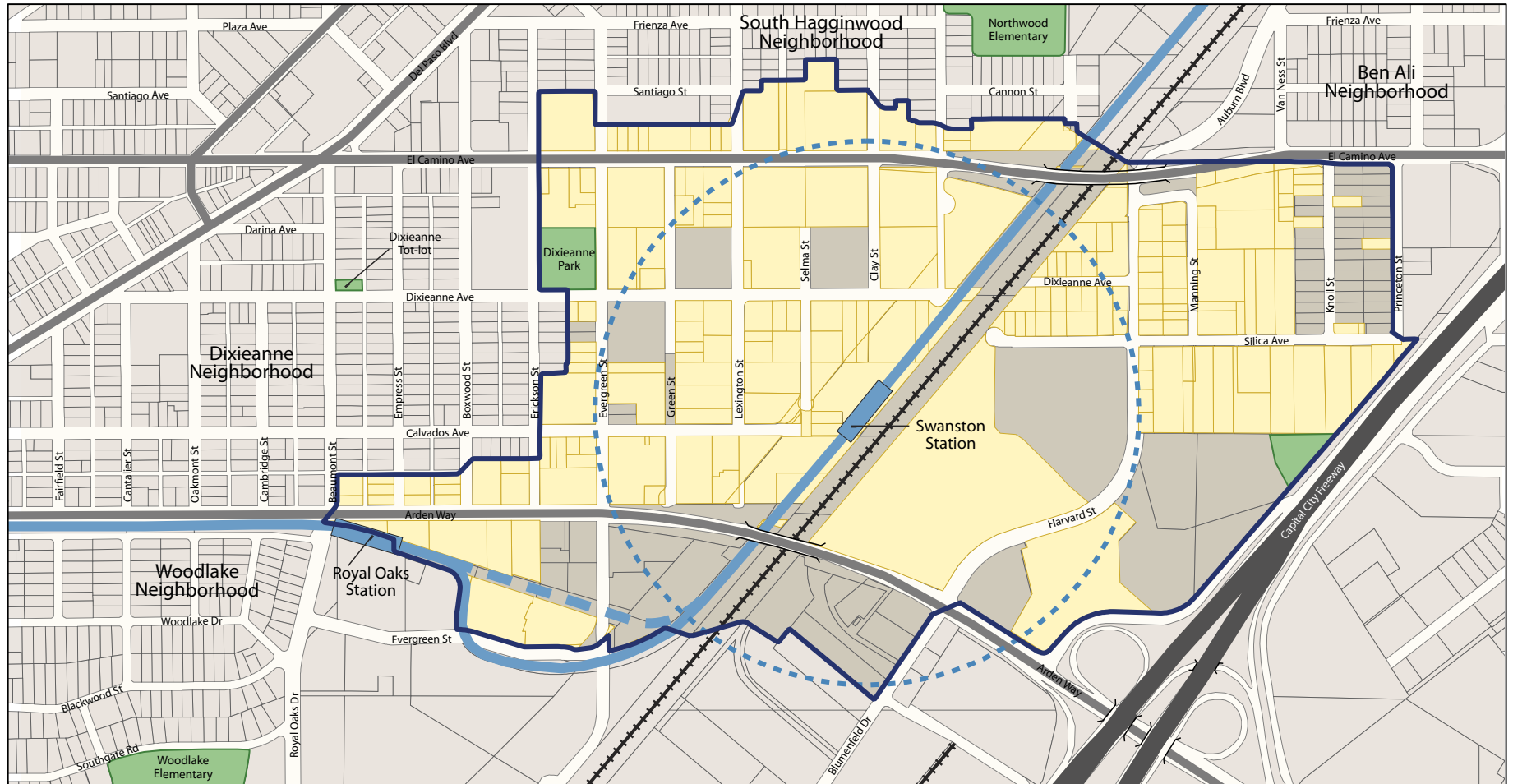
### MAXIMIZING DEVELOPMENT OPPORTUNITIES

The project area contains vast amounts of vacant and underutilized parcels that provide a tremendous opportunity for development that will increase ridership and revitalize the existing North Sacramento neighborhood. New development projects can often help to catalyze these improvements. For example, the developers of the residential project along Dixie Avenue are funding the redesign, reconstruction and transformation of Dixie Park into a true community facility. The community could benefit from additional retail opportunities, including a supermarket or grocery store.



*Underutilized RT parking lot immediately adjacent to the station*

FIGURE 2.8 OPPORTUNITY SITES



- Project Area
- Open Space
- Vacant or Underutilized Parcel
- Established Uses
- Major Highway/Freeway
- Major Road/Arterial
- RT Light Rail Route
- Planned Lumberjack LRT Realignment
- LRT Platform
- Union Pacific Railroad
- Quarter Mile Radius
- Bridge

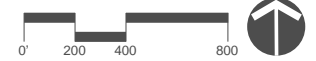
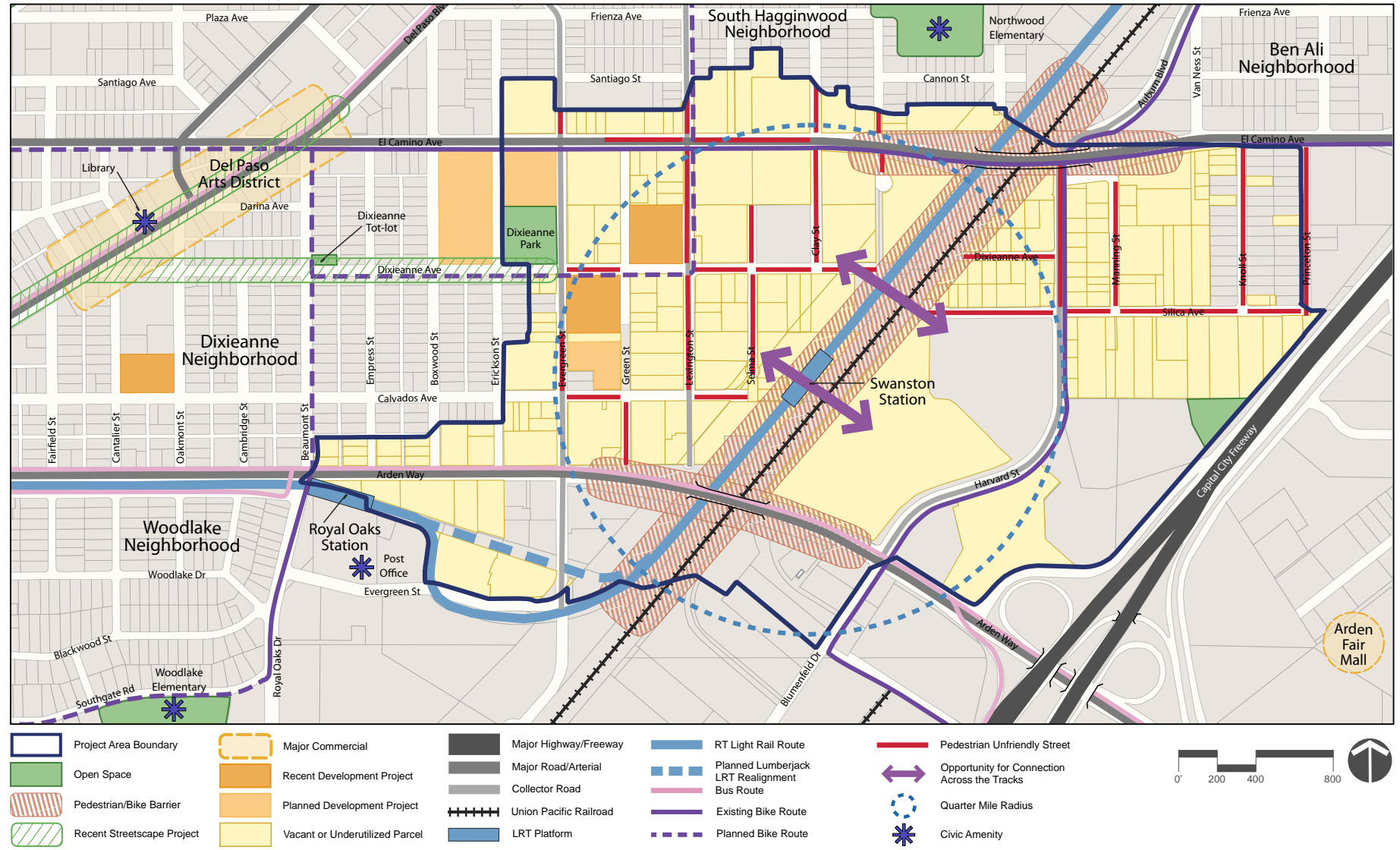
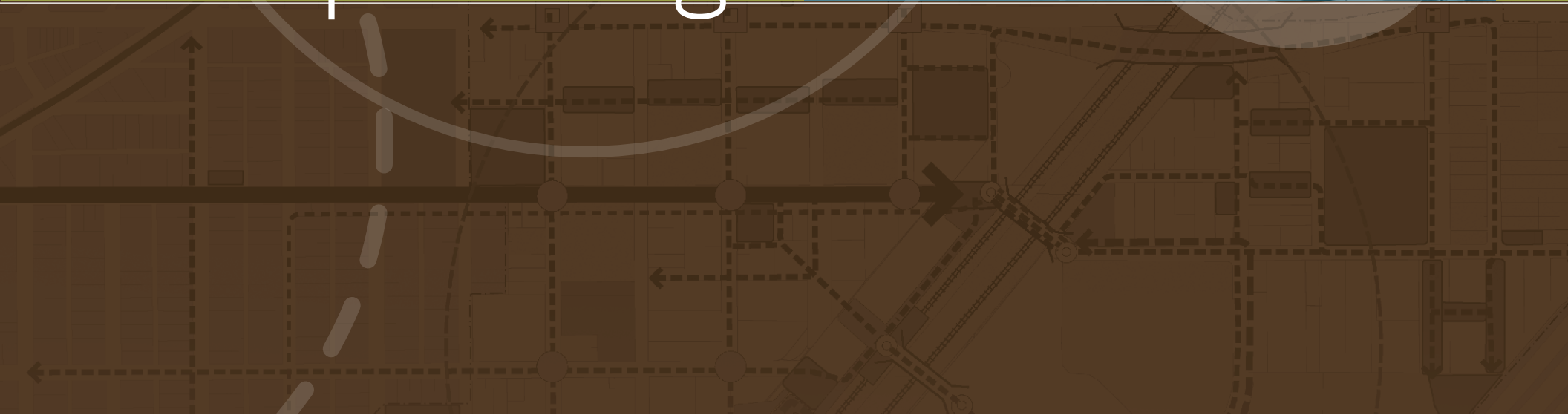


FIGURE 2.9 ASSETS, ISSUES AND OPPORTUNITIES



CHAPTER THREE

# planning framework



*The joy and pain of urban existence, the comfort or hardship of it, its efficiency or failure are influenced by the wisdom or the thoughtlessness with which streets are platted.*

Charles Mulford Robinson  
The Width and Arrangement of Streets. A study in Town Planning.  
(The Engineering News Publishing Company, 1911).



CHAPTER THREE

# planning framework

**in this chapter**

CREATE A SENSE OF PLACE

IMPROVE CIRCULATION AND  
CONNECTIVITY

MAXIMIZE TOD POTENTIAL

BUILD UPON SYNERGY OF EXISTING  
ASSETS AND PLANNED DEVELOPMENTS

PROVIDE REDEVELOPMENT  
INCENTIVES

**A FRAMEWORK OF PLANNING STRATEGIES** guides urban design and development in the area. This chapter describes the five overarching planning strategies and supporting policies for the Swanston Station project area.

## A. CREATE A SENSE OF PLACE

Utilize and respect the context of the existing natural and man-made environment to create a unique identity and sense of place.

### POLICIES:

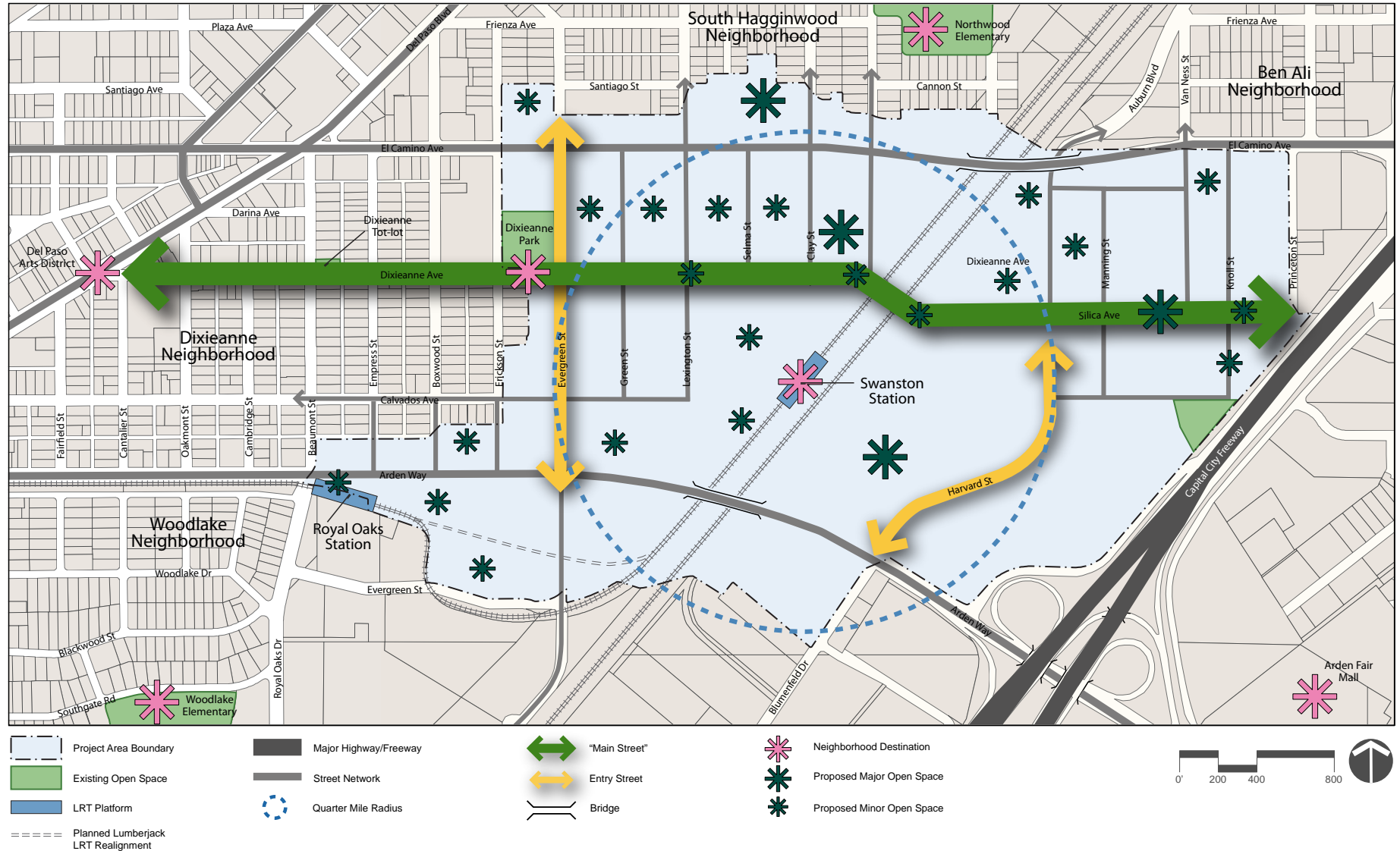
**A1. Create a unique identity to the transit village.** Various land uses, including higher-density residential and open space, that support transit use, housing demand, and community life should be identified. Dixianne Park and the immediate transit station area should serve as community focal and destination points. The distinct character of the neighborhoods on each side of the tracks should be reflected in their respective designs.

**A2. Create an identifiable public realm.** A hierarchy of streets and open spaces should be established. Dixianne Avenue should serve as the “Main Street” for the area west of the tracks; Silica Avenue has the greatest potential to serve as the main street east of the tracks. Evergreen Street’s importance as the entrance to the transit village should be highlighted and celebrated in its streetscape design. The types and programs of open spaces should reflect the variety of users and needs in the community. Their distinctive designs should positively contribute to the unique character of the transit village.



*Building a unique identity for the transit village and public realm*

FIGURE 3.1 IDENTITY AND SENSE OF PLACE



## B. IMPROVE CIRCULATION AND CONNECTIVITY

Improve and augment streets and pathways, creating an integrated, safe, and enriching circulation system for pedestrians, bicyclists, people with disabilities, transit and vehicles.

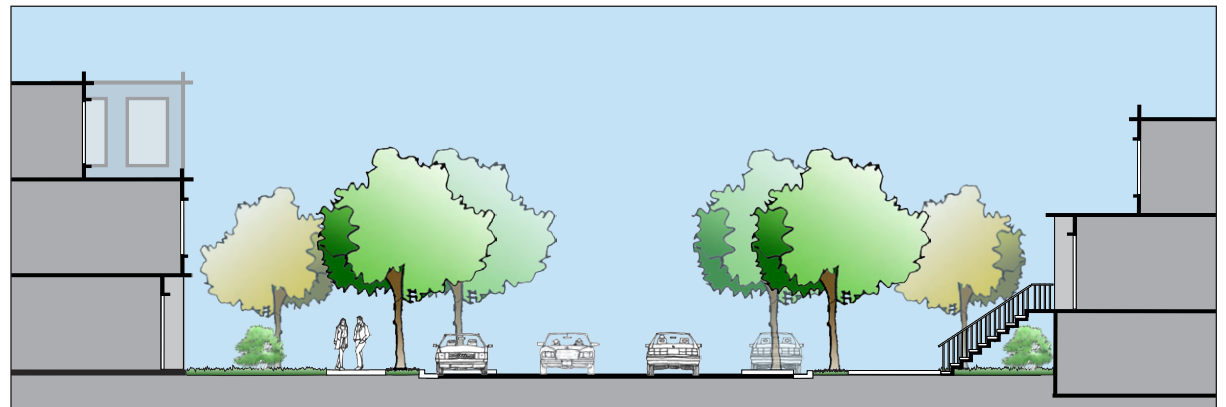
### POLICIES:

**B1. Improve the pedestrian experience** by enhancing the routes along which pedestrians travel by providing continuous sidewalks, safe and distinct crosswalks, and tree-lined pathways to provide shade and comfort. The edge conditions of streets and pathways should be enhanced with pedestrian-oriented building facades and front yards.

**B2. Provide safe and direct pedestrian crossings over the light and heavy rail tracks.** Existing pedestrian sidewalks along overpass connections at Arden Way and El Camino Avenue should be improved. A pedestrian overpass to link the employment centers east of the tracks with the transit station should be constructed to maximize the transit-oriented potential of land within a quarter- and half-mile radii of the station.

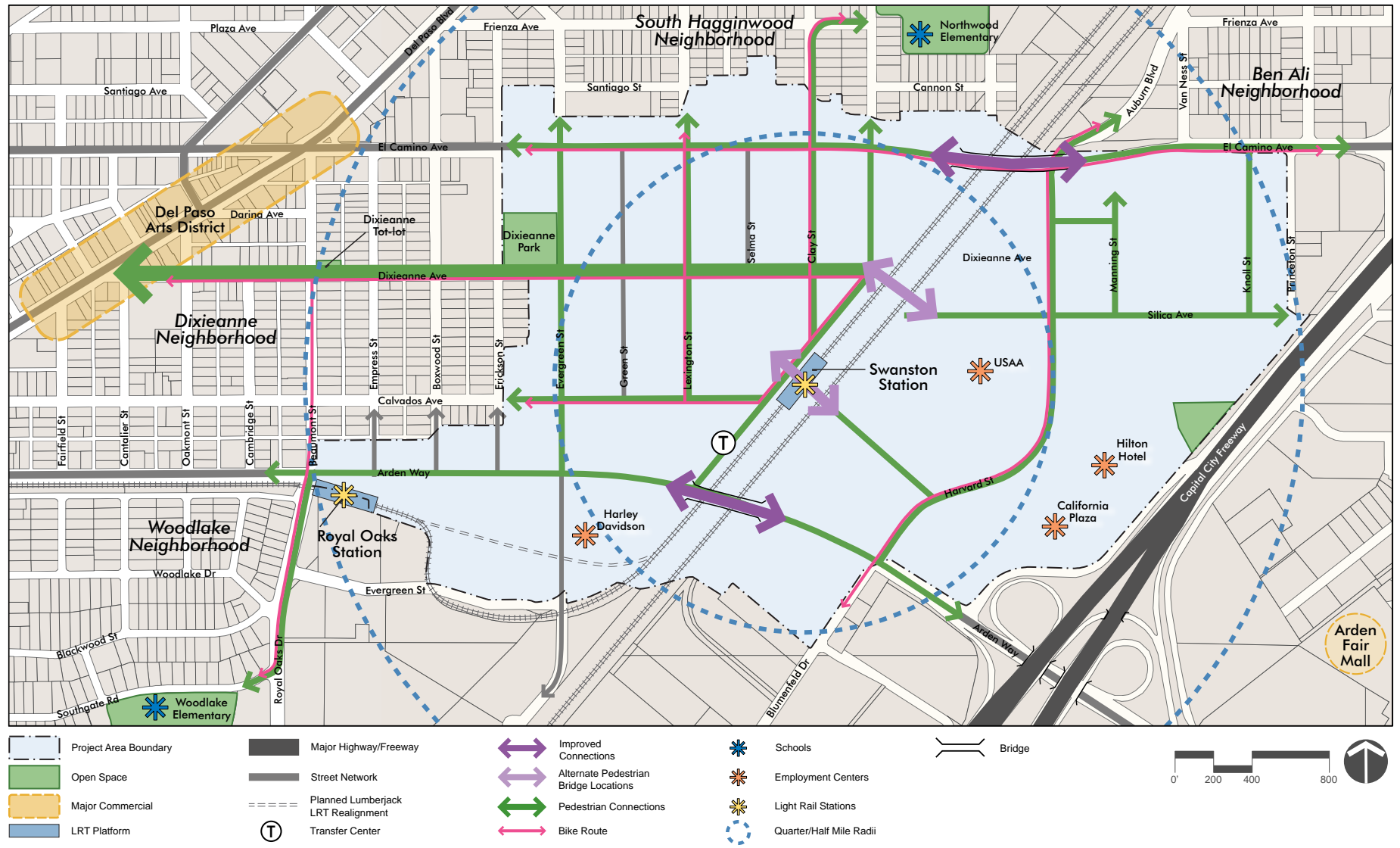
**B4. Create safe and convenient bike connections** between the transit station and region-serving bike routes and lanes. Bike routes should follow key streets and connect major and minor destinations within the transit village.

**B5. Augment the existing pedestrian and bicycle framework** by developing new connections to key destinations, including the transit station and nearby schools. Improve transit connections to regional-serving facilities, including Arden Fair Mall and Cal Expo fairgrounds.



*Improving the edge conditions between streets and new development*

FIGURE 3.2 IMPROVE CIRCULATION AND CONNECTIVITY



### C. MAXIMIZE TOD POTENTIAL

Promote high density transit-oriented development to support the transit ridership and overall revitalization of the area.

**POLICIES:**

**C1. Allow for higher-density, market-friendly, non-auto-oriented development** near transit, by reducing parking requirements and associated building costs and allowing for more development.

**C2. Utilize vacant and underutilized opportunity sites** to house a variety of different built and open space uses.

**C3. Maximize connection opportunities** among all modes of transportation, including light rail, buses, bicycle, and pedestrian facilities.



TOD around the Emeryville Amtrak station

FIGURE 3.3 MARKET-FRIENDLY LAND USES

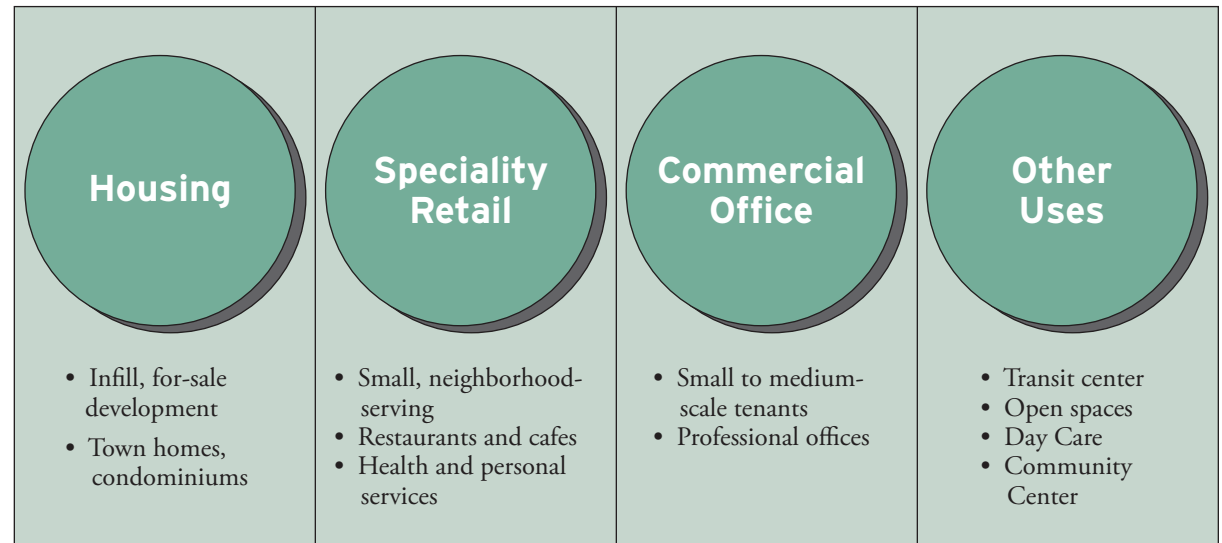
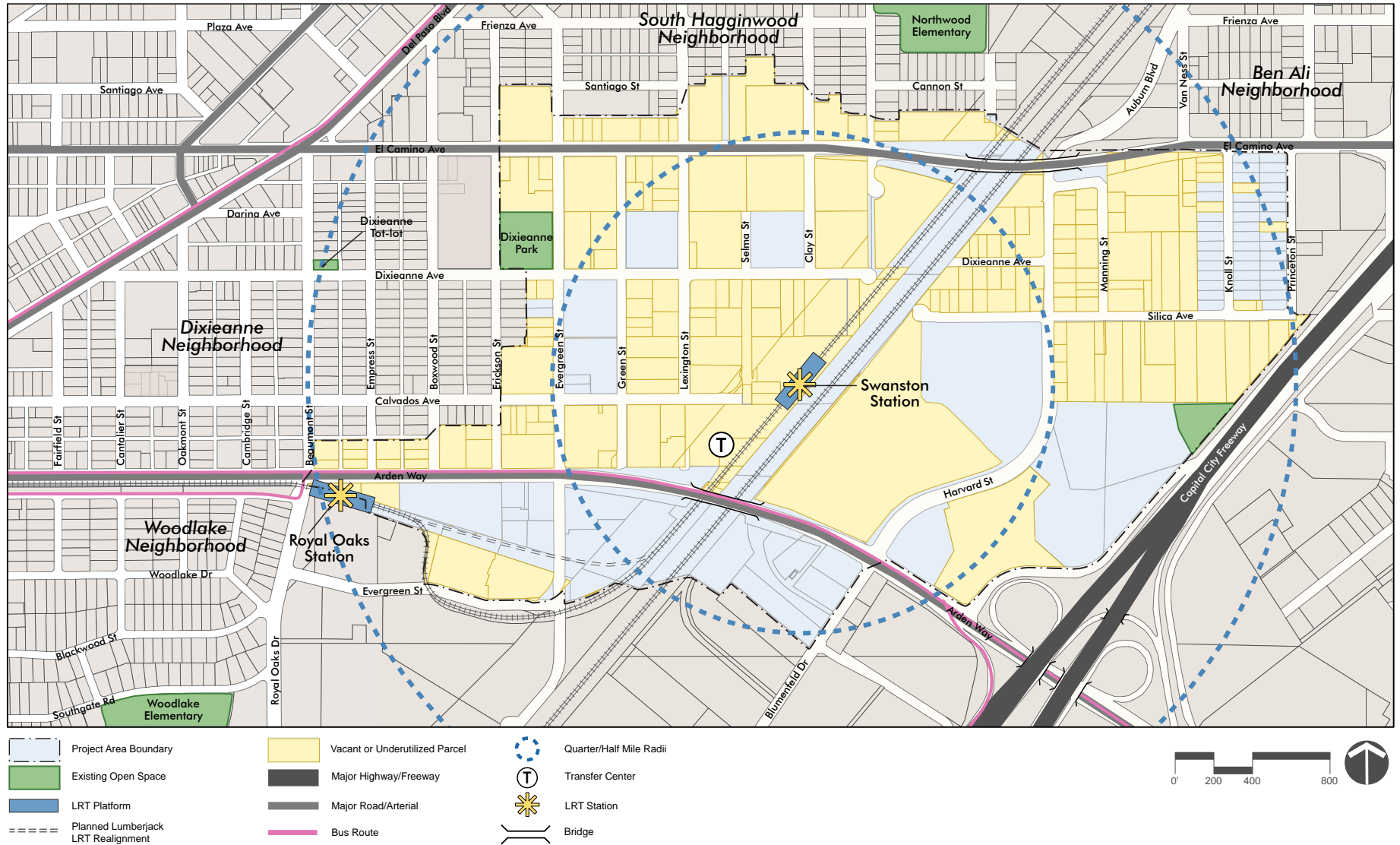


FIGURE 3.3 MAXIMIZE TOD POTENTIAL



**D. BUILD UPON SYNERGY OF EXISTING ASSETS AND PLANNED DEVELOPMENTS**

Leverage the synergy from existing and planned improvements to further enhance the area and attract private development.

**POLICIES:**

**D1. Maximize the positive momentum** from existing and planned improvements on Del Paso Boulevard, Erickson Street, and Evergreen Street by ensuring that new design concepts build upon the recent and planned improvements. Initial catalytic developments should be strategically located along Evergreen Street. Recent improvements along Dixie Avenue should serve as an impetus for realizing the streetscape design for the “Main Street” of the transit village.

**D2. Capitalize on the established neighborhoods** of Woodlake, Dixie Avenue, South Hagginwood, and Ben Ali by extending neighborhood character and creating linkages between these neighborhoods and the Swanston area. Existing anchors, such as neighborhood schools and retail destinations, should be built upon to support and be supported by new development.



*Established Woodlake neighborhood*



*Plan for Dixie Avenue Park*



FIGURE 3.4 SYNERGY OF NEW AND PLANNED DEVELOPMENTS



## E. PROVIDE REDEVELOPMENT INCENTIVES

Facilitate transit-oriented development by ensuring that development strategies are streamlined and all existing and potential new incentives for desired types of development are explored.

### POLICIES:

**E1. Facilitate development** by assembling and consolidating small individual parcels to allow for design and construction efficiencies.

**E2. Explore cost effective infrastructure improvements**, providing essential utilities that support new development.

**E3. Realign regulatory framework** to encourage transit-oriented development, by adjusting existing zoning guidelines and regulations, including parking, density, and height standards, to support higher density residential and mixed-use development and to discourage non-forming uses.

**E4. Provide financial incentives by having the Redevelopment Agency:**

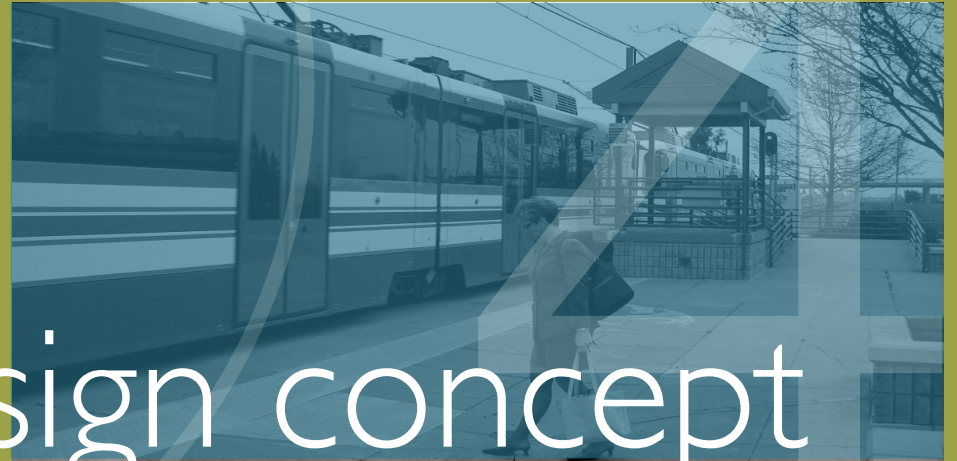
- Purchase and prepare sites for private development by clearing unwanted structures, remediating brownfields, etc., thereby reducing the risk and cost of these projects; and
- Explore streamlining the development process, such as by waiving development fees (e.g. fees for new water service) to encourage higher intensity development than what the existing market conditions would allow.



*Needed improvements to the streetscape environment*

CHAPTER FOUR

# urban design concept



A great street should be a most desirable place to be, to spend time, to live, to play, to work, at the same time that it markedly contributes to what a city should be. Streets are settings for activities that bring people together.

Allan B. Jacobs  
Great Streets, (Cambridge: MIT Press, 1993), 8

CHAPTER FOUR

# urban design concept

**in this chapter**

OVERARCHING VISION

PUBLIC REALM

PRIVATE REALM

TRANSIT STATION SUB-AREAS

WEST OF THE TRACKS

EAST OF THE TRACKS

**THE URBAN DESIGN CONCEPT FOR THE SWANSTON STATION TRANSIT VILLAGE** articulates the overall vision for a neighborhood of North Sacramento in transition and ripe for redevelopment. It emphasizes new circulation patterns and open space networks, new residential and mixed-use land uses, and improvements to the public realm. The urban design concept for the transit village forms an integrated urban design framework within which development can occur and a new transit-oriented community can be formed.

### OVERARCHING VISION

The vision for the Swanston station transit village is a mixed use community with two distinct characters on either side of the track; improved connections and a robust public realm function to link both sides together and form an integrated community oriented around transit.

The west side of the tracks is a residential mixed use community distinguished by Dixieanne Avenue, the “Main Street”, and focal points, such as Dixieanne Park and the transit station and plaza, that serve as community gathering spaces. Development west of the tracks is latticed

with a variety of greenways, mews and pocket parks which provide open space relief and amenities for residents.

The east side of the tracks supports a wide range of uses and is organized around Silica Avenue and a series of activity nodes along Harvard Street. It respects the scale and type of existing development, and supports its role as part of the sub-regional employment center, as envisioned by the General Plan 2030 process, located at Arden Fair Mall. While much of the development and uses are more suburban in nature, the orientation of buildings and careful design of the public realm encourages pedestrian and bicycle use.

FIGURE 4.1 VISION FRAMEWORK



Existing conditions including existing development, open spaces, arterial and railline barriers, light rail stations and the Del Paso Boulevard neighborhood destination.



Dixie Avenue and Silica Avenue as the Main Streets of the transit village and the diagonal mews connecting to the Swanston station.



New planned major neighborhood parks.



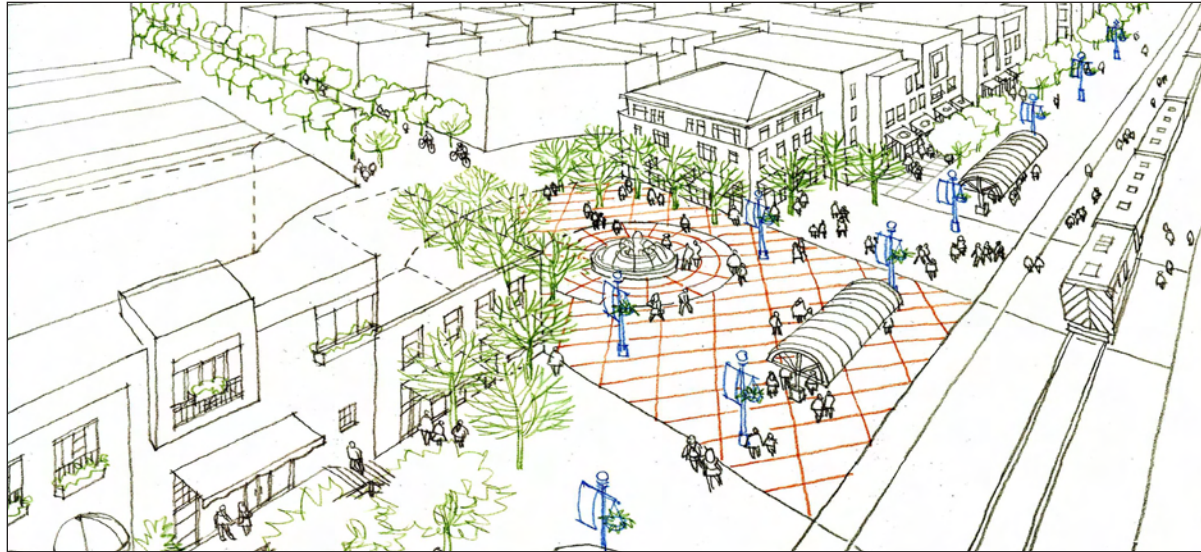
Evenly distributed pocket parks serve new residential units.



A system of interconnected pedestrian and bicycle pathways knit new development together, bridge barriers and increase accessibility.

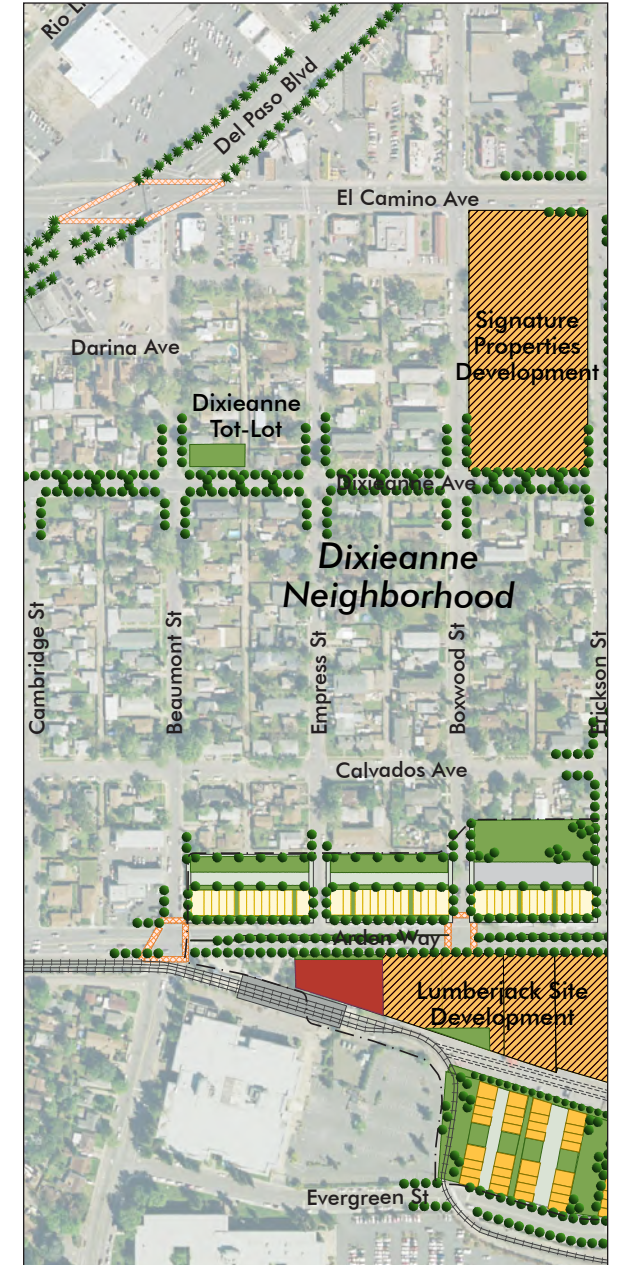


Evergreen and Harvard streets as key entry streets to the transit village and a loop between Calvados Avenue and Clay Street to access the station round out the circulation network.

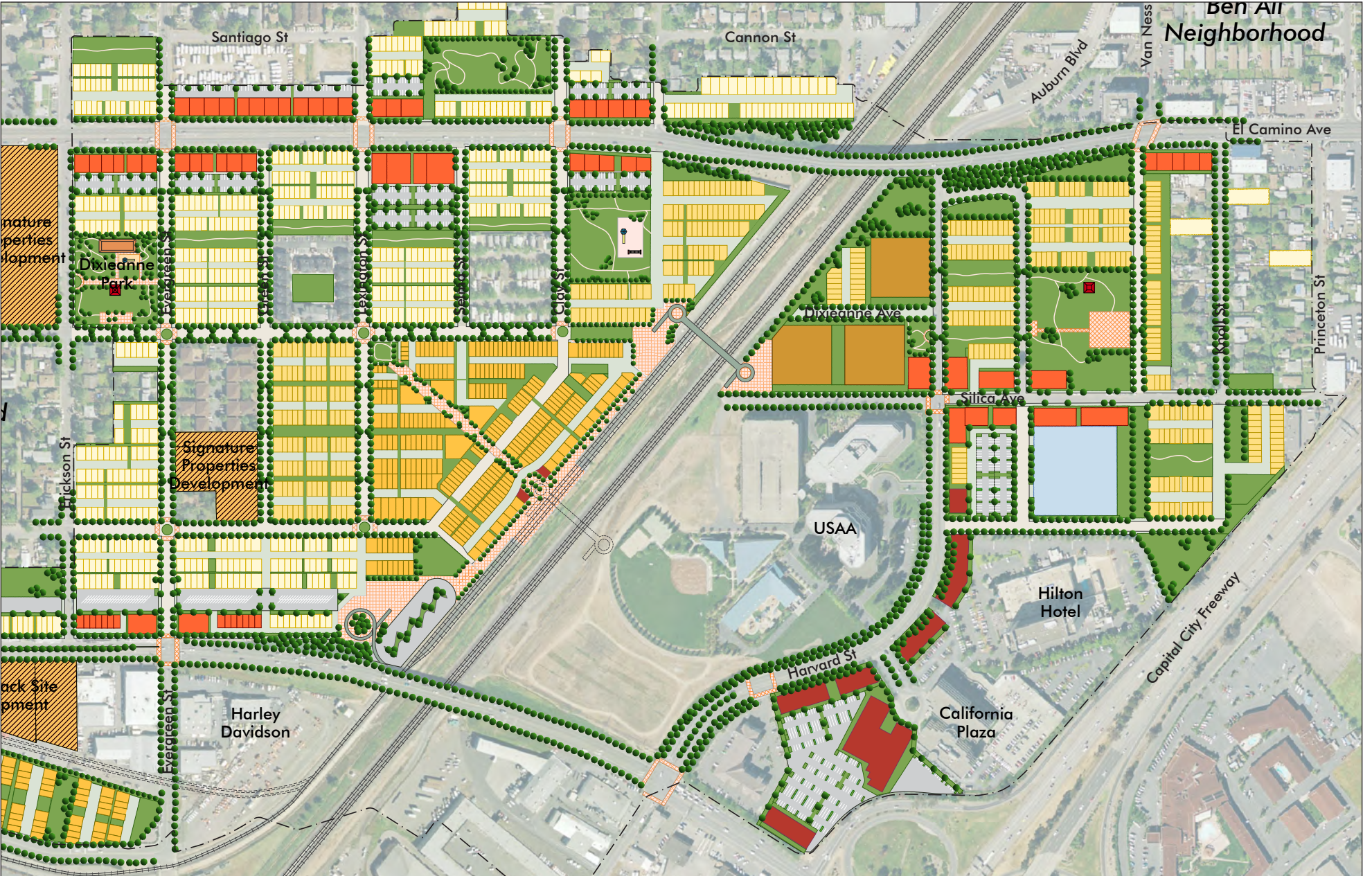


Perspective sketch of the Swanston transit station

FIGURE 4.2 ILLUSTRATIVE







## PUBLIC REALM

The public realm for the Swanston station transit village is composed of open spaces, vehicular circulation and transit, bicycle and pedestrian circulation elements. The public realm supports a strong and vibrant community life, providing gathering opportunities, amenities for a variety of users, and improved access to the transit station and other major destinations.

## OPEN SPACE

Public open spaces are made up of parks, plazas, connectors and sidewalks that run along roads and between developments.

**Neighborhood parks** serve as significant community gathering spaces and major amenities for residents, not only of the Swanston neighborhood, but the Dixianne and Ben Ali neighborhoods as well. They provide opportunities for respite and informal play and may include walking areas, sitting areas, lawn areas, gathering areas, multi-use play areas, sport fields or sport courts, children's play areas, community gardens, and picnic areas.

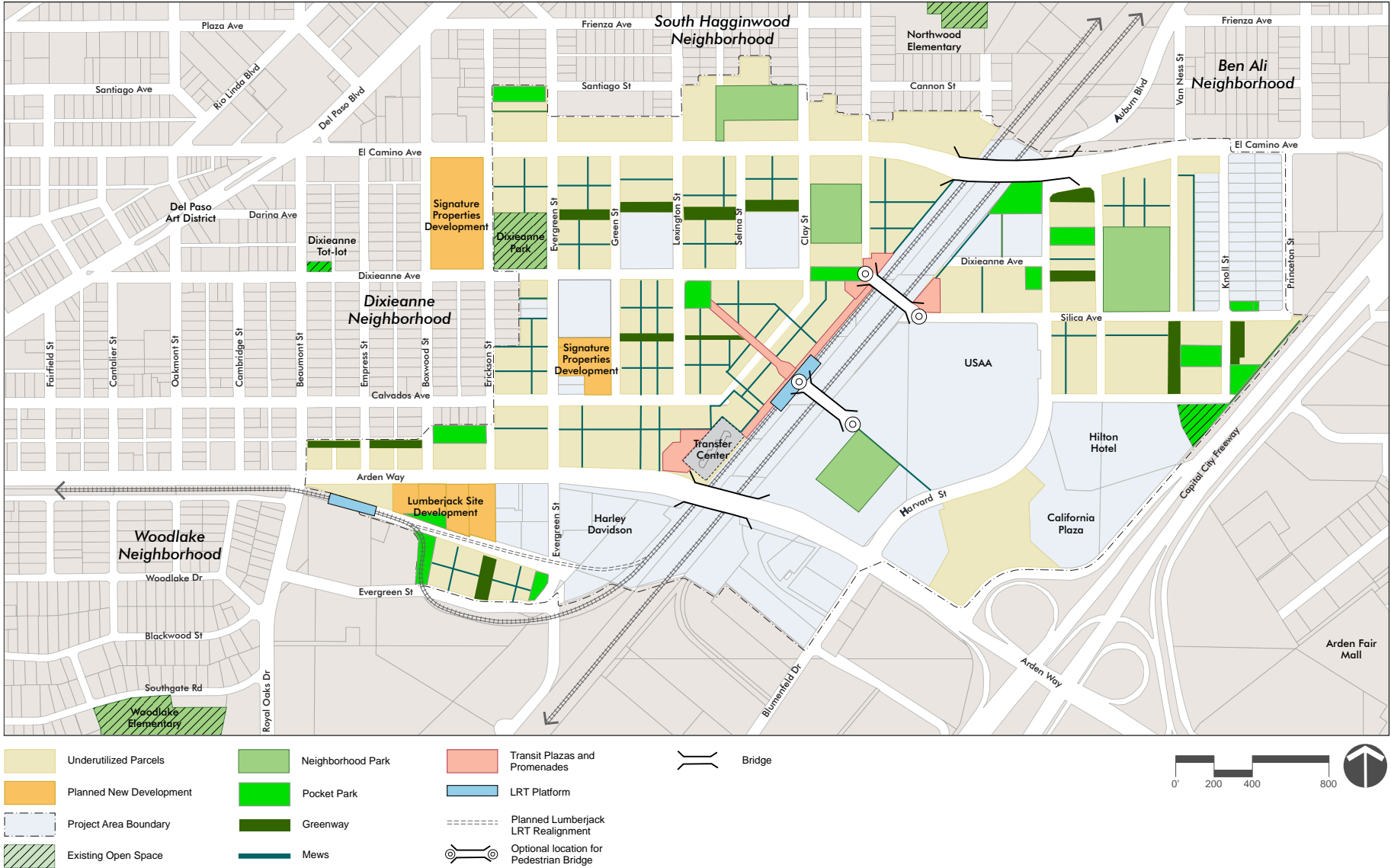


*Residential uses provide "eyes" on the open space*



*Neighborhood park in Hercules, CA*

FIGURE 4.3 OPEN SPACE FRAMEWORK





*Pocket park with "green" stormwater management elements*

**Pocket parks** serve a crucial role in dense areas by providing small open space amenities and relief from the built environment. Pocket parks in the Swanston station transit village include seating areas, gathering areas, multi-use play areas, children's play areas, tot lots, gardens and picnic areas.

Closer to the transit station and along side the tracks, **transit plazas and promenades** serve to link neighborhood amenities and provide pedestrian and bicycle access to the light rail station. The promenades provide improved connections throughout the area, supporting transit use by residents. The plazas at key nodes along the promenades and particularly at the transit station provide amenities, such as seating, shade shelters, trees and minor commercial uses, to enhance the transit experience.



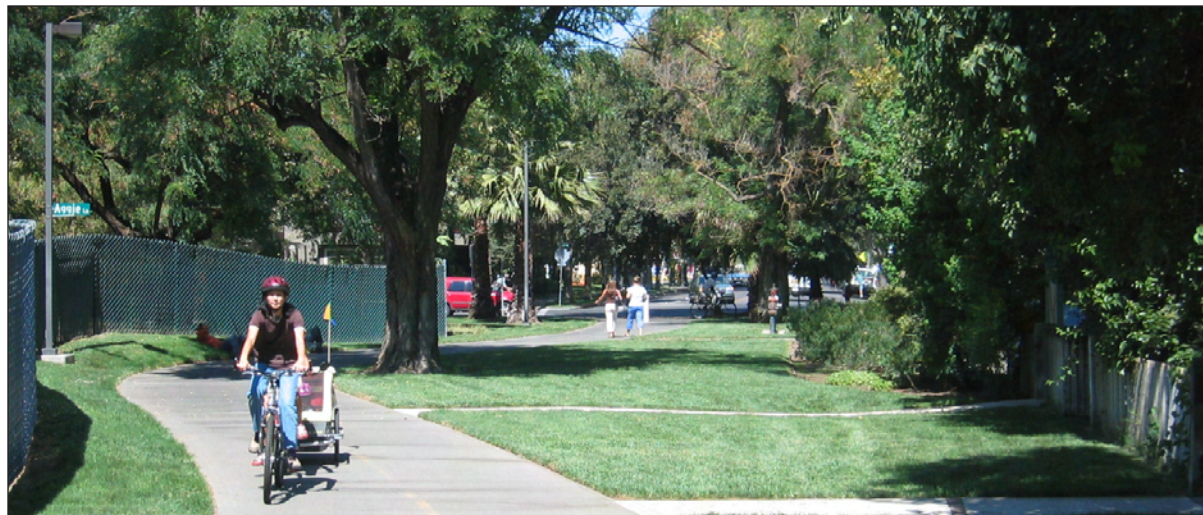
*Transit plaza in downtown San Jose, CA*

**Greenways** serve an important role in the transit village as linear corridors that break up the large blocks that typify the Swanston area. They provide bicycle and pedestrian connections between neighborhood destinations, as well as buffer space between existing and new development, opportunities for storm water filtration, and additional green space for residents. Greenways serve as minor community gathering spaces, characterized by small seating areas, children’s play areas, and barbeque areas.

**Mews**, the last of the primary components of the open space system, are narrow, linear connections located between developments that provide additional pedestrian and bicycle access throughout the transit village.



*Greenway in Davis, CA*



*Multi-use pathway through a linear open space*

### VEHICULAR CIRCULATION

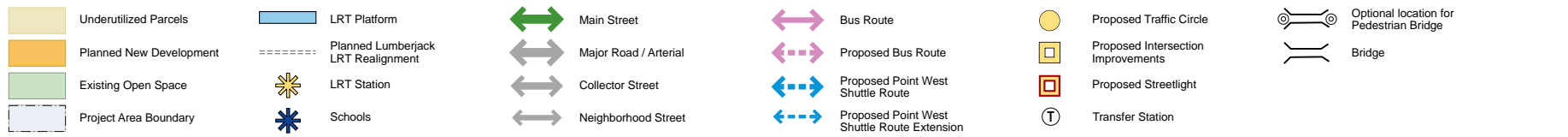
The circulation network for the Swanston Station transit village includes a hierarchy of streets, which provide increased identity and connectivity for the area. They include Main Streets, Arterials, Entry Streets, Neighborhood Streets and Alleys.

The **Main Streets** for the transit village are Dixieanne Avenue, and to a lesser extent Silica Avenue east of the tracks, which connect over the light and heavy rail tracks by a pedestrian bridge. As such, they serve as key corridors that connect residents, employees and transit riders with destinations inside and outside of the transit village, such as Dixieanne Park, the USAA complex and the Del Paso Arts District.



*Perspective sketch of Dixieanne Avenue*

FIGURE 4.4 VEHICULAR CIRCULATION FRAMEWORK



**Arterials** within the Swanston area include Arden Way and El Camino Avenue. They serve as major vehicular corridors in North Sacramento, as well as significant streets within the Swanston area. Arden Way's role is as a primarily auto-oriented street linking the transit village with North Sacramento destinations, such as Arden Fair Mall, State Route 160, and other light rail stations. El Camino Avenue is also more auto-oriented in nature, but provides dedicated bicycle lanes and new streetscape improvements. Improvements to the pedestrian and bicycle environment along both arterials support alternative means of transportation for accessing the transit station and local amenities.

**Entry streets**, which are technically designated as collector streets, serve the purpose of providing access to the transit village and station. Entry streets that announce the transit village are key to the design because of the poor visibility of the station and its location off of major roadways. Evergreen Street, west of the tracks, and Harvard Street, east of the tracks, are the primary entry streets to the Swanston area. Evergreen Street is the only direct north-south connection through the transit village, linking Arden Way and El Camino Avenue with new residential and mixed use developments and Dixianne Park. Harvard Street is a collector street that provides access to commercial developments, new and existing residential development, and new open space amenities east of the tracks.



*Tree-lined arterial street with landscaped median*



**Neighborhood streets** access most of the area within the transit village on a grid-iron street pattern that supports a highly connected public realm. The heirarchy of streets and role of entry streets as key connectors discourages cut-through traffic on neighborhood streets. As such they are able to support a safe, active and inviting pedestrian environment.

**Alleys** provide rear access to residential and mixed use developments, parking and service areas. They are a key component of site layouts in which auto-oriented functions are located behind development, allowing a pedestrian-friendly edge to the line the sidewalks along streets.



*Rear alleys provide access to residences and commercial uses*



*Narooow neighborhood streets support a safe pedestrian environment*



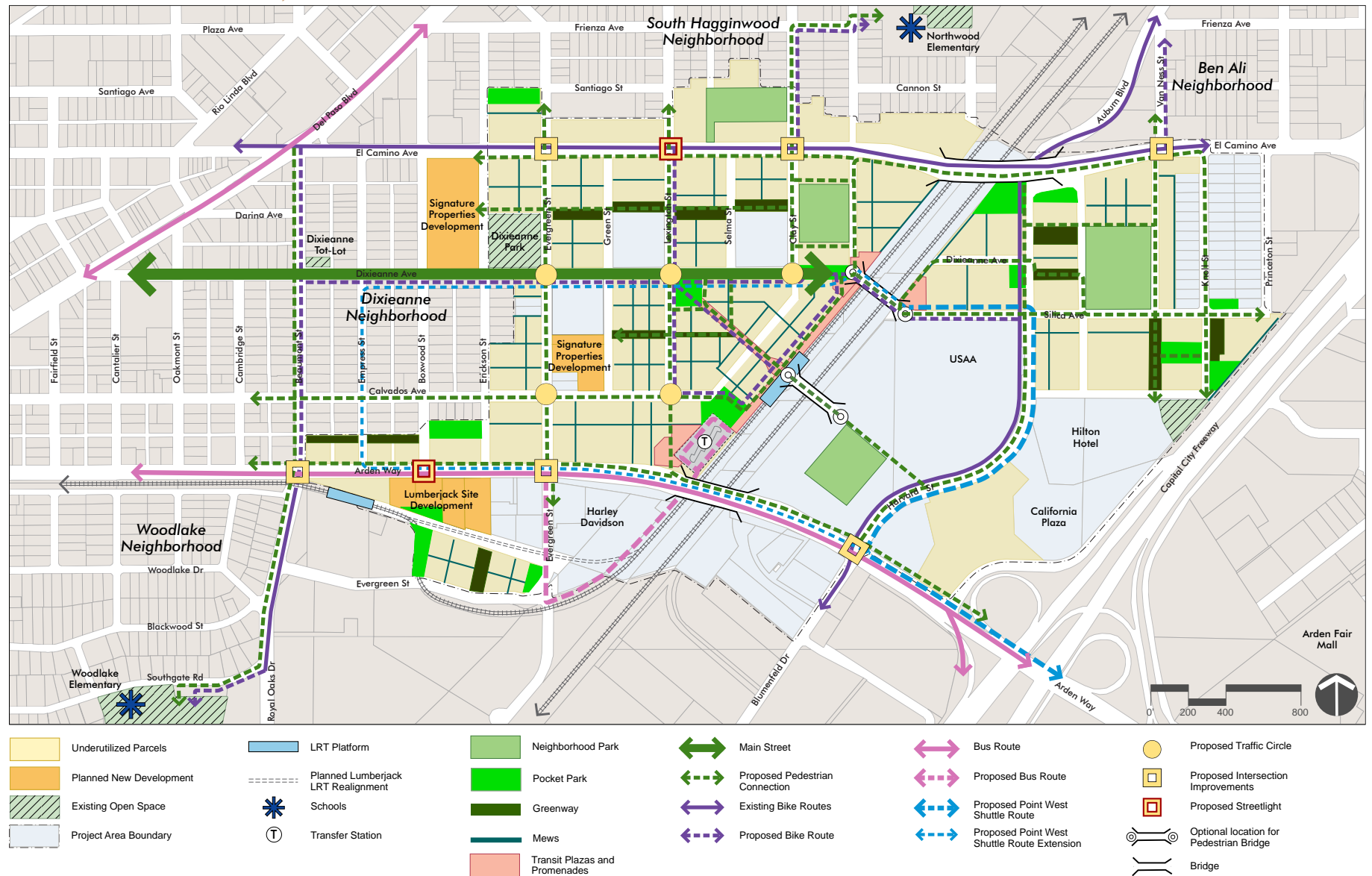
*Local bus routes connect to nearby destinations*

### TRANSIT, BICYCLE AND PEDESTRIAN CIRCULATION

Additional **transit circulation** network and facilities support the Sacramento Regional Transit (RT) light rail service at the station. The planned bus transfer center establishes the Swanston station as a major transit hub with multiple bus lines that run through the City converging at the transfer center. The transit promenade that directly links the light rail station with the bus center streamlines multi-modal transit connections, encouraging alternative

means of accessing the Swanston station. The area east of the tracks also becomes a potential location for a future Amtrak Capital Corridor station. Further, the Point West Shuttle service is planned to connect the sub-areas west and east of the tracks with major destinations in the Point West neighborhood, such as Arden Fair Mall and a variety of hotels.

FIGURE 4.5 TRANSIT, BICYCLE AND PEDESTRIAN CIRCULATION FRAMEWORK





*Multi-use path in West Sacramento, CA*

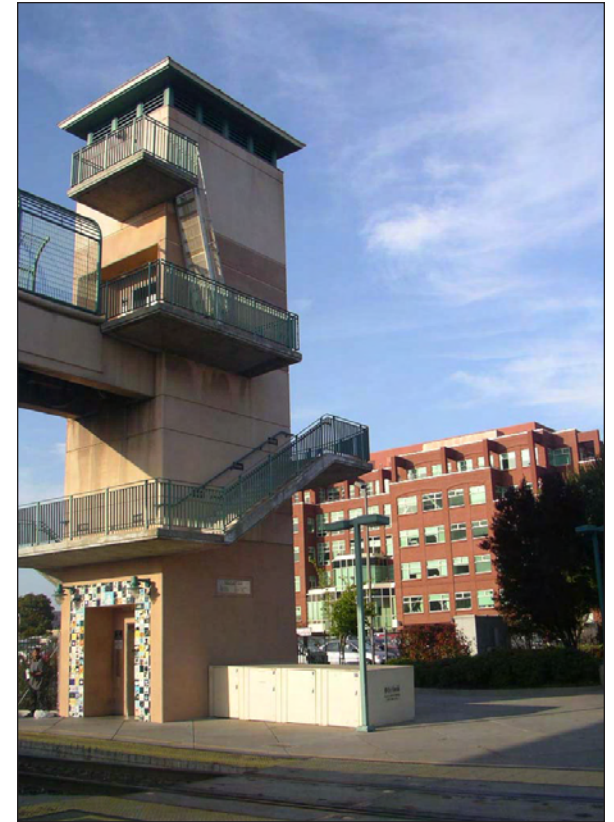
**Bicycle and pedestrian circulation** networks in the transit village further support connectivity and access to and around the station, and encourages alternative means of transportation. Multi-modal paths designated as Class I bikeways provide direct access to the transit station along the diagonal mews from Dixianne Avenue, as well as along the transit promenade from the bus transfer center to the pedestrian/bike bridge. They further connect major open spaces along the greenways and mews.

Dedicated bicycle lanes (Class II) along El Camino Avenue tie into the regional bicycle system and support the City's Bicycle Master Plan. Shared bicycle routes are designated along key streets within the transit village, including Dixianne Avenue and Harvard Street, as well as along Clay Street and Beaumont Street the primary routes that children use to access Woodlake and Northwood elementary schools. Royal Oaks Drive continues to have dedicated bicycle lanes.



*Shared bicycle lanes along low-traffic residential streets*

A new pedestrian and bicycle bridge at the terminus of Dixie Avenue provides a direct connection between the transit station and destinations east of the tracks. Improvements to the Arden Way and El Camino Avenue overpasses in the form of widened sidewalks and landscaping, further reduce the psychological barrier they pose and provide a safer pedestrian route along the vehicular thoroughfares. A pedestrian off-ramp from the west side of the Arden Way overpass shortens the travel route for those crossing the tracks to access the buses and light rail by directly connecting to the bus transfer center and transit promenade.



*Pedestrian overpass at the Emeryville Amtrak station*



*Three-story rowhouses*

### PRIVATE REALM

The private realm of the Swanston station transit village supports transit use and community life and complements adjacent uses and development patterns. Leveraging the proximity to the transit station is crucial for the transit village and is manifest in the scale and intensity of new development. This new development includes a mix of uses, such as residential, office, retail and mixed use. Lower density, smaller-scale residential uses are located near the existing neighborhoods of Dixianne, South Hagginwood and Ben Ali. Neighborhood-serving commercial and mixed use developments are most appropriate along arterials due to their ease of access and high visibility. Minor commercial uses, such as a café or drycleaners, are ideally suited at the transit station to support the

needs of riders and activate the station plaza. Large scale office uses, employment centers and residential buildings are located east of the tracks.

The two sub-areas on either side of the tracks have different characters in deference to the existing context of surrounding development. The west side of the tracks is predominantly residential with a fine-grained development pattern, which respects the small scale character of the Dixianne neighborhood. New development of the east side of the tracks is more coarse grained, taking its design cues from the existing large scale office parks and more suburban development pattern.

Through a range of building prototypes, the mixed income character of the Swanston neighborhood can be preserved. A wide variety of residential buildings, including row houses, town homes, condominiums and live/work units, provide home ownership opportunities for individuals at a range of income levels. The diverse mix of housing options not only respects and responds to the reality of the economic conditions of the area, but also supports a varied and interesting built environment.

The building prototypes that are most appropriate for the transit village contribute to the public realm and support community life. By alley-loading residential units and locating parking and service entries to the rear of developments, the majority of the building facades along streets and open spaces are pedestrian-friendly and provide a strong building edge. Front yard setbacks provide pri-

vacy and opportunities for private expression by residents. Rich building articulation, such as front porches, stoops and fenestration, enhances the pedestrian experience, provides “eyes on the street” and adds variety and interest to the streetscape. New parking garages are “wrapped” with pedestrian-friendly ground floor uses to minimize the presence of blank facades. The massing, height and intensity of development is a function of the proximity to the transit station and the scale of adjacent development. Site design of the private realm emphasizes sustainability and responds to climatic conditions by generally orienting buildings in a north-south direction, minimizing heat loss and gain. This orientation differs from the prevailing east-west orientation in adjacent blocks outside the project area, and establishes a system of greenways, mews and alleys within the blocks.



*Alley-loaded townhomes*



*Fine-grained residential envisioned west of the tracks*

### TRANSIT STATION SUB-AREAS

The urban design concept recognizes the distinct characters of the Swanston sub-areas on either side of the tracks. The characters are based on the nature of existing uses, surrounding context and proximity to the transit station.

The following discussion of the two sub-areas includes the long-term vision and ideal character, an overview of the public realm and circulation elements, and a characterization of the preferred types and character of future development.

This section begins with the sub-area west of the tracks and then moves on to discuss the sub-area east of the tracks.

### WEST OF THE TRACKS

#### VISION

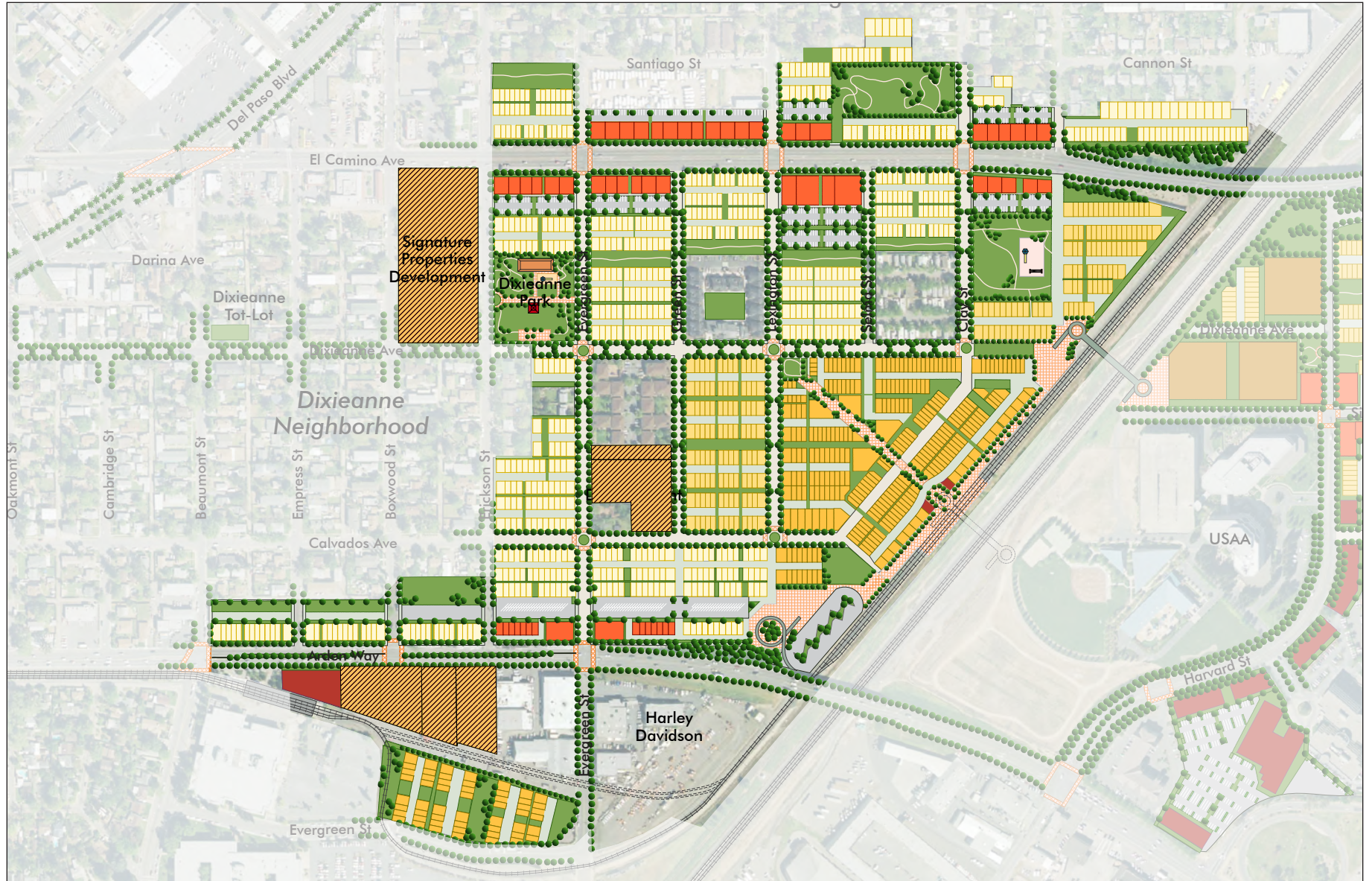
The area west of the tracks is envisioned as a strong, primarily residential neighborhood that supports transit and maximizes the proximity and ease of access to the light rail station and bus transfer center. The sub-area is organized around a central spine and set of neighborhood focal points that support community life and provide opportunities for interaction. The streets and open spaces further support the community-oriented character of the area with enhanced connections between neighborhood destinations and the provision of a variety of amenities for users.



*Coarse-grained mixed-use envisioned east of the tracks*



FIGURE 4.6 ILLUSTRATIVE PLAN FOR SUB-AREA WEST OF THE TRACKS





*“Green street” in Portland, OR*

**PUBLIC REALM**

Dixieanne Avenue fulfills the role as Main Street for the sub-area, connecting the transit village with the Del Paso Arts District, the North Sacramento School District headquarters, the youth center, the Dixieanne Tot-lot, the renovated Dixieanne Park, the diagonal mews that leads to the transit station, and the pedestrian bridge that connects with the sub-area east of the tracks. Dixieanne

Avenue is a celebratory “green street” within the community, characterized by a double row of trees on either side of the street, distinctive permeable paving in the parking lanes, storm water planters to filter run-off, and landscaped traffic circles. Its distinction as the first low impact “green street” in Sacramento further enhances its role in the community and lends a strong identity to the transit village.

**FIGURE 4.7 DIXIEANNE AVENUE**



Dixieanne Park and a new comparable-sized neighborhood park at Clay Street serve as community gathering spaces. The parks encourage use by a wide range of residents and contribute to a vibrant public realm. Minor open spaces further characterize the sub-area west of the tracks. A pocket park at the intersection of Dixieanne Avenue and Lexington Street announce the diagonal connection to the transit station with a tree-shaded open space. The pocket park is lined with town homes that activate the edges and provide eyes on the park.

The forty feet wide diagonal mews is lined with three to four story condominiums, providing a strong sense of enclosure. The mews is primarily hard-scaped with special paving; shade and visual relief are provided with trees and a variety of landscaping configurations, which also add interest to the pedestrian experience.



*Wide pedestrian pathway with landscaping and seating*

FIGURE 4.9 TRANSIT PROMENADE



The transit plaza serves as a visual landmark at the terminus of the diagonal mews. The plaza incorporates shade shelters and seating opportunities for transit riders and is framed on two sides by landmark buildings. The transit promenade connects the station to the bus transfer center to the south and the pedestrian bridge to the north. The promenade is tree-lined and fronted by three to four story condominiums and town homes. Lush landscaping serves as a buffer and provides privacy between the pedestrian and bicycle pathway and the adjacent residential uses. The parking lot for the buses at the transfer center is buffered by a pocket park and plaza, which incorporate shade shelters and benches for individuals waiting

for buses. The plaza at the transfer center also serves to connect to the pedestrian off-ramp from the Arden Way overpass and to the shared parking lots behind new development along Arden Way.

The plaza and the pedestrian bridge at the north end of the transit promenade connect with Dixie Avenue and serves as a visual landmark. The right of way along Dixie Avenue between Clay Street and the pedestrian bridge plaza is transformed into a striking open space that also serves as a potential retention basin for storm water run-off from Dixie Avenue.



*Light rail transit station and promenade in San Diego, CA*

Mid-block greenways that connect the two neighborhood parks within the sub-area are lined with the front yards, porches and entries of two to three story town homes. They break the long blocks and augment the pedestrian and bicycle grid network. The greenways incorporate “green” elements, such as swales and native plantings, which add unique landscaping elements; they also serve as minor open spaces with pedestrian and bicycle pathways running through them. Connecting to the greenways, streets and open spaces, and running through new development are landscaped and hardscaped mews. The mews are typically narrow and fronted by building entries.



*Greenways provide open space relief and break long blocks*



*Tree-lined sidewalks and median calm traffic*

**CIRCULATION**

The grid-iron street pattern is extended throughout the west sub-area to improve access to the transit station. Where possible, travel lanes are narrowed and pedestrian-friendly tree lined sidewalks are added to provide a safe and comfortable pedestrian environment.

Arden Way is reconfigured to provide wider, tree-lined sidewalks and a tree-lined median to perceptually narrow the street, calm traffic, provide a more inviting pedestrian environment, and create a more attractive context for new development. Intersection improvements at Evergreen and Beaumont streets and a new traffic light at Boxwood Street improve pedestrian connections across Arden Way and support safer routes of travel for children to Woodlake Elementary School.

El Camino Avenue is widened through required pedestrian easements from new developments fronting the street. The easements allow for wide sidewalks with planting strips, parking lanes to support retail along the corridor, and bicycle lanes that connect to the City’s bike system, in addition to two travel lanes in either direction. Intersection improvements at Evergreen, Lexington and Clay streets also serve to connect the center of the transit village with new development and destinations north of El Camino Avenue. New tree wells along Evergreen Street fill in existing gaps along sidewalks, bulb-outs with trees are constructed between parking spaces, and mid-block crossings are added to enhance the pedestrian environment.



*Tree-lined pedestrian friendly sidewalks along Arden Way*

PRIVATE REALM

The west-most area of the transit village, adjacent to the Dixieanne neighborhood, is characterized by two to three story single family town homes and row houses. Their density, achieved with small lots and houses, is higher than existing development but their design echoes the character of the Dixieanne neighborhood with detached units, ample front yards and opportunities for personal expression. As development approaches the transit station, the scale and intensity rises as residential uses transition into three story attached town homes and row houses and, finally, four to five story condominiums closest to the transit station.

Taller buildings announce the transit village at the entry nodes of Evergreen Street at Arden Way and El Camino

Avenue. Signage that identifies the village is prominently located and potentially mounted onto the buildings for increased visibility. Development along Arden Way and El Camino Avenue, including residential, mixed use and live/work units, is at least two stories high and is encouraged to be four stories high to provide some sense of enclosure along the streets. Residential uses are allowed on the ground floor as-of-right along these two commercial corridors; however, neighborhood-serving commercial and retail uses are more focused along El Camino Avenue. Large lots along El Camino Avenue also provide potential space for a grocery store which is currently lacking in the vicinity.

FIGURE 4.10 EL CAMINO AVENUE





*Large-scale development envisioned east of the tracks*

## EAST OF THE TRACKS

### VISION

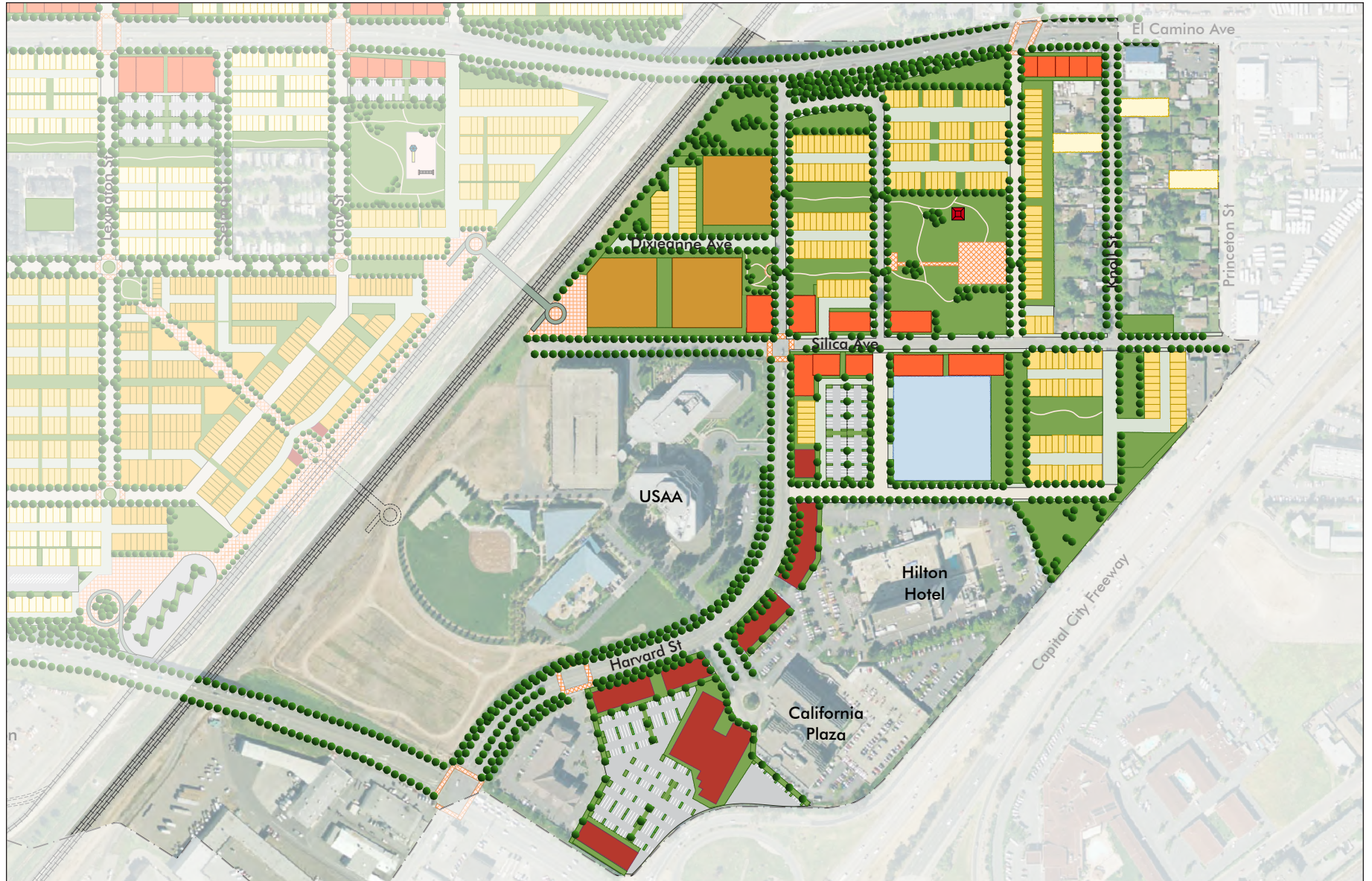
The sub-area east of the tracks is envisioned as a multi-faceted area with a character that reflects the varied nature of the surrounding context and uses. The design for the sub-area functions to transform suburban business and industrial parks into vibrant employment-generating “mini-downtown” as envisioned by the General Plan 2030 process.

Public realm improvements enhance access to the pedestrian bridge and minor destinations east of the track, and

increase walkability by extending existing streets through superblocks. Silica Avenue serves as the neighborhood “Main Street” and Harvard Street is the entry street to the sub-area. The plaza at the west end of Silica Avenue also becomes a potential location for a future Amtrak Capital Corridor station. The private realm is characterized by high intensity and large-scale office, mixed use and residential uses that compliment the existing business parks in scale and program. However, residential uses transition in scale and intensity approaching the Ben Ali neighborhood.



FIGURE 4.11 ILLUSTRATIVE PLAN FOR SUB-AREA EAST OF THE TRACKS



**PUBLIC REALM**

The public realm framework for the sub-area east of the tracks is organized similar to the west sub-area with a neighborhood spine that serves as the focal point for the area. Silica Avenue functions as the spine; it connects the plaza at the pedestrian bridge with the activity node at the intersection with Harvard Street, the new neighborhood park, and a new tot-lot in the Ben Ali neighborhood. A new parking structures off of Silica Avenue accommodates the auto-oriented nature of the uses east of the tracks; however, it also supports pedestrian activity to and from the station and is more pedestrian-friendly than a surface parking lot. The new neighborhood park fills a

significant open space need east of the tracks and provides amenities for a variety of users.

New greenways and mews function similarly to those west of the tracks by increasing permeability and walkability through the blocks and providing mitigation for the high intensity of development. They connect the new tot-lot at Knoll Street and Silica Avenue and the new neighborhood park along Silica Avenue with the existing park behind the Hilton Hotel.

**FIGURE 4.12 SILICA AVENUE**



**CIRCULATION**

The circulation network is improved in the east sub-area with the addition of new streets and the extension of existing streets to establish a more walkable street system. A new narrow access street runs south of and parallel to Silica Avenue; it provides access to new office, mixed use and residential developments as well as the existing open space behind the Hilton Hotel. Morning Street and Knoll Street are extended to meet this new street to realize the grid-iron pattern. Van Ness Street extends south from El Camino Avenue to Silica Avenue to connect the transit village with destinations to the north.

occur incrementally as the uses transition and street improvements are made. As such, street trees, sidewalks and parking spaces are added as uses turn over and to accommodate the curb cuts of existing uses and the constrained right of way. Travel lanes are maintained at 12 feet to accommodate truck traffic that accesses existing industrial and commercial uses along Silica Avenue. Silica Avenue also serves as the main pedestrian route from the parking structure to the pedestrian overpass connecting to the transit station.

Due to the presence of existing viable industrial uses along Silica Avenue, its transformation is expected to



*Industrial street in transition, similar to Silica Avenue*

**FIGURE 4.13 NEW ACCESS STREET**



FIGURE 4.14 HARVARD STREET



Harvard Street is characterized by a series of activity nodes along its length that are enhanced by public realm improvements, such as special paving in crosswalks and corner plazas, and private realm improvements, including the primary entries to buildings and distinctive building elements.

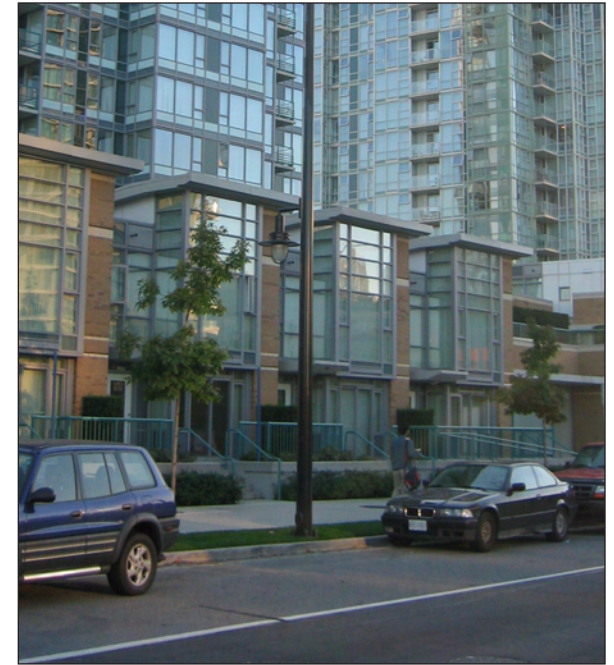
Smaller local streets that are residential in nature are tree-lined with narrow travel lanes to provide a safe pedestrian and bicycle environment and support community life.

PRIVATE REALM

The character of the private realm respects the large existing developments located east of the tracks, such as the USAA complex and California Plaza. High-rise residential towers are sited across Silica Avenue from the USAA complex. The towers are “wrapped” with three story row houses, in the style of the “Vancouver model”, to provide a human-scaled street and building edge. Across Harvard Street from the high-rise residential towers, two to four story town homes transition to the existing single family Ben Ali neighborhood. Mixed use and residential developments line Silica Avenue to provide an active edge to the street. A parking structure located between Morning

and Van Ness streets south of Silica Avenue provide convenient access for employees at the business parks, residents of the area, and transit riders. The structure’s façade along Silica Avenue is lined with mixed use buildings with pedestrian-friendly ground floor uses.

The character along Harvard Street is transformed by infilling the existing surface parking lots that line it with new commercial buildings. The new buildings are at least two stories high, providing street definition and ground floor activity to enhance the pedestrian experience along the street.



*High intensity residential with townhomes in Vancouver, B.C.*



*Parking structure “wrapped” with residential in San Diego, CA*



MOORE, IACOFANO, GOLSTSMAN, INC.  
800 HEARST AVE  
BERKELEY, CA 94710  
510 845 7549  
[WWW.MIGCOM.COM](http://WWW.MIGCOM.COM)

CITY OF SACRAMENTO



# swanston station

TRANSIT VILLAGE SPECIFIC PLAN

VOLUME TWO | DECEMBER 2007





# Swanston Station Transit Village

## Specific Plan

Volume Two

*December 2007*

Moore Iacofano Goltsman, Inc.

PBS&J  
Bay Area Economics  
Kimley-Horn Associates, Inc.  
Criterion Planners  
Barry Wasserman



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# acknowledgements

## CITY OF SACRAMENTO

Council Member Sandy Sheedy, Council District Two

Council Member Steve Cohn, Council District Three

Joann Cummins, Council District Two

Sue Brown, Council District Three

Brian Abbanat, Project Manager & Associate Planner

Fedolia “Sparky” Harris, Senior Planner

## STEERING COMMITTEE

RAC - Revelopment Advisory Committee

PBID - Property Based Improvement District

TMA - Transit Management Agency

Tom Armstrong, North Sacramento RAC

Joann Cummins, Council District Two

Buddy Bergstrom, Del Paso Blvd PBID

Jan McCleary, North Sacramento RAC

Elmer McCleary, North Sacramento RAC

Rebecca Garrison, Point West TMA

Janet Pineta, North Sacramento School District Representative

Phil Harvey, Petrovich Development

Allen Warren, New Faze Development

David Nybo, Signature Properties

Laurie Koike, Arden Fair Mall

Erica Manuel, Cal Expo

## TECHNICAL ADVISORY COMMITTEE

### CITY OF SACRAMENTO

Cecilyn Foote, Department of Transportation

Sabina Gilbert, City Attorney’s Office

Jesse Gothan, Development Services Department

Mark Griffin, Department of Planning

Jennifer Hageman, Environmental Planning Department

Steve Kowalski, Development Services Department

Dean Peckham, Economic Development Department

Eric Poerio, Police Department

Yvonne Riedlinger, Neighborhood Services Department

Michele Rudek, Parks & Recreation Department

Angie Shook, Fire Department

Stu Williams, Utilities Department

### SACRAMENTO HOUSING & REDEVELOPMENT AGENCY

Marti Brown

Katherine Klein

Chris Pahule

### REGIONAL TRANSIT

Fred Arnold

Taiwo Jaiyeoba

James Robinson

## CONSULTANT TEAM

### MOORE IACOFANO GOLTSMAN, INC.

Daniel Iacofano, PhD, FAICP, Principal & Project Director

Mukul Malhotra, Project Manager & Urban Designer

Dan Drazen, Deputy Project Manager & Planner

Julia Abbassi, Planner & Urban Designer

Maria Landoni de Rose, Landscape Architect

Anchi Mei, Planner

### PBS&J

Rod Jeung, AICP, Senior Program Manager

Amber Grady, Senior Scientist - Historic Resources

### BAY AREA ECONOMICS

Matt Kowta, Principal

Linda Matthew, Senior Associate

Keren Costanzo, Associate

### KIMLEY-HORN AND ASSOCIATES, INC.

Steve Pyburn, C.E., T.E., Project Engineer

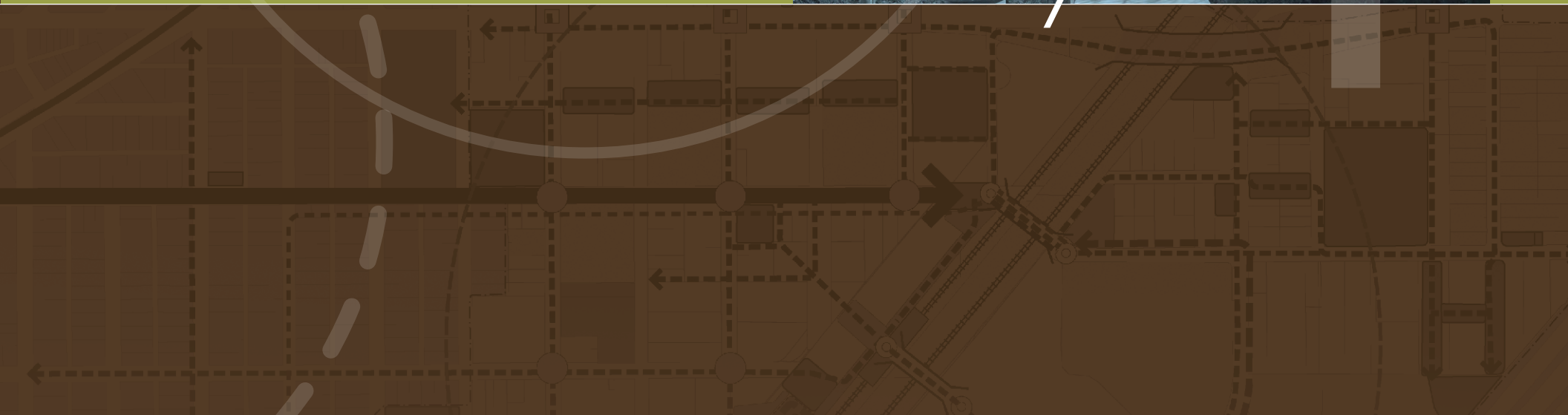
### CRITERION PLANNERS

Eric Main, AICP, Project Manager

### BARRY WASSERMAN

CHAPTER ONE

# land use, zoning and community facilities



*Standards must be place-base-tested. Standards must be allowed to evolve. At to evolve standards we must allow for experimentation and discretion.*

Eran Ben-Joseph, *The Code of the City*, (The MIT Press, Cambridge, 2005), 189

CHAPTER ONE

# land use, zoning and community facilities

in this chapter

LAND USE REGULATION

ZONING REGULATION

COMMUNITY FACILITIES

**LAND USE AND ZONING ARE A CRUCIAL FIRST STEP** in developing transit-oriented, higher-intensity development within the Swanston Station transit village. In addition, land use and zoning regulations can provide flexibility for developers and promote market-friendly development and uses to encourage investment in the area. The Specific Plan re-designates the land uses for all parcels and rezones nearly all parcels to provide the regulatory infrastructure to support the vision for the transit village.

Community facilities, such as open space, are important components of the transit village that must meet certain standards to ensure a high level and quality of amenities for new and existing residents and users.

This chapter, as with other chapters in this volume, identifies specific policies that are consistent with the goals and objectives outlined in Volume I, Chapter 3. Together, these policies establish a framework that will foster the development of a vibrant transit village at Swanston Station.

## LAND USE AND ZONING REGULATION

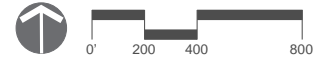
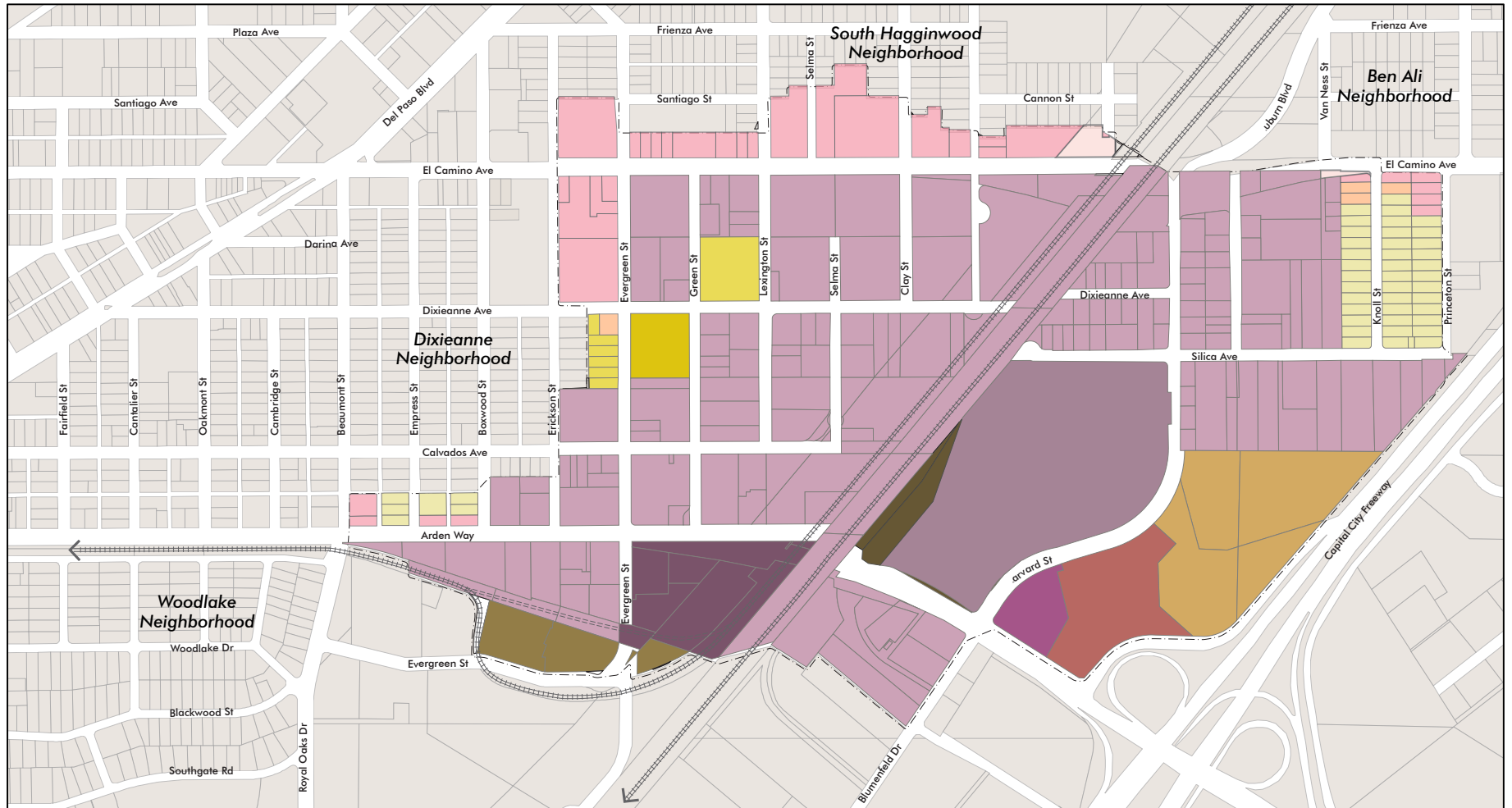
The Swanston Station Transit Village Specific Plan proposes land use and zoning designations that set the overall land use policy and development parameters for the Swanston area. The Swanston Station Specific Plan area contains a patchwork of land use and zoning designations that create a confusing and fragmented regulatory environment. The area would benefit from fewer land use and zoning designations, which would provide a clearer, more streamlined land use policy framework. More importantly, the existing designations are inconsistent with the vision for the area. For example, current land use and zoning designations allow for warehousing uses adjacent to the station, which fail to maximize the opportunity inherent with such proximity to transit. There is a clear need to designate land uses and zones that will support the type of mixed-use transit-oriented development established in the Plan.

In order to fulfill the Plan's vision, land use and zoning should be used to focus high-density development around the station area and on the east side of the rail tracks. This intensity of development is necessary to support increased transit ridership and to sustain a mix of uses at the station. Conversely, lower density development should be encouraged in the western portion of the Plan area to respect the residential character of the Dixianne Neighborhood.

Land use and zoning also has a role to play in protecting and maintaining the health of residents living in the Swanston area. While there is a need to establish a mix of different land uses in the Swanston area, it is important that residents are not exposed to unsafe levels of pollution from freeways, manufacturing or commercial facilities. To this end, only non-residential uses should be allowed within 500 feet of the Capitol City Freeway.



FIGURE 1.1 EXISTING ZONING



**LAND USE AND ZONING POLICIES**

- Apply land use and zoning designations that support transit-oriented development.
- Allow for a broad mix of uses and maintain a healthy community.
- Streamline the number of existing land use and zoning designations that are applied in the Plan area.
- Focus high-density development immediately around the station area and on the east side of the rail tracks.
- Encourage lower density development in the Dixianne Neighborhood and on the western edge of the Plan area.
- Discourage residential uses within 500 feet of the Capital City Freeway.

**LAND USE DESIGNATIONS**

The existing Swanston Station area contains eight land use designations. The Swanston Station Specific Plan uses existing City of Sacramento General Plan land use designations that are broad, inclusive, flexible, and accommodate variations in market demand for residential, commercial, office, and mixed-use projects.

The Plan utilizes two existing land use designations: Residential Mixed Use and Mixed Use. Residential Mixed Use supports transit use and complements the nearby Dixianne neighborhood, and Mixed Use is applied along the major arterial corridors and include existing large developments (i.e. USAA, the Hilton Hotel, and California Plaza). These two land uses were selected based on coordination amongst MIG, City staff and the City’s General Plan 2030 process consultant team. This collaborative approach ensured consistency and a high level of integration between the Swanston Station Area Specific Plan and the City’s General Plan 2030 process.

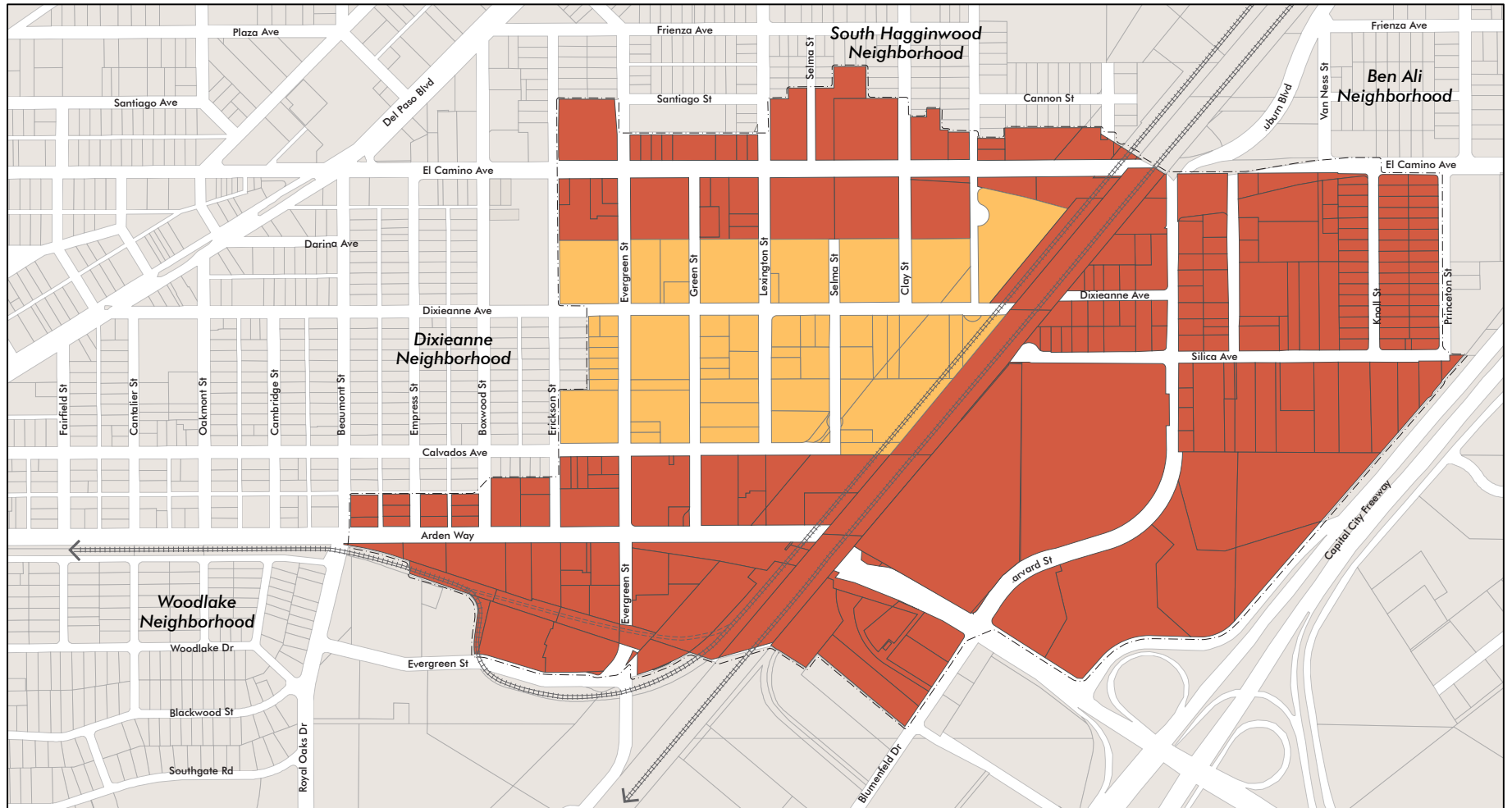
**Residential Mixed Use**





The Residential Mixed Use designation refers to areas planned for development that consists of a mixture of residential densities and a mixture of residential, commercial, and office use. This designation is intended for mixed-use development with both residential and commercial uses. Minimum average target density within ¼ mile of a light rail transit station is 22 dwelling units per net acre.

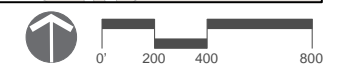
**Mixed Use**

The Mixed Use designation refers to areas planned for development that consists of a mixture of office, commercial, open space, and medium- and high-density residential uses. In some larger, more intense development, light manufacturing and research-oriented activities may be appropriate. Minimum average target density for mixed-use projects with housing within ¼ mile of a light rail transit station is 22 dwelling units per net acre.

FIGURE 1.2 PROPOSED LAND USE



-  Project Area Boundary
-  Parcels Outside of Study Area
-  Mixed Use
-  Residential Mixed Use



## ZONING DESIGNATIONS

The existing Swanston Station area contains 14 zoning designations. The Plan uses existing zoning designations that are consistent with the Plan's land use concept (Figure 1.2). It designates most of the area as Residential Mixed Use (RMX) and General Commercial (C-2) with a Transit Overlay (TO) Zone, allowing for flexibility in the final development of the area and greater residential density consistent with transit-oriented development. For the USAA site east of the tracks, the Plan retains the M1-OB-PUD and PUD designation to accommodate development of the area as previously approved as a part of the USAA Planned Unit Development.

The two zoning designations for most of the project area, with transit overlay, are RMX-TO and C-2-TO:

### Residential Mixed Use (RMX)

The Residential Mixed Use Zone permits multiple family residential, office and limited commercial uses in a mixture established for the area through a special planning district or adopted location standards. The density is between 15 and 36 dwelling units per acre. The maximum height is 55 feet or 75 feet with planning director approval. The FAR is between .4 and 3. There are no front or side setback requirements for buildings up to 28 feet in height; there is a 10 foot setback requirement for buildings over 28 feet.

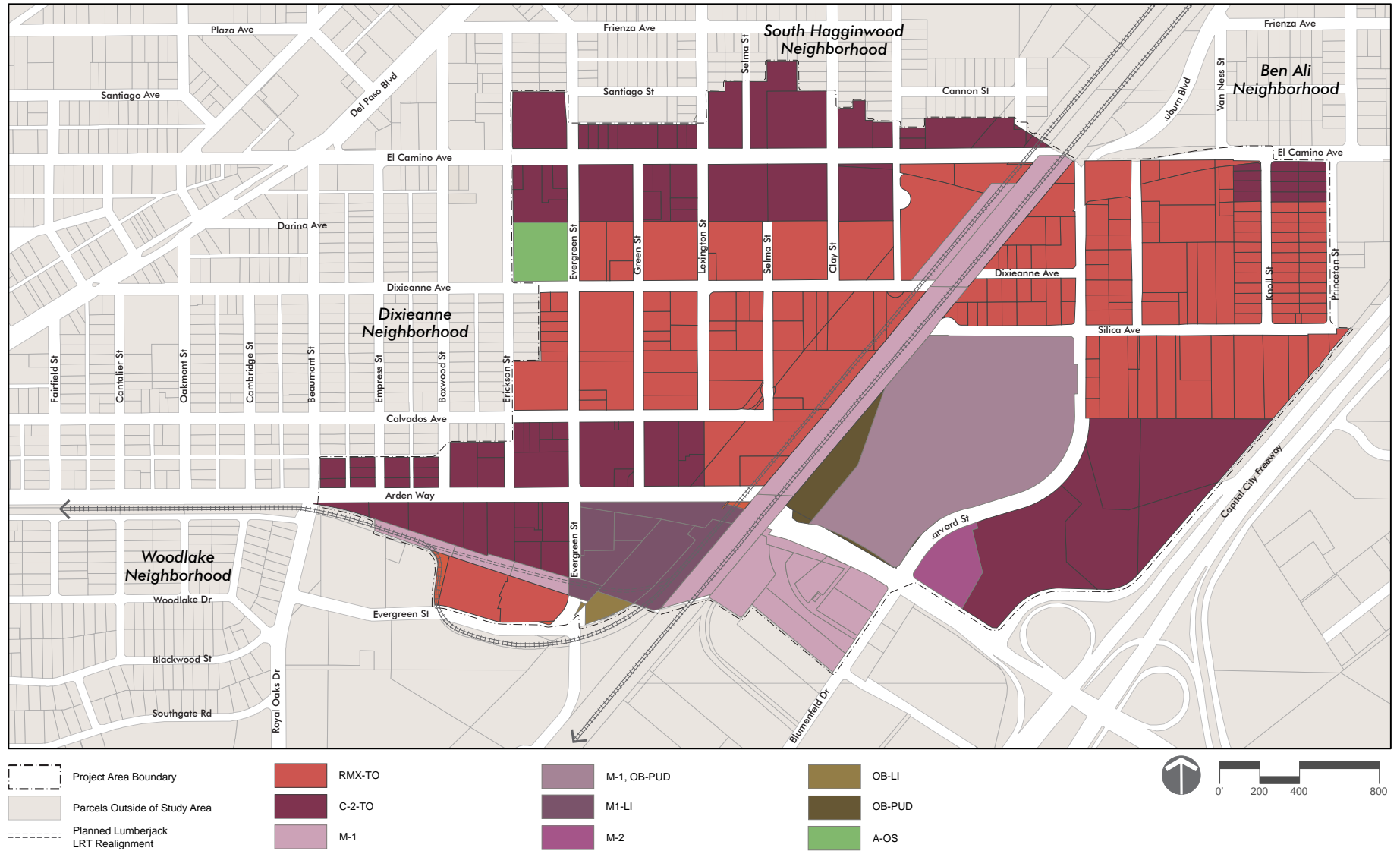
### General Commercial (C-2)

The General Commercial Zone provides for the sale of commodities, or performance of services, including repair facilities, small wholesale stores or distributors, limited processing and packaging, and residential. This zoning designation supports the General Plan 2030 process' vision of creating a "mini downtown" employment center east of the rails tracks. The density is between 15 and 60 dwelling units per acre. The maximum height is 55 feet or 75 feet with planning director approval. The FAR is between .4 and 3. There is a 10 foot setback requirements for buildings over 28 feet.

### Transit Overlay (TO)

The Transit Overlay Zone allows a mix of moderate to high density residential and nonresidential uses within a ½-mile radius of an existing or proposed light rail transit station. The district is intended to promote coordinated and cohesive site planning and design that maximizes land use transit supportive development, to create continuity of pedestrian-oriented streetscapes and activities throughout the district, and to encourage pedestrian, bicycle and transit rather than exclusive automobile access to employment, services, and residences. This overlay zone provides a streamlined approval process, permits increased heights, densities, and intensities over the base zone for projects with a residential component and encourages housing and mixed use projects. The district restricts certain uses that do not support transit ridership. The Transit Overlay increases the maximum density allowed in the RMX and C-2 zone from 36 to 60 dwelling units per acre.

FIGURE 1.3 PROPOSED ZONING



## COMMUNITY FACILITIES

Open space amenities must serve a wide range of users, including residents, transit riders and employees. The following amenities provide the types and characteristics of open spaces within the transit village, and build off of the discussion of open space character in Volume 1, Chapter 4.

### COMMUNITY FACILITY POLICIES

- Establish an integrated network of open spaces that meet the recreational and leisure needs of existing and future residents.
- Provide convenient access to open spaces from all points within the Plan area.
- Develop open space and green linkages between the transit station and surrounding neighborhoods.
- Ensure that existing public safety and school facilities meet the needs of existing and future residents.

## OPEN SPACE

### Neighborhood Parks

Neighborhood parks serve as anchors for active and passive recreational opportunities throughout the Plan area. At an average of 2.5 acres each, neighborhood parks are the largest classification of open space in the Specific Plan area. The Specific Plan includes a total of 10 acres on four neighborhood parks, two on either side of the rail lines. Most importantly, the Plan envisions Dixianne Park as the central neighborhood park west of the tracks.

### Pocket Parks

Pocket parks play a supporting role in the Specific Plan’s framework of green spaces. Each of these parks typically occupies a portion of a block and provides approximately 0.4 acres of open space. These small open space amenities – including seating areas, gathering areas, multi-use play areas, children’s play areas, tot lots, gardens and picnic areas – offer a respite from the built environment. The Specific Plan contains eight Pocket Parks that are integrated throughout the Plan area, for a total of 3.2 acres.

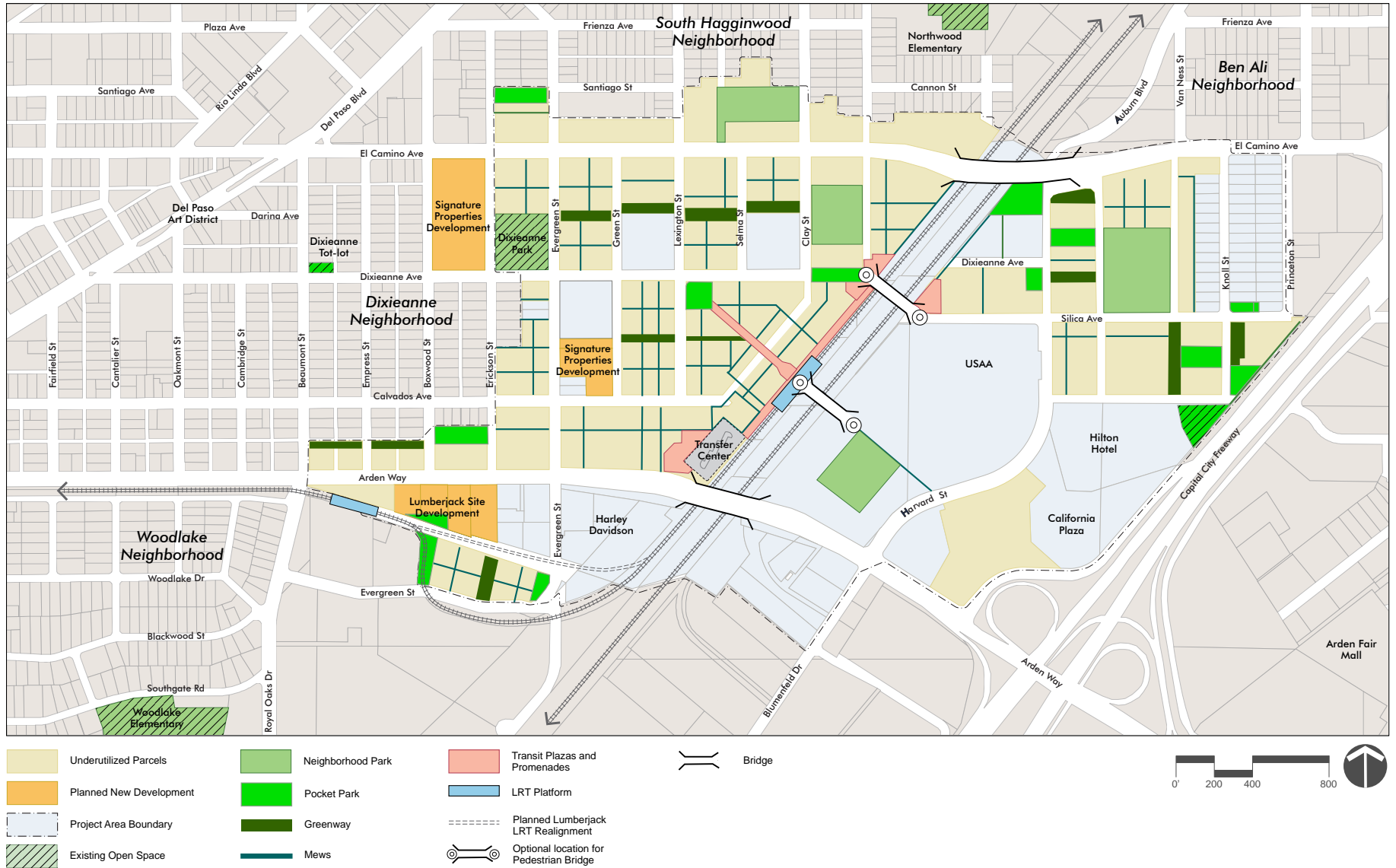
### Plazas and Promenades

The Specific Plan’s plazas and promenades strengthen the bicycle and pedestrian connections to the light rail station. These open spaces bracket the station area and use textured paving materials, shade shelters, and trees to enhance the transit experience. There is a total of 1.25 acres of space dedicated to the Plan’s three plazas and promenades.

### Mews and Greenways

Mews and greenways help to break up the large blocks that are prevalent in the Swanston area, provide buffer space between existing and new development. In addition, greenways create opportunities for on-site storm water filtration. The Plan’s multiple greenways totaling more than five acres of open space, are woven throughout the fabric of the Plan area.

FIGURE 1.4 OPEN SPACES



### PUBLIC SAFETY AND SCHOOLS

The Swanston Station area is served by the William J. Kinney Police Facility, located two miles north of the project area and Fire Station 20 at 2512 Rio Linda Boulevard, which is approximately half a mile from the western edge of the project area boundary. The proximity of these two facilities enable police and fire crews to respond quickly to emergencies in the Specific Plan area. The projected residential and commercial growth in the area will create the need for two additional police officers and one staff member in order to maintain the City's standard of 2 to 2.5 officers per 1,000 residents. However, this increase in staff would not warrant new police facilities. The Sacramento Fire Department tries to maintain a service ratio of 1 station per 20,000 residents, and the addition of 771 residents in the Swanston Station area is not considered large enough to warrant the development of a new fire

facility. However, these new residents may cause response times in the Plan area to rise slightly.

The Woodlake and Northwood Elementary Schools, which are located just outside of the specific plan boundary, serve the educational needs of children in the Swanston Station area. The Woodlake School can accommodate 600 students and the Northwood School can accommodate 560 students. As of 2007, the Woodlake School had an enrollment of 418 students and the Northwood School had 420 students. With the addition of 366 new dwelling units, approximately 37 new elementary school students would be expected in the area, which would be accommodated by the existing schools. The City also imposes a fee on residential and commercial development, which will help to fund the construction of a new school when existing facilities become constrained.



CHAPTER TWO

# circulation



*The best streets create and leave strong, lasting, positive impressions; they catch the eyes and the imagination. They are joyful places to be, and given a chance one wants to return to them. The best streets continue, are long lived.*

Allan B. Jacobs, *Great Streets*, (Cambridge: MIT Press, 1993), 312

CHAPTER TWO

# circulation

**in this chapter**

ROADWAY SYSTEM

TRANSIT SYSTEM

PEDESTRIAN AND BICYCLE SYSTEM

PARKING

**THE EXISTING TRANSPORTATION SYSTEM IN THE SWANSTON STATION AREA** is required to serve multimodal local access and circulation, while also accommodating through-traffic and freight movements. To play this role and meet the Plan's objectives, this chapter evaluates the existing network and recommends improvements for all modes of travel including automobile, bus, light rail, parking, pedestrian, bike, etc.

Please refer to Chapter 4 Design Guidelines of this volume for a more detailed description of existing street conditions and recommended street improvements in the Swanston Station area. (For a more detailed analysis of the issues identified in this chapter, refer to Kimley Horn and Associate's Infrastructure Evaluation dated October 26, 2007.)

## ROADWAY SYSTEM

### EXISTING HIERARCHY

There are three types of streets within the Swanston Station area: arterial streets, collector streets and local streets.

#### Arterial Streets

Two streets in the Plan area, El Camino Avenue and Arden Way, are classified as arterial streets. El Camino Avenue (four-lane with two-way left-turn lane) and Arden Way both currently have 80 feet of right-of-way. Four lane arterial streets typically serve daily traffic volumes between 14,000 and 27,000 vehicles per day, provide regional connectivity, and generally provide limited access to adjacent land uses.

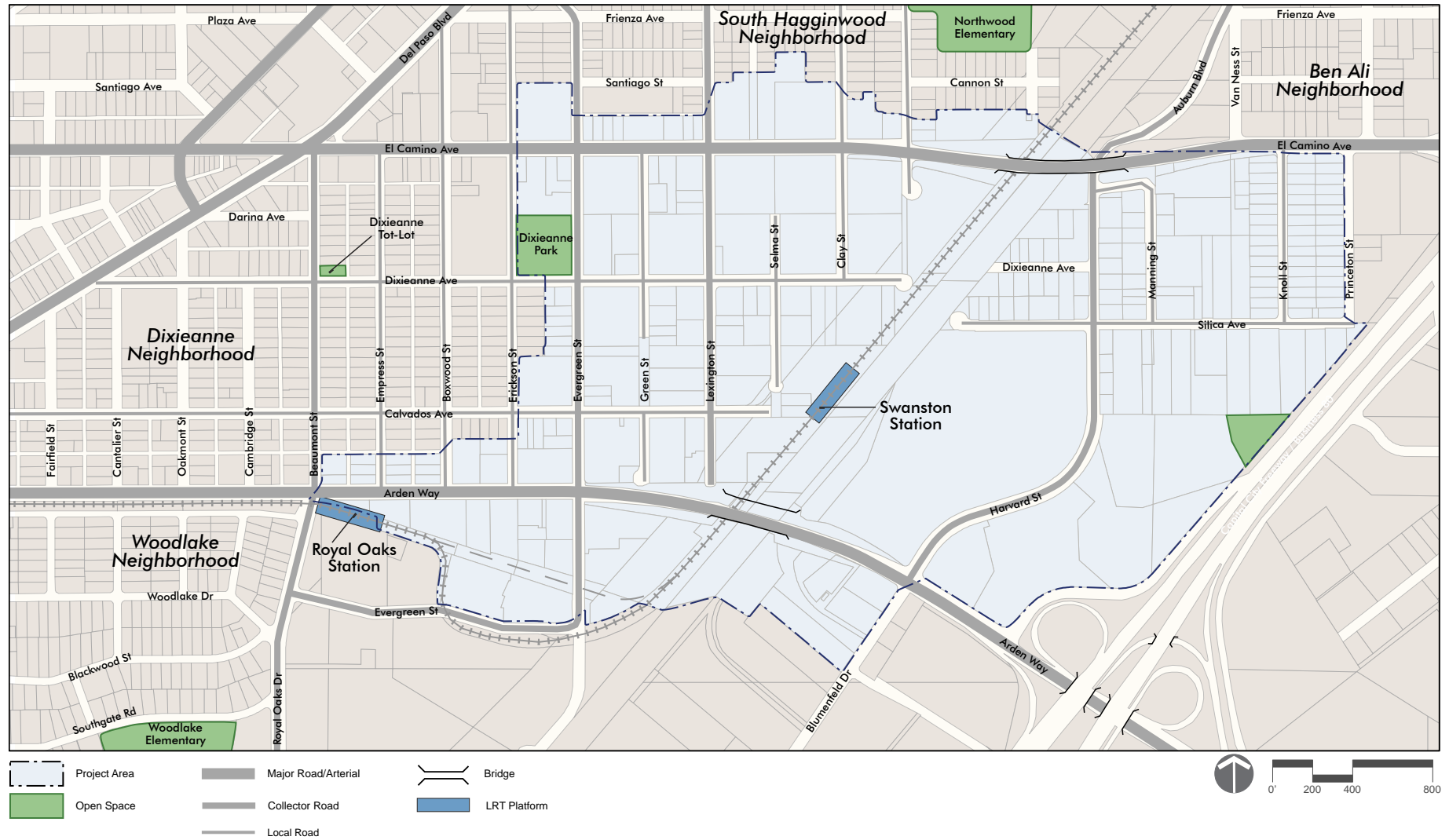
#### Collector Streets

There are two roadways that currently function as collectors within the project area: Evergreen Street and Harvard Street. Collector streets range in volume from 4,000 vehicles per day to 14,000 vehicles per day and provide greater connectivity as compared to local and residential streets. Evergreen Street currently provides connectivity than Arden Way and El Camino Avenue, and the roadway has curbs, gutters, and sidewalks in some locations. South of Silica Street, Harvard Street has full frontage improvements, one travel lane in each direction, bike lanes and no parking.

#### Local Streets

A majority of the roadways within the Plan area are classified as local streets. These streets provide direct access to parcels in the Plan area and generally serve less than 4,000 average daily trips. Local streets provide limited connectivity and provide direct access to adjacent land uses. Examples of local streets in the Plan area include Dixieanne Avenue, Knoll Street and Lexington Street.

FIGURE 2.1 EXISTING ROADWAY SYSTEM



**RECOMMENDED IMPROVEMENTS**

The following improvements are recommended based on the projected demand for vehicle trips. Under 2025 traffic conditions, El Camino Avenue is expected to serve approximately 21,000 vehicles per day and Arden Way is expected to serve approximately 22,000 vehicles per day. The proposed land use plan is anticipated to generate 7,263 fewer daily trips and 1,278 fewer PM Peak Hour trips than if the plan area were to build-out in accordance with existing zoning. The plan would cause a nominal increase (27 trips) in AM Peak Hour trips compared to build-out of the plan area under the existing zoning designations. As a result, current roadway capacity is generally adequate to accommodate the proposed land uses.

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**ROADWAY SYSTEM POLICIES**

- Maintain existing hierarchy of arterial, collector and local streets.
- Where possible, encourage local streets conform to the City’s “Pedestrian Friendly Street Standards”.
- Implement traffic calming devices along collector and local streets to meet increased traffic and discourage speeding.

**Arterial Streets**

Residential and mixed uses are focused along Arden Way and El Camino Avenue. As such, pedestrian and bicycle conditions along those arterials should be improved to facilitate access to the Swanston and Royal Oaks light rail stations and other nearby destinations. Recommendations for El Camino Avenue include a 15-foot easement on either side of the street to accommodate dedicated bike lanes, parking lanes and separated sidewalks. Further, a median and center turn lane on El Camino Avenue will improve traffic operations for vehicles entering and leaving the roadway. Given the constrained right-of-way along Arden Way, the recommendations prioritize the pedestrian over the automobile with the inclusion of widened separated sidewalks instead of parking lanes. On-street parking could be accommodated with an eight-foot easement on either side of the street.

**Collector and Local Streets**

Street sections for local streets should follow the City’s “Pedestrian Friendly Street Standards”. However, due to the constrained rights-of-way, especially along 50-foot wide local streets, street redesigns should balance the needs of automobiles, bicyclists and pedestrians.

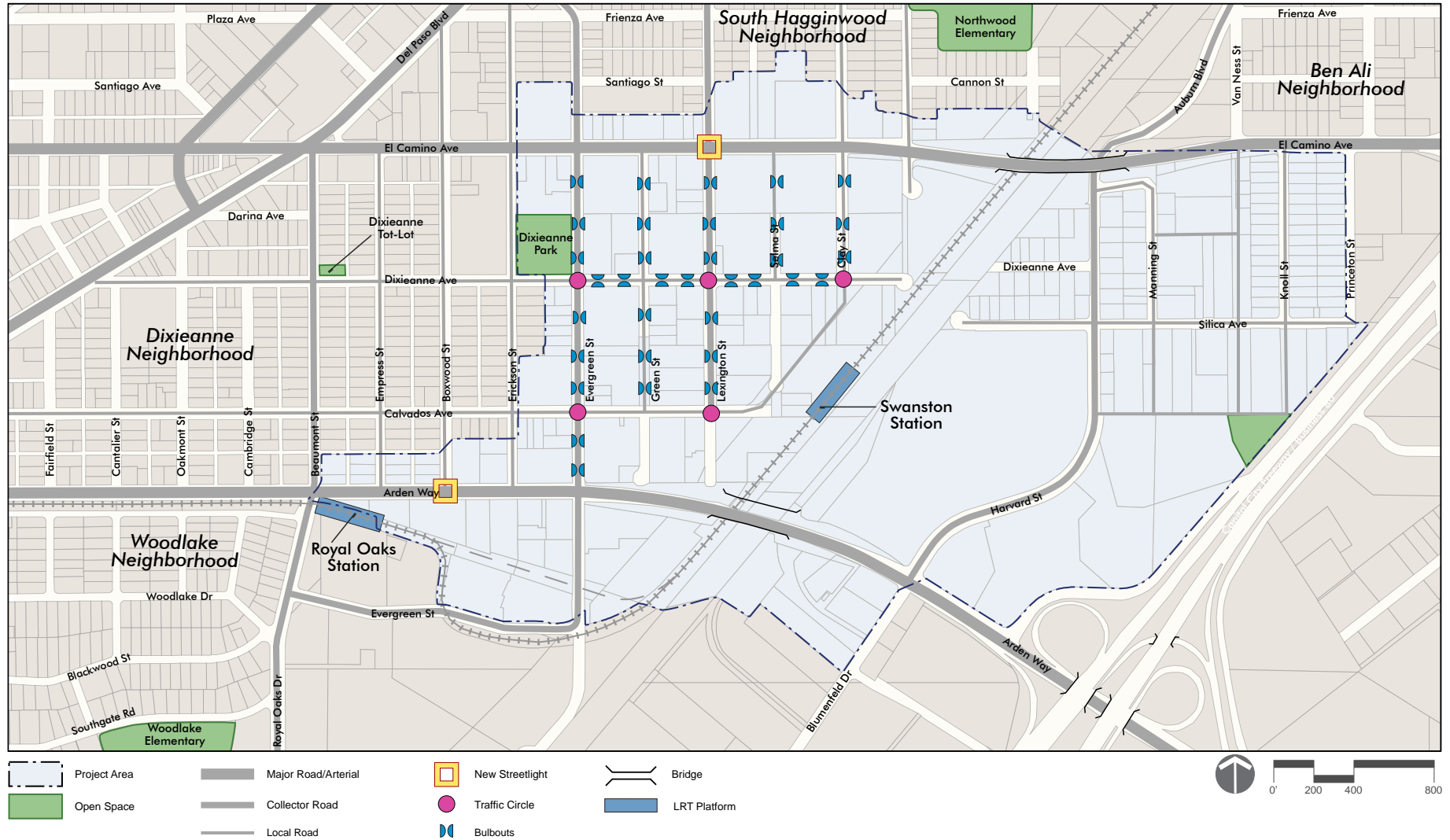
**Traffic Calming**

Due to the street pattern, traffic calming devices are necessary to ensure vehicle speeds are kept at an appropriate level. Traffic calming devices are recommended on the north-south streets from Evergreen to Clay streets and along Dixianne Avenue. The traffic calming devices, shown in Figure 2.2, were developed based upon projected traffic volumes and knowledge of the plan area.

- **Traffic Circles:** Traffic circles are proposed along Dixianne and Calvados avenues. These devices will promote lower speeds and traffic volumes while helping to deter through traffic.
- **Bulb-Outs and Pedestrian Islands:** Supplemental traffic calming devices are proposed for Evergreen Avenue and several local residential streets west of the tracks.

Finally, as build-out occurs, additional traffic signals will likely be warranted to discourage speeding on local residential streets. The installation of signalized traffic control is anticipated at the intersection of El Camino Avenue and Lexington Street and Arden Way at Boxwood Street.

FIGURE 2.2 RECOMMENDED ROADWAY IMPROVEMENTS



**TRANSIT SYSTEM POLICIES**

- Improve the overall environment of the station area.
- Improve access to the transit station.
- Integrate different modes of transit systems to connect to local and regional destinations.

**TRANSIT SYSTEM**

According to Regional Transit, in 2005 Swanston Station has an average of 228 boardings a day. This low number may be due in part to the proximity of the Royal Oaks light rail station as it provides an additional opportunity for accessing transit in the area. Other options for transit include the bus system with routes 20, 23 and 25 along Arden Way.

**RECOMMENDED IMPROVEMENTS**

The overall rider experience at the station should be improved through safety enhancements, such as better lighting, more station amenities, and a redesigned station plaza.

The bus transfer station now at the Arden/Del Paso light rail station will be relocated south of the existing Swanston Station. Buses will enter the transfer station from south of the Arden Way overpass, via a new access road. The access road is likely to extend east from the south end of Evergreen Street and then run parallel to the existing light rail tracks as it accesses the transfer station.

For this report, it is assumed that the facilities and access road required for the transfer station will be provided by Regional Transit. Regional Transit will also study the

impacts to bus riders of moving the transfer station to Swanston Station.

There are also two additional proposed transit connections to the Swanston Station. The Point West Transit Management Agency has proposed the creation of a streetcar system that would serve the Swanston Station area, Cal Expo and Arden Fair Mall. (Refer to the organization’s “Point West Streetcar District Study”, published in December 2005, for a more detailed explanation of this project.) In addition, Amtrak, which provides inter- and intra-regional rail service in the area, has considered adding a stop at Swanston Station to its Capitol Corridor service. Both of these services would help to augment the Plan area’s connection to the surrounding region and support the employment-driven “mini-downtown” concept envisioned in the City’s General Plan 2030 process.



FIGURE 2.3 RECOMMENDED TRANSIT IMPROVEMENTS





*Poor pedestrian and bike environment along El Camino Ave*

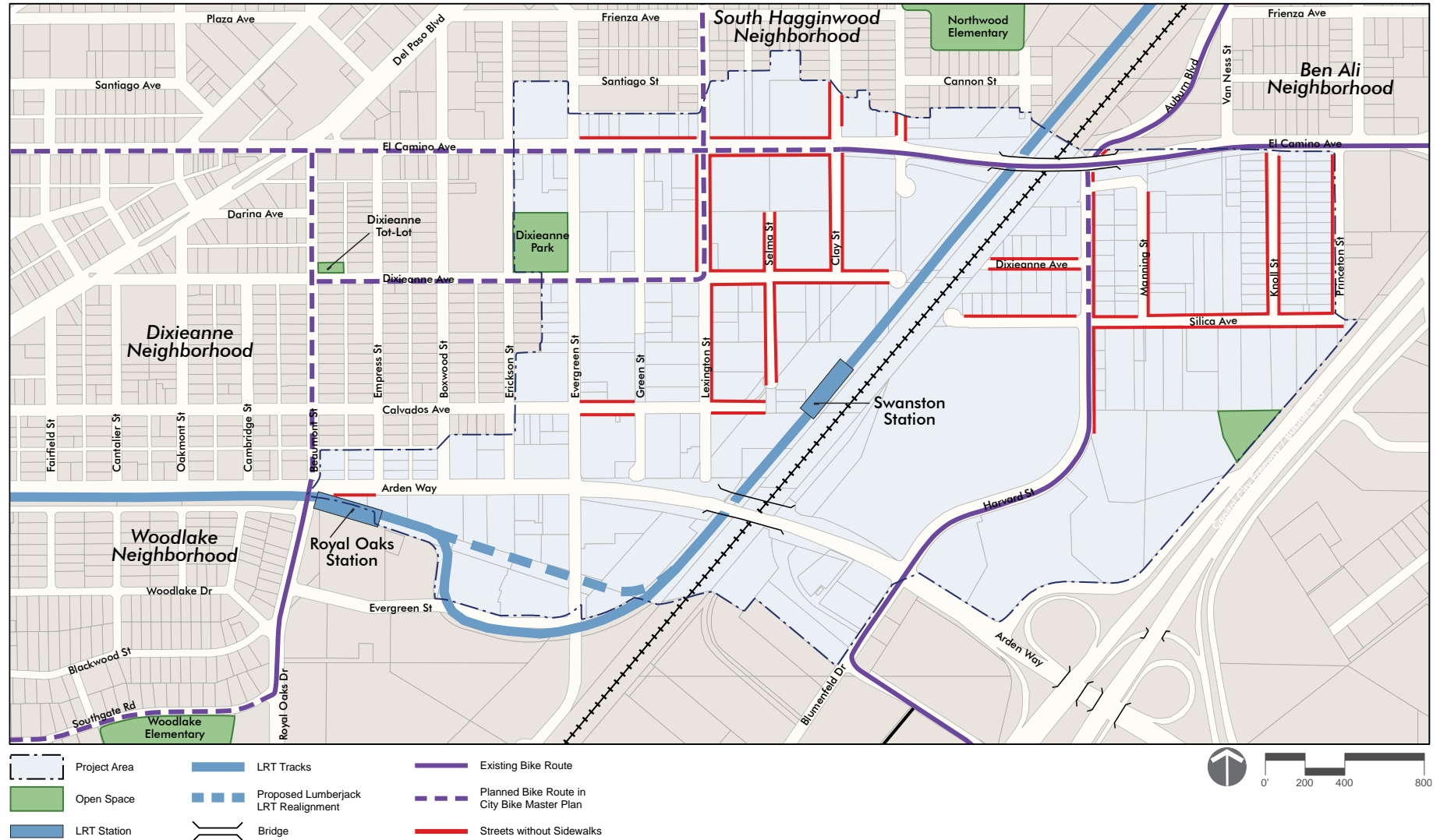
## PEDESTRIAN AND BICYCLE SYSTEM

The Swanston Station area has minimal on-street bicycle lanes and poor pedestrian facilities. On-street bike lanes are currently provided along El Camino Avenue, east of Clay Street and along Harvard Street, south of Silica Avenue. The City’s “Pedestrian Friendly Street Standards” require that on-street bike lanes be provided on all collector and arterial roadways. In addition, the Bicycle Master Plan proposes bicycle lanes along Dixie Avenue, Lexington and Beaumont streets. Given the constrained rights-of-ways, designated bike routes rather than dedicated bike lanes are a more feasible option to adequately balance the needs of pedestrians and bicyclists. Any street design that diverges from the City’s “Pedestrian-Friendly Street Standards” was either approved under the North East Light Rail Station Plan or will need City Council approval.

Several streets have pedestrian unfriendly edges, including streets that do not have a sidewalk, or are adjacent to a blank wall or unarticulated façade. A part of nearly every street within the plan area has a pedestrian unfriendly edge. These deficiencies are shown in Figure 2.4.

In addition, the only existing pedestrian facilities that cross the tracks are the overpass at El Camino Avenue and the overpass at Arden Way. Neither of these bridges provide safe or convenient pedestrian and bicycle access between the employment center and the light rail station. As a result, the City and Regional Transit have planned construction of a pedestrian bridge from the light rail station across the tracks. In the past, implementation of the pedestrian bridge has been frustrated by a lack of funding and issues regarding its location. The need for the pedestrian bridge becomes more salient as development to the east and west of the tracks occurs under the Swanston Station Transit Village Plan. For example, as the mini-downtown employment center develops, convenient connections to the light rail station will become crucial to its longevity and success.

FIGURE 2.4 EXISTING PEDESTRIAN AND BICYCLE SYSTEM



**PEDESTRIAN AND BICYCLE POLICIES**

- Overlay a well-connected pedestrian and bike system across the transit village using public rights-of-way and private projects.
- Provide a pedestrian- and bike-friendly bridge across the rail tracks.
- Improve the pedestrian and bicyclist experience.
- Explore different classes of bike routes within existing constrained rights-of-way.
- Support bike and pedestrian uses along El Camino Avenue.

**RECOMMENDED IMPROVEMENTS**

A number of roadways in the study area do not include complete frontage improvements (curbs, gutters, sidewalks, and/or street lights) and a number of area streets were built to an outdated City standard. In addition, a long-term strategy for providing sidewalks throughout the plan area should be developed. Improvements that enhance safety and alternate mode use should be prioritized through the Capitol Improvement Program, per City policy. The City is also expected to continue to upgrade sidewalks at intersections to be brought into compliance with the Americans with Disabilities Act (ADA).

In some cases, the plan area roadways do not have adequate rights-of-way to accommodate the standards mandated in the City’s “Pedestrian Friendly Street Standards”. In some cases, the City should explore the use of easements to accommodate the needs of automobiles, bicycles and pedestrians. In other cases, the street standards should be relaxed per the hierarchy developed below which rank reductions in the City specified width of the medians, lanes, sidewalks, etc. The list below identifies potential actions in the order in which they should be considered. It should be noted that when determining modifications to standard cross-sections, it is imperative to give strong consideration to the safety of pedestrians and bicyclists (e.g., reduce median width before reducing bike lane width).

- Reduce median width (10 feet minimum)
- Reduce lane widths (collector/arterials – 11 feet minimum)
- Reduce planter width (four feet minimum)
- Reduce sidewalk width (five feet minimum)
- Reduce bike lane width (five feet minimum)
- Eliminate planter (one or both sides)
- Eliminate median (collectors)
- Eliminate parking (collectors)

FIGURE 2.5 RECOMMENDED PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS



### PARKING POLICIES

- Allow parking on Arden Way only where easements are available.
- Explore parking on one side of the street when there is a constrained right-of-way.

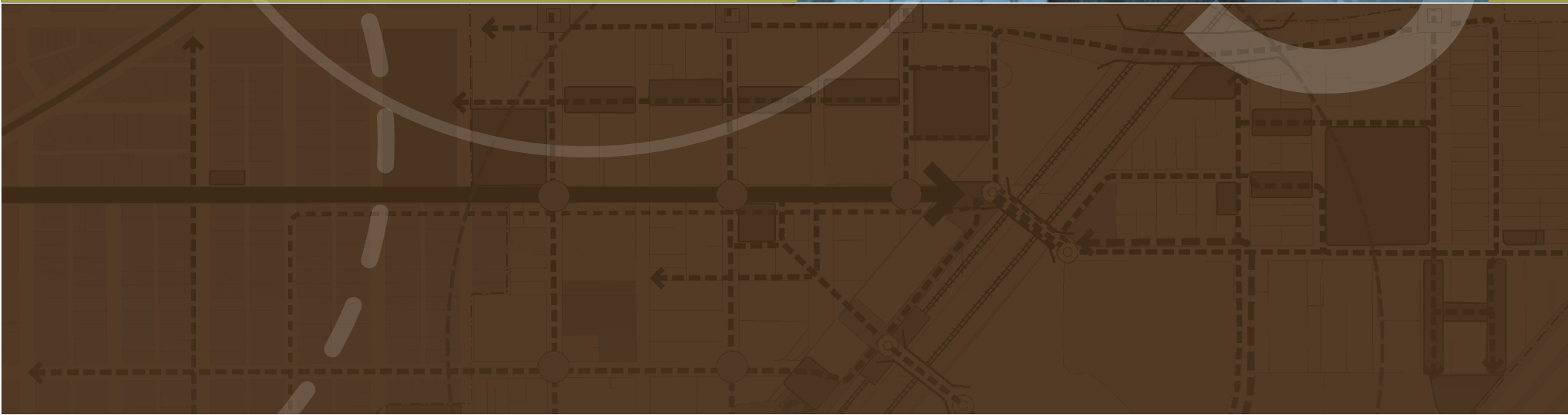
### PARKING

On-street parking is proposed on nearly all streets within the plan area. The application of the City's street standards to the plan area roadways will include on-street parking to certain segments and classifications.

As discussed in the Roadway System section of this chapter, on-street parking will be permitted on all roadways except Arden Way. However parking could be explored with easements on either end of the street. In areas with a constrained right-of-way (less than 50 feet), the City should explore allowing parking on one side of the street so as to maintain adequate width for circulation.

CHAPTER THREE

# infrastructure



*Designers need to work together with engineers to understand the multiple uses for streets and to place an emphasis on residents rather than vehicles, while acknowledging traffic patterns and street engineering.*

Michael Southworth and Eran Ben Joseph  
Streets and the Shaping of Towns and Cities (Island Press, 2003), 140



CHAPTER THREE

# infrastructure

in this chapter

WATER

SANITARY SEWER

STORM WATER

**THE STREETScape GUIDELINES ARE INTRINSICALLY LINKED** to infrastructure practices and policies. In order to create a comprehensive and effective Specific Plan, cost efficient infrastructure systems must be provided without compromising the character of the area. This chapter evaluates existing infrastructure facilities and recommends improvements that are necessary to support the Plan's overall development vision.

The proposed alignment of new underground utilities has been developed to avoid conflict with existing underground utilities and surface features, such as the railroad tracks. The existing utility information used to compile these recommendations is based upon field observations and a review of existing infrastructure studies. Utility conflicts may arise during the detailed design process and alternative utility alignments may be required.

This chapter identifies short- and long-term improvements. Short-term improvements include any upgrades that should be made before 2025 and long-term improvements include enhancements that should be made before the Plan area is built out. (For a more detailed analysis of the issues identified in this chapter, please refer to Kimley Horn and Associate's Infrastructure Evaluation included in Volume III of this document.)



*Inadequate fire protection*

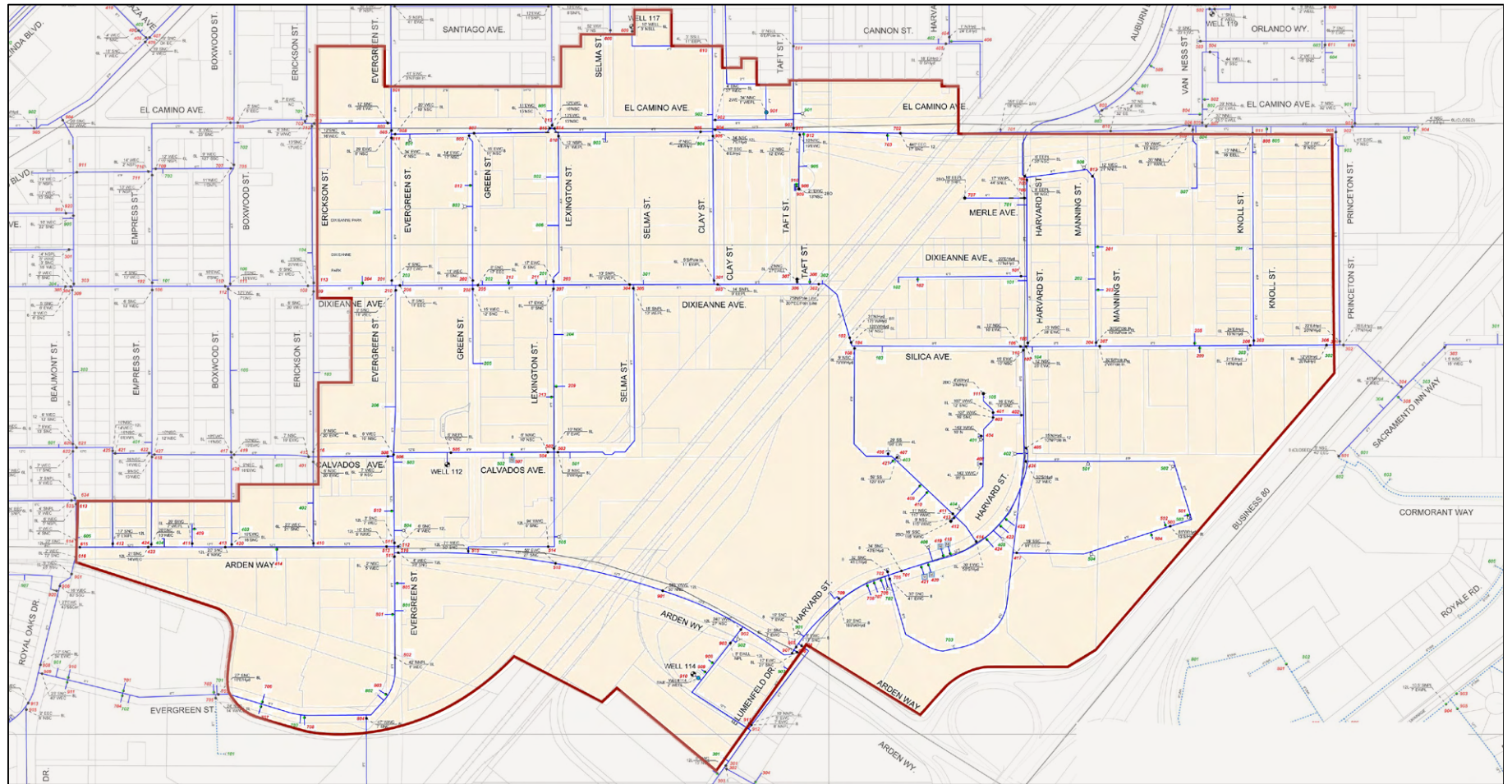
### WATER SYSTEM

The existing water distribution system appears to be adequately serving the current uses within the study area with the exception of providing adequate fire protection. Some existing mains within the study area are of 2, 4, and 6-inch diameter, which are less than the current City standard of an 8-inch diameter minimum for the proposed zoning. The E.A. Fairbairn water treatment plant, one of the major water supplies for the city, is located south of the plan area. Recent upgrades to the plant have been performed to substantially increase plant treatment capacity.

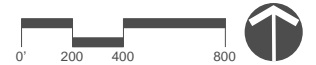
The current City standard that exists in the project area is a minimum of 8-inch diameter mains in the distribution system, with 12-inch mains spaced in grid intervals of one half mile according to section 13.4.3 of the City standard. A detailed hydraulic model was not performed in order to confirm adequate pressures under fire flow conditions. It is recommended that hydraulic modeling be performed of the study area to confirm that the main sizes are adequate to meet the following City standards:

- Maximum velocity of 10 feet per second
- Fire flow demands of:
  - i. 1,500 gpm for single-family
  - ii. 2,000 gpm for multi-family
  - iii. 3,000 gpm for commercial/industrial

FIGURE 3.1 EXISTING WATER SYSTEM



- Project Area
- Parcels Outside Project Area
- Water Mains



### WATER POLICIES

- Upgrade the existing water system to meet existing City standards and provide adequate fire protection.
- Maintain all public water mains in public rights-of-way dedicated to public streets.
- Require public and private projects to conserve water resources and reduce discharge into the sewer system.
- Encourage water conservation within existing development.

### Recommended Improvements

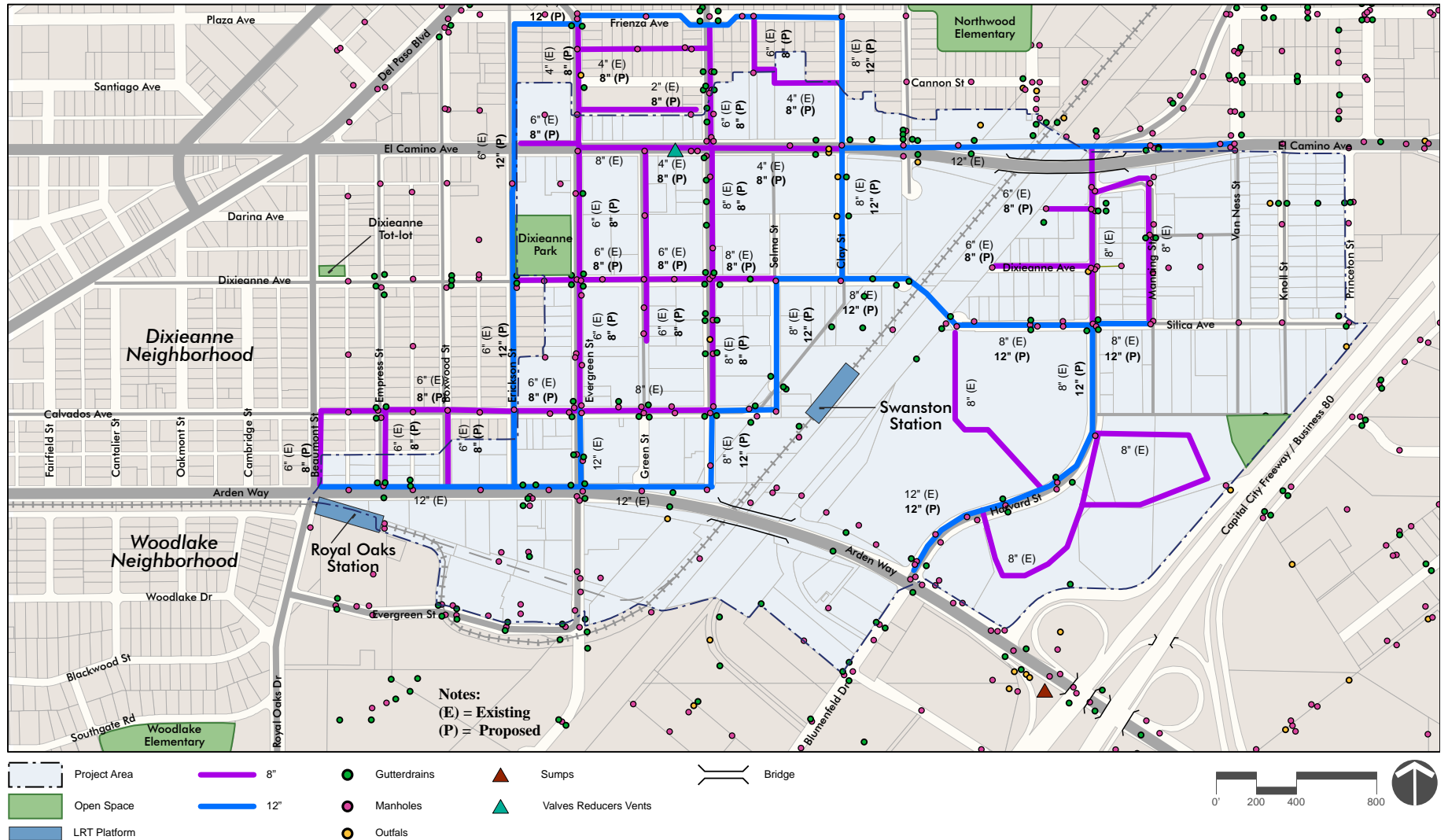
#### *Short-term Improvements*

No immediate improvements to the water distribution system appear necessary to meet the projected development until about 2025. Upsizing the existing mains that are less than the City standard of 8-inch diameter will assist with providing fire flow protection in the study area. Hydraulic modeling of the overall City system should be performed to confirm that adequate water supply, distribution mains, and transmission mains are available to serve the study area in conformance with City standard requirements.

#### *Long-term Improvements*

The existing conveyance grid within the project area currently does not meet the City standard of 8” diameter pipe loops for multifamily, light commercial and industrial zones. The increased demand placed on the water system as the area approaches build out will require bringing nearly the entire system up to standard.

FIGURE 3.2 RECOMMENDED WATER IMPROVEMENTS



### SANITARY SEWER

The existing sanitary sewer system appears to be handling current flows adequately. Occasional problems may be expected with inflow and infiltration during storm events, which is common in older systems. Many of the older existing sewer mains are of a smaller diameter than the City's current minimum standard of an 8-inch diameter and will likely be replaced by the City through its Capitol Improvement Program, or by developers, if required by the City.

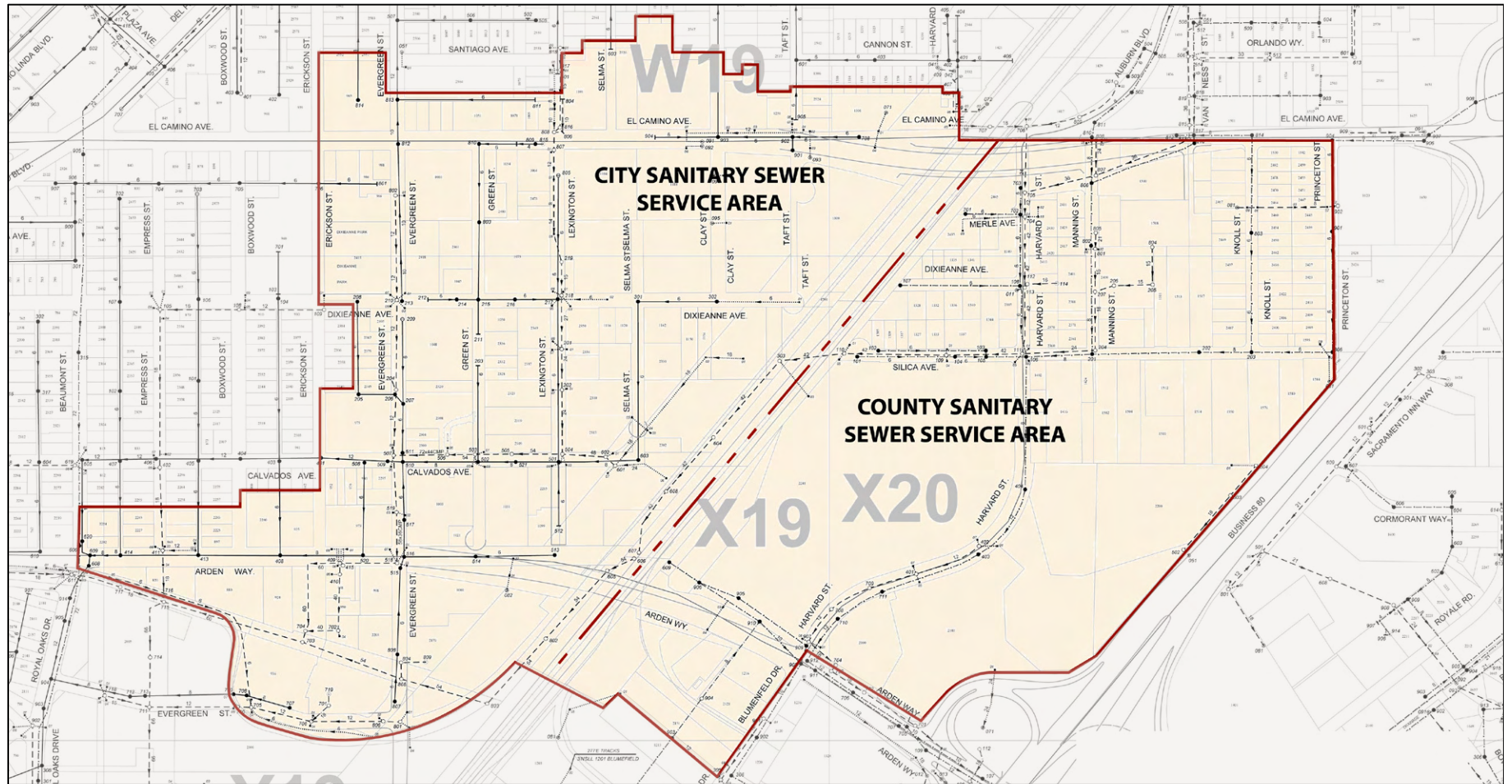
Portions of the project area are served by either the City of Sacramento or County Sanitation District 1 (CSD-1). Areas west of the railroad tracks are within the City service area, and areas east of the tracks are in the CSD-1 service area.

Though other portions of the City collection system are combined storm and sanitary sewer systems (CSS's), the systems are separate within this project area. No major sanitary sewer deficiencies were identified in the existing infrastructure evaluation.

Existing pipes less than the current City standard of 8-inch minimum were identified in the existing project area.

The City of Sacramento and CSD-1 have different methods for determining sewage flows for proposed development which were used in this report. The differences between the two service districts include differences in unit flow rates, peaking factors, and calculating infiltration and inflow quantities. The parcels within each service district were evaluated based on the proposed redevelopment land uses and the flows estimated for both the City and CSD-1 portions of the study area.

FIGURE 3.2 EXISTING SANITARY SEWER



35

- Project Area
- Parcels Outside Project Area
- Sewer Lines



**SEWER POLICIES**

- Upgrade the existing sewer system according to the City’s Capital Improvement Program.
- Maintain all public water mains in public rights-of-way dedicated to public streets.
- Minimize sewer loads by reducing discharge into the sewer system and encourage water conservation within existing development.
- Require public and private projects to conserve water resources.

**Recommended Improvements**

***Short-term Improvements***

No immediate improvements to the existing sanitary sewer system appear to be necessary to meet the projected development within the study area. However, existing mains that are smaller than the City’s 8-inch diameter standard should be replaced as part of the standard maintenance program. Additional hydraulic modeling of the City sewer system should be performed to confirm these recommendations, which do not consider off-site conditions or affects on infrastructure at the study area boundaries.

***Long-term Improvements***

With the proposed increase in average flows of approximately 106% in the Long Term Development scenario, many of the existing mains will need to be upsized to carry the anticipated flow in both the City of Sacramento and CSD-1 service areas.

Recommended improvements to the existing sanitary sewer system to serve the redevelopment within the study area include the following streets:

- Harvard Street
- Selma Street
- Dixianne Avenue
- Calvados Avenue
- Arden Way
- Royal Oaks Drive
- Green St.
- Lexington St.
- Clay St.
- El Camino Ave
- Knoll St.
- Princeton St.
- Silica Ave.
- Fianza Ave.

The recommended improvements should be confirmed by hydraulic modeling of the collection system since the invert, rim elevations, and slopes of the existing pipes are not considered in these recommendations.

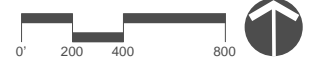


FIGURE 3.4 RECOMMENDED SANITARY SEWER IMPROVEMENTS



Notes:  
 (E) = Existing  
 (P) = Proposed

	Project Area		6"		12"		Gutterdrains		Sumps		Bridge
	Open Space		8"		18"		Manholes		Valves Reducers Vents		
	LRT Platform		10"		Outfalls						





*Poor storm water conditions along Dixie Avenue*

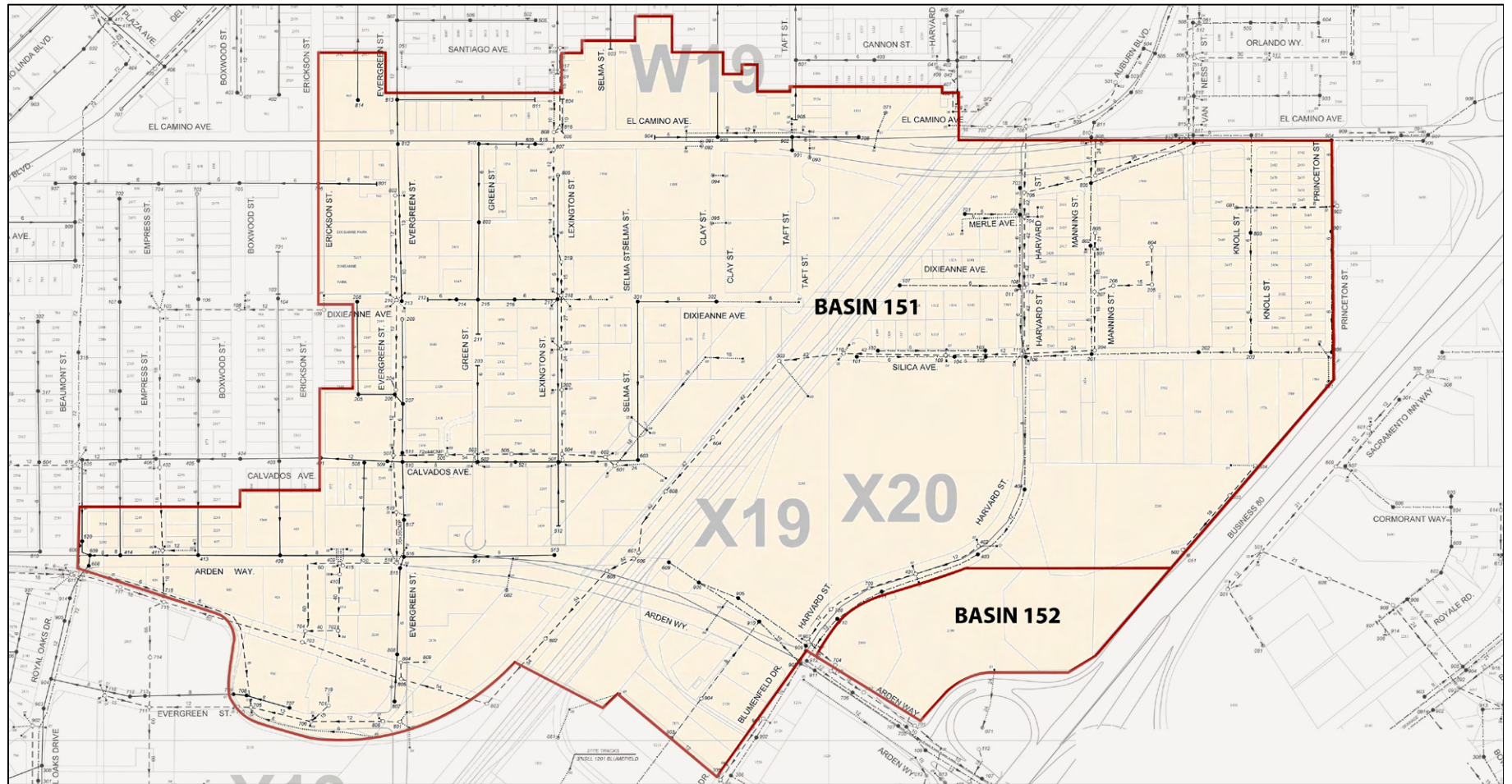
### STORM WATER

The existing storm drain system in the study area does not currently meet City of Sacramento standards. The existing infrastructure does not have the necessary capacity to adequately convey 10 and 100 year storms.

The project site lies within two City of Sacramento storm drainage basins: Basins 151 and 152. All but 5.7 acre of the project area resides in Basin 151. Therefore, impacts of the development on Basin 152 will be considered insignificant. The existing infrastructure report identified

storm drainage deficiencies including road side ditches containing debris; damaged driveway culverts; and storm drain inlets covered with debris. Additionally, a master plan report for Basin 151, completed by West Yost & Associates (WYA report) in 1996, indicates that the existing storm drain system for Basin 151 does not meet current City standards. The report also identifies areas where flooding is predicted under the 10-year and 100-year storm events.

FIGURE 3.5 EXISTING STORM WATER SYSTEM



**STORM DRAIN POLICIES**

- Upgrade the existing storm drain system according to the master plan report for Basin 151, completed by West Yost & Associates.
- Maintain all public storm drains in public rights-of-way dedicated to public streets.
- Require public projects to explore integrated storm water management systems to reduce discharge into the storm drain system.
- Require private projects to contain storm water on-site resources to reduce discharge into the storm drain system.
- Encourage stormwater management practices that emphasize conservation and sustainability and add to the educational and aesthetic value of the transit village.

**Recommended Improvements**

*Short-term and Long-term Improvements*

The Basin 151 WYA report recommends various improvements, some of which are within the study area and some off-site. It can be assumed with the information available from the WYA report that all of the recommended improvements are necessary at this time to alleviate the potential for flooding. Further modeling analysis would be required if improvement staging is desired. The proposed development scenarios for the project area insignificantly impact overall storm water runoff. The recommended storm drain system improvements in the area are due almost entirely to capacity issues that already exist and are already planned to be remedied per the WYA report.

It should be noted that the WYA report recommends two storage basins which are within the project area: 1) the Green Street Basin located near Green and Calvados Avenue; and 2) the Intertrack Basin, located near the railroad tracks. The proposed development does not interfere with the construction of the Intertrack Basin. However, the Green Street Basin is not included in the Long Term Development scenario. If Long Term Development scenario is realized within the project area, storm water detention equal in size to the previously proposed Green Street basin will be necessary.

In order to obtain storm water detention without modifying zoning plans, subsurface detention systems are recommended for development. Finally, the City should identify a mechanism to fund the maintenance of the treatment control measures, including entering into a maintenance agreement.

FIGURE 3.6 RECOMMENDED STORM WATER SYSTEM IMPROVEMENTS





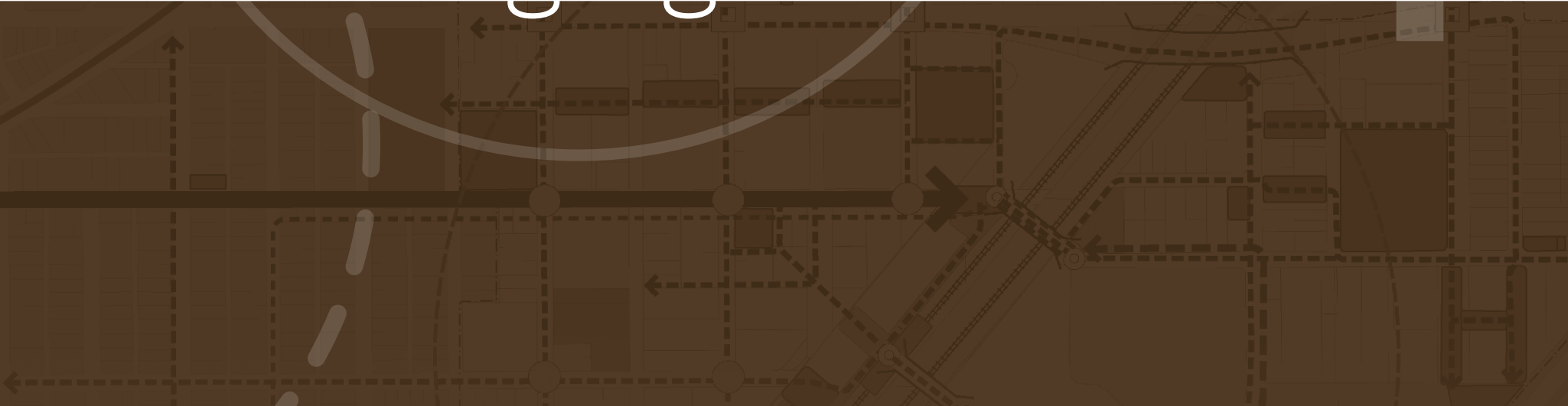
*Sustainable storm water planters along sidewalks*

Additional improvements outside of the project area will be necessary in Basin 151 as recommended by the WYA report. Some improvements have already been made, such as the re-construction of Sump 151 and the construction of the “East Basin” detention system. However, if storm water detention is put into place in the proposed project area to replace the Green Street Basin, no additional improvements will be required in downstream facilities within the Basin beyond those recommended in the WYA report.

Any storm water improvements made in the Plan area should place an emphasis on conservation and sustainability. New development should be managed in such a way as to manage stormwater run-off on-site and/or direct run-off to parks, greenways, mews and open spaces to provide alternate opportunities for treatment and run-off reduction. In addition, neighborhood parks, pocket parks and greenways should incorporate stormwater measures, such as swales, infiltration and detention basins, rain gardens, etc. Beyond their functional role, stormwater management devices can provide educational opportunities and make an aesthetic contribution to the transit village.

CHAPTER FOUR

# design guidelines



*Urban design involves the arrangement, appearance, and functionality of towns and cities, with a particular focus on public space, including streets, parks, squares and gardens as well as public infrastructure and privately owned spaces. The design of these public spaces has become increasingly important to the long-term development and well being of communities,, and designers are concerned with the way these places are experience and used, as their de-*



CHAPTER FOUR

# design guidelines

**in this chapter**

PUBLIC REALM

OVERARCHING GUIDELINES

STREET DESIGN

OPEN SPACES

PRIVATE REALM

OVERARCHING GUIDELINES

BUILDING PROTOTYPES

**THE DESIGN GUIDELINES PRESENTED IN THIS CHAPTER** provide further direction for achieving the urban design concept discussed in Volume 1. The design guidelines should be used as another tool, in addition to land use and zoning regulations, to promote the high quality development of a transit village around the Swanston Station. Throughout the chapter, design guidelines which may have implications for existing City regulations, standards and documents are marked with an asterisk following the design guideline number.

Design guidelines provide an effective method for guiding the physical environment and character of the streets, buildings and open spaces within the transit village. Guidelines are intended to not be prescriptive, but to provide sufficient flexibility for creativity and variety in new developments and public space designs.

Site Design and Planning Guidelines have been organized into the following categories:

1. Site Design and Planning of the Public Realm
2. Site Design and Planning of the Private Realm

These guidelines build upon previous planning documents including the 2006 North Sacramento Residential and Commercial Design Guidelines, the North Sacramento Community Plan and the City of Sacramento Pedestrian-Friendly Street Standards, and have been developed in coordination with the Northeast Line Light Rail Station Plan.

## 1. SITE DESIGN AND PLANNING OF THE PUBLIC REALM

The public realm - composed of the streets, sidewalks, and public open spaces - plays a crucial role in the vitality, perception and livability of an area. The intent of design guidelines for the public realm is to enhance the pedestrian environment throughout the transit village. The public realm includes the “Main Street” of Dixieanne and Silica avenues, the arterials (El Camino Avenue and Arden Way), entry streets and collectors (including Evergreen and Harvard streets), local streets (including 50 and 60 foot wide streets), and usable open spaces, including neighborhood parks, pocket parks, and plazas.

The guidelines, particularly those regarding roadways, sidewalks and planter strips, were developed to the maximum extent possible to be consistent with the City of Sacramento’s Pedestrian-Friendly Street Standards. However, the rights-of-way of most streets in North Sacramento are constrained. Working with City staff, the design guidelines were developed to recommend a balance between the sometimes conflicting needs of automobiles, pedestrians, bicyclists, ADA and healthy trees. Any streetscape design that does not conform with the adopted pedestrian friendly standards has either been approved as part of the North East Light Rail Station Plan or must be approved by the City Council.

The public realm plays a large role in determining the quality of life in a neighborhood, as it provides the social spaces, gathering spots, and connective tissue that binds it together. By redesigning and enhancing the public realm around the Swanston transit station, residents, workers and commuters will be more likely to be willing to walk to the station rather than drive. As a result, the full potential of the transit village as a non-auto-oriented neighborhood can be realized. Further, public realm improvements will make the area safer by providing more “eyes on the street” and including traffic calming elements to slow vehicles traveling through the area.

The design guidelines focus on two primary components of the public realm: streets and open spaces. They begin with overarching guidelines for streetscape design, then guidelines for specific streets, and end with guidelines for the hierarchy of open spaces being proposed for the transit village.

1AI ROADWAYS

**1Ai-1** Ensure 12 feet wide travel lanes for arterial streets. Allow 11 feet wide travel lanes next to bike lanes and on arterials with constrained ROW.

**1Ai-2** Allow 10 feet wide turn lanes where right-of-way is constrained.

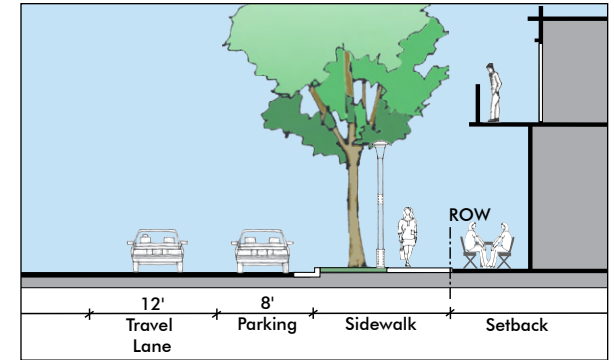
**1Ai-3** Ensure 11 feet wide travel lanes for local streets. Allow 10 feet wide travel lanes for local streets where right-of-way is constrained.

**1Ai-4** Allow eight feet wide parking lanes along arterials and collectors for on-street parallel parking. Ensure minimum seven feet wide parking. Allow seven feet wide parking next to Class II bike routes.

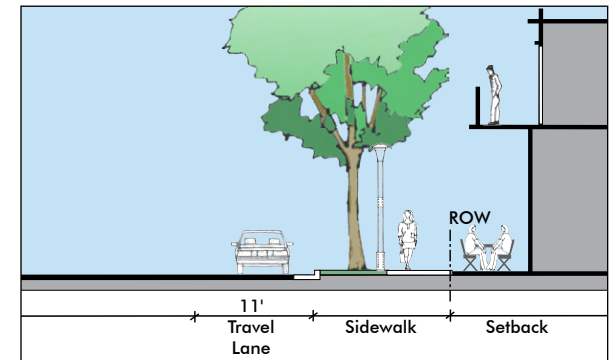
**1Ai-5** Ensure seven feet wide parking lanes along local streets.

**1Ai-6** Provide six feet wide dedicated bicycle lanes along designated Class II bicycle routes in the Bicycle Master Plan. Bike lanes next to raised curbs will include the two feet wide gutter.

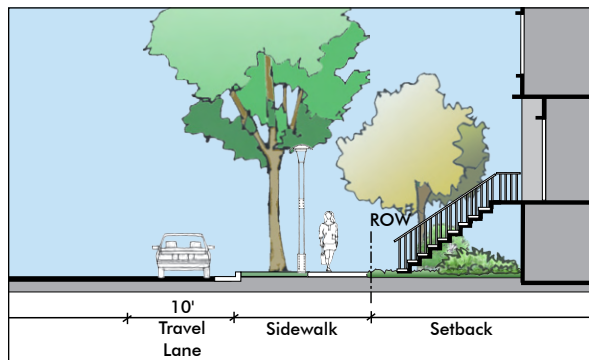
**1Ai-7** Explore providing Class III bicycle routes along collector and local streets where right-of-way is constrained.



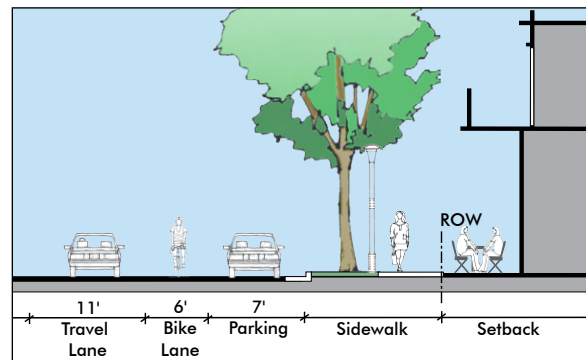
1Ai-1, 1Ai-4 Arterials and collectors



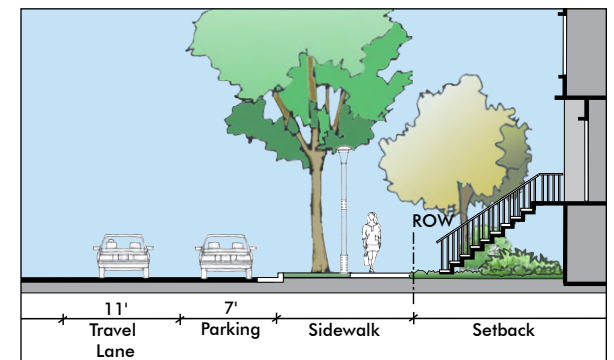
1Ai-1 Arterial with constrained ROW



1Ai-3 Local streets



1Ai-4, 1Ai-6 Arterials



1Ai-5 Local streets

1AII SIDEWALKS AND LANDSCAPING

**1Aii-1** Ensure continuous ADA accessible five feet wide pathways along all streets.

**1Aii-2** Explore pedestrian easements within the private realm to provide wider ADA accessible sidewalks and trees and landscaping amenities to the pedestrian realm.

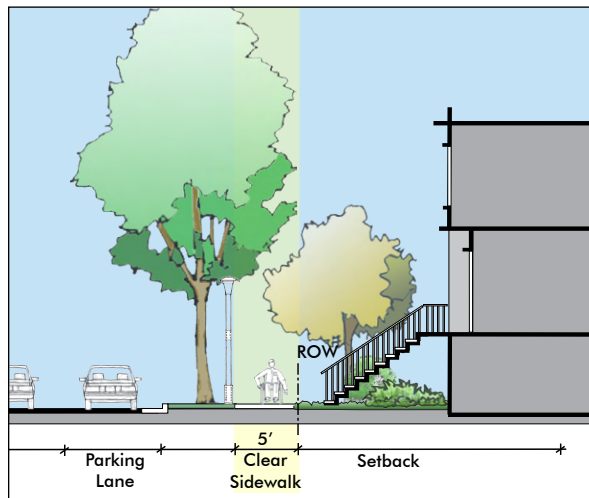
**1Aii-3** Locate planter strips between sidewalks and roadway to provide a safety buffer for pedestrians from traffic. Allow tree wells to be used instead of planter strips in cases where there are parking or bicycle lanes next to sidewalks.

**1Aii-4** Provide six feet wide planter strips and tree wells along streets. Where right-of-way is constrained, allow five feet wide planter strips and tree wells.

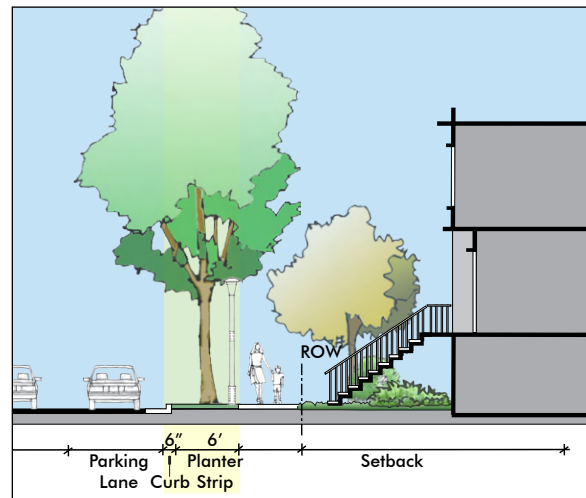
**1Aii-5** Landscape planter strips with shade-providing trees and shrubs.

**1Aii-6** Explore the use of structural soil two to three feet deep and minimum eight feet long in planting strips and under sidewalks in lieu of standard aggregate base.

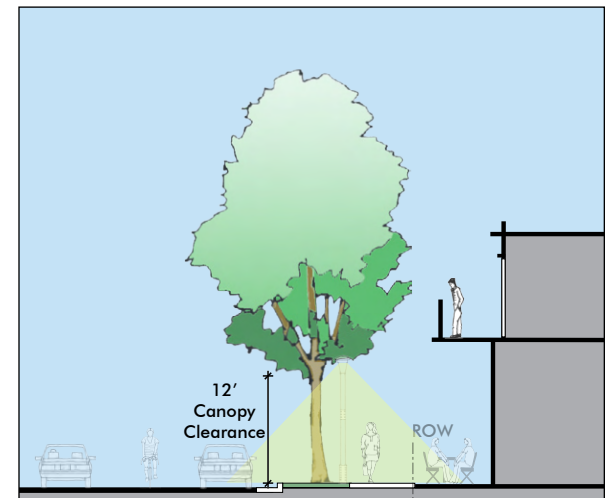
**1Aii-7** Ensure at least twelve feet canopy clearance from finished sidewalk elevation to provide clear emergency and service access, not block light from pedestrian-scale street lights, and allow for a visual connection along sidewalks and medians.



1Aii-1



1Aii-2, 1ii-3



1Aii-7

1AIII CROSSWALKS AND BULBOUTS

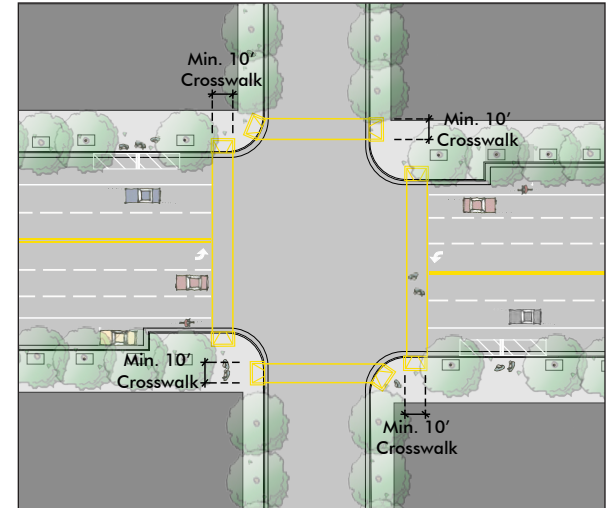
**1Aiii-1** Provide clearly marked minimum 10 feet wide crosswalks at all controlled intersections and at intersections of key streets. Ensure all crosswalks have ramps for ADA access.

**1Aiii-2** Add bulbouts along streets to increase planting space for trees by removing parking spaces.

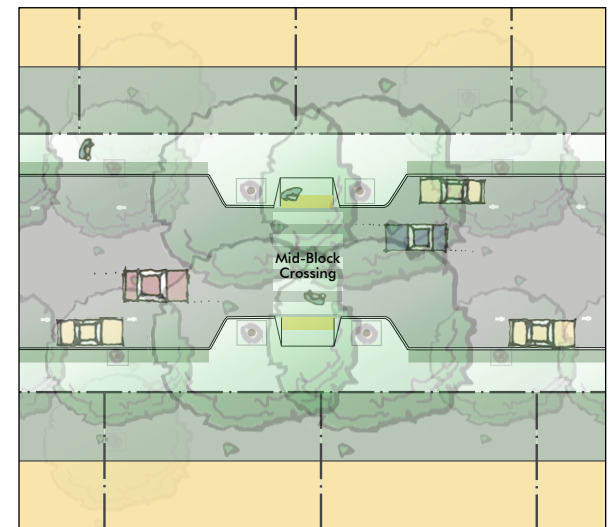
**1Aiii-3** Ensure mid-block crosswalks are a minimum of 10 feet wide and are highly visible.

**1Aiii-4** Explore using special paving material for crosswalks to heighten visibility and lend identity to the area.

**1Aiii-5** Where possible, provide bulbouts at intersections and mid-block crossings to minimize crossing distance and increase pedestrian visibility.



1Aiii-1



1Aiii-3, 1Aii-5

1AIV CROSS-TRACK CONNECTIONS



*Pedestrian bridge in Emeryville, CA*

**1Aiv-1** Explore improvements to the El Camino Avenue and Arden Way overpasses with widened sidewalks and trees in planters to serve as buffers between pedestrians and fast-moving traffic.

**1Aiv-2** Allow a 20 feet wide pedestrian and bicycle bridge to provide adequate room and comfort for multi-modal users.

**1Aiv-3** Ensure that the ramp of the pedestrian and bicycle bridge be ADA compliant with a greater than 1:20 slope.

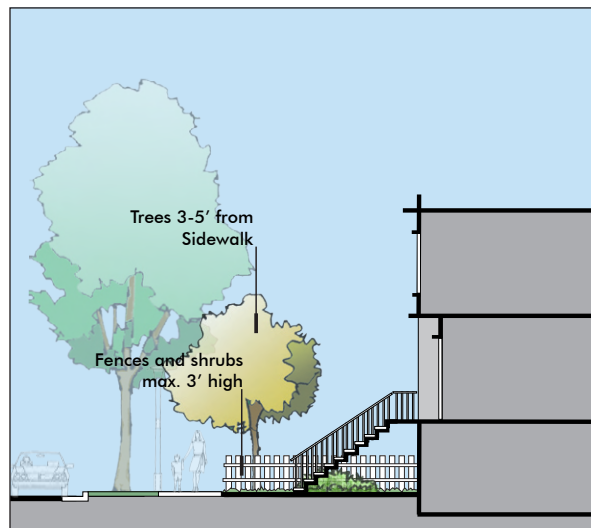
## 1Av PUBLIC-PRIVATE INTERFACE

**1Av-1** Encourage the planting of trees within the private realm where the right-of-way is too constrained to accommodate street trees along sidewalks. Plant trees three to five feet from the edge of the sidewalk within private lots.

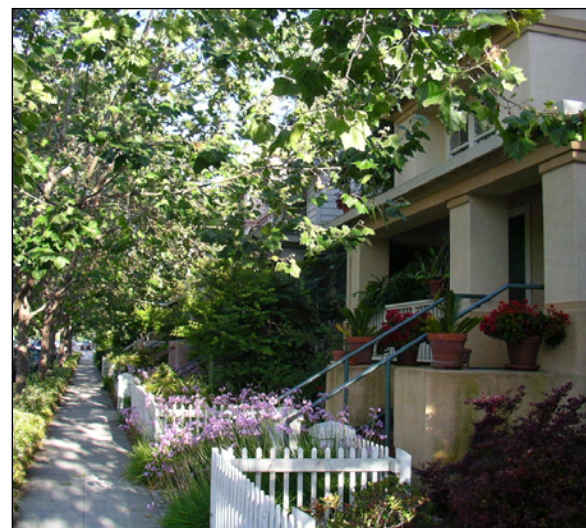
**1Av-2** Ensure fences within private lots are no higher than three feet so as to not serve as a barrier between the public and private realms.

**INTENT:**

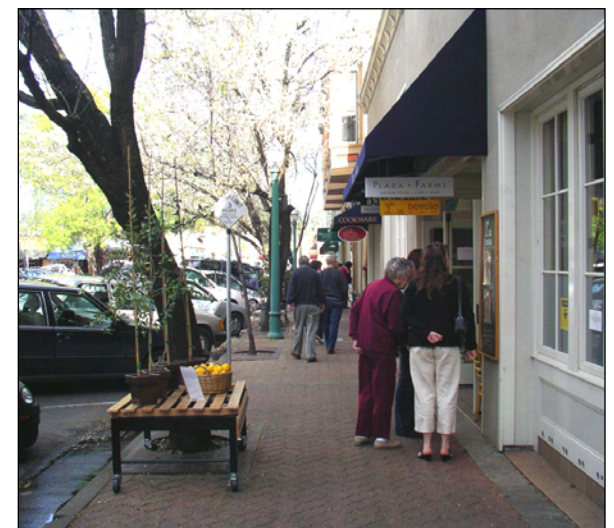
Strong connections between the private and public realms help to create safe, comfortable and enriching pedestrian experience.



1Av-1, 1Av-2

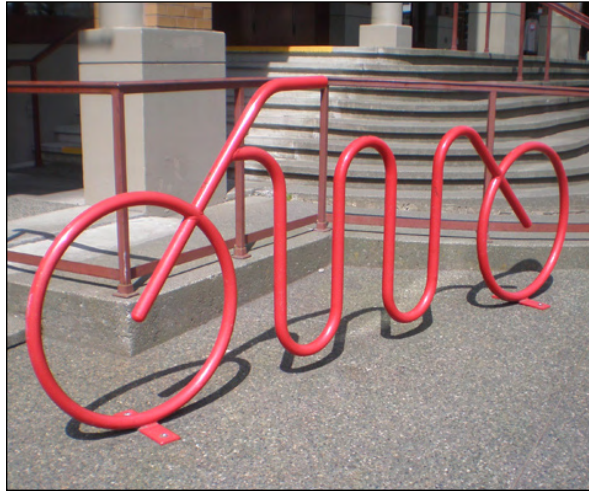


Good public-private interface with residential uses



Good public-private interface with commercial uses

## 1AVI STREET FURNITURE AND LIGHTING



1Avi-6

**1Avi-1** Provide pedestrian-oriented and automobile-oriented street lighting along major pedestrian corridors and arterials, such as Arden Way and El Camino Avenue.

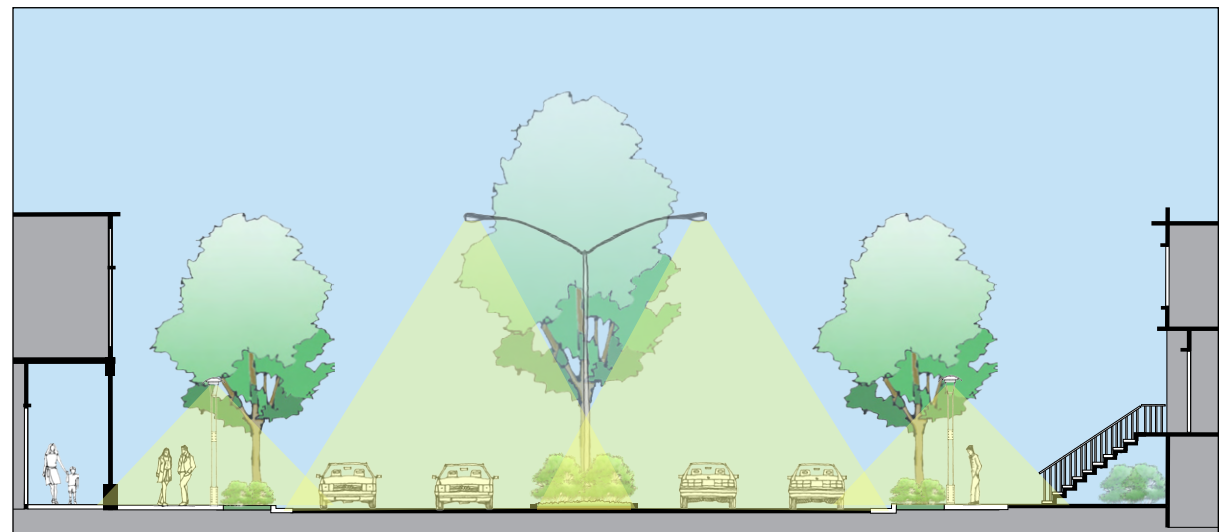
**1Avi-2** Require pedestrian-scaled street lights to be at a lower height (approximately 12 feet high), closer spaced, and use full spectrum bulbs.

**1Avi-3** Provide pedestrian-oriented street lights on all local streets and pedestrian paths, such as the transit and diagonal promenades, to improve safety and comfort.

**1Avi-4** Provide pedestrian-friendly streetscape amenities, including seating, trash cans and public art, at key nodes along major pedestrian corridors, such as Dixianne Avenue.

**1Avi-5** Provide bicycle racks and/or lockers at the transit station plaza and bus transfer center. Provide bicycle racks intermittently along designated bicycle routes in the City's Bicycle Master Plan.

**1Avi-6** Explore opportunities for artistic design of bicycle racks.



1Avi-1 Arden Way



## 1AVII SIGNAGE

**1Avii-1** Use public signage to announce entry into the Swanston station transit village by placing it at gateways at Evergreen Street and Arden Way and El Camino Avenue and at the beginning of the diagonal promenade at the intersection of Lexington Street and Dixieanne Avenue.

**1Avii-2** Employ public signage for vehicular, pedestrian and bicyclist wayfinding to the transit station and nearby destinations, such as Arden Fair Mall and Del Paso Boulevard.

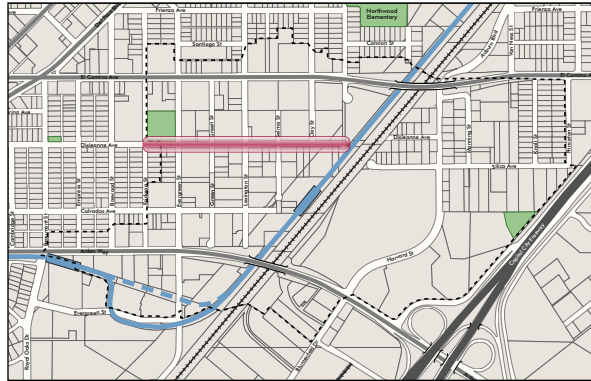
**1Avii-3** Coordinate colors, shapes and graphics of signage with the City's signage system.

**1Avii-4** Use signage to emphasize key locations, intersections and focal points, such as the pedestrian bridge and Dixieanne Park.



1Avi-6

1B STREET DESIGN - 1BI DIXIEANNE AVENUE

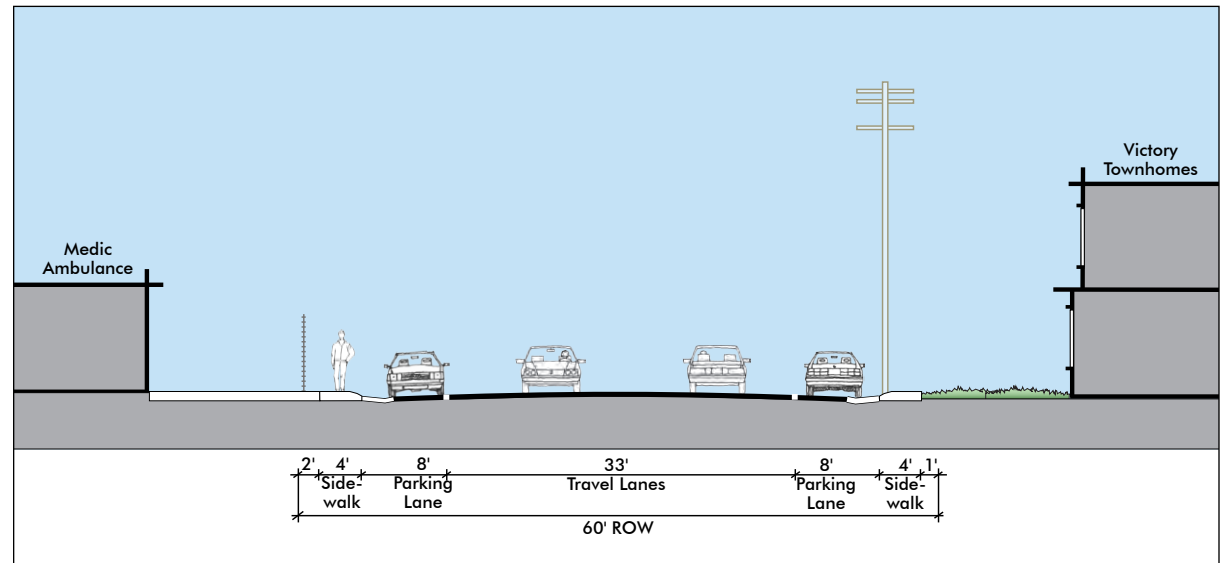


The guidelines in this section focus on Dixieanne Avenue between Erickson Street and the intersection with the tracks. If possible, the guidelines are recommended to be applied along Dixieanne Avenue westward until the intersection with Del Paso Boulevard despite it being outside of the study area covered by this plan.

Dixieanne Avenue is to become the “Main Street” of the neighborhood and is accorded a special design. Dixieanne Avenue is distinguished from any other street in the City of Sacramento by its design as a “green street” that attenuates and filters surface runoff with permeable paving and stormwater drainage planters. On-street parking, special paving and traffic-calming measures support Dixieanne Avenue as a safe and enjoyable main street for surrounding residents.



PHOTO



Existing Dixieanne Avenue section

1BI DIXIEANNE AVENUE CONT.

**Roadway**

**1Bi-1** Ensure minimum 30 feet wide roadway including two travel lanes and parking.

**1Bi-2** Allow seven feet wide on-street parking on either side of the street.

**1Bi-3** Provide a double row of trees by removing on-street parking spaces and replacing them with a bulbout and tree well to provide valuable shade for pedestrians.

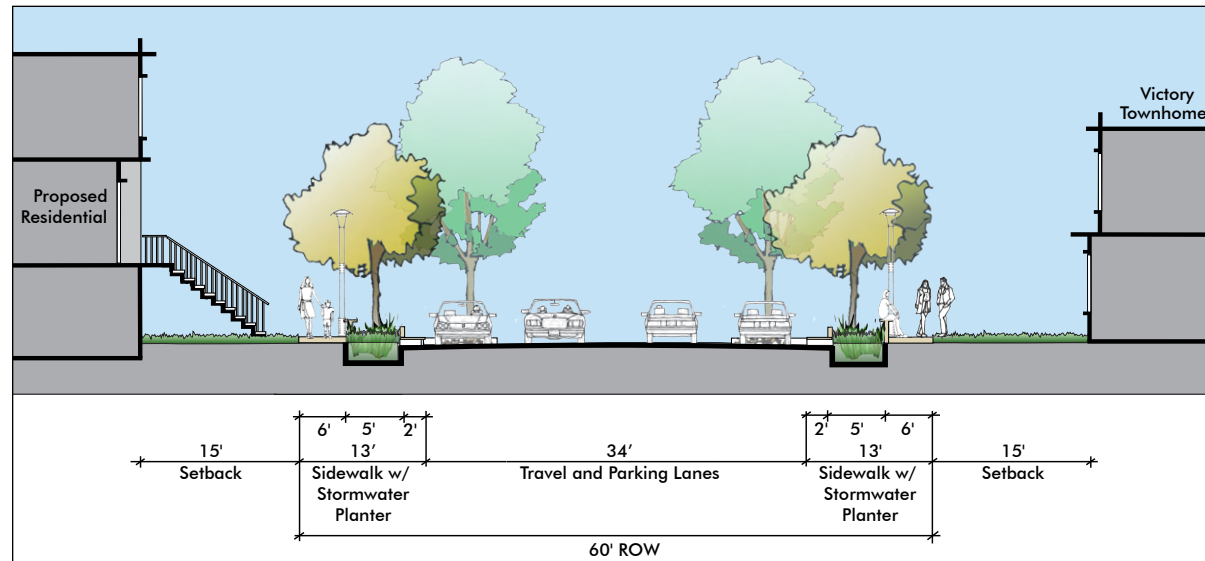
**1Bi-4** Provide special permeable paving along the parking lane and between bulbouts to lend identity to the street and reduce surface runoff.

**1Bi-5** Create two new landscaped traffic circles at Lexington and Evergreen streets to provide traffic-calming in the neighborhood.

**1Bi-6** Add crosswalks at the highly traveled intersections of Dixieanne Avenue at Lexington and Evergreen streets.



Examples of permeable pavers and stormwater planters



Proposed Dixieanne Avenue section

1BI DIXIEANNE AVENUE CONT.



*Native plantings*

***Pedestrian Realm***

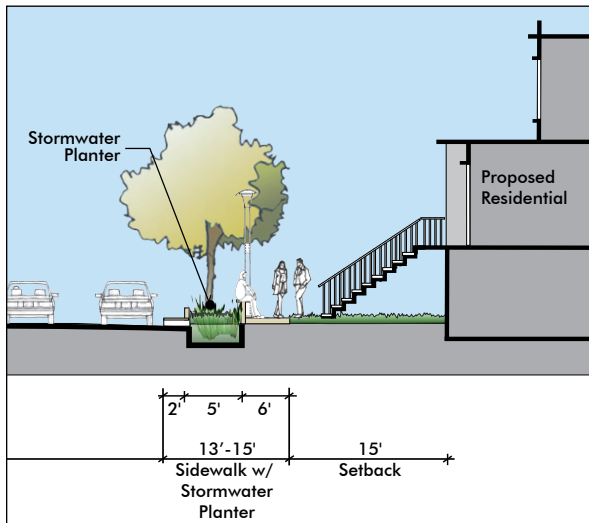
**1Bi-7** Create 15 feet wide sidewalks separated from the roadway by a stormwater drainage planter.

**1Bi-8** Ensure five feet wide sidewalks clear for pedestrian travel.

**1Bi-9** Provide a one and a half feet separation, included in the sidewalk width, from the stormwater drainage planter and the on-street parking space to allow room for car doors to open.

**1Bi-10** Plant native, sustainable trees and shrubs in the stormwater drainage planter.

**1Bi-11** Provide streetscape amenities such as pedestrian-scaled lighting. Explore providing benches at key nodes along the length of the street.



*Stormwater planter*



*Separation between parking space and stormwater planter*

1BI DIXIEANNE AVENUE CONT.

**Public-Private Interface**

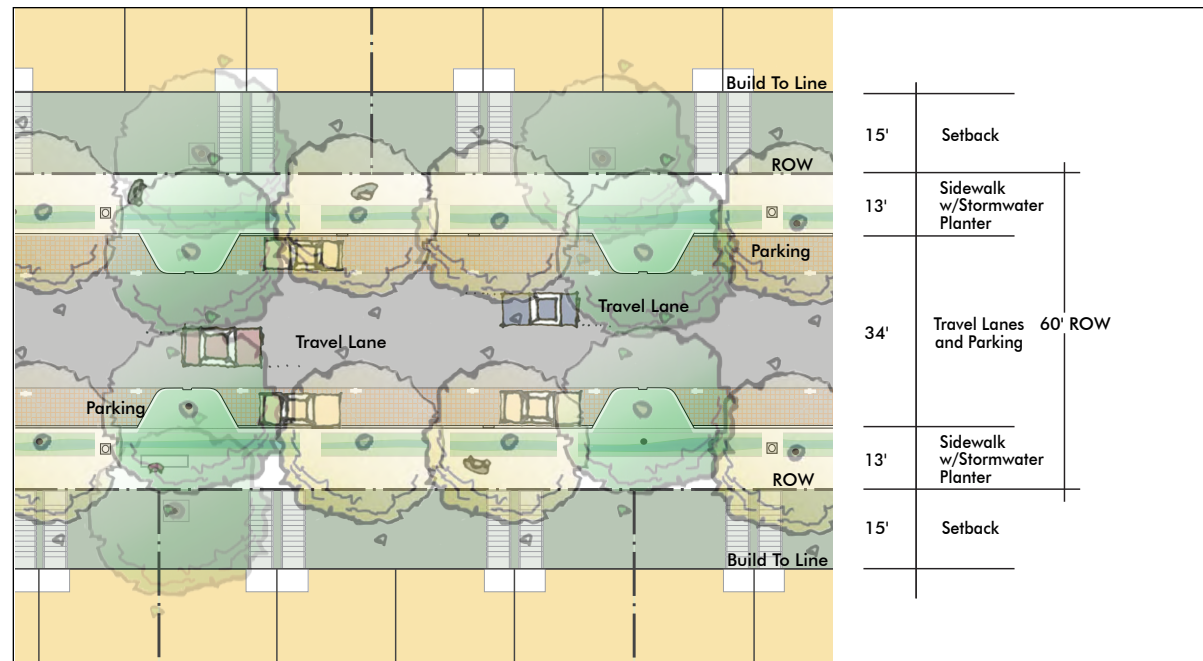
**1Bi-12** Provide 15 feet setbacks on either side of Dixieanne Avenue to provide privacy for adjacent residential development.

**1Bi-13** Encourage the planting of tree within the setback to provide additional shade and enclosure to pedestrians.

**1Bi-14** Articulate property edges with fences and landscaping. Ensure they are no more than three feet high.

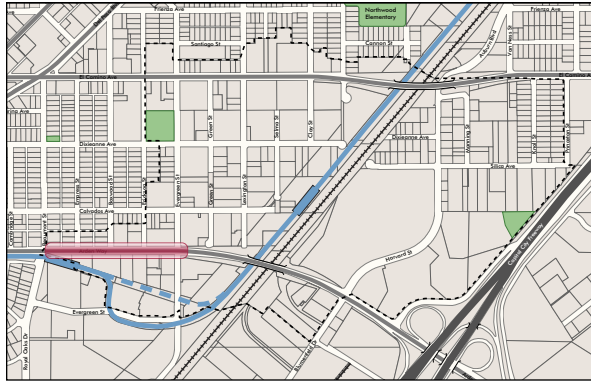


*Stormwater planter in a bulbout in Portland, OR*



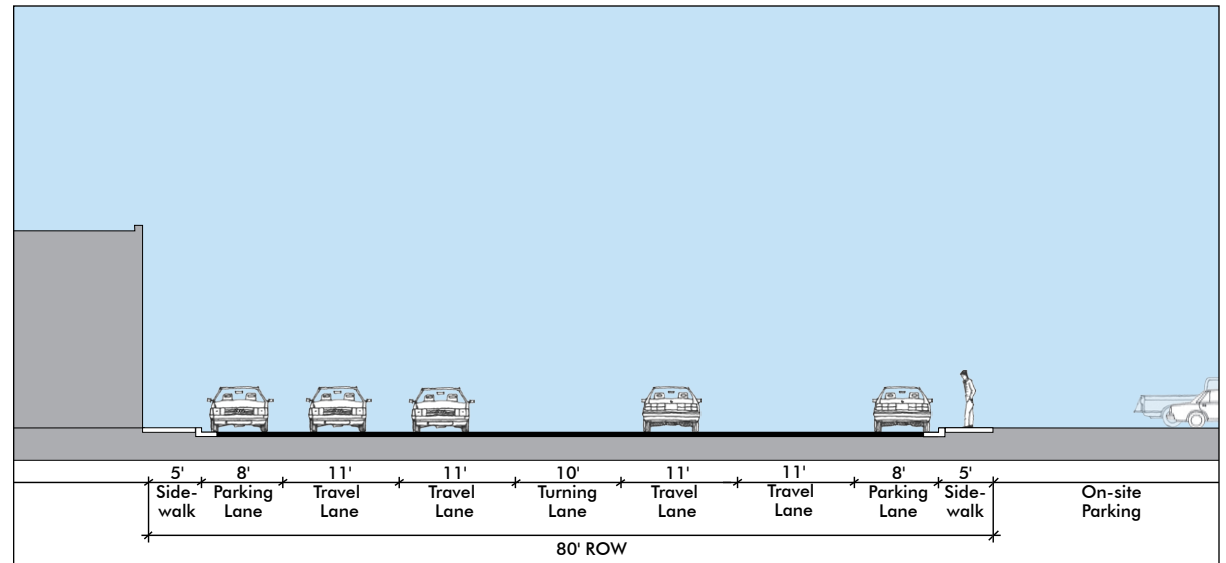
*Proposed Dixieanne Avenue plan*

1BII ARDEN WAY



The guidelines in this section focus on Arden Way between the Royal Oaks light rail station and Harvard Street. Arden Way is a key vehicular connection in North Sacramento, which currently provides a poor pedestrian environment with narrow sidewalks, few street trees, and barriers in the form of light rail tracks and fences.

Arden Way is envisioned as a redesigned arterial that better provides for pedestrians along its length. With an improved streetscape, new residential uses are expected to be infilled in currently vacant and underutilized parcels.



Existing Arden Way section

1BII ARDEN WAY CONT.

**Roadway**

**1Bii-1** Create a boulevard between Royal Oaks Drive and Evergreen Street with two 12 feet wide travel lanes in either direction.

**1Bii-2** Explore the creation of eight feet wide on-street parking provided a pedestrian easement is achieved from adjacent property owners to ensure pedestrian realm improvements.

**1Bii-3** Provide a 10 feet wide central tree-lined median that becomes a turn pocket at key intersections.

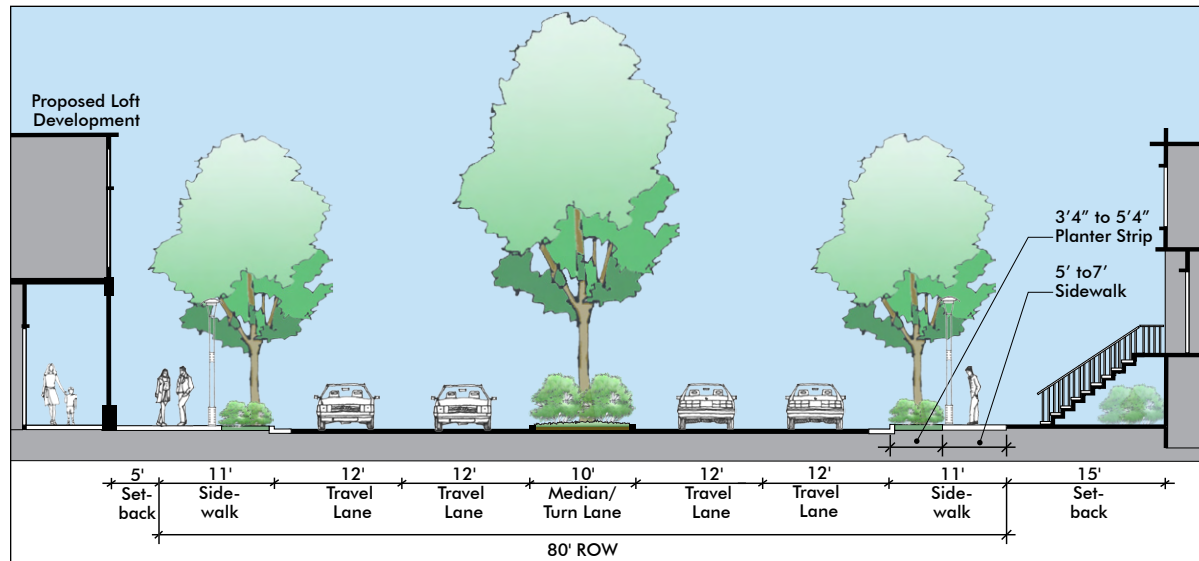
**1Bii-4** Create left hand turn pockets at Beaumont Street/ Royal Oaks Drive, Boxwood Street, and Evergreen Street to allow significant tree planting within median.

**1Bii-5** Maintain and strengthen crosswalks at Beaumont Street/Royal Oaks Drive, Boxwood Street, Evergreen Street, and Harvard Street. Provide 10 feet wide crosswalks to link the transit village with development south of Arden Way.

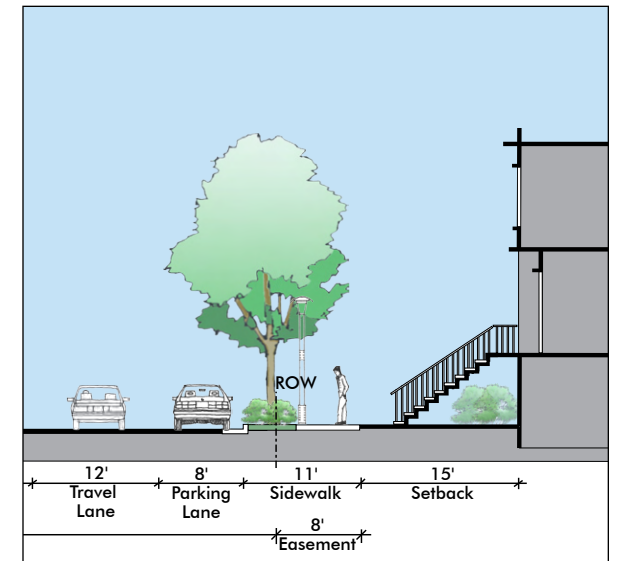
**1Bii-6** Add a signalized intersection at Boxwood Street to better handle traffic and pedestrian volumes.



*Mature trees in arterial median in Berkeley, CA*



*Proposed Arden Way section*



*Proposed Arden Way section with pedestrian easement*

1BII ARDEN WAY CONT.



Proposed median/turning lane

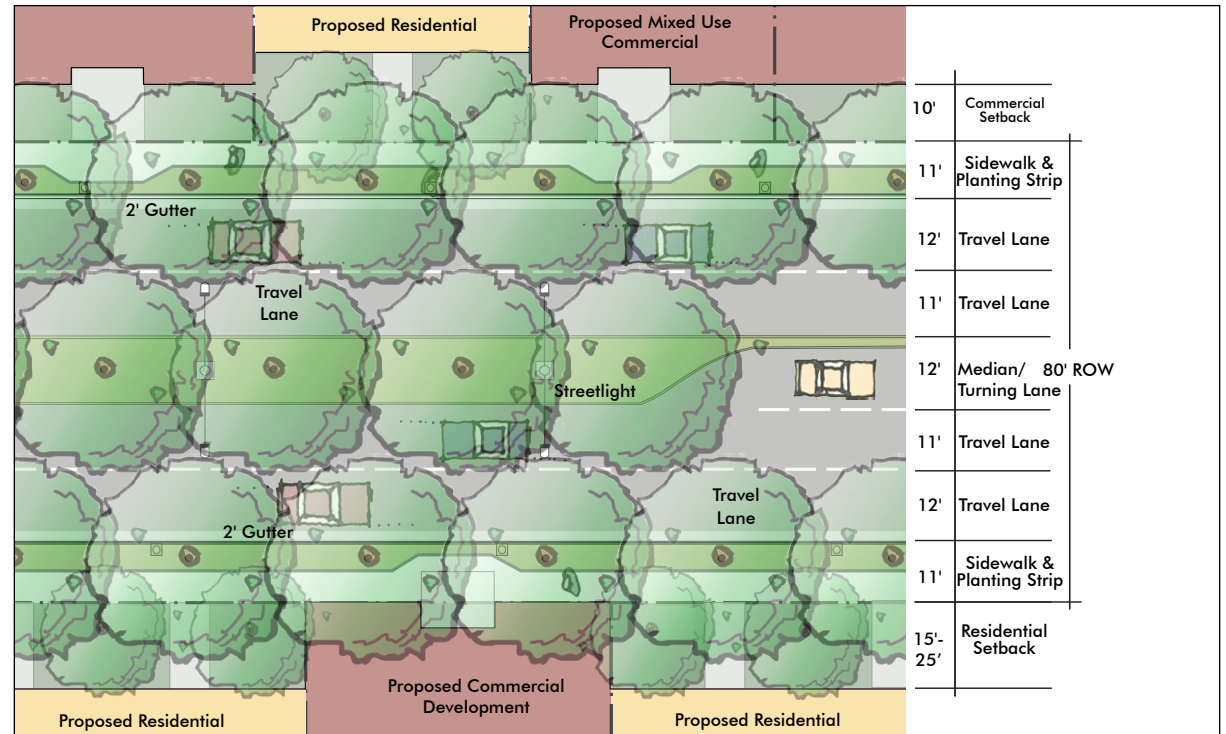
**Pedestrian Realm**

**1Bii-7** Ensure minimum 5 feet wide sidewalks clear for ADA access along both sides of the street.

**1Bii-8** Create a six feet wide planting strip (including curb) along the sidewalks to provide a tree-lined buffer between the pedestrian realm and fast-moving traffic. The planting strip may decrease to four feet (including curb) to accommodate wider sidewalks at key locations.

**1Bii-9** Explore the use of dedicated pedestrian easements to provide on-street parking and bus loading zones. An eight feet wide pedestrian easement could accommodate a parallel parking lane and a 10 feet wide easement could accommodate a bus stop loading zone.

**1Bii-10** Explore adding sidewalk improvements to the overpass, such as wider sidewalks, landscaping, etc.



Proposed Arden Way plan view



1BII ARDEN WAY CONT.

**Public-Private Interface**

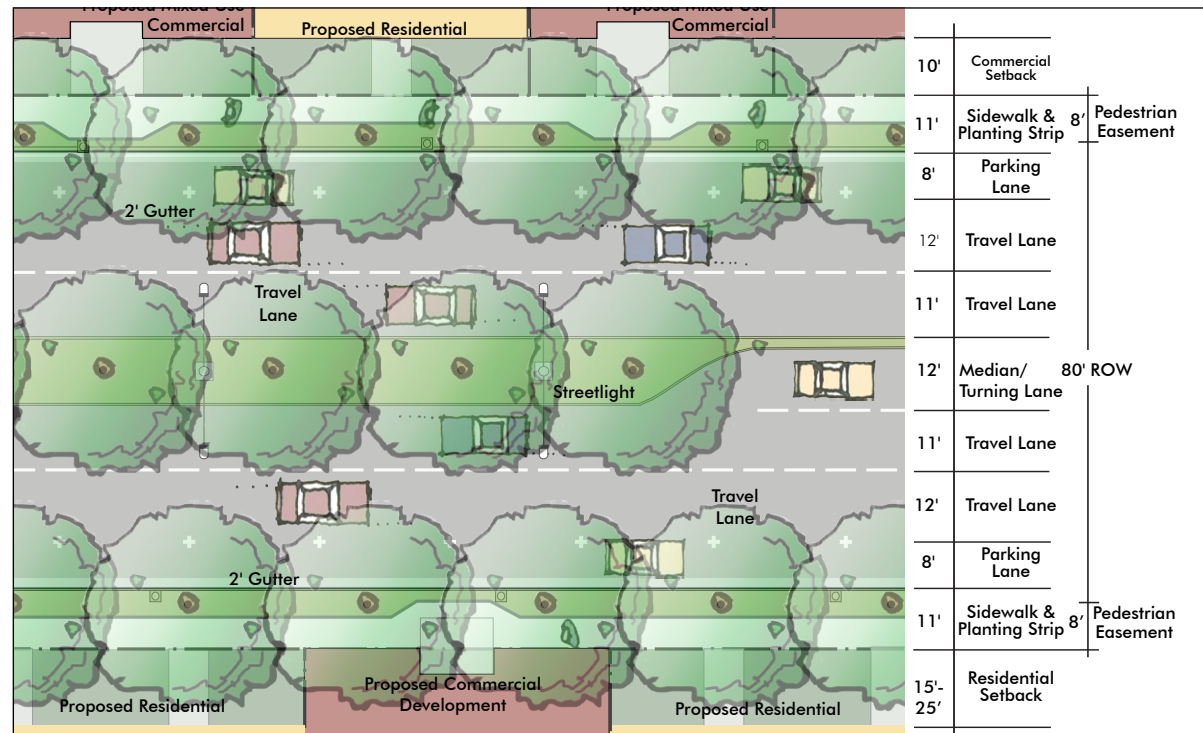
**1Bii-11** Provide setbacks along both sides of the street. Allow five to 10 feet setbacks for commercial uses and 15 to 25 feet setbacks for residential uses.

**1Bii-12** Where possible, encourage trees within the setbacks to provide additional shade and enclosure to pedestrians.

**1Biii-13** Encourage outdoor seating and spill-out uses from ground floor retail within setbacks.

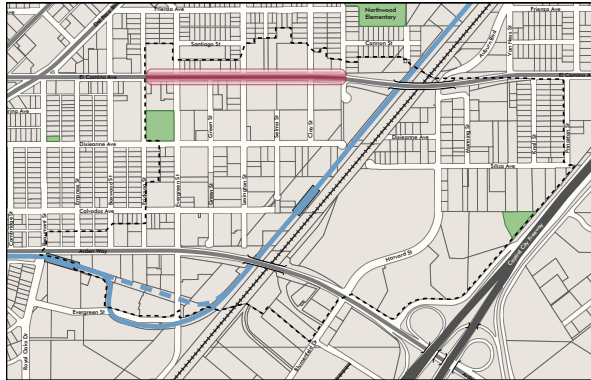


*Outdoor seating along sidewalk*



*Proposed Arden Way plan view with pedestrian easement*

1BIII EL CAMINO AVENUE

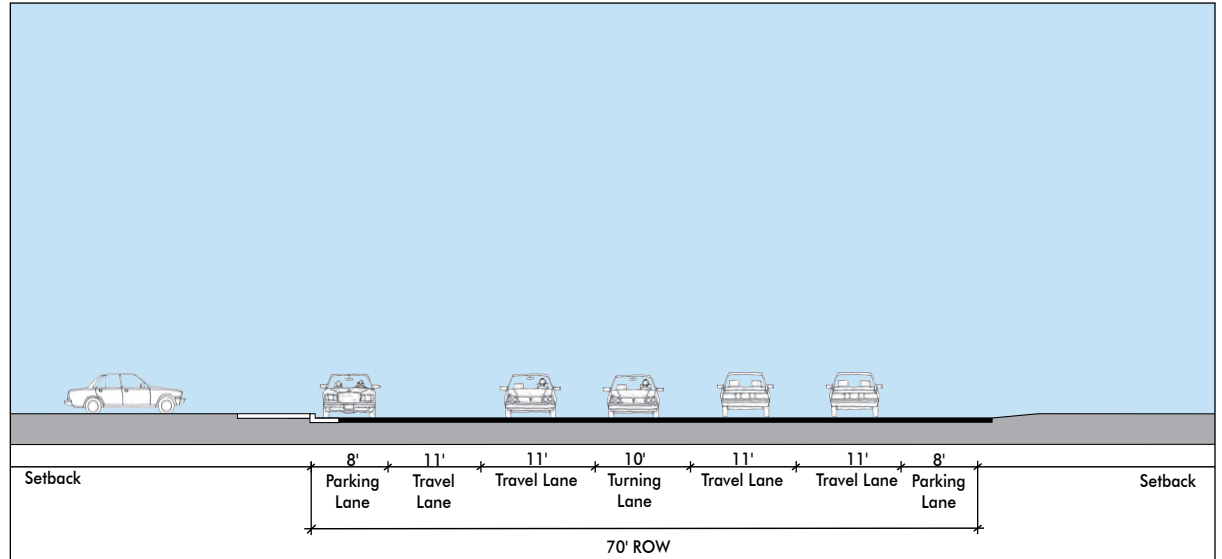


These guidelines are relevant to El Camino Avenue between Erickson Street and Knoll Street. El Camino Avenue is a major arterial in the area and serves as a strong connection to Del Paso Boulevard, the commercial Main Street of North Sacramento. El Camino Avenue is currently a wide, auto-dominated arterial lined by RV sales lots, strip centers, and vacant land. Sidewalks are narrow and often non-existent and the overpass is hazardous for pedestrians and bicyclists.

El Camino Avenue is envisioned as a tree-lined boulevard that provides a safe and comfortable environment for pedestrians and bicyclists. Mixed-use and residential uses are appropriate along its length, with parking set behind buildings to enhance street definition and the pedestrian environment.



Current character of El Camino Avenue



Existing El Camino Avenue section

1BIII EL CAMINO AVENUE CONT.

**Roadway**

**1Biii-1** Maintain two 11 feet wide travel lanes in either direction, and a 10 feet wide turn lane near intersections.

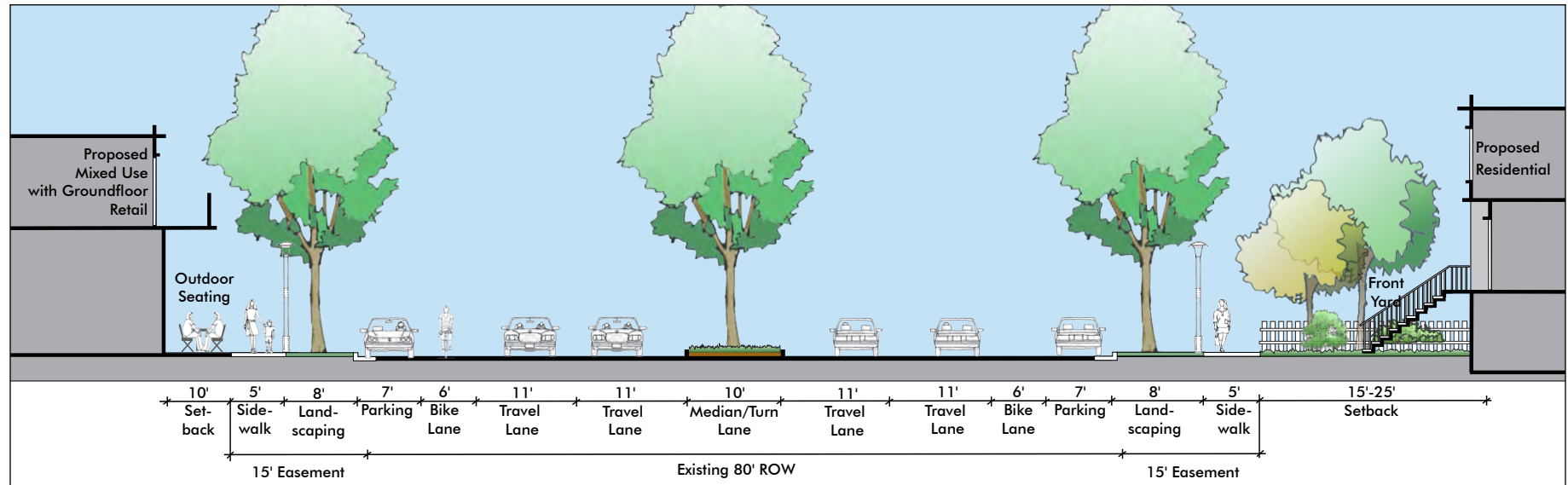
**1Biii-2** Provide six feet wide Class II bike lanes in either direction in keeping with the City of Sacramento Bicycle Master Plan.

**1Biii-3** Provide seven feet wide on-street parking lanes.

**1Biii-4** Require 15 feet easements beyond the existing right-of-way to allow for on-street parking, dedicated bicycle lanes, and pedestrian realm improvements.

**1Biii-5** Create strong crosswalk connections at Evergreen, Lexington, Clay and Van Ness streets. Provide 10 feet wide crosswalks to link the transit village with development north of El Camino Avenue.

**1Biii-6** Provide a signalized intersection at Lexington Street and El Camino Avenue.



*Proposed El Camino Avenue section*

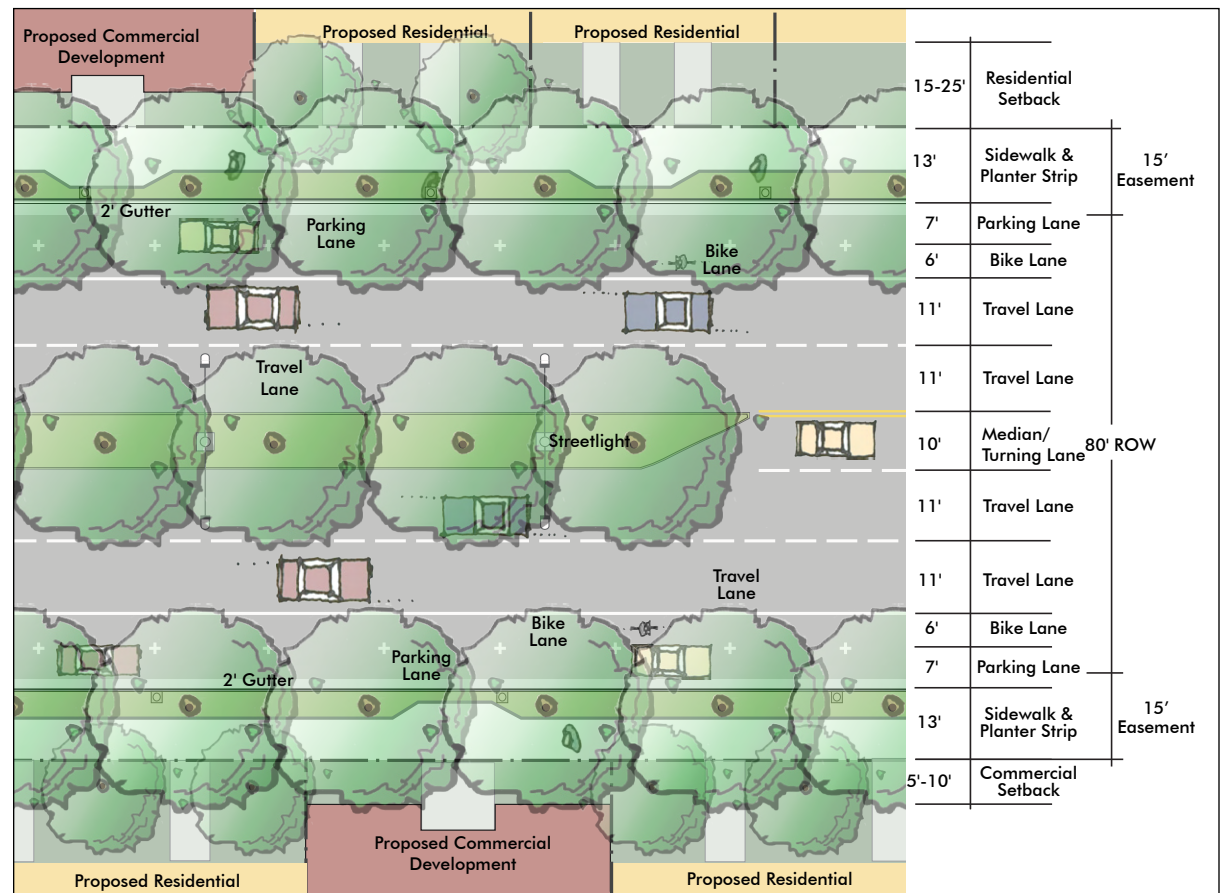
1BIII EL CAMINO AVENUE CONT.

*Pedestrian Realm*

**1Biii-7** Ensure minimum five feet wide sidewalks on either side of El Camino Avenue.

**1Biii-8** Create a eight feet wide planting strip along the sidewalks to provide a tree-lined buffer between the pedestrian realm and the roadway.

**1Biii-9** Require 50 feet easements to accommodate pedestrian realm and streetscape improvements.



*Proposed El Camino Avenue plan*

1BIII EL CAMINO AVENUE CONT.

*Public-Private Interface*

**1Biii-10** Provide setbacks along both sides of the street. Allow five to 10 feet setbacks for ground floor commercial uses and 15 to 25 feet for residential use.

**1Biii-11** Encourage outdoor seating and spill-out uses from ground floor retail within setbacks.

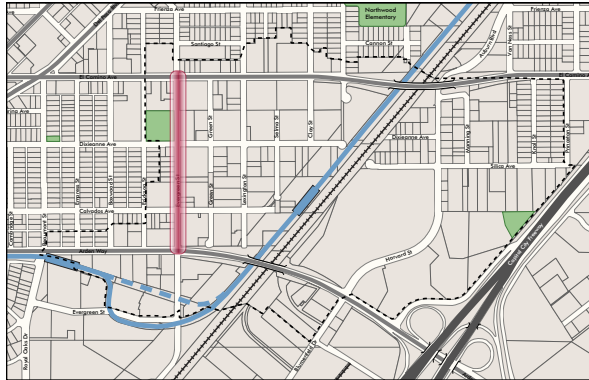
**1Biii-12** Allow porches, stoops, etc. within the front setback for residential uses.

**1Biii-13** Encourage the planting of trees and landscaping with the front setbacks of residential uses to provide additional shade and amenities to pedestrians.



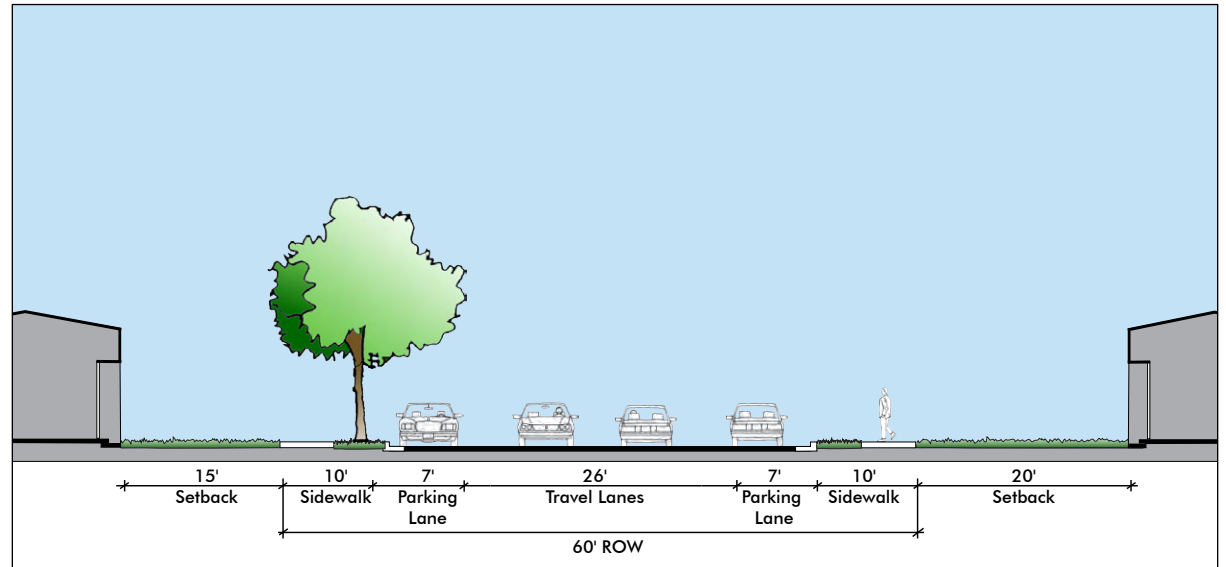
*Pedestrian-friendly arterial*

1BIV EVERGREEN STREET



Evergreen Street serves as the primary collector on the west side of the tracks. It is currently configured with sidewalks and gutters; improvements to the street should focus on building off of the existing infrastructure.

Evergreen Street is envisioned as the gateway street to the transit village with entry nodes around the intersections with Arden Way and El Camino Avenue. To the south of Arden Way, improvements should be made to Evergreen Street's pedestrian and bicycle environment as it serves as a key connector to Woodlake Elementary School.



*Existing Evergreen Street section*

1BIV EVERGREEN STREET CONT.

**Roadway**

**1Biv-1** Maintain the existing configuration of the roadway with one travel lane and one parking lane on each side of the street.

**1Biv-2** Create mid-block crosswalks to provide safe pedestrian connections and increase walkability. Where possible, align mid-block crossings with greenways and mews that provide pedestrian connections through blocks.

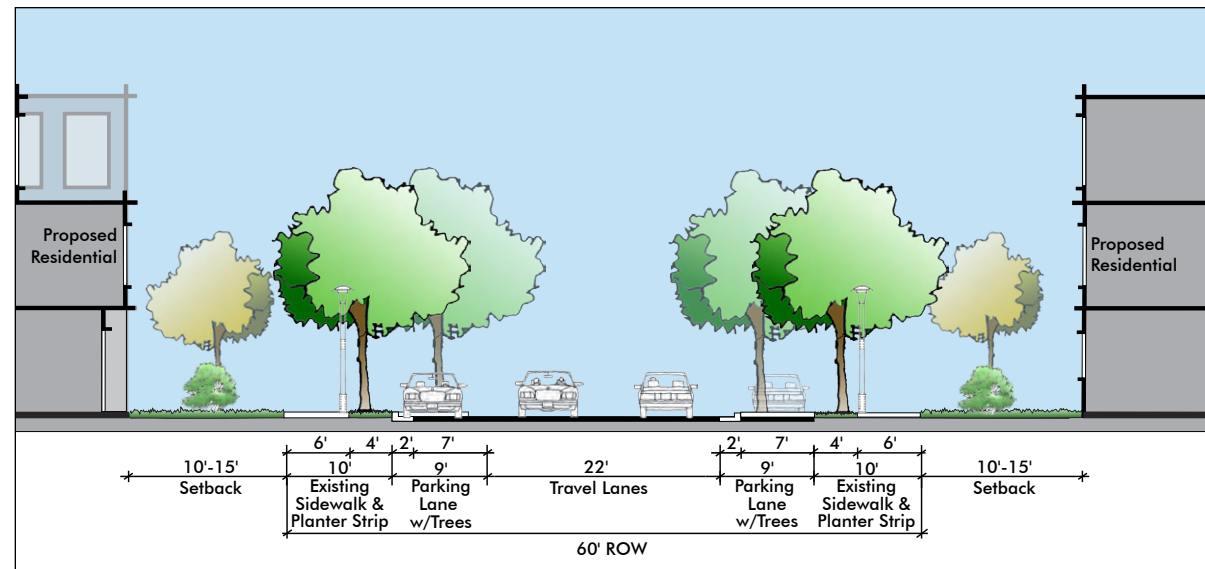
**1Biv-3** Provide traffic circles at intersections with Dixieanne and Calvados avenues to slow traffic and create a safer pedestrian environment.

**Pedestrian Realm**

**1Biv-4** Maintain the existing sidewalk, curb and gutter configuration. Ensure minimum six feet wide sidewalks and maintain the four feet wide planter strips on either side of the street.

**1Biv-5** Plant a continuous row of trees on the existing planting strip and add new tree wells as necessary where the planting strip does not exist.

**1Biv-6** Provide pedestrian-scaled street lights along sidewalks.



*Proposed Evergreen Street section*

1BIV EVERGREEN STREET CONT.



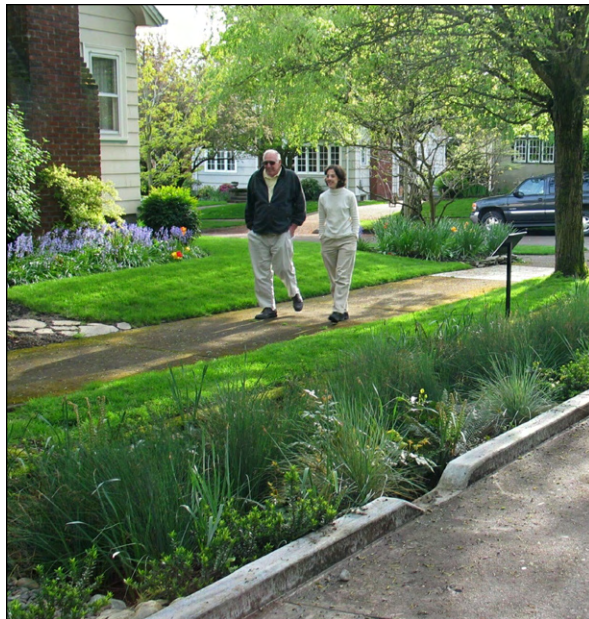
*Bulbouts and narrowed lanes*

**1Biv-7** Provide bulbouts at key locations, particularly at mid-blocks, by removing parking spaces. Provide crosswalks at bulbouts to minimize crossing distances for pedestrians.

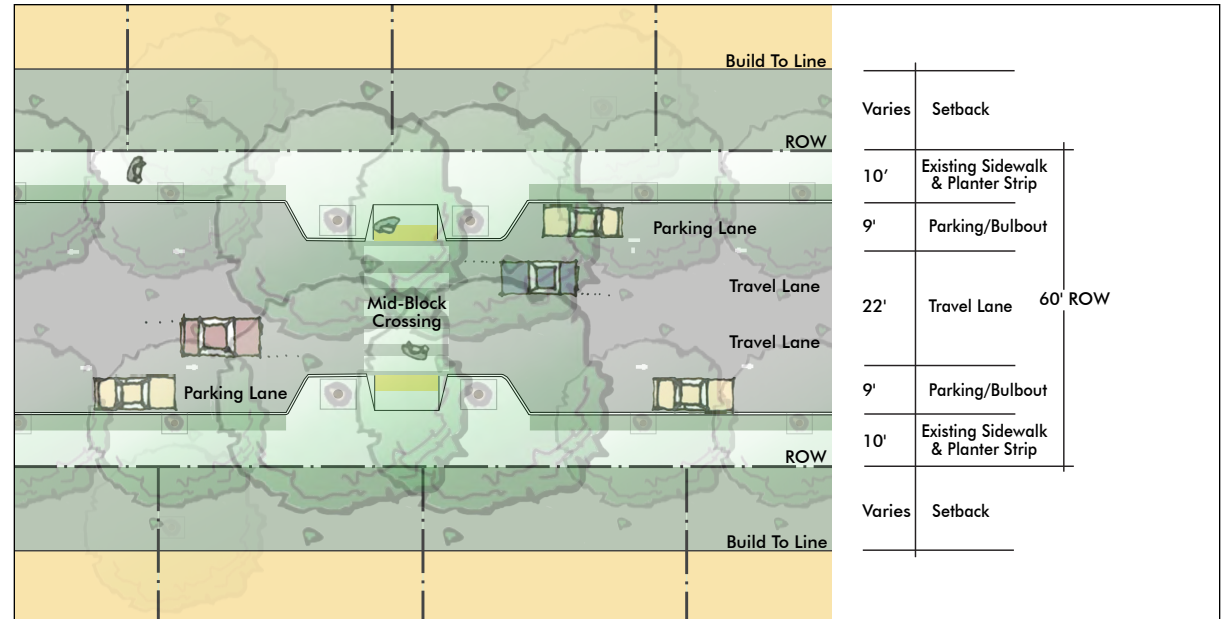
**1Biv-8** Plant trees and landscaping at bulbouts to create distinctive markers. Design bulbouts to minimize recon-

figuration of the existing roadway infrastructure, including sidewalks, curbs and gutters.

**1Biv-9** Where possible, increase planting strip area around trees.



*Special landscaping treatment on bulbouts*



*Proposed Evergreen Street plan*



1BIV EVERGREEN STREET CONT.

*Public-Private Interface*

**1Biv-10** Provide minimum 10 feet side setbacks for buildings that are oriented north-south.

**1Biv-11** Provide 15 feet front setbacks for buildings that are oriented east-west.

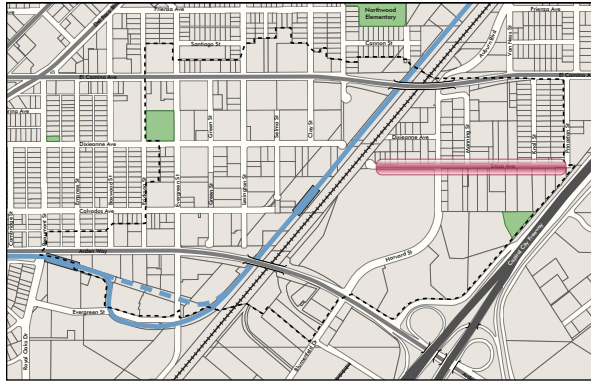
**1Biv-12** Encourage trees within side and front setbacks to provide additional shade and enclosure to pedestrians.

**1Biv-13** Encourage buildings to address both streets on which they front to enhance the pedestrian environment.



*Building setbacks with small front gardens*

1BV SILICA AVENUE



The focus of these guidelines is on Silica Avenue between the tracks to the west and Princeton Street to the east. It is currently lined with industrial uses and is trafficked by many trucks that serve the adjacent buildings.

Due to the number of viable existing industrial uses along Silica Avenue, incremental change is expected. The industrial uses will continue to be served by truck traffic and driveway curb cuts; as a result, public realm improvements will be made as lots are developed. Silica Avenue is envisioned as a “Main Street” east of the tracks with an industrial, edgy character, a mix of uses and a comfortable pedestrian environment.

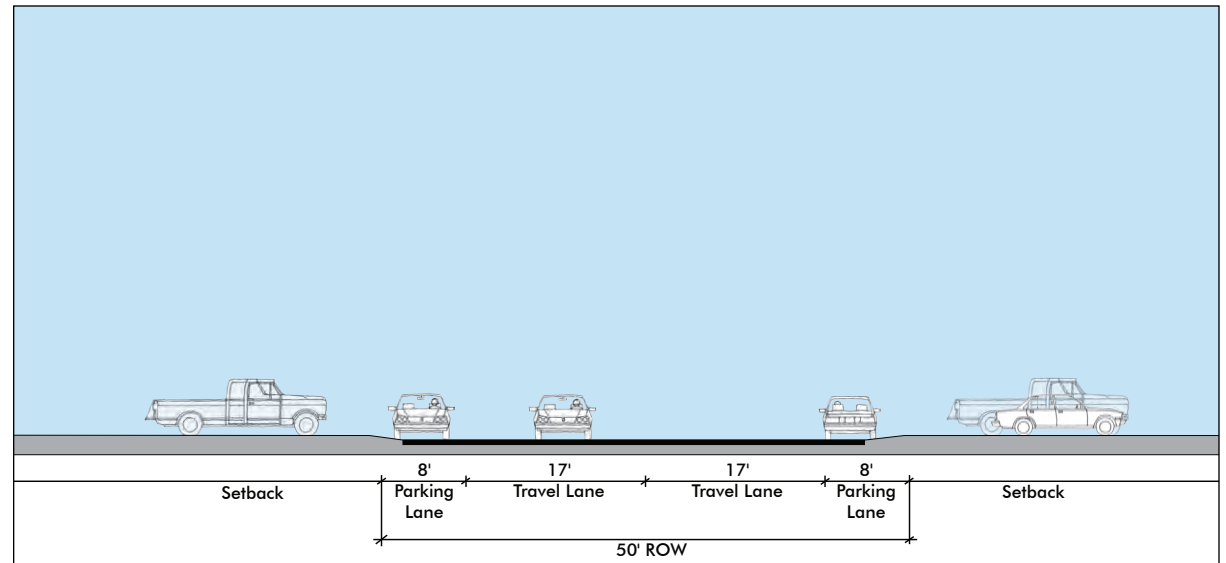
**Roadway**

**1Bv-1** Create 12 feet wide travel lanes, one in either direction, that can accommodate vehicle and truck traffic.

**1Bv-2** Provide eight feet wide parking lanes on either side of the street.

**1Bv-3** Where possible, remove parking spaces to add tree wells to provide shade for pedestrians.

**1Bv-4** Add minimum 10 feet wide crosswalks at the intersection of Harvard Street and Silica Avenue.



*Existing Silica Avenue section*

1BV SILICA AVENUE CONT.

**Pedestrian Realm**

**1Bv-5** Create minimum five feet wide sidewalks on either side of the street.

**1Bv-6** Include pedestrian-scaled lighting along the street to enhance safety and the pedestrian experience.

**1Bv-7** Explore the use of dedicated pedestrian easements to provide wider sidewalks and planting strips as it transitions into a more non-industrial street.

**Public-Private Interface**

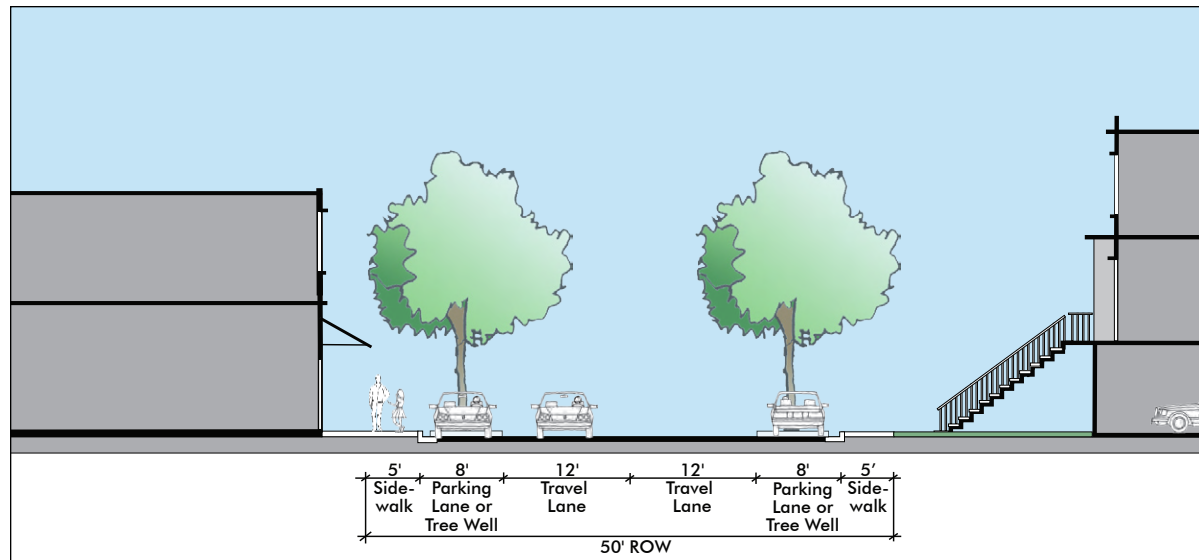
**1Bv-8** Encourage the primary façade of buildings to front onto Silica Avenue to provide “eyes of streets”.

**1Bv-9** Allow 15 feet setbacks for residential uses. Allow five to 10 feet setbacks for live-work and mixed-use buildings.

**1Bv-10** Include building articulation, such as colonnades, porticos, porches, stoops, etc, within front setbacks.

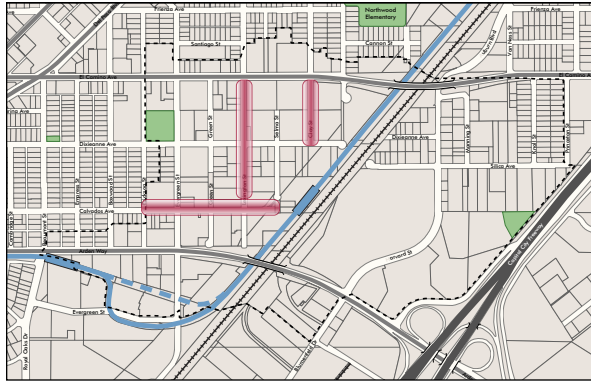


*Comparable example to Silica Avenue*



*Proposed Silica Avenue section*

1BVI LOCAL RESIDENTIAL STREETS - 60 FEET ROW



The area around the Swanston station is laid out on a grid pattern composed of neighborhood local streets that connect the area with neighborhoods to the north and west. They primarily serve local traffic, though in many instances they are only paper streets and dead-end at vacant lots. The local streets have few pedestrian amenities, such as continuous sidewalks or trees to provide shade.

The neighborhood local streets will contribute to the pedestrian and bicycle environment by providing tree-shaded, traffic-calmed streets.

**Roadway**

**1Bvi-1** Maintain existing configuration of the roadway with one travel lane in either direction and parking lanes on each side of the road.

**1Bvi-2** Improve paper streets, including Lexington and Selma streets, to break up large blocks and improve connectivity and walkability.

**1Bvi-3** Provide bulbouts at key locations, especially at mid-blocks, by removing a parking space.

**1Bvi-4** Create mid-block crosswalks at bulbouts to create safer pedestrian connections.

1BVI LOCAL RESIDENTIAL STREETS - 60 FEET ROW CONT.

**Pedestrian Realm**

**1Bvi-5** Create minimum five feet wide sidewalks on both sides of the street.

**1Bvi-6** Provide 6 feet 6 inch wide planter strips (including curb) along the sidewalks for trees and landscaping.

**1Bvi-7** Plant trees at the bulbouts to create distinctive markers. Design bulbouts to minimize reconfiguration of existing roadway infrastructure, including sidewalks, curbs and gutters.

**1Bvi-8** Provide Class III bicycle route signage along streets designated as such by the Bicycle Master Plan.

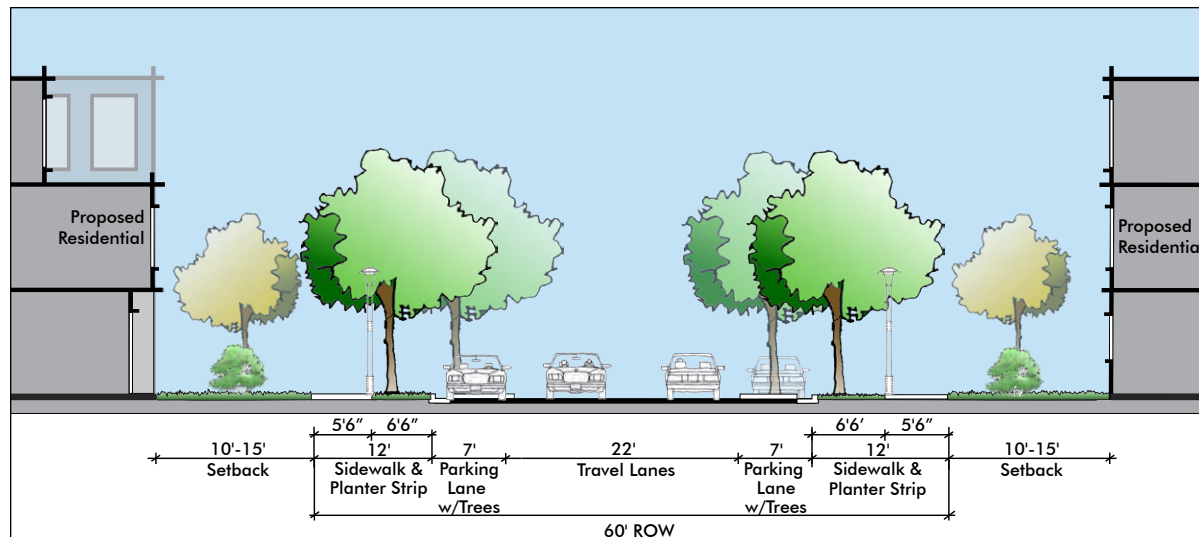
**Public-Private Interface**

**1Bvi-9** Provide 15 feet front residential setbacks for buildings that front onto neighborhood local streets.

**1Bvi-10** Provide minimum ten feet side setbacks for north-south oriented residential units along neighborhood local streets.

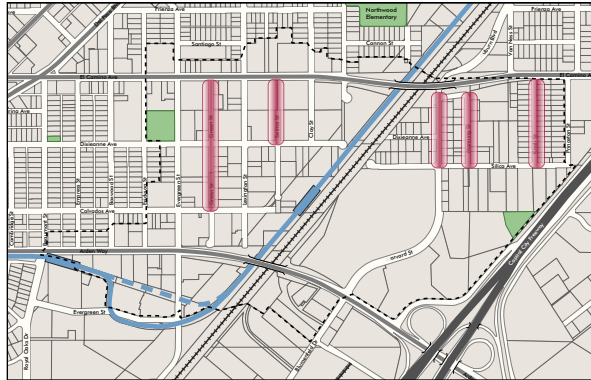


*Residential street with parking on both sides*



*Proposed neighborhood local street section*

1BVII LOCAL RESIDENTIAL STREETS - 50 FEET ROW CONT.



The local residential streets alternate between 60 and 50 feet rights-of-way. The existing 50 feet wide streets are similar to the 60 feet streets with poor pedestrian amenities substandard infrastructure.

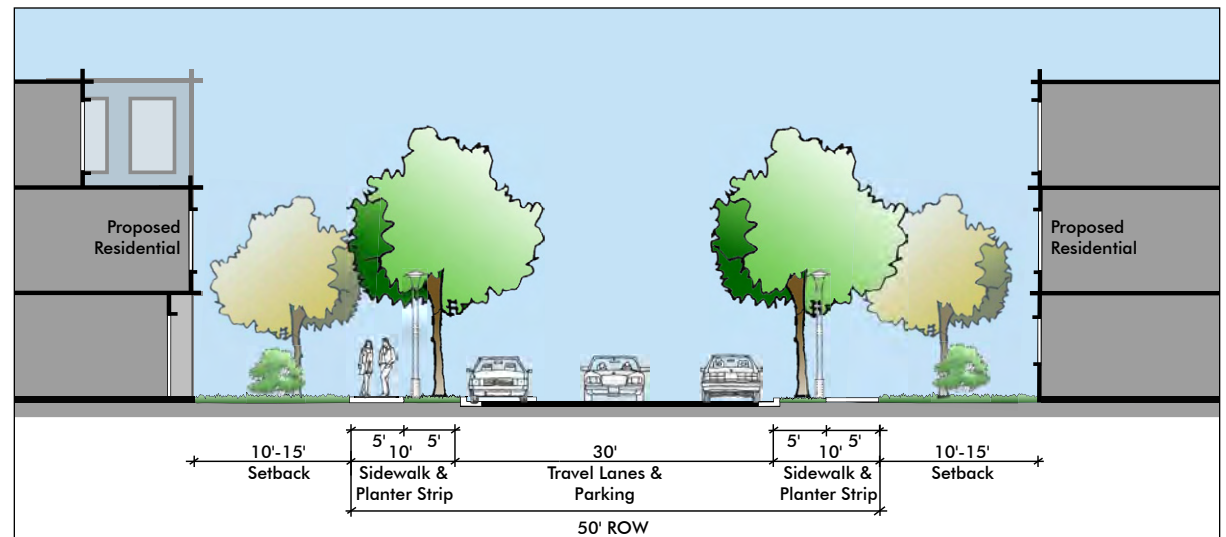
The 50 feet wide streets are envisioned as supporting the circulation network with a strong pedestrian realm and improved infrastructure.

**Roadway**

**1Bvii-1** Allow minimum 30 feet wide roadway including two travel lanes and parking.

**1Bvii-2** Explore five feet wide pedestrian easements to accommodate roadway, sidewalk and planter strip dimensions that meet the City of Sacramento Pedestrian-Friendly Street Standards. Reference design guidelines for Local Residential Streets - 60 Feet ROW for dimensions.

**1Bvii-3** Explore providing an eight feet parking lane on one side of the street to accommodate pedestrian improvements.



*Proposed neighborhood local street section that does not meet City standards*

1BVII LOCAL RESIDENTIAL STREETS - 50 FEET ROW CONT.

**Pedestrian Realm**

**1Bvii-4** Create minimum five feet wide sidewalks on both sides of the street.

**1Bvii-5** Provide 6 feet 6 inch wide planter strips (including curb) along the sidewalks for trees and landscaping.

**1Bvii-6** Prioritize minimum five feet wide sidewalks on both sides of the street over planter strips. Provide trees in bulbouts and within private front setbacks.

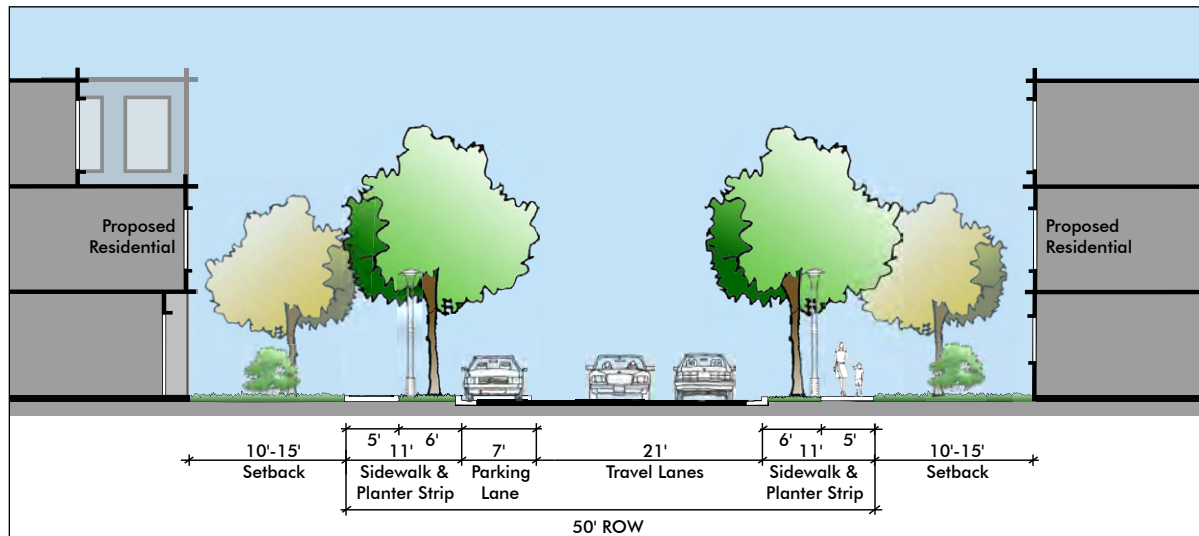
**Public-Private Interface**

**1Bvii-7** Provide 15 feet front residential setbacks for buildings that front onto neighborhood local streets.

**1Bvii-8** Provide minimum ten feet side setbacks for north-south oriented residential units along neighborhood local streets.

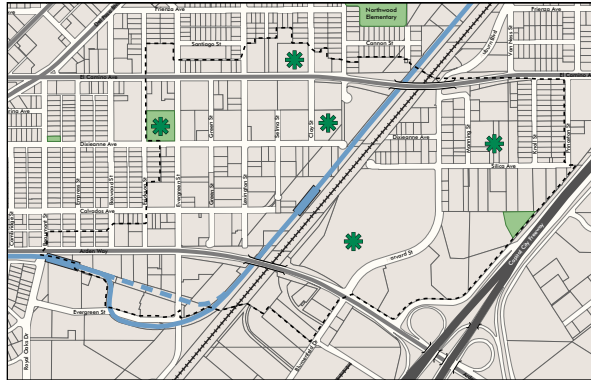


*Narrow street with parking on one side*



*Proposed neighborhood local street section with parking on one side*

1C OPEN SPACES - 1CI NEIGHBORHOOD PARKS



Dixianne Park is the only neighborhood park in the station area. It is currently under renovation and when complete will have a variety of open space features to serve local residents.

The new neighborhood parks that are proposed are envisioned as becoming neighborhood focal points and gathering spaces. They will provide needed recreational space and will be significant amenities for new and existing residents.

*Size and Distribution*

**1Ci-1** Provide neighborhood parks of approximately 2 acres evenly distributed through the area, such that one is within 1/4-mile walking distance of every resident and commercial user in the area.

**1Ci-2** Ensure a minimum of 2.5 acres of park space per 1000 people is provided.



*Proposed neighborhood park east of the tracks*



*Dixianne Park currently under renovation*



1CI NEIGHBORHOOD PARKS CONT.

**Amenities**

**1Ci-3** Include a variety of programmed space within neighborhood parks, including open fields, children’s play areas, ball fields, basketball and tennis courts, etc.

**1Ci-4** Ensure trees are planted within neighborhood parks to provide needed shade. Avoid planting trees with low canopy clearance so as to not block lines of sight.

**1Ci-5** Provide amenities such as seating, tables, water fountains, shade structures, etc for park users.

**1Ci-6** Ensure sufficient lighting throughout the parks and especially along pathways for additional safety.

**Public-Private Interface**

**1Ci-7** Allow 15 feet front residential setbacks along neighborhood parks to activate and frame the space and provide additional safety.

**1Ci-8** Ensure fences within private lots are no higher than three feet high to provide a meaningful connection between residents and park users.



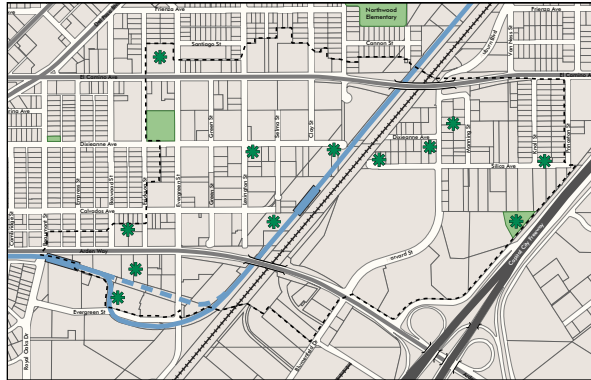
*Example of a neighborhood park in San Jose, CA*

77



*Example of a neighborhood park in Hercules, CA*

1CII POCKET PARKS



The Dixianne tot-lot just outside the station area boundary is currently the only pocket park in the area. It is a well-used park by children, youth and local residents.

A wide distribution of pocket parks are envisioned to provide more intimate open spaces. They serve daily open space needs and provide visual relief and buffers between development.

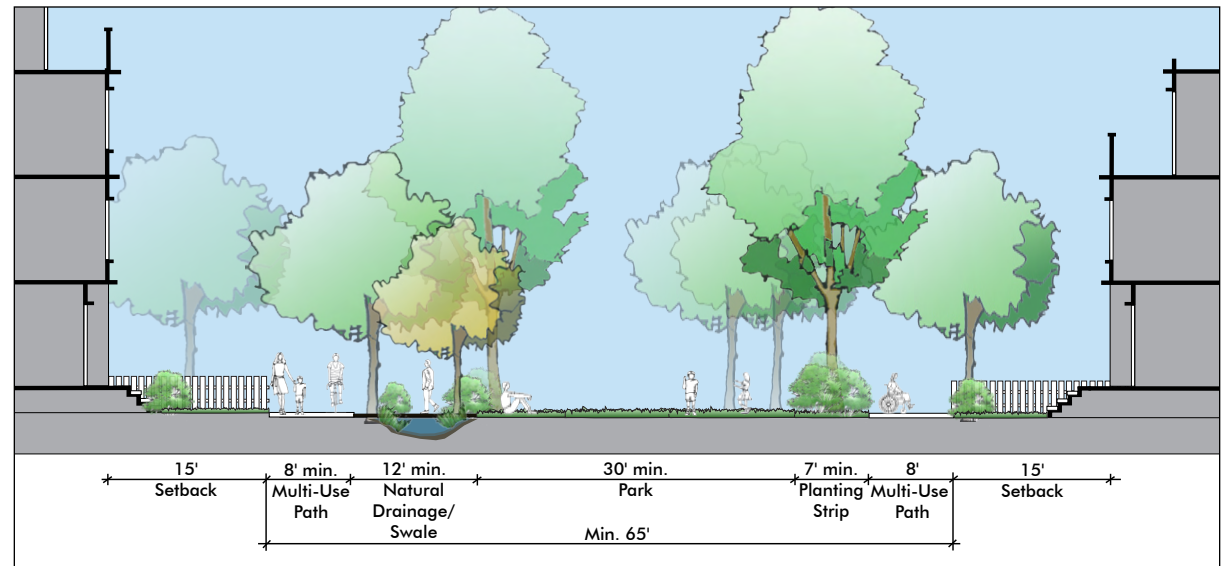
*Size and Distribution*

**1Cii-1** Ensure pocket parks are no less than 60 feet wide to provide adequate space for users.

**1Cii-2** Distribute pocket parks and greenways to be within 1/8-mile walking distance from all residents and commercial users.

**1Cii-3** Improve existing pocket parks, such as the park behind Hilton Hotel, and improve access to such parks.

**1Cii-4** Create a pocket park that serves as a bookend to the “Main Street” and to the transit promenade by closing traffic off of Dixianne Avenue at Clay Street.



*Proposed pocket park section*

1CII POCKET PARKS CONT.

**Amenities**

**1Cii-5** Program each pocket park with play equipment areas, gathering space, and multi-use play areas.

**1Cii-6** Ensure provision of minimum five feet wide pathways for ADA access through pocket parks.

**1Cii-7** Ensure the provision of adequate lighting and trees within pocket parks.

**1Cii-8** Encourage the design and use of natural drainage bioswales in pocket parks as a way to filter surface run-off.

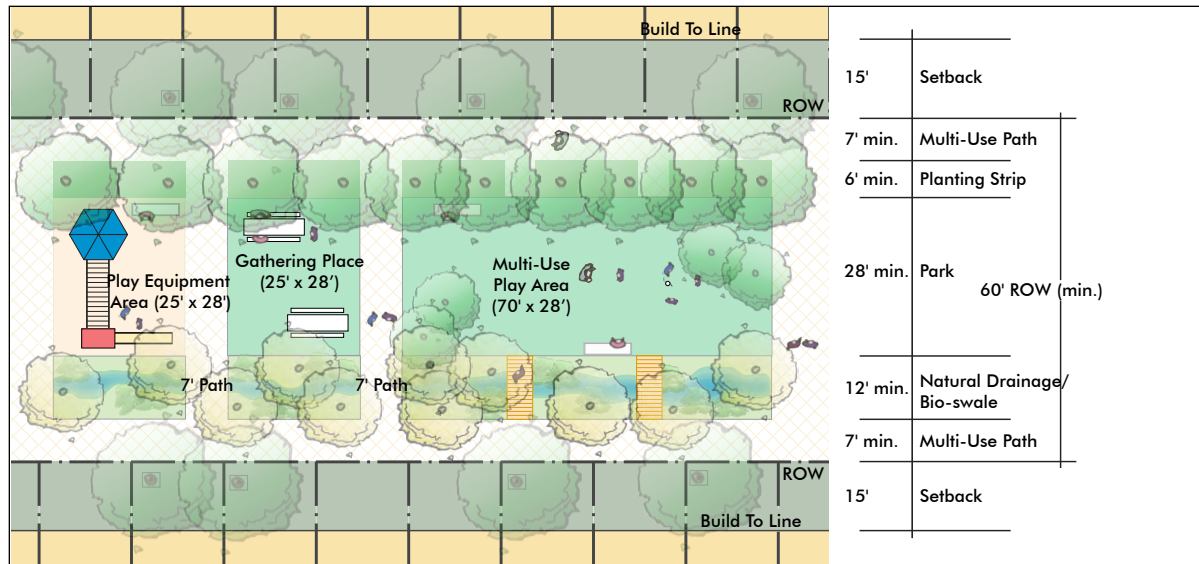
**Public-Private Interface**

**1Cii-9** Allow 15 feet front residential setbacks on pocket parks to activate and frame the open space and provide additional safety.

**1Cii-10** Ensure fences within private lots are no higher than three feet high to provide a meaningful connection between residents and park users.

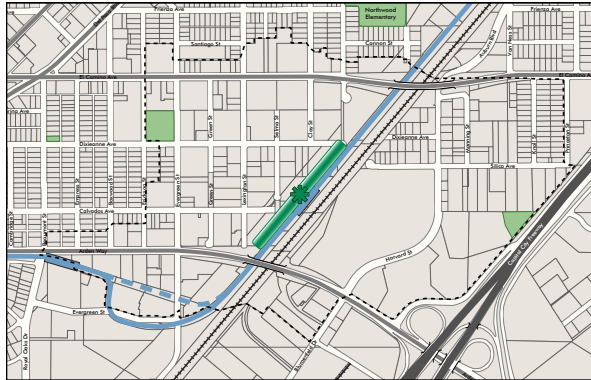


Example of a pocket park in Davis, CA



Proposed pocket park plan

1CIII TRANSIT PLAZA AND PROMENADES



Currently the light rail station is surrounded by a parking lot that is typically empty. The station has minor amenities for riders and is difficult to navigate to from nearby streets.

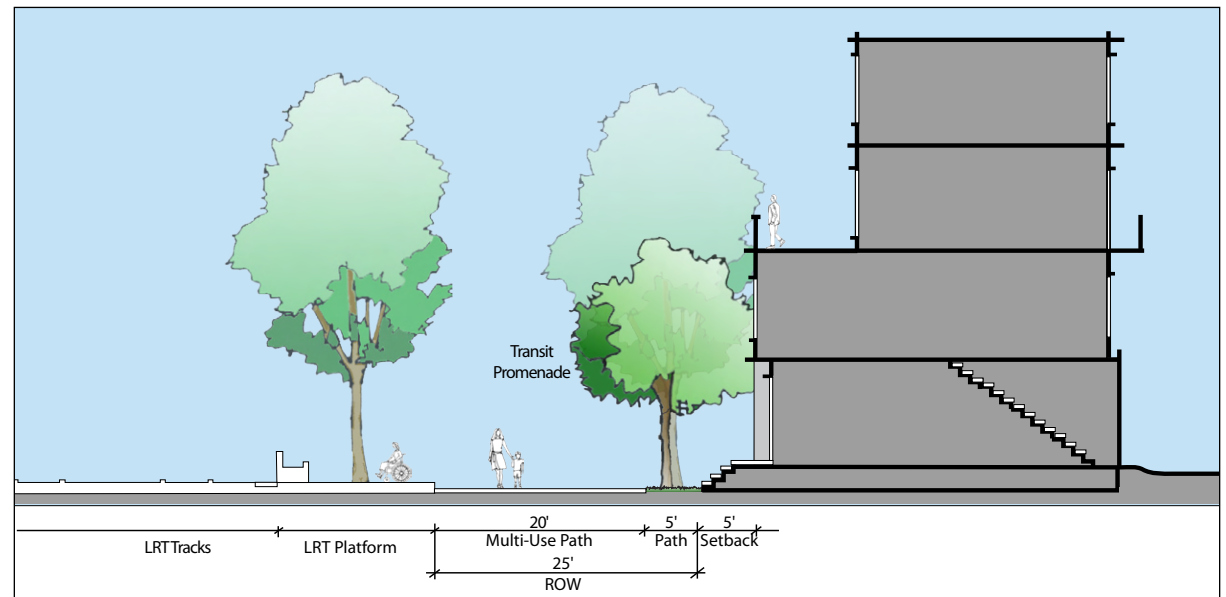
The transit plaza is envisioned as a plaza with amenities such as shade shelters, benches and trees for use by riders. A promenade that runs parallel to the tracks connects the station with the pedestrian and bicycle bridge to the north and the bus transfer center to the south.

*Size and Distribution*

**1Ciii-1** Improve the existing plaza at the transit station to better serve light rail riders and adjacent uses.

**1Ciii-2** Provide a 25 feet wide multi-use path and landscaping area between the light rail platform and tracks and the adjacent residential development.

**1Ciii-3** Ensure a minimum 20 feet wide multi-use path (transit promenade) along the rail tracks to serve as emergency vehicle access and a connection between the pedestrian bridge, the LRT station and the bus transfer center.



*Proposed transit promenade section*

1CIII TRANSIT PLAZA AND PROMENADES CONT.

**1Ciii-4** Provide a five feet wide planting strip along the residential edge of the transit promenade as a buffer.

**Amenities**

**1Ciii-5** Include amenities at the station plaza and along the promenades, such as benches, trees and landscaping, pedestrian-scaled lighting and shade structures.

**1Ciii-6** Include special paving at the transit plaza and along promenades to increase visibility and identity.

**Public-Private Interface**

**1Ciii-7** Provide 10 feet front residential setbacks for buildings that front onto the transit promenade.

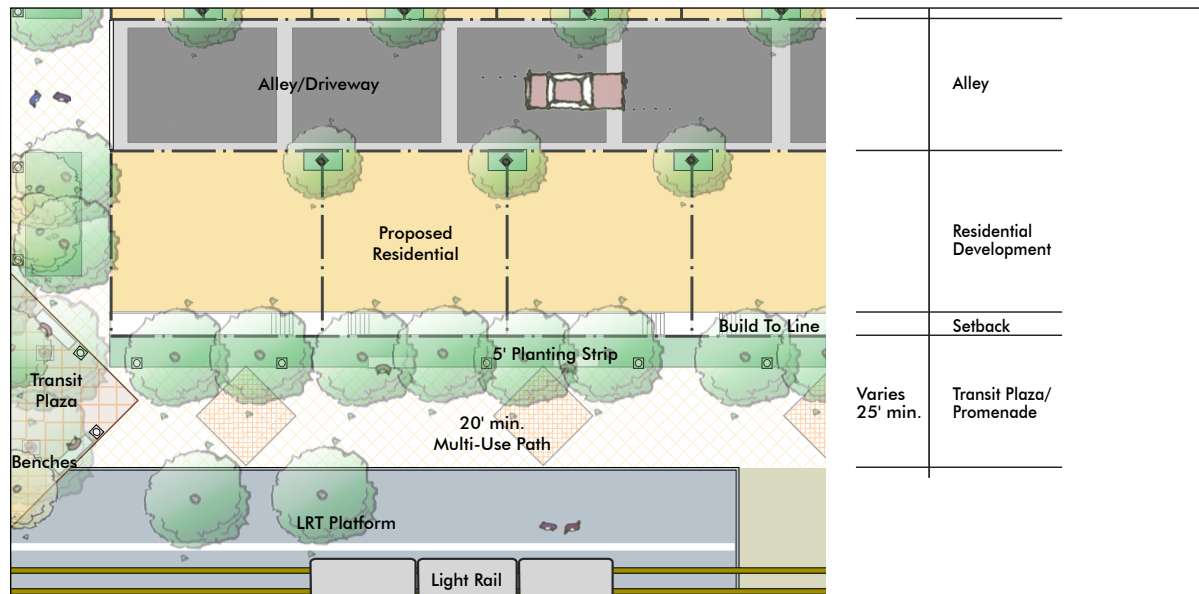
**1Ciii-8** Allow ground floor residential uses along the promenades to be three feet above grade for privacy.

**1Ciii-9** Locate the primary building facade of adjacent residential uses to line the promenades for safety and activation.

**1Ciii-10** Allow outdoor seating from small-scale retail uses on the transit plaza to activate the space.

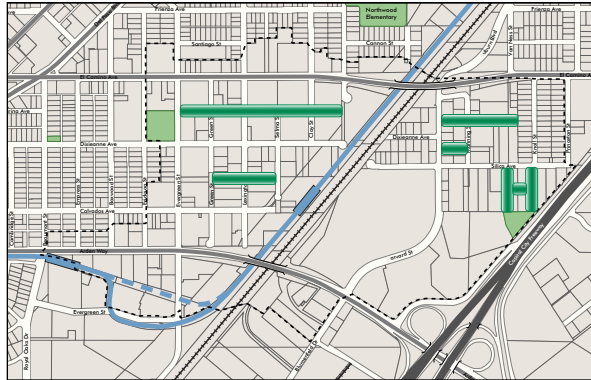


*Transit plaza and promenade in San Diego, CA*



*Proposed transit promenade and plaza plan*

1CIV GREENWAYS



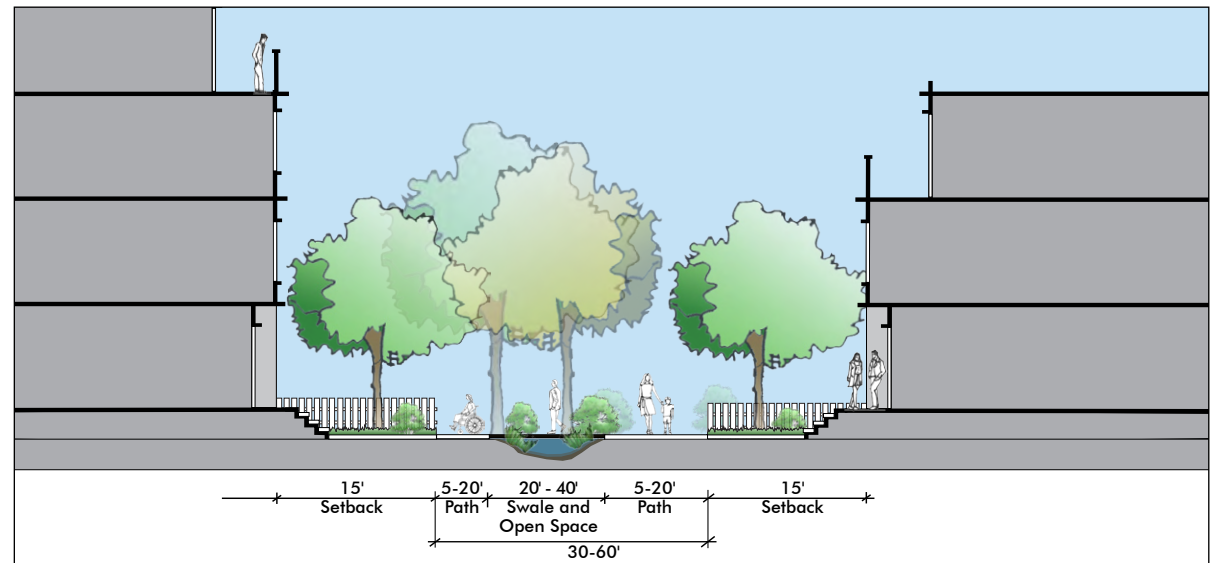
Greenways are envisioned as opportunities to break up the existing long north-south block structure. They will provide multi-modal access for pedestrians and bicyclists and can serve ecological and stormwater functions by including swales in their design.

**Size and Distribution**

**1Civ-1** Create greenways to serve as pedestrian and bicycle connections through blocks, links between destinations, and buffers between new and existing development.

**1Civ-2** Provide greenways along the blocks between Dixieanne Park and the proposed neighborhood park on Clay Street.

**1Civ-3** Where possible, provide greenways at least 60 feet wide that can serve as useable open space for adjacent residents.



*Proposed greenway section*

1CIV GREENWAYS CONT.

**Amenities**

**1Civ-4** Ensure provision of minimum five feet wide pathways within greenways.

**1Civ-5** Ensure adequate lighting along greenways.

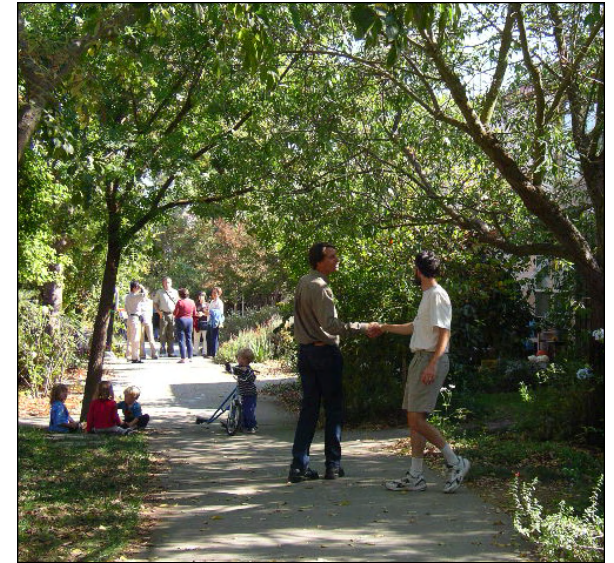
**1Civ-6** Provide seating, trash cans, etc along greenways. If greenways are 60 feet wide, provide additional amenities in accordance with design guidelines for pocket parks.

**1Civ-7** Encourage the use of bioswales along the greenways to attenuate surface run-off.

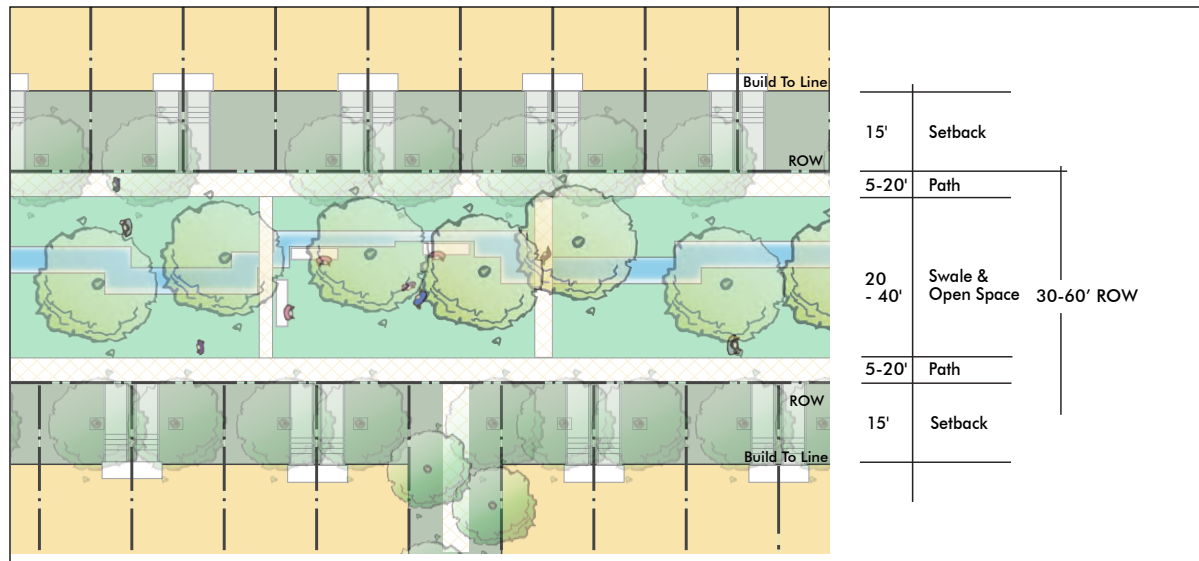
**1Civ-8** Encourage the use of landscaping, trees, and grass along greenways.

**Public-Private Interface**

**1Civ-9** Allow 15 feet front setbacks for residential uses on greenways to provide “eyes on the park” and activate the space.



*Example of a greenway in Davis, CA*



*Proposed greenway plan*

## 1CV MEWS



*Example of a landscaped mews*

Mews are envisioned as primarily hardscaped pathways that are fronted by development and provide additional pedestrian access through blocks and buildings. The diagonal mews leading from Dixianne Avenue to the transit station is envisioned as a wide hardscaped and landscaped pathway that shortens the walking distance to the station.

### ***Size and Distribution***

**1Cv-1** Create a system of mews between buildings to break the building edge, increase connectivity, and create a strong pedestrian network through the station area.

**1Cv-2** Allow 7 feet wide mews provided sufficient ADA access has been provided

**1Cv-3** Provide a 40 feet wide diagonal mews between the station and the corner of Dixianne Avenue and Lexington Street to enhance access to the station.



1CV MEWS CONT.

*Amenities*

**1Cv-4** Ensure provision of minimum five feet wide pathways within mews.

**1Cv-5** Ensure adequate lighting along mews.

**1Cv-6** Where possible, pave mews with permeable paving to lend identity to the connections and to minimize surface run-off. Allow trees in tree wells along mews.

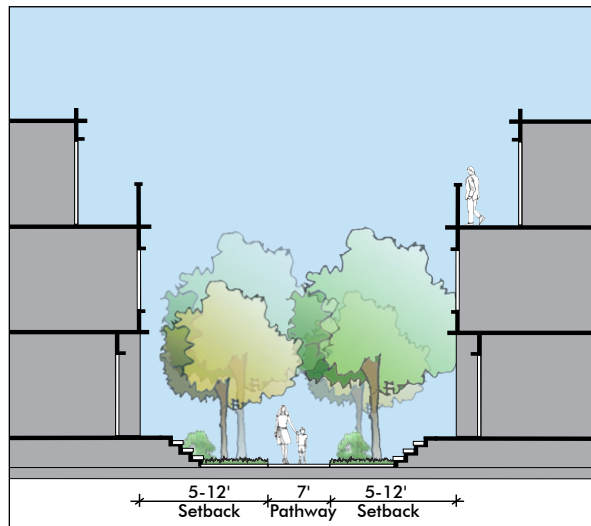
*Public-Private Interface*

**1Cv-7** Allow five feet side setbacks for residential uses on mews.

**1Cv-8** Encourage upper story stepbacks along mews to be activated with balconies and other uses to promote interaction between the private and public realms.



*Example of a mews in San Jose, CA*



*Proposed mews section*



*Example of a mews in Hayward, CA*

## 2. SITE DESIGN AND PLANNING OF THE PRIVATE REALM

The “private realm” refers to the buildings and land that are on privately-owned lots and parcels. The design of the private realm can have a significant impact on the quality of the public realm, as private buildings typically provide the edges to streets and open spaces. The guidelines provide flexibility for creative expression and design of buildings within the private realm, but serve to guide those aspects of the private realm that have a direct affect on the surrounding public context.

Because this document is concerned with guiding the development of a transit village, the private realm design guidelines have been tailored to the following types of private development:

1. **Transit-oriented buildings** that capitalize on the proximity to the multi-modal transit station;
2. **Market-friendly building prototypes**, including row houses, town homes and mixed-use buildings, that have the greatest chance of supporting investment and increasing home ownership to the area;
3. **New building prototypes**, such as live-work lofts and flex units, whose industrial character is suited to the existing character of North Sacramento. These new prototypes also remain flexible for a variety of uses depending on market demand; and
4. **Building prototypes that respect the surrounding character and community vision.** High density building prototypes provide large residential populations close to the station and also are in character with the larger scale development to the east of the tracks are also explored.

The private realm design guidelines are organized into two sections. The first is concerned with overarching design guidelines for aspect of building design that impact the character of development within the transit village. These include building layout and orientation, setbacks and stepbacks, massing and scale, building character and façade articulation, service areas and access entry, and parking. The second section focuses on design guidelines for the development of specific building prototypes.

2AI LAYOUT AND ORIENTATION - BLOCK SCALE

**Orientation**

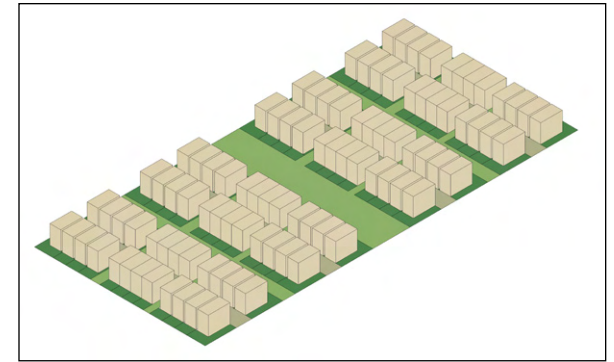
**2Ai-1** Create pedestrian- and bicycle-friendly east-west oriented greenways and mews to break up the length of the north-south blocks and provide opportunities for open space and stormwater management.

**2Ai-2** Supplement greenways and parks with north-south oriented mews to establish a robust pedestrian network through the block and to break up the horizontal massing of the building edge and increase permeability and connectivity.

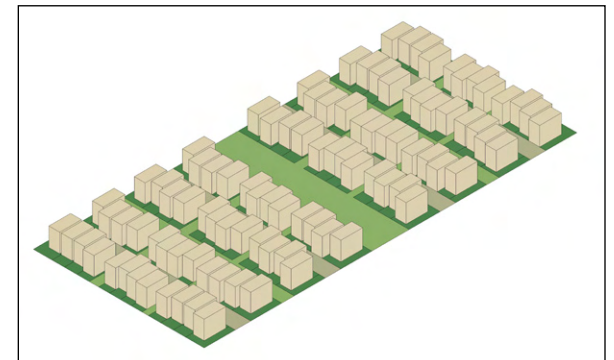
**2Ai-4** Encourage the use of a system of double-loaded east-west oriented rear alleys to maximize the number of units being accessed from street sidewalks, mews and greenways.

**2Ai-5** Line greenways, parks, plazas and promenades with residential units to provide activation and safety.

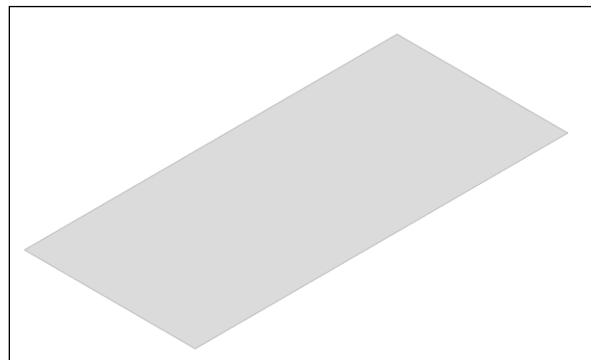
**2Ai-6** Encourage end and corner units to address the side façade in addition to the primary east-west building façade to minimize blank walls along north-south streets.



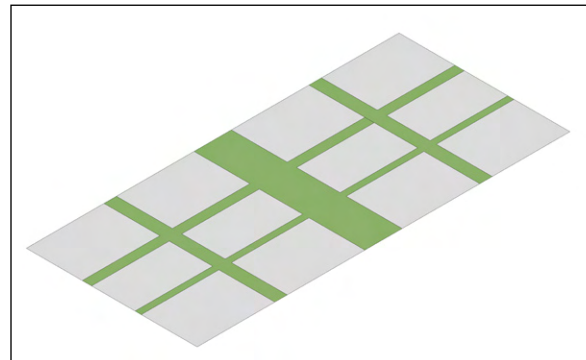
*Residential units fronting public spaces*



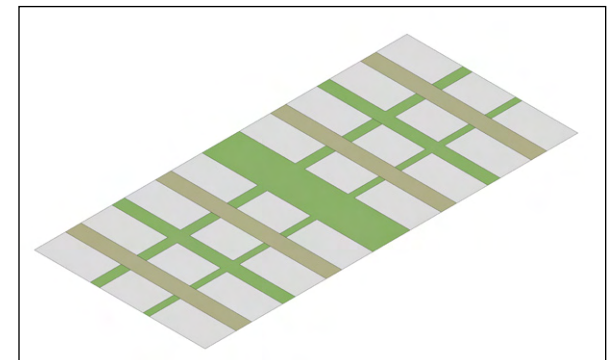
*Variation in building and lot configuration*



*Prototypical Swanston block 275' x 600'*



*East-west oriented greenways and mews*



*East-west oriented double-loaded alleys*

2AI LAYOUT AND ORIENTATION - BLOCK SCALE CONT.



IAx-8

**Block Face Variation - West of the Tracks**

**2Ai-7** Encourage distinction between buildings on the same block face by varying setbacks, roof heights, step-backs, building articulation, landscaping treatment, etc to provide a richer pedestrian experience.

**2Ai-8** Provide variation in fenestration, color, architectural elements, etc between multiple adjoining units to add interest to the pedestrian environment.

**2Ai-9** Encourage the development of live-work rowhouses, townhomes and mixed-use buildings within the same block face to add variety to the pedestrian experience and to create a mixture of uses and types of residential units.

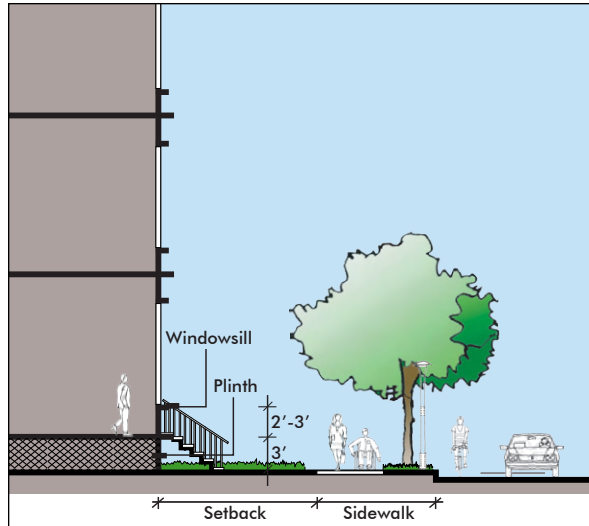
**Block Face Variation -- East of the Tracks**

**2Ai-10** Ensure that point towers from high intensity development are well spaced out to maintain sunlight access and viewsheds.



*Variation in architectural elements, color and setbacks in Hercules, CA*

2AII LAYOUT AND ORIENTATION - BUILDING SCALE



2Aii-1

**2Aii-1** Orient buildings such that the primary active facades and key pedestrian entries of the buildings face the street or mid-block greenways and mews.

**2Aii-2** Encourage corner buildings to actively address both streets with pedestrian friendly entries.

**2Aii-3** Provide privacy for ground floor residential and office uses by elevating the first floor three feet above grade and allowing windowsills to be two to three feet above floor level.

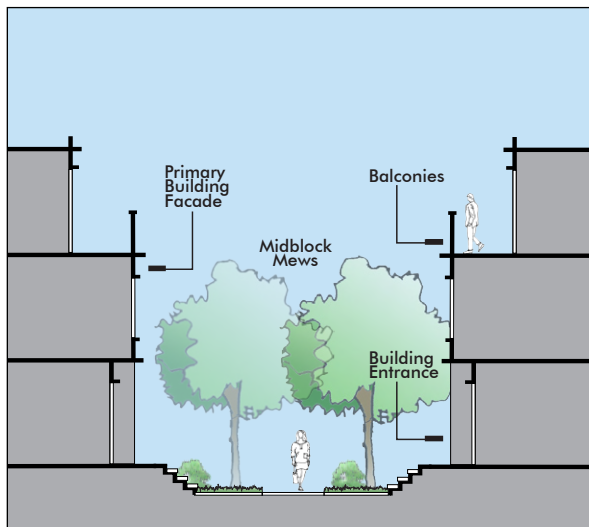
**2Aii-4** Location quasi-public residential spaces within buildings, such as living rooms, along the building edges

that front the street to maximize opportunities for “eyes on the street”.

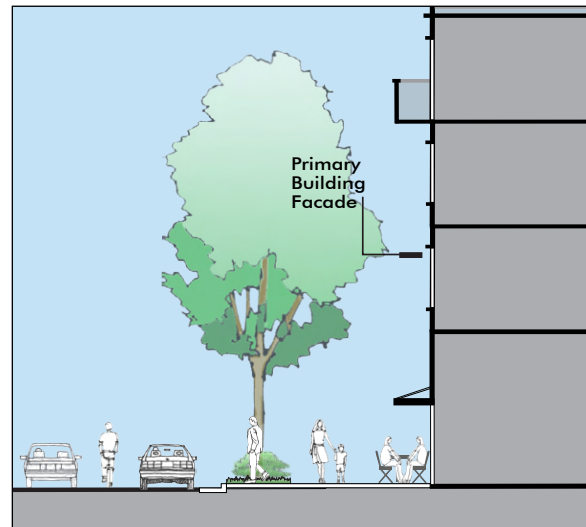
**2Aii-5** Provide parking and access to parking in the side and rear of lots to minimize passive pedestrian edges along the streets.

**2Aii-6** Orient new development to minimize exposure to the southwest and west sun to minimize heat gain of buildings.

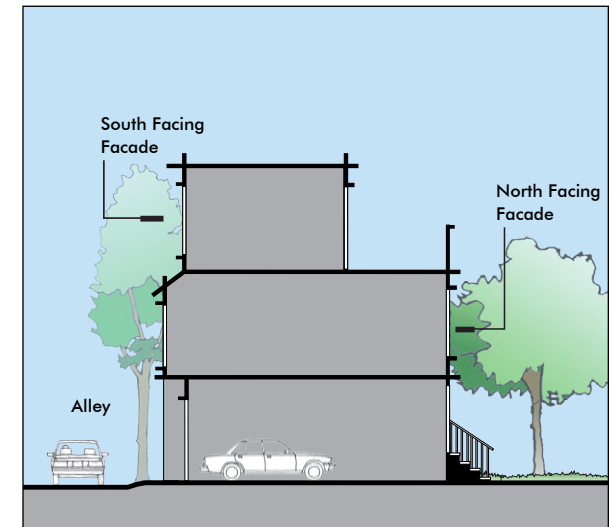
**2Aii-7** Encourage buildings, especially individual residential units, to have access to sun and air on at least two sides to provide adequate light and ventilation.



2Aii-1 Primary building facades along greenways and mews



2Aii-1 Primary building facades along streets



2Aii-7

2Aiii RESIDENTIAL DENSITY AND FAR

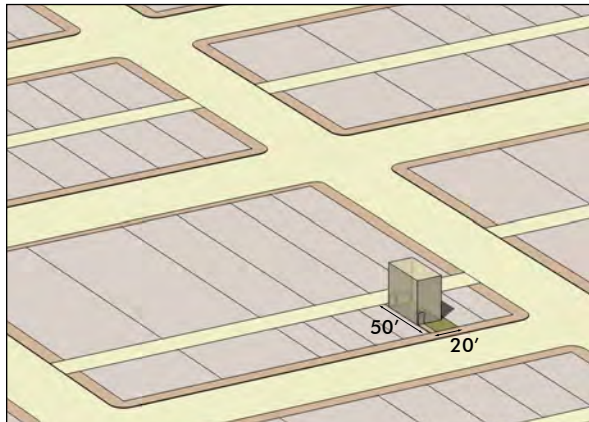
**INTENT:**

Step up residential densities on the west of the tracks from the surrounding residential areas towards the station, providing the highest intensity development immediately adjacent to the transit station.

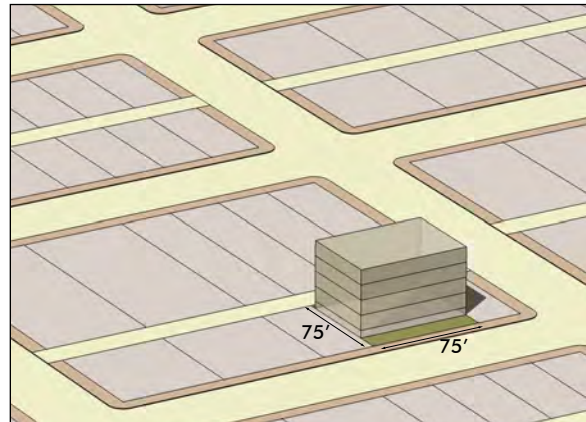
**2Aiii-1\*** Ensure a minimum density of 15 du/ac within the project area. Encourage target residential density of 35 du/ac throughout the station area.

**2Aiii-2\*** Encourage 40 to 60 du/ac closest to the transit station.

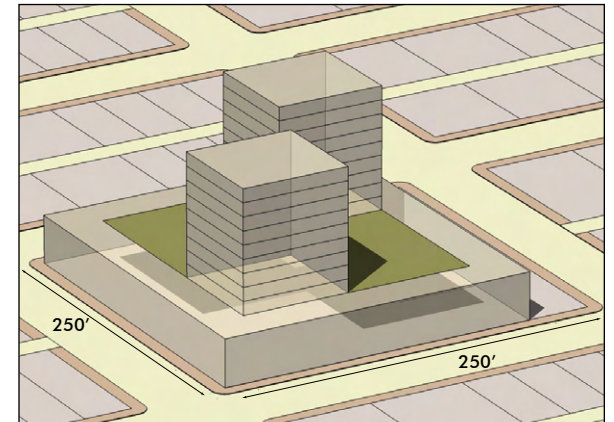
**2Aiii-3\*** Allow residential densities up to 150 du/ac on the east side of the tracks in large scale buildings.



2Aiii-1 15 du/ac



2Aiii-1 40-60 du/ac



2Aiii-1 150 du/ac

## 2AIV MASSING AND SCALE

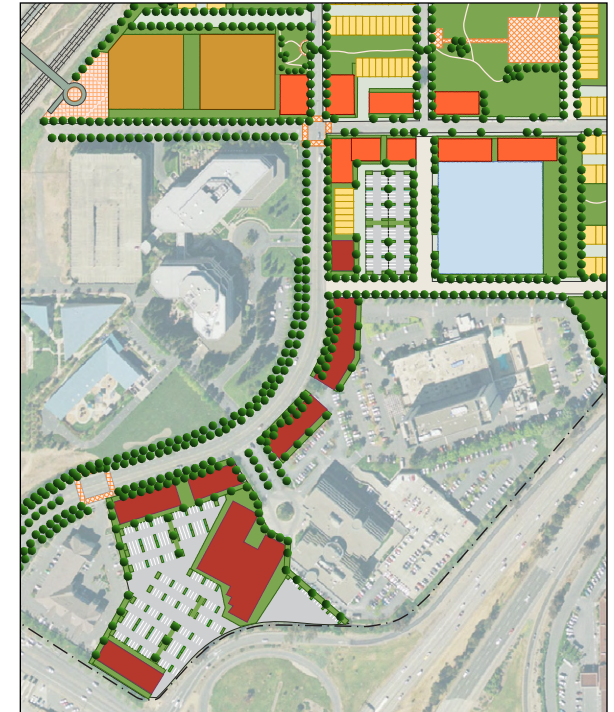
**2Aiv-1** Encourage large-scale buildings to the east of the tracks in keeping with the scale of existing commercial buildings.

**2Aiv-2** Respect the scale and grain of existing residential developments in the Dixianne and Ben Ali neighborhoods with the massing and scale of new residential development.

**2Aiv-3** Require a two-story minimum for all buildings along the arterials Arden Way and El Camino Avenue.

**2Aiv-4** Minimize the bulk mass of high intensity development by providing point towers with floor plates limited to 80 feet by 80 feet.

**2Aiv-5** Encourage the “wrapping” of point towers with two to four story structures that are adjacent to the street.

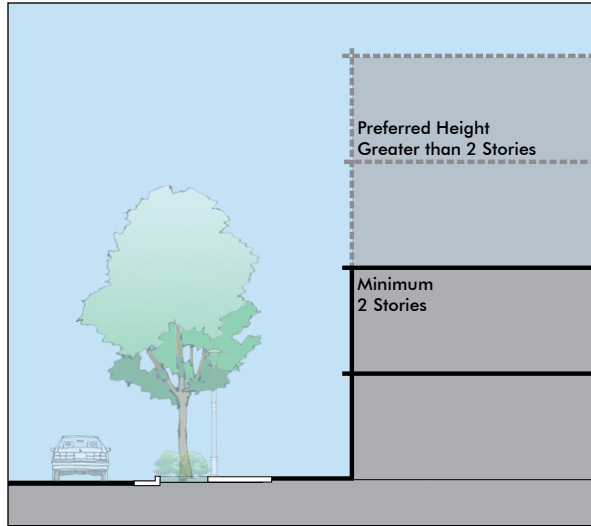


2Aiv-1



2Aiv-5

2AV BUILDING HEIGHTS AND STEPBACKS



2Av-1

**2Av-1** Encourage four to five story buildings along arterials, such as El Camino Avenue and Arden Way. Ensure a minimum of two stories along arterials to enhance street definition.

**2Av-2** Allow two to three story buildings for residential uses west of the tracks that are closest to existing low density residential development. Allow three to five story buildings for residential uses west of the tracks closest to the transit station.

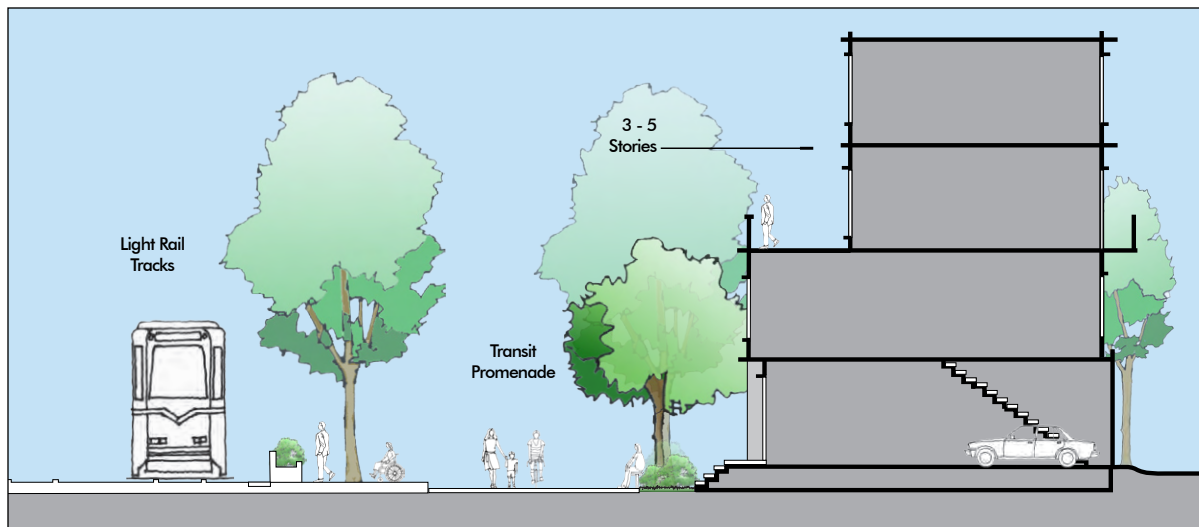
**2Av-3** Allow higher buildings 10 to 15 stories east of the tracks in keeping with existing large scale development and as envisioned by the General Plan Update process.

**2Av-4** Provide transitions between large scale, tall buildings and existing small scale buildings by stepping down building heights or providing setbacks within buildings.

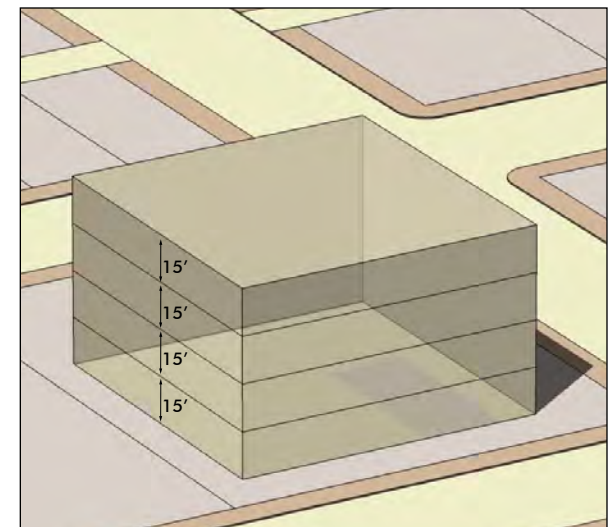
**2Av-5** Allow setbacks at two stories and above.

**2Av-6\*** Encourage heights of 15 to 20 feet floor to floor for commercial uses.

**2Av-7** Step back upper stories of buildings to minimize shadows cast on public amenities such as parks and greenways.



2Av-2



2Av-6



## 2AVI BUILDING SETBACKS

**2Avi-1** Provide five to 10 feet setbacks for commercial and mixed-use buildings and 15 to 25 feet setbacks for residential uses along major arterials.

**2Avi-2** Provide 15 feet front setbacks for buildings with residential uses on the ground floor for gardens, private open space, etc.

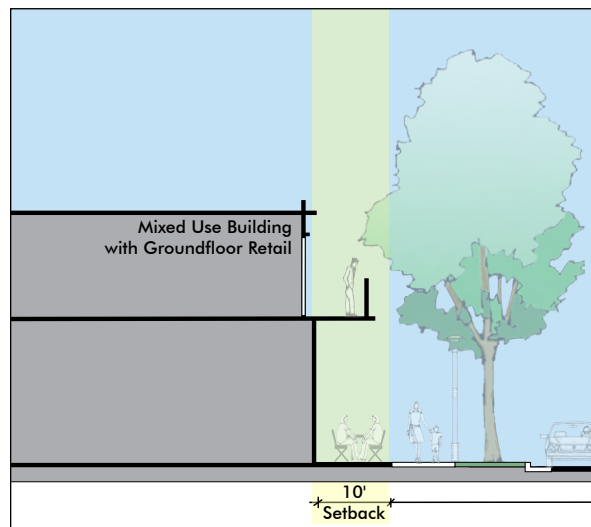
**2Avi-3** Ensure a minimum 10 feet side setback from the right-of-way line for corner buildings.

**2Avi-4** Incorporate pedestrian-friendly elements, such as balconies, front porches and stoops, within front setbacks of new residential and mixed-use buildings.

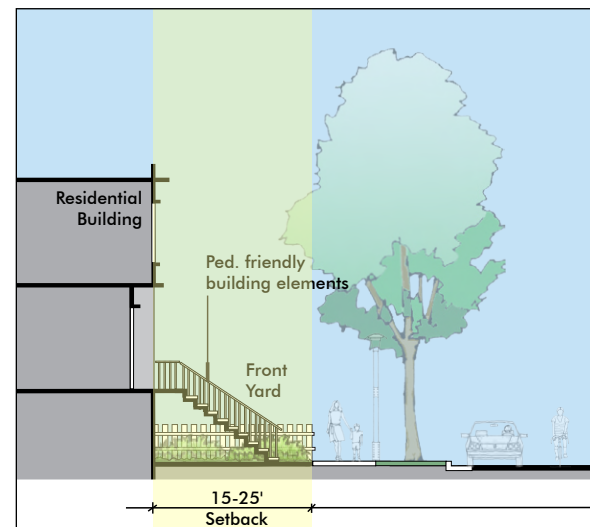
**2Avi-5** Allow commercial signage and awnings to extend up to five feet into setbacks.

**INTENT:**

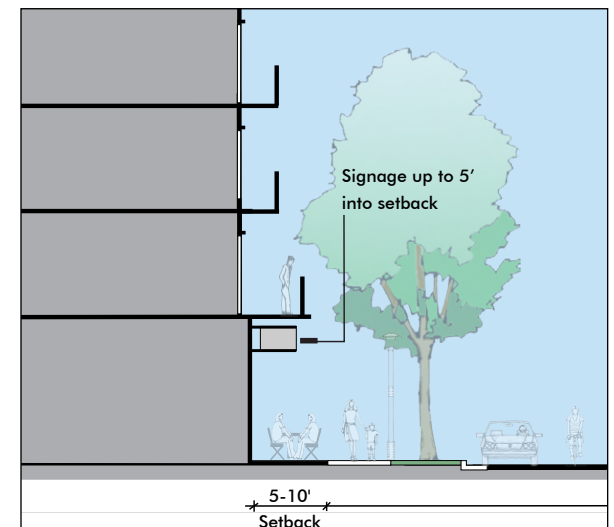
Setbacks are important for creating a sense of enclosure, allowing adequate room for tree canopy and shade cover for pedestrians, and having ecological implications for heat gain and passive cooling.



2Avi-1 Commercial and mixed use along arterials



2Avi-1 Residential along arterials



2Avi-5

## 2AVII BUILDING CHARACTER AND FACADE ARTICULATION

### INTENT:

Building character should address the behavioral needs of users and people in the adjoining public realm and respond to ecological considerations.

**2Avii-1** Prioritize articulation of facades along pedestrian-friendly corridors identified in the Urban Design Concept, such as Dixie Avenue and key travel routes to nearby schools. Discourage blank walls along street-fronting facades on any street.

**2Avii-2** Utilize building elements such as cornices, lintels, sills, balconies, awnings, porches, stoops, etc to enhance building facades.

**2Avii-3** Incorporate vertical and horizontal architectural elements to mitigate long unbroken building facades.

**2Avii-4** Encourage the use of materials, forms and colors on buildings that provide visual interest to the pedestrian and contribute to the street edge.

**2Avii-5** Require all ground floor commercial uses to have non-reflective glass windows fronting onto sidewalks. When windows face southwest and west, frame them with protruding vertical and horizontal shading elements such as lintels, sills, and awnings to provide adequate protection from glare.



2Avii-1, 2Avii-2, 2Avii-3



2Avii-4

2AVII BUILDING CHARACTER AND FACADE ARTICULATION CONT.

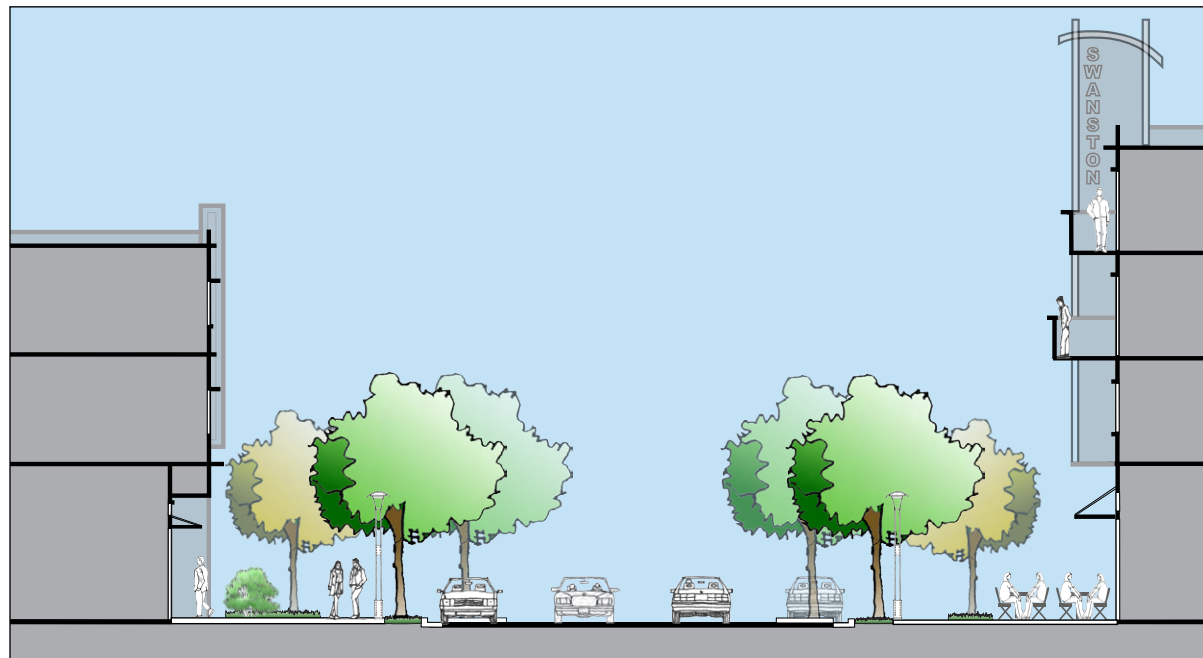
**2Avii-6** Articulate and accentuate roofs of key residential buildings, especially at street corners and entries to developments.

**2Avii-7** Encourage architectural styles that use sustainable building practices and materials, and ecologically-sensitive design solutions, including solar panels, light shelves and cool roofs.

**2Avii-8** Encourage distinctive buildings either through height, articulation and/or unique roof silhouettes to serve as gateways to the transit village at the intersection of Evergreen Street and Arden Way and El Camino Avenue.



2Avii-7



2Avii-6, 2Avii-8

2AVIII PARKING



2Aviii-1

**2Aviii-1** Ensure all surface parking in new developments is located behind or to the side of residential, commercial and mixed-use structures.

**2Aviii-2** Explore reducing commercial parking requirements if parking spaces are provided in lots that are shared with other buildings, especially if the building uses have different peak-demand time periods.

**2Aviii-3** Explore the option of using existing parking garages as shared parking facilities for transit riders.

**2Aviii-4** Encourage the development of parking structures east of the tracks to provide parking spaces for tran-

sit riders and new commercial and mixed-use buildings. Articulate parking structures to minimize the presence of blank walls and large entries.

**2Aviii-5** Explore the possibility for a portion of the parking requirements of individual projects to be satisfied by on-street parking.

**2Aviii-6** Provide opportunities for developers to un-bundle parking to allow residents to choose whether or not they rent and/or own their own parking space.

**2Aviii-7** Explore ways to attenuate run-off from existing and planned parking lots with options such as permeable paving and swales.



2Aviii-7

2AIX ALLEYS AND SERVICE ACCESS

**2Aix-1** Provide access to new residential, commercial, and mixed-use developments from rear alleys.

**2Aix-2** Minimize alley and service access driveway curb cuts along key pedestrian routes.

**2Aix-3** Ensure alleys are a minimum of 20 feet wide to allow for emergency access and landscaping.

**2Aix-4** Where possible, provide small canopy trees along new alleys and driveways.

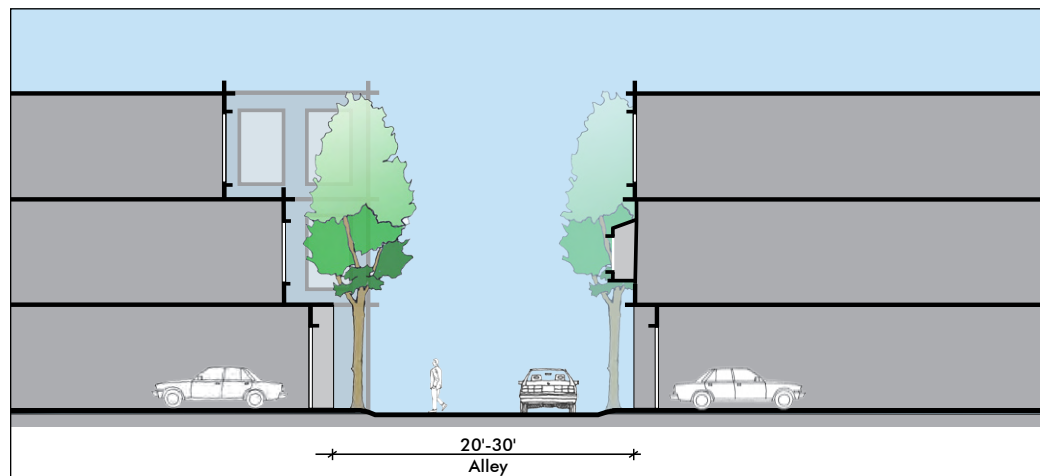
**2Aix-5** Provide distinctive paving along alleys to distinguish them from roadways and to provide cues to vehicles to proceed at a slower velocity.

**2Aix-6** Connect mid-block pedestrian pathways through buildings across alleys with special paving.

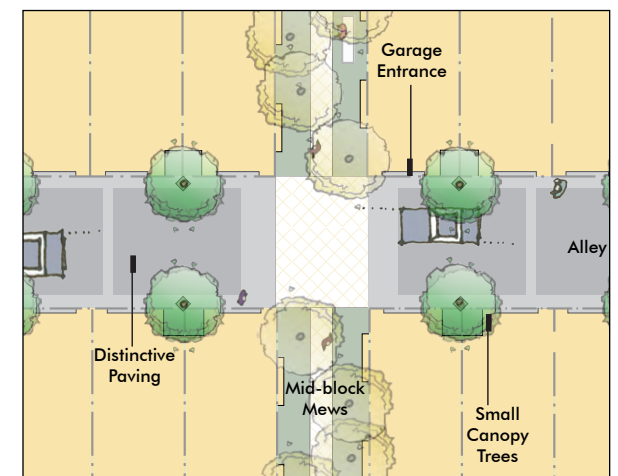
**2Aix-7** Include tree plantings and landscaped buffers along alleys to screen and mitigate the impact of new multi-story buildings on existing residential buildings, and to create a more pedestrian-friendly environment along alleys.



2Aix-1



2Aix-3, 2Aix-4



2Aix-4, 2Aix-5

2AX BUILDING USES



2Ax-6

**2Ax-1** Encourage commercial and mixed-use developments along El Camino Avenue and at key nodes along Arden Way.

**2Ax-2** Allow residential uses as of right along Arden Way and El Camino Avenue.

**2Ax-3** Encourage live-work units as a transitional use that is in keeping with the industrial character.

**2Ax-4** Encourage primarily residential uses west of the tracks between Arden Way and El Camino Avenue.

**2Ax-5** Encourage mixed-use and commercial buildings east of the tracks along Harvard Street and Silica Avenue.

**2Ax-6** Explore minor commercial and retail uses directly adjacent to the transit station, such as coffee shops, newspaper stands, drycleaners, etc.



2Ax-3

## 2AXI STORMWATER MANAGEMENT

### *Overarching Guidelines*

**2Axi-1** Encourage the integration of stormwater run-off reduction and treatment best management practices (BMP's) to maximize ecological considerations.

**2Axi-2** Establish a hierarchy for run-off management, beginning at the building, then the lot, open spaces and finally the roadway. Maximize run-off management at each of these levels to minimize run-off into the existing stormwater system.

### *Private Realm*

**2Axi-3** Ensure the design of new development integrates stormwater BMP's on-site to maximize their effectiveness.

**2Axi-4** Encourage the use of intensive and extensive green roofs and water collection devices, such as cisterns and rain barrels, to capture rainwater from the building for re-use.

**2Axi-5** Utilize disconnected drain spouts to interrupt the direct flow of rainwater from the building to the stormwater system. Integrate these features to articulate building character.

### INTENT:

Improve water quality, provide cost-effective solutions, allow development without overburdening existing infrastructure systems, and reduce the impact that urban run-off inflicts on natural environments.



*2Ax-5 Public art opportunities with stormwater measures*



*2Ax-4 Green roofs*

2AXI STORMWATER MANAGEMENT CONT.



*2Axi-7, 2Axi-8 Green roof on a supermarket in Portland, OR*

**2Axi-6** Provide rain gardens and stormwater planters to manage stormwater run-off from the disconnected drain spouts and impervious surfaces on-site. Ensure adequate space and design for water to drain to reduce opportunities for ponding and utilize splash pads to minimize erosion under the drain spout.

**2Axi-7** Ensure medium- to large-canopy trees are planted in the front yards of private development and in greenways, parks and plazas to serve as interceptor trees for rainfall, slowing and reducing the amount of rainfall that falls to the ground.

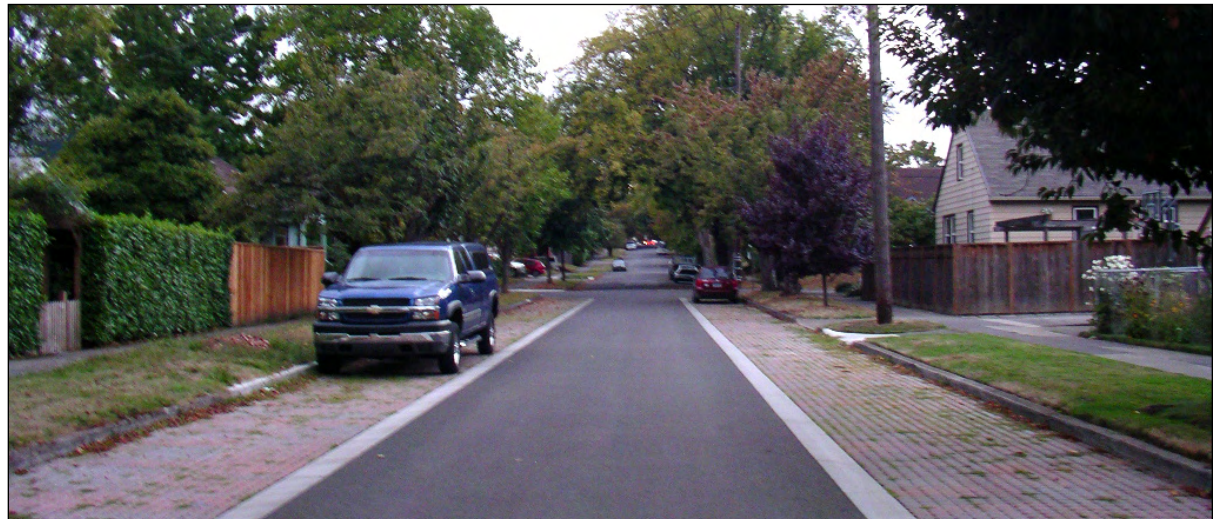
**2Axi-8** Minimize on-site impermeable surfaces, such as concrete, asphalt and hardscaping.

**2Axi-9** Utilize permeable pavers, porous concrete, porous asphalt, reinforced grass pavement (turf-crete), cobblestone block pavement etc. to detain and infiltrate run-off on-site.

**2Axi-10** Use shared driveways and alleyways to reduce impermeable paving.

**2Axi-11** If infiltration BMP's are applicable, encourage the use of infiltration planters, rain gardens and infiltration trenches to absorb stormwater.

**2Axi-12** If infiltration is not a desired goal, utilize flow-through planters and swales and rain gardens with clay, geo-textile or other impermeable material as liners.



*2Axi-9 Permeable paving on parking lanes*



2AXI STORMWATER MANAGEMENT CONT.

**Public Realm**

**2Axi-13** Encourage the use of permeable surfaces (permeable pavers, porous concrete, etc) on public plazas and promenades in the private realm, while maintaining ADA compliance.

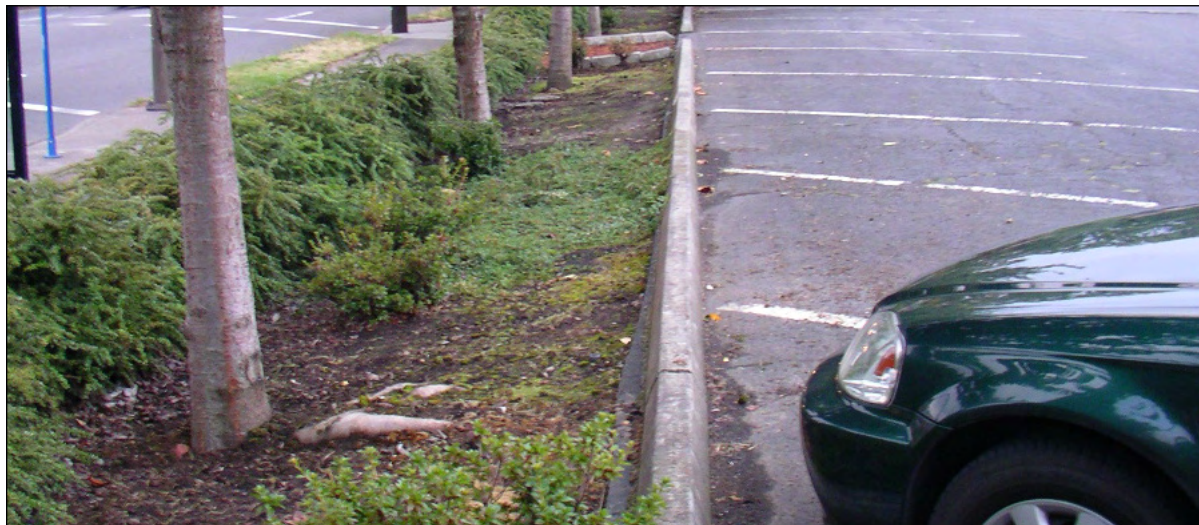
**2Axi-14** Utilize stormwater BMP's such as vegetated swales, stormwater planters and rain gardens with engineered soils and proper plant choices to treat run-off in greenways and pocket parks designed on private and public land.

**2Axi-15** Meander swales to maximize surface area for treatment.

**2Axi-16** Encourage the use of landscaping with plants that can withstand pollutants and are effective in their removal. Explore grasses such as Juncus, Carex and Festuca are effective at removing pollutants and are attractive options for landscaping.



*2Axi-15 Vegetated swale for treatment and infiltration*



*2Axi-14 Vegetated bioswales*

## 2AXII PASSIVE COOLING

### INTENT:

Appropriate solar access reduces energy requirements by minimizing heat gain and loss and improves comfort levels and environmental benefits.

### *Orientation and Layout*

**2Axii-1** Orient new lots and buildings with the long axis along a north-south orientation to minimize heat gain.

**2Axii-2** Configure buildings in such a way as to create internal courtyards to trap cool air while still encouraging interaction with streets and open spaces.

### *Stepbacks and Setbacks*

**2Axii-3** Minimize shade cast by buildings on greenways, parks and open spaces by stepping back upper floors on north-facing sides of buildings on the south-side of open spaces.

### *Landscaping*

**2Axii-4** Plant deciduous trees on the south side of buildings to shade the south face and roof during the summer while allowing sunlight to penetrate buildings in the winter.

**2Axii-5** Minimize impervious surfaces that have large thermal gain. Plant groundcovers that prevent ground reflection and keep the surface cooler, preventing re-radiation.

**2Axii-6** For buildings with exposed east and west sides, use vegetation along the east and west walls as it is the most effective way of minimizing heat gain.



*2Axii-2 Courtyard development*

2AXII PASSIVE COOLING

**Building Articulation**

**2Axii-7** Provide awnings, canopies and deep-set windows on south-facing windows and entries to minimize heat gain.

**2Axii-8** Use exterior shades and shade screens on east, west and south-facing windows as alternate methods for blocking sunlight.

**2Axii-9** Use horizontal overhangs, awnings or shade shelters above south windows to block summer sun but allow winter sun. Encourage overhang width to equal half the window height to shade the window completely from early May to mid-August yet allow for winter sun.

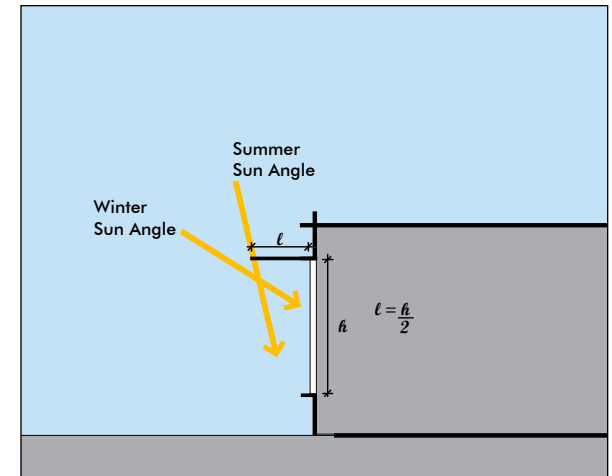
**2Axii-10** For buildings with exposed east and west sides, provide vertical shading or fins.

**2Axii-11** Maximize natural cooling by installing high vents or open windows on the leeward side of the building to let the hottest air, near the ceiling, escape. In addition, create low open vents or windows on the windward side that accepts cooler air to replace the hotter air.

**2Axii-12** Ensure that leeward openings have substantially larger total area (50 to 100%) larger than those on the windward side to ensure adequate pressure to facilitate air movement.

**2Axii-13** Include high ceiling vaults and thermal chimneys to promote rapid air changes and to serve as architectural articulation for buildings.

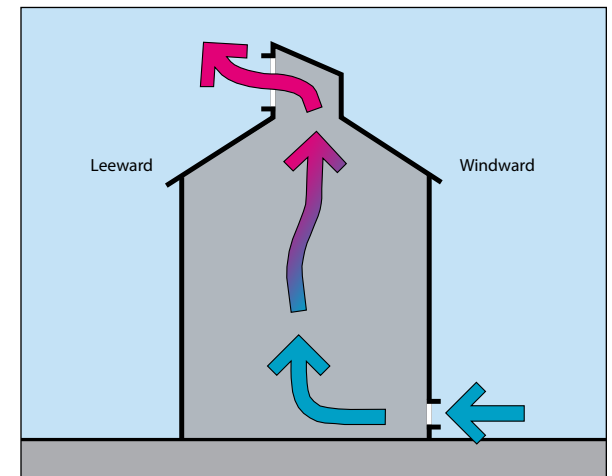
**2Axii-14** Use wing walls (vertical solid panels placed along side of windows perpendicular to the wall on the windward side of the building) to accelerate the natural wind speed due to pressure differences.



2Axii-9



2Axii-10



2Axii-11, 2Axii-12, 2Axii-13

2B BUILDING PROTOTYPES - 2BI ROW HOUSES AND TOWN HOMES



Example of row house in San Jose, CA

**Orientation and Layout**

**2Bi-1** Maximize the number of units and building entries fronting the street to provide maximum “eyes on the street”.

**2Bi-2** Configure residential developments so that the majority of units minimize exposure to the south-west and west sun while still allowing plenty of light and ventilation from at least two sides in each unit.

**2Bi-3** Allow one to two parking spaces per unit to be contained in each unit. Encourage tandem parking within residential units.

**2Bi-4** Provide parking in the rear of lots accessed by existing alleys and new minimum 20 feet wide driveways.

**Massing and Setbacks**

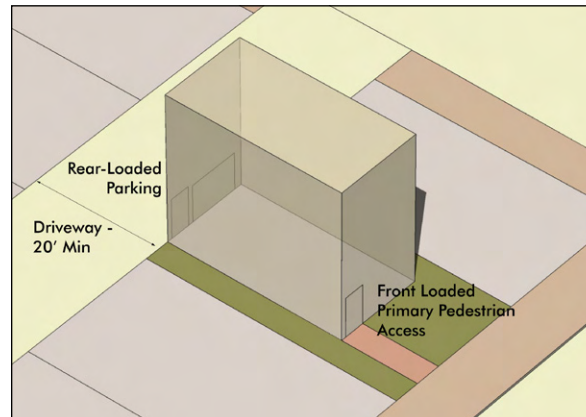
**2Bi-5\*** Allow densities of 15 to 40 du/ac for town homes and row houses.

**2Bi-6** Encourage two- to four-story buildings.

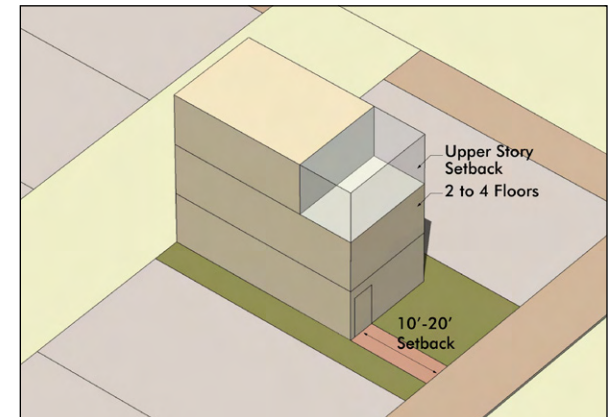
**2Bi-7\*** Ensure 15 feet deep front setbacks for each unit to allow for open spaces for gardening, barbecuing, etc.

**2Bi-8** Where possible, provide variation in front setback depth to enrich the pedestrian experience.

**2Bi-9** Setback upper floors to create opportunities for balconies.



2Bi-1, 2Bi-4



2Bi-6, 2Bi-7, 2Bi-9

2BI ROW HOUSES AND TOWN HOMES

**Building Articulation**

**2Bi-10** Articulate the front facades with a rhythm of windows and other elements, including porches, stoops and balconies.

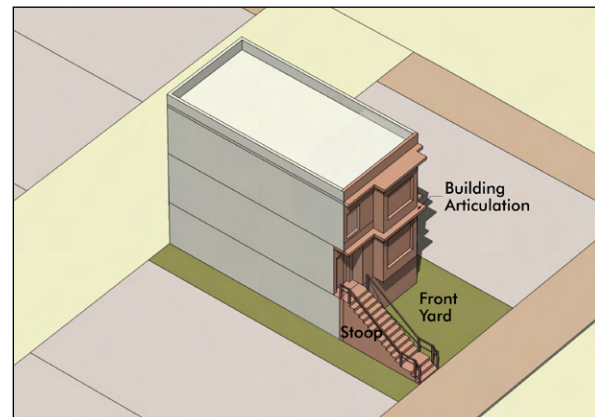
**2Bi-11** Where possible, provide variations on building elements, including roof silhouettes, proportion of fenestration, and colors in adjoining residential units.

**2Bi-12** Allow upper story balconies to protrude four to six feet from the building edge.

**Ecological Considerations**

**2Bi-13** Encourage the use of solar panels to provide alternative methods of energy generation.

**2Bi-14** Encourage the use of disconnected drain spouts to disrupt the flow of runoff to the stormwater system.



2Bi-10, 2Bi-12

**Public-Private Interface**

**2Bi-15** Design front setbacks to allow maximum opportunities for interaction between residents and neighbors.

**2Bi-15** Plant trees within front setbacks, three to five feet from the edge of adjoining parcel lines, to provide shade to pedestrians and residents.

**2Bi-16** Allow porches and balconies within the front setbacks.

**2Bi-17** Articulate property edges with fences and landscaping. Ensure fences and shrubs are no more than three feet high.



Example of town home in Seattle, WA

2BII LOFTS AND LIVE-WORK UNITS



Example of live-work units

**Orientation and Layout**

**2Bii-1** Orient the flexible space component of the unit towards the public realm of streets and pedestrian pathways to optimize business visibility.

**2Bii-2** Ensure orientation of the glazed double height built spaces to face north to minimize glare and heat gain within buildings.

**2Bii-3** Allow one to two parking spaces per unit, located within each unit and/or in shared parking lots in the rear of developments. Encourage tandem parking.

**2Bii-4** Provide parking and access to live-work units from side and rear driveways.

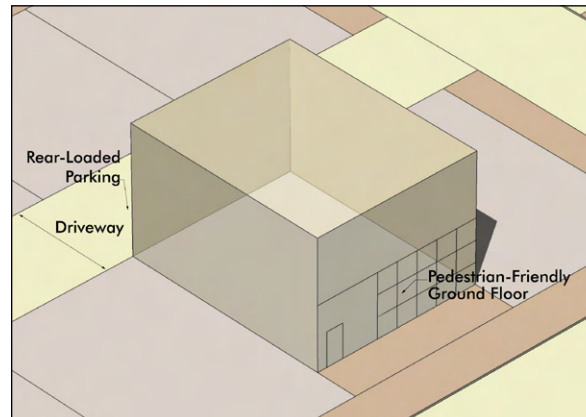
**Massing and Setbacks**

**2Bii-5\*** Allow densities of 15 to 30 du/ac.

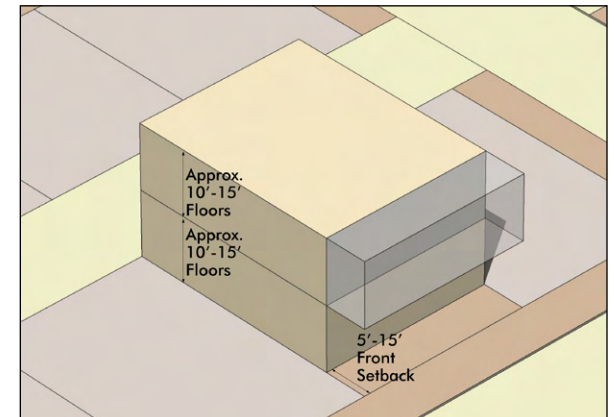
**2Bii-6** Encourage floor-to-floor heights of 15 feet.

**2Bii-7** Allow 10 to 15 feet wide front setbacks to provide privacy. Allow the setbacks to accommodate architectural elements, including colonnades and awnings.

**2Bii-8** Encourage the street facing facades to have minimal setbacks in upper floors.



2Bii-4



2Bii-6, 2Bii-7

2BII LOFTS AND LIVE-WORK UNITS

**Building Articulation**

**2Bii-9** Design the front façade of live-work units to reflect the simple and functional, yet edgy, character of industrial buildings.

**2Bii-10** Articulate the front facades with big double height windows, awnings, saw tooth roofs, etc.

**2Bii-11** Allow upper story balconies to protrude four to six feet from the building edge.

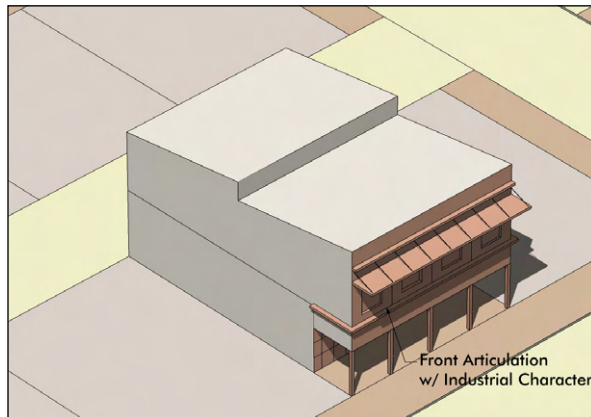
**Public-Private Interface**

**2Bii-12** Accommodate elements, such as colonnades in the front setbacks, that provide flexibility to be used as residential-oriented porches or business entry alcoves, whichever best suits the use of the live-work unit.

**2Bii-13** Allow awnings and signage to protrude within front setbacks.



*Deep overhangs on live-work units*



Front Articulation  
w/ Industrial Character

*2Bii-9, 2Bii-10, 2Bii-12*

2BIII LOW INTENSITY CONDOMINIUMS



Example of low density condominiums

**Orientation and Layout**

**2Biii-1** Orient the maximum number of units and building entries fronting streets, pedestrian pathways and open spaces to provide the maximum “eyes on the street”.

**2Biii-2** Provide one parking space per unit, preferably contained in an underground or ground floor podium parking. Parking can also be contained in shared parking courts.

**2Biii-3** Provide access to parking from existing alleys and new minimum 20 feet wide rear driveways.

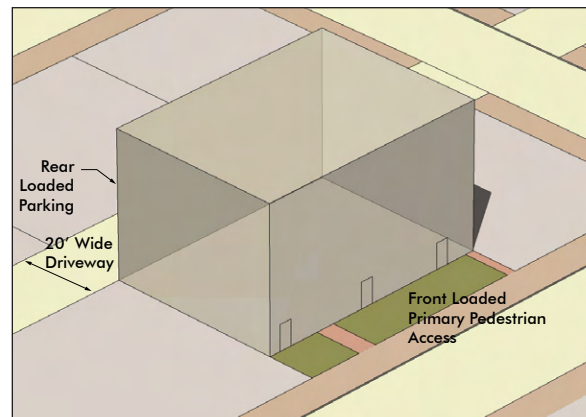
**Massing and Setbacks**

**2Biii-4\*** Allow densities of 30 to 40 du/ac for condominiums outside of the 1/8-mile radius of the station. Allow 40 to 80 du/ac for condominiums within the 1/8-mile radius of the station.

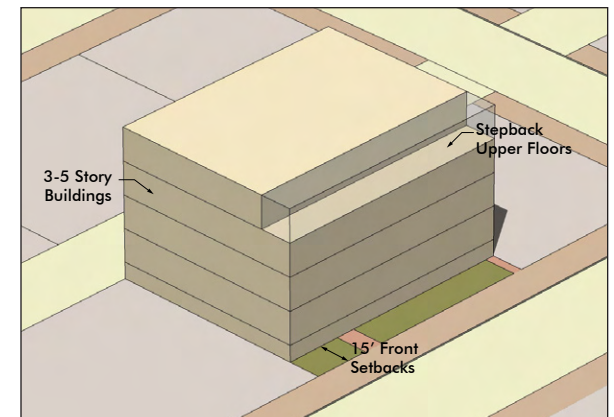
**2Biii-5** Encourage three- to five-story buildings.

**2Biii-6** Allow approximately 10 to 15 foot front setbacks for lower intensity condominiums and up to 25 foot front setbacks for higher intensity condominiums.

**2Biii-7** Stepback upper floors by a minimum of five feet to provide opportunities for balconies.



2Biii-1, 2Biii-3



2Biii-5, 2Biii-6, 2Biii-7



2BIII LOW INTENSITY CONDOMINIUMS CONT.

**Building Articulation**

**2Biii-8** Articulate front facades with balconies, porches, stoops, etc.

**2Biii-9** Where possible, provide variations in building elements, including roof lines, fenestration and color.

**2Biii-10** Provide distinctive vertical and horizontal elements to break up the massing of buildings, and to provide shade and protection from the elements.

**2Biii-11** Encourage the provision of individual entries to units rather than a single entry to promote interaction between residents and neighbors.

**Ecological Considerations**

**2Biii-12** Minimize west- and south-facing facade to minimize heat gain.

**2Biii-13** Configure multiple units around a central climate-effective courtyard to capture cool breezes and enhance passive cooling effectiveness.

**2Biii-14** Articulate roofs to maximize effectiveness of catching the sun with solar panels.

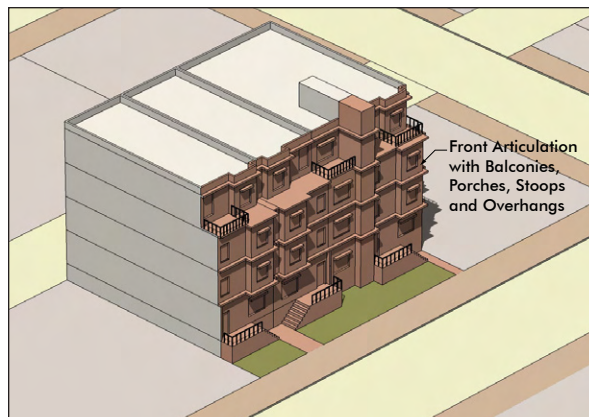
**Public-Private Interface**

**2Biii-15** Plant trees and landscaping within front setbacks, to provide privacy and shade for pedestrians and residents.

**2Biii-16** Provide privacy for ground floor residential units by allowing them to be three to five feet above the sidewalk level.



*Example of low density condominiums*



*2Biii-8, 2Biii-9, 2Biii-11*

2BIV MIXED-USE BUILDINGS



Example of a mixed use buildings in San Diego, CA

**Orientation and Layout**

**2Biv-1** Orient the front facades of buildings towards the street edge to create a strong building edge that maximizes visibility to commercial uses and provides eyes on the street.

**2Biv-2** Locate the majority of the commercial uses within the building along the edge of the sidewalk.

**2Biv-3** Include adjacent on-street parking to fulfill on-site parking requirements for the retail component of the buildings.

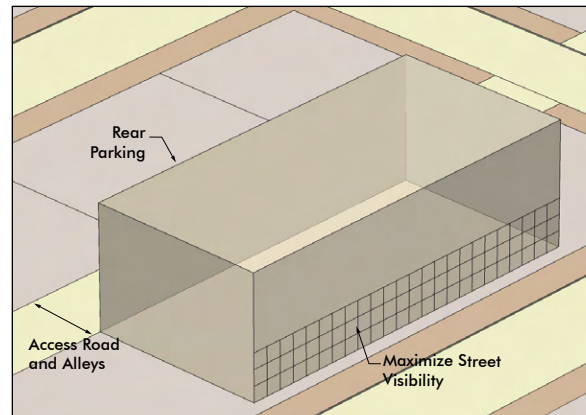
**2Biv-4** Provide parking in the rear of the lot, preferably accessed by side roads, existing alleys, and new minimum 20 feet wide driveways.

**Massing and Setbacks**

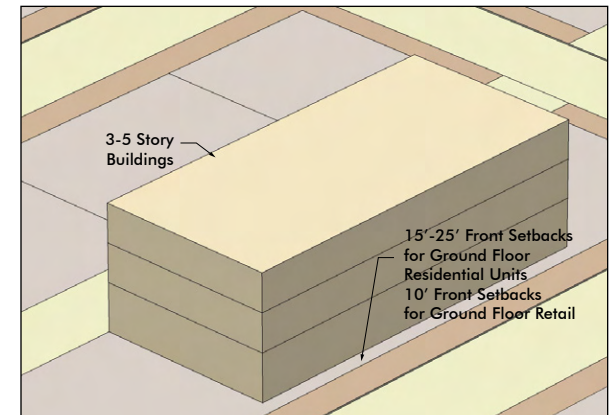
**2Biv-5** Allow buildings to be three to five stories high. Ensure that buildings are at least two stories high.

**2Biv-6** Allow 15 to 25 foot front setbacks for ground floor residential units that front the street.

**2Biv-7** Step back the massing of the building development such that it is at its highest intensity along major streets and at its lowest when adjacent to existing residential development.



2Bii-4



2Bii-6, 2Bii-7

## 2BIV MIXED-USE BUILDINGS

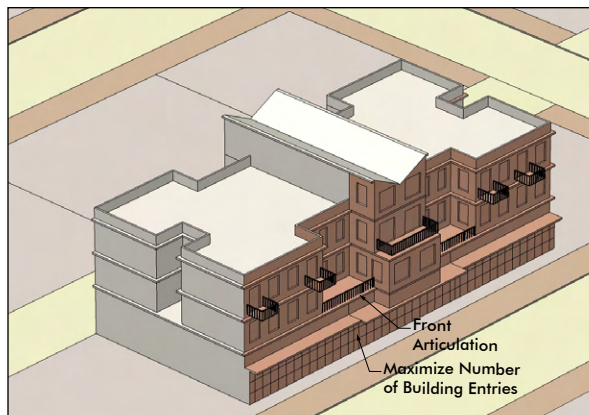
### *Building Articulation*

**2Biv-8** Maximize the number of building entries, especially of office and retail businesses, along the façade fronting the major street. Emphasize the primary entry of buildings (e.g. entrance lobby) with vertical elements.

**2Biv-9** Where possible, locate pedestrian-oriented entries of the upper floor residential units along the street fronting façade.

**2Biv-10** Articulate the front facades with a rhythm of windows, both along the ground floor and upper residential floors.

**2Biv-11** Ensure that the ground floor is as transparent as possible to connect the pedestrians and the building users.



*2Biv-9, 2Biv-11*

### *Public-Private Interface*

**2Biv-12** Allow residential balconies and commercial awnings and signage to protrude four to six feet from the building edge into the sidewalk realm.

**2Biv-13** Landscape front setbacks of the street fronting ground floor residential component of the mixed-use buildings.

**2Biv-14** Provide privacy for ground floor office and residential units by allowing them to be three feet above the sidewalk level.



*Example of a mixed use building in Emeryville, CA*

2BV HIGH INTENSITY CONDOMINIUM/MIXED-USE DEVELOPMENT



Example of a high density condominium

**Orientation and Layout**

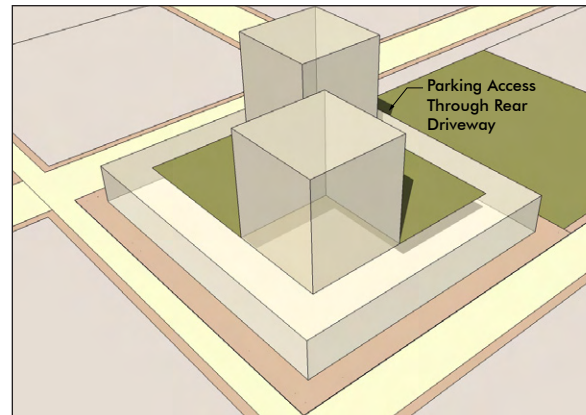
**2Bv-1** Create a strong building edge by orienting the front facades and building entries along the street.

**2Bv-2** Provide one parking spaces per unit, located in podium parking beneath.

**2Bv-2** Explore stacked parking for the residential component of the building.

**2Bv-3** Provide access to podium parking via rear and side alleys and driveways.

**2Bv-4** Encourage the creation of roof top open spaces to be used by residents with limited private open space opportunities.



2Bv-3, 2Bv-4

**Massing and Setbacks**

**2Bv-5** Allow residential densities of 80 to 150 du/ac.

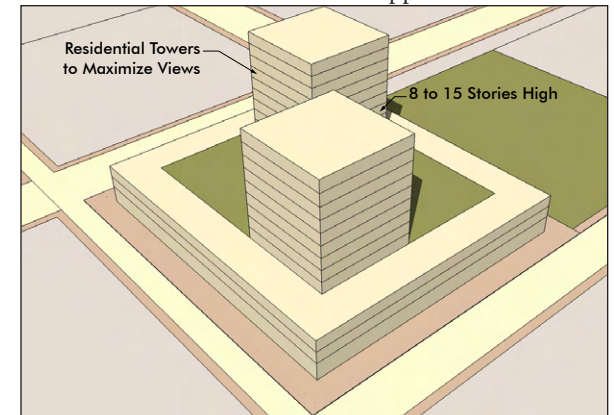
**2Bv-6** Allow buildings to be eight to 15 stories high.

**2Bv-7** Provide 15 to 25 foot setbacks for ground floor residential uses to allow for private gardens and front yards. Allow 10 foot setbacks for ground floor retail and commercial uses.

**2Bv-8** Step back massing in upper floors to allow for balconies and visual interest.

**2Bv-9** Ensure first three floors of development are human-scaled and pedestrian-friendly, by including row houses, ground floor retail, etc.

**2Bv-10** Encourage the use of slim 'point' towers to accommodate residential uses in the upper floors.



2Bv-6, 2Bv-9, 2Bv-10

2BV HIGH INTENSITY CONDOMINIUM/MIXED-USE DEVELOPMENT

**Building Articulation**

**2Bv-11** Maximize the number of building entries, especially of office and retail businesses, along the façade fronting the major street. Orient residential entries along local residential streets.

**2Bv-12** Include porches, stoops, colonnades, etc. along the ground floor.

**2Bv-13** Emphasize the front facades with a rhythm of fenestrations (doors and windows), both along the ground floor and upper residential floors.

**2Bv-14** Break the massing of long horizontal and vertical building faces with architectural design elements including minor setbacks, balconies, and color.

**2Bv-15** Minimize garage entries by articulating the facade, recessing the entry, etc.

**Public-Private Interface**

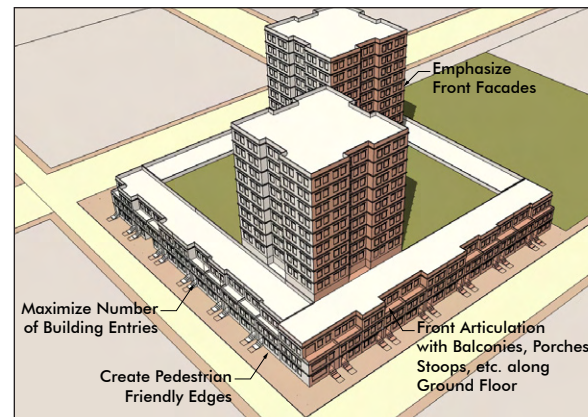
**2Bv-16** Provide privacy for ground floor residential and office uses by allowing them to be built three feet above the sidewalk level while ensuring ADA access to primary building entrances.

**2Bv-17** Plant trees within front setbacks, three to five feet from the edge of adjoining parcel lines, to provide shade to pedestrians and residents.

**2Bv-18** Encourage building setbacks to be used as balconies and other active spaces that enhance the interaction between the private and the public realm.



*Example of a high density condominium*



*2Bv-11, 2Bv-12, 2Bv-14*

2BVI COMMERCIAL BUILDINGS



Example of a commercial building

**Orientation and Layout**

**2Bvi-1** Orient the primary façade of commercial buildings at grade level along major streets.

**2Bvi-2\*** Provide two parking spaces per 1000 square feet of commercial space to reflect the transit-friendly, non-auto-oriented character of the transit village.

**2Bvi-3** Where possible, allow parking requirements for the retail component of commercial buildings to be satisfied by adjacent on-street parking.

**2Bvi-4** Provide parking in the rear of lots.

**2Bvi-5** Explore integrated stormwater drainage facilities, such as swales for the rear parking lots.

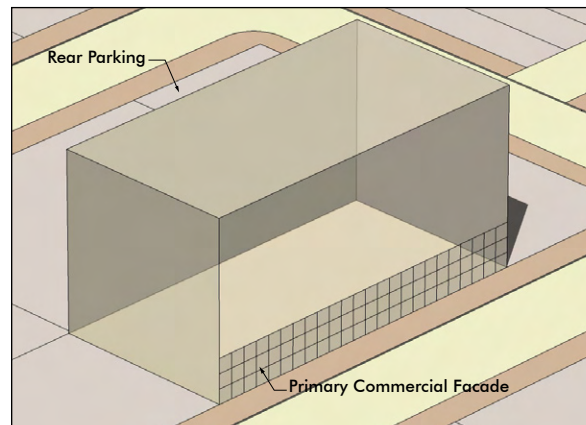
**Massing and Setbacks**

**2Bvi-6** Ensure buildings are at least two stories high. Allow buildings to be four to five stories high on the west side of the tracks.

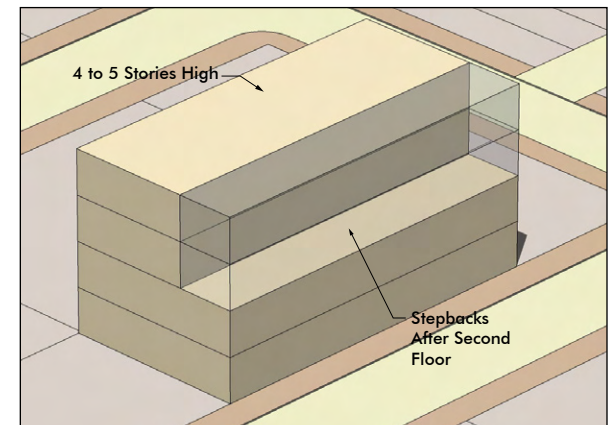
**2Bvi-7** Locate the majority of the building façade and commercial building uses along the edge of the sidewalk

**2Bvi-8** Allow stepbacks after the second floor to ensure that buildings provide a minimum amount of definition to the street.

**2Bvi-9** Minimize shadows cast on community amenities such as greenways and parks by creating upper floor stepbacks.



2Bvi-1, 2Bvi-4



2Bvi-6, 2Bvi-8

2BVI COMMERCIAL BUILDINGS

**Building Articulation**

**2Bvi-10** Maximize the building entries along the primary street façade. Emphasize the primary entry of buildings.

**2Bvi-11** Break the mass of some of the long and larger commercial buildings with architectural design elements including vertical elements and minor stepbacks.

**2Bvi-12** Emphasize the front facades with a rhythm of fenestrations (doors and windows), both along the ground floor and upper floors.

**Ecological Considerations**

**2Bvi-13** Encourage the use of vertical and horizontal shades, fins and overhangs to block summer sun.

**2Bvi-14** Encourage the use of disconnected drainspouts to interrupt the direct flow of runoff to the stormwater system.

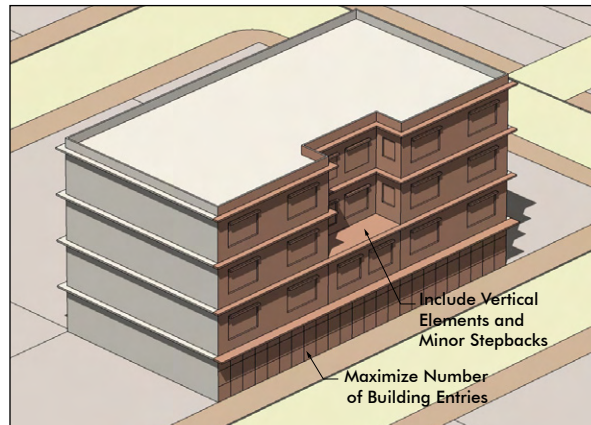
**Public-Private Interface**

**2Bvi-15** Provide privacy for first floor commercial uses by allowing them to be built three feet above the sidewalk level while ensuring ADA access to primary building entries.

**2Bvi-16** If possible, provide opportunities for seating and gathering within the building façade, minor building setbacks and sidewalks adjacent to the building.



*Example of a commercial building*



*2Bvi-10, 2Bvi-11, 2Bvi-12*





CHAPTER FIVE

# implementation



*It is wonderfully encouraging that places people like best of all, find least crowded, and most restful are small spaces marked by a high density of people and a very efficient use of space. peoples.*

William H. Whyte

The Social Life of Small Urban Spaces (The Conservation Foundation, 1979), 101

CHAPTER FIVE

# implementation

**in this chapter**

PHASING STRATEGY

FINANCING STRATEGY

GENERAL PLAN CONSISTENCY

ADMINISTRATION OF SPECIFIC PLAN

**THE PURPOSE OF THE IMPLEMENTATION COMPONENT OF THE PLAN** is to outline the “how to” steps for directing future investment in the project area. The implementation strategy will put forth an efficient and economical approach for creating a vital, thriving, transit-oriented development. The implementation strategy as well as the urban design improvements will enhance and highlight the unique characteristics of the light rail station. To implement planned improvements, the City must undertake a strategic approach that involves a set of priority improvements, matching these priorities to funding mechanisms, and defining procedures to administer the plan.



*Victory Townhomes development on Dixie Avenue*

## PHASING STRATEGY

Given the large area being considered by the plan, the constraints on public and private resources, and the needs of the adjacent Northeast Line light rail stations, the plan must be implemented over time. Investment in the area must be targeted to build off the momentum of existing development, create visible change in the area, and realistically respond to market conditions. The phasing strategy identifies initial steps to take to spur the revitalization of the area and ongoing improvements that will bring positive change to the area. Priority within the public and private realm will have the effect of catalyzing further development.

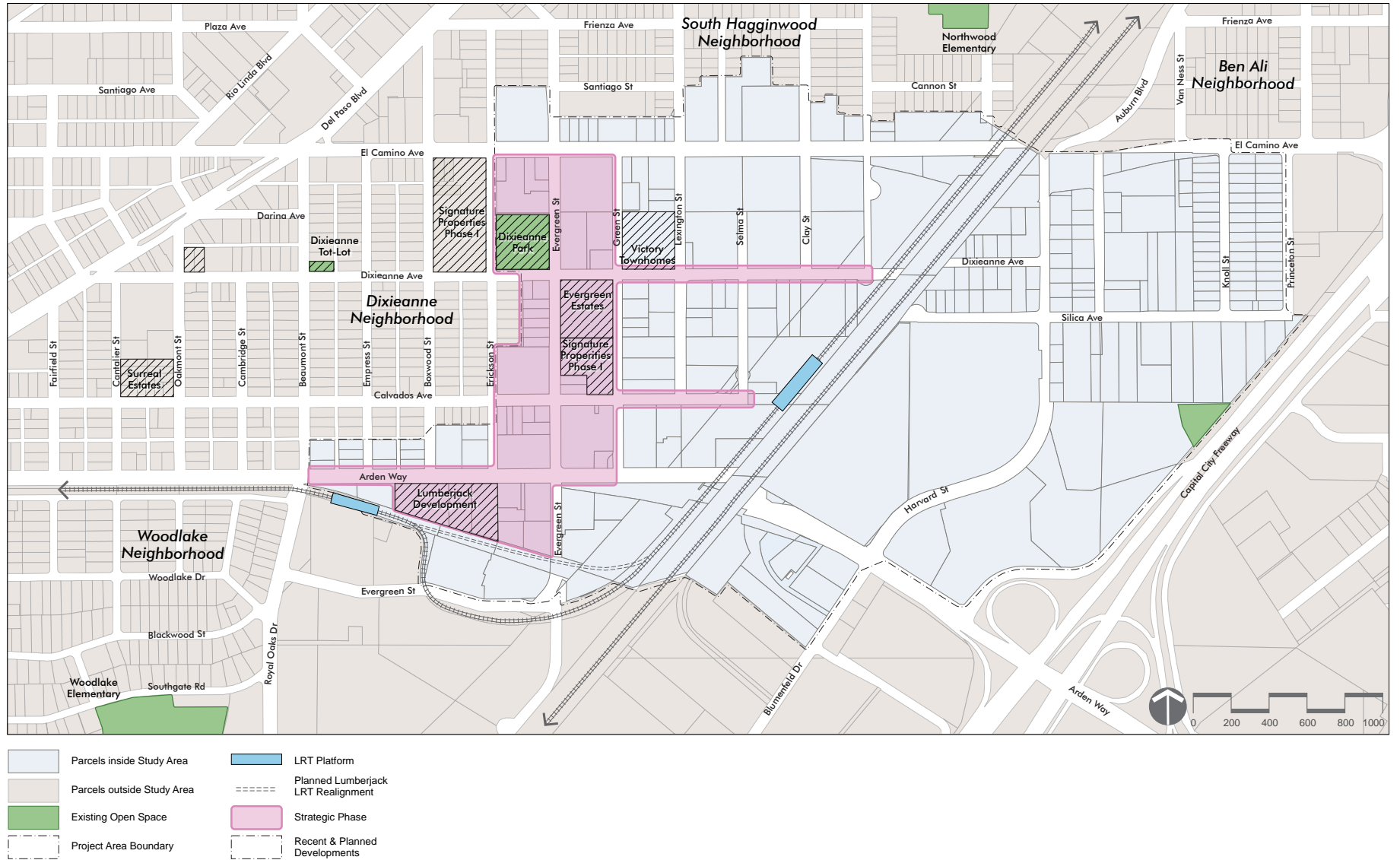
The first stage of implementation is changing land uses and rezoning that will occur when the Specific Plan is adopted. By changing the land uses to Mixed Use and Residential Mixed Use, there is greater flexibility for encouraging higher intensity development in keeping with a transit-oriented development. These regulatory changes remove initial barriers to development and lay a foundation for further improvements.

The project team recommends the following phasing strategy:

## STRATEGIC

- Focus new infill development on the blocks on either side of Evergreen Street to capitalize on the energy of recent and planned developments and the revitalization of Dixie Park. These relatively lower intensity blocks are proposed to provide an appropriate transition to the Dixie neighborhood and reflect market conditions while still maximizing TOD potential. Focusing investment will serve to prime the market for higher density developments more appropriate to the area immediately adjacent to the transit station.
- Invest in the public realm and streetscape improvements along Dixie Avenue, Evergreen Street, Calvados Avenue and Arden Way. Dixie Avenue, as the “Residential Main Street”, should be improved to signal investment and change in the area. Evergreen Street serves as the neighborhood entry street to the transit village and Calvados Avenue provides the most direct access to the transit station. Improvements to Arden Way that enhance the character and walkability should be made in concert with recommended improvements in the Northeast Light Rails Stations Plan.
- Introduce gateways to the transit village at Evergreen Street and Arden Way and El Camino Avenue to announce the station.
- Explore the reduction of parking requirements to encourage higher-density transit-oriented development.

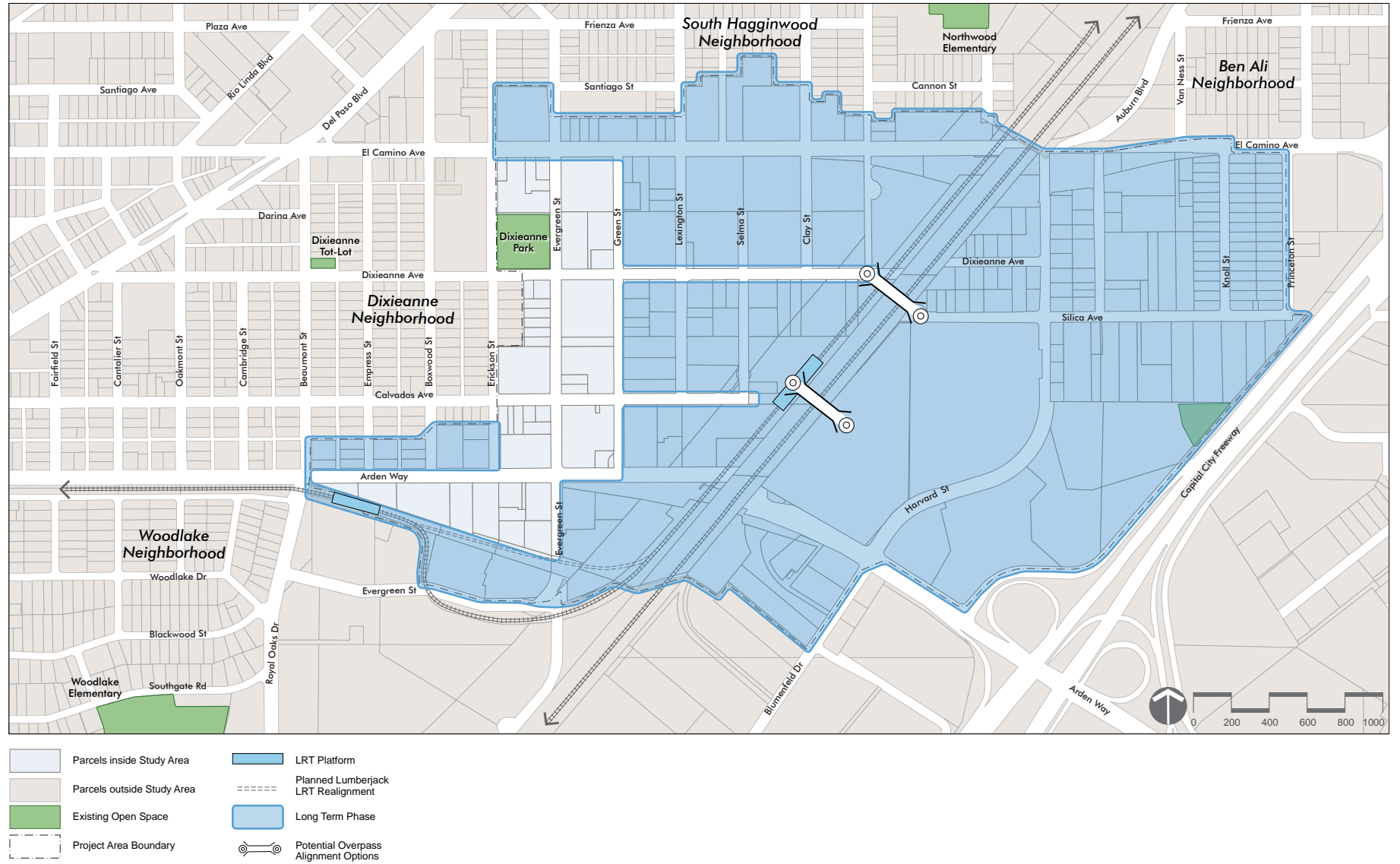
FIGURE 5.1 STRATEGIC PHASE



**LONG-TERM**

- Promote public realm improvements to local streets, such as Green, Lexington, Selma and Clay streets, to improve walkability and connectivity within the station area.
- Create new open spaces at key locations, such as at the corner of Dixieanne Avenue and Lexington Street and mid-block along Clay Street, to provide amenities for residents. Make improvements to the transit station to better provide for pedestrians, transit rides, and residents in immediate proximity.
- Build a pedestrian and bike overpass across the light rail and Union Pacific tracks. The bridge is recommended to connect at Dixieanne Avenue on the west of the tracks and Silica Avenue on the east of the tracks, but the possibility of connecting it directly from the transit station to the USAA property should be considered.
- Make pedestrian improvements to the El Camino Avenue and Arden Way overpasses. Explore providing a pedestrian off-ramp from the Arden Way overpass to the bus transfer center to improve pedestrian connectivity to the bus and light rail station.
- Promote infill mixed-use, commercial and residential development east of the tracks along Harvard and Silica streets to increase the employment and residential base of the area in accordance with both the transit village plan and the sub-regional center plan as outlined by the General Plan 2030.
- Make public realm improvements to the streets and open spaces east of the tracks to provide relief from the high intensity of development and to further promote pedestrian and bicycle connectivity in the area.
- Explore development options on the USAA property to realize the full potential of a transit-oriented development around the Swanston station, while respecting the adopted planned unit development agreement.
- Continue the use of lower parking standards and requirements to support transit-oriented development.
- Coordinate with RT to prioritize development on underutilized parcels, such as the Swanston Station parking lot.
- Work with the Point West Transit Management Association, neighborhood groups, and other public-private agencies and entities to successfully realize the Point West shuttle.
- Explore the possibility of expanding the North Sacramento redevelopment area to include the area east of the Union Pacific tracks.

FIGURE 5.2 LONG-TERM PHASE



### COST ESTIMATES & FINANCING STRATEGY

In order to catalyze TOD development, the Swanston Station Transit Village Plan analyzed and determined the infrastructure needs, based on an analysis of existing conditions and anticipated future conditions. As shown in the table below, total infrastructure costs to support the Swanston Station Transit Village Plan are estimated at \$37.2 million. Of this, approximately \$8.2 million in expenditures are required to support the Strategic Plan Phase of the project and \$29 million in expenditures are required to support the Long Term Plan Phase (full build-out) of the project. The Plan’s complete Infrastructure Evaluation is included in the appendix of this report.

Within the two phases, the Infrastructure Evaluation makes it possible to allocate costs between improvements needed to mitigate existing deficiencies and improve-

ments needed to upgrade facilities to serve new development. In total, about \$11.1 million is needed to fund improvements to correct existing deficiencies and about \$22.7 million is needed to mitigate impacts of new development. Spread among the anticipated 2,850 new residential units and 550,000 square feet of new commercial development that the Plan would ultimately support, the \$22.7 million figure is within the range that could be manageable. This would probably break down to an average of between \$6,000 and \$7,000 per dwelling unit equivalent. The \$11.1 million figure to mitigate existing deficiencies will be more challenging.

As shown in the table, for the Strategic Plan Phase, the chief existing deficiency is in the area of stormwater drainage, as the area could be subject to flooding in 10-

FIGURE 5.3 COST ESTIMATES

	Strategic	Long Term	Total
Water	\$872,300	\$2,747,300	\$3,619,600
Sanitary Sewer	\$2,330,600	\$2,742,000	\$5,072,600
Stormwater	\$3,090,600	\$5,814,800	\$8,905,400
Roadways	\$1,933,900	\$14,277,100	\$16,211,000
Pedestrian Bridge	\$0	\$3,394,000	\$3,394,000
Total	\$8,227,400	\$28,975,200	\$37,202,600



year and 100-year storm events. Thus, approximately half of the infrastructure costs associated with the Strategic Plan Phase are the result of needing to address existing deficiencies and half of the costs are associated with the new development needs.

The primary need to support new development in the Strategic Plan Phase is sewer improvements. In the Long Term Plan Phase, about three-fourths of the expenditures are necessary to accommodate new development, while about one-fourth of the expenditures represent the need to address remaining deficiencies that exist at present, mainly stormwater facilities. In the Long Term Phase, the main infrastructure need is associated with roadway and other transportation facilities.

### PRELIMINARY CAPITAL FUNDING SOURCES

Considering the array of infrastructure needs, the potential capital funding sources to fund the development of streetscape and utility improvements within the Swanston Study Area were examined. Following is an overview of the various types of funding sources and financing mechanisms that may be utilized to pay for capital improvements in the Swanston Transit Village Area.

#### Infrastructure Bonds

The City could float bonds to pay for the infrastructure improvements and tie the repayment of the bonds to the City's general fund, redevelopment tax increment financing, or special assessments. However, each of these repayment methods provides unique challenges to the City.

#### Federal Grants

There are a wide variety of Federal Grants that the City could pursue in order to fund the proposed improvements. For the most part, there are two major categories of Federal Grants available that would apply to the proposed improvements and Study Area: transportation grants and HUD-based grants.

#### State Funds

The State offers a variety of transportation funding options. The State offers transportation funds through the voter approved Proposition 1B. California voters approved Proposition 1B (SB1266) in November of 2006. This voter approved measure allows the State to float bonds to be used for transportation improvements around the State.

There are currently 14 funding programs in Proposition 1B, one of which the City could potentially use to pay for the proposed transportation improvements. Prop. 1C has also allocated \$850 million for infill infrastructure improvements and brownfield cleanup. An initial review of the program guidelines suggests that the Swanston Station area could be very competitive for these funds.

#### Regional Grants

In addition to acting as the intermediary for state and federal transportation grants, SACOG offers funding through three of its own re-granting programs. Of the three SACOG grants, the Community Design Funding Program has the most available funding, and most closely fits roadway improvement needs of the Swanston project. SACOG also has offers funding through the Bicycle and

Pedestrian Funding program, which could provide gap funding to the pedestrian bridge.

### Local Funding Sources

The City could potentially use Measure A funds or charge developer impact fees to finance the proposed infrastructure improvements. Also, an increase in utility rates could be used to pay for critical improvements to water, sewer, and storm drainage systems.

### FUNDING STRATEGY

In general, the discussion of the funding sources makes it clear that the City has limited resources under its own control to provide the funding for the Swanston Station Transit Village public improvements. In the current real estate environment, developers will have a difficult time funding much beyond basic infrastructure investments if they are also asked to develop higher density projects in line with the Plan's long-term vision. Also, the challenge is complicated by the fact that there appear to be substantial improvements necessary to address existing deficiencies, while options are limited to raise funds from existing development.

Given that Swanston Station does not make up the entire North Sacramento redevelopment area, these competing funding priorities mean that SHRA will have to use a strategic approach to resource allocation that accounts for current market conditions as well as its own internal priorities. Because it is unlikely that property owners will agree to tax themselves in order to raise funds for the required improvements in the Swanston Transit Village Area, the City should build its infrastructure plans around a pay-as-you-go approach for improvements necessary to support new development. Although this means that the project

will probably build out on a more extended timeframe as compared to building the infrastructure all at once, it is probably more politically feasible and also involves less risk to the City, property owners, and developers.

For these reasons, the City of Sacramento should pursue grant funds aggressively in order to underwrite the majority of the costs for the Strategic Plan Phase of the project, and to help correct existing deficiencies that will hamper redevelopment of the area. The Swanston Station Transit Village Plan should be very competitive for many grant funding programs because of several factors, including transit-orientation, significant investment in alternative transportation infrastructure (pedestrian bridge), sustainable development practices (Dixianne “green street”), the infill nature of the project, and the focus on higher density, mixed use development that is consistent with the sustainable development objectives of the Sacramento Regional Blueprint Project.

Over time, as the real estate market in general improves, and as the initial phase improvements begin to further enhance the desirability of the Swanston Transit Village Area in particular, the City may find it feasible to place a greater burden on future development to help fund infra-

structure improvements through a special planning area impact fee.

To pay for improvements necessary to address existing infrastructure deficiencies that will otherwise be barriers to new development in the area, BAE suggests that the City of Sacramento should utilize ratepayer funds from its water, sewer, and stormwater utilities. This will of course require prioritizing the improvements in relation to other citywide needs; however, this policy initiative will be necessary in order to bring about revitalization in this area.

#### **PRIORITIZATION**

The City’s first priority for the area should be to address existing drainage problems, to reduce threats to existing as well as new development. Next, the City should make water and sewer system improvements to address existing deficiencies and enable new development envisioned in the Strategic Plan Phase. This first \$6.3 million in public investment, along with the private investment that it will enable, should be sufficient to catalyze the area by improving property values and making the buildout of the Long Term Plan Phase attractive to the development community.

The Pedestrian Bridge will be the centerpiece of the Long Term Plan Phase, and it will be necessary to fully realize the vision of the Swanston Transit Village Plan as an integrated, connected area spanning both sides of the railroad tracks. Thus, the City should make a long-term commitment to securing the funds necessary to construct this improvement, using funds already collected for its construction as matching funds to leverage grant funds.

### SPECIAL POLICY RECOMMENDATIONS

The process of reviewing potential funding mechanisms for the Swanston Station Transit Village Plan has highlighted several issues with regard to promoting infill and revitalization within the City of Sacramento's older neighborhoods. Following are several recommendations for policies that could serve to facilitate these types of projects, where current policies do not actively support infill and revitalization efforts.

- The City of Sacramento should examine its current impact fee program policies along with the infrastructure improvements list and determine if there are any opportunities to incorporate some of the Swanston Station Transit Village Plan Area improvements into updates of existing water and sewer impact fee programs.
- In addition, the City of Sacramento should evaluate the circumstances of the Swanston Station Transit Vil-

lage Plan and other infill projects within the City and determine whether it would be appropriate to establish tiered impact fee programs, which might justify charging infill projects reduced impact fees in recognition of the fact that they may require less expansion of existing systems.

- Finally, as existing deficiencies appear to be a major barrier to moving forward with new development in the Plan Area (and likely in other infill areas within the City as well), the City should review the potential to utilize utility user fees to finance the cost of improvements that are necessary to correct existing deficiencies. Such a strategy might involve identifying a series of improvements throughout the City to address existing deficiencies and then determining the feasibility of raising the required funding through an increase to existing utility rate schedules.

### GENERAL PLAN CONSISTENCY

The City of Sacramento's General Plan and the Swanston Station Transit Village Specific Plan provide a framework to guide the future development in the Planning Area. The Specific Plan serves as an extension of the General Plan, and can be used as both a policy and regulatory document. New development will be required to follow the policies, programs and guidelines set forth in the Specific Plan, which take precedence over more general policies and standards throughout the rest of the city. These policies and guidelines will apply to existing development in instances where owners or occupants intend to alter an existing structure or grounds, or change an existing use.

The Swanston Station Transit Village Specific Plan process has regularly coordinated with the ongoing General Plan 2030 process to be consistent to the largest extent possible. However, the following pages illustrate the existing General Plan policies that support the development of this Specific Plan.

<b>Residential Land Use</b>
<ul style="list-style-type: none"> <li>• A-4 Promote the reuse of abandoned structures which are sound or can be renovated for residential use to ensure neighborhood vitality.</li> </ul>
<ul style="list-style-type: none"> <li>• A-5 Continue redevelopment and rehabilitation efforts in existing target areas and identify other areas experiencing blighting conditions. Explore methods to expand public or private rehabilitation efforts in potential improvement areas and in areas of opportunity or reuse identified in the General Plan.</li> </ul>
<ul style="list-style-type: none"> <li>• C-1 Identify areas where increased densities, land use changes or mixed uses would help support existing services, transportation facilities, transit, and light rail. Then proceed with necessary General Plan land use changes for property with service capacities adequate to support more intensive residential development.</li> </ul>
<ul style="list-style-type: none"> <li>• C-2 Identify areas of potential change where density development would be appropriate along major thoroughfares, commercial strips and near light rail stations, and modify plans to accommodate this change.</li> </ul>
<ul style="list-style-type: none"> <li>• C-4 Promote infill development as a means to meet future housing needs by expanding the benefits for this type of development and actively promote infill development in identified infill areas through outreach programs designed to inform the development community and property owners of this program.</li> </ul>
<ul style="list-style-type: none"> <li>• C-6 Continue to support redevelopment and rehabilitation efforts that add new and reconditioned units to the housing stock while eliminating neighborhood blight and deterioration.</li> </ul>
<ul style="list-style-type: none"> <li>• E-1 Provide housing opportunities in newly developing communities and in large mixed use developments in an effort to reduce travel time to and from employment centers.</li> </ul>
<ul style="list-style-type: none"> <li>• E-2 Use mixed use housing and employment centers to help meet housing needs and reduce traffic in new development within the City.</li> </ul>
<ul style="list-style-type: none"> <li>• E-3 Establish guidelines for mixed use projects and allow these uses in urbanized areas of the City where intensive development is planned.</li> </ul>

<b>Housing Element</b>
<ul style="list-style-type: none"> <li>• 1-E The City shall continue to promote appropriate and compatible infill housing.</li> </ul>
<ul style="list-style-type: none"> <li>• 1-F The City shall continue to develop and support transit oriented residential development along transit corridors.</li> </ul>
<ul style="list-style-type: none"> <li>• 5-D Promote quality residential infill development in infill areas or designated infill sites through flexible development standards.</li> </ul>
<ul style="list-style-type: none"> <li>• 6-A Revitalize and improve the quality of existing Sacramento neighborhoods.</li> </ul>

<b>Commercial and Industrial Land Use</b>
<ul style="list-style-type: none"> <li>• Citywide A-1 Actively support and encourage mixed use commercial, office, and residential development in identified areas of opportunity around light rail stations by establishing minimum development standards, potential financial incentives, and priority processing or streamlined review.</li> </ul>
<ul style="list-style-type: none"> <li>• Citywide A-2 Implement land use policies, ordinances, development standards, and design guidelines consistent with the Transit for Livable Communities (TLC) recommendations.</li> </ul>
<ul style="list-style-type: none"> <li>• Citywide B-1 Actively support and encourage mixed use commercial, office, and residential development in identified areas of opportunity.</li> </ul>
<ul style="list-style-type: none"> <li>• Neighborhood /Community Commercial and Office Areas B-2 Promote the development of mixed use local commercial/office and high density residential projects.</li> </ul>
<ul style="list-style-type: none"> <li>• Industrial Employee Intensive Area A-1 Support employee intensive uses where appropriate along transportation corridors, adjacent to Light Rail stations, within selected mixed-use areas, and where community plan and redevelopment goals would be implemented.</li> </ul>



<b>Circulation</b>
<ul style="list-style-type: none"> <li>• Transit A-5: Development shall meet the target average density as defined by the applicable General Plan land use category to otherwise increase and maximize potential transit ridership within one quarter mile radius of existing and future light rail stations.</li> </ul>
<ul style="list-style-type: none"> <li>• Transit A-6: Discourage low density, low employment intensity, and auto related uses within one quarter mile of existing and future light rail stations that have low transit compatibility.</li> </ul>
<ul style="list-style-type: none"> <li>• Transit A-7: Projects located within ¼ mile of existing and planned light rail transit stations should provide direct pedestrian and bicycle access to the station area, to the extent feasible.</li> </ul>
<ul style="list-style-type: none"> <li>• Transit A-8: Maximum project densities and intensities should be encouraged within ¼ mile of light rail stations, consistent with the adopted policies of Regional Transit, the recommendations of the Transit for Livable Communities project, and the adopted land use plans and policies of the City.</li> </ul>
<ul style="list-style-type: none"> <li>• Transit B-1: Work with the transit providers to improve the frequency and location of bus service connecting residential areas with activity centers for the highest potential use by the citizens of the City.</li> </ul>
<ul style="list-style-type: none"> <li>• Pedestrianways A-4: Encourage mixed use developments to generate greater pedestrian activity.</li> </ul>
<ul style="list-style-type: none"> <li>• Pedestrianways A-5: Require developments to provide street-separated pedestrian access to shopping centers, business activity centers and transit stations and facilities.</li> </ul>
<ul style="list-style-type: none"> <li>• Bikeways B-3: Incorporate adequate street widths into street plans and developments to ensure a reasonable level of safety for bicyclists and motorists.</li> </ul>
<ul style="list-style-type: none"> <li>• Bikeways B-16: To develop bicycle-transit facilities in areas which integrate land use and transit linkages.</li> </ul>

<b>Public Facilities and Services</b>
<ul style="list-style-type: none"> <li>• Parks and Recreation Services A-2: Give high priority to acquiring land and improving parks, open space and recreation uses in redevelopment, Community/Specific Plan and infill target areas where these uses are deficient.</li> </ul>

## ADMINISTRATION OF THE SPECIFIC PLAN

The City of Sacramento is responsible for the administration and enforcement of this Specific Plan.

This section describes the authority of a Specific Plan and the administrative procedures required for amendments and/or modifications to the Specific Plan.

### ADOPTION

The Specific Plan will be adopted by City Council Resolution. Adoption of this Specific Plan involved City Council approval of a General Plan Amendment (text and map). Upon adoption, the Specific Plan, Environmental Impact Report and Mitigation Monitoring Plan established the land use and zoning for the Specific Plan Area. The City Council will also need to approve any streetscape design proposals for the area that do not meet the City's Pedestrian-Friendly Street Standards, due to the existing constrained right of way.

### AMENDMENTS

Over time, various sections of the Specific Plan may need to be revised as economic conditions or City needs dictate. The policies presented in the Specific Plan contain some degree of flexibility, but any Specific Plan amendments must be judged by relatively fixed criteria. The California Government Code (§ 65453) clearly states that a Specific

Plan “may be amended as often as deemed necessary by the legislative body.”

Amendments to this Specific Plan may be initiated by a developer, any individual property owner or by the City, in accordance with any terms and conditions imposed during the original approval or in accordance with any terms and conditions pertaining to the City of Sacramento's zoning code.

Proposals to amend the Specific Plan must be accompanied by detailed information to document the change required. This information should include revised Specific Plan text (or excerpt thereof) and revised land use diagram or map amendment, where relevant, depicting the amendment requested.

The City and/or applicant must provide an analysis of the amendment's impacts relative to the adopted environmental document. Depending on the nature of the amendment, supplemental environmental analysis may be necessary. The need for such additional analysis shall be determined by the City of Sacramento in accordance with the California Environmental Quality Act (CEQA Guidelines § 15162).

### City Staff Analysis

The Planning Director shall determine whether the Specific Plan amendment is significant or insignificant. If the amendment is determined to be significant, the application shall be reviewed and considered in the manner prescribed by the City's zoning code. If the amendment is determined to be insignificant, the Planning Director may approve or deny the application. Any decision of the Planning Director may be appealed to the Planning Commission.

### Necessary Findings

The consideration of any proposed amendment to the Specific Plan shall include the determination of the following findings:

- Changes have occurred in the community since the approval of the original Specific Plan, which warrant approving the proposed amendment.
- The proposed amendment is consistent with the General Plan for the City of Sacramento.
- The proposed amendment will result in a benefit to the Specific Plan area.
- The proposed amendment will not result in any unmitigated impact to adjacent properties.

- The proposed amendment will enable the delivery of services and public facilities to the population within the Specific Plan area.

For significant amendments, the Planning Director will review all of the above submitted material and provide a staff report for presentation to the Planning Commission and City Council. The Planning Director may also request further clarification of the above studies, if necessary. The staff report will analyze whether the need to amend the Specific Plan can be supported by the conclusions of the supplemental studies.

### Public Hearings

If the amendment is considered significant, both the Planning Commission and the City Council must hold Public Hearings on the Specific Plan Amendment, in accordance with § 65453 of the State Government Code.

**LAND USE & ZONING**

The Swanston Station Transit Village Plan uses existing City of Sacramento land use and zoning designations. The Plan's land use designations are Residential Mixed Use and Mixed Use. The zoning designations for most of the project area are Residential Mixed Use (RMX) and Commercial (C-2), with the transit overlay zone (TO). A land use that is not consistent with these designations is not allowed except as follows:

**1. Required Findings:** The Planning Director may determine in writing that a proposed use is similar and compatible to a listed use and may be allowed upon making one or more of the following findings:

- The characteristics of and activities associated with the candidate uses are similar to one or more of the allowed uses and will not involve substantially greater intensity than the uses listed for the Specific Plan area;
- The candidate uses will be consistent with the purpose and vision of the Specific Plan area;
- The candidate uses will be otherwise consistent with the intent of the Specific Plan;
- The candidate uses will be compatible with the other uses listed for the Specific Plan area.

**2. Public Hearing:** The Planning Director may refer the question of whether a proposed use is permitted directly to the Planning Commission or City Council for a determination at a public hearing.





MOORE, IACOFANO, GOLSTSMAN, INC.  
800 HEARST AVE  
BERKELEY, CA 94710  
510 845 7549  
[WWW.MIGCOM.COM](http://WWW.MIGCOM.COM)



swanston station  
TRANSIT VILLAGE SPECIFIC PLAN





# Swanston Station Transit Village

## Specific Plan

Volume Three

*December 2007*

Moore Iacofano Goltsman, Inc.

PBS&J  
Bay Area Economics  
Kimley-Horn Associates, Inc.  
Criterion Planners  
Barry Wasserman



VOLUME THREE

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MOORE IACOFANO GOLTSMAN, INC. - COMMUNITY WORKSHOP SUMMARIES

# acknowledgements

## CITY OF SACRAMENTO

Council Member Sandy Sheedy, Council District Two  
Council Member Steve Cohn, Council District Three  
Joann Cummins, Council District Two  
Sue Brown, Council District Three  
Brian Abbanat, Project Manager & Associate Planner  
Fedolia “Sparky” Harris, Senior Planner

## STEERING COMMITTEE

RAC - Revelopment Advisory Committee  
PBID - Property Based Improvement District  
TMA - Transit Management Agency  
Tom Armstrong, North Sacramento RAC  
Joann Cummins, Council District Two  
Buddy Bergstrom, Del Paso Blvd PBID  
Jan McCleary, North Sacramento RAC  
Elmer McCleary, North Sacramento RAC  
Rebecca Garrison, Point West TMA  
Janet Pineta, North Sacramento School District Representative  
Phil Harvey, Petrovich Development  
Allen Warren, New Faze Development  
David Nybo, Signature Properties  
Laurie Koike, Arden Fair Mall  
Erica Manuel, Cal Expo

## CITY OF SACRAMENTO

Cecilyn Foote, Department of Transportation  
Sabina Gilbert, City Attorney’s Office  
Jesse Gothan, Development Services Department  
Mark Griffin, Department of Planning  
Jennifer Hageman, Environmental Planning Department  
Steve Kowalski, Development Services Department  
Dean Peckham, Economic Development Department  
Eric Poerio, Police Department  
Yvonne Riedlinger, Neighborhood Services Department  
Michele Rudek, Parks & Recreation Department  
Angie Shook, Fire Department  
Stu Williams, Utilities Department

## SACRAMENTO HOUSING & REDEVELOPMENT AGENCY

Marti Brown  
Katherine Klein  
Chris Pahule

## REGIONAL TRANSIT

Fred Arnold  
Taiwo Jaiyeoba  
James Robinson

## CONSULTANT TEAM

### MOORE IACOFANO GOLTSMAN, INC.

Daniel Iacofano, PhD, FAICP, Principal & Project Director  
Mukul Malhotra, Project Manager & Urban Designer  
Dan Drazen, Deputy Project Manager & Planner  
Julia Abbassi, Planner & Urban Designer  
Maria Landoni de Rose, Landscape Architect  
Anchi Mei, Planner

### PBS&J

Rod Jeung, AICP, Senior Program Manager  
Amber Grady, Senior Scientist - Historic Resources

### BAY AREA ECONOMICS

Matt Kowta, Principal  
Linda Matthew, Senior Associate  
Keren Costanzo, Associate

### KIMLEY-HORN AND ASSOCIATES, INC.

Steve Pyburn, C.E., T.E., Project Engineer

### CRITERION PLANNERS

Eric Main, AICP, Project Manager

### BARRY WASSERMAN

# Market and Pro-Forma Analysis; Funding Strategy

Bay Area Economics



**Final  
Swanston Study Area  
Market Analysis**



**Prepared for:**  
City of Sacramento



Prepared by:  
Bay Area Economics

May 2007

**Bay Area Economics**

**Sacramento Region Office**  
803 Second Street, Suite A  
Davis, CA 95616

530.750.2195  
fax 530.750.2194  
bae1@bae1.com  
bayareaeconomics.com

San Francisco Bay Area

Sacramento

New York

Washington, D.C.

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## **Executive Summary**

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This report provides an overview of real estate market opportunities surrounding Sacramento Regional Transit's (Sacramento RT) Swanston light rail station. The study evaluates residential, retail, and office development opportunities in the area through 2025.

### **Study Area Definitions**

#### *Swanston Project Area*

The City of Sacramento defined the Swanston Project Area in its request for proposals, issued on March 4, 2005. The area is located approximately three miles northeast of Downtown Sacramento, in the City's North Sacramento district. The project area is roughly bounded by El Camino Avenue on the north, Arden Way on the south, and the Capital City Freeway (Business 80) on the east. Beaumont and Erickson Streets define the western edge of the project area. This area should not be confused with the "Swanston Study Area" defined below.

#### *Swanston Study Area*

As defined for the purposes of this economic study specifically, the Swanston Study Area (Study Area) is comprised of five U.S. Census Block Groups: Block Groups 1, 3, 4 and 6 of Census Tract 69 and Block Group 5 of Census Tract 55.02. This geography is illustrated in Figure 1. It is necessary that the Study Area be based on Census boundaries in order to obtain usable demographic and economic data for the study. The Study Area is bounded by I-80 to the east, State Route 160 to the south, Del Paso Boulevard to the west and El Camino Avenue to the north.

### **Swanston Station**

The Swanston light rail station has a landscaped 3.5-acre park and ride lot with capacity for approximately 310 cars. Station amenities include pedestrian shelters and telephones. Daily boardings, the number of people getting on the trains, have increased at Swanston Station between 2000 and 2005, rising over 66 percent, from 137 to 228 daily boardings. Despite the significant boost in ridership numbers, a recent windshield survey of the Swanston Station park and ride lot indicates that the lot is under-utilized relative to its capacity, with only about 100 parking spaces occupied, and the other two-thirds of the spaces vacant. The low level of parking utilization suggests that some of the parking area could be better used for an alternate, more transit-supportive use. Furthermore, transit ridership alone will not support significant amounts of retail development at the station. There must be a surrounding market capable of supporting the retail without the transit. New station area residential and/or office uses that attract residents or daytime employees and visitors to the area will, however, help to generate increased transit usage.

# Neighborhood Context

The Swanston Study Area is characterized by a wide array of land uses adjacent to one another. The Swanston Study Area consists of light industrial centers, residential neighborhoods, commercial corridors and a great deal of underutilized land. The portion of the Swanston Project Area west of the rail line is part of the North Sacramento Redevelopment Project Area that Sacramento Housing and Redevelopment Agency (SHRA) formed in 1992 to combat “higher unemployment, lower household income and a badly deteriorated building stock.”<sup>1</sup> That same year the Artist Live Work Ordinance passed, making it legal for artists to live and work in commercial spaces.<sup>2</sup> While some arts-related businesses and organizations have closed or moved from the area, other arts-related development continues to occur. Outside of the arts realm, New Faze Development has acquired at least six Del Paso Boulevard properties within the Swanston Study Area and relocated its own office space to Del Paso Boulevard from a suburban location. The development company is planning at least two mixed-use projects in the area.

Generally, much of the retail located within the Swanston Study Area consists of local-serving “mom and pop” type stores with national chains seeking locations across Business 80 in the Arden Fair area; however, the commercial corridors in the Swanston Study Area have been undergoing modest but steady transformation. Formation of a Property-Based Business Improvement District (PBID) along Del Paso Boulevard to address safety and beautification issues and to provide marketing and promotion services for the area should support further revitalization.

# SHRA Redevelopment Efforts



Eleven single-family artist live/work units have recently been built in the Dixieanne Neighborhood, at the intersection of Oakmont and Calvados streets. SHRA also partnered with the Sacramento Mutual Housing Association (SMHA) on the construction of the 21-unit Victory Townhomes development and the rehabilitation of the 56 apartments comprising Evergreen Estates.

In order to address the plethora of vacant lots and deteriorated housing in the area, SHRA established several programs within the North Sacramento Redevelopment Area, such as the Single Family Rehabilitation Loan and Retrofit

<sup>1</sup> SHRA North Sacramento 5-year Implementation Plan

<sup>2</sup> [www.surrealestates.org](http://www.surrealestates.org) and [www.sacforart.com](http://www.sacforart.com)

Grant Program, the Multifamily Rehabilitation Loan Program, and the Boarded and Vacant Program. SHRA also dedicated an allocation of \$5 million towards the completion of Phases I and II of the Del Paso Boulevard Streetscape Master Plan. Phase I includes new medians, lighting, landscaping, and public art. Phase II includes enhancements to improve pedestrian access and walkability, and attract consumers to shops along the commercial strip, specifically, bus stop relocations, bulb-outs, diagonal parking, and a reduction to two lanes between Arden Way and El Camino Avenue. Phase I is nearly complete, and Phase II will be completed by mid-2007.

SHRA provides loans and grants for exterior and interior commercial rehabilitation projects. The highly utilized exterior rebate program provides grants for façade improvements to businesses.

New projects approved for the area include a site for a Starbucks and an additional retail store at the intersection of Rio Linda Boulevard and El Camino Avenue, and 6,000 square feet of commercial space at 100 Arden Way. Another proposed project at 965 El Camino is a Petrovich Development Company venture that has been discussed as a potential ground lease to a fast food establishment, though this plan has been met with considerable opposition. In addition, there are several commercial rehabilitation proposals that focus on office and professional spaces.

## **Existing Land Use Conditions**

The Swanston Study Area consists of residential, commercial and light-industrial land uses, with a significant supply of vacant and underutilized parcels. The eastern portion of the study area primarily contains a mix of office parks and light-industrial uses, including warehouse and light-manufacturing. USAA's large campus is located east of the rail lines, including an underutilized baseball field and adjacent vacant land. West of the rail lines and south of Arden Way, office uses dominate the landscape. Light manufacturing, warehouse and vacant lots are most common in the area north of Arden Way.

Retail and office uses, with General Commercial zoning (C-2), are located along the commercial corridors of Del Paso Boulevard and El Camino Avenue, and are interspersed along the northern half of Arden Way. These commercial areas are plagued with vacant and underutilized sites.

The Swanston Study Area north of Arden Way consists of residential lots that are generally small in size, and interspersed with commercial uses. There is a greater occurrence of multifamily developments in this portion of the Study Area as compared to the geography south of Arden Way. Furthermore, the houses and apartment complexes found here are generally older, with some in need of rehabilitation.

Large homes on single-family lots characterize the neighborhood south of Arden Way. These homes are in good condition with many retaining their historic architecture. Multifamily

residences are concentrated in the southwest corner of this area, near the mobile home park bordered by Del Paso Boulevard and State Route 160.

There are several parks located within the Study Area. Dixieanne Park, located at the intersection of Dixieanne Avenue and Erickson Street, contains a lighted baseball field. However, this fenced-off park is an underutilized neighborhood asset that requires greater attention in order to increase resident activity. A “tot lot” at Dixieanne Avenue and Beaumont Street provides a playground facility for young children. To the south, Woodlake Park offers more than seven acres of grounds. Park amenities include a lighted tennis court, a baseball field, a club house, children’s playgrounds, and the Sacramento Police and Sheriff Memorial.

## **Demographic and Employment Trends**

This section summarizes local demographic and employment trends, and analyzes their impacts on the potential for transit oriented development in the Swanston Study Area. For the purposes of this analysis, the report identifies three geographies of interest; the Swanston Study Area (Study Area), North Sacramento, and Sacramento County. The Swanston Study Area is defined as the area roughly bounded by El Camino Avenue to the north, State Route 160 to the south, I-80 to the east and Del Paso Boulevard to the west (see map in Figure 3). This geography includes the higher-income households located in the Woodlake Neighborhood. The North Sacramento geography represents the general market area surrounding the Swanston Study Area, and the County provides a larger context in which to analyze local and regional trends.

## **Regional Trends in Urban Living**

Researchers have found that households attracted to urban infill housing products tend to be young singles, childless couples, empty nesters, and the elderly. Like many areas in California, the Sacramento Region will continue to have disproportionate growth in smaller non-family households and family households without children. SACOG projects the Region’s average household size will decrease from 2005 to 2020. SACOG also anticipates persons 65 years and older will grow from 11 percent of the Region’s population in 2000 to 20 percent in 2030.<sup>3</sup> As these demographic patterns shift, demand for compact urban housing types will increase, especially housing near workplaces offering amenities and character.

## **Local Demographic Trends**

Despite the residentially-zoned land being relatively built out, the number of households in Study Area grew more rapidly than the County overall between 2000 and 2005. Within the Study Area, there are proportionately fewer family households, smaller household sizes, greater proportions of seniors 65 years of age and older, and smaller proportions of children. These

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<sup>3</sup> *Projections of Employment, Population, Households, and Household Incomes in the SACOG Region for 2000 – 2005*, Center for Continuing Study of the California Economy, DB Consulting, SACOG, September 2005.

demographic characteristics all suggest solid demand for multifamily housing. Although the household incomes in the area are relatively low at present, this area has also seen a slight increase in the percentage of households owning their own homes. This will likely continue, as households priced out of other more expensive areas of Sacramento seek opportunities to buy homes that are more affordable. Workforce housing for singles and couples, seniors, and other small households who are priced out of areas such as Midtown and Downtown is likely to be a strong market niche for the Swanston Study Area. For those households with members who work in the Downtown area, the light rail station will provide a convenient and inexpensive commute option.

## Employment Trends

Like the population projections, the employment projections for the Study Area reflect the fact that the Swanston Study Area does not have large amounts of properly zoned and readily developable land to accommodate growth in land uses that would generate large increases in employment. Backfilling the office space vacated by USAA will probably represent a very large proportion of the future office employment growth in the area. Although SACOG expects significant employment growth in the manufacturing sector for North Sacramento, manufacturing development would not likely contribute to making the Swanston Study Area more attractive for residential, retail, and office uses that would be more transit supportive.

## Existing Real Estate Conditions

According to several local commercial real estate brokers, most retail stores in the area serve the local community while national retailers chose sites on the east side of Business 80. Types of tenants targeted to fill the available spaces for rent include salons, restaurants and local-serving retail stores. A couple of real estate brokers indicated that the retail spaces they represent in this area have not been difficult to fill due to the high traffic counts along Del Paso Boulevard. However, a significant number of vacant storefronts along Del Paso attest to the fact that the area is still in a turn around phase.



Local developers are planning a variety of office and mixed-use projects along Del Paso Boulevard in the near future. According to local real estate professionals, there are not many office buildings in the area available for lease. Brokers for the office spaces claim that finding tenants is not a challenge as there is not a great deal available space and competition for potential tenants. As new office construction

increases along Del Paso Boulevard, the competitive conditions may change. Still, many office users in the area have been priced out of Downtown Sacramento's Class A office space and were in search of more affordable markets near Downtown.

Between February 2005 and February 2006, there were 36 single-family home transactions within the northern half of Study Area. Generally, the homes in this area are older, in fair to poor condition, with smaller living areas and fairly large lots. The median sales price was \$262,500 for homes with a median of two bedrooms, 1,046 square feet of living space, and a 6,534 square foot lot. The 11-unit SurrealEstates project offers artist live/work units that include three-bedrooms plus a detached artist studio, priced between \$120,210 and \$225,000. These prices are subsidized with sweat-equity from the artist-homeowners. The market-value of these units is estimated at around \$300,000.

According to the Hanley Wood "Project Summary Report" for the Northwest Condominium and Townhome Market in Sacramento, condominium and townhome sales prices in this larger northwest Sacramento region ranged from \$146,900 to \$434,000 per unit. One of these projects, Alder Grove, was a condominium conversions of existing rental housing, but most were new construction. On a per square foot basis, unit sales of new condominiums ranged from \$150 to over \$340 per square foot of living area. New townhomes sold from \$180 to \$275 per square foot of living area with larger units selling at a lower per square foot price. It should be noted that the vast majority of reported condominium sales were in North Natomas, a more expensive residential market. Thus, new condominiums in the Study Area would likely command slightly lower prices than those found in North Natomas.

The market for condominiums and townhomes is slowing down: between June 2005 and June 2006, the typical condominium development averaged six unit sales per month, compared to 14 sales per month in calendar year 2005. Still, for sale condominiums persist as a key development opportunity within the Study Area. Demand for entry-level for sale units has remained strong due to the decreasing affordability of the single-family housing market. With single-family home prices climbing well above \$300,000, entry-level homeowners are pursuing more affordable quality housing opportunities and in areas that have otherwise been overlooked. In response, developers continue to pursue condominium conversions throughout the Sacramento region. While condominium conversions offer the lowest cost housing, it should be noted that a barrier to conversions in the Study Area is the City of Sacramento's condominium conversion ordinance of 1980. Based on prevailing sale prices, new quality condominiums in the Study Area could command in upwards of \$215 to \$235 per square foot.

Due to the limited supply of large apartment complexes or other available rental units within the Study Area, the analysis expanded its geographic scope to include nearby neighborhoods. In addition to the new Victory Townhomes and refurbished Evergreen Estates, the windshield survey located one other large apartment complex within the Study Area, Woodlake Close. Woodlake Close is located along Royal Oaks Drive near Woodlake Elementary. All three of the complexes are in excellent condition and offer numerous unit and on-site amenities.

Beyond the above options, the remaining multifamily units in the Study Area are limited to small apartment complexes that are in poor condition. Many of these apartments are located in the northern half of the Study Area, including several complexes along Boxwood Street. In the southern portion of the Study Area, these multifamily units can be found along Lochbrae Road, including single family homes converted to multi-family units that range in condition from poor to fair. In addition, Woodlake Manor is a larger complex located at Lochbrae Road and Canterbury Road that is in relatively poor condition.

## Potential Development Sites

Throughout the Study Area there are vacant land parcels, lots for sale, and underutilized lots that present development opportunities. However, many of the vacant sites along the commercial strips of Del Paso Boulevard and El Camino Avenue do not display any signs of development.

One large site, spanning almost the entire block of El Camino Avenue, Erickson Street, Boxwood Street, and Dixie Avenue, presents an excellent development opportunity, as the site is currently in a natural state. In addition, this lot is situated across the street from Dixie Park. Recently, Signature Properties obtained approval to build 60 detached single-family homes on this site. Signature Properties has also purchased the lot behind the Evergreen Estates, towards Calvados



Avenue and obtained approval to build 20 single-family homes on that site. The site across the street at Erickson Street and Calvados Avenue offers similar opportunities for development. Both sites are located interior to the commercial strips and would be good sites for high-density residential projects. However, these sites back onto industrial and commercial uses located along Arden Way.

Through the windshield survey, BAE located several other opportunity sites in the area. Many of these do not have listings but remain vacant or underutilized. Two such vacant lots, one at the southeast corner of Calvados Avenue and Fairfield Street and a slightly larger site at the southwest corner of Dixie Avenue and Selma Street, may be appropriate for residential uses. BAE also located a vacant lot that borders the southern end of the park and ride lot at the Swanston Station and is a key TOD opportunity due to its proximity to the station. This site is under consideration for the location of a new Regional Transit bus transfer facility. Also in close proximity to the station, the USAA campus could support development in a manner that

capitalizes upon the nearby transit station.

In addition to the vacant parcels around Swanston Station, there are many industrial buildings in the area that are low in employment density and may be inappropriate uses due to their proximity to light rail. Another key opportunity site is the Swanston Station park and ride lot. The park and ride lot remains underutilized and would likely generate more riders as TOD compared to its existing low intensity use.

## **Planned and Proposed Projects**

In general, the planned and proposed projects submitted to the City for review are smaller infill projects that will have limited impact on the overall supply of available commercial or residential space. Larger-scale plans are in the early planning process but only a few have been formally submitted to the City.

As stated above, there are several commercial and mixed use projects in the early planning and discussion phases. While there seems to be a great deal of activity, not many formal project proposals or plans have been submitted for approval. One of the projects is planned on the Sacramento RT-owned Lumberjack site near Royal Oaks Station. A team comprised of New Faze Development and Fulcrum properties has preliminary plans for about 107 residential units over retail at this location. Another planned New Faze project proposed at 2001 Del Paso Boulevard consists of approximately 4,250 square feet of retail space, 13,300 square feet of office space, and 27 condominium units.<sup>4</sup> In addition to these two sites, there are plans for development throughout the Study Area. However, most of the developer interest is centered around Del Paso Boulevard, which will have limited direct impact on the Swanston Station.

Two commercial developments within the Study Area are currently in the planning review process. One project will be located along El Camino Avenue at Erickson Street, only a few blocks from the Swanston Station. This retail site was discussed as a potential ground lease to a fast food establishment, though this plan has met considerable opposition. The second Study Area project is the proposed three-story office and retail building at 503 Arden Way, planned by Friedlander of LIMN. Another development site is on Arden Way, just to the west of Del Paso Boulevard. Currently, there are limited details available for anticipated tenants at this 6,000 square foot retail project. A fourth project that is under construction just to the northwest of the Study Area, at the intersection of Rio Linda Boulevard and El Camino Avenue, is a 4,425-square-foot commercial building with a drive-through Starbucks and space for an additional retail store. The drive-through indicates limited attention to its proximity to transit stations.

There are three single-family residential units proposed in addition to the SurrealEstates project, which was recently completed in the summer of 2006. One of these homes is within the Study Area boundaries while two are to the north and northwest, across El Camino Avenue and Del Paso Boulevard. While small residential projects, they represent market-driven housing

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<sup>4</sup> New Faze application to the City of Sacramento Planning Division. File no. P06-141. August 17, 2006.



projects absent of subsidy. Signature Properties is also planning to build 80 market rate, two-story, detached, three and four bedroom, single-family homes within the Study Area. These housing units will reportedly be priced in the mid-\$200,000 range. This represents a significant shift considering the paucity of private investment in the Swanston Study Area. The lower price-point of the planned new residential development, as compared to areas such as Midtown and Downtown indicates that this area of Sacramento may be well positioned to provide opportunities for home ownership to the City's workforce population, especially those working in or near Downtown, for whom light rail access would be convenient.

## **Neighborhood Retail Sales Leakage/Injection**

The Study Area should provide sufficient supply of retail stores to satisfy the demand for convenience retail goods, to ensure that these items are located within an easy distance of most market area residents. Eating and drinking places and food and beverage stores make up the bulk of convenience retail. Certain health and personal care stores can also fall into the convenience retail category. If the estimated consumer expenditures are greater than the actual retail sales for a given retail sector, then there is a leakage in that sector. In other words, retail dollars that could be captured locally are spent outside of the area because they are not sufficiently available within the Study Area. The Study Area demonstrates retail leakage for both the food and beverage stores, and health and personal care stores sectors. Conversely, the data suggests that people residing outside the Study Area are coming into the Study Area to patronize Study Area eating and drinking places. This may be a result of restaurants moving into the area, or bars located along Del Paso drawing clientele from across the City. The data also suggest that people residing outside the Study Area are also entering the Study Area to purchase products in the motor vehicles and parts category, in which supply exceeds Study Area demand by almost \$45 million.

In order to encourage smart growth that would generate foot traffic within the Study Area and enhance the attractiveness of the area for residential uses in particular, the City should focus on drawing additional convenience and pedestrian friendly, neighborhood-serving businesses to the area. The data suggest that the area is currently lacking food and beverage stores and health and personal care stores. In addition, the retail leakage analysis shows that a portion of local demand for conventional grocery store goods is currently lost to outlets outside of the area. While the nearby location of Costco makes the attraction of another large supermarket within the Study Area a challenge, the large number of rooftops in the 1.5-mile radius combined with the grocery store retail leakage data for the Study Area indicates a potential for a grocery store within the Study Area, if it can be located such that it has good access and visibility to residents of the larger 1.5-mile area.

## **Projected Increase in Land Use Demand**

The analysis presents high and low estimates of anticipated increases in demand for retail, office and housing within the Study Area through 2025. The low estimate is based on current

SACOG projections for the Study Area. This low estimate is extremely conservative as it does not take into consideration recent development trends. The high estimates are based on the current SACOG estimated population, office employment, and housing increases for Sacramento County through 2025 and applying that percentage increase to the 2005 Study Area estimates. This high estimate suggests that with shifts in the Study Area and adoption of transit oriented development practices, the area can grow in a manner that parallels the rest of the County.

Housing demand through 2025 is estimated at between 65 and 444 units based on SACOG household projections. Already, the 214 units planned and proposed by Signature Properties and New Faze Development exceed the low estimate, highlighting the rapidly changing development environment within this area. Achieving the high-end projection will depend upon successful efforts to redevelop under-utilized sites for housing, supported by comprehensive efforts to make the neighborhood more attractive through public improvements, attracting new retail, and addressing concerns for public safety.

Based on SACOG office employment projections, office space demand over the next two decades ranges from 27,780 to 307,700 square feet. These figures are calculated using an estimate of 250 square feet of space required for each additional employee and include a ten percent vacancy adjustment. Due to the large recent reduction in staffing at USAA, resulting in the vacancy of one of their two office towers, a large component of future Study Area office growth is likely to entail backfilling that existing space with a large single user or other corporate-type tenants. Beyond that, more modest growth could be expected in small professional offices, likely in quantities closer to the lower end of the potential demand range given above.

The projected increase in retail demand focuses on the neighborhood-serving retail sectors of food and beverage stores, health and personal care stores, eating and drinking places, and a portion of miscellaneous store retailers that includes florists and other specialty shops oriented towards local consumers. As described in the previous section, due to the proximity to the Arden Fair Mall area and other major retail venues, new retail opportunities in the Study Area are generally limited to local-serving outlets.

Overall, the projected increase in demand for neighborhood-serving retail space ranges between 9,270 and 21,250 square feet of neighborhood retail space that the Study Area residents will be able to support through 2025. These projections do not include additional retail demand from office workers in the area, which may support up to an estimated 3,900 square feet of retail space. This additional demand could not support a significant number of retail vendors.

## **Conclusions**

The large supply of vacant and underutilized lots provides opportunity sites for infill and redevelopment projects that can redefine the Swanston Study Area. Housing will likely lead the way, with retail and office development following once the area demonstrates signs of

resurgence. Overall, for-sale housing presents the best near-term development opportunity within the Study Area. While the short-term outlook for new construction of commercial space is constrained by infrastructure and market barriers, the presence of underutilized and vacant land within the Study Area does offer the possibility to attract a private developer to build a large-scale project that is able to redefine market conditions. Short-term efforts should concentrate on adding to the supply of quality housing within the immediate area to increase the local market's purchasing power and the overall pedestrian activity at Swanston Station. In the office sector, short-term efforts should concentrate on backfilling the vacant USAA space with a large single-user tenant or a collection of smaller corporate-type office tenants. This will likely leave relatively modest amounts of demand for smaller office spaces in mixed-use buildings that are more oriented towards local professionals. In the retail arena, there is limited demand for new neighborhood-serving retail development, but the larger area remains under-served by grocery stores. A grocery tenant interested in locating within the Study Area could target current leakage within the Study Area and provide a valuable shopping amenity for future residents, while capturing demand from a larger surrounding trade area that is also under-served.

## **Introduction**

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### **Purpose of Report**

This report provides an overview of market opportunities surrounding Sacramento Regional Transit's (Sacramento RT) Swanston light rail station. The main body of this market study describes existing market conditions within the station area and potential market opportunities for Transit Oriented Development (TOD) near the station. This analysis builds on BAE's previous market analysis completed for Swanston and Royal Oaks Stations as part of Sacramento RT's Transit for Livable Communities efforts. In order to best inform the analysis of market trends in the Swanston station area and to address the geographic constraints related to data availability, this report defines a larger study area - the Swanston Study Area - described below, rather than the Swanston Project Area defined by the City.

Analysis for this report relied on data collected from the U.S. Census, Claritas, Inc., Sacramento Housing and Redevelopment Agency (SHRA), Sacramento Area Council of Governments (SACOG), Sacramento RT, First American Real Estate Solutions (FARES), the City of Sacramento Planning Department, as well as site tours and primary research conducted by BAE.

### **Study Area Definitions**

#### ***Swanston Project Area***

The City of Sacramento defined the Swanston Project Area in its request for proposals, issued on March 4, 2005. The area is located approximately three miles northeast of Downtown Sacramento, in the City's North Sacramento district. The project area is roughly bounded by El Camino Avenue on the north, Arden Way on the south, and the Capital City Freeway (Business 80) on the east. Beaumont and Erickson Streets define the western edge of the project area. This area should not be confused with the "Swanston Study Area" defined below.

#### ***Swanston Study Area***

The Swanston Study Area (Study Area) encompasses both the Swanston and Royal Oaks transit station areas as well as a larger geographic area. The Swanston Station is located north of Arden Way between Royal Oaks Station and Marconi Station and the Royal Oaks Station is located on Arden Way directly east of Royal Oaks Drive. Since the Royal Oaks Station is just over a half-mile from the Swanston Station, an analysis of the transit oriented development potential for Swanston Station should consider developments around the Royal Oaks Station and opportunities for convergence of public and private efforts at both stations. The Study Area expands further beyond the stations to include a region from which pedestrian-oriented development could draw. The Study Area also corresponds to Census Block Group boundaries, in order to make use of available demographic data for the area.

The Study Area is comprised of five U.S. Census Block Groups: Block Groups 1, 3, 4 and 6 of Census Tract 69 and Block Group 5 of Census Tract 55.02. It is necessary that the Study Area be based on Census boundaries in order to obtain usable demographic and economic data for the study. As illustrated in Figure 1, the Study Area is bounded by I-80 to the east, State Route 160 to the south, Del Paso Boulevard to the west and El Camino Avenue to the north. People living in the Study Area generate demand for local neighborhood goods and are potential customers of new neighborhood-serving retail that could be located at or near Swanston or Royal Oaks Stations (in addition to future residents). Overall, the Swanston Study Area is also representative of the prevailing demographic and economic characteristics that influence real estate conditions surrounding the Swanston Station.

The Study Area geography encompasses the Woodlake neighborhood, which is significantly different from the rest of the Study Area. This neighborhood is characterized by large single-family homes and, as a result, likely higher income levels. The neighborhood falls within Census Block Groups 6 and 3 of Tract 69. The decision was to include Block Group 3, which includes the eastern portion of the Woodlake neighborhood, because to exclude Block Group 3 would have excluded the Erickson Industrial Park and other land just south of the Swanston Station and west of the rail line. While including this geography within the Study Area probably biases the reported Swanston Study Area income levels above what is found in the rest of the Study Area, it is important to also highlight that this part of the city possesses the potential to attract higher-income households. Although the South Hagginwood neighborhood to the north of El Camino Avenue might also have been included in the Study Area; El Camino Avenue is a Census Tract boundary and the City-defined Project Area does not extend beyond parcels that front on the north side of El Camino Avenue thus, the decision was to exclude South Hagginwood.

### ***North Sacramento***

The North Sacramento geography serves as a benchmark for purposes of comparison with the Study Area. Economic and demographic trends within this region provide context to identify the unique characteristics within the Swanston Study Area. In defining this region, this study attempts to maintain consistency with SHRA North Sacramento Redevelopment Area and the SACOG Regional Analysis District (RAD) 8 definitions; thus, providing access to information for this geography from both organizations. However, while SHRA's North Sacramento Redevelopment Area excludes the Woodlake Neighborhood and areas east of the rail line, the geographic definition and analysis presented in this report encompasses this area. Furthermore, the Census Block Groups used for the data analysis, including information from SACOG, extend slightly further east than the RAD 8 boundaries. Figure 2 shows the North Sacramento geography used in this report, and Appendix A provides the Census geographies that compose the North Sacramento study area.

## Light Rail Station Descriptions

Swanston Station has a landscaped 3.5-acre park and ride lot with capacity for approximately 310 cars. Station amenities include pedestrian shelters and telephones. The Royal Oaks Station provides similar amenities but does not include a parking lot. Daily boardings, the number of people getting on the trains, have increased at both stations between 2000 and 2005. At the Swanston Station, weekday boardings rose over 66 percent, from 137 to 228 daily boardings. At Royal Oaks Station, weekday boardings increased over 82 percent, from 282 to 524 boardings. Despite the significant boost in ridership, overall station usage remains relatively low.

A recent windshield survey of the Swanston Station park and ride lot indicates that the lot is under-utilized relative to its capacity, with only about 100 parking spaces occupied, and the other two-thirds of the spaces vacant. With such a large proportion of the lot remaining underutilized, the lack of vehicles suggests that an alternate, more transit-intensive use for a portion of the lot may be justified. Furthermore, any increase in ridership at the Swanston Station will not act by itself as a catalyst for transit oriented development in the Station Area. The experience with retail development around stations in other transit systems has shown that transit patrons alone are not sufficient in number to support any significant amount of retail. As summarized in the Urban Land Institute publication “Ten Principles for Successful Development Around Transit,” transit ridership can enhance retail demand, but there must be sufficient demand to support planned retail without the transit component.<sup>5</sup> Primarily this means demand from surrounding residential uses and, to a lesser extent, demand from the daytime population of surrounding commercial development. Intensified land uses in the vicinity of the station geared towards capitalizing on access to light rail will generate increased transit usage and help support retail.

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<sup>5</sup> Dunphy, Robert and Deborah Myerson, and Michael Pawlukiewicz, “Ten Principles for Successful Development Around Transit.” Urban Land Institute, 2003. Page 14.

Figure 1: Swanston Study Area

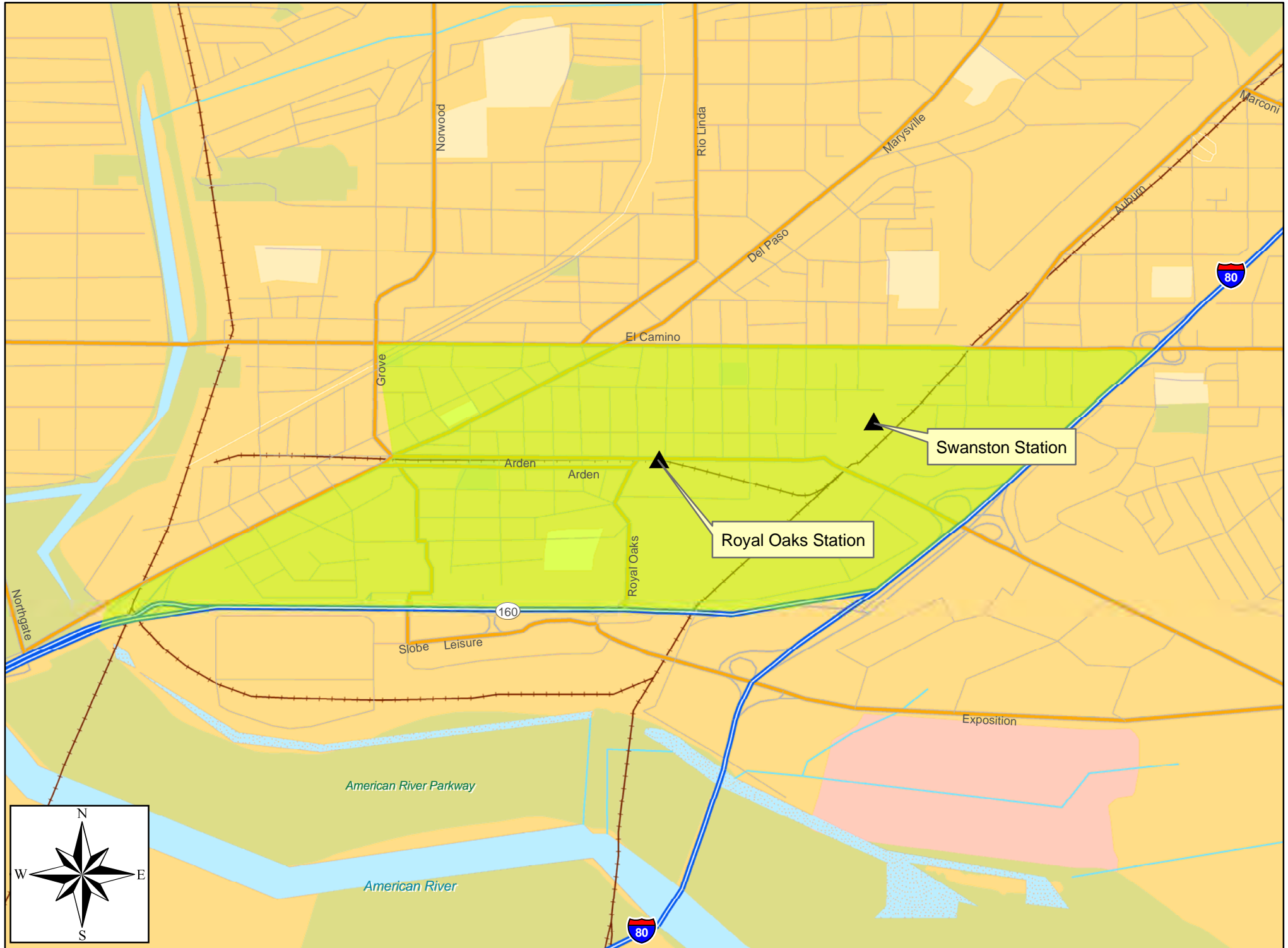
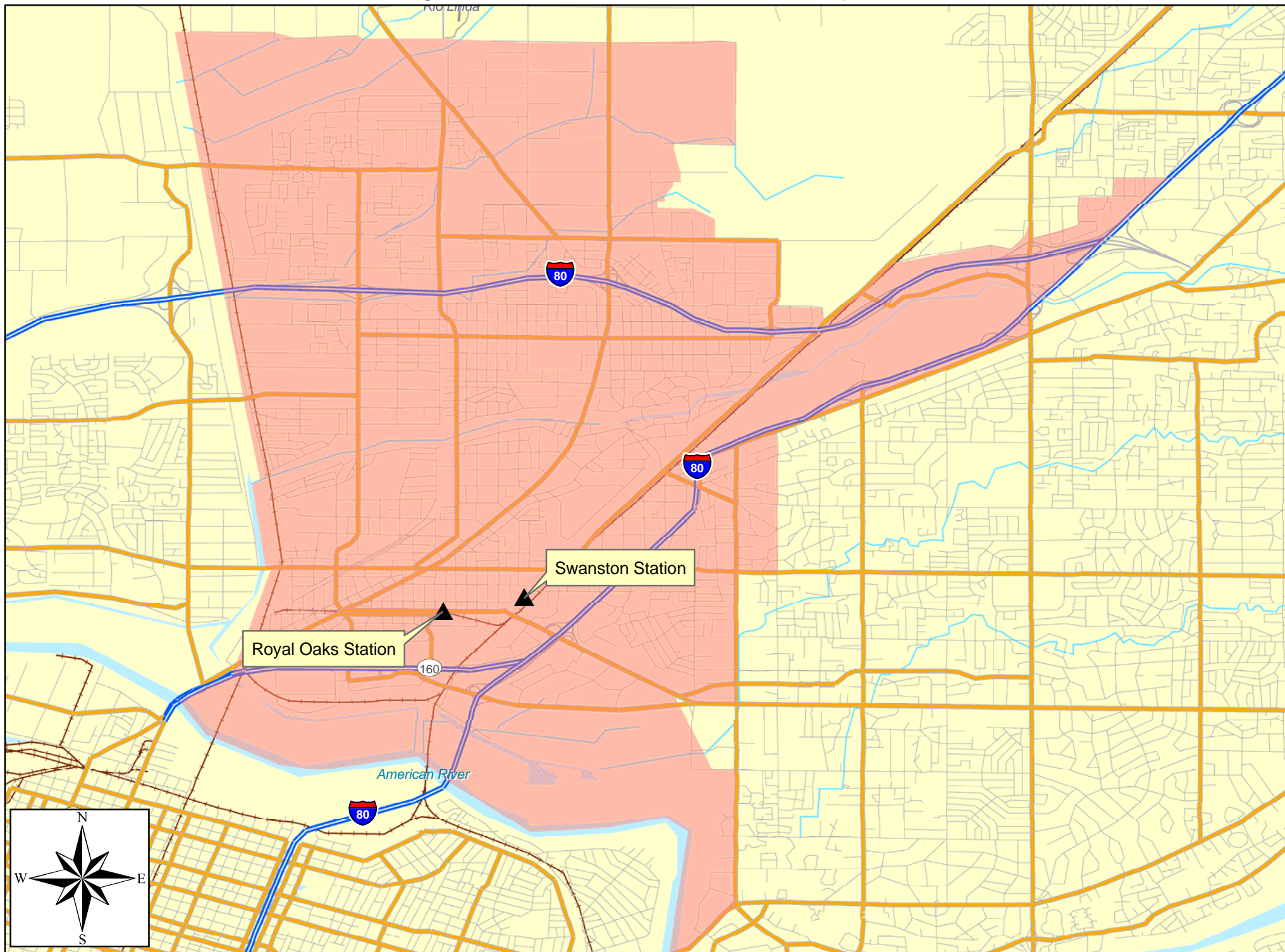


Figure 2: North Sacramento Study Area





## Neighborhood Context

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The Swanston Study Area is characterized by a wide array of land uses adjacent to one another. The Swanston Study Area consists of light industrial centers, residential neighborhoods, commercial corridors and a great deal of underutilized land. As one local real estate broker described “the area is just a hodgepodge of different land uses all within close proximity of each other.” Moreover, the Swanston Study Area contains distinct sub-geographies that are physically separated from one another. Arden Way and Royal Oaks Drive divide the more affluent Woodlake Neighborhood from the rest of the Swanston Study Area. Fences and hedges further separate this neighborhood from surrounding areas by limiting pedestrian access.

Swanston Station’s industrial character stems from its namesake, the C. Swanston & Son, Inc. meatpacking plant. Established in 1915, the plant was able to accommodate large numbers of livestock. Even then, the rail lines, providing connection to three different railroads, proved an important catalyst to the area’s development. While the plant is no longer located in the Station area, its industrial legacy remains.

The Swanston Study Area is part of the North Sacramento Redevelopment Project Area that Sacramento Housing and Redevelopment Agency (SHRA) formed in 1992 to combat “higher unemployment, lower household income and a badly deteriorated building stock.”<sup>6</sup> That same year the Artist Live Work Ordinance passed, making it legal for artists to live and work in commercial spaces.<sup>7</sup> Both events have shaped the development of the Swanston Study Area.

Several art-related facilities are located within the Swanston Study Area, mostly concentrated along Arden Way and Del Paso Boulevard south of El Camino Avenue. Listed below are those venues participating in the Second Saturday Art Walk that take place in Sacramento:<sup>8</sup>

- Twisted Metal
- MASSA PEAL
- Woodlake Artist Group at Entoria Wine Tasting Salon
- Plantation Restaurant
- Casa Bella Galleria
- Building on the Boulevard Supper Club

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<sup>6</sup> SHRA North Sacramento 5-year Implementation Plan

<sup>7</sup> [www.surrealestates.org](http://www.surrealestates.org) and [www.sacforart.com](http://www.sacforart.com)

<sup>8</sup> List and map available at [www.sacramento-second-saturday.org](http://www.sacramento-second-saturday.org). This list excludes local culinary, performing, and fine art venues and organizations that do not participate in this monthly event.

- Doiron Gallery
- Artisan Gallery
- Sol Collective, Arts and Cultural Center
- Phantom Galleries (various locations)

While extremely preliminary, the local artist organization, SurrealEstates, further lists three additional upcoming art venues in the Swanston Study Area on their website including the Dana Cultural Center, Memorial Amphitheatre, and the Digital Hotel. Details regarding locations and timing are not available. If these projects progress to implementation, they could further bolster the area's image as an arts district.

The history of the artist community in this neighborhood extends back over three decades with the establishment of the Acme Gallery at 2030 Del Paso Boulevard in 1974. Due to the Artist Live Work Ordinance, the 1990s witnessed a surge of artist activity in the area and the 49 blocks of Arden Way and Del Paso Boulevard were designated one of America's 100 Arts Districts.<sup>9</sup>

However, crime and perceptions of high crime rates have hindered the arts-based neighborhood revitalization efforts. Many galleries and arts-related organizations have either moved or closed in recent years. The Michael Himovitz Gallery closed in 2001, the Horse Cow Gallery has also closed its doors, and the Center for Contemporary Art relocated to a midtown location.<sup>10</sup>

Arts-related development still continues to occur in the Swanston Study Area. Daniel Friedlander, LIMN furniture store and warehouse owner, is part of a movement to preserve and reuse the many unique, abandoned art-deco buildings along Del Paso Boulevard. Friedlander purchased the Building on the Boulevard, previously occupied by the Michael Himovitz Gallery, and plans to convert the space into a mixed-use space geared toward high-end retail, restaurants, and service providers. The Building on the Boulevard already hosts the Supper Club, an upscale restaurant serving six-course menus once a week. He is also close to completing renovation of the abandoned Arden Motel and converting it into either a 26-unit boutique hotel or office complex called the Greens A To Z. Plans to renovate and convert the former Horse Cow Gallery into a LIMN outlet store are underway. Friedlander also owns a half-acre lot adjacent to the LIMN store, along Arden Way, where he plans to build a three-story office and retail building.<sup>11</sup>

Fellow Del Paso Boulevard developer Allen Warren, of New Faze Development, has also invested significant resources into the area. New Faze Development has acquired at least six

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<sup>9</sup> www.surrealestates.org and www.sacforart.com

<sup>10</sup> Vellinga, Mary Lynne "Believing in the Boulevard." *The Sacramento Bee*. October 11, 2005; p. A1.

<sup>11</sup> Ibid.

Del Paso Boulevard properties within the Swanston Study Area and relocated its own office space to Del Paso Boulevard from a suburban location. A 2005 Sacramento Bee article reported that New Faze is in the initial planning phase of two mixed-use projects within the area likely to result in 70,000 square feet of commercial space and approximately 200 market rate condominiums.<sup>12</sup> Recently, New Faze released preliminary plans for a six-story project with approximately 4,250 square feet of retail, 13,300 square feet of office, and 27 condominium units at 2001 Del Paso Boulevard.<sup>13</sup> Furthermore, in June of 2006, New Faze announced the creation of New Faze Investment Fund I. The fund combines \$53 million from the California Public Employees' Retirement System (CalPERS) with \$17 million from private investors, including New Faze Development, Weyerhaeuser Realty Investors, and MacFarlane Partners. The fund's goal is to develop 2,000 houses, condominiums and residential lots, primarily in northern and central California.<sup>14</sup>

Generally, much of the retail located within the Swanston Study Area consists of local-serving "mom and pop" type stores with national chains seeking locations across Business 80 in the Arden Fair area; however, the commercial corridors in the Swanston Study Area have been undergoing steady and constant transformation. As one local commercial real estate broker described, "the area has been in a turnaround phase," with many changes planned along the commercial corridors. Recently, the area along Del Paso Boulevard approved a Property-Based Business Improvement District (PBID) to address safety and beautification issues along the commercial strip as well as to provide marketing and promotion services for the area.

## SHRA Redevelopment Efforts



Eleven single-family artist live/work units were completed in October 2006 in the Dixianne Neighborhood, at the intersection of Oakmont and Calvados streets. The project, named SurrealEstates, consists of eleven self-built, affordable, three-bedroom, single-family units with detached studio spaces.<sup>15</sup> The project has received over \$700,000 in funding assistance from SHRA between 2002 and 2006.<sup>16</sup>

SHRA also partnered with the Sacramento Mutual Housing Association (SMHA) on the construction of the 21-unit Victory Townhomes development and the rehabilitation of the 56 apartments comprising Evergreen Estates. These projects, completed in 2003, have altered the appearance of the intersection of Dixianne and Lexington Streets. Both developments share a

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<sup>12</sup> Ibid.

<sup>13</sup> New Faze application to the City of Sacramento Planning Division. File no. P06-141. August 17, 2006.

<sup>14</sup> McCarthy, Mike. "New Faze Joins \$73M Urban Housing Fund." *Sacramento Business Journal*. June 13, 2006.

<sup>15</sup> [www.surrealestates.org](http://www.surrealestates.org).

<sup>16</sup> Katherine Klein, SHRA Redevelopment Planner, October 2006.

children's playground and a 5,500 square foot community center, containing a computer lab, meeting space, and counseling rooms for service providers. The Townhomes filled a lot left vacant after SHRA tore down a severely blighted apartment complex. The joint townhome and garden apartment community serves families earning sixty percent or less of the Sacramento Metropolitan Statistical Area (MSA) median family income.<sup>17</sup>

In order to address the plethora of vacant lots and deteriorated housing in the area, SHRA established several programs within the North Sacramento Redevelopment Area. The dollar amounts reported here are earmarked by the Agency in the North Sacramento Redevelopment Area Five-Year Implementation Plan; however, these allocations have not been approved by City Council to date and are subject to change. The Single Family Rehabilitation Loan and Retrofit Grant (improving accessibility) Program earmarks approximately \$500,000 in redevelopment funds over five years, while the Multifamily Rehabilitation Program (grants) provides the same amount over that period. Both programs are geared towards the improvement of the area's housing stock. Since 2000, 22 projects, totaling over \$241,500 in single-family rehabilitation loans and retrofit grants, have been undertaken in the North Sacramento Redevelopment Area. Over the same period of time, SHRA has also provided 14 loans to first-time homebuyers in North Sacramento, amounting to over \$133,800. From 2005 to 2009, SHRA preliminarily plans to spend \$500,000 to support this program in North Sacramento. Another program, the Boarded and Vacant Program, strives towards improving the region's housing stock by preliminarily designating \$500,000 to assist developers in the purchase and rehabilitation of boarded and vacant properties. Over the past few years, there was only one home in the Swanston Study Area funded by the Boarded and Vacant program. The Vacant Lot Infill Program, created in 2002, provides development assistance for the construction of single-family homes on vacant lots that are then sold to low- and moderate-income buyers. Three homes in the Swanston Study Area were constructed with funding assistance from this program. However, according to SHRA, the vacant lot infill program has seen less activity over the past two years due to a lack of available sites. These programs all contribute to a notable increase in rehabilitation and investment activities within the Swanston Study Area.

SHRA also dedicated an allocation of over \$5 million towards the completion of Phases I and II of the Del Paso Boulevard Streetscape Master Plan. Phase I includes new medians, lighting, landscaping, and public art. Phase II includes enhancements to improve pedestrian access and walkability, and attract consumers to shops along the commercial strip, specifically, bus stop relocations, bulb-outs, diagonal parking, and a reduction to two lanes between Arden Way and El Camino Avenue. Phase I is nearly complete, and Phase II will be completed by mid-2007.

SHRA also provides loans and grants for exterior and interior commercial rehabilitation projects. The highly utilized exterior rebate program provides grants for façade improvements to businesses. With this program, SHRA will match up to \$50,000 in renovation expenses.

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<sup>17</sup> The Sacramento MSA, as defined by the U.S. Census Bureau, consists of Sacramento, El Dorado, Placer, and Yolo Counties.

Since 2000, the Agency has provided almost \$628,000 in commercial rehabilitation rebates and \$340,000 in loans to 18 projects within the Swanston Study Area. Developers invested almost \$1,824,000 of their own money on these commercial revitalization projects. Over the same time frame and just outside the Swanston Study Area boundaries, SHRA and developers invested another \$1,326,000 of funds on five projects through the exterior rebate program.

As a testament to the success of these efforts, several new commercial buildings, including a site for a Starbucks and an additional retail store at the intersection of Rio Linda Boulevard and El Camino Avenue, and 6,000 square feet of commercial space at 100 Arden Way, are currently approved. Another recently proposed project at 965 El Camino is a Petrovich Development Company venture that may house a restaurant. In addition, there are several commercial rehabilitation proposals that focus on office and professional spaces. The Arden Motel Project and the Sacramento Employment and Training Agency's 2002 conversion of a vacant warehouse space into an office space at 925 Del Paso Boulevard are two examples of the commercial rehabilitation taking place in the area.

## **Existing Land Use Conditions**

The following section discusses the various land uses around the two light rail stations within the Swanston Study Area, highlighting problems and potential development opportunities within the Study Area. The analysis is based on land use maps from the City of Sacramento, from the first quarter of 2006. Information gathered through a windshield survey bolsters the land use data.

### ***Swanston Study Area***

The Swanston Study Area consists of residential, commercial and light-industrial land uses, with a significant supply of vacant and underutilized parcels.

### ***Swanston Station***

As Figure 3 shows, within a quarter-mile radius area around Swanston Station, the existing rail lines divide the Station Area into two distinct areas. The area to the southeast of the rail tracks contains a large six-story office park (USAA) and a Hilton Hotel. The northwest side contains an assortment of land uses: heavy industrial, mobile home park, commercial, and multifamily parcels can be located within two blocks of each other.

Historically, the northwest area has been relatively low in density, containing single-story buildings with vacant parcels interspersed. In addition to vacant lots, many other sites have been underutilized. According to the Swanston Station Area INDEX Plan completed in August 2000, approximately 21 percent of the parcels within the Swanston Station Area (approximately a half-mile radius around the station) were either underutilized or vacant at the time.<sup>18</sup> The Swanston Baseline Conditions Report indicates that 21 percent of the parcels in the half-mile

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<sup>18</sup> Note that the Swanston Station Area INDEX Plan defines the station area as a half-mile radius around the station while this report defines the station area as a quarter-mile radius.

radius around the station remain vacant or underutilized to date. However, the Victory Townhomes development and the rehabilitation of Evergreen Estates have altered the appearance of the intersection of Dixieanne and Lexington Streets and increased residential density within the Station Area.

The rail lines create a significant barrier to the southeast portion of the station area. Station access to the southeast is limited to the Arden Way rail overpass. Pedestrians willing to walk from office buildings in the southeast area would need to walk south on Harvard, across the Arden Way overpass, north on Green Street, and then backtrack east on Selma Street.

The rail lines' division of the station area manifests into different land uses. With the exception of the Victory Townhomes and Evergreen Estates residential blocks, the vast majority of the northwestern station area is designated Light Industrial (M1). The southeastern portion of the station area, zoned Office Building (OB-PUD), is predominately occupied by office parks and hotels. Figure 5 shows the existing zoning within the Swanston Station Area.

#### *Royal Oaks Station*

Figure 4 illustrates the zoning designations for the lots around Royal Oaks Station. Similar to the Swanston station area, the quarter-mile radius area around the Royal Oaks Station consists of two halves, split by Arden Way. South of Arden Way, a large office park dominates the landscape while north of Arden Way; the neighborhood primarily contains single-family housing.

The large office park to the southeast of the station correlates to Office Building (OB) zoning. Lots are zoned light industrial north of the office park and east of the station. The light industrial zoning carries across Arden Way to the eastern segment of the station area.

Low density housing dominates the landscapes of both the regions to the north of Arden Way and to the southwest of the station area. In addition, a few neighborhood commercial uses are scattered along the northern half of Arden Way, such as Geneva's Big Burgers, a Circle 6 Food Store, and the Royal Oaks Food Mart. There are also several motor vehicle sales lots along Arden Way, including a Harley-Davidson dealership. Moreover, a mixed-use development that incorporates commercial space and residential units is currently proposed at the former Lumberjack location.<sup>19</sup>

*East.* The eastern portion of the study area primarily contains a mix of office parks and light-industrial uses, including warehouse and light-manufacturing. The large USAA campus is located east of the rail lines, including an underutilized baseball field and adjacent vacant land. West of the rail lines and south of Arden Way, office uses dominate the landscape. Light manufacturing, warehouse and vacant lots are most common in the area north of Arden Way.

*Del Paso, El Camino, and Arden Commercial Corridors.* Retail and office uses, with General

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<sup>19</sup> The Planned and Proposed Projects section of this report provides further details regarding this project.

Commercial zoning (C-2), are located along the commercial corridors of Del Paso Boulevard and El Camino Avenue, and are interspersed along the northern half of Arden Way. These commercial areas are plagued with vacant and underutilized sites.

*North.* The Swanston Study Area, north of Arden Way, consists of residential lots that are generally small in size, and interspersed with commercial uses. There is a greater occurrence of multifamily developments in this portion of the Study Area as compared to the geography south of Arden Way. Furthermore, the houses and apartment complexes found here are generally older, with some in need of rehabilitation. Two recently approved Signature Properties residential projects, consisting of 80 single-family detached homes, will improve the diversity of the housing stock available in this portion of the Swanston Study Area.

*South.* Large homes on single-family lots characterize the neighborhood south of Arden Way. These homes are in good condition with many retaining their historic architecture. Multifamily residences are concentrated in the southwest corner of this area, near the mobile home park bordered by Del Paso Boulevard and State Route 160.

*Parks.* There are several parks located within the Study Area. Dixieanne Park, located at the intersection of Dixieanne Avenue and Erickson Street, contains a lighted baseball field. However, this fenced-off park is an underutilized neighborhood asset that requires greater attention in order to increase resident activity. Signature Properties, which has been approved to build a single-family residential project near the park, has offered to assist in re-planning the park and initial plans include a children's playground, a skateboard park, a picnic area, and a green area.<sup>20</sup> A "tot lot" at Dixieanne Avenue and Beaumont Street provides a playground facility for young children. To the south, Woodlake Park presents more than seven acres of grounds. Park amenities include a lighted tennis court, a baseball field, a club house, children's playgrounds, and the Sacramento Police and Sheriff Memorial. However, pedestrian access to these parks from some portions of the Study Area is difficult due in part to the lack of continuous sidewalks and strong pedestrian elements connecting the parks with other parts of the Study Area.

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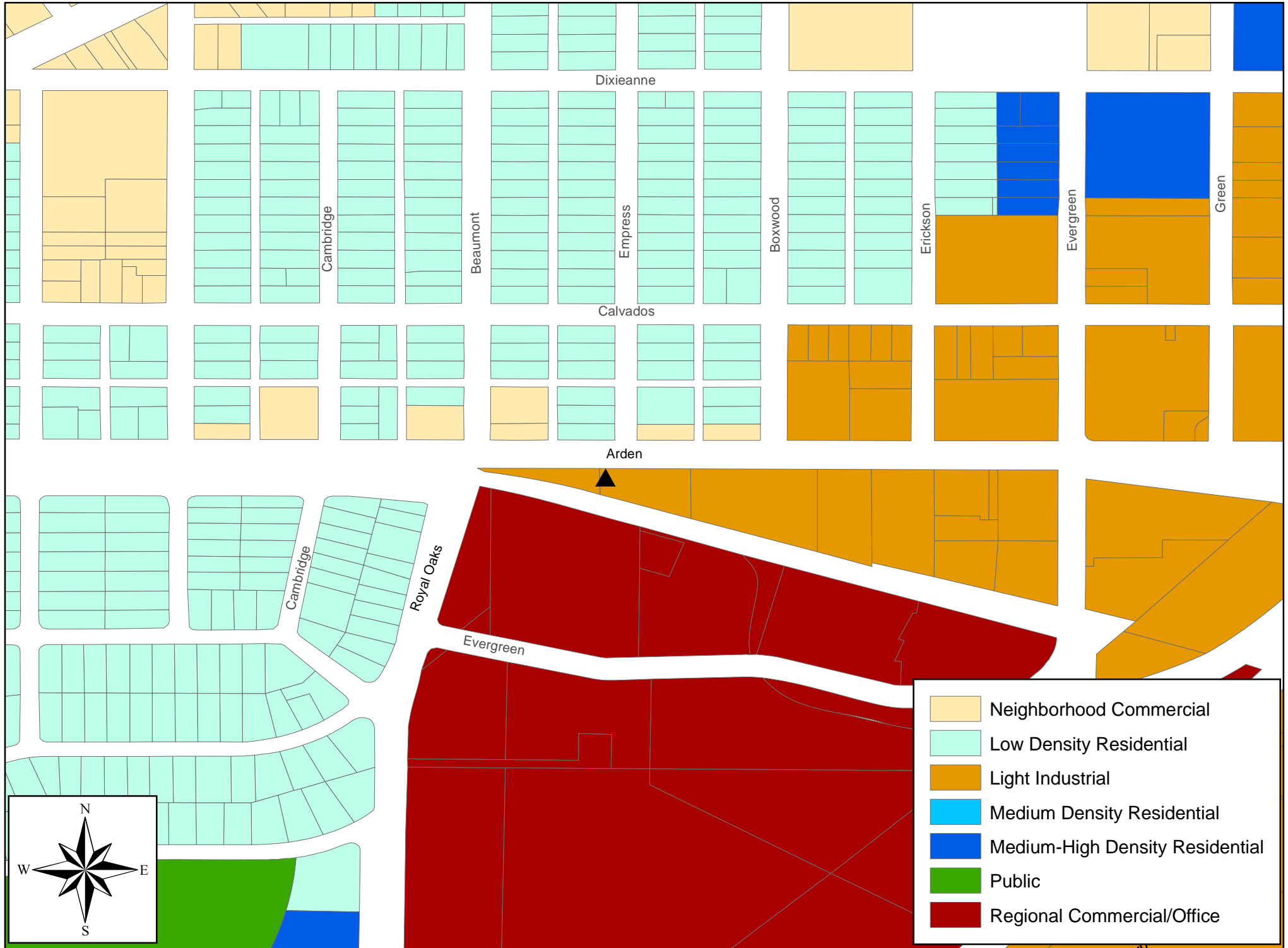
<sup>20</sup> McCarthy, Mike. "Transit Village Planned for Swanston Neighborhood." *Sacramento Business Journal*. August 11, 2006.

Figure 3: Existing Zoning, Swanston Station Area





Figure 4: Existing Zoning, Royal Oaks Station Area



## **Demographic and Employment Trends**

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This section summarizes local demographic and employment trends, and analyzes their impacts on the potential for transit oriented development in the Swanston Study Area. For the purposes of this analysis, the report identifies three geographies of interest; the Swanston Study Area (Study Area), North Sacramento, and Sacramento County. The Swanston Study Area is defined as the area roughly bounded by El Camino Avenue to the north, State Route 160 to the south, I-80 to the east and Del Paso Boulevard to the west (see map in Figure 1). This geography includes the higher-income households located in the Woodlake Neighborhood. The North Sacramento geography represents the general market area surrounding the Swanston Study Area, and the County provides a larger context in which to analyze local and regional trends.

### **Regional Trends in Urban Living**

Across the U.S., researchers and marketers have noticed a marked increase in the demand for new urban housing product types. This trend is occurring as more buyers and renters are rediscovering the attraction of urban living, whether to minimize commute distances or experience the cultural richness of established urban places. Increased traffic congestion, commute times, costs of suburban living, and gasoline prices all encourage greater interest in housing options near employment centers. Immigrant population increases are also contributing to this trend. In 1998, the Brookings Institute found a “back to the city” trend occurring within cities’ downtowns, and subsequent analysis by the U.S. Census found that of the 20 largest cities in the U.S., 16 gained population between 1990 and 2000, reversing trends of population loss in earlier decades.<sup>21</sup>

Researchers have found that households attracted to urban infill housing products tend to be young singles, childless couples, empty nesters, and the elderly. Like many areas in California, the Sacramento Region will continue to have disproportionate growth in smaller non-family households and family households without children. SACOG projects the Region’s average household size will decrease from 2005 to 2020. SACOG also anticipates persons 65 years and older will grow from 11 percent of the Region’s population in 2000 to 20 percent in 2030.<sup>22</sup> As these demographic patterns shift, demand for compact urban housing types will increase, especially housing near workplaces offering amenities and character.

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<sup>21</sup> *Downtown Rebound* (Brookings Institution, 2000)

<sup>22</sup> *Projections of Employment, Population, Households, and Household Incomes in the SACOG Region for 2000 – 2005*, Center for Continuing Study of the California Economy, DB Consulting, SACOG, September 2005.

## **Local Demographic Trends**

### ***Population and Household Trends***

Table 1 summarizes population and household trends for the Swanston Study Area, North Sacramento, and Sacramento County. As shown, the Study Area has steadily increased in terms of population and number of households, with an estimated 4,999 residents living in 2,178 households in 2005. The Sacramento region overall grew steadily during this period as well. North Sacramento's population grew by 14 percent and Sacramento County by 11 percent from 2000 to 2005. Household trends in the three geographies mirror the population growth rates. Between 2000 and 2005, the number of households in the Study Area rose by over 13 percent, compared to 11 percent in both North Sacramento and Sacramento County.

### ***Household Type***

Table 1 also displays data for household type. The Swanston Study Area contains lower proportions of families compared to North Sacramento and Sacramento County. Approximately 49 percent of Study Area households are family households compared to 65 percent for both North Sacramento and Sacramento County overall. This is clearly reflected in average household sizes as the average household size in the Study Area is approximately 2.3 persons per household compared to 3.1 persons per household in North Sacramento and 2.7 persons per household in Sacramento County. The smaller household sizes in the Study Area are explained by the lower proportion of children and higher proportion of seniors living in the Study Area (see following paragraph).

### ***Age Distribution***

As shown in Table 2, the Swanston Study Area has a higher median age than both the North Sacramento geography and Sacramento County. At 37.4 years, the median age in the Study Area is more than eight years greater than the rest of the North Sacramento geography. Furthermore, the Study Area contains the highest percent of persons 65 years and older, with approximately 13.5 percent. This is compared to North Sacramento where persons 65 years and older represent approximately eight percent of the population, and in Sacramento County, where they account for nearly eleven percent.

The Study Area also has lower concentrations of children than the other areas. In the Study Area, residents up to the age of 20 represent only 26 percent of the total 2005 population, compared to 37 percent in North Sacramento, and 31 percent in the County.

### ***Household Income Distribution***

As shown in Table 3, despite the inclusion of the high-income households of Woodlake Neighborhood, median household income for the Study Area, at \$27,601 in 2005, is significantly lower than income levels in the North Sacramento geography, and the County overall. North Sacramento's median household income is over \$4,500 higher than the median for the Study Area. The County median household income of \$50,087 exceeds the Study Area and North Sacramento median incomes by nearly \$22,500, and \$17,800, respectively.

Within the Swanston Study Area, only 8.6 percent of households earn over \$100,000. This compares to five percent in North Sacramento, and 17.6 in the County. Moreover, over 46 percent of households in the Study Area earn less than \$25,000 annually, compared to 39 percent in North Sacramento and 22.4 percent in Sacramento County. The estimated median income in the Study Area may be slightly understated as the Census and Claritas Inc. do not report income generated in the informal economy, which is often more prevalent in lower income communities.

### ***Household Size***

Table 4 provides information on overall tenure patterns, along with the household size distribution for owner and renter households in 2000. Within the Study Area, household sizes are relatively small. In 2005, approximately 82 percent of households contained three persons or less. These proportions compare to 66 percent of North Sacramento households and 74 percent of Sacramento County households with three persons or less. As stated earlier, SACOG projects smaller non-family/empty-nester households will become a larger share of the total household population over the next 20 years. The result is increasing demand for smaller units in close proximity to community amenities (e.g. shopping, cultural events, etc.).

### ***Household Tenure***

As might be expected from smaller households and lower incomes prevalent in the Study Area, the area has a higher proportion of renter households compared to the County overall. As shown in Table 1, approximately 58 percent of Study Area households are renters compared to 41 percent of County households. Still, the Study Area has experienced a proportional decrease in the percent of renter households from 61 percent in 2000 to 58 percent in 2005. This trend will likely continue with more for sale housing planned for the area.

### ***Housing Stock Characteristics***

Table 5 details the 2005 housing stock characteristics in the three study areas. The 1,195 detached, single-family homes in the Study Area comprise 50.4 percent of the total housing stock in the area. This figure compares to 60 percent in North Sacramento and 63 percent in the County. The Study Area also contains a smaller share of large multifamily complexes, which represent 2.5 percent of total area housing units, as compared to North Sacramento and Sacramento County, which have 7.4 and 7.8 percent of total units in large multifamily complexes, respectively.

The Study Area does possess higher concentrations of smaller apartment complexes and mobile homes. Apartment complexes with 10 to 19 units represent 9.4 percent of the housing units in the Study Area, compared to 4.1 percent in North Sacramento and 3.8 in the County. The 205 mobile home units in the Study Area amount to 8.7 percent of the housing stock. This number compares to 3.5 percent of units in North Sacramento and three percent in Sacramento County.

### ***Projected Population and Household Growth***

As shown in Table 6, population projections anticipate a far lower growth rate for the Study

Area from 2005 through 2025 as compared to the North Sacramento and Sacramento County geographies. While SACOG estimates a 2.6 percent increase in the Study Area population during this time period, North Sacramento and Sacramento County will experience 9.3 and almost 20 percent growth, respectively.

Furthermore, household projections for the Study Area estimate only a three percent increase over the twenty years, as compared to 10.6 percent in North Sacramento and almost 21 percent in the County. In terms of housing units, The seven percent growth in single-family units represents the greatest increase projected for the Study Area. However, single-family housing growth in North Sacramento and the County are still anticipated to be higher than in the Study Area, with 12 and 20 percent increases, respectively.

In the Study Area, multifamily and mobile home units are projected to remain stable at 2005 levels through 2025. There were 944 multifamily units and 267 mobile homes in the Study Area in 2005. In North Sacramento, multifamily units will grow by 9.4 percent and mobile homes will only increase by one unit. Projections for Sacramento County estimate a 23 percent increase in multifamily units and 2.5 percent increase in mobile home units.

It should be noted that SACOG bases its projections on existing land use plans and available vacant land and does not account for recent development applications. Under existing zoning designations, the Study Area is not expected to grow and will remain single-family in nature with limited room to expand. Thus, the zero projected growth in multifamily housing in the Study Area is less a reflection of demand but more of governmental constraints that limit higher density residential development. SACOG is likely to adjust its projections developed after completion of this planning process to reflect changes to zoning. Assuming that updated zoning for the Study Area will support increased amounts of housing as compared to current zoning, SACOG would likely allocate more of its projected regional multifamily housing demand to the Study Area.

### ***Summary***

Despite being largely built out in terms of land zoned for residential use, the number of households in Study Area grew more rapidly than the County overall between 2000 and 2005. Within the Study Area, there are proportionately fewer family households, smaller household sizes, greater proportions of seniors 65 years of age and older, smaller proportions of children. These demographic characteristics all suggest solid demand for multifamily housing. Although the household incomes in the area are relatively low at present, this area has also seen a slight increase in the percentage of households owning their own homes. This will likely continue, as households priced out of other more expensive areas of Sacramento seek opportunities to buy homes that are more affordable. Workforce housing for singles and couples, seniors, and other small households who are priced out of areas such as Midtown and Downtown is likely to be a strong market niche for the Swanston Study Area. For those households with members who work in the Downtown area, the light rail station will provide a convenient and inexpensive commute option. In addition, as the Swanston Study Area further develops a distinctive neighborhood character, local projects capitalizing on these attributes as well as proximity to

downtown will be competitive with other infill projects near the downtown area.

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**Table 1: Population and Household Trends**

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<b>Swanston Study Area</b>	<b>2000</b>	<b>2005 (a)</b>	<b>Percent Change 2000-2005</b>
<b>Population</b>	4,224	4,999	18.35%
<b>Households</b>	1,920	2,178	13.44%
<b>Average Household Size</b>	2.19	2.29	4.37%
<b>Household Type</b>			
Families	47.4%	48.7%	
Non Families	52.6%	51.3%	
<b>Tenure</b>			
Owner	39.2%	42.4%	
Renter	60.8%	57.6%	
<b>North Sacramento</b>			
<b>Population</b>	67,437	76,777	13.85%
<b>Households</b>	22,432	24,945	11.20%
<b>Average Household Size</b>	2.99	3.06	2.44%
<b>Household Type</b>			
Families	64.5%	65.2%	
Non Families	35.5%	34.8%	
<b>Tenure</b>			
Owner	43.3%	43.3%	
Renter	56.7%	56.7%	
<b>Sacramento County</b>			
<b>Population</b>	1,223,499	1,362,572	11.37%
<b>Households</b>	453,602	502,756	10.84%
<b>Average Household Size</b>	2.64	2.66	0.66%
<b>Household Type</b>			
Families	65.6%	65.2%	
Non Families	34.4%	34.8%	
<b>Tenure</b>			
Owner	58.2%	58.6%	
Renter	41.8%	41.4%	

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Note:

(a) 2005 figures are from Claritas while 2000 data is from the U.S. Census.

Sources: U.S. Census, 2000; Claritas, 2006, Bay Area Economics, 2006.

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**Table 2: Age Distribution, 2005**

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Age	Swanston Study Area		North Sacramento		Sacramento County	
	Number	Percent	Number	Percent	Number	Percent
Under 15	1,013	20.26%	21,144	27.54%	300,145	22.03%
15 to 20	305	6.10%	7,436	9.69%	118,809	8.72%
21 to 24	205	4.10%	4,673	6.09%	76,753	5.63%
25 to 34	794	15.88%	11,778	15.34%	199,956	14.67%
35 to 44	792	15.84%	10,763	14.02%	206,420	15.15%
45 to 54	676	13.52%	9,034	11.77%	187,850	13.79%
55 to 64	539	10.78%	5,559	7.24%	124,301	9.12%
65 to 74	334	6.68%	3,302	4.30%	76,071	5.58%
75+	341	6.82%	3,088	4.02%	72,267	5.30%
Total	4,999	100.00%	76,777	100.00%	1,362,572	100.00%
<b>Median Age</b>	<b>37.4</b>		<b>29.2</b>		<b>34.3</b>	

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Sources: Claritas, 2006; Bay Area Economics, 2006.



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**Table 3: Household Income Distribution, 2005**

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<b>Estimated Income</b>	<b>Swanston Study Area</b>		<b>North Sacramento</b>		<b>Sacramento County</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Less than \$15,000	666	30.58%	5,562	22.30%	60,711	12.08%
\$15,000 to \$24,999	346	15.89%	4,127	16.54%	52,047	10.35%
\$25,000 to \$34,999	244	11.20%	3,807	15.26%	55,899	11.12%
\$35,000 to \$49,999	260	11.94%	4,589	18.40%	82,335	16.38%
\$50,000 to \$74,999	306	14.05%	4,000	16.04%	100,875	20.06%
\$75,000 to \$99,999	169	7.76%	1,591	6.38%	62,302	12.39%
\$100,000 to \$149,999	128	5.88%	908	3.64%	60,194	11.97%
\$150,000 to \$249,999	40	1.84%	258	1.03%	21,703	4.32%
\$250,000 and over	19	0.87%	103	0.41%	6,690	1.33%
<b>Total</b>	<b>2,178</b>	<b>100.00%</b>	<b>24,945</b>	<b>100.00%</b>	<b>502,756</b>	<b>100.00%</b>
<b>Median Household Income</b>	<b>\$27,601</b>		<b>\$32,262</b>		<b>\$50,087</b>	

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Sources: Claritas, 2006; Bay Area Economics, 2006.

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**Table 4: Household Size, 2005**

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<b>Household Size</b>	<b>Swanston Study Area</b>		<b>North Sacramento</b>		<b>Sacramento County</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
1-Person Household	836	38.4%	6,274	25.1%	135,885	27.0%
2-Person Household	641	29.4%	6,230	25.0%	153,780	30.6%
3-Person Household	303	13.9%	3,957	15.9%	82,424	16.4%
4-Person Household	183	8.4%	3,196	12.8%	66,744	13.3%
5-Person Household	108	5.0%	2,155	8.6%	33,696	6.7%
6-Person Household	59	2.7%	1,285	5.2%	15,929	3.2%
7-or More Persons	47	2.2%	1,849	7.4%	14,299	2.8%
<b>Total:</b>	<b>2,178</b>	<b>100.0%</b>	<b>24,945</b>	<b>100.0%</b>	<b>502,756</b>	<b>100.0%</b>

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Sources: Claritas, 2006; Bay Area Economics, 2006.

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**Table 5: Housing Stock Characteristics, 2005**

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<b>Units in Structure</b>	<b>Swanston Study Area</b>		<b>North Sacramento</b>		<b>Sacramento County</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
1 Unit Detached	1,195	50.4%	15,960	59.9%	331,008	63.0%
1 Unit Attached	125	5.3%	1,054	4.0%	34,958	6.7%
2 Units	73	3.1%	780	2.9%	12,459	2.4%
3 -4 Units	139	5.9%	1,741	6.5%	26,979	5.1%
5 - 9 Units	174	7.3%	1,636	6.1%	26,559	5.1%
10 - 19 Units	224	9.4%	1,085	4.1%	20,080	3.8%
20 - 49 Units	138	5.8%	1,306	4.9%	15,280	2.9%
50+ Units	60	2.5%	1,962	7.4%	41,013	7.8%
Mobile Home	205	8.7%	925	3.5%	15,788	3.0%
Other	40	1.7%	197	0.7%	1,018	0.2%
<b>Total Housing Units</b>	<b>2,373</b>	<b>100.0%</b>	<b>26,646</b>	<b>100.0%</b>	<b>525,142</b>	<b>100.0%</b>

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Sources: Claritas, 2006; Bay Area Economics, 2006.

**Table 6: Population and Household Projections, 2005 to 2025**

<b>Swanston Study Area</b>						
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>Percent Change 2005-2025</b>
<b>Population</b>	<b>4,261</b>	<b>4,300</b>	<b>4,349</b>	<b>4,390</b>	<b>4,370</b>	<b>2.56%</b>
<b>Households</b>	<b>2,027</b>	<b>2,044</b>	<b>2,070</b>	<b>2,089</b>	<b>2,090</b>	<b>3.11%</b>
<b>Housing</b>	<b>2,137</b>	<b>2,154</b>	<b>2,180</b>	<b>2,201</b>	<b>2,202</b>	<b>3.04%</b>
Single-family	926	943	969	990	991	7.02%
Multifamily	944	944	944	944	944	0.00%
Mobile Home	267	267	267	267	267	0.00%
<b>North Sacramento</b>						
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>Percent Change 2005-2025</b>
<b>Population</b>	<b>71,064</b>	<b>74,362</b>	<b>77,312</b>	<b>78,184</b>	<b>77,680</b>	<b>9.31%</b>
<b>Households</b>	<b>25,370</b>	<b>26,640</b>	<b>27,607</b>	<b>27,998</b>	<b>28,068</b>	<b>10.63%</b>
<b>Housing</b>	<b>26,736</b>	<b>28,086</b>	<b>29,087</b>	<b>29,490</b>	<b>29,543</b>	<b>10.50%</b>
Single-family	15,727	16,303	17,255	17,594	17,643	12.18%
Multifamily	9,463	10,237	10,286	10,349	10,353	9.41%
Mobile Home	1,546	1,546	1,546	1,547	1,547	0.06%
<b>Sacramento County</b>						
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>Percent Change 2005-2025</b>
<b>Population</b>	<b>1,270,826</b>	<b>1,372,628</b>	<b>1,456,613</b>	<b>1,502,118</b>	<b>1,522,249</b>	<b>19.78%</b>
<b>Households</b>	<b>472,010</b>	<b>510,352</b>	<b>542,501</b>	<b>560,237</b>	<b>569,713</b>	<b>20.70%</b>
<b>Housing</b>	<b>492,865</b>	<b>533,421</b>	<b>567,152</b>	<b>585,606</b>	<b>595,296</b>	<b>20.78%</b>
Single-family	329,351	353,262	376,166	389,873	396,482	20.38%
Multifamily	149,627	166,073	176,817	181,518	184,573	23.36%
Mobile Home	13,887	14,086	14,169	14,215	14,241	2.55%

Sources: SACOG, 2006; Bay Area Economics, 2006.

## Employment Trends

Table 7 provides 2005 through 2025 employment trends and projections for the Study Area, North Sacramento, and Sacramento County.<sup>23</sup> SACOG projections estimate employment growth rates in the Study Area and North Sacramento at substantially lower levels compared to the rest of the County over the 2005 to 2025 period.

### *Local Employment*

SACOG estimates that Office and “Other” categories account for 44 and 34 percent of employment respectively in 2005.<sup>24</sup> In North Sacramento the “Other” category represents 37 percent of total employment while Office employment is at 29 percent. In Sacramento County, office employment comprises the highest share of total employment, at 34 percent, while “Other” employment encompasses 25 percent. Retail employment accounts for the third highest concentration in all three geographies, accounting for 14 percent of jobs in the Study Area, 18 percent in North Sacramento and 19 percent in Sacramento County.

The USAA offices likely account for a significant share of the Study Area’s total office employment. USAA is located directly east of the rail line and north of Arden Way. With offices across the country, USAA provides insurance and financial products to members of the United States military community. USAA has recently reduced its work force at its location near Swanston and has indicated interest in leasing one of its two office buildings.<sup>25</sup> Another large employer in the area is the U.S. Postal Service. The U.S. Postal Service distribution center and office park is located directly southeast of the Royal Oaks Station.

### *Projected Employment Growth*

SACOG projects a 12 percent increase in total employment between 2005 and 2025 within the Study Area.<sup>26</sup> This figure is less than a percentage point greater than the increase projected for the North Sacramento area. Growth rates in both these geographies fall well short of the projected 25 percent increase for Sacramento County. This is partially attributable to the lack of available vacant land combined with more competitive office and light manufacturing markets elsewhere in the Sacramento Region, including Downtown Sacramento, North Natomas, Roseville, and Folsom. While office employment is expected to increase by only 100 jobs through 2025, the current availability of one of the USAA towers for lease may result in an office employment injection of between 900 and 1,100 jobs in the near future, based on USAA’s previous employment levels in the facility.

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<sup>23</sup> SACOG baseline 2005 employment estimates based on InfoUSA 2004 employment data and official planning documents.

<sup>24</sup> “Other” employment includes transportation, construction, utilities, and other non-land use based employment not captured through manufacturing, retail, office, medical, or education.

<sup>25</sup> Current estimates likely include the recent consolidation of USAA operations in the Market Area.

<sup>26</sup> SACOG projections through 2025 assume a constant share of regional employment growth based on 2005 shares of regional employment.

While the highest projected rate of employment increase within the Study Area will be in the Medical category, medical job growth amounts to only 18 jobs from 2005 to 2025. The “Other” category is anticipated to increase by 610 jobs within the Study Area, and office employment will grow by approximately 100 over the same period. The greatest employment increase for North Sacramento is expected in manufacturing jobs, both in terms of percentage increase and absolute numbers. In Sacramento County, the office sector exhibits the highest projected growth.

***Summary***

Like the population projections, the employment projections for the Study Area reflect the fact that the Swanston Study Area does not have large amounts of properly zoned and readily developable land to accommodate increases in employment. Backfilling the office space vacated by USAA will probably represent a very large proportion of the future office employment growth in the area. Although SACOG expects significant employment growth in the manufacturing sector for North Sacramento, manufacturing development would not likely contribute to making the Swanston Study Area more attractive for residential, retail, and office uses that would be more transit supportive.

**Table 7: Employment Trends and Projections**

<b>Swanston Study Area</b>						
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>Percent Change 2005-2025</b>
<b>Employment</b>	<b>7,116</b>	<b>7,550</b>	<b>7,904</b>	<b>7,930</b>	<b>7,954</b>	<b>11.78%</b>
Retail	1,019	1,029	1,039	1,049	1,059	3.93%
Office	3,097	3,197	3,197	3,197	3,197	3.23%
Medical	30	30	40	45	48	60.00%
Educational	98	98	98	98	98	0.00%
Manufacturing	437	454	485	496	507	16.02%
Other	2,435	2,742	3,045	3,045	3,045	25.05%
<b>North Sacramento</b>						
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>Percent Change 2005-2025</b>
<b>Employment</b>	<b>48,135</b>	<b>49,928</b>	<b>52,396</b>	<b>53,361</b>	<b>53,640</b>	<b>11.44%</b>
Retail	8,822	8,986	9,041	9,085	9,118	3.36%
Office	14,109	14,239	14,270	14,301	14,351	1.72%
Medical	2,078	2,088	2,118	2,143	2,151	3.51%
Educational	1,746	1,764	1,781	1,796	1,803	3.26%
Manufacturing	3,397	4,160	5,283	5,954	6,037	77.72%
Other	17,983	18,691	19,903	20,082	20,180	12.22%
<b>Sacramento County</b>						
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>Percent Change 2005-2025</b>
<b>Employment</b>	<b>554,278</b>	<b>601,655</b>	<b>649,423</b>	<b>679,173</b>	<b>695,365</b>	<b>25.45%</b>
Retail	105,342	114,793	122,511	127,194	129,882	23.30%
Office	189,291	207,972	231,108	248,045	256,996	35.77%
Medical	52,060	53,619	54,909	56,039	56,863	9.23%
Educational	32,837	34,645	36,479	37,745	38,413	16.98%
Manufacturing	37,929	45,098	48,232	50,307	51,002	34.47%
Other	136,819	145,528	156,184	159,843	162,209	18.56%

Sources: SACOG, 2006; Bay Area Economics, 2006.

## **Existing Real Estate Conditions**

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This portion of the analysis examines the existing real estate conditions within the Study Area. The analysis surveyed available properties for sale or for lease within the Study Area. However, due to the relatively small size of the Study Area, this analysis utilizes market data from the Study Area itself as well as adjacent neighborhoods as an indicator for the general market conditions within the Study Area. Upon completing a windshield survey of the Study Area and surrounding neighborhoods, BAE contacted representatives of available properties to inquire on the specific advertised buildings and also on the market trends in general. Further, BAE reviewed available real estate reports summarizing market trends in the local and regional office, retail, and for sale housing market. Finally, BAE analyzed recent property sales in the Study Area as a means to review the competitive supply and to estimate future pricing for new development in the area. Overall, this section focuses on the existing conditions for available land, office space, retail space, single family homes, and apartments. However, as in many areas across the Sacramento Region, real estate speculation, fueled by new development activity within the Study Area will likely raise property sales prices over time.

### **Commercial**

A windshield survey and subsequent research identified several available commercial sites along Del Paso Boulevard. Details acquired for nine locations revealed six sites available for lease and three sites for sale. Most of these properties are zoned commercial (C2) and could be filled by a range of tenants. While some sites target specific tenants, others, such as the former Senator Rollerdom building at 1031 Del Paso Boulevard, are entertaining both lease and sale offers from myriad tenant types. Table 8 provides a summary of the current commercial real estate conditions in the Swanston Study Area.

#### ***Retail Market***

According to several local commercial real estate brokers, most retail stores in the area serve the local community while national retailers chose sites on the east side of Business 80. Types of tenants targeted to fill the available spaces for rent include salons, restaurants and local-serving retail stores. Currently, within the Study Area, monthly rents for street-facing retail space range from \$1.27 to \$2.25 per square foot, NNN, with restaurant space commanding the highest premium. The retail spaces for sale range in asking prices from \$134 to nearly \$400 per square foot. A couple of real estate brokers indicated that the retail spaces they represent in this area have not been difficult to fill due to the high traffic counts along Del Paso Boulevard. However, a significant number of vacant storefronts along Del Paso may attest to the fact that the area is in a turn around phase.



In addition, according to the CB Richard Ellis' "MarketView Sacramento Retail" report for the



fourth quarter of 2005, vacancy rates for available retail are very low within the Sacramento Region, estimated at 4.7 percent. Typically, a healthy retail market possesses a ten percent vacancy rate. The report indicated that the North Sacramento and South Natomas areas exhibited a 1.2 percent vacancy rate. Although this includes the North Natomas area, which is nearly 99 percent occupied,<sup>27</sup> local brokers indicate that retail vacancies are also lower in the Study Area than the overall region. Across I-80, the Arden/Watt/Howe regional retail area also had a low 2.6 percent retail vacancy rate during the same quarter.

### ***Office Market***

Local developers are planning a variety of office and mixed-use projects along Del Paso Boulevard in the near future. However, specifics were available for only three office locations in the Study Area. One of these locations,



Del Paso Plaza at 2111 Del Paso Boulevard, a project by Feliciano Enterprise LLC, is a mixed-use project that is slated for completion in the summer of 2007. Currently, within the Study Area, office space is leasing at \$1.20 per square foot with NNN lease-terms for new Class A space,<sup>28</sup> and at an average \$1.29 per square foot with gross lease terms for older spaces.

Cornish and Carey's "Sacramento Market Summary" for the fourth quarter of 2005 reports an eight percent vacancy rate for office space in North Sacramento,<sup>29</sup> compared with 14 percent for the entire metropolitan area. According to local real estate professionals, there are not many office buildings in the area available for lease. Brokers for the office spaces claim that finding tenants is not a challenge as there is not a great deal available space and competition for potential tenants. As new office construction increases along Del Paso Boulevard, the competitive conditions may change. Still, many office users in the area have been priced out of Downtown Sacramento's Class A office space and were in search of more affordable markets near Downtown.

In the overall Sacramento Metropolitan area, vacancy rates for Class A office space are generally higher than Class B. Colliers International's "Sacramento Office Quarterly Report" for the second quarter of 2005 reported a 16 percent vacancy rate for Class A office space and 14.4 percent for Class B. This indicates continued local demand for somewhat older and more utilitarian office spaces as an affordable alternative to Class A office.

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<sup>27</sup> Conversations with Brokers in North Natomas, and North Natomas Survey; BAE, 2006.

<sup>28</sup> Under triple net (NNN) lease terms, the tenant typically pays insurance, common area maintenance, utilities, property taxes, and an assortment of other property owner costs pass-through charges that are in addition to their rent. Gross lease terms normally split property expenses, with the property owner paying for common area maintenance, insurance, and taxes, but not utilities, security, etc.

<sup>29</sup> Does not include Northgate, North Natomas, or South Natomas areas.

**Table 8: Swanston Study Area Commercial Real Estate Conditions (February 2006)**

Location	Total Square Feet	Vacant Square Feet	Asking Lease Rate price/sq ft	Asking Sales Rate price/sq ft	Terms of Lease	Length of Vacancy	Prior Tenants	Comments
<b>Available Vacant Retail Space</b>								
2111 Del Paso Blvd.	4,300	4,300	\$0.75-\$2.25		NNN	Years	N/A	Local retail oriented. Targeting restaurants, salons. \$.75 for back retail and \$2.25 for restaurant space. Building has been vacant for years.
1925 Del Paso Blvd.	7,500	7,500	\$1.33		NNN	N/A	Sac Symphony	Former Sacramento Symphony practice facility. Includes acoustic improvements, stage, and kitchen.
2100 Del Paso Blvd.	1,100	1,100	\$1.27		Gross	N/A	N/A	Includes bonus storage area
1713 Del Paso Blvd.	7,500	7,500		\$140.00	N/A	N/A	Aadvark Appliance	For sale only.
2419 Del Paso Blvd	50,646	24,176		\$134.46	N/A	N/A	N/A	Rite-Aid and Kragen Auto Parts guaranteed tenants through 2013
1011 Del Paso Blvd	1,400	1,400		\$392.86	N/A	N/A	Silk Bar & Café	
<b>Available Vacant Office Space</b>								
2111 Del Paso Blvd.	3,960	3,960	\$1.20		NNN	Years	N/A	Interested in drawing law firms. Expect that employees would have their own transportation and not use RT line.
2110 Del Paso Blvd.	3,500	1,100-2,416	\$1.27		Gross	N/A	Sac Children's Home	Zoned for both office and retail. In the middle of 1,100 sf retail lease negotiation.
920 Del Paso Blvd.	5,800	5,800	\$1.30		Gross	N/A	Sac Neighborhood Services	Includes secure parking/yard

**continued next page**

Note:  
Some available properties are not entirely within the Study Area geography and expand to the 95618 ZIP Code.

Sources: Respective owners, property managers, Bay Area Economics, 2006.

**Table 8: Swanston Study Area Commercial Real Estate Conditions (February 2006), cont.**

Location	Total Square Feet	Vacant Square Feet	Asking Lease Rate price/sq ft	Asking Sales Rate price/sq ft	Terms of Lease	Length of Vacancy	Prior Tenants	Comments
<b>Available Vacant Industrial Space</b>								
1031 Arden Way	48,215	2,000-3,000	\$0.25		NNN	not applicable	Aramark	Light industrial space not ideal due to proximity of residential area. Property would best be used as a residential retail/industrial mix. Greatest interest thus far has been from industrial users.
1031 Del Paso Blvd.	11,275	11,275	\$0.50		NNN	5 Months	Senator Rollerdome	Zoned industrial but with almost no industrial interest. Lots of commercial letters of intent including a church and a fitness studio.

**Available Vacant Land**

Location	Site Size	Zoning	Asking Sales Price	Comments
100 Arden Way	22000 sq ft	Retail	\$650,000	Southeast corner of Arden and Colfax.
Doolittle St & Marysville	1.68 acres	Commercial C-2	\$640,000	Back to I-80.
4724 Dry Creek Rd.	5.45 acres	Industrial	\$999,995	Currently used for towing service.
634 El Camino Ave.	.16 acres	Residential	\$145,000	Price recently reduced.
0 Catskill Way	.66 acres	Residential	\$369,000	Tentative map of 4 lots approved.

Note:  
Some available properties are not entirely within the Study Area geography and expand to the 95618 ZIP Code.

Sources: Respective owners, property managers, Bay Area Economics, 2006.

## Residential

As reported in Table 6, SACOG estimates 2,137 housing units within the Study Area as of 2005. SACOG further estimates that multifamily units represent 44 percent of all housing units in the area. Single family units account for 43 percent of the area's housing stock, while mobile homes comprise the remaining 13 percent of residential units. Compared to the larger North Sacramento area, as well as Sacramento County, the Study Area has a smaller share of single-family units and a greater proportion of multifamily units. As summarized below, housing appreciation in the Study Area jumped significantly from 2000 to 2005. As with many areas in Sacramento, home prices appreciated over 18 percent annually. In the Swanston Station Area alone, single-family home prices jumped from an average price of \$84,000 per unit in 2000 to \$257,000 a unit in 2005.<sup>30</sup> Recent market data indicate a slight cooling of the residential market but previous year gains continue to place for-sale housing as a strong local development opportunity.

### *For Sale Housing*

First American Real Estate Solutions (FARES) provided property transfer records for the Study Area and surrounding area from February, 2005 through February, 2006. During this period, there were a sufficient number of single-family home transactions within the Study Area, excluding sales in the Woodlake Neighborhood, to provide a representative data sample. This analysis expanded the area to the 95815 ZIP Code in order to gather more information on the sale of multifamily units. Table 9 summarizes the residential sales data.

**Single-Family Residential.** Between February, 2005 and February, 2006, there were 36 single-family home transactions within the northern half of Study Area. Generally, the homes in this area are older, in fair to poor condition, with smaller living areas and fairly large lots. The median sales price was \$262,500 for homes with a median of two bedrooms, 1,046 square feet of living space, and a 6,534 square foot lot.



The 11-unit SurrealEstates project offers artist live/work units that include three-bedrooms plus a detached artist studio, priced between \$120,210 and \$225,000. These prices are subsidized with sweat-equity from the artist-homeowners. The market-value of these units is estimated at around \$300,000.

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<sup>30</sup> Figures for 2000 are from the Swanston Station Executive Summary prepared by BAE for the Sacramento RT Northeast Corridor study. Average sales price of homes in 2005 based on 12 sales reported by FARES in the vicinity of the Swanston Transit Station.

**Multifamily Residential.** The analysis reviewed sales of multifamily rental properties and individual condominium sales. Due to a lack of multifamily property transactions within the Study Area, the analysis expanded the data gathering effort beyond the Study Area to the 95815 ZIP code, which encompasses the area roughly bordered by the American River to the south, Arcade Creek to the north, the Union Pacific Railroad to the west, and Ethan Way to the east.

*Rental Property Sales.* Nine apartment complexes sold over the same time period within the 95815 ZIP code. These complexes ranged between six and 50 units, selling for as low as \$465,000 to as high as \$3 million. The weighted average complex sales price of \$1,845,835 translates to an average price of \$71,588 per unit.

During the February 2005 to February 2006 time period, there were twenty duplex, seven triplex, and ten quadruplex sales in this larger geography. These transactions refer to the sale of the entire building and not just specific units associated with it. The average price per duplex and triplex unit was \$165,538 and \$156,024 respectively, with quadruplex units averaging \$112,825. Most of the units sold in the zip code were older buildings constructed in the mid-50's and early 60's. New for-sale duplex and triplex units would likely command significantly higher prices.

*New Owner-Occupied Condominium and Townhome Sales.* According to the Hanley Wood "Project Summary Report" for the Northwest Condominium and Townhome Market in Sacramento, condominium and townhome sales prices in this larger northwest region ranged from \$146,900 to \$434,000 per unit (See Table 10). One of these projects, Alder Grove, was a condominium conversions of existing rental housing, but most were new construction. On a per square foot basis, unit sales of new condominiums ranged from \$150 to over \$340 per square foot of living area. New townhomes sold from \$180 to \$275 per square foot of living area with larger units selling at a lower per square foot price. It should be noted that the vast majority of reported condominium sales were in North Natomas, a more expensive residential market. Thus, new condominiums in the Study Area would likely command slightly lower prices than those found in North Natomas.

The market for condominiums and townhomes is slowing down. Between June 2005 and June 2006, the typical condominium development averaged six unit sales per month, compared to 14 sales per month in calendar year 2005. Still, for sale condominiums persist as a key development opportunity within the Study Area. Demand for entry-level for sale units has remained strong due to the decreasing affordability of the single-family housing market. With single-family home prices climbing well above \$300,000, entry-level homeowners are pursuing more affordable quality housing opportunities and in areas that have otherwise been overlooked. In response, developers continue to pursue condominium conversions throughout the Sacramento region. Based on prevailing sale prices, new quality condominiums in the Study Area could command in upwards of \$215 to \$235 per square foot.

While condominium conversions offer the lowest cost housing, it should be noted that a barrier to conversions in the Study Area is the City of Sacramento's condominium conversion

ordinance of 1980. This ordinance has been difficult to interpret, and no condominium conversions have occurred within the City since it was adopted.<sup>31</sup> In addition, it has requirements for parking, water metering and providing affordable units which to date have not been achievable.<sup>32</sup> As a result, the condominium housing which is being made available through conversions in the surrounding areas may be precluded in the Study Area.

### ***Multifamily Rental Housing***

Due to the limited supply of large apartment complexes or other available rental units within the Study Area, the analysis expanded its geographic scope to include nearby neighborhoods. Table 11 lists the apartment complexes and residential market conditions for the Study Area.

In addition to the new Victory Townhomes and refurbished Evergreen Estates, the windshield survey located one other large apartment complex within the Study Area, Woodlake Close. Woodlake Close is located along Royal Oaks Drive near Woodlake Elementary. All three of the complexes are in excellent condition and offer numerous unit and on-site amenities. The Townhomes and Evergreen Estates share a community center, computer lab, and children's playground. The Woodlake Close complex includes a swimming pool, and a small fitness room for resident use. Rents at Woodlake Close range from \$925 per month for a one-bedroom unit, to \$1,050 for a two-bedroom apartment. While the other complexes are comprised of subsidized units rented to families earning sixty percent or less of Sacramento County median family income, the 2003 estimated market rent for the Townhomes was between \$1,200 and \$1,400 per month for the three and four bedroom units. This compares to an overall average monthly rent of \$700 for a one-bedroom apartment and \$850 for a two-bedroom unit in the Study Area.

There are three medium-sized apartment complexes which reported vacancies in the Study Area. All three complexes are in fair condition with one operating as an assisted living facility. Rents for medium-sized projects were lower, ranging from \$500 to \$750 per month. These units are an important affordable housing source.

Beyond the above options, the remaining multifamily units in the Study Area are limited to small apartment complexes that are in poor condition. Many of these apartments are located in the northern half of the Study Area, including several complexes along Boxwood Street. In the southern portion of the Study Area, these multifamily units can be found along Lochbrae Road, including single family homes converted to multi-family units that range in condition from poor to fair. In addition, Woodlake Manor is a larger complex located at Lochbrae Road and Canterbury Road that is in relatively poor condition.

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<sup>31</sup> James Robinson, Regional Transit, conversation October 2006.

<sup>32</sup> Davis Harrison, Sperry Van Ness, conversation October 2006.

**Table 9: Swanston Study Area Property Sales (Feb 2005 to Feb 2006)**

<u>Single-Family</u>	<u>Median Sales Price</u>	<u>Median Living Area (square feet)</u>	<u>Median # of Bedrooms</u>	<u>Median Lot Size (square feet)</u>	<u>Number of Sales</u>	
Single-Family	\$262,500	1,046	2.0	6,534	36	
<u>Multifamily</u>	<u>Median Sales Price</u>	<u>Median Living Area Per Unit (square feet)</u>	<u>Median # of Bedrooms Per Unit</u>	<u>Median Lot Size (square feet)</u>	<u>Number of Sales</u>	<u>Average Price Per Unit</u>
Duplex	\$327,500	809	2.0	6,752	20	\$165,538
Triplex	\$461,000	680	2.0	7,405	7	\$156,024
Quadruplex	\$445,000	486	1.0	7,405	10	\$112,825
<u>Multifamily, 5+ Units</u>	<u>Sales Price</u>	<u>Units</u>	<u>Price Per Unit</u>			
1015 Arcade Blvd	\$1,500,000	20	\$75,000			
2992 Altos Ave	\$590,000	6	\$98,333			
2671 Fairfield St	\$3,000,000	50	\$60,000			
691 El Camino Ave	\$665,000	8	\$83,125			
2620 Connie Dr.	\$1,025,000	10	\$102,500			
733 Dixieanne Ave	\$1,950,000	30	\$65,000			
2398 Oakmont St	\$465,000	6	\$77,500			
2423 Boxwood St	\$740,000	10	\$74,000			
2335 Boxwood St.	\$660,000	8	\$82,500			
<b>Weighted Average</b>	<b>\$1,845,135</b>	<b>16</b>	<b>\$71,588</b>			

**Notes:**

Single-family housing data represents transactions within the Study Area geography, excluding the Woodlake neighborhood.

All other transactions took place in the 95815 ZIP Code.

Reported median figures calculated separately for each category.

Sources: First American Real Estate Solutions, Inc., February 2006; Bay Area Economics, 2006.

**Table 10: New Condominium and Townhomes Sales, Northwest Sacramento, 2005**

<b>Project/Builder</b>	<b>Location</b>	<b>Type</b>	<b>Unsold Units</b>	<b>Base Price Range</b>	<b>Finished Square Feet</b>	<b>Price Per Square Foot</b>
<b>Westlake Villas/</b> Meer Capital Partners	Natomas	Condo	0	\$288,400 - \$395,625	840 - 1,382	\$271-\$343
<b>Amara/</b> Pacific West Builders	Natomas	Condo	0	\$205,900-\$325,900	763 - 1,338	\$238 - \$272
<b>Parkplace at Regency Park/</b> U.S. Home Corporation	Natomas	Condo	99	\$236,990 - \$356,990	763 - 1,464	\$244 - \$311
<b>Hampton Village/</b> KB Home	Natomas	Condo	228	\$274,000 - \$372,990	1,089 - 1,964	\$190 - \$266
<b>Carriage Lane/</b> D.R. Horton	Natomas	Condo	136	\$232,890 - \$345,990	1,000 - 1,650	\$153 - \$324
<b>Alder Grove/</b> Alder Grove LLC	Sacramento	Condo	0	\$146,900 - \$187,900	880 - 1,025	\$167 - \$183
<b>Discovery Collection/</b> Beazer Homes	Natomas	Townhomes	155	\$283,990 - \$359,990	1,027 - 1,837	\$195 - \$275
<b>Landing Collection/</b> Beazer Homes	Natomas	Townhomes	54	\$320,990 - \$433,990	964 - 1,871	\$182 - \$196

Sources: Hanley Wood, LLC, 2006; Bay Area Economics, 2006.



**Table 11: Swanston Study Area Multifamily Residential Market Conditions (February 2006)**

Address	Name of Apartment Complex	Year Built	Total Number of Units	Number of Units Available	Unit Type	Quantity	Unit Size (square foot)	Monthly Rent	Comments
2059 Royal Oaks	Woodlake Close	1987	76	N/A	1-Bedroom	14	850	\$925	Close to Royal Oaks station, markets RT stop as an amenity. One of the newer complexes in the area and in the best neighborhood.
					2-Bedroom/ 2-Bath	62	1,000	\$1,050	
3024 Howe Ave.	Olive Orchard Apartments	1985	15	N/A	1-Bedroom	7	600	\$595	About 2% of the tenants live 5 minutes from their work. The manager believes rents for the complex reflect the medium range of the local rental market. North of Swanston Station, near Marconi.
					2-Bedroom/ 1-Bath	8	750	\$775	
1611 Cormorant Way	Ashley Place Apartments	n. avail.	48	4	Studio	8	520	\$520	The apartment complex does provide affordable housing. Strong mix of tenants with most demanding 2-bedroom units.
					1-Bedroom	8	755	\$755	
					2-Bedroom/ 1-Bath	32	1,000	\$1,000	
2453 Rio Linda Blvd.	Palm Lake Apartments	1951	40	13	1-Bedroom	28	500	\$675	Manager tries to keep the quality of Palm Lake Apartments higher than the neighboring apartments, and charges \$100 more than his competitors accordingly. Recently installed new windows. Vacancy can range from 10%-50% and always has units available. Mostly families.
					2-Bedroom/ 1-Bath	12	600	\$775	
733 Dixieanne Ave.	Fountain Gardens	1971	30	0	1-Bedroom	30	550	\$575	The complex was renovated Q1, 2005. It is currently on the market, priced at \$2,460,000 (\$82,000/unit)
2228 Royale Rd.	Arden Fair Apartments	1990	111	N/A	Studio	4	500	\$595	The units in greatest demand are the two bedroom apartments. The tenant composition is mixed. Rents reflect the medium range of the local rental market.
					1-Bedroom	49	725	\$675	
					2-Bedroom/ 1-Bath (small)	25	820	\$705	
					2-Bedroom/ 1-Bath (large)	25	900	\$755	
					2 bedroom/ 2-Bath	8	975	\$900	

Sources: Respective owners and property managers, Bay Area Economics 2006.

## Potential Development Sites

Throughout the Study Area there are vacant land parcels, lots for sale, and underutilized lots that present development opportunities. However, many of the vacant sites along the commercial strips of Del Paso Boulevard and El Camino Avenue do not display any signs of development. A local real estate professional confirmed that some owners are still holding onto the lots and are not ready to sell them. A survey of the area revealed only one lot for sale along Del Paso Boulevard.<sup>33</sup>

### *Opportunity Sites*

One large site, spanning almost the entire block of El Camino Avenue, Erickson Street, Boxwood Street, and Dixieanne Avenue, presents an excellent development opportunity, as the site is currently in a natural state. In addition, this lot is situated across the street from Dixieanne Park.



Recently, Signature Properties obtained approval to build 60 detached single-family homes on this site. Signature Properties has also purchased the lot behind the Evergreen Estates, towards Calvados Avenue and received approval to build 20 single-family homes. The site across the street at Erickson Street and Calvados Avenue offers similar opportunities for development. Both sites are located interior to the commercial strips and would be good sites for high-density residential projects. However, these sites back onto industrial and commercial uses located along Arden Way.

Through the windshield survey, BAE located several other opportunity sites in the area. Many of these do not have listings but remain vacant or underutilized. Two such vacant lots, one at the southeast corner of Calvados Avenue and Fairfield Street and a slightly larger site at the southwest corner of Dixieanne Avenue and Selma Street, may be appropriate for residential uses. Another similar lot, located on the northwest corner of Calvados Avenue and Erickson Street, now houses a newly-built single-family dwelling. In close proximity to the station, USAA's campus represents an opportunity for future transit-oriented development.

In addition to the vacant parcels around Swanston Station, there are many industrial buildings in the area that are low in employment density and may be inappropriate uses due to their proximity to light rail. Another key opportunity site is the Swanston Station park and ride lot. The park and ride lot remains underutilized and would likely generate more riders as TOD

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<sup>33</sup> The broker representing the vacant property on Del Paso Boulevard was not available to provide further information.

compared to its existing low intensity use. It should be noted, however, that RT land located just to the south of the station park and ride lot is under consideration for the location of the new bus transfer facility. Figure 5 highlights the currently vacant sites and underutilized lots in the Swanston Station Area. The windshield survey also identified approximately nine acres of vacant land along State Route 160, behind the Woodlake Elementary School. This site is more than a quarter mile from the Royal Oaks Station and its proximity to the school may present development challenges. Flooding issues on this property are also unknown.

This listing of opportunity sites does not consider environmental challenges to development. These hurdles are considered in the Environmental Considerations Report which details all the environmental issues of each parcel in its Appendix 1.

Figure 5: Swanston Station Area Opportunity Sites

**Legend**

-  Vacant
-  Underutilized
-  For Sale
-  Proposed single-family dwelling



## Planned and Proposed Projects

The following analysis investigates current planned and proposed projects in and near the Study Area. Planned and proposed development provides insight into the future competitive supply and potential changes in local real estate market conditions. Table 12 summarizes the planned and proposed developments for the Study Area, and adjacent areas. In general, the planned and proposed projects submitted to the City for review are smaller infill projects that will have limited impact on the overall supply of available commercial or residential space. Larger-scale plans are in the early planning process but only a few have been formally submitted to the City.

### *Commercial*

As stated above, there are several commercial and mixed use projects in the early planning and discussion phases.<sup>34</sup> While there seems to be a great deal of activity, not many formal project proposals or plans have been submitted for approval. One of the projects is planned on the Sacramento RT-owned Lumberjack site near Royal Oaks Station. A team comprised of New Faze Development and Fulcrum properties has preliminary plans for 107 residential units over retail at this location. Another New Faze project proposed at 2001 Del Paso Boulevard consists of approximately 4,250 square feet of retail space, 13,300 square feet of office space, and 27 condominium units.<sup>35</sup> In addition to these two sites, there are plans for development throughout the Study Area. However, most of the developer interest is centered around Del Paso Boulevard, which will have limited direct impact on the Swanston Station.

Two commercial developments within the Study Area are currently in the planning review process. One project will be located along El Camino Avenue at Erickson Street, only a few blocks from the Swanston Station. This retail site was discussed as a potential ground lease to a fast food establishment, though this plan has been met with considerable opposition. The second Study Area project is the proposed three-story office and retail building at 503 Arden Way, planned by Friedlander of LIMN. Another development site is on Arden Way, just to the west of Del Paso Boulevard. Currently, there are limited details available for anticipated tenants at this 6,000 square foot retail project. Construction has begun on a fourth project that will be located just to the northwest of the Study Area, at the intersection of Rio Linda Boulevard and El Camino Avenue. This project is a 4,425-square-foot commercial building with a drive-through Starbucks and space for an additional retail store. The drive-through indicates limited attention to its proximity to transit stations.

### *Residential*

There are three single-family residential units proposed in addition to the recently completed SurrealEstates project, which was recently completed in the summer of 2006. One of these homes is within the Study Area boundaries while two are to the north and northwest, across El Camino Avenue and Del Paso Boulevard. While small residential projects, they represent

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<sup>34</sup> Based on discussion with the SHRA North Sacramento Redevelopment Planner.

<sup>35</sup> New Faze application to the City of Sacramento Planning Division. File no. P06-141. August 17, 2006.

market-driven housing projects absent of subsidy. Signature Properties has also secured approval to build 80 market rate, two-story, detached, three and four bedroom, single-family homes within the Study Area. These housing units will reportedly be priced in the mid-\$200,000 range. This represents a significant shift considering the paucity of private investment in the Swanston Study Area. The lower price-point of the planned new residential development, as compared to areas such as Midtown and Downtown indicates that this area of Sacramento may be well positioned to provide opportunities for home ownership to the City's workforce population, especially those working in or near Downtown, for whom light rail access would be convenient.

**Table 12: Current Development Applications in the Swanston Study Area and Vicinity**

<b>Location</b>	<b>Type</b>	<b>Status</b>	<b>Comments</b>
<b>Within the Study Area</b>			
503 Arden Way	Office/Retail	Under Review	Friedlander: New 23,668 square foot, 3-story office and commercial mixed-use building.
2001 Del Paso Blvd.	Mixed-use	Under Review	50,580 square feet with 27 residential units, office, and retail.
965 El Camino Ave.	Commercial	Under Review	Petrovich Development Company: Ground lease to food vendor.
670 Dixianne Ave.	Residential	Completed October 2006	11-unit artist live work project.
900 El Camino Av.	Residential	Approved	Signature Properties: 60 new single-family units .
2320 Evergreen St.	Residential	Approved	Signature Properties: 20 new single-family units .
2300 Evergreen St.	Residential	Under Review	Demolition and new single-family residential construction.
2635 Selma St.	Residential	Under Review	New single-family residential.
<b>Near the Study Area</b>			
2465 Rio Linda Blvd.	Commercial	Under Construction	4,425 square feet of Multi-Tenant retail with drive through facility.
100 Arden Way	Commercial	Approved	6,000 square feet of new retail space. Targeting food users
635 Santiago Ave.	Residential	Under Review	New single-family residential unit.

Sources: City of Sacramento Development Services Department, Planning Division, 2006; Bay Area Economics, 2006.

## **Neighborhood Retail Sales Leakage/Injection**

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This analysis examines the health of the retail market to determine whether there are opportunities to bring additional neighborhood services to the area that might also attract additional pedestrian activity to the Study Area. This portion of the analysis uses Claritas Inc., a private demographic vendor, and MuniServices data to determine the existing leakages or injections for distinct retail sectors within the Study Area. In order to maintain the confidentiality of specific stores in the Study Area, no sales tax figures are provided in the Existing Retail Sales portion of this analysis. Table 13 shows the retail leakage analysis for the Study Area, using 2005 demand estimates and actual retail sales figures.

**Existing Retail Sales.** MuniServices, a City of Sacramento sales tax consultant, estimates that in 2005, the Study Area generated approximately \$1.4 million in sales tax revenues for the City. The majority of this revenue came from the auto part sales, used car sales, wholesale building materials, department store sales, and miscellaneous vehicle sales. The Study Area contains several used car lots, as well as service and repair shops. There are also recreational vehicle sales lots that fall into the miscellaneous vehicles category.

MuniServices estimates that several retail categories in the Study Area do not contribute any sales tax revenues for the City. These sectors include venues specializing in recreation products, liquor sales, electronic equipment, and apparel sales. Although some of these products are sold in the area, they are not the primary good that determines the category of the retail venue in which they are sold.

It should be noted that MuniServices does not report sales tax data that would reveal confidential business income information. If there are fewer than four businesses in a particular retail category (for example, liquor stores and gasoline stations in the Study Area), this data would be reported under “Miscellaneous” rather than broken out by category.

Since the Study Area abuts the Arden Fair area, BAE does not recommend additional stores located within the Study Area that provide apparel, electronic equipment, or recreation products to local residents. The Arden Fair retail area draws significant retail demand from surrounding communities throughout the region and has a distinct competitive advantage in comparative goods compared to the Study Area. In addition, Costco and REI are located directly south of the Study Area further reducing retail opportunities for sporting goods and major retail purchases. Moreover, retail at the Study Area should focus on convenience and neighborhood goods that serve the residents in the immediate area.

**Estimated Expenditures.** Claritas provides estimates of consumer demand for households located within the Study Area, using expenditure estimates from the Bureau of Labor Statistics’ Consumer Expenditures Survey (CEX). According to Claritas estimates, the highest estimated consumer expenditures (demand) in the Study Area are spent at motor vehicle and parts dealers,



food and beverage stores, general merchandise, and eating and drinking places. Households have minimal demand for furniture and appliances; sporting goods, hobby, books, and music stores; and miscellaneous store retailers. The column titled “Estimated Consumer Expenditures” in Table 13 displays these figures.

***Leakage/Injection.*** The Study Area should provide sufficient supply of retail sales to satisfy the demand for convenience retail goods, to ensure that these items are located within an easy distance of most market area residents. Eating and drinking places and food and beverage stores make up the bulk of convenience retail. Certain health and personal care stores can also fall into the convenience retail category. If the estimated consumer expenditures are greater than the actual retail sales for a given retail sector, then there is a leakage in that sector. In other words, retail dollars that could be captured locally are spent outside of the area because they are not sufficiently available within the Study Area. As shown in Table 13, the Study Area demonstrates retail leakage for both the food and beverage stores, and health and personal care stores sectors. Conversely, the data suggests that people residing outside the Study Area are coming into the Study Area to patronize Study Area eating and drinking places. This may be a result of restaurants moving into the area, or bars located along Del Paso drawing clientele from across the City. The data also suggest that people residing outside the Study Area are also entering the Study Area to purchase products in the motor vehicles and parts category, in which Study Area supply exceeds demand by almost \$45 million.

In order to encourage smart growth that would generate foot traffic within the Study Area and enhance the attractiveness of the area for residential uses in particular, the City should focus on drawing additional convenience and pedestrian friendly, neighborhood-serving businesses to the area. The data suggest that the area is currently lacking food and beverage stores and health and personal care stores. In addition, the retail leakage analysis shows that a portion of local demand for conventional grocery store goods is currently lost to outlets outside of the area. Based on SACOG minor zone projections for 2005, there are an estimated 9,500 homes and 24,000 residents within a 1.5-mile radius of the Swanston Station. An area of 1.5 miles is considered the standard market area for a supermarket and a modern supermarket store typically requires 10,000 to 15,000 people within its trade area for adequate market support. Although Costco, located just south of Highway 160, likely captures a large share of local grocery demand, the less-traditional grocery model requires bulk purchases and will not meet the needs of all shoppers. Beyond this major food outlet, there are also many convenience and ethnic food markets throughout the 1.5-mile area. While the nearby location of Costco may make the attraction of another large supermarket within the Study Area a challenge, the large number of rooftops in the 1.5-mile radius combined with the grocery store retail leakage data for the Study Area indicates a potential for a grocery store within the Study Area, if it can be located such that it has good access and visibility to residents of the larger 1.5-mile area.

There also seems to be a need for additional drug store space, which is generally transit friendly, in that shoppers often do not leave a drug store with multiple heavy parcels. However, based on the retail leakage analysis, there is only enough unmet demand in the Study Area to support a health and personal services store of approximately 3,000 square feet. This is not sufficient to

attract a national chain drugstore, especially with the competing Rite-Aid on the edge of the Study Area at Del Paso Boulevard and El Camino.

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**Table 13: Swanston Study Area Retail Leakage Analysis, 2005**

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<b>Retail Category</b>	<b>Estimated Consumer Expenditures (Demand)</b>	<b>Actual Retail Sales (Supply)</b>	<b>Retail Sales (Leakage)/Injection</b>
Motor Vehicle & Parts Dealers (a)	\$12,523,399	\$57,415,400	\$44,892,001
Furniture & Appliances	\$2,808,446	\$2,881,800	\$73,354
Building Material, Garden Equip Stores	\$5,176,856	\$2,211,600	(\$2,965,256)
Food & Beverage Stores (b)	\$8,821,390	\$8,034,419	(\$786,971)
Health & Personal Care Stores (c)	\$3,147,575	\$1,864,229	(\$1,283,346)
Gasoline Stations	\$5,763,372	\$0	(\$5,763,372)
Clothing & Clothing Accessories Stores	\$2,709,662	\$0	(\$2,709,662)
Sporting Gds, Hobby, Book, Music Stores	\$1,153,797	\$0	(\$1,153,797)
General Merchandise Stores	\$7,691,340	\$0	(\$7,691,340)
Miscellaneous Store Retailers	\$1,586,887	\$6,381,600	\$4,794,713
Non-Store Retailers	\$3,422,629	\$49,500	(\$3,373,129)
Eating & Drinking Places	\$6,849,842	\$8,258,700	\$1,408,858

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**Notes:**

(a) Includes auto and other motor vehicles.

(b) Actual retail sales figures for food and beverage stores are based on the assumption that taxable sales represent 43 percent of total food store sales.

(c) Actual retail sales figures for drug stores are based on the assumption that taxable sales represent 70 percent of total drug store sales.

Sources: Thompson Associates, 2001; City of Sacramento, 2006; Claritas, 2006; Bay Area Economics, 2006.

## **Projected Increase in Land Use Demand**

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Tables 14 and 15 report high and low estimates of anticipated increases in demand for retail, office and housing within the Study Area through 2025. The low estimate is based on current SACOG projections for the Study Area as reported in Tables 6 and 7 of this analysis. This low estimate is extremely conservative as it does not take into consideration recent development trends. The high estimates are based on the current SACOG estimated population, office employment, and housing increases for Sacramento County through 2025 and applying that percentage increase to the 2005 Study Area estimates. This high estimate suggests that with shifts in the Study Area and adoption of transit oriented development practices, the area can grow in a manner that parallels the rest of the County. The high estimates provide a reasonable indicator of the enhanced growth potential of the area, assuming that efforts are made to address the area's historical challenges to development. Although it is possible that some locations within the County will exceed the average growth rate, this will likely occur in greenfield areas where there are no significant physical or economic barriers to growth and ample vacant land. For an area such as the Study Area, that must overcome existing barriers to development and that must rely on substantial redevelopment in order to accommodate growth, achieving a growth rate that mirrors the overall County growth rate would be a significant accomplishment. It should be understood that certain policy decisions could result in a station area capturing more than the high end projection reported here. However, with development efforts focused on transit stations throughout the City, it is important to highlight that land use demand across the City and region is finite and if one station captures more than its "fair share" of development, it may come at the expense of development in another station area.

### ***Projected Increase in Residential Demand***

Housing demand through 2025 is estimated at between 65 and 444 units based on SACOG household projections. Already, the 80 units planned by Signature Properties and the 107 residential units proposed at the former Lumberjack site exceed the low estimate, highlighting the rapidly changing development environment within this area. Achieving the high-end projection will depend upon successful efforts to redevelop under-utilized sites for housing, supported by comprehensive efforts to make the neighborhood more attractive through public improvements, attracting new retail, and addressing concerns for public safety.

### ***Projected Increase in Office Demand***

Based on SACOG office employment projections, office space demand over the next two decades ranges from 27,780 to 307,700 square feet. These figures are calculated using an estimate of 250 square feet of space required for each additional employee and include a ten percent vacancy adjustment. Due to the large recent reduction in staffing at USAA, resulting in the vacancy of one of their two office towers, a large component of future Study Area office growth is likely to entail backfilling that existing space with a large single user or other corporate-type tenants. Beyond that, more modest growth could be expected in small professional offices, likely in quantities closer to the lower end of the potential demand range

given above.

***Projected Increase in Neighborhood-Serving Retail Demand***

Table 14 reports high and low estimates of the increase in neighborhood retail demand within the Study Area through 2025. The projected increase in demand focuses on the neighborhood-serving retail sectors of food and beverage stores, health and personal care stores, eating and drinking places, and a portion of miscellaneous store retailers that includes florists and other specialty shops oriented towards local consumers. As described in the previous section, due to the proximity to the Arden Fair Mall area and other major retail venues, new retail opportunities in the Study Area are generally limited to local-serving outlets.

The current per capita demand is calculated using the expenditures reported in Table 13 and the SACOG estimate of Study Area population in 2005. The low estimates of projected retail demand are calculated using current SACOG population projections for the Study Area, as reported in Table 6. These conservative figures represent the potential increase in consumer demand without any significant changes occurring in the Study Area. The high estimates use the more generous assumption that the Study Area will grow at the same pace as the rest of Sacramento County.

While food and beverage stores and health and personal care stores comprise the current unmet demand for neighborhood retail in the Study Area, the greatest increase in demand is anticipated in food and beverage stores and eating and drinking places. The anticipated increase in demand for food and beverage stores through 2025 ranges from \$225,660 to \$1,745,240. Demand increase for eating and drinking places through 2025 amounts to between \$175,230 and \$1,355,190.

Overall, the projected increase in demand ranges from \$491,550 to \$3,801,640 while current unmet demand equals \$2,070,320. These retail demand estimates are then converted into square feet using the median sales per square foot figure- \$357 per square foot- as reported by the Urban Land Institute for neighborhood shopping center tenants in the western region of the United States.<sup>36</sup> Adjustments for non-retail stores, such as dry-cleaners and other service providers as well as a vacancy allowance results in a final estimate of between 9,270 and 21,250 square feet of neighborhood retail space that the Study Area residents will be able to support through 2025.

These projections do not include additional retail demand from office workers in the area. Reliable data sources are difficult to obtain regarding office worker spending patterns due to high variability in spending related to the type of retail stores available near the office location. However, a typical figure used is five dollars per office employee, per day. A high estimate of new office jobs can be generated by increasing current Study Area office jobs of 3,100 as reported in Table 7, by the County's projected office employment growth rate through 2025 of 36 percent. Thus the potential 1,116 new office employees would demand approximately

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<sup>36</sup> Urban Land Institute. *Dollars and Cents of Shopping Centers: 2004*.

\$1,395,000 of retail sales which could support an estimated 3,900 square feet of retail space. This additional demand could not support a significant number of retail vendors.

The City should focus on drawing additional convenience and pedestrian friendly, neighborhood-serving businesses to the Project Area. Such retail outlets encourage foot traffic and would supply the current and future neighborhood residents and workers with much needed services and goods. Since the location formerly considered for Raley's grocery store at El Camino and Erickson is now being developed as housing by Signature Properties, there are not many locations suitable in the Study Area for a large grocery retailer. However, North Sacramento remains underserved by grocery stores and a location in close proximity to the Study Area has the potential to capture demand from the larger region while remaining within a walkable distance.

In addition, as the number of new housing units increases in the area, the demand for food and beverage sales within the neighborhood will also rise. A smaller grocery store oriented towards serving local residents' everyday needs is another potential option for the Study Area. Such a retail outlet should be bolstered by other complementary stores, such as a florist and a dry cleaner, to further enhance the products and services available to the neighborhood.

As the Study Area resident and employee populations increase, restaurants and other food and beverage serving venues are likely to emerge to serve them. While these retailers should be encouraged to locate in the Study Area, they are not likely to require efforts on the part of the City to attract them to these locations. Indeed, the construction of a new Starbucks at 2456 Rio Linda Boulevard and the possibility of a fast food vendor at 965 El Camino Avenue underscores the competitive nature of this retail sector and its ability to respond to changing consumer demand.

**Table 14: Swanston Study Area Projected Increase in Neighborhood-Serving Retail Demand, 2005-2025**

	<u>Estimated Per Capita Expenditures 2005 (a)</u>	<u>Additional Retail Demand 2025 (low estimate) (b)</u>	<u>Additional Retail Demand 2025 (high estimate) (c)</u>
Food & Beverage Stores	\$2,070	\$225,659	\$1,745,243
Health & Personal Care Stores	\$739	\$80,518	\$622,723
Miscellaneous Store Retailers (d)	\$186	\$20,297	\$156,977
Eating & Drinking Places	\$1,608	\$175,225	\$1,355,188
<b>Total Projected Demand Increase</b>	<b>\$4,510</b>	<b>\$491,550</b>	<b>\$3,801,642</b>
<b>Current unmet neighborhood retail demand</b>		<b>\$2,070,318</b>	<b>\$2,070,318</b>
<b>TOTAL ADDITIONAL NEIGHBORHOOD RETAIL DEMAND</b>		<b>\$2,561,867</b>	<b>\$5,871,960</b>
<b>Additional Supportable Square Feet @ \$357 annual sales/square foot (e)</b>		7,176	16,448
<b>w/ 14% non-retail adjustment (square feet) (f)</b>		8,344	19,126
<b>w/ 10% vacancy adjustment (square feet) (g)</b>		<b>9,271</b>	<b>21,251</b>

**Notes:**

Does not include additional retail demand generated by new office workers in the Swanston Study Area.

(a) Calculated based on 2005 estimated consumer expenditures reported in Table 13 and SACOG 2005 Swanston Study Area population estimates reported in Table 6.

(b) Based on SACOG projected Study Area population increase through 2025 as reported in Table 6.

(c) Based on SACOG Study Area 2005 estimate and projected population percentage increase for Sacramento County through 2025.

(d) Assumes 50% of Miscellaneous Retail demand is for neighborhood serving stores such as florists and other convenience retailers.

(e) Based on ULI *Dollars and Cents of Shopping Centers: 2004* median sales per square foot of all neighborhood shopping center tenants in the western U.S.

(f) Adjustment to account for an additional 14 percent for non-retail outlets (business and personal services).

(g) Adjustment to account for a ten percent vacancy allowance.

Sources: Claritas, 2006; SACOG, 2006; ULI *Dollars and Cents of Shopping Centers: 2004*; Bay Area Economics, 2006.

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**Table 15: Swanston Study Area Projected Increase in Land Use Demand, 2005-2025**

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	<b>Additional Land Use Demand 2025 (low estimate) (a)</b>	<b>Additional Land Use Demand 2025 (high estimate) (b)</b>
<b>Retail (square feet) (c)</b>	9,271	21,251
<b>Office (square feet) (d)</b>	27,778	307,701
<b>Housing (units) (e)</b>	65	444

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Notes:

(a) Based on SACOG projected Study Area population, office employment and housing increases through 2025 as reported in Tables 6 and 7.

(b) Based on SACOG Study Area 2005 estimate and projected percentage increases for Sacramento County through 2025 for population, office employment, and housing as reported in Tables 6 and 7.

(c) See Table 14 for detailed calculations. Does not include additional retail demand generated by new office workers in the Study Area.

(d) Calculated using 250 square feet for each additional office worker with an added vacancy adjustment of ten percent.

(e) Calculated using housing projections reported in Table 6.

Sources: Claritas, 2006; SACOG, 2006; ULI *Dollars and Cents of Shopping Centers: 2004*; Bay Area Economics, 2006.



## Conclusions

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The large supply of vacant and underutilized lots provides opportunity sites for infill and redevelopment projects that can redefine the Swanston Study Area. Housing will likely lead the way, with retail and office development following once the area demonstrates signs of resurgence.

Already, private investors have demonstrated significant commitment and developed property in the study area. Additionally, Signature Properties is planning a residential project in the area. SHRA has led successful redevelopment efforts to rehabilitate area housing and invest in local infrastructure and streetscape improvements. Further, implementation of a Specific Plan will inject additional resources and provide a coordinated plan for public improvements to support revitalization within the area. Preliminary plans call for improved pedestrian and bicycle circulation surrounding the Swanston Station and a bridge linking the transit station to the USAA offices.

Additional efforts to promote arts in the redevelopment of the area can only inject further interest among potential homebuyers by creating a vibrant atmosphere with the type of cultural amenities desired by urban residents. These efforts, combined with rising home prices in surrounding areas, can catalyze new residential development within the Study Area. If the Study Area is able to grow at a rate that parallels the rest of the County through 2025, the projected number of new housing units over that time period would be about 440 units. This would represent about a 20 percent increase over the number of existing households.

Specifically, local and regional demand for entry-level housing indicates an opportunity for condominium construction. Condominium construction can vary in density but projects should be sufficient in size to generate economies of scale. Developers have indicated their reluctance to build attached housing due to the need to establish homeowner's associations to address common area maintenance issues, and the construction defect liabilities that accompany building this type of housing; however, these problems are not limited to the Study Area, but are endemic to constructing attached for-sale housing in general. Nevertheless, developers have overcome these obstacles when market conditions have been favorable, as when the prices they can charge for market rate units allows them to build the costs of addressing these issues into their development pro-formas. The preliminary plans for 107 residential units on the Lumberjack site at the Royal Oaks station exemplifies the strong market potential for this type of development near transit facilities.

Other potential development opportunities include small neighborhood-serving retail on Arden Way or Del Paso Boulevard. Based on the retail leakage analysis, the area generates sufficient local retail demand for a health and personal services store of approximately 3,000 square feet

and a specialty food and beverages store of approximately 2,000 square feet.<sup>37</sup> These store sizes are much smaller than typical national chain retailers will construct; however, the high traffic counts on Arden Way and Del Paso may encourage retailers to develop larger stores that would benefit not only from neighborhood demand, but drive-by traffic. Furthermore, through 2025 the demand for additional retail space in the Study Area is expected to be between 9,270 and 21,250 square feet. This does not include retail space, such as a supermarket, that could potentially be built within the Study Area to serve residents of a larger surrounding trade area. The potential demand for new office space may range between 27,780 and 307,700 square feet by 2025, depending on the growth scenario for the area; however, the large current vacancy at the USAA means that the need for new construction to support office employment growth is reduced significantly.

The remainder of this section summarizes the market analysis findings and provides additional discussion of market considerations surrounding the growth projections.

#### ***Multifamily Rental Residential***

While adding to the supply of housing near the station would generate more retail demand near the station, the Study Area demonstrates limited demand for additional market rate rental housing. Currently, existing market rents are below \$1.00 per square foot, which do not justify new multifamily construction without subsidies. In addition, rents have remained relatively constant over the past five years. Considering prevailing rents for well-maintained properties, new rental housing would not generate sufficient income to justify construction. Subsidized construction of affordable housing as well as subsidized rehabilitation of existing multifamily complexes present the most feasible rental housing opportunity under current conditions. However, as development activity increases in the Study Area, market conditions may shift in favor of new market rate apartment projects.

#### ***For-Sale Residential***

The for-sale residential market has experienced a dramatic upward shift over the past five years, leading to renewed development interest in an area historically absent of private investment. Buyers' pursuit of more affordable housing markets has led to renewed interest in North Sacramento and specifically Swanston Station. There are a number of proposed for-sale residential projects within the Study Area. They present a reversal of over two decades of disinvestment in the immediate Swanston area. Combined with declining affordability of single-family homes, local and regional demographic shifts spawn demand for smaller, more urban housing products. The increasing share of non-family households and family households without children is generating renewed market interest in urban housing with easy access to employment centers and local retail amenities. With an already low percentage of family households, this area's demographics indicate that the area is already proving appealing to urban dwellers such as singles and couples without children who should be attracted to the close-in location, and light rail access to downtown. Still, the Swanston Study Area continues to face barriers in regard to limited local retail amenities. As additional redevelopment and

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<sup>37</sup> Estimates are based on average sales per square foot by retail category. *BizStats.Com*, January 2006.

other public and private investments continue to improve the area, it will become more appealing to this market segment. In turn, adding more quality housing units will help to increase Study Area expendable incomes, making the area more attractive for neighborhood-serving retailers.

Considering existing and future market characteristics in the Study Area, for-sale residential densities varying between 15 and 25 dwelling units per acre with a mixture of small-lot detached (e.g., zero lot line), townhome, and condominium housing present the best near term opportunity for residential development. It is likely that this housing would be more “workforce” oriented as compared to the luxury high-rise residential projects currently slated for downtown Sacramento. This means that the housing in the Study Area would likely appeal to those prospective buyers who find the luxury downtown units above the price range they can afford. This finding is similar to the residential recommendations reported in the Market Analysis Implementation Strategy: 2004-2009, for the North Sacramento Redevelopment Project Area.<sup>38</sup>

### ***Office***

While local office vacancy rates are relatively low, office lease rates also remain relatively low at under \$1.50 per square foot. Lease rates are well below rates necessary to justify new construction. Still, low office vacancy rates demonstrate potential demand for small-scale professional offices as part of mixed-use developments. These spaces must remain affordable compared to the region overall, as the Study Area has few competitive market advantages to attract office tenants. Study Area office space would be unable to compete if priced similar to Downtown, Midtown, and East Sacramento office markets. Thus, new office development should focus on smaller professional tenants and non-profit organizations interested in locating near the light rail stations and/or Del Paso Boulevard who have been priced out of Class A office space. In a completely different market niche, the vacant USAA office space has only recently been put on the market; however, its large size will require a specific type of office tenant that will not compete with the smaller office spaces mentioned above. Again the Market Analysis Implementation Strategy for the North Sacramento Redevelopment Project Area similarly noted a potential demand in “small to median-scale floor space-type tenants” with little projected new office construction and an emphasis on maintaining low rents to compete with other office markets.<sup>39</sup> Through 2025, the total projected demand for new office space in the Study Area ranges from 27,780 to 307,700 square feet.

### ***Retail***

In its current condition, the Swanston Station Area does not offer much potential for new retail construction. Light rail ridership is relatively low at Swanston and light rail patronage alone can not support new retail facilities at the station. In addition, the Swanston Station does not provide good street-level visibility nor receive significant drive-by auto traffic, though the

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<sup>38</sup> Sacramento Housing and Redevelopment Agency. Market Analysis and Implementation Strategy: 2004-2009, for the North Sacramento Redevelopment Project Area. November 2004. Page IV-5.

<sup>39</sup> Ibid. Page IV-3.

Arden Way overpass provides some overhead station visibility. Pedestrian access to the Station is limited by the rail barriers to the east and a lack of sidewalks on Calvados Street and Dixianne Avenue. Long-term plans call for improved street infrastructure and bike lanes to improve bicycle and pedestrian access to the station, but the area would continue to lack street visibility and would require substantial increases in neighborhood densities to support new retail.

While retail on the immediate Swanston Station property makes limited market sense, there are opportunities to capture more retail sales within the Study Area. Per the retail leakage analysis, the Study Area shows opportunities for approximately 3,000 square feet of health and personal services and approximately 2,000 square feet of food store space, which is typically much smaller than the stores that national chains will build, with the exception of convenience stores. As an alternative to a convenience store, potential food stores include a local produce market or health food store. Other retail options include a coffee shop or other neighborhood oriented businesses such as a dry cleaners, bakery, or florist. Again, these types of businesses would most likely prefer to locate in a visible location along one of the busier streets within the Study Area, as opposed to the Swanston Station property itself.

Locations along Arden way, near the light rail station should be most attractive for neighborhood retail. Retailers in this general vicinity can take advantage of the relatively high drive-by traffic on Arden Way, access to the light rail station, and proximity to the large concentration of employees just south of the station and the residential areas to the north of the station.

### ***Summary***

Overall, for-sale housing presents the best near-term development opportunity. While the short-term outlook for new construction of commercial space is constrained by infrastructure and market barriers, the presence of underutilized and vacant land within the Study Area does offer the possibility to attract a private developer to build a large-scale project that is able to redefine market conditions. One such location, at 1031 Arden Way, was recently available. This industrial warehouse building with an attached 1.5 acre lot is the former Aramark site and is a short, one-block distance from the Swanston Station park and ride lot. Short-term efforts should concentrate on adding to the supply of quality housing within the immediate area to increase the local market's purchasing power and the overall pedestrian activity at Swanston Station.

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**Appendix A: North Sacramento Census Block Groups**

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<u>Tract</u>	<u>Block Group</u>
54.02	1
54.02	2
54.02	3
54.02	4
54.02	5
62.01	4
62.02	1
62.02	2
62.02	3
62.02	4
63	1
63	2
63	3
63	4
63	5
64	1
64	2
64	3
64	4
64	5
65	1
65	2
65	3
65	4
65	5
66	1
66	2
66	3
66	4
66	5
67.01	1
67.01	2
67.01	3
67.02	1
67.02	2
67.02	3
67.02	4
68	1
68	2
68	3
68	4
68	5
69	1
69	2
69	3
69	4
69	5
69	6
72.04	1
72.04	2
72.04	3
74.13	4

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Sources: U.S. Census, 2000; BAE, 2006.



## Memorandum

**Date:** March 28, 2007

**To:** Brian Abbanat, City of Sacramento

**From:** Linda Matthew, Senior Associate and Matt Kowta, Principal

**Re:** Swanston Station Pro-forma Analyses

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This memo includes pro-forma analysis for TOD development prototypes within the Swanston Station Transit Village Study Area.

### Pro-Forma Analysis Overview

Bay Area Economics analyzed the financial feasibility of three prototype mixed-use projects in the Swanston Station Transit Village Study Area. BAE developed a pro-forma for each prototype, estimating the total cost of building the projects, and estimating the returns that could be expected, given likely market sales price of the projects. Based on this, it is possible to determine whether each project was likely to be economically attractive to private developers.

### Prototype Sites and Descriptions

The City of Sacramento provided the project locations, which are summarized below and shown in the map in Figure 1.

**Site 1:**

**Location:** City block bounded by El Camino on the north, Evergreen on the west, Green on the east and Dixieanne on the south.

**Preferred development type:** Mixed-use fronting El Camino, with residential on the southern half of the block.

**Site 2:**

**Location:** Northern half of city block bounded by Dixieanne on the north, Lexington on the west and Selma on the east.

**Preferred development type:** Medium to high density residential.

**Site 3:**

**Location:** City block bounded by Calvados on the north, Evergreen on the west, Green on the east and

Bay Area Economics

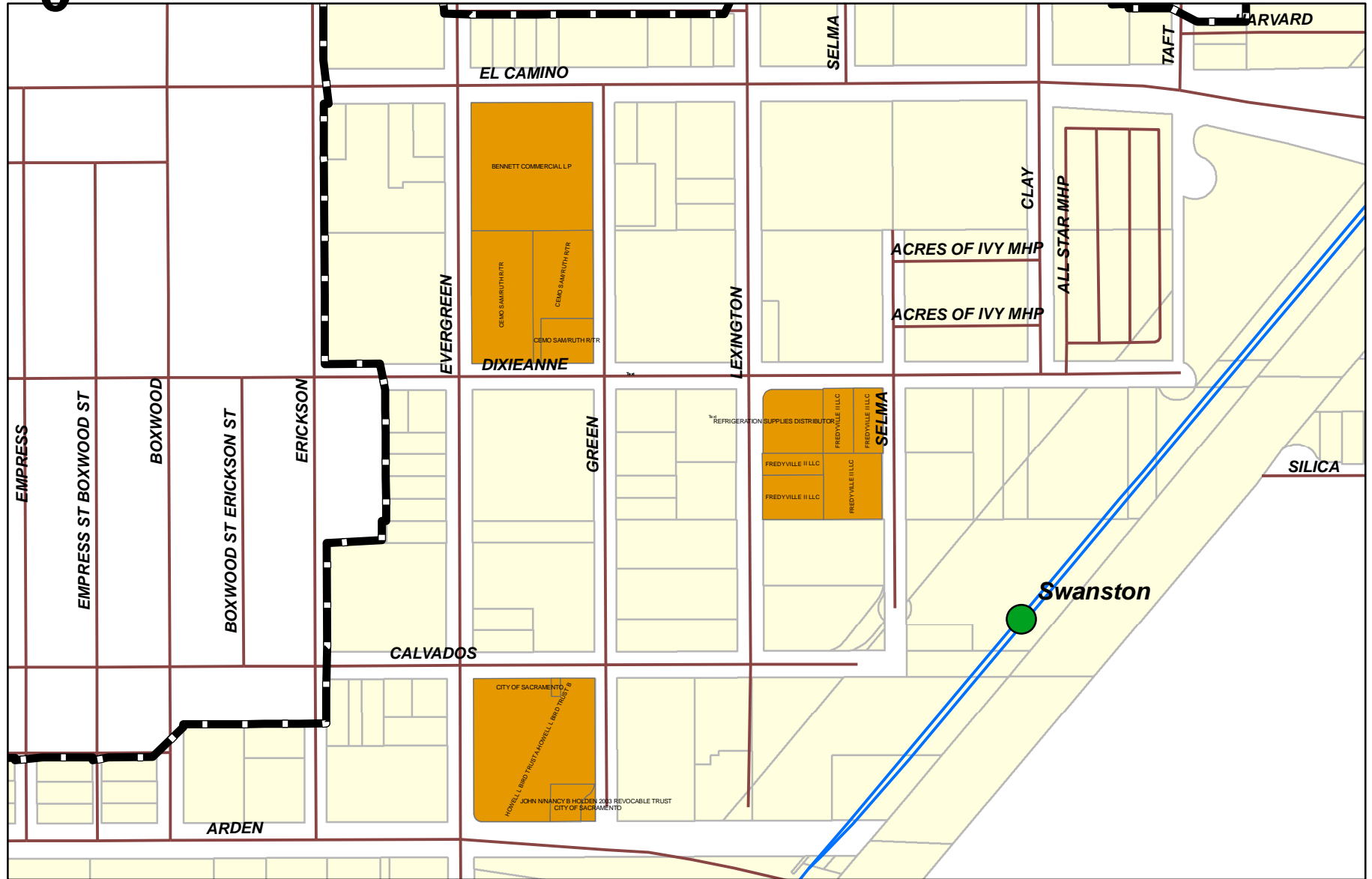
**Sacramento Region Office** 530.750.2195  
803 Second Street, Suite A fax 530.750.2194  
Davis, CA 95616 bae1@bae1.com  
bayareaeconomics.com

Arden on the south.

Preferred development type: High density residential with ground floor retail fronting Arden.



# Swanston Pro-forma Sites Figure 1



0 112.5 225 337.5 450 562.5 675 787.5 900 Feet

Source: Moore Iacofano Goltzman, Inc.



Based on the sites and the type of development targeted for each based on TOD policy considerations as well as findings regarding market viability for different real estate development product types, MIG developed conceptual prototype projects, and provided BAE with the development programs for analysis. The programs for each site are as follows:

**Site 1**

- 3.72 acres
- 15,000 square feet of ground-floor retail facing El Camino
- 20,000 square feet of office space in two storeys above the retail
- 48 surface parking spaces and 22 on-street spaces
- 78 small-lot single-family detached houses, each approximately 1,225 square feet with 2 tandem garage spaces
- Residential density of 21 units per site acre

**Site 2**

- 1.87 acres
- No commercial space
- 33 small-lot single-family detached houses, each approximately 1,155 square feet with 2 tandem garage spaces
- 12 townhouses, each approximately 750 square feet with 1 garage space
- 24 condominiums in two four-storey building, each unit approximately 1,000 square feet with 1 ground-floor podium parking space per unit.
- 6 surface parking spaces
- 20 on-street parking spaces
- Small park and landscaped mews crossing the site diagonally towards the station
- Residential density of 37 units per acre

**Site 3**

- 2.09 acres
- 5,000 square feet of ground-floor retail
- 8 condominiums in two storeys above the retail
- 36 small-lot single-family detached houses, each approximately 1,225 square feet with 2 tandem garage parking spaces
- 8 detached live-work lofts with 1 garage parking space each
- Approximately 100 on-site parking spaces for the condominiums, retail and station users
- 22 on-street parking spaces
- Residential density of 25 units per site acre

Figure 2: Drawing of the prototype project for Site 1.



Figure 3: Drawing of the prototype project for Site 2.



Figure 4: Drawing of the prototype project for Site 3



## Pro-Forma Description

There are various ways to conduct the pro-forma analysis. In this case, BAE estimated all development costs and sale prices, and used the difference between the cost and revenue to calculate the amount of budget left over to cover the cost of the land (“land residual”). In the case where the land residual number is negative, it means that the cost of development exceeded the revenue generated by the project, so that the project is not economically feasible even if the land is free.

BAE used market data obtained in the “Swanston Study Area Market Analysis” as input to the pro-forma analysis, in addition to information from local developers, real estate brokers and bankers. The study also draws upon information from recent projects in mid-town Sacramento for reference. These data are compiled in the “Northeast Corridor Market and Pro-forma Analysis”.

In order to encourage infill development, the City of Sacramento does not require that residential projects in the Study Area include affordable units.<sup>1</sup> Since the goal of these projects is economic development rather than affordable housing, the pro-formas assume that all units will be market rate.

The following sections review the different components that make up the pro-forma, including the cost of development, the income and expenses, and the sale prices.

### Cost of Development

BAE surveyed developers of recent projects in Sacramento in order to determine current hard and soft costs for mixed-use and high-density projects. Developers provided the costs of construction for their projects, and in some cases provided information to update these numbers for 2007 construction.

**Building hard costs** are the cost of actual construction, including demolition, site infrastructure, building, site finishing and landscaping. The pro-formas assume single-use residential and live-work units will be two- or three-storey wood frame, with a construction cost of approximately \$110 per square foot. Mixed-use retail/office buildings with no residential component were assumed to have the same structure and construction cost. However, mixed-use buildings with residences over commercial uses have a higher cost since building code requires sound and fire isolation between the uses, which adds approximately 20 percent to the hard construction cost. Stacked flats require the same isolation between units, so cost was added for these also. For commercial uses, the construction is assumed to be plain vanilla shell, and ductwork, finishing and fittings will be extra.

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<sup>1</sup> Conversation with Desmond Parrington, City of Sacramento Planning Division, 15 November 2006.

Garage parking in townhouses is accounted for in the construction cost, although the cost is based on the square footage of the living space. Similarly, podium parking in the condominium buildings is included in the cost of the living space. Surface parking is estimated at \$4,000 per space. Site improvements are estimated at \$10 per square foot of the entire site, and each site is allocated a fixed landscaping allowance of \$100,000.

**Building soft costs** include service fees for professionals such as architects and engineers, City permit fees, loan charges and insurance. Architecture was assumed to add an amount equal to 7.5 percent of the hard costs, and engineering 2.5 percent. The cost for architecture is slightly higher than the five percent typically allocated for larger, single-use projects. Construction defect liability insurance for relatively small projects like these was estimated at \$10,000 per unit for townhouses, and \$25,000 per unit for flats. This assumes that the townhouses are built “wall-to-wall”, with no shared walls, and only the roof owned in common. Detached units do not have the same insurance requirements, and the developer would be named as additionally insured on the general contractor's policy at no extra charge. Development impact fees are in the range of \$9 per square foot, depending on the balance between commercial and residential units. In general, residential projects pay higher impact fees due to the park fee, school impact fees and sanitation fees.

Leasing commissions were estimated at 2.5 percent of the first year's rent. Construction loan costs assume an interest rate of 9.25 percent, one point in fees, and a loan-to-cost ratio of 0.80. Fees for the conversion to a permanent loan are estimated at one percent, and interim taxes at 1.2 percent of the hard and soft costs. In addition, developer overhead was estimated at five percent and a project contingency of 10 percent was used. The pro-formas also allow for a developer profit equal to 15 percent of costs.

## Income and Expenses

The pro-formas incorporate lease and sale rate assumptions for office, retail and residential space using current rates in the study area as a lower bound, and numbers from comparable new projects as an upper bound.

**Office lease rates** in the study area and surroundings range from \$1.20 NNN to \$1.30 gross per square foot for existing buildings<sup>2</sup>, and new space in the adjacent Northeast Study Area is asking \$1.20 to \$2.00 NNN, with the higher asking price for loft-style space<sup>3</sup>. Broker reports show office lease rates in the area averaging \$1.85 NNN<sup>4</sup> in CB Richard Ellis' “Point West” geography, and

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<sup>2</sup> “NNN”, or triple net rent, is the office rent net of additional expenses such as common area maintenance and utilities. “Gross” rent includes the additional expenses.

<sup>3</sup> “Northeast Corridor Market and Pro-Forma Analysis”, Bay Area Economics, January 2007.

<sup>4</sup> CB Richard Ellis, “Sacramento Office MarketView”, Fourth Quarter 2006.

\$1.40 full service<sup>5</sup> in Cornish & Carey’s “North Sacramento” geography. Both these geographies include the study area, but Point West also includes Arden Way east of Interstate 80, which is likely to inflate the numbers. CB Richard Ellis’ average lease rate for Sacramento area suburban office space is \$1.73 full-service.<sup>6</sup> Based on these numbers, an office lease rate of \$1.50 NNN is likely to be reasonable for the small professional spaces that will be found in new, mixed-use projects in the study area.

**Retail lease rates** in the study area and surroundings average \$1.30 per square foot for existing buildings, and new space is asking \$0.75 to \$2.25 NNN, depending on the use (see Table 8 in the *Swanston Study Area Market Analysis*). According to CB Richard Ellis, lease rates for in-line space in existing community centers averaged \$2.14 per square foot in the South Natomas geography, which is a good geographic match to the study area.<sup>7</sup> Based on these numbers, the analysis used a retail lease rate of \$2.00 per square foot in the pro-formas.

**Vacancies** were estimated at a relatively conservative 10 percent, in order to evaluate the feasibility of a commercial project in a soft market.

**Unrecoverable expenses** for commercial space are those expenses which remain in the spreadsheet after accounting for expenses such as utilities, maintenance and taxes which can be passed onto the tenant. For retail space, the study used five percent of effective gross income, based on the 2004 “Dollars and Cents of Neighborhood Shopping Centers” from the Urban Land Institute. For office space, the study used 8.7 percent, based on 2005 figures from the “Experience Exchange Report” published by the Building Owners and Managers Association.

## Sales Prices

The pro-formas assume that all components of the projects – both commercial and residential – will be sold at completion. While developers might actually retain some project components as income producing investment properties, the capitalized value of the properties provides an indicator of value relative to the development costs that is useful for this analysis..

**Commercial sale prices** were calculated based on the monthly income for the retail or office space. That number was annualized and divided by a “cap rate” which measures the marketability of a particular product in a given location, in order to determine the sale value of the space.

**Residential sale prices** in the Study Area averaged \$251/square foot for single-family detached

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<sup>5</sup> Cornish & Carey Commercial, “Sacramento Market Summary”, Fourth Quarter 2006.

<sup>6</sup> CB Richard Ellis, “Sacramento Office MarketView”, Fourth Quarter 2006.

<sup>7</sup> CB Richard Ellis, “Sacramento Retail MarketView”, Fourth Quarter 2006.

units (see Table 9 in the “Market Study”). New condominiums in the Sacramento area averaged \$249/square foot, and condominium conversions in the Sacramento area averaged \$202/square foot. Based on these numbers, the pro-forma estimated sale prices of \$250/square foot for new detached units. For townhouses, the study used sale prices of \$235 for one-bedroom units and \$220/square foot for two-bedroom units. Condominium (flat) prices were estimated at 90 percent of the townhouse values.

## Pro-Forma Results

Tables 1 through 4 show the pro-formas for the prototypes on each of the catalytic sites. Tables 1a-f contain the pro-forma for Site 1, Tables 2a-f contain the pro-forma for Site 2 and Tables 3a-f for Site 3. For each site, the first table summarizes the pro-forma, and the following tables provide the details of the calculations. Table 4 contains the cost data that were collected and used as input to the analysis.

### Site 1

Table 1a summarizes the pro-forma for Site 1. Tables 1b-d contain the development costs, operating income and sale proceeds, Table 1e contains the development assumptions used for the pro-forma, and Table 1f calculates the development impact fees.

This is almost a four acre site, and the prototype has a mixed-use retail and office building facing El Camino, and 78 small-lot detached houses facing the neighborhood streets. There are 48 surface parking spaces, and 22 on-street spaces. Previous work on the “Northeast Corridor Market Study and Pro-Forma Analysis” showed that in this area, mixed-use buildings are most cost-effective if they include only retail and office, with no residential component. This is because the construction cost increases when residential uses are included above commercial, and the sale prices of the resulting flats are not high enough to cover the cost. By comparison, townhouses have higher sale prices than flats, and detached units have the highest prices. As a result, the residential units were designed to be small-lot detached units, in order to optimize the feasibility.

The development costs for the project, not including land, total \$26.4 million, or \$199 per square foot of building. This assumes that the developer makes a 15 percent profit on the development cost, which may be low given the inherent risk of a project in this area. The sale proceeds for the commercial and residential portions total \$29.5 million, or an average \$223 per square foot after commission. Thus, the project has a residual of \$3.1 million for purchasing land.

Construction costs for this project assume only a vanilla shell for the commercial portion, so the costs of finishing the units and making tenant improvements are additional and would either be paid by the tenant or amortized by the owner in the form of an increased lease amount over the



term of the lease.

## **Site 2**

Table 2a summarizes the pro-forma for the catalytic Site 2, and Tables 2b-f provide the detailed calculations.

This is a site of almost two acres, and is entirely residential, with a density of 37 units per acre. It contains two condominium buildings with a total of 24 units, 33 small-lot single-family detached units and 12 small townhouses. It also has a small park in the northwest corner, and a mews running diagonally from the park towards the station. The vast majority of the parking is within the structures – either as individual garages or podium parking for the condominiums – and the site has 6 surface spaces for guests. There are also approximately 20 on-street parking spaces.

The development costs for the project, not including land, total \$15.8 million, or \$219 per square foot. The sale revenue is \$15.2 million, or an average \$210 per square foot after commission, and the project shows a net loss before land purchase of \$0.6 million.

The feasibility of this project is affected by the condominiums, which are relatively expensive to build and have lower sale prices than the other units. In addition, the park and the mews use land which could otherwise be built on. However, it has other advantages because of the mix of units that are offered – the condominiums and small townhouses sell for \$188,000 and \$176,000, respectively, which are well below the typical rates in the Sacramento area, and would make home-ownership available to more people.

## **Site 3**

Table 3a summarizes the pro-forma for the catalytic Site 3, and 3b-f provide the detailed calculations. This site is about two acres, and has a small retail space of 5,000 square feet on the southwest corner of the property, facing Arden Way. Above the retail space are two storeys of residential condominiums. Also along Arden Way are eight detached live-work units, and there are 36 small-lot detached residential units facing the neighbourhood streets. The site also includes approximately 100 surface parking spaces, about 85 of which would be available to station users.

The development costs for the project, not including land, total \$15.7 million, or \$227 per square foot. This assumes that the developer makes a 15 percent profit on the development cost, which - again - may be low given the inherent risk of a project in this area. The sale proceeds total \$15.5 million, or an average \$224 per square foot after commission, and the project results in a net loss before land purchase of \$0.2 million.

As at Site 2, the stacked flat (condominium) configuration is more expensive to build and less

valuable at sale than the detached units. In addition, the extra surface parking that has been added to the site as a station amenity adds almost \$0.5 million to the cost. If this cost could be recouped by charging for parking, it would improve the pro-forma.

## **Conclusions**

The project on Site 1 was found to be profitable, since it avoids the more expensive structures of residential over commercial and stacked flats. In addition, by using detached units, it further reduces the cost since these units do not require construction defect liability insurance, and have higher sale prices than attached units. Further, it minimizes the amount of surface parking, which is an added cost with no associated return.

The Site 2 and Site 3 projects showed losses of \$0.2 and \$0.6 million respectively, before land purchase. BAE and MIG have already done several iterations of optimizing these sites during the analysis, and it is unlikely that the cost feasibility could be improved without losing key features, such as the low-cost residential units and residential-over-retail mixed use.

As part of this analysis, BAE investigated a prototype similar to the high density residential St. Anton Building at 1801 L Street. This was evaluated as an alternative for Site 3 facing Arden Way, and since this site is exactly the same size as the 1801 L Street site, the program details of that project were used exactly. In a configuration where the units are all sold at market rate, rather than rented, the analysis showed that development cost would be \$43.3 million (actual development cost of the 1801 L Street building was \$41.4 before owners return on equity). Sales revenue was \$29.5 million, resulting in a spectacular loss of \$13.8 million, indicating that increasing residential density is not a viable strategy for improving financial feasibility under current economic conditions because high density residential sales prices are not high enough to offset the increased costs associated with construction types that are required to increase densities.

**Table 1a: Development Prototype and Pro-Forma, Site 1  
Swanston Station, Sacramento CA**

**Site 1  
MXU + Residential**

**DEVELOPMENT PROGRAM**

Site acreage	3.72
Total building square feet	132,550
Building storeys	3
Retail, building square feet	15,000
Office, building square feet	22,000
Residential, small lot detached	78
Residential, flats	0
Garage parking spaces	156
Off-street surface parking spaces	48
On-street parking spaces	22
Residential units/acre	21

**PRO-FORMA**

Hard Costs	\$16,367,201
Soft Costs	\$3,578,676
Overhead and Contingency	\$2,973,328
Developer Profit	\$3,437,881
<u>Total Development Costs</u>	<u>\$26,357,086</u>

Retail Net Operating Income, Monthly	\$23,085
Office Net Operating Income, Monthly	\$25,260
Apartment Net Operating Income, Monthly	\$0
Parking Net Operating Income, Monthly	\$0
<u>Net Operating Income, Annual</u>	<u>\$580,140</u>

Sale Proceeds, Residential	\$23,887,500
Sale Proceeds, Retail	\$3,462,750
Sale Proceeds, Office	\$4,041,600
<u>Sales Commission and Marketing</u>	<u>(\$1,883,511)</u>
Net Sale Proceeds	\$29,508,339

**FEASIBILITY CRITERIA**

Gross Profit Goal	15%
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**LAND RESIDUAL (Land Price to Meet Feasibility Criteria)**

<b>Land Residual Value (Gap)</b>	\$3,151,253
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Notes:

Pro-forma calculations include on-site demolition and construction costs only. Additional costs of infrastructure which is unavailable at the site, or off-site public improvements will require additional.

Sources: Bay Area Economics, 2007.

**Table 1b: Estimated Development Cost, Site 1  
Swanston Station, Sacramento CA**

<b>HARD COSTS (a)</b>				
Demolition Costs	64,817 Bldg S.F.		\$4 /Bldg S.F.	\$259,269
Retail Hard Costs	13,500 Bldg S.F.		\$110 /Bldg S.F.	\$1,485,000
Office Hard Costs	20000 Bldg S.F.		\$110 /Bldg S.F.	\$2,200,000
Residential Hard Costs, Townhouse	95,550 Bldg S.F.		\$110 /Bldg S.F.	\$10,510,500
Residential Hard Costs, Flats	0 Bldg S.F.		\$121 /Bldg S.F.	\$0
Parking, Surface	48 Spaces		\$4,000 /Space	\$192,000
Site Improvements	162,043 Site S.F.		\$10 /S.F.	\$1,620,432
Landscaping			\$100,000 /site	\$100,000
<b>Total Hard Costs</b>				<b>\$16,367,201</b>
<b>SOFT COSTS</b>				
Architecture & Engineering Fees	\$16,367,201	Total Hard Costs	10.0% of Hard Costs	\$1,636,720
Insurance, Flats	0	For-sale units	\$25,000 /unit	\$0
Insurance, Townhouse	78	For-sale units	\$0 /unit	\$0
Development Impact Fees				\$739,029
Leasing Commission	33,500	Leasable S.F.	\$0.60 /S.F.	\$20,100
Total Construction Loan Costs	\$15,100,503	Loan	\$7.12 /Bldg S.F., avg	\$919,243
Permanent Loan Fees	\$15,100,503	Loan	1.0% of Loan	\$151,005
Interim Taxes	\$18,763,051	Hard & Soft Costs	1.2% of Hard & Soft Costs	\$112,578
<b>Total Soft Costs</b>				<b>\$3,578,676</b>
Developer Overhead	\$19,945,877	Hard & Soft Costs	5% of Hard & Soft Costs	\$997,294
Project Contingency	\$19,760,345	Hard & Soft Costs (b)	10% of Hard & Soft Costs	\$1,976,034
Developer Profit	\$22,919,205	Hard & Soft Costs (c)	15% of Hard & Soft Costs	\$3,437,881
<b>Total Development Costs:</b>				<b>\$26,357,086</b>
(Less) Net Sales Proceeds (d)				<b>(\$29,508,339)</b>
<b>Net Development Costs:</b>				<b>(\$3,151,253)</b>

Notes:

On-site construction and costs only. Any infrastructure which is not available at the site, or off-site public improvements will require additional funds.

a) Woodframe construction with sound and fire isolation between uses and stacked flats

b) Project contingency costs are applied to all costs except loan costs and taxes.

c) Developer profit is applied to all costs.

d) Detailed in Table 2d, "Estimated Sale Proceeds"

Sources: Bay Area Economics, 2007.

**Table 1c: Estimated Operating Income, Site 1  
Swanston Station, Sacramento CA**

<b>RETAIL</b>			
<b>Income</b>			
Monthly Lease Rate (NNN)	13,500 Leasable S.F.	\$2.00 /Leasable S.F.	\$27,000
Less Vacancy		10% of Total Bldg	(\$2,700)
Effective Gross Income			\$24,300
<b>Operating Expenses</b>			
Monthly Unrecoverable Expenses		-5.0% of Eff. Gross Income	(\$1,215)
Capital Reserves Fund	13,500 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Retail Net Operating Income</b>			<b>\$23,085</b>
<b>OFFICE</b>			
<b>Income</b>			
Monthly Lease Rate (NNN)	20,000 Leasable S.F.	\$1.50 /Leasable S.F.	\$30,000
Less Vacancy		10% of Total Bldg	(\$3,000)
Effective Gross Income			\$27,000
<b>Operating Expenses</b>			
Monthly Unrecoverable Expenses	20,000 Bldg S.F.	-8.7% of NNN rent	(\$1,740)
Capital Reserves Fund	20,000 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Office Net Operating Income</b>			<b>\$25,260</b>
<b>APARTMENT</b>			
<b>Income</b>			
Monthly Lease - Studios	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Monthly Lease - 1BR	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Monthly Lease - 2BR	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Total Monthly Lease Rate (NNN)			\$0
Less Vacancy		10% of Total Bldg	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Operating Expenses	0 Units	\$291.67 /Unit	\$0
Capital Reserves Fund	0 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Apartment Net Operating Income</b>			<b>\$0</b>
<b>PARKING</b>			
<b>Income</b>			
Monthly Lease Rate	0 Rental Spaces	\$50.00 /Space	\$0
Less Vacancy		10% of Total	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Operating Expenses	0 Rental Spaces	\$0.00 /Space	\$0
<b>Parking Net Operating Income</b>			<b>\$0</b>
<b>Net Annual Revenue:</b>			<b>\$580,140</b>

Sources: Bay Area Economics, 2007.

**Table 1d: Estimated Sale Proceeds, Site 1  
Swanston Station, Sacramento CA**

<b>RESIDENTIAL SALE REVENUE</b>					
Single-family detached	78 Units	1,225 Avg S.F.	\$250 /S.F.	\$306,250 /unit	\$23,887,500
Townhouse Units	0 Units	0 Avg S.F.	\$220 /S.F.	\$0 /unit	\$0
Flats - 1 Bedroom	0 Units	0 Avg S.F.	\$212 /S.F.	\$0 /unit	\$0
Flats - 2 Bedroom	0 Units	0 Avg S.F.	\$198 /S.F.	\$0 /unit	\$0
Gross Sale Proceeds					\$23,887,500
<b>RETAIL SALE REVENUE</b>					
Retail Value	277,020 Annual Income			8.0% Cap rate	\$3,462,750
Retail Value (\$/S.F.)			\$257 /S.F.		
<b>OFFICE SALE REVENUE</b>					
Office Value	303,120 Annual Income			7.5% Cap rate	\$4,041,600
Office Value (\$/S.F.)			\$202 /S.F.		
<b>Total Gross Sales Proceeds:</b>					<b>\$31,391,850</b>
<u>(Less) Sales Commission and Marketing</u>			6.0% of Sale Price		<b>(\$1,883,511)</b>
<b>Net Sales Proceeds:</b>					<b>\$29,508,339</b>

Sources: Bay Area Economics, 2007.

**Table 1e: Development Assumptions, Site 1  
Swanston Station, Sacramento CA**

**DEVELOPMENT ASSUMPTIONS**

<u>Development Program</u>	<u>All</u>	<u>Retail</u>	<u>Office</u>	<u>Res.. TH SFD</u>	<u>Res.. Flat</u>
Site acreage	3.72				Acres
Building Storeys	3				
Building Area	132,550	15,000	22,000	95,550	0 Bldg. S.F.
Leasable/Living Area	129,050	13,500	20,000	95,550	0 Leasable S.F.
Residential Units	n.a.	n.a.	n.a.	78	0 Units
<u>Development Cost Assumptions</u>					
Demolition Costs		\$4	\$4	\$2	\$2 /S.F.
Building Hard Costs (a)		\$110	\$110	\$110	\$121 /S.F.
Site Improvements	\$10				/S.F.
Landscaping Allowance	\$100,000				/site
Architecture		7.5%	7.5%	7.5%	7.5% of Hard Costs
Engineering		2.5%	2.5%	2.5%	2.5% of Hard Costs
Insurance Costs		n.a.	n.a.	\$0	\$25,000 /unit
Development Impact Fees (b)	\$739,029				Total
Leasing Commission	\$0.60				/S.F.
Project Contingency	10%	10%	5%	5%	5% of hard & soft costs
Developer Overhead		5%	5%	5%	5% of hard & soft costs
<u>Parking Costs</u>					
Spaces/1,000 S.F., Commercial	n.a.	0.0	2.4	n.a.	n.a. Spaces/1,000 S.F.
Spaces/Unit, Residential	n.a.	n.a.	n.a.	2.0	#DIV/0! Spaces/Unit
Parking Spaces Req.	204	0	48	156	0 Spaces
Parking Construction Costs, Surf.	48 spaces				\$4,000 /Space
<u>Monthly Revenues and Expenses</u>					
Commercial Lease Rate/S.F., NNN(c)		\$2.00	\$1.50	n.a.	n.a. /Leasable S.F.
Parking Rate/Space	\$50				/Space
Vacancy Rate (d)		10.0%	10%	n.a.	10% /Bldg S.F.
Unrecoverable Expenses, Commercial(e)		5.0%	8.7%	n.a.	n.a. of NNN rent
Operating Expenses, Apartments		n.a.	n.a.	n.a.	\$292 /Unit
Operating Expenses, Parking (f)	\$0	n.a.	n.a.	n.a.	n.a. /Space
Capital Reserves Fund (f)		\$0	\$0	n.a.	n.a. /Bldg S.F.
<u>Residential Program</u>					
	Square Feet	Units	Rental Price (\$/sq.ft)	Sale Price (\$/sq ft)	
Detached SF	1225	78	\$0	\$250	
Townhouse, 1-bedroom (c)	0	0	\$0	\$235	
Townhouse, 3-bedroom (c)	0	0	\$0	\$220	
Flat, Studio (c)	0	0	\$0	\$225	
Flat, 1-bedroom (c)	0	0	\$0	\$212	
Flat, 2-bedroom (c)	0	0	\$0	\$198	
<u>Financing Costs</u>					
Construction Period	1				Years
Max. Loan to Cost Ratio	0.8				of Total Value
Construction Loan Rate	9.25%				of Total Loan
Drawdown Factor	0.55				of Total Loan
Construction Loan Fees	1.0%				of Total Loan
Permanent Loan Fees	1.0%				of Total Loan
Interim Taxes (12 Months)	1.2%	(minus a 0.55 drawdown factor)			of Hard & Soft Costs
<u>Revenue Goal Assumptions</u>					
Return on Investment	14.0%				of Total Costs
Developer Profit on Cost (for-sale)	15.0%				
Cap rate		8.0%	7.5%		

Notes:

(a) Woodframe construction with sound and fire isolation between commercial and residential uses.

(b) City of Sacramento Permit Services

(c) BAE Market Analysis

(d) 10% vacancy is used in order to validate project feasibility under relatively soft market conditions

(e) Office expenses from Building Owners and Managers Association, "Experience Exchange Report" 2005.

(f) Included in building operating expenses

Items which are not referenced were collected from developers and/or bankers, most of whom asked not to be named.

Sources: City of Sacramento, 2006; Building Owners and Managers Association, 2005; Bay Area Economics, 2007.

**Table 1f: Development Impact Fees**  
**Swanston Station, Sacramento CA**

Site1	
Acres	3.72
Res units	78
Res sq ft	95,550
Retail sq ft	13,500
Office sq ft	20,000
Fire Dept Review Fee	\$1,200
Construction Excise Tax	\$18,653
General Plan Fee	\$1,497
Strong Motion Fee	\$233
City Business Operations	\$1,015
Housing Trust Fund	\$2,258
Housing Trust Fund Administration	\$110
Water Supply Report	\$50
Water Development Fee	\$67,127
Utilities Fee Deposit	\$300
Public Works Deposit	\$300
Building Permit Fee	\$17,613
Landscape Review Fee	\$50
Plan Review Fee	\$14,395
Residential Construction Tax	\$24,570
Park Development Impact Fee	\$34,443
Technology Fee	\$1,280
Water Supply Test	\$475
Sewer Development Fee	\$124
Erosion & Sediment Control	\$500
School Impact Fees	\$294,987
Regional Sanitation Fees (a)	\$257,850
Public Improvements Estimate	\$0
	\$739,029
\$/Building Square Foot	\$5.58

Notes:

Does not include impact fees for off-site public improvements

(a) Sacramento Regional County Sanitation District

Sources: City of Sacramento Permit Services, Sacramento Regional County Sanitation District,  
Grant Joint Union High School District, Bay Area Economics, 2007



**Table 2a: Development Prototype and Pro-Forma, Site 2  
Swanston Station, Sacramento CA**

<b>Site 3a MXU + Live/Work</b>	
<b>DEVELOPMENT PROGRAM</b>	
Site acreage	1.87
Total building square feet	72,195
Building storeys	3-4
Retail, building square feet	0
Office, building square feet	0
Residential, small-lot detached	33
Residential, townhouse	12
Residential, condo	24
Garage & podium parking	102
Off-street surface parking spaces	6
On-street parking spaces	20
Residential units/acre	37
<b>PRO-FORMA</b>	
Hard Costs	\$9,216,995
Soft Costs	\$2,750,286
Overhead and Contingency	\$1,787,161
Developer Profit	\$2,063,166
<b>Total Development Costs</b>	<b>\$15,817,608</b>
Retail Net Operating Income, Monthly	\$0
Office Net Operating Income, Monthly	\$0
Apartment Net Operating Income, Monthly	\$0
<b>Parking Net Operating Income, Monthly</b>	<b>\$0</b>
<b>Net Operating Income, Annual</b>	<b>\$0</b>
Sale Proceeds, Residential	\$16,158,150
Sale Proceeds, Retail	\$0
Sale Proceeds, Office	\$0
<b>Sales Commission and Marketing</b>	<b>(\$969,489)</b>
<b>Net Sale Proceeds</b>	<b>\$15,188,661</b>
<b>FEASIBILITY CRITERIA</b>	
Gross Profit Goal	15%
<b>LAND RESIDUAL (Land Price to Meet Feasibility Criteria)</b>	
<b>Land Residual Value (Gap)</b>	<b>(\$628,947)</b>

**Notes:**

Pro-forma calculations include on-site demolition and construction costs only. Additional costs of infrastructure which is unavailable at the site, or off-site public improvements will require additional.

Sources: Bay Area Economics, 2007.

**Table 2b: Estimated Development Cost, Site 2**  
**Swanston Station, Sacramento CA**

<b>HARD COSTS (a)</b>				
Demolition Costs, Commercial	10,182 Bldg S.F.		\$4 /Bldg S.F.	\$40,729
Demolition Costs, Residential	10,182 Bldg S.F.		\$2 /Bldg S.F.	\$20,364
Retail Hard Costs	0 Bldg S.F.		\$132 /Bldg S.F.	\$0
Office Hard Costs	0 Bldg S.F.		\$110 /Bldg S.F.	\$0
Residential Hard Costs, SFD	38,115 Bldg S.F.		\$110 Bldg S.F.	\$4,192,650
Residential Hard Costs, Townhouse	9,000 Bldg S.F.		\$110 Bldg S.F.	\$990,000
Residential Hard Costs, Flats	25,080 Bldg S.F.		\$121 /Bldg S.F.	\$3,034,680
Parking, Surface	6 Spaces		\$4,000 /Space	\$24,000
Site Improvements	81,457 Site S.F.		\$10 /S.F.	\$814,572
Landscaping			\$100,000 /site	\$100,000
<b>Total Hard Costs</b>				<b>\$9,216,995</b>
<b>SOFT COSTS</b>				
Architecture & Engineering Fees	\$9,216,995	Total Hard Costs	10.0% of Hard Costs	\$921,699
Insurance, Flats	24	For-sale units	\$25,000 /unit	\$600,000
Insurance, Townhouse	12	For-sale units	\$0 /unit	\$0
Insurance, SFD	33	For-sale units	\$0 /unit	\$0
Development Impact Fees				\$550,908
Leasing Commission	-	Leasable S.F.	\$0.60 /S.F.	\$0
Total Construction Loan Costs	\$8,605,872	Loan	\$7.49 /Bldg S.F., avg	\$523,882
Permanent Loan Fees	\$8,605,872	Loan	1.0% of Loan	\$86,059
Interim Taxes	\$11,289,602	Hard & Soft Costs	1.2% of Hard & Soft Costs	\$67,738
<b>Total Soft Costs</b>				<b>\$2,750,286</b>
Developer Overhead	\$11,967,281	Hard & Soft Costs	5% of Hard & Soft Costs	\$598,364
Project Contingency	\$11,887,966	Hard & Soft Costs (b)	10% of Hard & Soft Costs	\$1,188,797
Developer Profit	\$13,754,441	Hard & Soft Costs (c)	15% of Hard & Soft Costs	\$2,063,166
<b>Total Development Costs:</b>				<b>\$15,817,608</b>
(Less) Net Sales Proceeds (d)				<b>(\$15,188,661)</b>
<b>Net Development Costs:</b>				<b>\$628,947</b>

Notes:

On-site construction and costs only. Any infrastructure which is not available at the site, or off-site public improvements will require additional funds.

- a) Woodframe construction with sound and fire isolation between uses and stacked flats
- b) Project contingency costs are applied to all costs except loan costs and taxes.
- c) Developer profit is applied to all costs.
- d) Detailed in Table 2d, "Estimated Sale Proceeds"

Sources: Bay Area Economics, 2007.

**Table 2c: Estimated Operating Income, Site 2  
Swanston Station, Sacramento CA**

<b>RETAIL</b>			
<b>Income</b>			
Monthly Lease Rate (NNN)	0 Leasable S.F.	\$2.00 /Leasable S.F.	\$0
Less Vacancy		10% of Total Bldg	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Unrecoverable Expenses		-5.0% of Eff. Gross Income	\$0
Capital Reserves Fund	0 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Retail Net Operating Income</b>			<b>\$0</b>
<b>OFFICE</b>			
<b>Income</b>			
Monthly Lease Rate (NNN)	0 Leasable S.F.	\$1.50 /Leasable S.F.	\$0
Less Vacancy		10% of Total Bldg	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Unrecoverable Expenses	0 Bldg S.F.	-8.7% of NNN rent	\$0
Capital Reserves Fund	0 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Office Net Operating Income</b>			<b>\$0</b>
<b>APARTMENT</b>			
<b>Income</b>			
Monthly Lease - Studios	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Monthly Lease - 1BR	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Monthly Lease - 2BR	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Total Monthly Lease Rate (NNN)			\$0
Less Vacancy		10% of Total Bldg	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Operating Expenses	0 Units	\$291.67 /Unit	\$0
Capital Reserves Fund	0 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Apartment Net Operating Income</b>			<b>\$0</b>
<b>PARKING</b>			
<b>Income</b>			
Monthly Lease Rate	0 Rental Spaces	\$50.00 /Space	\$0
Less Vacancy		10% of Total	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Operating Expenses	0 Rental Spaces	\$0.00 /Space	\$0
<b>Parking Net Operating Income</b>			<b>\$0</b>
<b>Net Annual Revenue:</b>			<b>\$0</b>

Sources: Bay Area Economics, 2007

**Table 2d: Estimated Sale Proceeds, Site 2  
Swanston Station, Sacramento CA**

<b>RESIDENTIAL SALE REVENUE</b>					
Detached Units	33 Units	1,155 Avg S.F.	\$250 /S.F.	\$288,750 /unit	\$9,528,750
Townhouse Units	12 Units	750 Avg S.F.	\$235 /S.F.	\$176,250 /unit	\$2,115,000
Flats, 1 Bedroom	0 Units	0 Avg S.F.	\$212 /S.F.	\$0 /unit	\$0
Flats, 2- and 3-Bedroom	24 Units	950 Avg S.F.	\$198 /S.F.	\$188,100 /unit	\$4,514,400
Gross Sale Proceeds					\$16,158,150
<b>RETAIL SALE REVENUE</b>					
Retail Value	0 Annual Income			8.0% Cap rate	\$0
Retail Value (\$/S.F.)			#DIV/0! /S.F.		
<b>OFFICE SALE REVENUE</b>					
Office Value	0 Annual Income			7.5% Cap rate	\$0
Office Value (\$/S.F.)			#DIV/0! /S.F.		
<b>Total Gross Sales Proceeds:</b>					<b>\$16,158,150</b>
<u>(Less) Sales Commission and Marketing</u>			6.0% of Sale Price		<b>(\$969,489)</b>
<b>Net Sales Proceeds:</b>					<b>\$15,188,661</b>

Sources: Bay Area Economics, 2007.

**Table 2e: Development Assumptions, Site 2  
Swanston Station, Sacramento CA**

**DEVELOPMENT ASSUMPTIONS**

<u>Development Program</u>	<u>All</u>	<u>Retail</u>	<u>Office</u>	<u>Res.. SFD</u>	<u>Res. Townhse</u>	<u>Res.. Flat</u>
Site acreage	1.87					Acres
Building Storeys	3-4					
Building Area	72,195	0	0	38,115	9,000	25,080 Bldg. S.F.
Leasable/Living Area	69,915	0	0	38,115	9,000	22,800 Leasable S.F.
Residential Units	69	n.a.	n.a.	33	12	24 Units
<u>Development Cost Assumptions</u>						
Demolition Costs		\$4	\$4	\$2	\$2	\$2 /S.F.
Building Hard Costs (a)		\$132	\$110	\$110	\$110	\$121 /S.F.
Site Improvements	\$10					/S.F.
Landscaping Allowance	\$100,000					/site
Architecture		7.5%	7.5%	7.5%	7.5%	7.5% of Hard Costs
Engineering		2.5%	2.5%	2.5%	2.5%	2.5% of Hard Costs
Insurance Costs		n.a.	n.a.	\$0	\$10,000	\$25,000 /unit
Development Impact Fees (b)	\$550,908					Total
Leasing Commission	\$0.60					/S.F.
Project Contingency	10%	10%	5%	5%	5%	5% of hard & soft costs
Developer Overhead		5%	5%	5%	5%	5% of hard & soft costs
<u>Parking Costs</u>						
Spaces/1,000 S.F., Commercial	n.a.	#DIV/0!	#DIV/0!	n.a.	n.a.	n.a. Spaces/1,000 S.F.
Spaces/Unit, Residential	n.a.	n.a.	n.a.	2.0	1.0	1.0 Spaces/Unit
Parking Spaces	102	0	0	66	12	24 Garage Spaces
Parking Construction Costs, Surf.	6 spaces					\$4,000 /Space
<u>Monthly Revenues and Expenses</u>						
Commercial Lease Rate/S.F., NNN(c)		\$2.00	\$1.50	n.a.		n.a. /Leasable S.F.
Parking Rate/Space	\$50					/Space
Vacancy Rate (d)		10.0%	10%	n.a.		10% /Bldg S.F.
Unrecoverable Expenses, Commercial(e)		5.0%	8.7%	n.a.		n.a. of NNN rent
Operating Expenses, Apartments		n.a.	n.a.	n.a.		\$292 /Unit
Operating Expenses, Parking (f)	\$0	n.a.	n.a.	n.a.		n.a. /Space
Capital Reserves Fund (f)		\$0	\$0	n.a.		n.a. /Bldg S.F.
<u>Residential Program</u>						
	Square Feet	Units	Rental Price (\$/sq.ft)	Sale Price (\$/sq ft)		
Detached SF	1155	33	\$0	\$250		
Townhouse, 1-bedroom (c)	750	12	\$0	\$235		
Townhouse, 2- or 3-bedroom (c)	0	0	\$0	\$220		
Flat, Studio (c)	0	0	\$0	\$225		
Flat, 1-bedroom (c)	0	0	\$0	\$212		
Flat, 2- or 3-bedroom (c)	950	24	\$0	\$198		
<u>Financing Costs</u>						
Construction Period	1					Years
Max. Loan to Cost Ratio	0.8					of Total Value
Construction Loan Rate	9.25%					of Total Loan
Drawdown Factor	0.55					of Total Loan
Construction Loan Fees	1.0%					of Total Loan
Permanent Loan Fees	1.0%					of Total Loan
Interim Taxes (12 Months)	1.2%	(minus a 0.55 drawdown factor)				of Hard & Soft Costs
<u>Revenue Goal Assumptions</u>						
Return on Investment	14.0%					of Total Costs
Developer Profit on Cost (for-sale)	15.0%					
Cap rate		8.0%	7.5%			

**Notes:**

- (a) Woodframe construction with sound and fire isolation between commercial and residential uses.
  - (b) City of Sacramento Permit Services
  - (c) BAE Market Analysis
  - (d) 10% vacancy is used in order to validate project feasibility under relatively soft market conditions
  - (e) Office expenses from Building Owners and Managers Association, "Experience Exchange Report" 2005.
  - (f) Included in building operating expenses
- Items which are not referenced were collected from developers and/or bankers, most of whom asked not to be named.

Sources: City of Sacramento, 2006; Building Owners and Managers Association, 2005; Bay Area Economics, 2007.

**Table 2f: Development Impact Fees, Site 2**  
**Swanston Station, Sacramento CA**

Site 3	
Acres	1.87
Detached Res units	33
Detached Res sq ft	38,115
Townhouse Res units	12
Townhouse Res sq ft	9,000
Condo Res units	24
Condo Res sq ft	22,800
Retail sq ft	0
Office sq ft	0
Fire Dept Review Fee	\$1,200
Construction Excise Tax	\$18,653
General Plan Fee	\$1,497
Strong Motion Fee	\$233
City Business Operations	\$1,015
Housing Trust Fund	\$2,258
Housing Trust Fund Administration	\$110
Water Supply Report	\$50
Water Development Fee	\$67,127
Utilities Fee Deposit	\$300
Public Works Deposit	\$300
Building Permit Fee	\$17,613
Landscape Review Fee	\$50
Plan Review Fee	\$14,395
Residential Construction Tax	\$21,735
Park Development Impact Fee	\$34,443
Technology Fee	\$1,280
Water Supply Test	\$475
Sewer Development Fee	\$124
Erosion & Sediment Control	\$500
School Impact Fees	\$205,550
Regional Sanitation Fees (a)	\$162,000
Public Improvements Estimate	\$0
	\$550,908
\$/Building Square Foot	\$7.63

Notes:

Does not include impact fees for off-site public improvements  
(a) Sacramento Regional County Sanitation District

Sources: City of Sacramento Permit Services, Sacramento Regional County Sanitation District,  
Grant Joint Union High School District, Bay Area Economics, 2007

**Table 3a: Development Prototype and Pro-Forma, Site 3  
Swanston Station, Sacramento CA**

<b>Site 3a MXU + Live/Work</b>	
<b>DEVELOPMENT PROGRAM</b>	
Site acreage	2.09
Total building square feet	69,300
Building storeys	2-4
Retail, building square feet	5,000
Office, building square feet	0
Residential, small-lot detached	36
Residential, detached live-work	8
Residential, flats over retail	8
Garage & podium parking	80
Off-street surface parking spaces	100
On-street parking spaces	22
Residential units/acre	25
<b>PRO-FORMA</b>	
Hard Costs	\$9,508,317
Soft Costs	\$2,372,934
Overhead and Contingency	\$1,772,203
Developer Profit	\$2,048,018
<b>Total Development Costs</b>	<b>\$15,701,472</b>
Retail Net Operating Income, Monthly	\$7,695
Office Net Operating Income, Monthly	\$0
Apartment Net Operating Income, Monthly	\$0
Parking Net Operating Income, Monthly	\$0
<b>Net Operating Income, Annual</b>	<b>\$92,340</b>
Sale Proceeds, Residential	\$15,357,000
Sale Proceeds, Retail	\$1,154,250
Sale Proceeds, Office	\$0
Sales Commission and Marketing	(\$990,675)
<b>Net Sale Proceeds</b>	<b>\$15,520,575</b>
<b>FEASIBILITY CRITERIA</b>	
Gross Profit Goal	15%
<b>LAND RESIDUAL (Land Price to Meet Feasibility Criteria)</b>	
<b>Land Residual Value (Gap)</b>	<b>(\$180,897)</b>

**Notes:**

Pro-forma calculations include on-site demolition and construction costs only. Additional costs of infrastructure which is unavailable at the site, or off-site public improvements will require additional.

Sources: Bay Area Economics, 2007.

**Table 3b: Estimated Development Cost, Site 3  
Swanston Station, Sacramento CA**

<b>HARD COSTS (a)</b>				
Demolition Costs	63,728 Bldg S.F.		\$4 /Bldg S.F.	\$254,913
Retail Hard Costs	5,000 Bldg S.F.		\$132 /Bldg S.F.	\$660,000
Office Hard Costs	0 Bldg S.F.		\$110 /Bldg S.F.	\$0
Residential Hard Costs, Small-lot SFI	44,100 Bldg S.F.		\$110 /Bldg S.F.	\$4,851,000
Residential Hard Costs, Live/Work	10,200 Bldg S.F.		\$110 /Bldg S.F.	\$1,122,000
Residential Hard Costs, Flats	10,000 Bldg S.F.		\$121 /Bldg S.F.	\$1,210,000
Parking, Surface	100 Spaces		\$4,000 /Space	\$400,000
Site Improvements	91,040 Site S.F.		\$10 /S.F.	\$910,404
Landscaping			\$100,000 /site	\$100,000
<b>Total Hard Costs</b>				<b>\$9,508,317</b>
<b>SOFT COSTS</b>				
Architecture & Engineering Fees	\$9,508,317	Total Hard Costs	10.0% of Hard Costs	\$950,832
Insurance, small-lot SFD	36	For-sale units	\$0 /unit	\$0
Insurance, Live/Work	8	For-sale units	\$0 /unit	\$0
Insurance, Flats	8	For-sale units	\$25,000 /unit	\$200,000
Development Impact Fees				\$525,490
Leasing Commission	4,500	Leasable S.F.	\$0.60 /S.F.	\$2,700
Total Construction Loan Costs	\$8,843,571	Loan	\$7.94 /Bldg S.F., avg	\$538,352
Permanent Loan Fees	\$8,843,571	Loan	1.0% of Loan	\$88,436
Interim Taxes	\$11,187,339	Hard & Soft Costs	1.2% of Hard & Soft Costs	\$67,124
<b>Total Soft Costs</b>				<b>\$2,372,934</b>
Developer Overhead	\$11,881,251	Hard & Soft Costs	5% of Hard & Soft Costs	\$594,063
Project Contingency	\$11,781,402	Hard & Soft Costs (b)	10% of Hard & Soft Costs	\$1,178,140
Developer Profit	\$13,653,454	Hard & Soft Costs (c)	15% of Hard & Soft Costs	\$2,048,018
<b>Total Development Costs:</b>				<b>\$15,701,472</b>
(Less) Net Sales Proceeds (d)				<b>(\$15,520,575)</b>
<b>Net Development Costs:</b>				<b>\$180,897</b>

**Notes:**

On-site construction and costs only. Any infrastructure which is not available at the site, or off-site public improvements will require additional funds.

a) Woodframe construction with sound and fire isolation between uses and stacked flats

b) Project contingency costs are applied to all costs except loan costs and taxes.

c) Developer profit is applied to all costs.

d) Detailed in Table 2d, "Estimated Sale Proceeds"

Sources: Bay Area Economics, 2007.



**Table 3c: Estimated Operating Income, Site 3  
Swanston Station, Sacramento CA**

<b>RETAIL</b>			
<b>Income</b>			
Monthly Lease Rate (NNN)	4,500 Leasable S.F.	\$2.00 /Leasable S.F.	\$9,000
Less Vacancy		10% of Total Bldg	(\$900)
Effective Gross Income			\$8,100
<b>Operating Expenses</b>			
Monthly Unrecoverable Expenses		-5.0% of Eff. Gross Income	(\$405)
Capital Reserves Fund	4,500 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Retail Net Operating Income</b>			<b>\$7,695</b>

<b>OFFICE</b>			
<b>Income</b>			
Monthly Lease Rate (NNN)	0 Leasable S.F.	\$1.50 /Leasable S.F.	\$0
Less Vacancy		10% of Total Bldg	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Unrecoverable Expenses	0 Bldg S.F.	-8.7% of NNN rent	\$0
Capital Reserves Fund	0 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Office Net Operating Income</b>			<b>\$0</b>

<b>APARTMENT</b>			
<b>Income</b>			
Monthly Lease - Studios	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Monthly Lease - 1BR	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Monthly Lease - 2BR	0 Leasable S.F.	\$0.00 /Leasable S.F.	\$0
Total Monthly Lease Rate (NNN)			\$0
Less Vacancy		10% of Total Bldg	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Operating Expenses	0 Units	\$291.67 /Unit	\$0
Capital Reserves Fund	0 Bldg S.F.	\$0.00 /Bldg S.F.	\$0
<b>Apartment Net Operating Income</b>			<b>\$0</b>

<b>PARKING</b>			
<b>Income</b>			
Monthly Lease Rate	0 Rental Spaces	\$50.00 /Space	\$0
Less Vacancy		10% of Total	\$0
Effective Gross Income			\$0
<b>Operating Expenses</b>			
Monthly Operating Expenses	0 Rental Spaces	\$0.00 /Space	\$0
<b>Parking Net Operating Income</b>			<b>\$0</b>

**Net Annual Revenue:** \$92,340

Sources: Bay Area Economics, 2007.

**Table 3d: Estimated Sale Proceeds, Site 3  
Swanston Station, Sacramento CA**

<b>RESIDENTIAL SALE REVENUE</b>					
Small-lot detached units	36 Units	1,225 Avg S.F.	\$250 /S.F.	\$306,250 /unit	\$11,025,000
Detached live/work units	8 Units	1,275 Avg S.F.	\$250 /S.F.	\$318,750 /unit	\$2,550,000
Flats - 1 Bedroom	0 Units	0 Avg S.F.	\$212 /S.F.	\$0 /unit	\$0
Flats - 2- and 3-Bedroom	8 Units	1,125 Avg S.F.	\$198 /S.F.	\$222,750 /unit	\$1,782,000
<b>Gross Sale Proceeds</b>					<b>\$15,357,000</b>
<b>RETAIL SALE REVENUE</b>					
Retail Value	92,340 Annual Income			8.0% Cap rate	\$1,154,250
Retail Value (\$/S.F.)			\$257 /S.F.		
<b>OFFICE SALE REVENUE</b>					
Office Value	0 Annual Income			7.5% Cap rate	\$0
Office Value (\$/S.F.)			#DIV/0! /S.F.		
<b>Total Gross Sales Proceeds:</b>					<b>\$16,511,250</b>
<u>(Less) Sales Commission and Marketing</u>			6.0% of Sale Price		<b>(\$90,675)</b>
<b>Net Sales Proceeds:</b>					<b>\$15,520,575</b>

Sources: Bay Area Economics, 2007.

**Table 3e: Development Assumptions, Site 3  
Swanston Station, Sacramento CA**

**DEVELOPMENT ASSUMPTIONS**

<u>Development Program</u>	<u>All</u>	<u>Retail</u>	<u>Office</u>	<u>Res. Small lot det.</u>	<u>Res.. Live/work</u>	<u>Res.. Flat</u>
Site acreage	2.09					Acres
Building Storeys	2-4					
Building Area	69,300	5,000	0	44,100	10,200	10,000 Bldg. S.F.
Leasable/Living Area	67,800	4,500	0	44,100	10,200	9,000 Leasable S.F.
Residential Units	n.a.	n.a.	n.a.	36	8	8 Units
<u>Development Cost Assumptions</u>						
Demolition Costs		\$4	\$4	\$2	\$2	\$2 /S.F.
Building Hard Costs (a)		\$132	\$110	\$110	\$110	\$121 /S.F.
Site Improvements	\$10					/S.F.
Landscaping Allowance	\$100,000					/site
Architecture		7.5%	7.5%	7.5%	7.5%	7.5% of Hard Costs
Engineering		2.5%	2.5%	2.5%	2.5%	2.5% of Hard Costs
Insurance Costs		n.a.	n.a.	\$0	\$0	\$25,000 /unit
Development Impact Fees (b)	\$525,490					Total
Leasing Commission	\$0.60					/S.F.
Project Contingency	10%	10%	5%	5%	5%	5% of hard & soft costs
Developer Overhead		5%	5%	5%	5%	5% of hard & soft costs
<u>Parking Costs</u>						
Spaces/1,000 S.F., Commercial	n.a.	1.1	#DIV/0!	n.a.	n.a.	n.a. Spaces/1,000 S.F.
Spaces/Unit, Residential	n.a.	n.a.	n.a.	2	1	1 Spaces/Unit
Parking Spaces	93	5	0	72	8	8 Spaces
Parking Construction Costs, Surf.	100 spaces					\$4,000 /Space
<u>Monthly Revenues and Expenses</u>						
Commercial Lease Rate/S.F., NNN(c)		\$2.00	\$1.50	n.a.	n.a.	n.a. /Leasable S.F.
Parking Rate/Space	\$50					/Space
Vacancy Rate (d)		10.0%	10%	n.a.	n.a.	10% /Bldg S.F.
Unrecoverable Expenses, Commercial(e)		5.0%	8.7%	n.a.	n.a.	n.a. of NNN rent
Operating Expenses, Apartments		n.a.	n.a.	n.a.	n.a.	\$292 /Unit
Operating Expenses, Parking (f)	\$0	n.a.	n.a.	n.a.	n.a.	n.a. /Space
Capital Reserves Fund (f)		\$0	\$0	n.a.	n.a.	n.a. /Bldg S.F.
<u>Residential Program</u>						
	Square Feet	Units	Rental Price (\$/sq.ft)	Sale Price (\$/sq ft)		
Detached SF	1225	36	\$0	\$250		
Detached Live/work	1275	8	\$0	\$250		
Townhouse, 1-bedroom (c)	0	0	\$0	\$235		
Townhouse, 3-bedroom (c)	0	0	\$0	\$220		
Flat, Studio (c)	0	0	\$0	\$225		
Flat, 1-bedroom (c)	0	0	\$0	\$212		
Flat, 2- or 3-bedroom (c)	1125	8	\$0	\$198		
<u>Financing Costs</u>						
Construction Period	1					Years
Max. Loan to Cost Ratio	0.8					of Total Value
Construction Loan Rate	9.25%					of Total Loan
Drawdown Factor	0.55					of Total Loan
Construction Loan Fees	1.0%					of Total Loan
Permanent Loan Fees	1.0%					of Total Loan
Interim Taxes (12 Months)	1.2%	(minus a 0.55 drawdown factor)				of Hard & Soft Costs
<u>Revenue Goal Assumptions</u>						
Return on Investment	14.0%					of Total Costs
Developer Profit on Cost (for-sale)	15.0%					
Cap rate		8.0%	7.5%			

**Notes:**

- (a) Woodframe construction with sound and fire isolation between commercial and residential uses.
  - (b) City of Sacramento Permit Services
  - (c) BAE Market Analysis
  - (d) 10% vacancy is used in order to validate project feasibility under relatively soft market conditions
  - (e) Office expenses from Building Owners and Managers Association, "Experience Exchange Report" 2005.
  - (f) Included in building operating expenses
- Items which are not referenced were collected from developers and/or bankers, most of whom asked not to be named.

Sources: City of Sacramento, 2006; Building Owners and Managers Association, 2005; Bay Area Economics, 2007.

**Table 3f: Development Impact Fees, Site 3**  
**Swanston Station, Sacramento CA**

Site 3	
Acres	2.09
Detached Res units	36
Detached Res sq ft	44,100
Detached live/work Res units	8
Detached live/work Res sq ft	10,200
Condo Res units	8 flats above retail
Condo Res sq ft	9,000
Retail sq ft	4,500 Ground floor of mixed-use building
Office sq ft	0
Fire Dept Review Fee	\$1,200
Construction Excise Tax	\$18,653
General Plan Fee	\$1,497
Strong Motion Fee	\$233
City Business Operations	\$1,015
Housing Trust Fund	\$2,258
Housing Trust Fund Administration	\$110
Water Supply Report	\$50
Water Development Fee	\$79,473
Utilities Fee Deposit	\$300
Public Works Deposit	\$300
Building Permit Fee	\$17,613
Landscape Review Fee	\$50
Plan Review Fee	\$14,395
Residential Construction Tax	\$16,380
Park Development Impact Fee	\$34,443
Technology Fee	\$1,280
Water Supply Test	\$475
Sewer Development Fee	\$124
Erosion & Sediment Control	\$500
School Impact Fees	\$187,992
Regional Sanitation Fees (a)	\$147,150
Public Improvements Estimate	\$0
	\$525,490
\$/Building Square Foot	\$7.58

Notes:

Does not include impact fees for off-site public improvements  
(a) Sacramento Regional County Sanitation District

Sources: City of Sacramento Permit Services, Sacramento Regional County Sanitation District,  
Grant Joint Union High School District, Bay Area Economics, 2007

**Table 4: Cost Inputs for Pro-Formas**  
**Swanston Station, Sacramento CA (Page 1 of 2)**

<b>HARD COSTS</b>	<b>COST</b>	<b>COMMENT</b>	<b>SOURCE</b>
Woodframe 3 storeys	\$100/sf		Developer
Woodframe 3 storeys	\$120/sf		Developer
Fire, sound attenuation for flats	+20%		Developer
4 storeys woodframe over 2 concrete podium	\$150/sf		Developer
4/1 woodframe over concrete retail&podium	\$160/sf	per net rentable square foot	Developer
Concrete frame construction (over 3 storeys)	\$300/sq ft	Hard costs only	Developer
Site improvement	\$10/sf	On-site only, utilities at curb	Developer
Landscaping	\$100k	allowance per site	Developer
Parking	\$3500-\$4000	per space	Developer
Construction contingency	5%	of hard costs	Developer
Retail/Residential Building	\$185/sq ft	constr + site prep + everything	Developer
Retail/Res Building, min. w/o architectural extras	\$160/sq ft	constr + site prep + everything	Developer
Retail/Office Building, steel	\$150s/sq ft	steel, all hard, no kit, bath,	Developer
Demolition costs, commercial	\$4/s.f.		SHRA
Demolition costs, residential	\$2/s.f.	"much less" than commercial	SHRA
<b>SOFT COSTS</b>			
Insurance - airspace condo	\$25-\$35k/unit	Condo insurance	Developer
Insurance - retail/res airspace condos	\$35k/unit	Condo insurance	Developer
Insurance - woodframe townhouse	\$10,000/unit	Condo insurance	Developer
Sales commission	6%	broker	Developer
Developer profit	>15%	high risk area	Developer
Project contingency	10%	of entire project	Developer
<b>DOWNTOWN/MIDTOWN PARKING RATES</b>			
Fremont Bldg	\$125 open	\$145 covered	BAE survey 8/06
1801 L Street	\$125	underground	BAE survey 8/06
St Anton Bldg	\$125	podium	BAE survey 8/06
19th & O			
Fremont Mews	\$95	underground	BAE survey 8/06
17th & N	\$125	individual garage	BAE survey 8/06
<b>LEASE RATES</b>			
Office avg lease rate, Point West	\$1.85/sq ft	full service	CBRE report 4Q06
Office class A lease rate, Point West	\$2.50/sq ft	full service	CBRE report 4Q06
Office avg lease rate, Northgate/Natomas	\$1.80/sq ft	full service	CBRE report 4Q06
Office class A lease rate, Northgate/Natomas	\$2.27/sq ft	full service	CBRE report 4Q06
Office avg lease rate, Sac area suburban	\$1.73/sq ft	full service	CBRE report 4Q06
Office class A avg lease rate, Sac area suburban	\$2.34/sq ft	full service	CBRE report 4Q06
Office avg asking rate, study area - NNN	\$1.20/sq ft		BAE report
Office avg lease rate, study area - gross	\$1.29/sq ft		BAE report
Office avg lease rate, North Sac	\$1.40/sq ft	full service, 4Q06	C&C report
Retail avg lease rate, South Natomas	\$2.14/sq.ft	good geographic match, in-line	CBRE report 4Q06
Retail avg asking rate, study area	\$1.30/sq.ft.	stores in community ctrs same rate NNN & gross	BAE
Apartment rental rate, studio est., study area	\$1.15/sq.ft.	1Q06	BAE
Apartment rental rate, 1-bed, study area	\$1.10/sq.ft.	1Q06	BAE
Apartment rental rate, 2-bed, study area	\$1.05/sq.ft.	1Q06	BAE
Apartment rental rate, studio avg., Sac	\$2.15/sq.ft.	3Q06	BAE
Apartment rental rate, 1-bed avg., Sac	\$1.85/sq.ft.	3Q06	BAE
Apartment rental rate, 2-bed avg., Sac	\$1.6/sq.ft.	3Q06	BAE

Sources: Bay Area Economics, 2007.

**Table 4: Cost Inputs for Pro-Formas**  
**Swanston Station, Sacramento CA (Page 2 of 2)**

<b>SALE PRICES</b>			
Condo sales in Sac area	\$167-\$343/sf	\$249 avg. 2Q, 3Q06	Hanley Wood, Sperry Van Ness
Condo conversions in Sac area	\$167-\$245/sf	\$202 avg. 2Q, 3Q06	Hanley Wood, Sperry Van Ness
Condo conversion in Carmichael (direct comp.)	\$202-\$221/sf	3Q06	Sperry Van Ness
Recommended small condo in Study Area	\$250/sf	3Q06	BAE report
Recommended small condo conv. in Study Area	\$200/sf	3Q06	BAE report
Condo studio 725 sf	\$245/sf	3Q06	Developer
Condo 1 BR 850 sf	\$235/sf	3Q06	Developer
Condo 1/den/1.5	\$230/sf	3Q06	Developer
Condo 2BR 1100 sf	\$221/sf	3Q06	Developer
Condo 2/den/2.5	\$220/sf	3Q06	Developer
Condo 3 BR	\$215/sf	3Q06	Developer
For-sale SFD average sale price, Study Area	\$265/sf	approx 2Q2006	BAE
Retail asking sale prices in Study Area	\$114-\$282/sf	3Q06	BAE report
Office asking sale prices in Study Area	\$250/sf	3Q06	BAE report
Retail/office actual sale prices in Study Area	\$94-\$241/sf	3Q06	BAE report
<b>OPERATING COSTS</b>			
Retail - Capital reserves	1.00%	of effective gross income	Cal. Redev. Agency
Retail - Management fee	3.00%	of effective gross income	Cal. Redev. Agency
Retail - Management fee	3.65%	of total receipts	\$&c of Neighborhood Shopping Ctrs, 2004
Office - Administrative expenses	8.70%	of total receipts	Building Owners & Mgrs Assoc, 2005
Apartment - General Operating Exp.	\$2,500	per unit	Cal. Redev Agency
Apartment - Management	4.00%	of gross effective income	Cal. Redev Agency
Apartment - Capital reserves	1.50%	of gross income	Cal. Redev Agency
Apartment - Property Taxes	1.00%	of apartment value	Cal. Redev Agency
Apt - Operating Expenses - Sr Aff, small project	\$3,000	per unit per year	Kevin Smith, USA
Apt - Operating Expenses - All-age Aff, small project	\$4,000	per unit per year	Kevin Smith, USA
Apt - Operating Expenses - Elevator - add	\$250	per unit per year	Kevin Smith, USA
<b>RETURN</b>			
Cap rate - office, premium space in Sac	4.0 - 5.0		Developer
Cap rate - office B market in Sac area	5.0 - 6.0		Developer
Cap rate - office C market in Sac, est.	6.5 - 7.5		Developer
Cap rate - retail in Redding	8-9%		Bank
Cap rate - office in Redding	8 - 8.5%		Bank
Cap rate - MF in Redding	7.5-8%		Bank
Cap rate - retail in Davis	about 7%	Has seen 6% recently	Bank
Cap rate - office in Davis	7%		Bank
Cap rate - MXU building	7%	Not linear, use 7% as estimate	Bank

Sources: Bay Area Economics, 2007.

## **Public Improvements Funding Strategy**

This portion of the *Swanston Station Transit Village Plan* reviews the public improvement program identified by Kimley-Horn Associates (KHA) to support the Plan, identifies and discusses potential funding sources, and then recommends a strategy to use available funds to leverage other sources of funds that the City can pursue in order to complete the required improvements. It should be acknowledged that the City will likely need to re-evaluate and update the strategy over the course of the buildout period for the *Swanston Station Transit Village Plan*, as conditions change. However, by keeping in mind priorities and the logical sequencing of improvements that KHA's work has identified, the City will be able to take best advantage of funding opportunities as they arise.

### ***Required Public Improvements***

In order to catalyze TOD development, the Swanston Station Transit Village Plan analyzed and determined the infrastructure needs, based on an analysis of existing conditions and anticipated future conditions. As shown in the table below, total infrastructure costs to support the Swanston Station Transit Village Plan are estimated at \$37.2 million. Of this, approximately \$8.2 million in expenditures are required to support the Strategic Plan Phase of the project and \$29 million in expenditures are required to support the Long Term Plan Phase (full buildout) of the project. The Plan's complete Infrastructure Evaluation is included in the appendix of this report.

Within the two phases, the Infrastructure Evaluation makes it possible to allocate costs between improvements needed to mitigate existing deficiencies and improvements needed to upgrade facilities to serve new development. In total, about \$11.1 million is needed to fund improvements to correct existing deficiencies and about \$22.7 million is needed to mitigate impacts of new development. Spread among the anticipated 2,850 new residential units and 550,000 square feet of new commercial development that the Plan would ultimately support, the \$22.7 million figure is within the range that could be manageable. This would probably break down to an average of between \$6,000 and \$7,000 per dwelling unit equivalent. The \$11.1 million figure to mitigate existing deficiencies will be more challenging.

As shown in the table, for the Strategic Plan Phase, the chief existing deficiency is in the area of stormwater drainage, as the area could be subject to flooding in 10- year and 100-year storm events. Thus, approximately half of the infrastructure costs associated with the Strategic Plan Phase are the result of needing to address existing deficiencies and half of the costs are associated with the new development needs.

The primary need to support new development in the Strategic Plan Phase is sewer improvements. In the Long Term Plan Phase, about three-fourths of the expenditures are necessary to accommodate new development, while about one-fourth of the expenditures represent the need to address remaining deficiencies that exist at present, mainly

stormwater facilities. In the Long Term Phase, the main infrastructure need is associated with roadway and other transportation facilities.



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**Table 1: Improvements Needed for Swanston Station Transit Village**

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<b>Improvements</b>	<b>Cost</b>		<b>Total</b>
	<b>Existing Deficiencies</b>	<b>New Development Needs</b>	
<b>Strategic Plan Phase</b>	<b>\$4,061,940</b>	<b>\$4,165,460</b>	<b>\$8,227,400</b>
<i>Roads &amp; Transportation</i>	\$0	\$1,933,900	\$1,933,900
<i>Storm Drain Facilities</i>	\$3,090,600	\$0	\$3,090,600
<i>Sewer Facilities</i>	\$516,600	\$1,814,000 (a)	\$2,330,600
<i>Water Facilities</i>	\$454,740 (b)	\$417,560	\$872,300
<b>Long Term Plan Phase</b>	<b>\$7,054,926</b>	<b>\$18,526,274</b>	<b>\$25,581,200</b>
<i>Pedestrian Bridge</i>	\$3,394,000		\$3,394,000
<i>Roads &amp; Transportation</i>	\$0	\$14,277,100	\$14,277,100
<i>Storm Drain Facilities</i>	\$5,814,800	\$0	\$5,814,800
<i>Sewer Facilities</i>	\$51,400	\$2,690,600 (a)	\$2,742,000
<i>Water Facilities</i>	\$1,188,726 (b)	\$1,558,574	\$2,747,300
<b>Total</b>	<b>\$11,116,866</b>	<b>\$22,691,734</b>	<b>\$33,808,600</b>

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**Notes:**

(a) Based on Kimley-Horn Associates recommended improvements to sanitary sewer system to serve redevelopment.

(b) Assumes all costs associated with installing 8" mains are related to existing deficiencies.

Sources: Kimley-Horn Associates, October 26, 2007; BAE, 2007.

## **Capital Funding Sources**

Considering the array of infrastructure needs, BAE examined the potential capital funding sources to fund the development of streetscape and utility improvements within the Swanston Study Area. Following is an overview of the various types of funding sources and financing mechanisms that may be utilized to pay for capital improvements in the Swanston Transit Village Area.

**Infrastructure Bonds.** The City could float bonds to pay for the infrastructure improvements and tie the repayment of the bonds to the City's general fund, redevelopment tax increment financing, or special assessments. However, each of the repayment methods provides unique challenges to the City.

*General Fund.* The General Fund is the portion of the City's budget that deals with discretionary revenues. There are always more demands for these funds than there are resources. Thus, the City is not likely to be in the position to repay the bonds with General Fund revenues.

*Tax Increment Financing.* Redevelopment agencies often use tax increment financing (TIF) to fund improvements in areas that are undergoing a renaissance or revitalization. TIF provides the redevelopment agency with a portion of the increase in property taxes that result from redevelopment efforts. Currently the Sacramento Housing and Redevelopment Agency (SHRA) is using TIF from the redevelopment area that includes the Study Area to fund streetscape improvements along Del Paso Boulevard. According to SHRA staff, the agency plans to focus its funding on site assembly and leveraging private development for mixed-use transit oriented development (TOD) projects. As the agency is planning to focus its efforts on public-private partnerships and site assembly, it does not foresee undertaking additional infrastructure projects for several years. SHRA staff indicated that while the City could use TIF to supplement other funding sources, it should not depend on TIF as its major funding source for infrastructure improvements in this area.

*Special Assessment Districts.* Assessment districts are tools that are used throughout the State to fund improvements. Typically, a community interested in providing additional services to its businesses and/or property owners will create an assessment district. All property owners within the district pay an annual assessment above their regular property taxes to pay for special benefits, like the proposed improvements. However, as the pro-forma analyses show, the types of real estate development projects targeted for this area face marginal financial feasibility under current economic conditions without the additional burden of special assessments or taxes. Thus, private development in the area will have a difficult time shouldering the burden of paying for the improvements. In addition, special assessment districts require support from a majority of property owners. Typically, it will be difficult to gain majority property owner approval in a developed area like the Swanston Study Area, to establish new assessments. Because many property owners have no plans to redevelop their properties, they have little financial incentive to support a new assessment.

A related funding/financing mechanism is a Mello-Roos Community Facilities District (CFD), which involves establishing a special tax within the area. Like a special assessment, this mechanism requires an affirmative vote of the affected property owners. This mechanism would face the same challenges in regard to gaining property owner support for additional annual levies on their tax bills; however, it has some advantages in terms of greater flexibility in structuring the property owner levies than would be the case with an assessment district.

**Federal Grants.** There are a wide variety of Federal Grants that the City could pursue in order to fund the proposed improvements. For the most part, there are two major categories of Federal Grants available that would apply to the proposed improvements and Study Area: transportation grants and HUD-based grants.

*Transportation Grants.* The Federal Government offers a variety of competitive grant options through the Federal Highway Administration (FHWA). These grants were offered as part of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA -21) and were referred to as TEA-21 grants until they were renewed in 2003. In 2003, the Federal Government renewed this legislation under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Since the renewal in 2003, all Federal Highway Administration grants are referred to as SAFETEA-LU grants. There are five SAFETEA-LU grants that are applicable to the proposed Swanston improvements; however, four stand out as the best match, two of which the City could use to fund the pedestrian bridge.

Transportation, Community, and System Preservation (TCSP) Program. The TCSP program can provide funding to any project that reduces the impacts of transportation on the environment, reduces the needs for costly future investments in infrastructure, and provides efficient access to jobs, services, and centers of trade. As there is approximately \$61.25 million allocated nationwide to this program in 2007, this represents a small funding source. The City would need to apply for these funds through SACOG or the State. One of the goals of this program is to encourage private sector development, and thus, gives priority to those projects that involve the private sector. However, as this program focuses on transportation improvements, the City would need to market the utility improvements as benefiting transportation uses, or serving TOD development. This program requires 20 percent matching funds.

Surface Transportation Program. The Surface Transportation (STP) program can provide funding for the pedestrian bridge, as the bridge qualifies as a transit capital project. The federal government is budgeting \$6.4 billion nationwide for its STP program in 2007. However, as this is one of the federal government's main transportation grant programs, there may be a great deal of competition for these funds. The City would need to apply to SACOG in order to receive these funds. As with other federal grants, the City would need to supply 20 percent in matching funds.

Congestion Mitigation and Air Quality Improvement Program (CMAQ). The CMAQ program could also provide funding for the pedestrian bridge. Since the pedestrian bridge will connect workers and residents to light rail, the City can show that the construction of the bridge would lead to reduced congestion and improved air quality. Thus, the City could use these funds to provide gap financing for the pedestrian bridge. As with the other federal transportation grants, the City would need to apply for funding through SACOG, and supply 20 percent in matching funds.

Safe Routes to School Program. The Safe Routes to School Program can provide funding for the construction of sidewalk improvements, traffic calming measures, speed reduction improvements, pedestrian and bicycle improvements, and traffic diversion improvements within a two-mile radius of a school. There are currently more than five schools within a two-mile radius of the Study Area. The federal government is budgeting \$125 million for this program in 2007. Although this program could fund many of the proposed improvements, it would not be able to fund the utility improvements. However, as this fund does not require any matching funds, the City could apply for this grant to fund the eligible traffic improvements and use another source, which may require matching grants, to fund the remaining improvements.

*HUD-Based Grants.* The federal Department of Housing and Urban Development (HUD) offers several grants that could provide funding for both the transportation and utility improvements, provided that the City can show that 70 percent of the funds benefit low- and moderate-income persons. According to the *Swanston Study Area Market Analysis*, the Study Area's 2005 median household income (\$27,601) was approximately 55 percent of the County's median income (\$50,087). Although HUD bases its definitions for low- and moderate-income households on the number of persons per household, the large difference in median incomes for the two areas indicates that households in the Study Area likely qualify as low- and moderate-income. Thus, the proposed infrastructure improvements likely qualify for HUD infrastructure grants that require the improvements to benefit low- and moderate-income persons.

There are three HUD grants and a loan program that fall into this category. In addition, if the City secures the loan, it can apply for two additional grants that it can use to repay the loan. Of the three grants that are not tied to the loan, two of the grants are Congressional Grants, which would require the City to lobby its local Congressional representatives in order to receive funding. Thus, there is one HUD-based grant that the City should attempt to secure. As SHRA is HUD's local partner, the City would need to apply for these grants and loans through SHRA.

Entitlement Communities Grant (CDBG). The City can use funds from its annual Community Development Block Grant (CDBG) allocations to finance the construction of public facilities and improvements that will benefit areas with low- and moderate-income persons, or that aid in the prevention or elimination of blight. Eligible public improvements and facilities include water and sewer facilities, streets, and neighborhood centers. In addition to providing funding for any of the proposed improvements, this

grant does not require matching funds. However, the City would need to prioritize this project, which would result in reduced funding for other projects within the City.

Section 108 Loan Guarantee. HUD offers a loan guarantee program that the City can use to finance the construction, reconstruction, or installation of public facilities including street, sidewalk, and other site improvements, using its CDBG monies as the source of repayment. The City can leverage some of its annual CDBG allocation into a larger loan (to be repaid by future CDBG allocations) that can finance the proposed infrastructure improvements. In addition, once HUD approves the loan guarantee, if the City can tie the improvements to new economic opportunities for low- and moderate-income persons, the City can apply for either the Economic Development Initiative (EDI) grant or Brownfield Economic Development Initiative (BEDI) grant. The City can use either of these grants to repay the Section 108 loan, freeing up the annual CDBG allocations for other purposes. However, in order to obtain these grants, the City must be able to show that the improvements increase economic opportunities for low- and moderate-income persons, or attract and retain businesses that lead to economic revitalization.

*Grants for Public Works and Economic Development Facilities.* In addition to the FHWA and HUD-based grants, the Economic Development Administration within the federal Department of Commerce offers a grant to fund 50 percent of utility and roadway improvements that will result in business retention and expansion. Although this grant requires 50 percent matching funds, the City's plan to develop the western portion of this area as a small central business district, or mini-downtown, fits well within the parameters of this grant. However, the City must be able to show that this community or region is experiencing substantial economic distress with high poverty or unemployment.

**State Funds.** The State offers a variety of transportation funding options. Currently, BAE is waiting to hear from Caltrans staff to discuss whether the City would be eligible to use any funds available from Caltrans to finance the proposed infrastructure improvements. However, the State also offers transportation funds through the voter approved Proposition 1B. California voters approved Proposition 1B (SB1266) in November of 2006. This voter approved measure allows the State to float bonds to be used for transportation improvements around the State. There are currently 14 funding programs in Proposition 1B, one of which the City could potentially use to pay for the proposed transportation improvements.

*Local Streets and Road Improvement, Congestion Relief, and Traffic Safety Account of 2006 (Proposition 1B).* The Local Streets and Road program employs a formula to allocate approximately \$1 billion to cities in California for transportation improvements. This potentially represents a much larger funding source than the federal and regional grant programs. According to preliminary calculations provided by CaliforniaCityFinance.com, the City of Sacramento's 2007-2008 allocation will be approximately \$7.5 million, leaving another \$7 million to be allocated to the City in subsequent funding cycles. These funds will undoubtedly be stretched thin in Sacramento. One interesting feature of the program is that all funds appropriated for

2007-2008 must be used by June 30, 2011, meaning that readiness for a particular project to use the funds will be critical.

*Infill Incentive Grant Program of the Housing and Emergency Shelter Trust Fund Act of 2006.* Prop. 1C allocated \$850 million for infill infrastructure improvements and brownfield cleanup. The State Department of Housing and Community Development (HCD) is currently working on developing the allocation guidelines for these funds. One interesting feature that is under discussion is eligibility for defined geographic areas to qualify to obtain funding. This might include an area such as the Swanston Station Transit Village Area. A possible benefit for the City is that it could seek funding from this source prior to identifying specific development projects that would occur pursuant to the plan. The current state budget includes an appropriation of \$240 million for the Infill Incentive Grant Program, which is available for award by June 2008. While the Swanston Station Transit Village Plan may not be ready for this first funding round, a review of initial program guidelines suggests that the area could be very competitive for funds, assuming that the plan anticipates a significant component of affordable housing.

**Regional Grants.** In addition to acting as the intermediary for federal transportation grants, SACOG offers funding through three of its own re-granting programs. Of the three SACOG grants, the Community Design Funding Program has the most available funding, and most closely fits infrastructure improvement needs of the Swanston project. SACOG also has offers funding through the Bicycle and Pedestrian Funding program, which could provide gap funding to the pedestrian bridge.

*Community Design Funding Program.* This grant is currently financing the *Swanston Station Transit Village Plan* study for the Swanston Study Area. This funding source requires 11.47 percent matching funds, and can fund any of the proposed improvements, including the utility improvements. However, the City currently has an abundance of projects that it would like to fund with the Community Design grants. Thus, the City will need to prioritize this project in order to access this funding for the infrastructure improvements, which will likely result in reduced funding for other projects.

*Bicycle and Pedestrian Funding Program.* SACOG also offers funding for projects that provide bicycle and pedestrian connectivity access. The City could use these funds to provide gap funding for the pedestrian bridge. As the City currently has some funding from USAA for the bridge, it should be able to provide for the 11.47 percent required matching funds. SACOG allocated approximately \$350 million over 23 years for this program, which is substantially more than the \$180 allocated to the Air Quality Funding Program. Because this program has more funds available, the City should pursue this funding source over SACOG's Air Quality funds, which are likely to be more competitive. However, the City will need to prioritize this project in order to access this funding source, which will likely result in reduced funding for other projects.

**Local Funding Sources.** In addition to the local funding sources identified at the beginning of this report, the City could potentially use Measure A funds or charge developer impact fees to finance the proposed infrastructure improvements.

*Measure A Funds.* Measure A is a voter-approved local ordinance that institutes a 1/2-cent sales tax that the City can use to fund transportation improvements. This funding source was set to expire in 2009; however, in 2004, Sacramento County voters approved a 30-year extension of the sales tax. While Measure A funds could finance the proposed transportation improvements, the City would need to prioritize this project, which would result in less funding for other projects.

*Developer Impact Fees.* The City of Sacramento and other agencies currently collect a full range of impact fees to pay for public improvements serving development within the City. This includes fees for roads, water, sewer, transit, and stormwater facilities. The pro-forma analysis conducted for Swanston Station Transit Village Plan prototype projects assumed that new development under the plan would pay standard development impact fees to pay their fair share of costs for improvements to the various infrastructure systems. In addition, as KHA has identified, a substantial amount of infrastructure improvements will be required within the Swanston Station Transit Village Plan Area itself. While initial inquiries suggest that few if any impact fee credits would be available for Plan Area development projects that construct infrastructure under current guidelines, this is a policy area that the City of Sacramento should examine. Furthermore, it appears that little if any of the infrastructure projects that KHA has identified would be eligible for funding assistance and/or credits from existing impact fee programs.

One possible source of assistance is the City Economic Development's program to purchase SRCSD sewer credits and offer them to certain types of development projects that have community benefits. These credits will partially offset standard SRCSD sewer fees, and can be granted for projects falling into the following types: commercial, downtown, low-income housing, and infill/transit oriented development. Of an initial allocation of partial fee credits for 6,000 equivalent dwelling units, the Economic Development Department has used approximately 1,200.

Theoretically, the City could establish an additional Plan Area impact fee for new development to pay for its share of the public improvements that are not covered by existing impact fees. However, the City would still need to find funding for the existing development's share of the improvements. In addition, the pro-formas show that profit margins are virtually non-existent for the targeted development types. Thus, new development could become cost prohibitive if the City were to charge new development an additional Plan Area impact fee under current economic conditions. The result could be that redevelopment in the area is delayed until economic conditions are such that projects are able to shoulder the increased cost burden. For this reason, BAE recommends that the City not consider establishing a special plan area fee to charge to new development until the Strategic Plan Phase of development is well underway and economic conditions have improved to make development in the area more capable of supporting the increased fee burden.

*Developer Exactions.* The City could also theoretically impose developer exactions to secure funding for the proposed improvements. Under this scenario, the City would

negotiate exactions with developers before granting discretionary approvals for development projects. The City negotiated such exactions with USAA and Regis homes in order to fund a portion of the pedestrian rail overcrossing and park improvements in the Study Area, respectively. As with impact fees, the cost of exactions represents a direct cost to the developer and because pro forma results for targeted project types indicate little if any profit margin, seeking developer exactions will not likely be a viable mechanism under current economic conditions. Further, if the goal of the planning project is to put the entitlements in place to encourage the targeted development types, then developers will not be subject to discretionary approvals, and impact fees will be a more appropriate mechanism to obtain “fair share” funding from developers.

*Utility Ratepayer Revenues.* The substantial (\$11.1 million) cost of improvements to mitigate existing infrastructure deficiencies suggests that there is a need for reinvestment in infrastructure to support ongoing service of areas that have already been mostly built out. The City Utilities Department utilizes a portion of its funds collected each year through user fees to pay for critical improvements to the various utility systems. The City of Sacramento should consider this an option to raise funds for the Swanston Station Transit Village Area, perhaps as a component of a larger initiative to address rehabilitation needs throughout the water, sewer, and storm drainage systems. The additional costs would be recouped through adjustments in the rate schedules for current services.

The City of Sacramento should consider the needs of the Swanston Station Transit Village Plan area for utility rehabilitation to address existing deficiencies, and include these identified needs in the process of allocating available funds for available system improvements. As part of this allocation process, the Utilities Department sets aside \$1 million per year in available funds to pay for critical improvements designated by the Redevelopment Agency. Thus, the City should consider prioritizing the Swanston Station Transit Village Plan Area improvements for funding using the Redevelopment set-aside funds, the general funds, or both. Financing could be handled on a pay-as-you-go basis or by issuing bonds to be repaid with annual revenues.



**Table 2: Potential Infrastructure Funding Mechanisms**

Type of Financing Mechanism	Governing Agency (a)	Eligible Uses	Voter Approval	Matching Requirements	Limitations
<b>Federal Grants</b>					
Surface Transportation Program (b)	SACOG (FHWA)	Construction of transportation improvements including the pedestrian bridge	N/A	20 percent	Cannot be used for utility infrastructure improvements.
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Caltrans/SACOG (FHWA)	Any project that reduces transportation related emissions (i.e., bike/ped improvements, traffic calming measures, pedestrian bridge)	N/A	20 percent	Cannot be used for utility infrastructure improvements.
Transportation, Community, and System Preservation (TCSP) Program	City, State, or SACOG (FHWA)	Any project that reduces the impacts of transportation on the environment, reduced the need for costly future investments in public infrastructure, provides efficient access to jobs services, and centers of trade. Projects that encourage private sector involvement receive priority.	N/A	20 percent	Could potentially be used to finance utility improvements if bundled under TOD development.
Transportation Improvement (a) Based on Kimley-Horn Associates recommended in region	SACOG (FHWA)	Construction of transportation improvements that increase air quality in the SACOG region	N/A	10 percent	SACOG receives \$5 million per year from this program. However, improvements along the corridor are probably not a high priority for SACOG.
Safe Routes to School Program	City, State, or SACOG (FHWA)	Construction of sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, and traffic diversion improvements within two miles of a school. (c)	N/A	None	There are more than five schools within a two-mile radius of the study area. Cannot be used to fund utility improvements.
Entitlement Communities Grant	City (SHRA/HUD) (d)	Construction of public facilities and improvements, such as water and sewer facilities streets, neighborhood centers that will benefit economic development in areas with low- and moderate-income persons, or which aid in the prevention or elimination of blight.	N/A	N/A	70 percent of funds must be shown to benefit low- and moderate-income persons. City must include the project in its Consolidated Plan for HUD's review.
EDI Special Projects Grant	City (SHRA/HUD) (d)	Construction of public facility improvements	N/A	N/A	This is Congressional Grant. City would need to lobby local Congressional Representative for approval.
Neighborhood Initiative Grant	City (SHRA/HUD) (d)	Construction of public facility improvements	N/A	N/A	This is Congressional Grant. City would need to lobby local Congressional Representative for approval.
Grants for Public Works and Economic Development Facilities	City (Federal Dept. of Commerce)	Utility and roadway improvements needed for business retention and expansion	N/A	50 percent	Applicant must show that community and/or region is experiencing substantial economic distress with high poverty and/or unemployment
Community Services Block Grant Discretionary Awards	Private Non-Profit Community Development Corps. (Federal Dept. Health and Human Serv.)	Any program that alleviates that causes poverty in distressed communities, which assist businesses in creating jobs for low-income individuals	N/A	N/A	Must show that improvements will generate employment opportunities for low-income individuals.
<b>State Grants</b>					
Prop 1B Funds (f)	City (SACOG)	Transportation improvements	N/A	N/A	Program on hold, pending additional legislation regarding performance measures
Prop 1C Funds	State of CA (Dept. of HCD)	Infill Incentive Grant Program	N/A	unknown	HCD is developing program guidelines.

**Notes:**

- (a) The Governing Agency Column shows the Applicant followed by the (Funding Agency)
- (b) There are a host of programs that get funding from the Surface Transportation Program. This list does not specify these subprograms, specifically. However, as the proposed improvements would qualify for the Surface Transportation Program, they would also likely qualify for other programs under the STF
- (c) There are currently ten schools within a two mile radius of the Swanston Study area: Woodlake Elementary, Our Lady of Fatima, St. Joseph Elementary, Harm Johnston Elementary, Noralto Elementary, La Palmas Junior High School, Norte Del Rio Junior High School, Hagginwood Elementary, Northwood Elementary, and Vis Nueva High School.
- (d) The City must apply to SHRA for HUD funded grants
- (e) Special assessments require that property owners only pay an assessment equal to the proportionate amount of "special benefit" that their parcels receive from the improvements. Thus, they would not be able to pay for general upgrades that would benefit the entire area. Existing developments would also need to be assessed
- (f) The Local Streets and Road Improvement, Congestion Relief, and Traffic Safety Account of 2006 could provide funding for the transportation improvement

Sources: HUD staff, 2007; SACOG, 2007; FHWA, 2007; Caltrans, 2007; California Transportation Commission Staff, 2007; Bay Area Economics, 20

**Table 2: Potential Infrastructure Funding Mechanisms, continued**

<b>Regional Grants</b>					
Community Design Funding Program	City (SACOG)	Utility and roadway improvements that promote economic development in urban areas improve walkability, bikability, and transit, encourage walking and biking, and improve a community's sense of identity	N/A	11.47 percent	The City must prioritize which projects it puts up for application of funds. This program is providing funding for this study.
Air Quality Funding Program	City (SACOG)	Projects that provide real, permanent, and quantifiable on-roads emissions reductions within the SACOG region, including the pedestrian bridge	N/A	11.47 percent	Has less funding potential (fewer allocated dollars) than the Community Design Program
Bicycle and Pedestrian Funding Program	City (SACOG)	Bicycle and pedestrian improvements or transportation improvements that will benefit cyclists and pedestrians, including the pedestrian bridge	N/A	11.47 percent	
<b>Local Funding Sources</b>					
Development Impact Fees	City	Construction of improvements	N/A	None	Can not provide for current infrastructure shortfall.
Special Taxes and Assessments (e)	City	Construction and Maintenance of a variety of improvements, from lighting and landscaping to all improvements called for in the Master Plan Update. (Mello-Roos, LLAD, PBID, etc.	1/2 property owners or 2/3 residents generally		Requires voter approval. Current property owners may not be able to afford additional assessments. Fees assessed must relate directly to benefits received.
Measure A Funds	City	Construction of Transportation Improvements from voter-approved 1/2 cent sales tax	Already approved	N/A	these funds are available per the City's priorities. Can fund sump pump and storm drain improvements if they will keep water from pouring onto roadway Water and Sewer improvements cannot be funded with Measure A
<b>Federal Loan Programs</b>					
Section 108 Loan Guarantee	City (SHRA/HUD)	Construction, reconstruction, or installation of public facilities, including street, sidewalk, and other site improvements	N/A	N/A	Must be repaid
Economic Development Initiative (EDI)	City (SHRA/HUD)	Construction, reconstruction, or installation of public facilities, including street, sidewalk, and other site improvements.	N/A	N/A	Although this is a grant, it must be used in conjunction with Section 108 loans. Must increase economic opportunity for low- and moderate-income persons or attract and retain businesses that lead to economic revitalization.

**Notes:**

- (a) The Governing Agency Column shows the Applicant followed by the (Funding Agency)
- (b) There are a host of programs that get funding from the Surface Transportation Program. This list does not specify these subprograms, specifically. However, as the proposed improvements would qualify for the Surface Transportation Program, they would also likely qualify for other programs under the STF
- (c) There are currently ten schools within a two mile radius of the Swanston Study area: Woodlake Elementary, Our Lady of Fatima, St. Joseph Elementary, Harm Johnston Elementary, Noralto Elementary, La Palmas Junior High School, Norte Del Rio Junior High School, Hagginwood Elementary, Northwood Elementary, and Vis Nueva High School.
- (d) The City must apply to SHRA for HUD funded grants
- (e) Special assessments require that property owners only pay an assessment equal to the proportionate amount of "special benefit" that their parcels receive from the improvements. Thus, they would not be able to pay for general upgrades that would benefit the entire area. Existing developments would also need to be assessed
- (f) The Local Streets and Road Improvement, Congestion Relief, and Traffic Safety Account of 2006 could provide funding for the transportation improvement

Sources: HUD staff, 2007; SACOG, 2007; FHWA, 2007; Caltrans, 2007; California Transportation Commission Staff, 2007; Bay Area Economics, 20

## **Funding Strategy**

In general, the discussion of the funding sources makes it clear that the City has limited resources under its own control to provide the funding for the Swanston Station Transit Village public improvements. In the current real estate environment, developers will have a difficult time funding much beyond basic infrastructure investments if they are also asked to develop higher density projects in line with the Plan's long-term vision. Also, the challenge is complicated by the fact that there appear to be substantial improvements necessary to address existing deficiencies, while options are limited to raise funds from existing development.

Because it is unlikely that property owners will agree to tax themselves in order to raise funds for the required improvements in the Swanston Transit Village Area, the City should build its infrastructure plans around a pay-as-you-go approach to pay for improvements necessary to support new development. Although this will mean that the project will probably build out on a more extended timeframe as compared to building the infrastructure all at once, it is probably more politically feasible and also involves less risk to the City, property owners, and developers.

For these reasons, BAE recommends that the City of Sacramento pursue grant funds aggressively in order to underwrite the majority of the costs for the Strategic Plan Phase of the project. The Swanston Station Transit Village Plan should be very competitive for many grant funding programs because of several factors, including transit-orientation, significant investment in alternative transportation infrastructure (pedestrian bridge), sustainable development practices (Dixieanne "green street"), the infill nature of the project, and the focus on higher density, mixed use development that is consistent with the sustainable development objectives of the Sacramento Regional Blueprint Project.

Over time, as the real estate market in general improves, and as the initial phase improvements begin to further enhance the desirability of the Swanston Transit Village Area in particular, the City may find it feasible to place a greater burden on future development to help fund infrastructure improvements through a special planning area impact fee that would supplement existing impact fees.

To pay for improvements necessary to address existing infrastructure deficiencies that will otherwise be barriers to new development in the area, BAE suggests that the City of Sacramento utilize ratepayer funds from its water, sewer, and stormwater utilities. This will of course require prioritizing the improvements in relation to other citywide needs; however, this policy initiative will be necessary in order to bring about revitalization in this area.

## **Prioritization**

The City's first priority for the area should be to address existing drainage problems, to reduce threats to existing as well as new development. Next, the City should make water and sewer system improvements to address existing deficiencies and enable new development envisioned in the Strategic Plan Phase. This first \$6.3 million in public

investment, along with the private investment that it will enable, should be sufficient to catalyze the area by improving property values and making the buildout of the Long Term Plan Phase attractive to the development community.

The Pedestrian Bridge will be the centerpiece of the Long-Term Plan Phase, and it will be necessary to fully realize the vision of the Swanston Transit Village Plan as an integrated, connected area spanning both sides of the railroad tracks. Thus, the City should make a long-term commitment to securing the funds necessary to construct this improvement, using funds already collected for its construction as matching funds to leverage grant funds if at all possible.

### **Targeted Funding Sources**

The initial targeting of funding sources in this section is intended to give the City direction on how to start pursuing funding for the Swanston Station Transit Village infrastructure. As stated above, it will be important for the City to be flexible and nimble in responding to unforeseen grant opportunities that may arise in the future.

**Strategic Plan Phase, Existing Deficiencies Needs** – The City should begin with City Council discretionary funds tentatively earmarked for the Dixieanne “Green Street” project to start addressing existing stormwater control deficiencies. The City should seek funding from its utility systems’ existing user fees to pay for a substantial portion of the improvement costs to correct water and sewer system deficiencies. At the same time, the City should target any available CDBG funds to fill gaps.

**Strategic Plan Phase, New Development Needs** –To fund water and sewer system improvements needed to support new development in the Strategic Plan Phase, the City should target SACOG Community Design Funding Grants, and State Prop. 1C Infill Incentive Grant funds to write down the cost of new infrastructure that new development would otherwise need to construct. This would substantially improve the feasibility of new development that is envisioned under the Strategic Plan Phase.

In addition, the City should review its own existing water and sewer impact fee programs to determine if any of the impact fees to be paid by Plan area development can be directed to improvements called for in the KHA analysis. Alternatively, if the City’s developer partners construct qualifying infrastructure improvements in the Plan area, they may be eligible for impact fee credits. The City should consider Proposition 1C, Community Design Funding, and CDBG as possible sources to fill any funding gaps.

**Long-Term Plan Phase, Existing Deficiencies Needs** – To fund the Pedestrian Bridge, the City should use the funds that it has already collected for the bridge as local matching funds to seek grant funds from the SACOG Bicycle and Pedestrian Funding program, SACOG Air Quality Funding Program, State Proposition 1B and/or any of the SAFETEA-LU grant funds described above. In addition, if plans move forward to establish a Capitol Corridor commuter train stop at Swanston Station, the City should seek to partner with the Capitol Corridor Joint Powers Authority to secure funding for train station improvements, including the pedestrian bridge. As with existing deficiencies

associated with the Strategic Plan phase, the City should consider utilizing a portion of utility user fees to finance needed improvements to the existing water, sewer, and storm drainage systems.

**Long-Term Phase, New Development Needs** - Once the City makes substantial progress on infrastructure improvements and the new residential and commercial development anticipated in the Strategic Plan Phase, the area will be much more attractive to developers and development economics may be improved sufficiently to allow the City to place some burden on new development to pay a larger share of the cost of required infrastructure, through establishment of a special plan area impact fee for roads and transportation, water, sewer, and storm drainage improvements. The feasibility of establishing a new plan area fee could be enhanced if the City is successful in establishing lower tiered rates for the Swanston Station Transit Village Area under existing water, sewer, and storm drainage impact fee programs.

Meanwhile, the City should continue to actively seek available grant funds to keep these additional plan area fee burdens as low as possible and/or to provide assistance for specific targeted catalyst projects, and to accelerate full buildout of the area. Given the long time horizon for the likely buildout of the Long-Term Phase of development, it is difficult to identify specific funding programs that will be applicable; consideration should be given to any of the funding sources discussed in the Capital Funding Sources section, above, plus any new sources that may become available during the buildout period for this plan. In the short-term, the City should pursue opportunities under the various federal SAFETEA-LU and state Proposition 1B programs.

### **Special Policy Recommendations**

The process of reviewing potential funding mechanisms for the Swanston Station Transit Village Plan has highlighted several issues with regard to promoting infill and revitalization within the City of Sacramento's older neighborhoods. Following are several recommendations for policies that could serve to facilitate these types of projects, where current policies do actively support infill and revitalization efforts.

1. The City of Sacramento should examine its current impact fee program policies along with the KHA improvements list and determine if there are any opportunities to incorporate some of the Swanston Station Transit Village Plan Area improvements into updates of existing water and sewer impact fee programs.
2. In addition, the City of Sacramento should evaluate the circumstances of the Swanston Station Transit Village Plan and other infill projects within the City and determine whether it would be appropriate to establish tiered impact fee programs, which might justify charging infill projects reduced impact fees in recognition of the fact that they may require less expansion of existing systems, after accounting for the substantial infrastructure upgrades that will be funded outside of the fee programs.

3. Finally, as existing deficiencies appear to be a major barrier to moving forward with new development in the Plan Area (and likely in other infill areas within the City as well), the City should review the potential to utilize utility user fees to finance the cost of improvements that are necessary to correct existing deficiencies. Such a strategy might involve identifying a series of improvements throughout the City to address existing deficiencies and then determining the feasibility of raising the required funding through an adjustment to existing utility rate schedules. Although such an initiative may not be popular with ratepayers, it is inevitable that as the City's infrastructure ages, there will be ongoing needs for infrastructure rehabilitation and the City will be presented with the same challenge in that there are few funding opportunities to pay for infrastructure that will serve existing development. A comprehensive and systematic approach to refurbishing the City's aging infrastructure, of which the Swanston Area could be a part, would be in the long-term best interests of all utility users.

# Infrastructure Evaluation

Kimley-Horn Associates, Inc.

# Swanston Station Transit Village

## Infrastructure Evaluation

**NOT FOR PUBLIC DISTRIBUTION**

Final: December 19, 2007  
October 26, 2007  
Draft: September 29, 2006



**Kimley-Horn  
and Associates, Inc.**

1430 Blue Oaks Boulevard, Suite 120  
Roseville, CA 95747

Dir (916) 797-3811  
Fax (916) 797-3804



## **Executive Summary**

The City of Sacramento is in the process of developing a Specific Plan to define land use plan for the area of the City surrounding the Swanston Transit Station (the “project” or “plan”). The project area is roughly bounded by El Camino Avenue on the north, Arden Way on the south and the Capital City Freeway (Business 80) on the east. Beaumont Street and Erickson Street define the western edge of the project area. The purpose of the *Swanston Station Transit Village Infrastructure Plan* is to identify deficiencies in municipal infrastructure and identify improvements needed to support build-out of the proposed land use plan.

The Baseline Conditions Report (revised July 20, 2006) documented the findings of the initial existing infrastructure evaluation. Included in this document are discussions pertaining to the effect of the proposed land use plan on municipal transportation, water, sewer, and storm drain facilities. Cost estimates for identified improvements are provided as well as factors to be considered in the prioritization of the recommended improvements.

The Swanston Station area is partially developed. Infrastructure improvements in this area generally result from the need to upgrade and/or maintain existing facilities. A number of infrastructure improvements will be required to bring existing facilities to current City standards. The proposed land use plan would result in a number of changes to the land uses designated for this area.

The transportation system has generally been constructed to accommodate build-out of the existing General Plan land use designations. The proposed land use plan is anticipated to generate fewer daily and PM Peak Hour trips than if the plan area were to build-out in accordance with existing zoning. The plan would cause a nominal increase in AM Peak Hour trips compared to build-out of the plan area in accordance with existing zoning. As a result, current roadway capacity is generally adequate to accommodate the proposed land uses.

A number of roadways in the study area do not include complete frontage improvements (curbs, gutters, sidewalks, and/or street lights). In addition, a number of area streets were built to an outdated City standard. This project proposes street sections that are not consistent with the City’s *Pedestrian Friendly Street Standards* for a number of streets in the plan area. Such sections will require approval from the City Council as part of the adoption of the Specific Plan. It is anticipated most of the local streets in the plan area will be constructed to conform to the *City’s Pedestrian Friendly Street Standards*. Finally, as build-out of the project area occurs, traffic calming devices may be required to discourage speeding on local residential streets.

The existing storm drain system in the study area does not currently meet City of Sacramento standards. The existing infrastructure does not have the necessary capacity to adequately convey the 10 and 100 year storms. A previous study of the 151 Sump drainage basin identified improvements which are needed both within and beyond the study area of this report.

The existing sanitary sewer collection system within the Project area contains several pipes that are under capacity for existing peak flows. Occasional problems may be expected with inflow and infiltration during storm events, which is common in older systems. Many of these older sewer mains are of a smaller diameter than the City’s current minimum standard of an 8-inch diameter and will likely be replaced by the City through its Capitol Improvement Program, or by developers, if required by the City.

The existing water distribution system appears to be adequately serving the current uses within the study area with the exception of providing adequate fire protection. Some existing mains within the study area

are of 2, 4, and 6-inch diameter, which are less than the current City standard of an 8-inch diameter minimum for the proposed zoning. The E.A. Fairbairn water treatment plant, which is one of the major water supplies for the city, is located near the study area to the south. Recent upgrades to the plant have been performed to substantially increase plant treatment capacity.

It should be noted that the findings in this report are not based on detailed modeling. Additional study of the sewer, water, and storm drain system is advisable prior to substantial levels of development.

Prioritization of improvement construction will depend on consideration of a number of factors. These include:

- Are there improvements that are needed now to meet minimum level public health and safety?
- Improvement cost.
- What is public input on the project/improvement?
- Does the project support economic development?
- Coordinate improvements to construct them in a logical order (e.g., constructing underground improvements prior to, or concurrent with street improvements).
- Provide safe routes to area schools.

The various stakeholders in the area may have differing opinions as to which improvements should be constructed first. While safety improvements will command a high priority, different stakeholders may rate the importance of improvements differently. For example, residents may value storm drain improvements as much as transit officials might value sidewalks. Unfortunately, there is not an easy formula that can be applied to identify the order of improvements. As a result, there is little limitation on how improvement funds should be prioritized. The City may choose to appropriate funds to address community concerns in and around the project area and additional funds for projects that would stimulate economic development.

To assist in decision making, the costs of identified improvements have been grouped by street segment. This grouping is shown in Table E1, below. The body of the report provides more detailed information on the cost of the various improvements.

**Table E1 – Swanston Station Transit Village Infrastructure Improvement Cost Estimate**

<b>Roads and Transportation</b>			
Street	Cost <sup>1</sup>		Total
	Roadway <sup>2</sup>	Street Lights	
<b>STRATEGIC PLAN</b>			
Arden Way (Empress to Green)	\$652,326	\$63,757	\$ 716,100
Calvados (Erickson to Transit Ctr)	\$496,470	\$85,297	\$ 581,800
Dixieanne Ave (Erickson to UPRR)	\$212,040	\$117,300	\$ 329,400
Evergreen St. (El Camino to Arden)	\$197,220	\$109,299	\$ 306,600
<b>Subtotal for Strategic Plan</b>			<b>\$ 1,933,900</b>
<b>LONG TERM PLAN</b>			
Arden Way (Beumont to Empress)	\$252,840	\$33,600	\$ 286,500
Arden Way (Green to UPRR)	\$273,067	\$0	\$ 273,100
Arden Way (east of bridge)	\$118,835	\$45,909	\$ 164,800
Beaumont St	\$0	\$20,060	\$ 20,100
Boxwood St	\$0	\$20,060	\$ 20,100
Calvados (Beaumont St. to Erickson)	\$456,000	\$0	\$ 456,000
Clay St (El Camino to Dixieanne)	\$114,000	\$44,062	\$ 158,100
Clay St (north boundary to El Camino)	\$78,375	\$17,598	\$ 96,000
Dixieanne Ave (UPRR to Harvard)	\$313,500	\$0	\$ 313,500
Dixieanne Ave (west of Harvard)	\$370,500	\$33,600	\$ 404,100
El Camino Ave (Clay to Taft)	\$465,208	\$33,600	\$ 498,900
El Camino Ave (Erickson to Evergreen)	\$232,604	\$30,864	\$ 263,500
El Camino Ave (Evergreen to Lexington)	\$484,592	\$30,864	\$ 515,500
El Camino Ave (Lexington to Clay)	\$542,743	\$30,864	\$ 573,700
Empress St	\$0	\$20,060	\$ 20,100
Erickson St	\$0	\$44,678	\$ 44,700
Evergreen St. (Royal Oaks to Arden)	\$0	\$43,755	\$ 43,800
Evergreen St. (Santiago to El Camino)	\$96,900	\$23,753	\$ 120,700
Green St (Calvados to end)	\$102,600	\$24,368	\$ 127,000
Green St (Dixieanne to Calvados)	\$0	\$44,062	\$ 44,100
Green St (El Camino to Dixieanne)	\$0	\$44,062	\$ 44,100
Harvard St (El Camino to Silica)	\$1,023,000	\$52,679	\$ 1,075,700
Harvard St (Silica to Arden)	\$0	\$111,761	\$ 111,800
Knott St	\$513,000	\$56,987	\$ 570,000
Lexington (Calvados to end)	\$171,000	\$25,599	\$ 196,600
Lexington St (Dixieanne to Calvados)	\$185,250	\$44,062	\$ 229,400
Lexington St (El Camino to Dixieanne)	\$248,235	\$44,062	\$ 292,300
Lexington St (Santiago to El Camino)	\$0	\$13,290	\$ 13,300
Manning St	\$167,400	\$62,526	\$ 230,000
Merle Ave	\$171,000	\$0	\$ 171,000
Princeton St	\$666,000	\$55,756	\$ 721,800
Selma St (north of Dixieanne)	\$85,500	\$23,137	\$ 108,700
Selma St (north of El Camino)	\$342,000	\$26,214	\$ 368,300
Selma St (south of Dixieanne)	\$370,500	\$0	\$ 370,500
Silica Ave (end to Harvard)	\$277,500	\$48,986	\$ 326,500
Silica Ave (Harvard to Princeton)	\$1,209,000	\$85,913	\$ 1,295,000
Taft St	\$114,000	\$0	\$ 114,000
<b>Subtotal for Long Term Plan</b>			<b>\$ 10,683,300</b>
<b>Subtotal for Streets</b>			<b>\$ 12,617,200</b>
<b>Bicycle/Pedestrian</b>			
Various Segments			\$ 1,669,400
Pedestrian Bridge	1		\$ 3,394,000
<b>Subtotal for Structures</b>			<b>\$ 5,063,400</b>
<b>Traffic Calming</b>			
Traffic Circles	4		\$ 120,000
Bulb Outs	13		\$ 325,000
<b>Subtotal for Traffic Calming</b>			<b>\$ 445,000</b>
<b>Total for Street Improvements</b>			<b>\$ 18,125,600</b>

1 Cost Rounded to the Nearest \$100  
 2 Cost do not include right-a-way acquisition

Continued on Next Page

Table E1 Continued

<b>Storm Drain Facilities</b>		
<b>Location</b>	<b>Cost<sup>1</sup></b>	
	<b>Strategic Plan</b>	<b>Long Term Plan</b>
Arden Way (West of Evergreen Street to twin 66")	\$ 368,800	-
Beaumont Street (Dixieanne to twin 66")	\$ 356,400	-
Calvados St (Evergreen to Lexington)	\$ 355,300	-
Clay St (El Camino to Dixieanne)	-	\$ 210,300
Dixieanne Ave (Beaumont to west of Evergreen)	\$ 175,400	-
Dixieanne (Green to Lexington)	\$ 94,800	-
Dixieanne Ave (Lexington to Clay)	-	\$ 237,100
Evergreen St. (Dixieanne to south of El Camino)	\$ 121,200	-
Evergreen St. (Dixieanne to Calvados)	\$ 166,700	-
Evergreen St.(Calvados to Arden)	\$ 279,100	-
Harvard St (South of El Camino to Dixieanne)	-	\$ 261,000
Harvard St (Dixieanne to Silica)	-	\$ 216,900
Knoll St.	-	\$ 171,100
Lexington (El Camino to Dixieanne)	\$ 167,600	-
Lexington St (Dixieanne to Calvados)	\$ 257,100	-
Manning (north of Silica)	-	\$ 203,000
Silica Ave (West end of Silica to Harvard)	-	\$ 120,100
Silica Ave (Harvard to Knoll)	-	\$ 305,400
<b>Additional Facilities</b>		
72" (West end of Silica to Twin 66")	-	\$ 2,786,900
54" south of El Camino	-	\$ 414,000
Twin 66" south of Arden	\$ 748,200	-
Intertrack Storage Basin		\$ 81,500
Subsurface Detention		\$ 807,500
<b>Total Storm Drain</b>	<b>\$ 3,090,600.00</b>	<b>\$ 5,814,800</b>
1. Rounded up to nearest \$100		\$ 8,905,400.00

Continued on next page

Table E1 Continued

Sewer Facilities		
Location	Cost <sup>1</sup>	
	Strategic Plan	Long Term Plan
Alley south east of Dixieanne and Evergreen	\$ 110,900	-
Alley South of El Camino and west of Harvard	-	\$ 51,400
Alley west of Evergreen (Calvados to Arden)	\$ 82,400	-
Arden Way (Evergreen to east of Evergreen)	\$ 132,900	-
Arden Way (West of Royal Oak to west of Evergreen)	\$ 278,200	-
Calvados St (Evergreen to Selma)	\$ 236,400	-
Calvados St (West of Royal Oak to Evergreen)	\$ 351,900	-
Clay St (Frienza to El Camino)	-	\$ 168,500
Dixieanne Ave (east of Evergreen to Lexington)	\$ 111,800	-
Dixieanne Ave (Selma to east of Clay)	-	\$ 173,200
Dixieanne Ave (UPRR Traks to Harvard)	-	\$ 110,500
El Camino (Green to west of Lexington)	\$ 53,400	-
El Camino Ave (Clay to east of Taft)	-	\$ 146,200
El Camino Ave (west of Clay to Clay)	-	\$ 57,600
Evergreen St (South of Dixieanne to Arden)	\$ 198,800	-
Evergreen St.(Del Paso to El Camino)	\$ 124,500	-
Frienza Ave (Evergreen to Taft)	-	\$ 417,800
Green St ( North of Calvados to Calvados)	\$ 85,500	-
Green St (El Camino to south of Dixieanne)	\$ 163,700	-
Harvard St (Silica to South of Silica)	-	-
Harvard St (South of El Camino to Silica)	-	\$ 152,900
Harvard St (south of Silica to Arden)	-	\$ 141,100
Knoll (Silica to north of Silica)	-	\$ 194,200
Lexington St (Dixieanne to Calvados)	\$ 164,600	-
Lexington St (South of El Camino to Dixieanne)	\$ 106,900	-
Lexington St (South of Frienza to north of El Camino)	-	\$ 89,400
Manning (Silica to Alley west of Knoll)	-	\$ 158,600
Princeton (Silica to north of Silica)	-	\$ 190,600
Selma St (Dixieanne to Calvados)	-	\$ 170,500
Selma St (Frienza to South of Frienza)	-	\$ 62,200
Silica Ave (UPRR Tracks to Princeton St)	-	\$ 285,500
Additional Facilities	\$ -	\$ -
18" west of Royal Oak (South of Arden to Calvados)	\$ 128,700	\$ 171,800
<b>Total Sewer</b>	<b>\$ 2,330,600.00</b>	<b>\$ 2,742,000.00</b>

## Notes

1. Rounded up to nearest \$100

Continued on next page

Table E-1 Continued

Table E1 Continued

<b>Water Facilities</b>		
<b>Location</b>	<b>Cost<sup>1</sup></b>	
	<b>Strategic Plan</b>	<b>Long Term Plan</b>
Alley east of Beaumont (Calvados to Arden)	-	\$ 45,300
Alley south of El Camino (UPRR Tracks to Harvard)	-	\$ 32,200
Alley South of Frieza (Evergreen to Lexington)	-	\$ 85,600
Alley west of Beaumont (Calvados to Arden)	-	\$ 45,300
Alley South of Frieza and west of Clay	-	\$ 92,000
Calvados (Erickson to Green)	\$ 38,700	-
Calvados (Lexington to Selma)	-	\$ 51,300
Cavados Ave (Beaumont to Erickson)	-	\$ 120,200
Clay St (Frieza to Dixieanne)	-	\$ 200,800
Dixieanne (Erickson to Green)	\$ 77,400	-
Dixieanne Ave (Selma to Manning)	-	\$ 297,000
Dixieanne Ave (Green to Selma)	-	\$ 39,900
Dixieanne Ave (UPRR Tracks to Harvard)	-	\$ 60,400
El Camino (Erickson to Green)	\$ 82,500	-
El Camino (Green to Clay)	-	\$ 117,900
Erickson St (south of Del Paso to Arden)	\$ 339,300	-
Evergreen St (Frieza to Calvados)	\$ 221,500	-
Frieza (Erickson to Clay)	-	\$ 262,900
Green St (El Camino to south of Dixieanne)	\$ 112,900	-
Harvard St (Silica to Arden)	-	\$ 89,000
Lexington St (Frieza to Calvados)	-	\$ 76,500
LexingtonSt (Calvados to Arden)	-	\$ 59,200
Santiago Ave (Evergreen to Lexington)	-	\$ 78,700
Selma St (Calvados to Dixieanne)	-	\$ 104,100
<b>Additional Facilities</b>		
Intertrack Storage Basin		\$ 81,500
Subsurface Detention		\$ 807,500
<b>Total Water</b>	<b>\$ 872,300</b>	<b>\$ 2,747,300</b>

Notes

1. Rounded up to nearest \$100

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## **Introduction**

The City of Sacramento is in the process of developing a land use plan for areas of the City surrounding the Swanston Transit Station (the “project”). The plan area lies generally west of the Capital City Freeway between Arden Way and West El Camino Avenue. The purpose of the *Swanston Station Transit Village Infrastructure Plan* is to identify deficiencies in municipal infrastructure that would inhibit build-out of the proposed land use plan.

The Baseline Conditions Report (revised July 20, 2006) documents the findings of the initial infrastructure evaluation and presented a summary of existing transportation, sewer, water, and storm drain infrastructure. Included in this document are discussions pertaining to the effect of the proposed land use plan on those facilities. Where relevant and necessary, a description of planned improvements and known deficiencies is noted. An evaluation of each system’s adequacy for the proposed land use plan is also described in this report. The final section includes factors that can be considered when prioritizing funds available for improvements.

## **Project Area and Proposed Land Use Plan**

The Swanston Station Transit Village project area is located approximately three miles northeast of Downtown Sacramento (see Figure 1). The project area is roughly bounded by El Camino Avenue on the north, Arden Way on the south, and the Capital City Freeway (Business 80) on the east. Beaumont Street and Erickson Street define the western edge of the project area.

The area is generally built-out with a variety of land uses, and it has a number of existing infrastructure improvements. The City currently requires standard street and utility improvements as build-out occurs. Historically, this has not always been the case, and many parcels in the project area were developed without requiring all standard improvements<sup>1</sup>. However, in recent years, the City has been more diligent about requiring standard improvements for all development projects except those that include only one or two single family homes. Furthermore, the two arterial streets in the project area—El Camino Avenue and Arden Way—generally comply with municipal street standards in some locations. The numerous internal residential streets in the surrounding roadway network lack many street and utility improvements.

This study examines infrastructure needed to support development of the proposed land use plan. The proposed land use plan, known as the Long Term Development Scenario (Long Term Plan), is shown in Figure 2. The Long Term Plan represents full build-out conditions for the project area, and is expected to occur after 2027. Concurrent with developing the Long Term Plan, a market study conducted for the plan area to identify land uses likely to build out prior to 2027. The result of that study is known as the Strategic Development Scenario (Strategic Plan) and is shown in Figure 3.

For the purposes of this project, “project area” refers to the area located within the project boundary. This term should not be confused with “study area”, which refers to a larger area that includes the project area plus any surrounding areas that affect the project area or are affected by the project area. The extent of the project area is identical across all components of this report, while the extent of the study area shifts depending on the nature of the information that is being analyzed.

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<sup>1</sup> Standard improvements include paving, curbs, gutter, sidewalks, streetlights, water, storm drains, and sanitary sewer facilities.



Figure 1 - Project Area

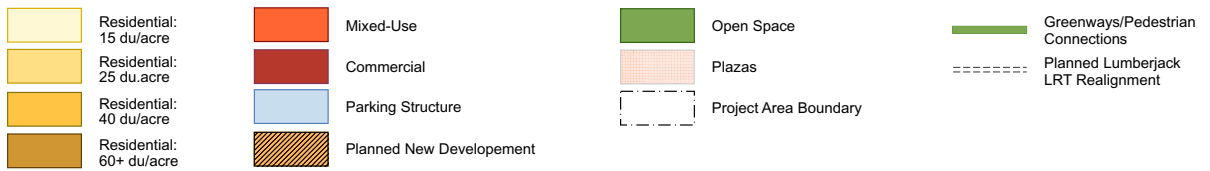
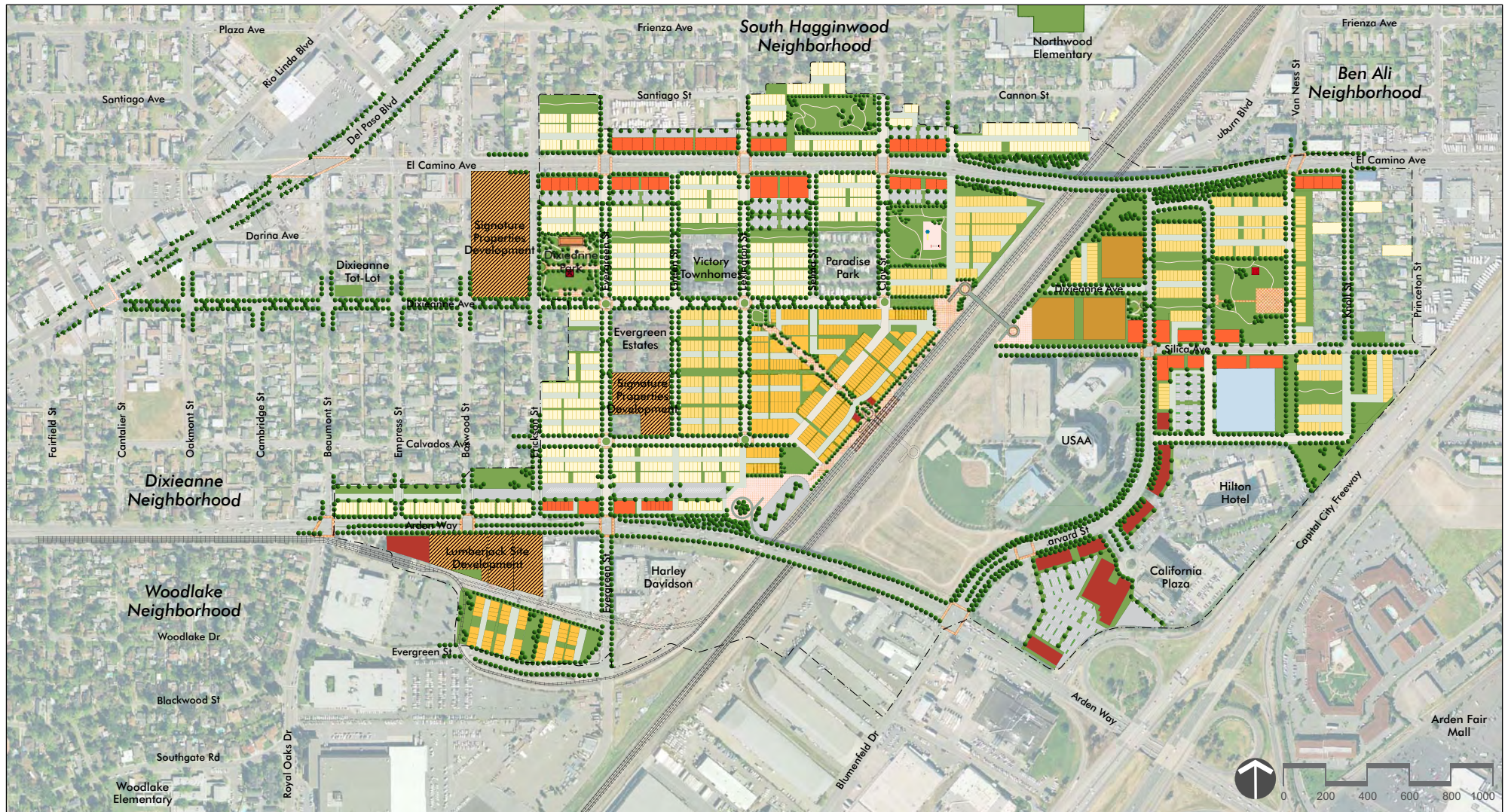
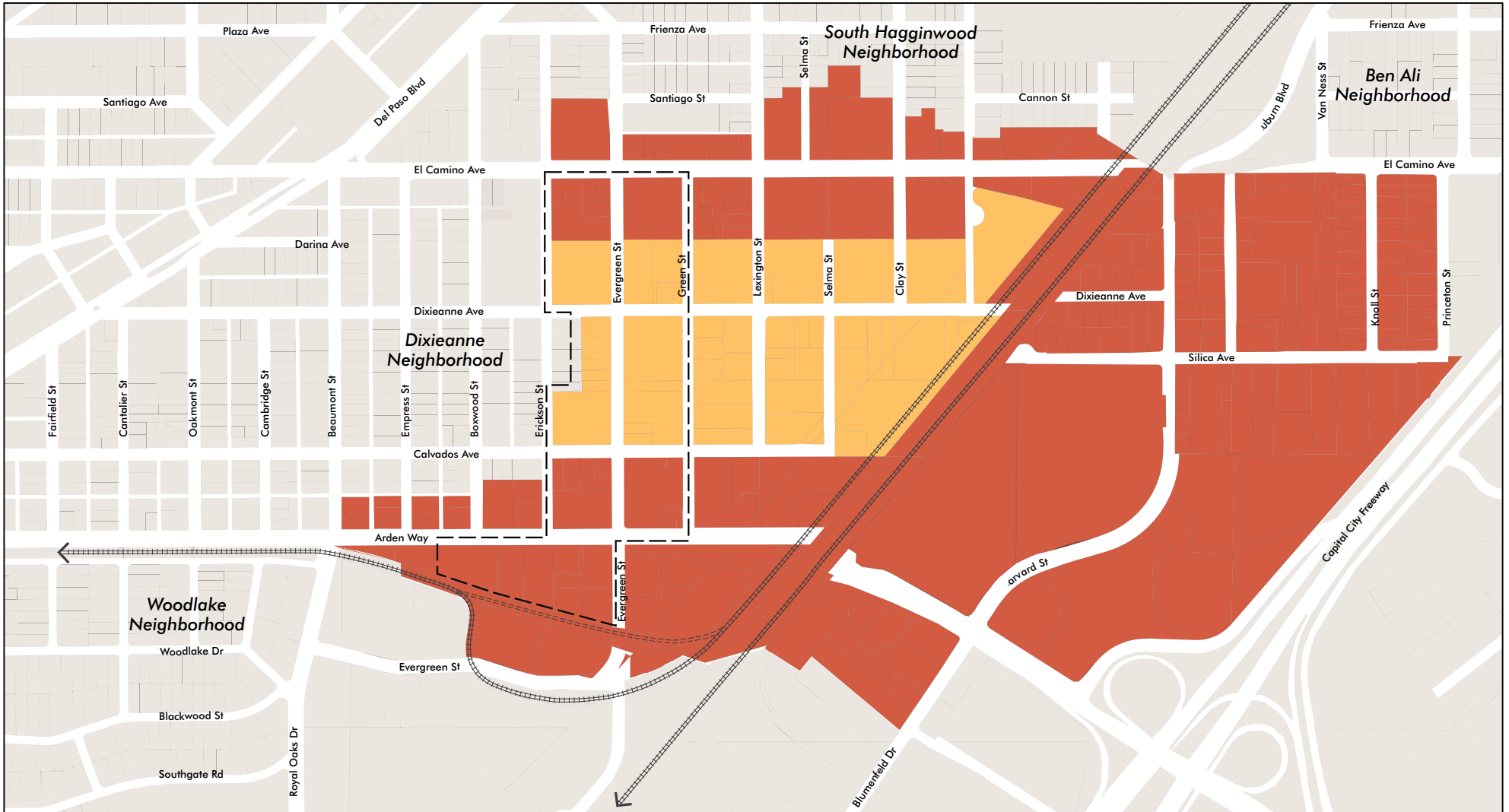






Figure 2  
Long Term Development Plan  
Source: MIG

**Illustrative Site Plan**  
Swanson Station Transit Village Specific Plan

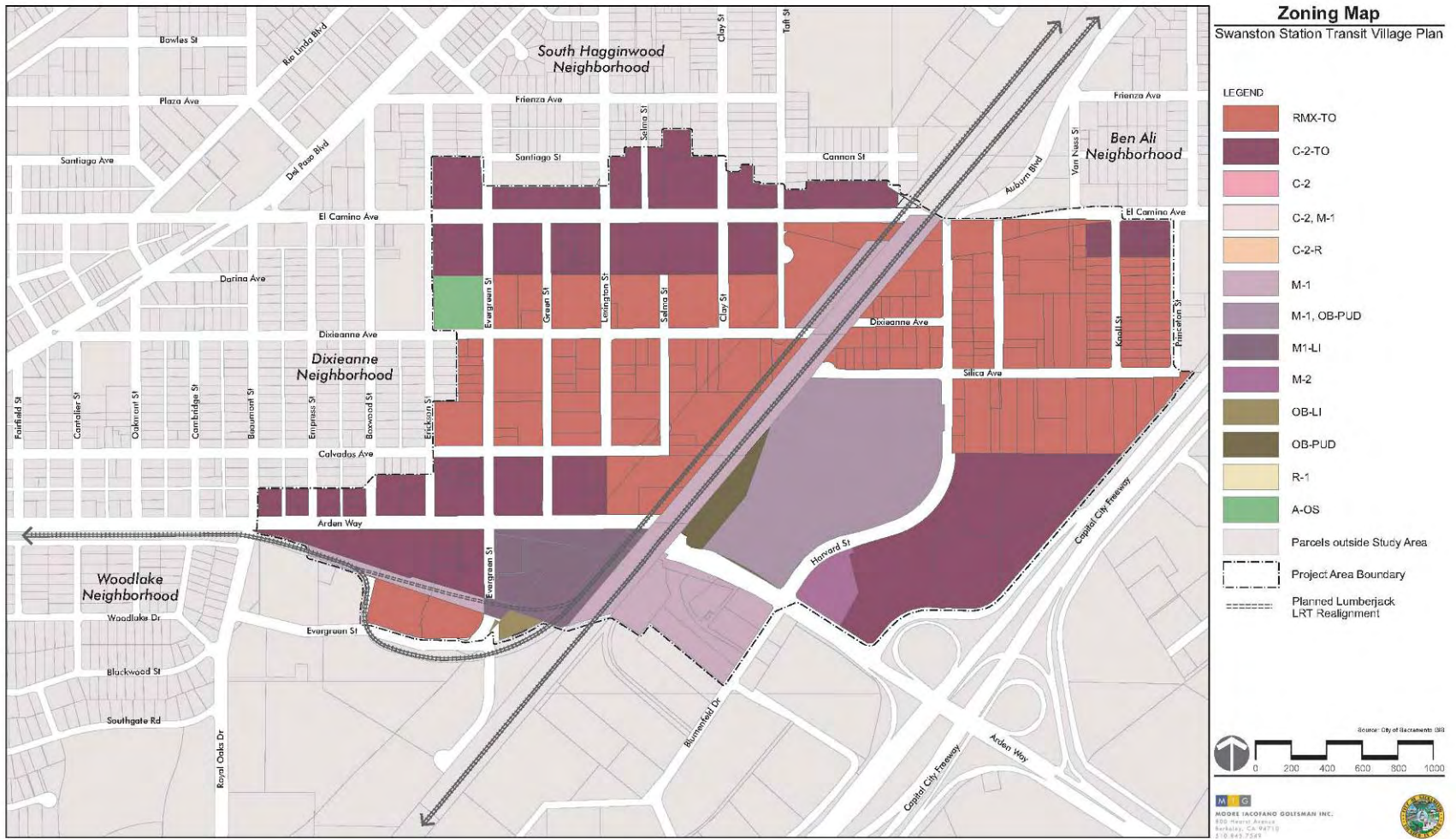


-  Strategic Area Boundary
-  Parcels outside of Study Area
-  Mixed Use
-  Residential Mixed Use



**Proposed Land Use Map**  
Swanston Station Transit Village Plan

**Figure 3**  
**Strategic Development Scenario Area**  
MIG



**Figure 4 - Proposed Project Area Zoning**

## **1 Summary of Existing Infrastructure**

The streets and utility facilities within the project area are in need of varying degrees of improvement. It appears that many parcels in the project area have been developed without implementation of standard improvements. More generally, the project area lacks standard street improvements, bicycle and pedestrian facilities, and street lights in many areas. Furthermore, accessibility for the disabled throughout the project area is generally substandard according to the standards defined by the Americans with Disabilities Act (ADA). Water lines within the project area are generally undersized according to current City standards. Sewer lines within the area are mostly undersized and do not satisfy City standards. Adequate underground storm drains are generally lacking in the plan area.

## **2 Improvements Required for the Proposed Land Use Plan**

This document uses information from the Baseline Report to determine specific infrastructure that is required to support build-out of the Long Term Plan. Each type of infrastructure facility (transportation, storm water, water, and sanitary sewer) is evaluated for its adequacy to serve the proposed land use plan shown in Figure 3 and Figure 4. Where appropriate, additional improvements are identified and planning level cost estimates are provided. In addition, to the proposed land use plan for the entire project area, a more conservative land use plan was developed, called the “Strategic Development scenario” which proposes land use changes to parcels in close proximity of the light rail transit station in order to effectively develop a transit village setting while impacting less of the project area. Where appropriate, the effects of this development scenario on existing infrastructure are examined as well.

### **2.1 Transportation Facilities**

The land use plan proposed for the project area would, if fully implemented, result in some parcels being developed with land uses that are different than those that currently exist. The proposed land use plan shown in Figure 2 would increase the density of some uses of the plan area land uses to increase transit ridership. The land use plan also shows circulation elements within the plan area. The circulation elements were developed to support the proposed land use plan, consisting of existing streets and pedestrian walkways in and around the proposed land uses. The plan also includes the relocation of the RT transfer station to the plan area. The transfer station will be used by busses that currently use the Arden/Del Paso Light Rail Station.

#### **2.1.1 Proposed Land Use Plan Trip Generation**

The number of vehicle trips expected to be generated by the uses contained in the land use plan was estimated to evaluate the effect of the proposed land use plan on area roadways. The number of project trips was compared to the number of trips expected to be generated by the land use mix of the General Plan build-out of the area. The number of trips generated by the existing and proposed land use plan was derived using data included in the *Trip Generation Manual*, 7th Edition, published by the Institute of Transportation Engineers (ITE). As shown in Table 1, the proposed land use plan is anticipated to generate fewer daily and PM Peak Hour trips than if the plan area were to build-out in accordance with existing zoning. The plan would cause a nominal increase in AM Peak Hour trips compared to build-out of the plan area in accordance with existing zoning. Detailed assumptions related to trip generation efforts are provided in Appendix A.

**Table 1 - Trip Generation Comparison**

Land Use Plan	Daily Trips	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	Total	IN	OUT	Total
Trips for Existing Zoning Designations	22,554	982	388	1370	1142	1519	2662
Long Term Development Plan	15,291	383	1013	1396	814	570	1384
Change: Exist. Zoning to Long Term Plan	-7,263	-598	625	27	-328	-950	-1278

**2.1.2 Proposed Street Cross Sections**

Street cross sections were developed based upon the projected trip generation of the proposed land use plan, existing and required right-of-way, and the intended function of the roadway. Below are descriptions of the functions of the various streets, considerations for determining an appropriate street section, and the street sections recommended for the project area.. This project proposes street sections that are not consistent with the City’s *Pedestrian Friendly Street Standards* for a number of streets in the plan area. Such sections will require approval from the City Council as part of the adoption of the Specific Plan.

Arterial Streets

Two streets in the plan area, El Camino Avenue and Arden Way, are classified as arterial streets. Arterial streets typically serve daily traffic volumes above 14,000 vehicles per day, provide regional connectivity, and generally provide limited access to adjacent land uses. Under 2025 traffic conditions, El Camino Avenue is expected to serve approximately 21,000 veh/day and Arden Way is expected to serve approximately 22,000 veh/day.

Collector Streets

There are two roadways that currently function as collectors within the project area: Evergreen Street and Harvard Street. Collector streets range in volume from 4,000 ADT to 14,000 ADT and provide greater connectivity as compared to local and residential streets.

Local Streets

A majority of the roadways within the plan area are classified as local streets. These streets provide direct access to parcels in the plan area and generally serve less than 4,000 ADT.

*2.1.2.1 Assessment of Cross-Sections and Available Rights-of-Way*

In some cases, the plan area roadways do not have adequate rights-of-way to accommodate the standard right-of-way widths presented in the *Pedestrian Friendly Street Standards*. To adjust the standard streets, a hierarchy of actions was developed to determine how the width of the standard cross-sections could be reduced. The list below identifies potential actions in the order in which they should be considered. It should be noted that when determining modifications to standard cross-sections, it is imperative to give strong consideration to the safety of bicyclists and pedestrians (e.g., reduce median width before reducing bike lane width).

1. Reduce median width (10 feet minimum)
2. Reduce lane widths (collector/arterials – 11 feet minimum)
3. Reduce planter width (4 feet minimum)
4. Reduce sidewalk width (5 feet minimum)
5. Reduce bike lane width (5 feet minimum)
6. Eliminate planter (one or both sides)
7. Eliminate median (collectors)
8. Eliminate parking (collectors)

Some of the above actions may preclude the need for subsequent actions. For example, eliminating planters may eliminate the need to reduce sidewalk widths.



It should be noted that the City does not typically require developers to remove existing frontage improvements that are in good condition, even if the improvements are sub-standard. As a result, it is assumed that existing improvements will remain. It should also be noted that a wide variety of combinations of modifications to the cross-section standards and dedications are plausible.

### **2.1.3 Recommendations for Street Improvements**

Below are recommendations for cross sections for the plan area streets. The cross sections were developed by Moore, Iacafano, Goltsman (MIG) in coordination with the City.

#### *2.1.3.1 Arterial Streets*

##### Arden Way (Four-Lane)

Arden Way currently has 80 feet of right-of-way. The intent of the land use plan is to increase residential uses in the area of Arden Way. As a result, a street cross section that enhances the pedestrian environment is desired by providing a planter between the curb and side walk. It is also desired to provide bike lanes within the roadway to promote alternate mode use and promote implementation of bicycle facilities. However, due to the right-of-way constraints, it is not possible to provide on-street bike lanes and separated sidewalks within the existing right-of-way. In this location, the on-street bikelane was omitted to allow for a separated sidewalk. The proposed cross section is shown in Figure 5 and a plan view of the proposed roadway is shown in Figure 6.

##### El Camino Avenue (Four-Lane with Two-Way Left-Turn Lane)

El Camino Avenue currently has 80 feet of right-of-way. The intent of the land use plan is to increase commercial densities along this roadway. As a result, a street cross section that enhances the pedestrian environment is desired by providing a planter between the curb and sidewalk. It is also desired to provide bike lanes within the roadway to promote alternate mode use and implementation of bicycle facilities. Further, the inclusion of a median/center turn lane will improve traffic operations for vehicles entering and leaving the roadway. The proposed cross section is shown in Figure 7 and a plan view of the proposed roadway is shown in Figure 8.

#### *2.1.3.2 Collector Streets*

##### Evergreen Street

Evergreen street currently provides connectivity between Arden Way and El Camino Avenue and the roadway is improved with curbs, gutters, and sidewalks, in some locations. To enhance pedestrian safety along the roadway, bulbouts at mid-block crossings are recommended. The recommended cross section includes sidewalks on both sides of the roadway and bulb outs/tree wells at mid-block pedestrian crossing locations. Figure 9 shows the proposed the cross section and Figure 10 shows the plan view of the proposed roadway.

##### Harvard Street

South of Silica Street, Harvard Street has full frontage improvements, one travel lane in each direction, bike lanes and no parking. This street is proposed to be constructed as shown in Section F, shown in Appendix B. This standard section is recommended for Harvard Street north of Silica Avenue.

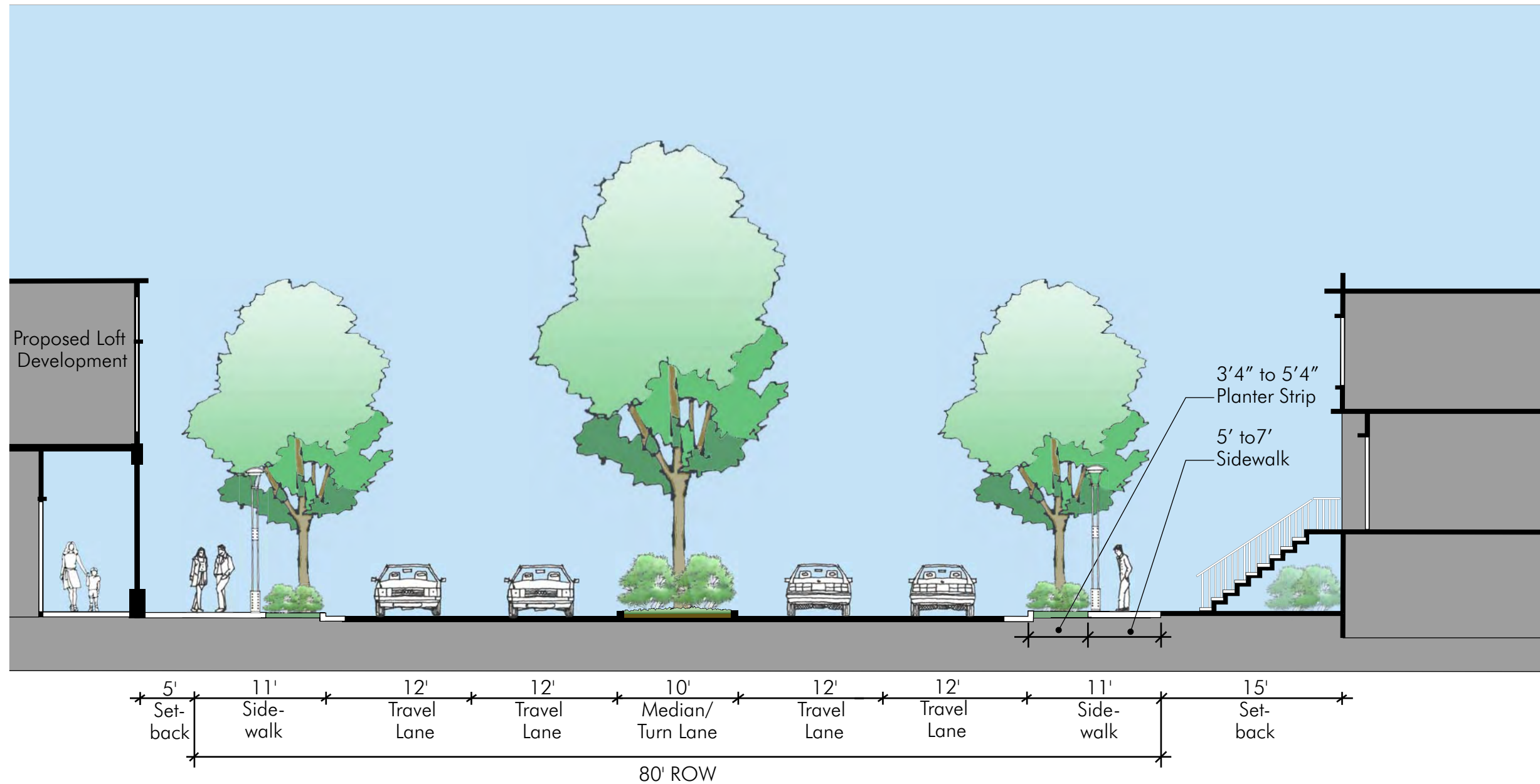
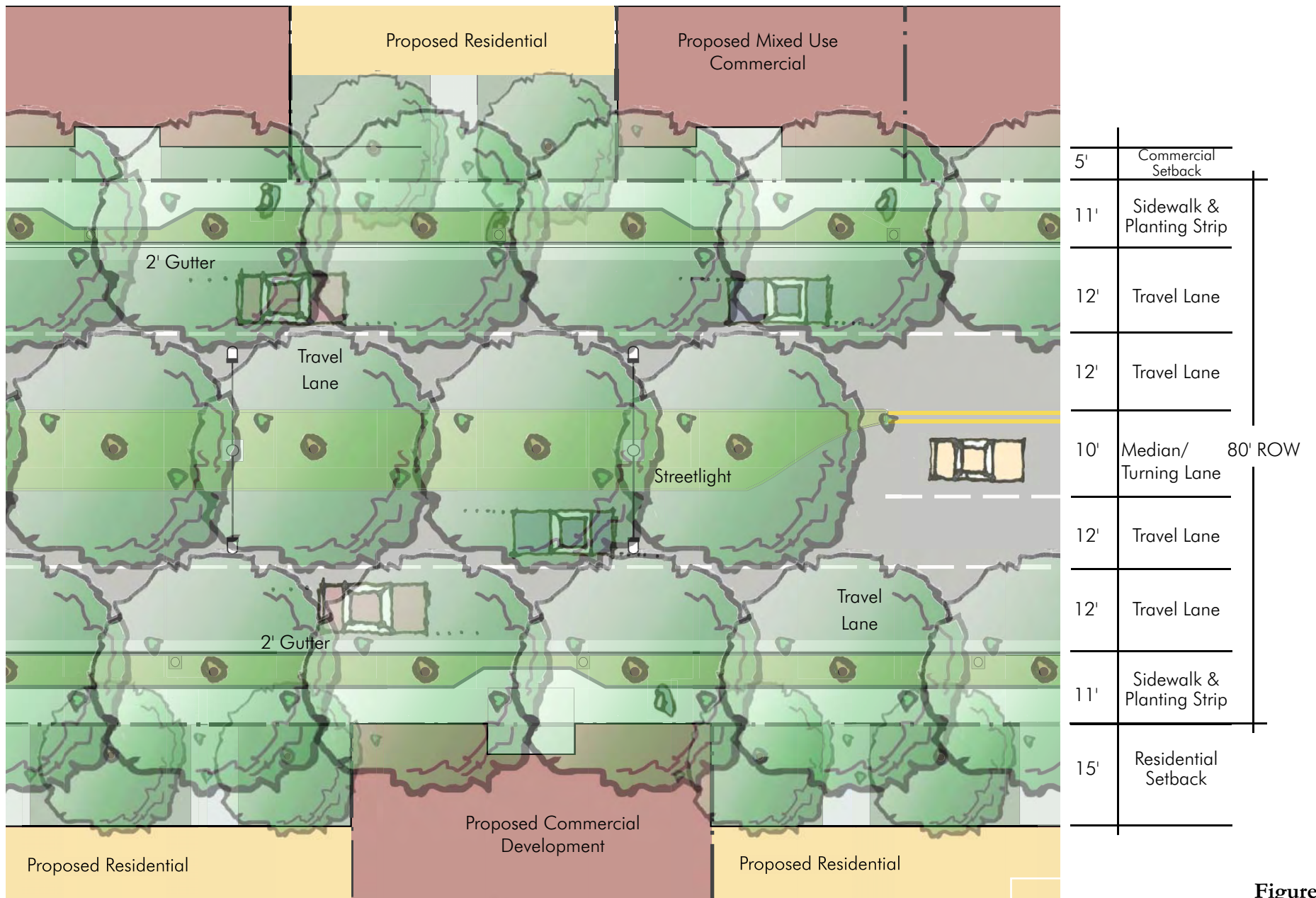


Figure 5  
 Arden Way Proposed Cross Section  
 Source: MIG



**Figure 6**  
**Arden Way Plan View**  
 Source: MIG

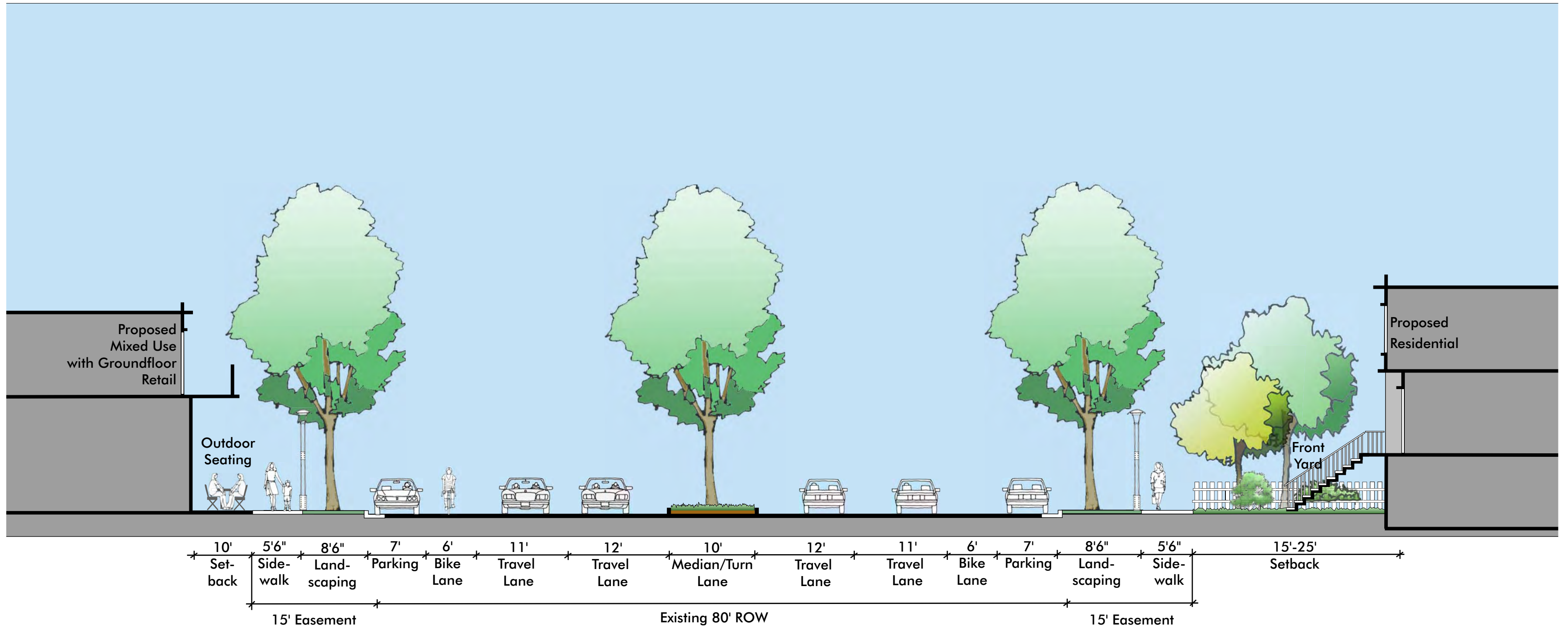
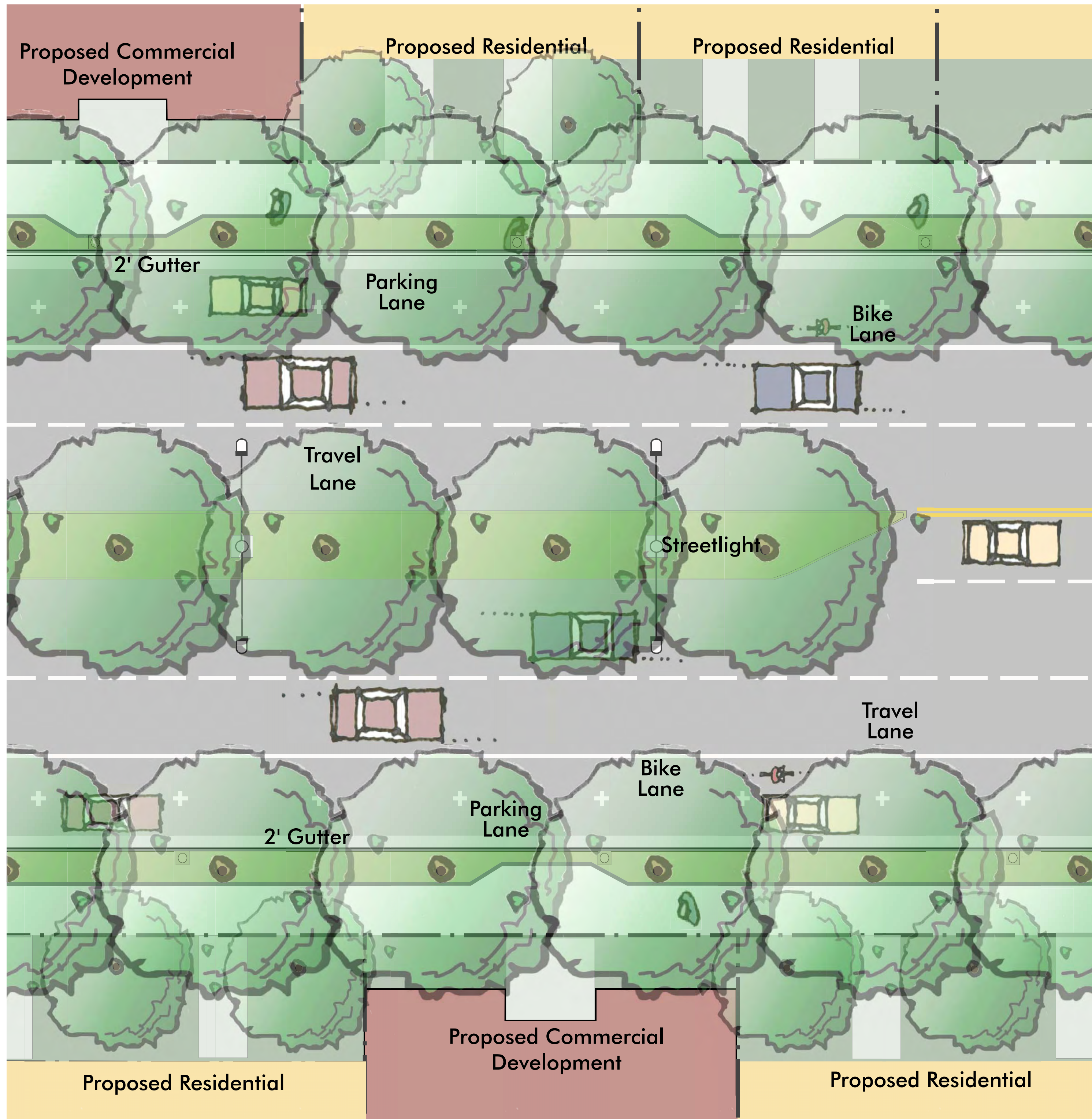


Figure 7  
 El Camino Avenue Proposed Cross Section  
 Source: MIG



15-25'	Residential Setback	
14'	Sidewalk & Planter Strip	15' Easement
7'	Parking Lane	
6'	Bike Lane	
11'	Travel Lane	
12'	Travel Lane	
10'	Median/ Turning Lane	80' ROW
12'	Travel Lane	
11'	Travel Lane	
6'	Bike Lane	
7'	Parking Lane	
14'	Sidewalk & Planter Strip	15' Easement
10'	Commercial Setback	

Figure 8  
El Camino Avenue Plan View  
Source: MIG

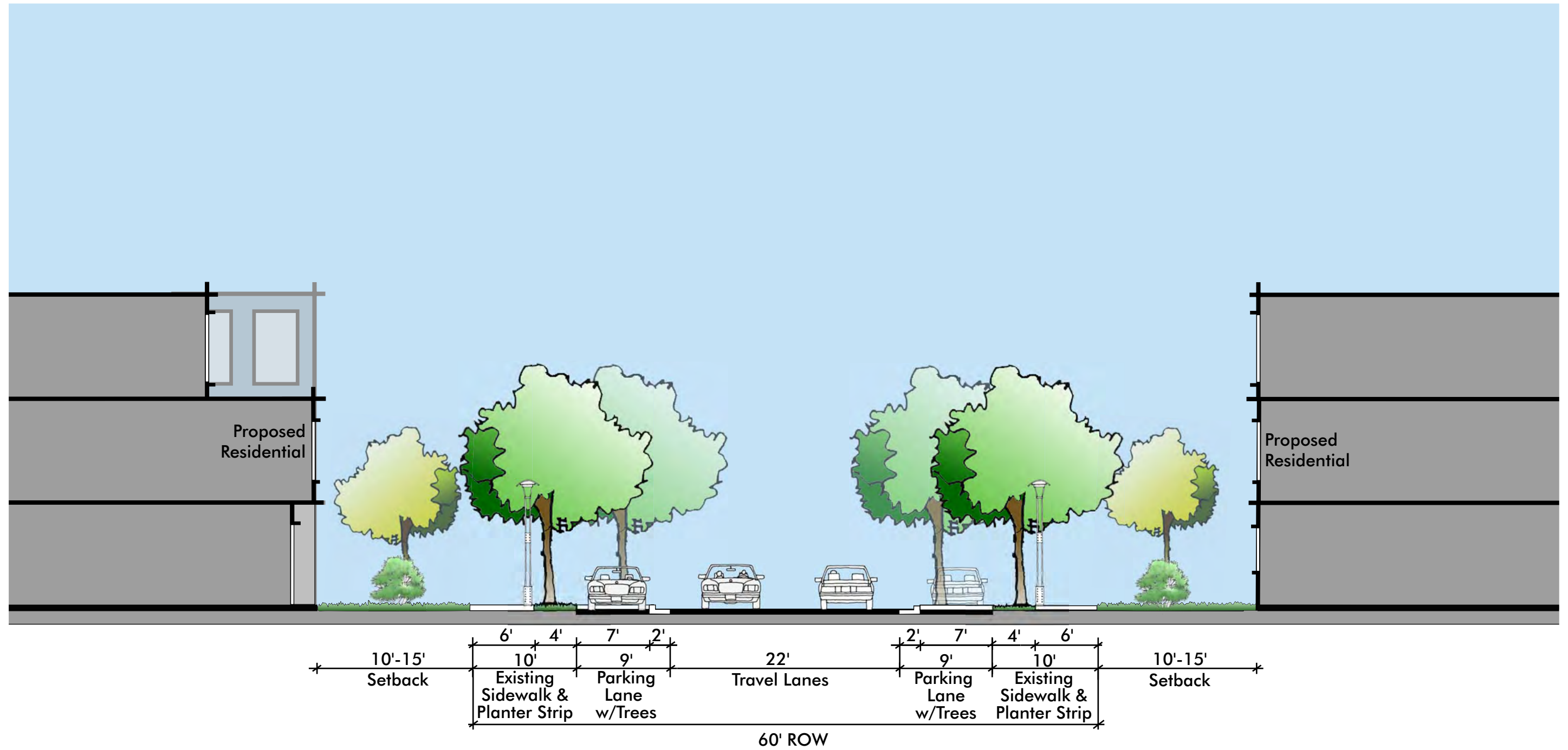
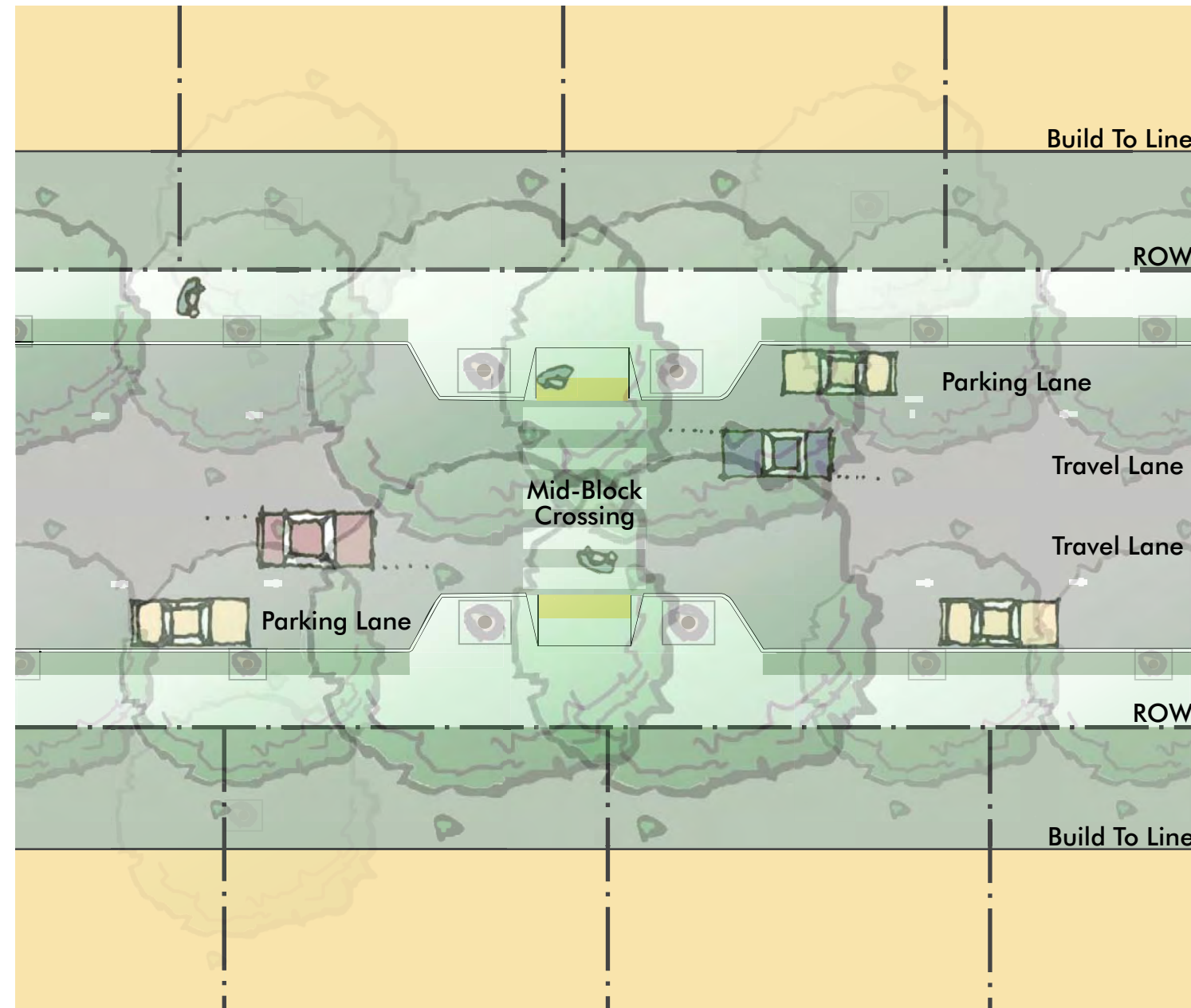
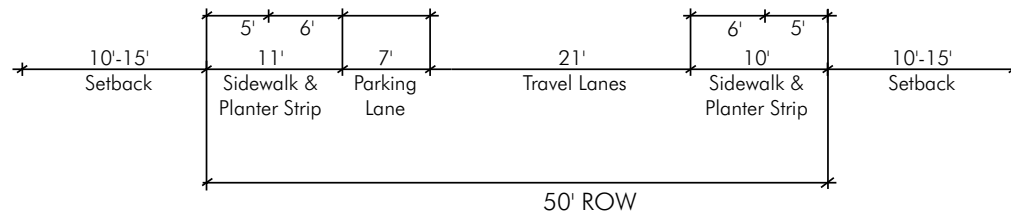


Figure 9  
 Evergreen Street Proposed Cross Section  
 Source: MIG



Varies	Setback	
10'	Existing Sidewalk & Planter Strip	60' ROW
9'	Parking/Bulbout	
22'	Travel Lane	
	Travel Lane	
9'	Parking/Bulbout	
10'	Existing Sidewalk & Planter Strip	
Varies	Setback	

Figure 10  
 Evergreen Street Plan View  
 Source: MIG



**Figure 11**  
50 Foot Right-of-Way Street  
MIG



2.1.3.3 Local Streets

Local streets provide limited connectivity and provide direct access to adjacent land uses. Examples of local streets in the plan area include Dixieanne Avenue and Lexington Street. It is recommended that street sections for local streets conform to the *Pedestrian Friendly Street Standards*.

Three local streets are included in the city’s standards, Residential, Commercial, and Industrial. These standards apply to local streets as shown in Table 2. Street sections are depicted in Appendix B.

**Table 2 - Local Street Designations for the Proposed Land Use Plan**

Residential Streets	Commercial Streets	Industrial Streets
Dixieanne Avenue	Silica Avenue (west of Harvard)	None
Calvados Street	Harvard Street (North of Cannon Street, west of UPRR tracks)	
Knoll Street	Silica Avenue (Harvard to Princeton)	
Lexington Street		
Green Street		
Clay Street		
Manning Street		

The majority of Dixieanne Avenue in the plan area is improved with curb gutter and separated sidewalks. The cross section for Dixieanne Avenue is proposed to have separated sidewalks with water quality filtration swales between the curb and gutter, and bulb-outs/tree wells. The swales will be used to filter storm water runoff prior to discharge into the City’s storm drain system. A cross-section of the roadway is shown in Figure 12 and a plan view is shown in Figure 13.

2.1.3.4 Comparison of Proposed and Available Right-of-way

As noted above, there are cases where the City’s standard cross-sections may not fit within available roadway rights-of-way. In addition, the proposed cross section for El Camino Avenue and minor residential streets will require additional right-of-way to accommodate the recommended cross section. To accommodate it is expected that either dedication of right-of-way will be required as parcels are developed, or the City may acquire right-of-way for projects contained in the Capital Improvement Program (CIP). However, the City may also choose to allow modifications to its standards in order to minimize the amount of right-of-way dedication or acquisition required. Such modifications are permitted by the City Code<sup>2</sup> and are common in the course of development. Table 3 - Comparison of Existing and Required Right-of-Way presents a summary of the available rights-of-way and those required for the proposed cross sections.

<sup>2</sup> Sacramento City Code, §18.04.190 D. Standard Street Sections

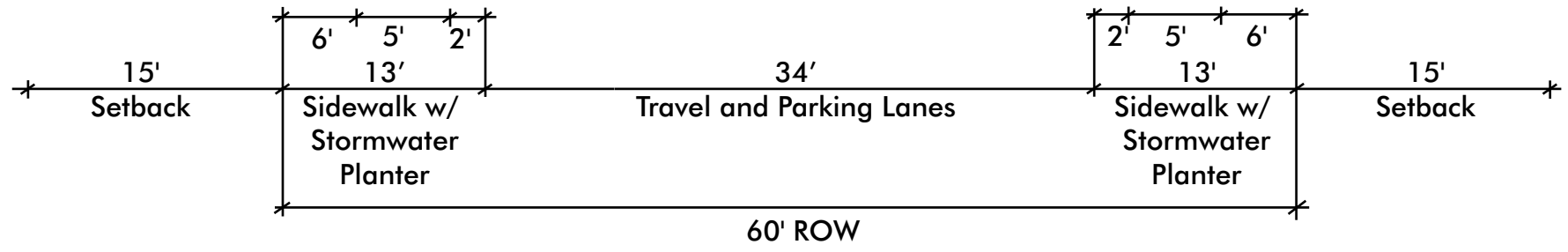


Figure 12  
 Dixieanne Avenue Proposed Cross Section  
 Source: MIG

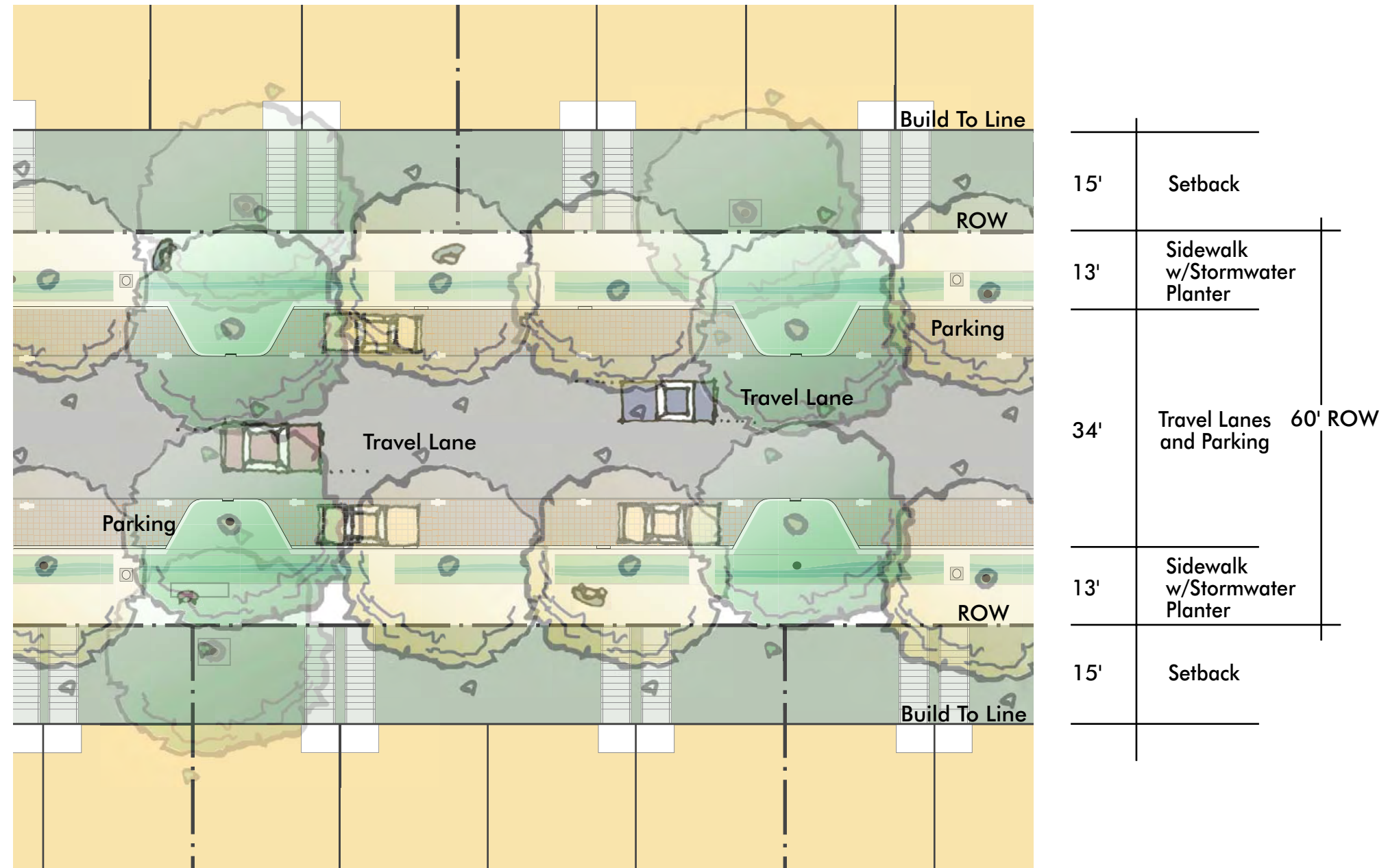


Figure 13  
 Dixie Avenue - Plan View  
 Source: MIG

**Table 3 - Comparison of Existing and Required Right-of-Way**

Street	Proposed Classification	Existing Right-of-Way (ft)	Right-of-Way Required (ft)	Right-of-way Required (ft)
Arden Wy.	Four-Lane Arterial	80 - 120	80	0
Dixieanne Ave	Local	60	60	0
El Camino Ave. <sup>1</sup>	Four-Lane Arterial	West of UPRR: 80 East of UPRR: 60	110	30-50
Evergreen St.	Minor Collector	60	60	0
Harvard St.	Standard Minor Collector	North of Silica: 50	50	0
All Others	Standard Local Residential	40 - 60	53	0-13

1. Right-of-way should be verified with title reports for adjacent parcels.

### **2.1.4 Street Lighting**

Plan area street lighting is generally not consistent with the City’s street light spacing guidelines. Existing street lights generally only exist where parcels have been recently developed and street light spacing is greater than allowed by City standards. It should be noted that this assessment of compliance with City standards is based upon the location of the street lights and not on whether the lights are in actual working order.

In order to bring plan area street lighting up to current City standards, lighting should be installed in conjunction with adjacent street improvements. Full compliance with City standards requires standard lighting installations on both sides of the roadway with spacing as presented in Table 4. Figure 14 shows the plan area roadway segments that currently have inadequate street lighting. These locations were determined by field observation as well as information provided by the City<sup>3</sup>.





**Table 4 - Street Light Spacing Guidelines**

Street Type	Street Light Type	Street Light Spacing (ft)
Local (Residential)	Decorative	135 - 145
	Post Top	150 - 160
Local (Commercial and Industrial)	Decorative	130 - 140
	Post Top	145 - 155
	Mast Arm	185 - 195
Collector	Decorative	110 - 145
	Post Top	125 - 160
Arterial	Mast Arm	100 - 130

Source: City of Sacramento Design and Procedures Manual, Section 14

<sup>3</sup> GIS data from City of Sacramento, February 20, 2006.

# Street Lights Improvements Swanston Station Transit Village Plan

- LEGEND**
-  Study Area Boundary
  -  Study Area
  -  Area Outside Study Area
  -  Areas Requiring Additional Street Lights

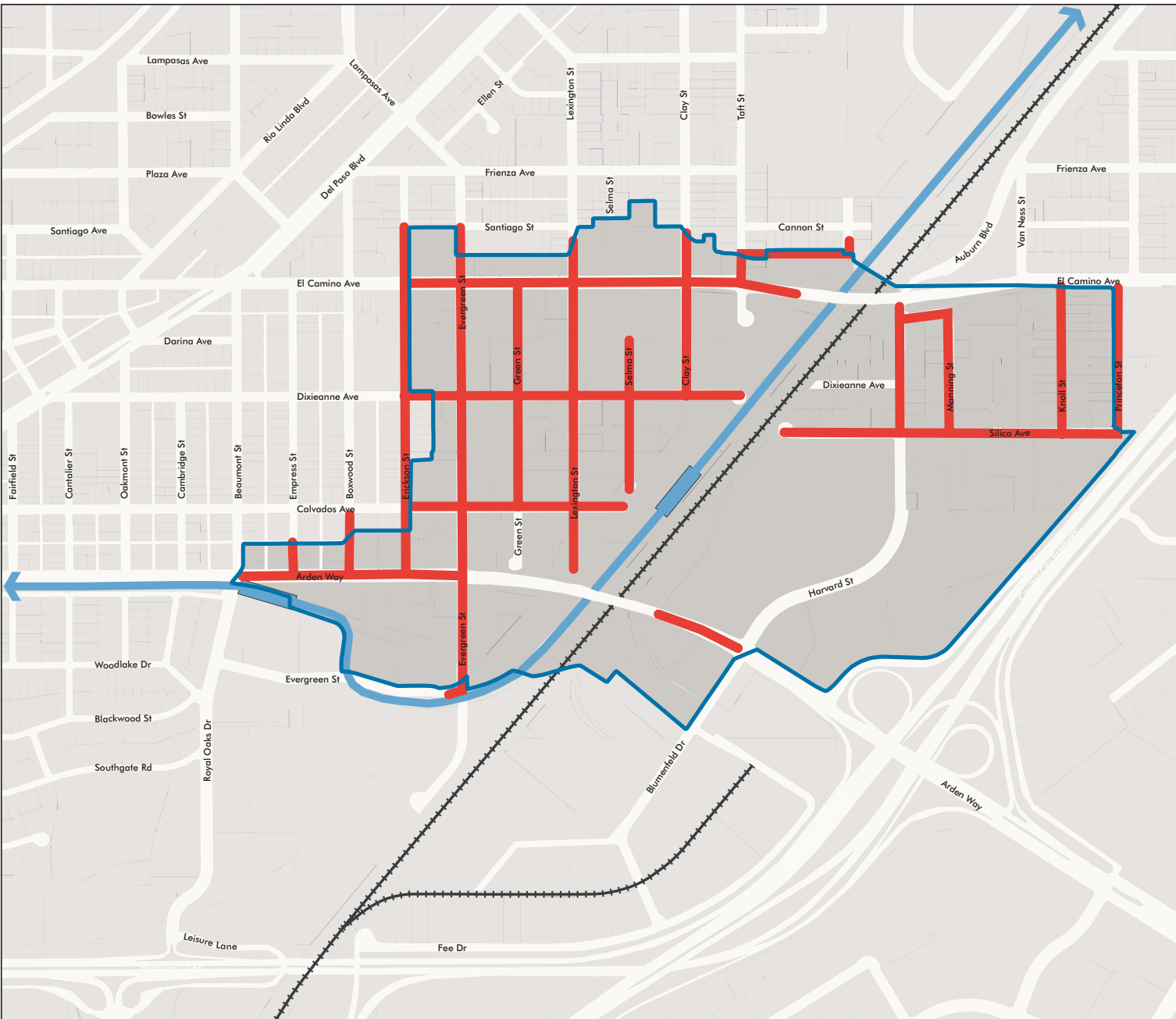


Figure 14  
Street Light Improvements



**M I G**  
MOORE IACOFANO GOITSMAN INC.  
805 Hearst Avenue  
Berkeley, CA 94710  
910.845.7549



### **2.1.5 Traffic Controls & Traffic Calming**

There are currently seven traffic signals located along the perimeter of the plan area. Intersections within the plan area predominately have two-way stop control. Undulations are currently installed along Evergreen Street, between Dixieanne Avenue and Calvados Avenue.

Full implementation of the proposed land use plan is not anticipated to warrant modifications to traffic controls. However, traffic calming devices on the local streets between Arden Way and El Camino Avenue will encourage drivers to maintain vehicles that are appropriate for this neighborhood.

The Long Term Development Plan land uses were developed to encourage pedestrian, bicycle, and transit use. As the plan area develops and land uses are modified to be consistent with the proposed plan, changes in internal traffic circulation are anticipated. Furthermore, the relocation of the RT transfer station (as discussed below) may warrant additional traffic control considerations to enhance pedestrian and bicyclist safety and mobility.

Due to the somewhat linear nature of the existing and proposed streets, it is likely that traffic calming devices will be necessary to ensure vehicle speeds are kept at an appropriate level. Below is a listing of traffic calming devices recommended for the plan area. These devices, shown in Figure 15, were developed based upon projected traffic volumes, knowledge of the plan area, and professional judgment.

- **Traffic Circles**

Traffic circles are proposed for several internal minor street intersections throughout the plan area. These devices will promote lower speeds and traffic volumes while helping to deter through traffic.

- **Bulb-Outs/Pedestrian Islands**

Supplemental traffic calming devices are proposed for several of the plan area roadways. Specifically, bulb-outs and/or pedestrian islands are proposed at locations of mid-block pedestrian crossings to promote lower vehicle speeds and to enhance pedestrian circulation and overall safety. City staff has indicated bulb-outs are to be monolithic and landscaping in the bulb-outs are to allow adequate stopping sight distance for vehicles.



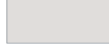


It should be noted bulb-outs are not proposed at intersections. Implementation of all traffic calming devices will be subject to review and approval by the Traffic Engineering Services of the Department of Transportation.

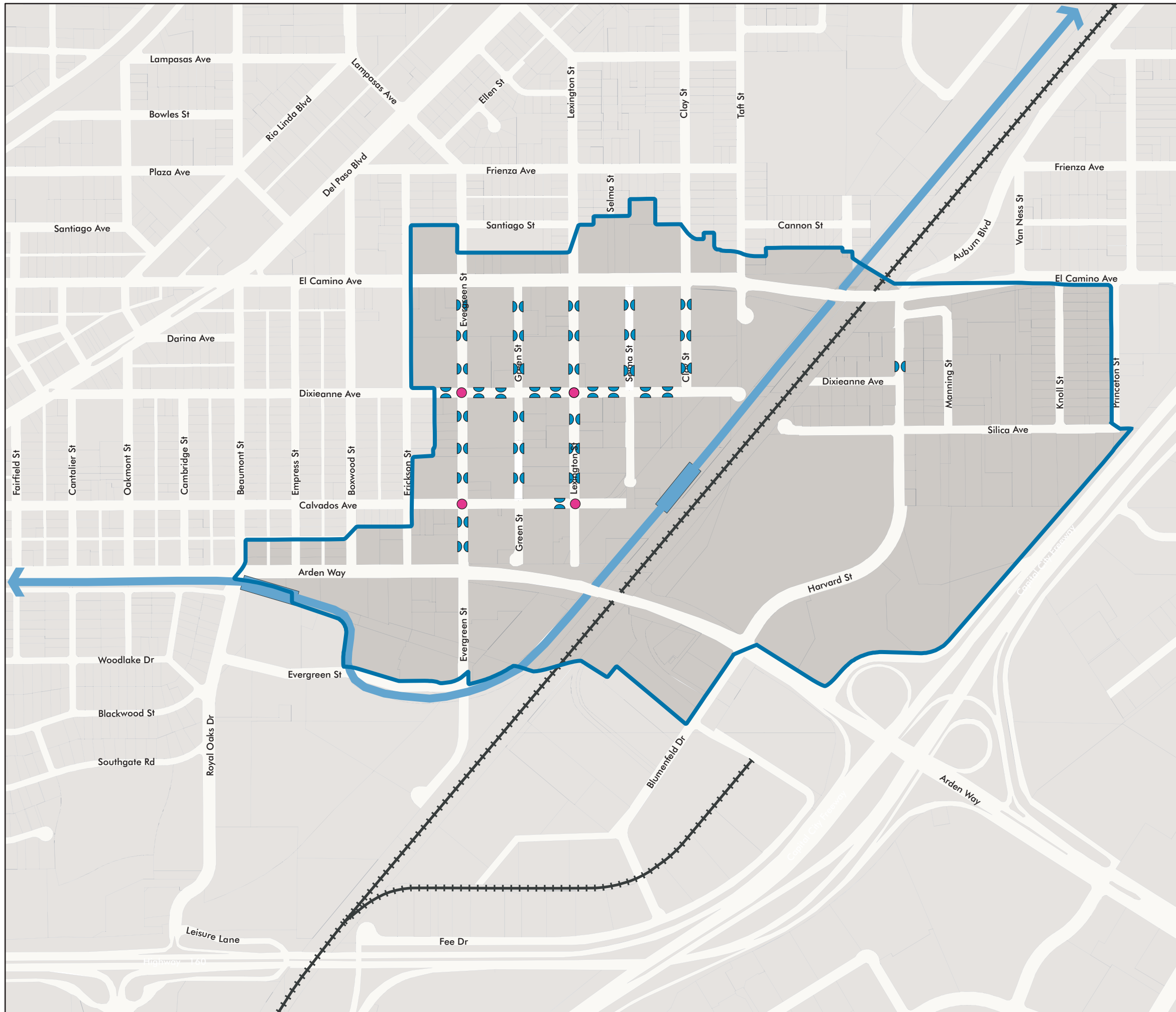
### **2.1.6 Parking**

On-street parking is generally allowed on streets within the project area. Although the implementation of the proposed land use plan changes only a few roadway classifications, the application of the City's street standards to the plan area roadways will include on-street parking to certain segments and classifications. In summary, on-street parking will be permitted on all roadways except Arden Way.

# Traffic Calming Devices

## Swanston Station Transit Village Plan

- LEGEND**
-  Study Area Boundary
  -  Study Area
  -  Area Outside Study Area
  -  Bulb Out
  -  Traffic Circle



**Figure 15**



### **2.1.7 Bicycle and Pedestrian Facilities**

The City's *Pedestrian Friendly Street Standards* require that on-street bike lanes be provided on all collector and arterial roadways. On-street bike lanes are currently provided along Harvard Street south of Silicon Avenue, as constructed to comply with current City standards. In support of the plan, a plan for pedestrian and bicycle facilities within the plan area were also developed. Those facilities are shown in Figure 16.

A critical goal of the transit village plan is to enhance pedestrian activity, encourage transit use, and decrease reliance on automotive travel. There is currently a significant employment area east of the Union Pacific Railroad (UPRR) tracks while the Swanston Light Rail Station and neighborhoods are on the west side of the UPRR tracks. In addition, the only existing pedestrian facilities that cross the tracks are the bridge at E. Camino Avenue and the bridge at Arden Way. Neither of these bridges provides convenient access between the employment center and the light rail Station. As a result, the City and Regional Transit have planned construction of a pedestrian bridge from the light rail station to the east across the UPRR tracks. In the past, lack of funding and issues regarding locating the east end of the pedestrian bridge have resulted in it being not being implemented. However, the need for the bridge is not diminished with the Swanston Transit Village Plan. As a result, the Long Term Development plan includes a bridge across the Light Rail and UPRR tracks. An estimate of the cost of the bridge is included in Table 5 in Section 2.1.9.

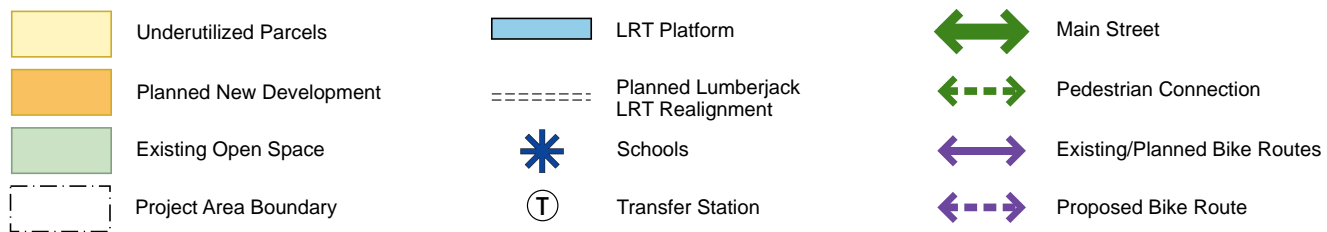
Compliance with the Americans with Disabilities Act (ADA) is a high priority for the City. All new roadway improvements constructed in the City, including curbs, gutters, and sidewalk must comply with ADA requirements.

The Specific Plan proposes bicycle facilities that are not consistent with the *Sacramento City and County 2010 Bikeway Master Plan*. That plan includes an on-street bikeway on Dixie Avenue between Beaumont Street and Lexington Street. However, the cross section proposed for Dixie Avenue does not include Class II bike lanes, as it is proposed to remain a local residential street. It is recommended that Dixie Avenue be designated as a Class III bike route.

### **2.1.8 Public Transit**

The proposed plan area includes a bus transfer station south of the existing Swanston Station Light Rail Station. The transfer station is intended to replace the existing transfer station at the Arden/Del Paso Light Rail Station. Buses will enter the transfer station from the south, via a new access road. The access road is likely to extend east from the south end of Evergreen Street and turn parallel to the existing light rail tracks before entering the transfer station. For this report, it is assumed the facilities and access road required for the transfer station will be provided by Regional Transit.





**Figure 16**  
**Pedestrian and Bicycle Circulation**  
 Source: MIG

**Pedestrian and Bicycle Circulation Framework**

### **2.1.9 Opinion of Street Improvement Construction Costs**

This section documents estimates of probable construction costs for roadway improvements. Construction cost estimates were developed for the recommended street sections, described above.

For existing streets, it is assumed a portion of the existing paved areas will be salvaged and become part of the new roadway. Table 5 presents the opinion of street improvement and street lighting costs, construction costs and Table 6 indicates the cost of off-street bike and pedestrian ways. It should be noted that these are planning level estimates. Roadway construction costs account for areas with existing curb, gutter, and sidewalk. The location of existing street lights will affect the number of new street lights needed. Detail sheets for roadway and street lighting costs are included in Appendix C. The following should be noted with regard to these estimates:

- The estimates were developed based upon planning level of detail and include a significant contingency (30%) to account for unforeseen factors during engineering and construction.
- It is assumed existing paving is salvageable. Assuming total replacement of existing streets would result in cost estimates that will likely be unnecessarily inflated.
- Construction unit prices vary, and a wide range of values could be assumed.
- A range of cross sections is applicable to the roadways. Changing the assumptions for roadway cross sections will likely result in differences in estimated costs.

The majority of street improvements in the plan area are on local and collector streets. As a result, these roadways will be improved as development occurs and will be constructed by the developer of adjacent parcels<sup>4</sup>. Exceptions to this include street improvements to be constructed in conjunction with underground improvements, and/or constructed to encourage development. Other exceptions are improvements that are included in the cost of a larger project. One example would include round corners that are ADA compliant and that are constructed as part of a project to construct new signals.

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<sup>4</sup> Notable exceptions are developments that consist of just one or two residential dwelling units without any discretionary entitlements. For these developments, construction of street improvements is not required.

**Table 5 - Opinion of Probable Construction Costs: Roadways**

<b>Roadway and Street Lighting</b>			
<b>Recommended Improvement</b>	<b>Roadway</b>	<b>Street Lights</b>	<b>Total</b>
<b>STRATEGIC PLAN</b>			
Arden Way (Empress to Green)	\$ 652,326	\$ 63,757	\$ 716,100
Calvados (Erickson to Transit Ctr)	\$ 496,470	\$ 85,297	\$ 581,800
Dixieanne Ave (Erickson to UPRR)	\$ 212,040	\$ 117,300	\$ 329,400
Evergreen St. (El Camino to Arden)	\$ 197,220	\$ 109,299	\$ 306,600
<b>Subtotal for Strategic Plan</b>			<b>\$ 1,933,900</b>
<b>LONG TERM PLAN</b>			
Arden Way (Beumont to Empress)	\$ 252,840	\$ 33,600	\$ 286,500
Arden Way (Green to UPRR)	\$ 273,067	\$ -	\$ 273,100
Arden Way (east of bridge)	\$ 118,835	\$ 45,909	\$ 164,800
Beaumont St	\$ -	\$ 20,060	\$ 20,100
Boxwood St	\$ -	\$ 20,060	\$ 20,100
Calvados (Beaumont St. to Erickson)	\$ 456,000	\$ -	\$ 456,000
Clay St (El Camino to Dixieanne)	\$ 114,000	\$ 44,062	\$ 158,100
Clay St (north boundary to El Camino)	\$ 78,375	\$ 17,598	\$ 96,000
Dixieanne Ave (UPRR to Harvard)	\$ 313,500	\$ -	\$ 313,500
Dixieanne Ave (west of Harvard)	\$ 370,500	\$ 33,600	\$ 404,100
El Camino Ave (Clay to Taft)	\$ 465,208	\$ 33,600	\$ 498,900
El Camino Ave (Erickson to Evergreen)	\$ 232,604	\$ 30,864	\$ 263,500
El Camino Ave (Evergreen to Lexington)	\$ 484,592	\$ 30,864	\$ 515,500
El Camino Ave (Lexington to Clay)	\$ 542,743	\$ 30,864	\$ 573,700
Empress St	\$ -	\$ 20,060	\$ 20,100
Erickson St	\$ -	\$ 44,678	\$ 44,700
Evergreen St. (Royal Oaks to Arden)	\$ -	\$ 43,755	\$ 43,800
Evergreen St. (Santiago to El Camino)	\$ 96,900	\$ 23,753	\$ 120,700
Green St (Calvados to end)	\$ 102,600	\$ 24,368	\$ 127,000
Green St (Dixieanne to Calvados)	\$ -	\$ 44,062	\$ 44,100
Green St (El Camino to Dixieanne)	\$ -	\$ 44,062	\$ 44,100
Harvard St (El Camino to Silica)	\$ 1,023,000	\$ 52,679	\$ 1,075,700
Harvard St (Silica to Arden)	\$ -	\$ 111,761	\$ 111,800
Knott St	\$ 513,000	\$ 56,987	\$ 570,000
Lexington (Calvados to end)	\$ 171,000	\$ 25,599	\$ 196,600
Lexington St (Dixieanne to Calvados)	\$ 185,250	\$ 44,062	\$ 229,400
Lexington St (El Camino to Dixieanne)	\$ 248,235	\$ 44,062	\$ 292,300
Lexington St (Santiago to El Camino)	\$ -	\$ 13,290	\$ 13,300
Manning St	\$ 167,400	\$ 62,526	\$ 230,000
Merle Ave	\$ 171,000	\$ -	\$ 171,000
Princeton St	\$ 666,000	\$ 55,756	\$ 721,800
Selma St (north of Dixieanne)	\$ 85,500	\$ 23,137	\$ 108,700
Selma St (north of El Camino)	\$ 342,000	\$ 26,214	\$ 368,300
Selma St (south of Dixieanne)	\$ 370,500	\$ -	\$ 370,500
Silica Ave (end to Harvard)	\$ 277,500	\$ 48,986	\$ 326,500
Silica Ave (Harvard to Princeton)	\$ 1,209,000	\$ 85,913	\$ 1,295,000
Taft St	\$ 114,000	\$ -	\$ 114,000
<b>Subtotal for Long Term Plan</b>			<b>\$ 10,683,300</b>
<b>Subtotal Roadways</b>			<b>\$ 12,617,200</b>
<b>Other Improvements</b>			
<b>Recommended Improvement</b>	<b>Quantity</b>	<b>Unit Cost</b>	<b>Total</b>
<b>Bicycle/Pedestrian</b>			
Various Segments	9820	\$ 170	\$ 1,669,400
Pedestrian Bridge	1	\$ 3,394,000	\$ 3,394,000
<b>Subtotal for Bicycle/Pedestrian</b>			<b>\$ 5,063,400</b>
<b>Traffic Calming</b>			
Traffic Circles	4	\$ 30,000	\$ 120,000
Bulb Outs	13	\$ 25,000	\$ 325,000
<b>Subtotal for Traffic Calming</b>			<b>\$ 445,000</b>
<b>TOTAL</b>			<b>\$18,125,600</b>

Costs do not include right-of-way acquisition.

**Table 6 - Opinion of Probable Construction Costs: Off-street Bike and Pedestrian Facilities**

<b>Off-Street Bicycle and Pedestrian Facilities</b>																																																														
Surface Improvements																																																														
<b>Opinion of Probable Cost for Typical Street Improvements Per Foot</b>																																																														
			<u>Segment Data</u>																																																											
			Segment length	1	feet																																																									
			Total width of new construction	16	feet																																																									
			New paving width	12	feet																																																									
			Segment length	3	Inches of AC																																																									
			Segment length	6	Inches of AB																																																									
			Shoulder width	4	feet																																																									
ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT																																																									
<b>Surface Costs:</b>																																																														
1	Mobilization, Clearing & Grubbing	16.00	SF	\$ 0.50	\$ 8.00																																																									
2	AC	0.23	Ton	\$ 110.00	\$ 24.75																																																									
3	AB	0.45	Ton	\$ 50.00	\$ 22.50																																																									
4	Decomposed Granite	0.01	Ton	\$ 50.00	\$ 0.63																																																									
<b>TOTAL CONSTRUCTION COST PER CL FOOT \$</b>					<b>55.88</b>																																																									
<b>TOTAL CONSTRUCTION COST PER FOOT: \$ 100</b> Street Lighting: \$ - Contingency 30% \$ 30 PSE&I 35% \$ 40 <hr/> <b>TOTAL PROBABLE ROADWAY CONSTRUCTION COST PER FOOT: \$ 170</b>																																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parcel</th> <th style="text-align: center;">Length</th> <th style="text-align: center;">Cost (\$)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">I</td><td style="text-align: center;">330</td><td style="text-align: right;">\$ 56,100</td></tr> <tr><td style="text-align: center;">J</td><td style="text-align: center;">860</td><td style="text-align: right;">\$ 146,200</td></tr> <tr><td style="text-align: center;">K</td><td style="text-align: center;">480</td><td style="text-align: right;">\$ 81,600</td></tr> <tr><td style="text-align: center;">L</td><td style="text-align: center;">1390</td><td style="text-align: right;">\$ 236,300</td></tr> <tr><td style="text-align: center;">M</td><td style="text-align: center;">320</td><td style="text-align: right;">\$ 54,400</td></tr> <tr><td style="text-align: center;">P</td><td style="text-align: center;">330</td><td style="text-align: right;">\$ 56,100</td></tr> <tr><td style="text-align: center;">Q</td><td style="text-align: center;">330</td><td style="text-align: right;">\$ 56,100</td></tr> <tr><td style="text-align: center;">S</td><td style="text-align: center;">330</td><td style="text-align: right;">\$ 56,100</td></tr> <tr><td style="text-align: center;">T</td><td style="text-align: center;">340</td><td style="text-align: right;">\$ 57,800</td></tr> <tr><td style="text-align: center;">U</td><td style="text-align: center;">1100</td><td style="text-align: right;">\$ 187,000</td></tr> <tr><td style="text-align: center;">Z</td><td style="text-align: center;">380</td><td style="text-align: right;">\$ 64,600</td></tr> <tr><td style="text-align: center;">AA</td><td style="text-align: center;">290</td><td style="text-align: right;">\$ 49,300</td></tr> <tr><td style="text-align: center;">BB</td><td style="text-align: center;">480</td><td style="text-align: right;">\$ 81,600</td></tr> <tr><td style="text-align: center;">GG</td><td style="text-align: center;">880</td><td style="text-align: right;">\$ 149,600</td></tr> <tr><td style="text-align: center;">HH</td><td style="text-align: center;">380</td><td style="text-align: right;">\$ 64,600</td></tr> <tr><td style="text-align: center;">LL</td><td style="text-align: center;">390</td><td style="text-align: right;">\$ 66,300</td></tr> <tr><td style="text-align: center;">MM</td><td style="text-align: center;">1210</td><td style="text-align: right;">\$ 205,700</td></tr> <tr><td style="text-align: center;">TOTAL</td><td style="text-align: center;">9820</td><td style="text-align: right;">\$ 1,669,400</td></tr> </tbody> </table>						Parcel	Length	Cost (\$)	I	330	\$ 56,100	J	860	\$ 146,200	K	480	\$ 81,600	L	1390	\$ 236,300	M	320	\$ 54,400	P	330	\$ 56,100	Q	330	\$ 56,100	S	330	\$ 56,100	T	340	\$ 57,800	U	1100	\$ 187,000	Z	380	\$ 64,600	AA	290	\$ 49,300	BB	480	\$ 81,600	GG	880	\$ 149,600	HH	380	\$ 64,600	LL	390	\$ 66,300	MM	1210	\$ 205,700	TOTAL	9820	\$ 1,669,400
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TOTAL	9820	\$ 1,669,400																																																												

## **2.2 Utility Improvements**

The existing utility infrastructure in the proposed project area was presented to the City of Sacramento in a previous report entitled “Baseline Infrastructure Conditions, Swanston Station Transit Village”, dated July 20, 2006. The report discussed the condition of the existing utility infrastructure which provides service for storm drainage, sanitary sewer, and potable water supply in the Project Area for existing land uses.

The purpose of this report is to evaluate the existing facilities relative to the proposed changes to the land uses, and determine if improvements are necessary to comply with new City standards, or if larger facilities are necessary to provide service to the area to support the proposed land uses.

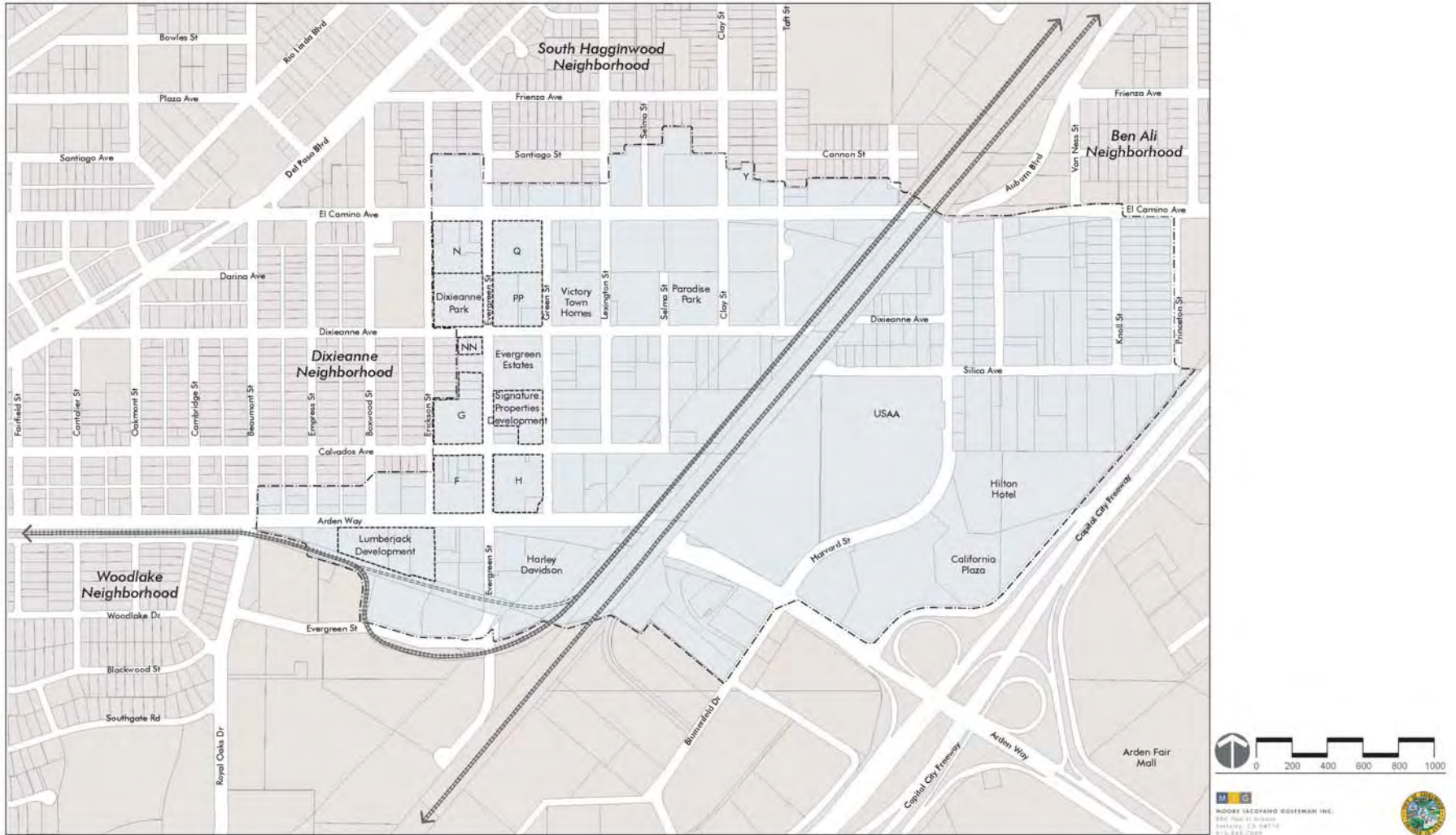
The flows resulting from the land use plans for the Existing, Strategic Development, Development West of Tracks only, and Long Term Development scenarios will be presented in the following sections. The existing flows are based on current zoning conditions. The Strategic Development scenario plans for the development of parcels F, G, H, N, Q, NN, and PP only, in addition to the Lumberjack and Signature Properties developments, which are shown on Figure 17. The long term condition is based on the proposed zoning throughout the entire project area shown in Figure 4. The labels for each of these parcels used in flow calculations for each utility are shown in Figure 18. The cost basis for the Opinion of Probable Construction Costs for utility improvements presented in this report is May 2006.

## **2.3 Storm Drain Facilities**

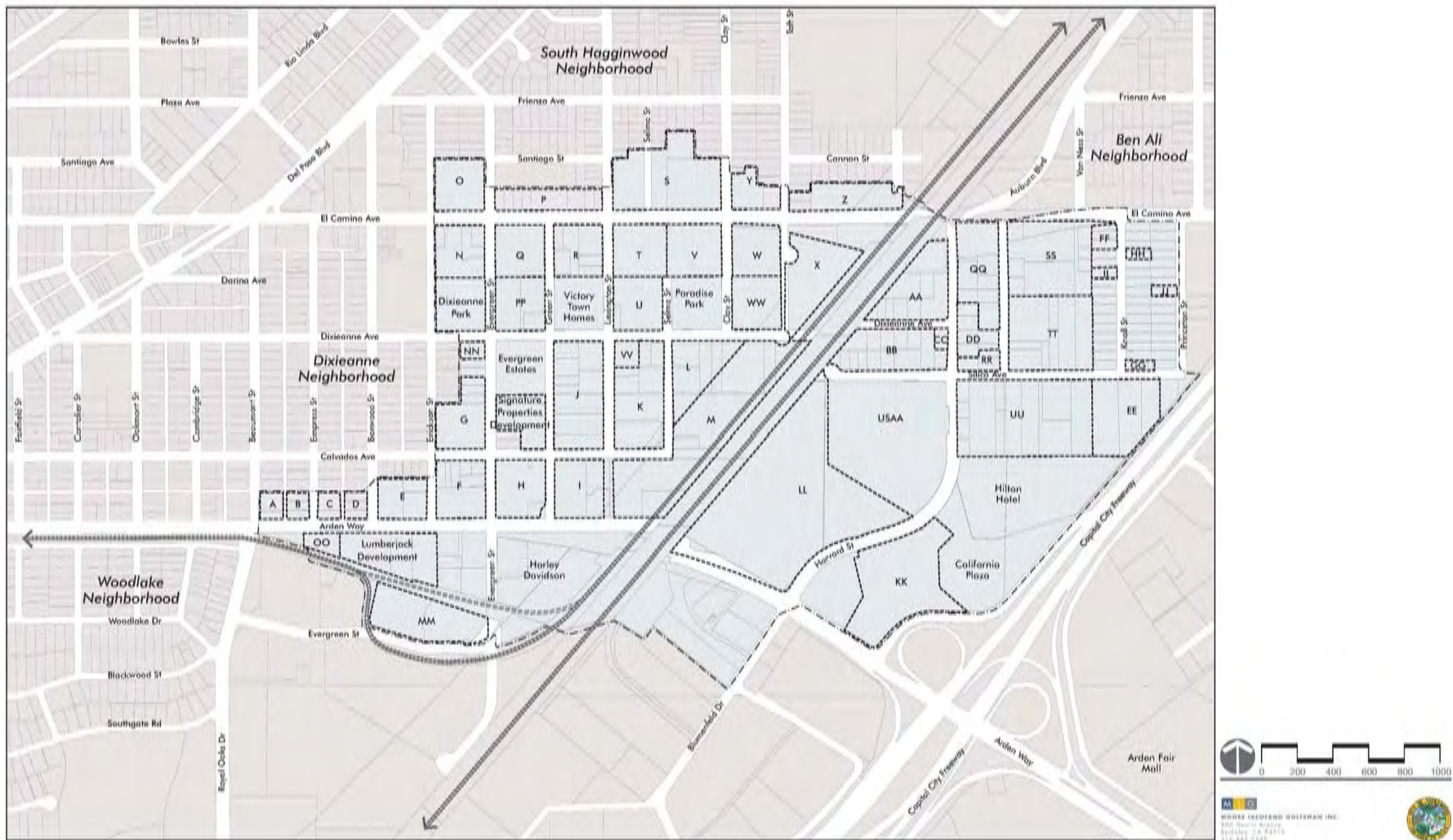
The project site lies within two City of Sacramento storm drainage basins: Basins 151 and 152. Aside from the 5.7 acre development site “KK”, the rest of the project area resides in Basin 151. Therefore, impacts of the development on Basin 152 will be considered insignificant.

The existing infrastructure report identified storm drainage deficiencies including road side ditches containing debris, damaged driveway culverts, and storm drain inlets covered with debris. Additionally, a master plan report for Basin 151, completed by West Yost & Associates (WYA) in 1996, indicates that the existing storm drain system for Basin 151 does not meet current City standards. The report identifies areas where flooding is predicted for the 10-year and 100-year storm events.

Estimated storm water flow for the proposed redevelopment is based on the Sacramento Method per the City Design and Procedures Manual Section 11.31. A summary of storm water flows for the 10-year and 100-year events are shown for Existing, Strategic Development, Development West of the Tracks only, and Long Term Development scenarios in Table 7 below. Detailed calculations are provided in Appendix D. Existing and proposed land use data were provided by MIG. Values for the percent impervious of each land use were determined per the City of Sacramento Drainage Manual Chapter 5 Table 5-3.



**Figure 17 – Strategic Development Scenario Parcel Labels**



**Figure 18 – Long Term Development Scenario Parcel Labels**

**Table 7 - Storm Drain System Flows – Changes from Existing Conditions**

<b>Development Scenario</b>	<b>Change in Peak 10yr Runoff (cfs)</b>	<b>Change in Peak 100yr Runoff (cfs)</b>
Strategic Development	1.12	1.22
Development West of Tracks	-2.27	-5.02
Long Term Development	-0.81	-3.74

Notes for Table 7:

- (1) Structures are to be protected from the 100-yr storm event per City of Sacramento standards.
- (2) Storm sewer elevations shall not be more than 6-inches above the rim for the 10-yr. storm per City of Sacramento standards.
- (3) Acreages analyzed include only parcels undergoing modified zoning, and do not include roadways.

### **2.3.1 Basin 151**

The 1996 Master Plan provided to the City recommends conveyance and storage basin improvements described in Alternative 3 of the report to improve flooding conditions in this basin. Our analysis shows an insignificant increase in storm water runoff due to Strategic Development, and slight decreases in runoff due to Long Term Development. The storm water conveyance piping recommended in Figure 19 represents improvements similar to those suggested in the 1996 master plan, including some entirely new catch basins and piping on Dixie Avenue, Clay Street, Silica Avenue, and Knoll Street. These new areas of piping are required to satisfy the City Standard requiring gutter flow length to be less than 400 linear feet. Few changes were made to the Master Plan recommendations because additional development associated with this Project causes negligible impacts to the system already modeled by WYA.

**Figure 20** shows improvements that are recommended for the Strategic Development scenario. Improvements for the Strategic Development scenario match improvements for the Long Term Development scenario but are limited to pipes that are adjacent to strategic parcels and pipes that are downstream of strategic parcels, up to Royal Oaks Drive.

The report recommends two storage basins which are within the project area: 1) the Green Street Basin located near Green Street and Calvados Avenue; and 2) the Intertrack Basin, located near the railroad tracks. The proposed development does not interfere with the construction of the Intertrack basin; however, the Green Street Basin is not included in the Long Term Development scenario. If the Long Term Development scenario is realized within the project area, storm water detention equal in size to the previously proposed Green Street detention basin will be necessary. In order to obtain storm water detention without modifying zoning plans, subsurface detention systems are recommended for this development. For cost estimating purposes, a budgetary cost per cubic yard for the LandSaver detention system available from Hancor was used. This system may be installed beneath parking lots in the project area.

Additional improvements outside of the project area will be necessary in Basin 151 as recommended by the 1996 WYA report. Some improvements have already been made, such as the re-construction of Sump 151 and the construction of the “East Basin” detention system. However, if storm water detention is put into place in the proposed project area to replace the Green Street Basin, no additional drainage improvements will be required in downstream facilities within the Basin beyond those recommended in the Master Plan. Therefore, there are no costs associated with required downstream improvements included in the following cost estimates.



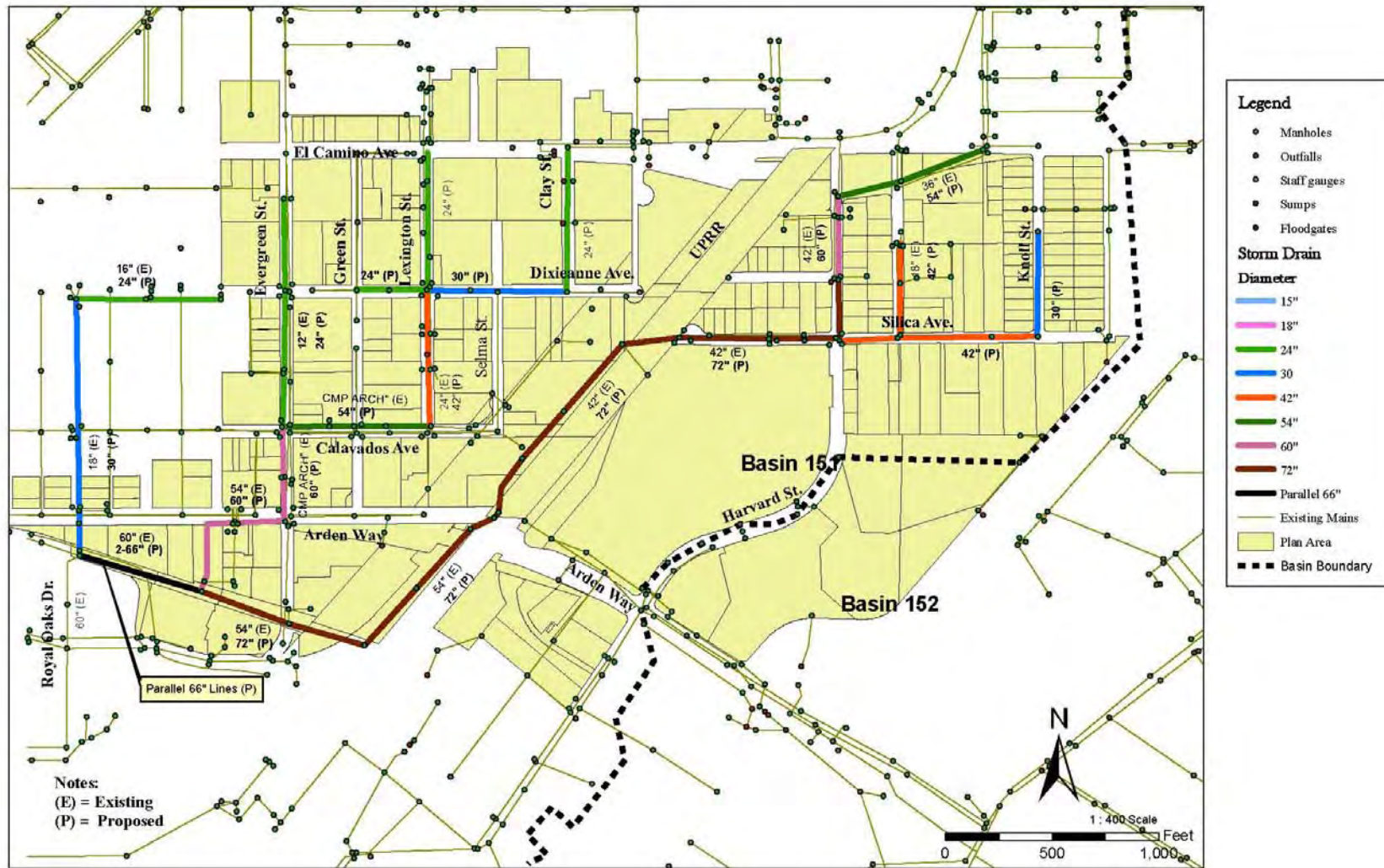


Figure 19 - Storm Drain Improvements - Long Term Development

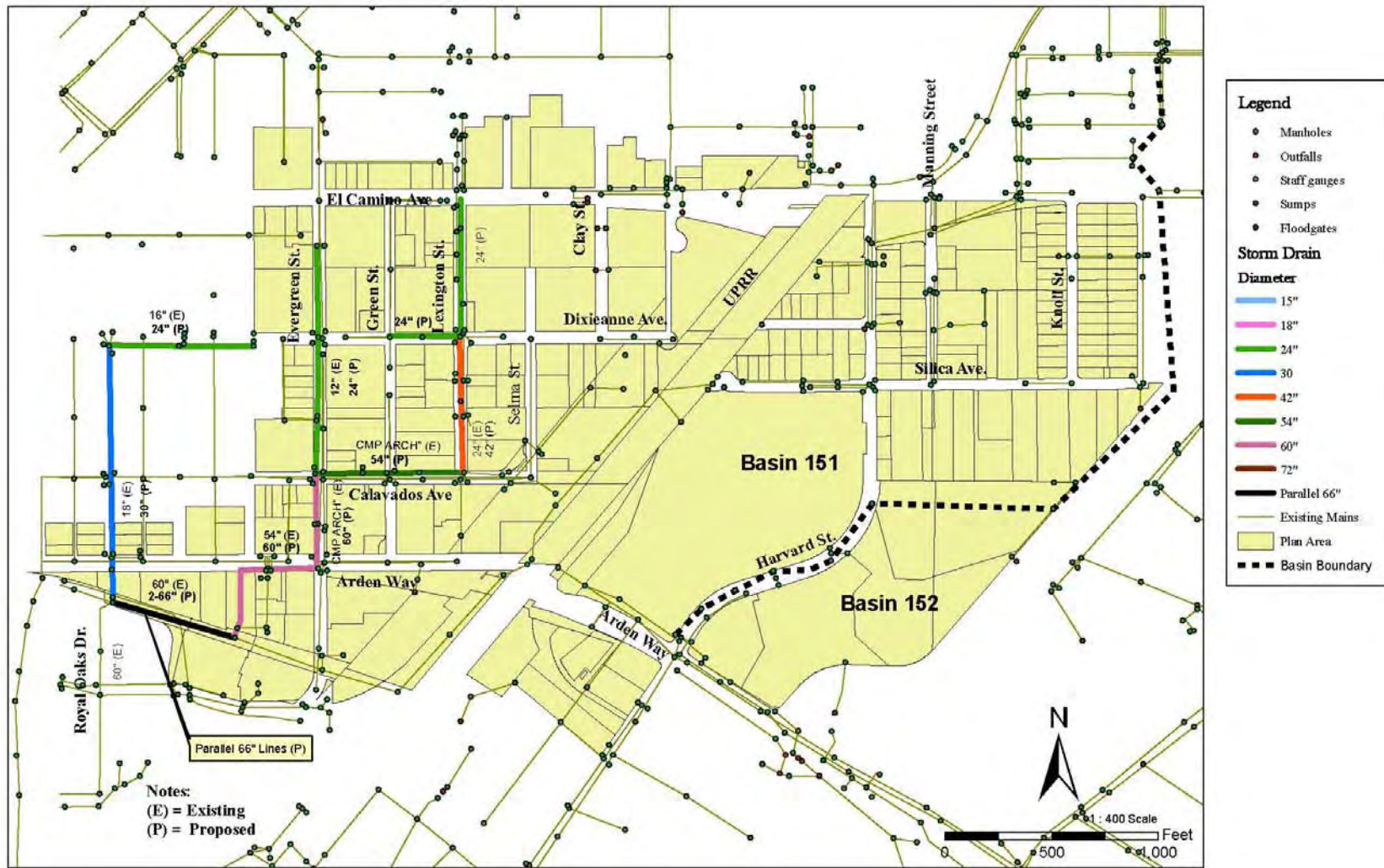


Figure 20 - Storm Drain Improvements - Strategic Development

### **2.3.2 Recommended Improvements**

The following opinion of probable construction cost is based on the complete re-construction of the current drainage system for the Long Term Development scenario, including new catch basins and manholes. This is a conservative approach, which assumes manhole inverts would have to be adjusted due to slope changes required to carry increased flow rates. Recommended improvements should be confirmed by modeling the system considering changes to land uses due to the Project using the City SSWMM model. However, preliminary calculations suggest that effects of the Project are negligible and should not affect the master plan, which has many phases already constructed downstream of the Project. Construction of the recommended improvements in the Project area should be coordinated with other phases of the drainage system improvements in Basin 151 to ensure that the proper downstream capacity is in place to handle the increased flows conveyed from upstream improvements.

### **2.3.3 Opinion of Probable Construction Costs**

The approximate costs of the recommended improvements for the storm drain collection system are provided below. Additional improvements which are beyond the current project area boundary are recommended in the 1996 Master Plan. Those costs are not included in Table 8, Table 9, and Table 10 below. The unit costs provided are based on the following:

Pipe Cost – cost per lineal foot for installation of pipe, including trenching and backfilling. Assumes reinforced concrete pipe (RCP). Street construction is estimated elsewhere in the report.

Catch Basins – cost per each basin, including excavation and backfilling, assumes spacing of approximately 300 feet.

Manholes – cost per each manhole, including excavation and backfilling, assumes spacing of approximately 300 feet.

Intertrack Storage Basin Improvement - lump sum cost as provided in 1996 WYA report, adjusted to May 2006 using the index provided by the California Department of General Services. Land acquisition cost excluded.

Additional Required Detention – per cubic yard, including excavation, backfill, and resurfacing.

**Table 8 - Opinion of Probable Construction Cost: Storm Drain - Strategic Development**

<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Cost</b>	<b>Total</b>
24-inch Main	2759	LF	\$115	\$317,300
30-inch Main	1207	LF	\$140	\$169,000
42-inch Main	637	LF	\$200	\$127,400
54-inch Main	693	LF	\$270	\$187,100
60-inch Main	1115	LF	\$310	\$345,700
66-inch Main	1188	LF	\$350	\$415,800
72-inch Main	0	LF	\$390	\$0
Drop Inlets	50	EA	\$3,000	\$150,000
Manholes	25	EA	\$5,000	\$125,000
Subtotal:				\$1,837,300
30% Contingencies:				\$551,200
35% Engineering and Inspection:				\$643,100
Total:				\$3,031,600

**Table 9 - Opinion of Probable Construction Cost: Storm Drain - West of Tracks**

Item	Quantity	Unit	Cost	Total
24-inch Main	3417	LF	\$115	\$393,000
30-inch Main	1860	LF	\$140	\$260,400
42-inch Main	637	LF	\$200	\$127,400
54-inch Main	693	LF	\$270	\$187,100
60-inch Main	1115	LF	\$310	\$345,700
66-inch Main	1188	LF	\$350	\$415,800
72-inch Main	2700	LF	\$390	\$1,053,000
Drop Inlets	76	EA	\$3,000	\$228,000
Manholes	38	EA	\$5,000	\$190,000
Intertrack Storage Basin <sup>1</sup>	1	LS	\$81,500	\$81,500
Subsurface Detention Volume	4500	CY	\$190	\$855,000
Subtotal:				\$4,136,900
30% Contingency:				\$1,241,100
35% Engineering and Inspection:				\$1,447,900
Total:				\$6,825,900

**Table 10 - Opinion of Probable Construction Cost: Storm Drain - Long Term**

Item	Quantity	Unit	Cost	Total
24-inch Main	3417	LF	\$115	\$393,000
30-inch Main	2350	LF	\$140	\$329,000
42-inch Main	2005	LF	\$200	\$401,000
54-inch Main	1407	LF	\$270	\$379,900
60-inch Main	1506	LF	\$310	\$466,900
66-inch Main	1188	LF	\$350	\$415,800
72-inch Main	3986	LF	\$390	\$1,554,500
Drop Inlets	104	EA	\$3,000	\$312,000
Manholes	52	EA	\$5,000	\$260,000
Intertrack Storage Basin <sup>1</sup>	1	LS	\$81,500	\$81,500
Subsurface Detention Volume	4250	CY	\$190	\$807,500
Subtotal:				\$5,401,100
30% Contingency:				\$1,620,300
35% Engineering and Inspection:				\$1,890,400
Total:				\$8,911,800

## **2.4 Sanitary Sewer Facilities**

Portions of the project area are served by either the City of Sacramento or County Sanitation District 1 (CSD-1). Areas west of the Union Pacific Railroad tracks are within the City service area, and areas east of the railroad are in the CSD-1 service area.

Though other portions of the City collection system are combined storm and sanitary sewer systems (CSSs), the systems are separate within this project area.

The existing infrastructure evaluation identified problems such as infiltration and inflow, pipe surcharging, and illegal taps in the existing collection system. A lack of capacity in some of the existing sewer pipes within the project area was confirmed based on estimates of existing peak flows compared to maximum pipe capacities at minimum slopes (see Appendix F). Additionally, existing pipes less than the current City standard of 8-inch minimum were identified in the existing project area that will need to be replaced if development occurs.

The City of Sacramento and CSD-1 have different methods for determining sewage flows for proposed development. The differences between the two service districts include differences in unit flow rates, peaking factors, and calculating infiltration and inflow quantities. The parcels within each service district were evaluated based on the proposed redevelopment land uses and the flows estimated for both the City and CSD-1 portions of the study area.

#### **2.4.1 City of Sacramento Service Area**

The unit flows used for the City service area were based on the City design standard, Section 9.1 of the Design and Procedures Manual. For existing residential areas, the flows were estimated based on gallons per capita per day and persons per dwelling units. Existing commercial and industrial area flows were based on the City of Sacramento standard flow-by-acres curve (Section 9, Plate 1 Design and Procedures Manual). Total flows were calculated for each parcel within the project area for each development scenario, found in Appendix E. For the proposed development, a conservative approach was taken. All proposed RMX-TO parcels were calculated based on the proposed number of units, at 3 persons per unit (Design and Procedures Manual 9.1.1.3). All proposed C-2-TO parcels were assumed to include the proposed number of residential units at 3 persons per unit as well as function fully as commercial parcels. Therefore, these parcels are considered to produce commercial flows per unit area for the entire area of the parcel in addition to the residential flow. A summary of the total increase in sewer flows for each development scenario is provided below in Table 12.

In addition to determining overall daily average flow increases in the project area, sewer flows in the project area were applied to the existing gravity sewer system to determine the adequacy of the existing pipe sizes. Infiltration of 500 gpd per inch-diameter per mile for the Sacramento Zone was used per the City design standard. A depth-to-diameter ratio of 0.7 was applied to each pipe for maximum capacity calculation. Peaking factors were calculated at various locations in the transmission system per the City standard, Plate 9-2.

Pipe sizes were evaluated based on minimum slope, since existing pipe slopes were not obtained for this evaluation. Table 11 below summarizes calculations used to determine the maximum capacity for each pipe size. In order to estimate flows carried by each pipe in the affected areas of the system, assumptions about which parcels were contributing to each pipe were made without detailed connection data. Additionally, estimates of sewer flow contribution to these pipes from areas upstream that are not part of the project area were made, assuming that each residential parcel represents a 4 person household, and using the standard flow rates per unit area for commercial and industrial parcels. Detailed calculations to determine flow rates in the system pipes for each development scenario are provided in Appendix F.

There were some pipes in the City of Sacramento area at the West limit of the Project that were slightly affected by development that had an existing 6" diameter. These pipes were not recommended for upgrading because of the minimal additional flow due to development and because they lie on streets that are mostly outside of the project area where other improvements will likely not occur.

**Table 11 - Gravity Sewer Pipe Capacities**

Pipe Diameter (in)	Hydraulic Radius (ft) @ d/D = 0.7	Slope (ft/ft)	Max Pipe Flow(cfs)	Max Pipe Flow(gpd)
6	0.15	0.005	0.33	213500
8	0.20	0.0035	0.60	386500
12	0.30	0.0020	1.33	862,300
18	0.44	0.0012	3.05	1,968,600

Based on the criteria above, the proposed sewer main improvements are shown in Figure 21 (Long Term Development) and Figure 22 (Strategic Development). The West of Tracks development area affects the City service area only, shown on the West side of the railroad tracks in Figure 21. Recommended improvements include replacing sewer mains as recommended in Appendix F, as well as upgrading minor pipes within the project area that are less than 8-inch in diameter to meet City standards.

**2.4.2 CSD-1 Service Area**

The unit flows used for the CSD-1 service area (all parcels east of the railroad tracks) were based on the CSD-1 design standard. For residential and mixed-use areas, the flows were estimated based on gallons per day per Equivalent Single-Family Dwelling Unit (ESD) and ESD per parcel. Commercial and industrial area flows were based on 1,865 gallons per day per acre. The same conservative approach used to calculate sewage flows from the RMX-TO and C-2-TO zones that was used for the City of Sacramento sewer zones was employed. Peaking factors were calculated based upon the formula,  $PF = (3.3 - (1.8 * Q^{0.04}))$  given by CSD-1 standards. Following the CSD-1 standards, a maximum depth-to-diameter ratio of 0.7 was used to assess pipe capacities. The CSD-1 standards do not recommend a minimum pipe diameter, but it is assumed that a minimum of 8-inch diameter is desired in the project area based on City standards.

**Table 12 - Increased Sewer Flows Due to Development**

Development Scenario	Existing Total Average Daily Sewer Flow (MGD)	Proposed Total Average Daily Sewer Flow (MGD)	Increased Total Average Daily Sewer Flow (MGD)
<b>Strategic</b>	0.13	0.20	0.07
<b>West of Tracks</b>	0.53	0.87	0.34
<b>Long Term</b>	0.60	1.24	0.64



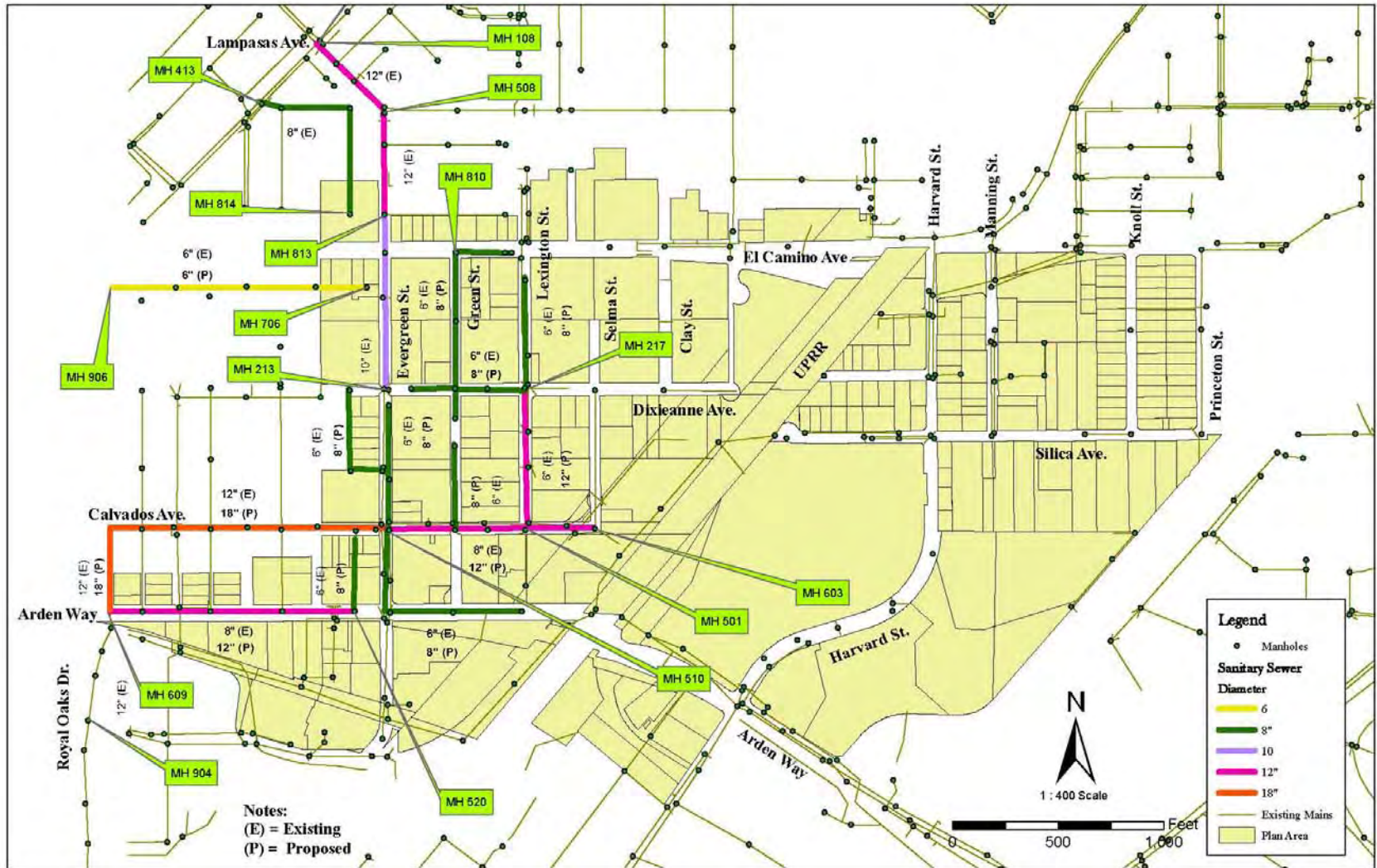


Figure 22 - Sewer Improvements - Strategic Development



### **2.4.3 Recommended Improvements**

With the proposed increase in average flows of approximately 106% in the Long Term Development scenario, many of the existing mains will need to be upsized to carry the anticipated flow in both the City of Sacramento and CSD-1 service areas.

The recommended improvements should be confirmed by hydraulic modeling of the collection system, since the invert, rim elevations, and slopes of the existing pipes are not considered in these recommendations.

### **2.4.4 Opinion of Probable Construction Costs**

The approximate costs of the recommended improvements for the sanitary sewer system are provided in Table 13 through Table 16 below.

The unit costs provided are based on the following:

Pipe Cost – cost per lineal foot for installation of pipe, including trenching, backfilling, and service reconnection.

Manholes – cost per each manhole, including excavation and backfilling, assumes spacing of approximately 300 feet.

**Table 13 - Opinion of Probable Construction Cost: Sewer System – Strategic Development (City of Sacramento Zone Only)**

Item	Quantity	Unit	Cost	Total
8"-Mains	5,011	LF	\$115	\$576,300
12"-Mains	2,794	LF	\$135	\$377,200
18"-Mains	2,277	LF	\$160	\$364,300
Manholes	34	EA	\$5,000	\$168,000
Subtotal:				\$1,485,800
30% Contingency:				\$445,700
35% Engineering and Inspection:				\$520,000
Total:				\$2,451,500

**Table 14 - Opinion of Probable Construction Cost: Sewer System – CSD-1 Zone (CSD-1 portion of Long Term Development Scenario)**

Item	Quantity	Unit	Cost	Total
8"-Mains	4,914	LF	\$115	\$565,100
12"-Mains	600	LF	\$135	\$81,000
Manholes	18	EA	\$5,000	\$90,000
Subtotal:				\$736,100
30% Contingency:				\$220,800
35% Engineering and Inspection:				\$257,600
Total:				\$1,214,500

**Table 15 - Opinion of Probable Construction Cost: Sewer System – City Zone**  
(City of Sacramento portion of Long Term Development / West of Tracks Development)

Item	Quantity	Unit	Cost	Total
8"-Mains	5,946	LF	\$115	\$683,800
12"-Mains	7,000	LF	\$135	\$945,000
18"-Mains	2,711	LF	\$160	\$433,800
Manholes	52	EA	\$5,000	\$260,000
Subtotal:				\$2,322,600
30% Contingency:				\$696,800
35% Engineering and Inspection:				\$812,900
Total:				\$3,832,300

**Table 16 - Opinion of Probable Construction Cost: Sewer System – Long Term Development**  
(Total of City of Sacramento Zone and CSD-1 Zone)

Item	Quantity	Unit	Cost	Total
8"-Mains	10,860	LF	\$115	\$1,248,900
12"-Mains	7,600	LF	\$135	\$1,026,000
18"-Mains	2,711	LF	\$160	\$433,800
Manholes	70	EA	\$5,000	\$350,000
Subtotal:				\$3,058,700
30% Contingencies:				\$917,600
35% Engineering and Inspection:				\$1,070,500
Total:				\$5,046,800

## **2.5 Water Distribution Facilities**

The existing infrastructure report identified that the project area is fed largely from surface water sources. The project area is located approximately 3 miles north of the existing city E.A. Fairbairn WTP, which collects and treats water from the American River. Treated water from the WTP site is then pumped into the distribution system.

The E.A. Fairbairn WTP capacity was recently increased to 200 mgd. In 2003, average flow through the plant was approximately 60 mgd.

The maximum pressure in the distribution system per City standards is 50 psi. Assuming a ground elevation of approximately 33' MSL at the E.A. Fairbairn WTP, an approximate maximum static HGL of 148' is assumed in the study area. Existing ground elevations within the study area range from approximately 33' to 45' MSL. The static pressure range would be expected to range from 40 to 50 psi under average conditions in the study area. The minimum pressure allowed by the City is 20 psi under fire demand conditions.

### **2.5.1 Recommended Improvements**

The current City standard for the zoning that exists in the project area is a minimum of 8-inch diameter mains in the distribution system, with 12-inch mains spaced in grid intervals of one half mile according to section 13.4.3 of the City standard. Many mains are currently 2-inch, 4-inch, and 6-inch, and are undersized for providing fire protection. Figure 23 and Figure 24 show recommended distribution line improvements based on this City standard. A detailed hydraulic

model was not performed to confirm adequate pressures under fire flow conditions. It is recommended that hydraulic modeling be performed for the study area to confirm that the main sizes are adequate to meet the following City standards:

- a maximum velocity of 10 feet per second
- fire flow demands of:
  - i. 1,500 gpm for single-family
  - ii. 2,000 gpm for multi-family
  - iii. 3,000 gpm for commercial/industrial

The existing and proposed average day water demands in the project area were determined based upon 630 gpd per unit for single family zoning, 225 gpd per unit for multi-family or RMX zoning, 3 ac-ft/ac-yr for commercial zones, and 4 ac-ft/ac-yr for industrial zones. Peaking factors of 1.8 for maximum day demands and an additional peaking factor of 1.3 for peak hour demands were used per the City standard. Water demands due to the three different development scenarios are summarized in Table 17 below. Detailed calculations of water demand may be found in Appendix G.

**Table 17 - Increased Water Demands due to Development**

<b>Development Scenario</b>	<b>Existing Total Average Daily Water Demand (MGD)</b>	<b>Proposed Total Average Daily Water Demand (MGD)</b>	<b>Increased Total Average Daily Water Demand (MGD)</b>
<b>Strategic</b>	0.04	0.10	0.06
<b>West of Tracks</b>	0.18	0.38	0.20
<b>Long Term</b>	0.30	0.74	0.44

It is assumed that the increased demands will have a minimal impact when compared to the recent increase in treatment capacity added to the E.A. Fairbairn WTP. Additional supply requirements necessary for the proposed redevelopment should be confirmed by the City.

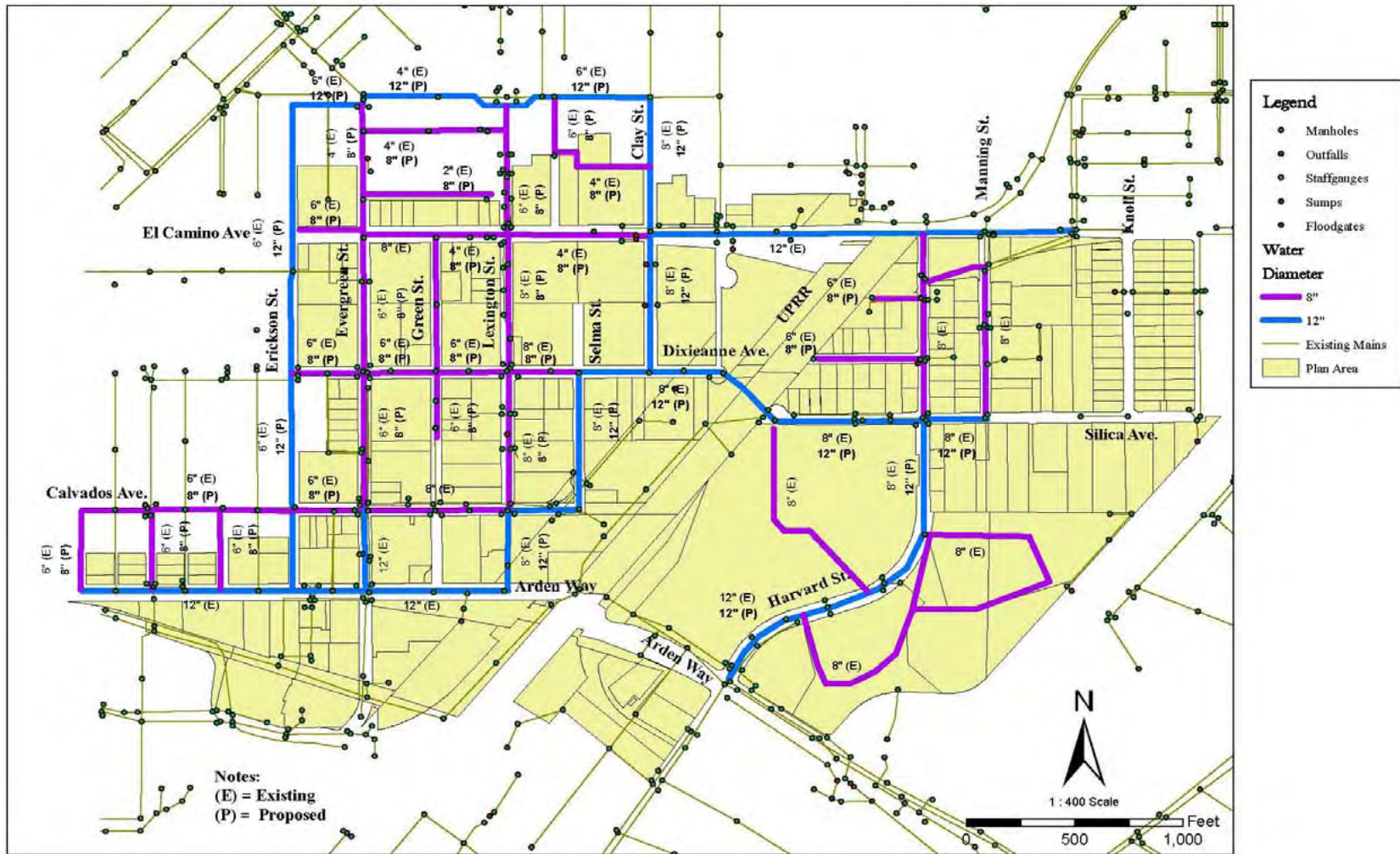


Figure 23 - Water Improvements - Long Term Development

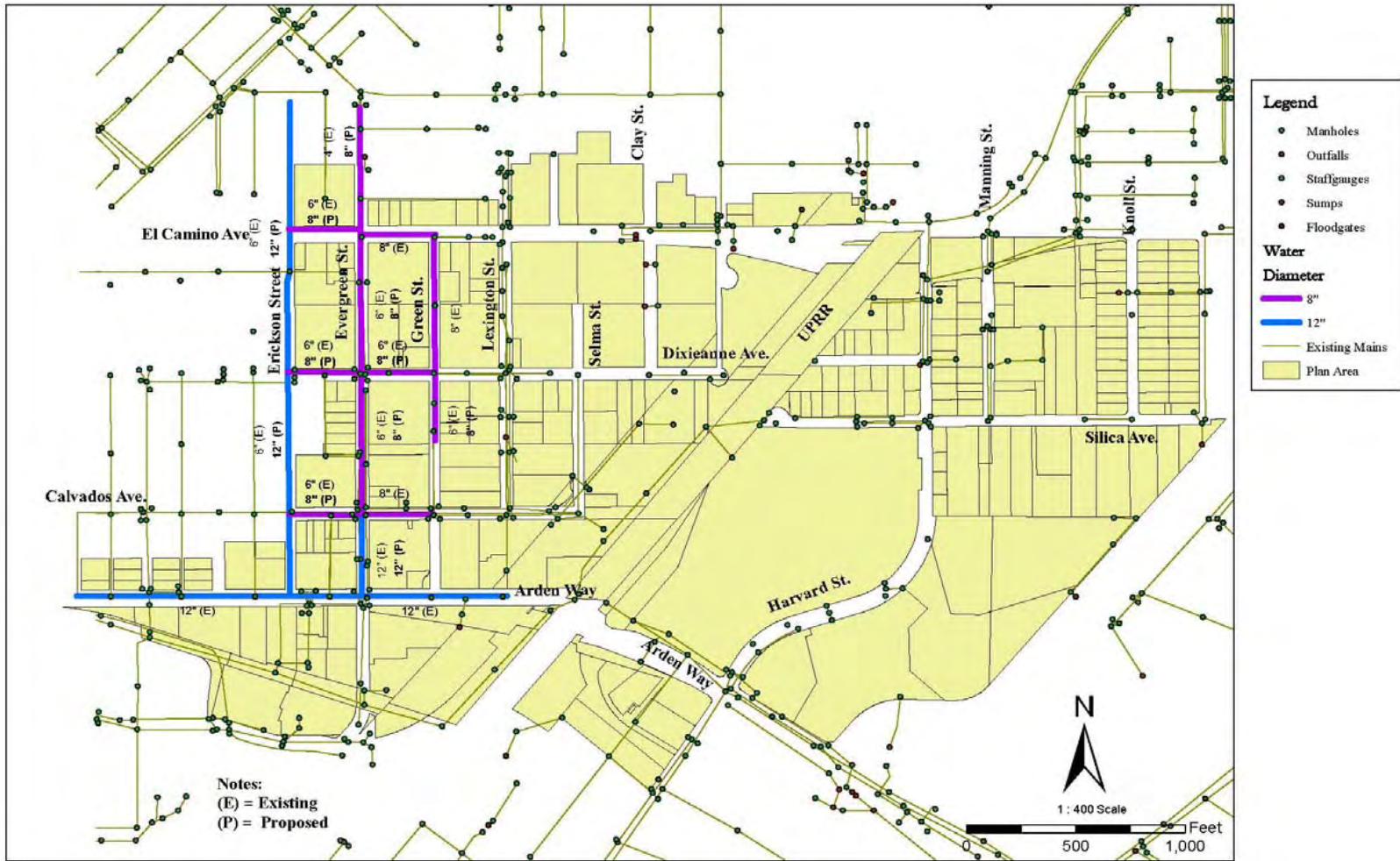


Figure 24 - Water Improvements - Strategic Development

### **2.5.2 Opinion of Probable Construction Costs**

The approximate costs of the recommended improvements for the water distribution system are provided in Table 18 through Table 20 below.

The unit costs provided are based on the following:

Pipe Cost – cost per lineal foot for installation of pipe, including trenching, backfilling, and service reconnection.

Fire Hydrants – cost per each hydrant, including excavation and backfilling, assumes spacing of approximately 500 feet.

Valves – cost per each valve, including excavation, backfilling, and valve boxes. Assumes spacing of approximately 500 feet.

**Table 18 - Opinion of Probable Construction Cost: Water System – Long Term Development**

Item	Quantity	Unit	Cost	Total
8-inch Main	10292	LF	\$70	\$720,400
12-inch Main	9280	LF	\$90	\$835,200
Fire Hydrants	20	EA	\$5,000	\$100,000
Valves	20	EA	\$1,500	\$30,000
subtotal:				\$1,685,600
30% contingencies:				\$505,700
35% Engineering and inspection:				\$590,000
Total:				\$2,781,300

**Table 19 - Opinion of Probable Construction Cost: Water System – Strategic Development**

Item	Quantity	Unit	Cost	Total
8-inch Main	3680	LF	\$70	\$257,600
12-inch Main	2335	LF	\$90	\$210,200
Fire Hydrants	10	EA	\$5,000	\$50,000
Valves	10	EA	\$1,500	\$15,000
subtotal:				\$532,800
30% contingencies:				\$159,800
35% Engineering and inspection:				\$186,500
Total:				\$879,100

**Table 20 - Opinion of Probable Construction Cost: Water System – West of Tracks**

Item	Quantity	Unit	Cost	Total
8-inch Main	9573	LF	\$70	\$670,100
12-inch Main	7751	LF	\$90	\$697,600
Fire Hydrants	18	EA	\$5,000	\$90,000
Valves	18	EA	\$1,500	\$27,000
subtotal:				\$1,484,700
30% contingencies:				\$445,400
35% Engineering and inspection:				\$519,600
Total:				\$2,449,700

### **3 Prioritization of Improvements**

This section presents information regarding the level of priority for major infrastructure improvements.

#### **3.1 Factors Affecting Prioritization**

As previously indicated, there are numerous improvements identified for the plan area. It is unlikely that funding will be available for all necessary and desired improvements. As a result, it is necessary to develop a method of prioritizing the improvements. Considerations for prioritizing improvements include the following.

- Are there improvements that are needed now to meet minimum levels of public health, safety, and welfare?
- Improvement cost.
- What is public input on the project/improvement?
- Does the project support economic development?
- Coordinate improvements to construct them in a logical order (e.g., constructing underground improvements prior to, or with street improvements).
- Provide safe and convenient routes to schools and transit services.

It should be noted that the factors affecting prioritization can yield a number of differing priority interpretations. Improvements required to maintain adequate public welfare should be given higher priority consideration. However, with regard to non-safety factors, the various stake holders may rank the importance of various improvements differently. For example, some residents may value storm drain improvements as much as others might value sidewalks. As a result, it may be difficult to rate providing adequate flood protection higher or lower than providing sidewalks or street lights. Another factor in rating the improvements is the desire to invest in improvements that will stimulate economic development in the area. Such decisions should consider the opinions of the community as a whole in addition to the technical data that suggests which improvements may be necessary to encourage economic development. Unfortunately, there is not an easy formula that can be applied to identify the order of improvements.

#### **3.2 Coordination of Improvements**

As noted above, it may be necessary to coordinate improvements so that construction occurs in a logical order, and that all work in the same area could be completed at the same time. Underground utilities should be coordinated to coincide with street improvements when sewer and drain lines in streets are recommended for replacement. It is advisable to include street reconstruction with the replacement of these facilities.

##### **3.2.1 Phase 1: Improvements Needed Without New Development**

###### **Transportation**

The roadway network is adequate for development to proceed without major modification. However, the City is expected to continue to upgrade round corners to be in compliance with the Americans with Disabilities Act (ADA). In addition, a long-term strategy for providing sidewalks throughout the plan area, should be developed. Improvements that enhance safety and alternate mode use should be prioritized through the Capitol Improvement Program, per City policy.



### Storm Water

Localized flooding occurs within the existing study area according to the previous 151 Sump drainage study. The report recommends various improvements, some of which are within the study area and some off-site. It can be assumed with the information available from the 1996 WYA master plan that all of the recommended improvements are necessary at this time to alleviate the potential for flooding. Further modeling analysis would be required if improvement staging is desired.

### Sanitary Sewer

The existing infrastructure evaluation and analysis of existing sewer system collection pipes within the Project area identify several pipes that cannot convey existing peak flows. Also, existing mains that are smaller than the City's 8-inch diameter standard should be replaced as part of the standard maintenance program. Additional hydraulic modeling of the City sewer system should be performed to confirm these recommendations, which do not consider off-site conditions or affects on infrastructure at the study area boundaries.

### Water

No immediate improvements to the water distribution system appear necessary at this time. Upsizing the existing mains that are less than the City standard of 8-inch diameter will assist with providing fire flow protection in the study area. Hydraulic modeling of the overall City system should be performed to confirm that adequate water supply, distribution mains, and transmission mains are available to serve the study area in conformance with City standard requirements.

## **3.2.2 Phase 2: Improvements Needed for New Development**

The majority of improvements are needed to support additional development of the project area. These improvements should be constructed prior to occupancy of new developments, either as a CIP project or as a condition of the development.

### Transportation

The roadway network is adequate to support development of the proposed land uses. It is anticipated that future development projects will be conditioned to build frontage improvements and the off-street bike paths. As traffic volumes grow along El Camino Avenue, construction of a traffic signal at Lexington Street will likely become necessary.

### Storm Water

The proposed development scenarios for the project area insignificantly impact overall storm water runoff. The recommended storm drain system improvements in the area are due almost entirely to capacity issues that already exist and are already planned to be remedied per the 1996 WYA Master Plan.

### Sanitary Sewer

Recommended improvements to the existing sanitary sewer system to serve the redevelopment within the study area include the following streets.

- Harvard Street
- Selma Street
- Dixianne Avenue
- Calvados Avenue
- Arden Way
- Royal Oaks Drive
- Green St.

- Lexington St.
- Clay St.
- El Camino Ave
- Knoll St.
- Princeton St.
- Silica Ave.
- Frienza Ave.

Larger size mains in these areas are anticipated to carry the increased flows associated with the proposed land use plan.

#### Water

The existing conveyance grid within the project area currently does not meet the City standard for multi-family, and light commercial and industrial zones of 8" diameter pipe loops. Most of the water improvements in this area are required to meet this standard.

**Appendix A**  
*Trip Generation Details*

**Swanston Station Transit Village  
Trip Generation Comparison**

October 18, 2007

Land Use Plan	Daily Trips	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	Total	IN	OUT	Total
Trips for Existing Zoning Designations	22,554	982	388	1370	1142	1519	2662
Long Term Development Plan	15,291	383	1013	1396	814	570	1384
Change: Exist. Zoning to Long Term Plan	-7,263	-598	625	27	-328	-950	-1278

**Swanston Station Transit Village**  
**TRIP GENERATION FOR EXISTING ZONING DESIGNATIONS**  
 October 18, 2007

Vehicle Trips												
CITY LAND USE DESIGNATION	AREA (Acres) <sup>1</sup>	LAND USE DENSITY OR INTENSITY <sup>2</sup>	ITE LAND USE CODE <sup>3</sup>	ITE LAND USE DESCRIPTION <sup>3,4</sup>	Size (Units) <sup>4</sup>	Daily Trips	AM PEAK HOUR			PM PEAK HOUR		
							IN	OUT	Total	IN	OUT	Total
LDR	7.91	5.00	210	Single Family, D.U.	17	204	5	16	21	14	8	22
MDR	2.82	18.00	210	Single Family, DU		0	0	0	0	0	0	0
HDR	1.92	25.00	220	Apartment, DU	8	198	2	6	8	14	8	22
Commercial	35.71	0.35	820	Shopping Center, ksf	607.48	21,940	282	180	462	988	1,071	##
Office	7.07	0.40	710	General Office	0.56	25	3	0	3	14	65	79
Industrial	148.79	0.25	140	Light Industrial, ksf	1,332.73	5,091	749	224	973	355	631	##
<b>Totals:</b>	<b>204.22</b>			<i>Subtotal Raw Trip Generation</i>		<b>27,457</b>	<b>1,041</b>	<b>426</b>	<b>1,467</b>	<b>1,385</b>	<b>1,784</b>	<b>##</b>
					0%	0	0	0	0	0	0	0
	ITE Int Red <sup>5</sup> :	Daily:	1.31%	PM:	3.4%	-294	n/a	n/a	n/a	-35	-39	-74
				Alternate Modes: Residential	1%	-2	0	0	0	0	0	0
				Alternate Modes: Commercial	1%	-219	-3	-2	-5	-10	-11	-21
				Pass-by trips (Commercial Uses) <sup>5</sup>	20%	-4,388	-56	-36	-92	-198	-214	##
				<i>Subtotal of Reductions</i>		<b>-4,903</b>	<b>-59</b>	<b>-38</b>	<b>-97</b>	<b>-243</b>	<b>-264</b>	<b>##</b>
				<b>Net New Trips</b>		<b>22,554</b>	<b>982</b>	<b>388</b>	<b>1,370</b>	<b>1,142</b>	<b>1,519</b>	<b>##</b>

Notes

1. Per GIS Files provided by MIG.
2. Dwelling units per acre for residential and Floor Area Ratio of non-residential
3. Per Trip Generation, Seventh Edition, ITE.
4. Per land use data provided by MIG. D.U. - Dwelling Unit, ksf - Thousand Square Feet of gross leasable area.
5. Per Trip Generation Handbook, ITE.

**Swanston Station Transit Village**  
**TRIP GENERATION FOR PROPOSED PROJECT - LONG TERM PLAN**  
 October 18, 2007

TRIP GENERATION (PROPOSED PROJECT BUILD-OUT)												
Land Use	Area (Acres) <sup>1</sup>	Land Use Density or Intensity <sup>2</sup>	ITE LAND USE CODE	ITE LAND USE DESCRIPTION <sup>3,4</sup>	SIZE (UNITS) <sup>4</sup>	Daily Trips	AM PEAK HOUR TRIPS			PM PEAK HOUR TRIPS		
							IN	OUT	Total	IN	OUT	Total
RMX Residential	55.20	27.00	220	Apartment, D.U.	2,871	17,406	282	1,129	1,411	1,038	559	1,597
Retail in RMX	55.20		820	Shopping Center, ksf	816.60	26,592	337	215	552	1,202	1,301	2,503
Manufacturing			140	Light Industrial, ksf								
<b>Total area:</b>	<b>74.90</b>			<i>Subtotal Raw Trip Generation</i>		<b>43,997</b>	<b>619</b>	<b>1,343</b>	<b>1,962</b>	<b>2,240</b>	<b>1,860</b>	<b>4,100</b>
	ITE Int Red: Non-RMX Zones <sup>5</sup> :	Daily:	12.1%	PM:	12.9%	-5,320				-288	-240	-528
	Internal Trip Reduction: RMX <sup>6</sup> :	AM:	12%	PM & Daily:	25%	-10,999	-74	-161	-235	-560	-465	-1,025
				Alternate Modes: Residential <sup>6</sup>	7%	-1,218	-20	-79	-99	-73	-39	-112
				Alternate Modes: Commercial <sup>6</sup>	7%	-1,861	-24	-15	-39	-84	-91	-175
				Alternate Mode: Office <sup>6</sup>	7%							
				Pass-by trips (Commercial Uses) <sup>6</sup>	35%	-9,307	-118	-75	-193	-421	-455	-876
				<i>Subtotal of Reductions</i>		<b>-28,706</b>	<b>-236</b>	<b>-330</b>	<b>-566</b>	<b>-1,426</b>	<b>-1,290</b>	<b>-2,716</b>
				<b>Net New Trips</b>		<b>15,291</b>	<b>383</b>	<b>1,013</b>	<b>1,396</b>	<b>814</b>	<b>570</b>	<b>1,384</b>

Notes

1. Per GIS files provided by MIG.
2. Dwelling units per acre for residential and Floor Area Ratio of non-residential
3. Per Trip Generation, Seventh Edition, ITE.
4. Per land use data provided by MIG. D.U. - Dwelling Unit, ksf - Thousand Square Feet of gross leasable area.
5. Per Trip Generation Handbook, ITE.
6. Per Trip Generation for New Urbanist Developments, Final Report. Florida Department of Transportation, 2004.



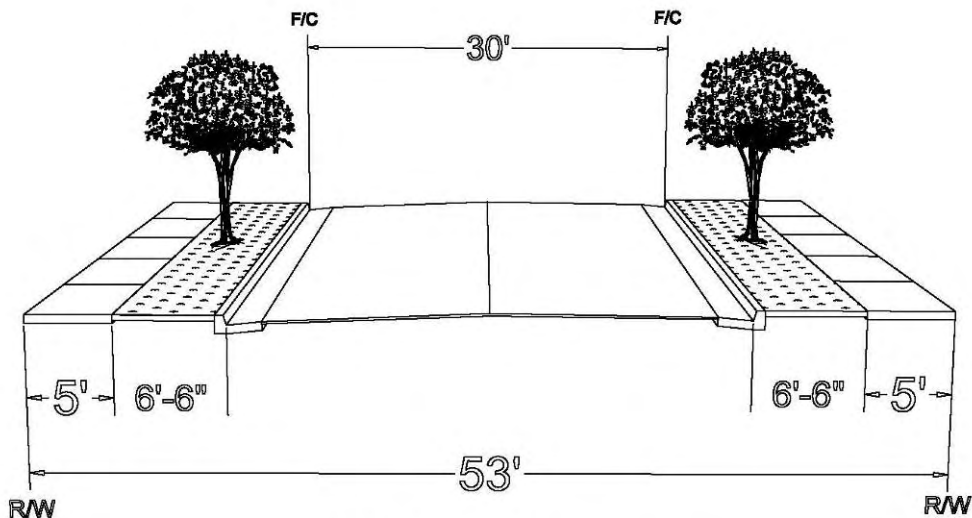
**Appendix B**  
*Recommended Street Cross Sections for Standard Streets*

PEDESTRIAN FRIENDLY STREET STANDARDS  
 TYPICAL CROSS-SECTIONS  
 CITY OF SACRAMENTO

Street **A**

Residential Street

Bike Lane	No
Parking	Yes



53' Right-Of-Way  
 (0-4000 ADT)

Notes

- ① Dimensions shown are approximate.
- ② Rolled curb only may be constructed at street elbows and cul-de-sacs with approval by the City Manager or the designee.
- ③ The planter width only may be reduced or the planter removed to meet residential housing densities or to conform to existing street rights-of-way with approval by the City Manager or the designee.

MINOR DEVIATIONS FROM THE STANDARDS REQUIRE THE APPROVAL OF THE CITY MANAGER OR THE DESIGNEE.

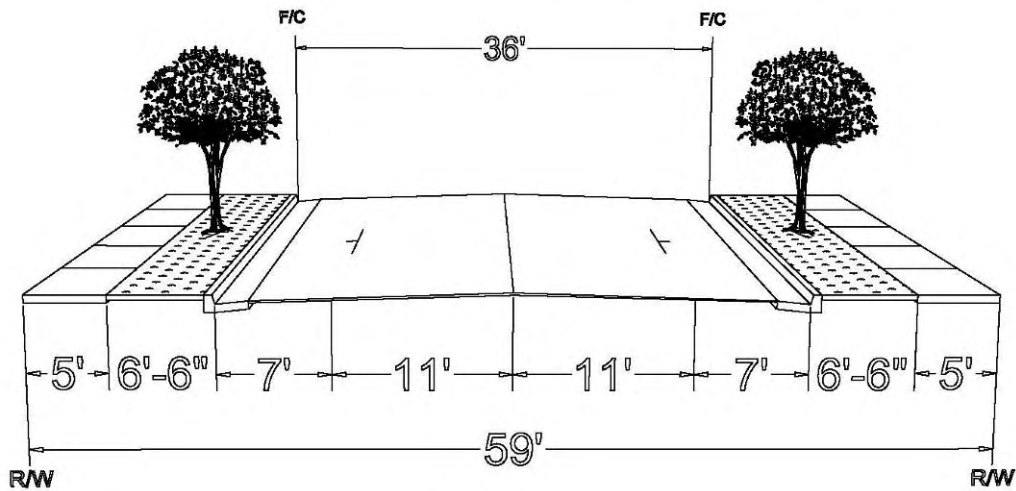


PEDESTRIAN FRIENDLY STREET STANDARDS  
 TYPICAL CROSS-SECTIONS  
 CITY OF SACRAMENTO

Street **B**

Local Commercial Street

Bike Lane	No
Parking	Yes



59' Right-Of-Way  
 (0-14,000 ADT)

Notes

- ① Dimensions shown are approximate.

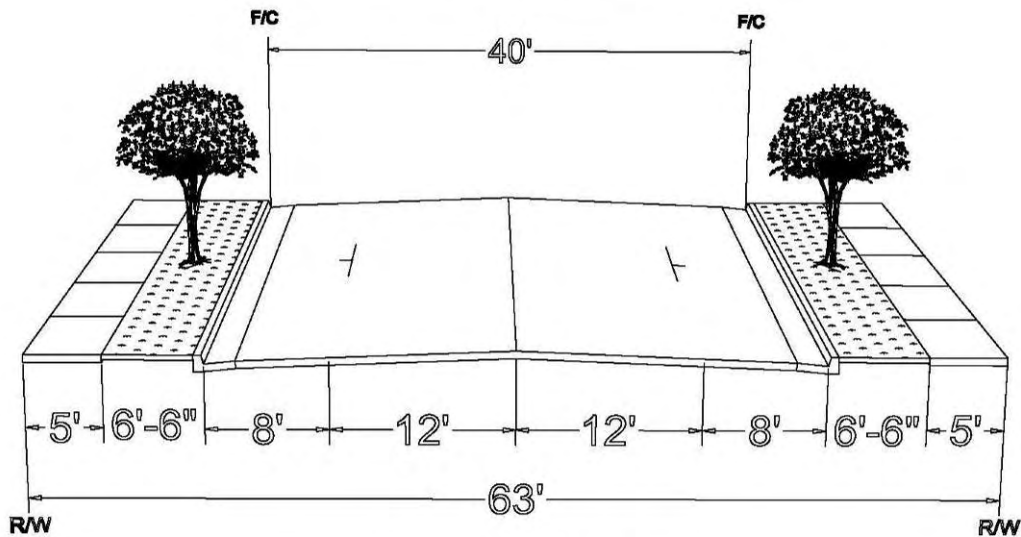
MINOR DEVIATIONS FROM THE STANDARDS  
 REQUIRE THE APPROVAL OF THE CITY  
 MANAGER OR THE DESIGNEE.

PEDESTRIAN FRIENDLY STREET STANDARDS  
 TYPICAL CROSS-SECTIONS  
 CITY OF SACRAMENTO

Street **C**

Local Industrial Street

Bike Lane	No
Parking	Yes



63' Right-Of-Way  
 (0-14,000 ADT)

Notes

- ① Dimensions shown are approximate.

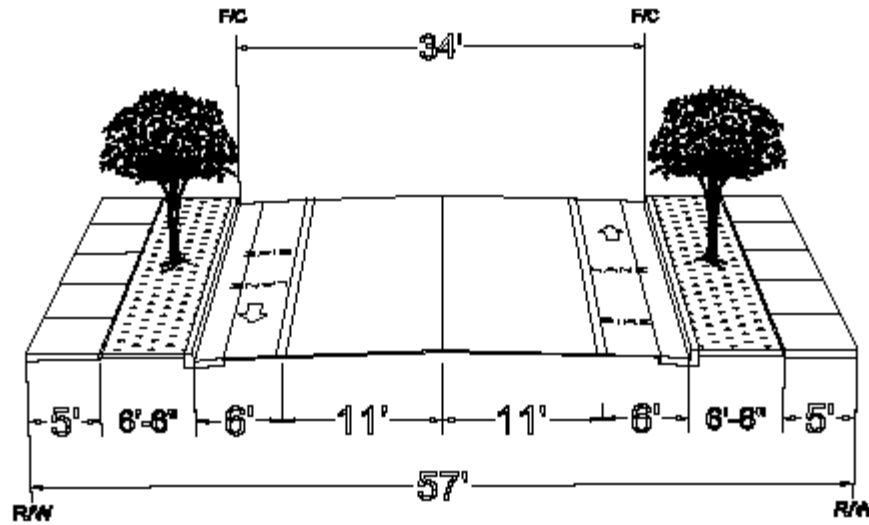
MINOR DEVIATIONS FROM THE STANDARDS  
 REQUIRE THE APPROVAL OF THE CITY MANAGER  
 OR THE DESIGNEE.

**PEDESTRIAN FRIENDLY STREET STANDARDS  
TYPICAL CROSS-SECTIONS  
CITY OF SACRAMENTO**

Street **D**

**Collector Street-Minor**

<b>Bike Lane</b>	<b>Yes</b>
<b>Parking</b>	<b>No</b>



57' Right-Of-Way  
(4,000-7,000 ADT)

Notes

- ① Dimensions shown are approximate.

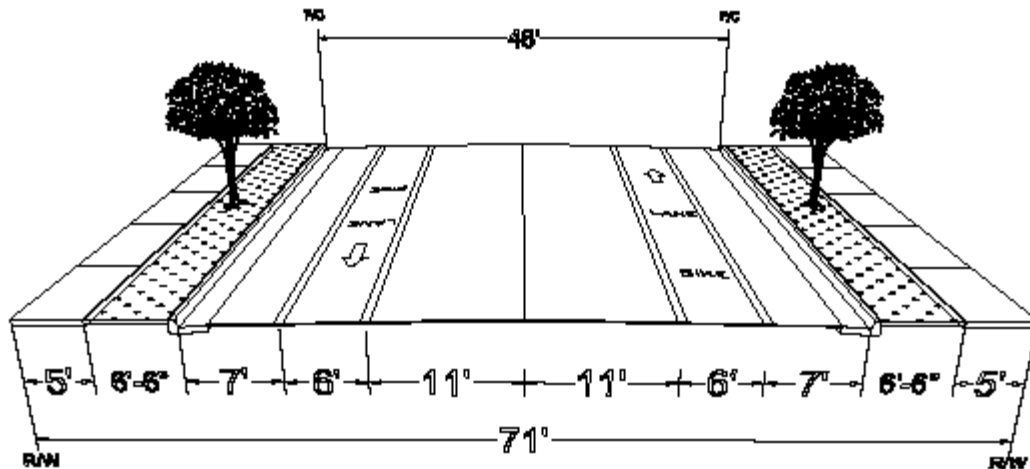
MINOR DEVIATIONS FROM THE STANDARDS  
REQUIRE THE APPROVAL OF THE CITY  
MANAGER OR THE DESIGNEE.

**PEDESTRIAN FRIENDLY STREET STANDARDS  
TYPICAL CROSS-SECTIONS  
CITY OF SACRAMENTO**



**Collector Street-Minor**

Bike Lane	Yes
Parking	Yes



71' Right-Of-Way  
(4,000-7,000 ADT)

Notes

- ① Dimensions shown are approximate.

MINOR DEVIATIONS FROM THE STANDARDS  
REQUIRE THE APPROVAL OF THE CITY  
MANAGER OR THE DESIGNEE.

**Appendix C**  
*Cost Estimate Details*

## Arden Way

Beaumont Street/Royal Oaks Drive to Harvard Street (Excluding bridge segment)

C1

### Opinion of Probable Cost for Typical Street Improvements

<u>Segment Data</u>		
Segment length	1940	feet
Total Width of new construction	30	feet
Paving Width	10	feet
Paving Section	6	Inches of AC
	18	Inches of AB
Roadway Excavation Depth:	2	feet
Number of Curb & Gutter	2	
Number of Median Curbs	2	
Sidewalk Width	6	feet
Number of Sidewalks	2	
Landscape Width	16	feet

ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT
<b>Surface Costs:</b>					
1	Mobilization, Clearing & Grubbing	30.00	SF	\$ 0.50	\$ 15.00
2	Earthwork	2.22	CY	\$ 20.00	\$ 44.44
3	AC	0.38	Ton	\$ 110.00	\$ 41.25
4	AB	1.13	Ton	\$ 50.00	\$ 56.25
5	Curb & Gutter No. 4	2.00	LF	\$ 30.00	\$ 60.00
6	Curb No. 14	2.00	LF	\$ 16.00	\$ 32.00
7	PCC Sidewalk	12.00	SF	\$ 12.00	\$ 144.00
8	Landscaping	16.00	SF	\$ 12.00	\$ 192.00
9	Sawcut	4.00	LF	\$ 3.00	\$ 12.00
10	Remove AC	16.00	SF	\$ 1.00	\$ 16.00
<b>SUBTOTAL OF ROADWAY COSTS \$</b>					<b>612.94</b>
Contingency 30% \$					183.88
PSE&I 35% \$					214.53
<b>TOTAL CONSTRUCTION COST PER CL FOOT \$</b>					<b>1,011.36</b>

**Notes**

- 1 Paving Section is estimated.
- 2 Paving width assumes 40' of salvageable pavement.
- 3 Estimated costs include appurtenances and other items that are a part of the ultimate road segment. Estimated costs do not include interim items, private utility or joint trench costs, or items included in other fee programs.

# El Camino Avenue

Erickson Street to Princeton Street (Excluding the bridge segment)

C2

## Opinion of Probable Cost for Typical Street Improvements

Segment Data	
Segment length	2530 feet
Total Width of new construction	64 feet
Paving Width	28 feet
Paving Section	6 Inches of AC
	18 Inches of AB
Roadway Excavation Depth:	2 feet
Number of Curb & Gutter	2
Number of Median Curbs	2
Sidewalk Width	6 feet
Number of Sidewalks	2
Landscape Width	22 feet

ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT
<b>Surface Costs:</b>					
1	Mobilization, Clearing & Grubbing	64.00	SF	\$ 0.50	\$ 32.00
2	Earthwork	4.74	CY	\$ 20.00	\$ 94.81
3	AC	1.05	Ton	\$ 110.00	\$ 115.50
4	AB	3.15	Ton	\$ 50.00	\$ 157.50
5	Curb & Gutter No.4	2.00	LF	\$ 30.00	\$ 60.00
6	Curb No. 14	2.00	LF	\$ 16.00	\$ 32.00
7	PCC Sidewalk	12.00	SF	\$ 12.00	\$ 144.00
8	Landscaping	22.00	SF	\$ 12.00	\$ 264.00
9	Sawcut	4.00	LF	\$ 3.00	\$ 12.00
10	Remove ex street	28.00	SF	\$ 1.00	\$ 28.00
<b>SUBTOTAL OF ROADWAY COSTS \$</b>					<b>939.81</b>
				Contingency 30% \$	281.94
				PSE&I 35% \$	328.94
<b>TOTAL CONSTRUCTION COST PER CL FOOT \$</b>					<b>1,551</b>

**Notes**

- 1 Paving Section is estimated.
- 2 Paving width assumes 40' of salvageable pavement.
- 3 Estimated costs include appurtenances and other items that are a part of the ultimate road segment. Estimated costs do not include interim items, private utility or joint trench costs, or items included in other fee programs.

## Evergreen Street

Erickson Street to Princeton Street (Excluding the bridge segment)

C3

### Opinion of Probable Cost for Typical Street Improvements

Segment Data		
Segment length	2530	feet
Total Width of new construction	60	feet
Paving Width	36	feet
Paving Section	6	Inches of AC
	18	Inches of AB
Roadway Excavation Depth:	1.5	feet
Number of Curb & Gutter	2	
Number of Median Curbs	0	
Sidewalk Width	6	feet
Number of Sidewalks	2	
Landscape Width	4	feet

ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT
<b>Surface Costs:</b>					
1	Mobilization, Clearing & Grubbing	60.00	SF	\$ 0.50	\$ 30.00
2	Earthwork	3.33	CY	\$ 20.00	\$ 66.67
3	AC	1.35	Ton	\$ 110.00	\$ 148.50
4	AB	4.05	Ton	\$ 50.00	\$ 202.50
5	Curb & Gutter No.4	2.00	LF	\$ 30.00	\$ 60.00
6	Curb No. 14	0.00	LF	\$ 16.00	\$ -
7	PCC Sidewalk	12.00	SF	\$ 12.00	\$ 144.00
8	Landscaping	4.00	SF	\$ 12.00	\$ 48.00
9	Sawcut	2.00	LF	\$ 3.00	\$ 6.00
10	Remove ex street	36.00	SF	\$ 1.00	\$ 36.00
<b>SUBTOTAL OF ROADWAY COSTS \$</b>					<b>741.67</b>
				Contingency 30% \$	222.50
				PSE&I 35% \$	259.58
<b>TOTAL CONSTRUCTION COST PER CL FOOT \$</b>					<b>1,224</b>

**Notes**

- 1 Paving Section is estimated.
- 2 Paving width assumes 40' of salvageable pavement.
- 3 Estimated costs include appurtenances and other items that are a part of the ultimate road segment. Estimated costs do not include interim items, private utility or joint trench costs, or items included in other fee programs.



## Collector Street - Minor (Standard Street E)

C4

### Opinion of Probable Cost for Typical Street Improvements Per Centerline Foot

**Applies to:**

	Segment Data	
Harvard St (north of Silica)	Segment length	1 feet
	Total Width of new construction	51 feet
	Paving Width	22 feet
	Paving Section	6 Inches of AC
		18 Inches of AB
	Roadway Excavation Depth:	2 feet
	Number of Curb & Gutter	2
	Number of Median Curbs	0
	Sidewalk Width	5 feet
	Number of Sidewalks	2
	Landscape Width	12 feet

ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT
<b>Surface Costs:</b>					
1	Mobilization, Clearing & Grubbing	51.00	SF	\$ 0.50	\$ 25.50
2	Earthwork	3.78	CY	\$ 20.00	\$ 75.56
3	AC	0.83	Ton	\$ 110.00	\$ 90.75
4	AB	2.48	Ton	\$ 50.00	\$ 123.75
5	Curb & Gutter No. 4	2.00	LF	\$ 30.00	\$ 60.00
6	Curb No. 14	0.00	LF	\$ 16.00	\$ -
7	PCC Sidewalk	10.00	SF	\$ 12.00	\$ 120.00
8	Landscaping	12.00	SF	\$ 12.00	\$ 144.00
9	Sawcut	4.00	LF	\$ 3.00	\$ 12.00
10	Remove AC	18.00	SF	\$ 1.00	\$ 18.00
11	Demolition (Curb, Gutter, and Sidewalk)	2.00	LF	\$ 13.00	\$ 26.00
<b>SUBTOTAL OF ROADWAY COSTS \$</b>					<b>695.56</b>

<b>TOTAL CONSTRUCTION COST PER FOOT:</b>	<b>\$ 700</b>
Street Lighting:	\$ -
Contingency 30%	\$ 210
PSE&I 35%	\$ 250

**TOTAL PROBABLE ROADWAY CONSTRUCTION COST PER FOOT: \$ 1,160**

**Notes**

- 1 Paving Section is estimated.
- 2 Paving width assumes 20' of salvageable pavement.
- 3 Estimated costs include appurtenances and other items that are a part of the ultimate road segment. Estimated costs do not include interim items, private utility or joint trench costs, or items included in other fee programs.

## Local Residential Streets

Surface Improvements

C5

### Opinion of Probable Cost for Typical Street Improvements Per Centerline Foot

Segment Data		
Segment length	1	feet
Total Width of new construction	33	feet
Paving Width	10	feet
Paving Section	3	Inches of AC
	6	Inches of AB
Roadway Excavation Depth:	0.75	feet
Number of Curb & Gutter	2	
Number of Median Curbs	0	
Sidewalk Width	5	feet
Number of Sidewalks	2	
Landscape Width	6	feet

ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT
<b>Surface Costs:</b>					
1	Mobilization, Clearing & Grubbing	33.00	SF	\$ 0.50	\$ 16.50
2	Earthwork	0.92	CY	\$ 20.00	\$ 18.33
3	AC	0.19	Ton	\$ 110.00	\$ 20.63
4	AB	0.38	Ton	\$ 50.00	\$ 18.75
5	Curb & Gutter No. 4	2.00	LF	\$ 30.00	\$ 60.00
6	Curb No. 14	0.00	LF	\$ 16.00	\$ -
7	PCC Sidewalk	10.00	SF	\$ 12.00	\$ 120.00
8	Landscaping	6.00	SF	\$ 12.00	\$ 72.00
9	Sawcut	0.00	LF	\$ 3.00	\$ -
10	Remove ex street	10.00	SF	\$ 1.00	\$ 10.00
<b>SUBTOTAL OF ROADWAY COSTS \$</b>					<b>336.21</b>

<b>TOTAL CONSTRUCTION COST FOR THIS SEGMENT:</b>	<b>\$ 340</b>
Contingency 30%	\$ 110
PSE&I 35%	\$ 120

**TOTAL PROBABLE ROADWAY CONSTRUCTION COST PER FOOT: \$ 570**

**Notes**

- 1 Paving Section is estimated.
- 2 Paving width assumes 20' of salvageable pavement.
- 3 Estimated costs include appurtenances and other items that are a part of the ultimate road segment. Estimated costs do not include interim items, private utility or joint trench costs, or items included in other fee programs.

## Local Commercial Street (Standard Street B)

C6

### Opinion of Probable Cost for Typical Street Improvements Per Centerline Foot

**Applies to:**

Princeton St  
Silica Ave (west of Harvard)  
Harvard St (Taft to Cannon)

Segment Data

	Segment length	1	feet
	Total Width of new construction	39	
	Paving Width	12	feet
	Paving Section	3	Inches of AC
		6	Inches of AB
	Roadway Excavation Depth:	0.75	feet
	Number of Curb & Gutter	2	
	Number of Median Curbs	0	
	Sidewalk Width	5	feet
	Number of Sidewalks	2	
	Landscape Width	12	feet

ITEM #	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL ITEM COST PER CL FOOT
<b>Surface Costs:</b>					
1	Mobilization, Clearing & Grubbing	39.00	SF	\$ 0.50	\$ 19.50
2	Earthwork	1.08	CY	\$ 20.00	\$ 21.67
3	AC	0.23	Ton	\$ 110.00	\$ 24.75
4	AB	0.45	Ton	\$ 50.00	\$ 22.50
5	Curb & Gutter No. 4	2.00	LF	\$ 30.00	\$ 60.00
6	Curb No. 14	0.00	LF	\$ 16.00	\$ -
7	PCC Sidewalk	10.00	SF	\$ 12.00	\$ 120.00
8	Landscaping	12.00	SF	\$ 12.00	\$ 144.00
9	Sawcut	3.00	LF	\$ 3.00	\$ 9.00
10	Remove AC	16.00	SF	\$ 1.00	\$ 16.00

**SUBTOTAL OF ROADWAY COSTS \$ 437.42**

	<b>TOTAL CONSTRUCTION COST PER FOOT:</b>	<b>\$ 440</b>
	Street Lighting:	\$ -
	Contingency 30%	\$ 140
	PSE&I 35%	\$ 160

**TOTAL PROBABLE ROADWAY CONSTRUCTION COST PER FOOT: \$ 740**

**Notes**

- 1 Paving Section is estimated.
- 2 Paving width assumes 20' of salvageable pavement.
- 3 Estimated costs include appurtenances and other items that are a part of the ultimate road segment. Estimated costs do not include interim items, private utility or joint trench costs, or items included in other fee programs.

**Appendix D**  
*Storm Water Calculation Tables*

**Stormwater Runoff Calculations**

**Strategic Development Scenario**

Existing Land Use	Existing % Impervious	Total Acreage	K (10yr)	N (10yr)	Q (10yr-cfs)	K (100yr)	N (100yr)	Q (100yr-cfs)
Vacant (OS)	5	5.16	1.16	0.76	4.04	1.87	0.76	6.50
Low Density Residential (R1-R3)	40	0.93	1.69	0.80	1.60	2.53	0.79	2.39
Industrial (M-1)	85	6.28	2.06	0.82	9.28	3.22	0.80	13.93
Commercial (C-2)	90	5.83	2.08	0.82	8.82	3.28	0.80	13.33
<b>Total</b>		18.21	<b>Total</b>		23.73	<b>Total</b>		36.14

Proposed Land Use	Proposed % Impervious	Total Acreage	K (10yr)	N (10yr)	Q (10yr-cfs)	K (100yr)	N (100yr)	Q (100yr-cfs)
Vacant (OS)	5	1.89	1.16	0.76	1.88	1.87	0.76	3.03
Residential Mixed Use (RMX-TO)	85	5.66	2.06	0.82	8.52	3.22	0.80	12.81
Mixed Use (C2-TO)	90	10.66	2.08	0.82	14.44	3.28	0.80	21.52
<b>Total</b>		18.21	<b>Total</b>		24.84	<b>Total</b>		37.37

Increased Q (10yr-cfs)
1.12

Increased Q (100yr-cfs)
1.22

**Development West of Tracks Scenario**

Existing Land Use	Existing % Impervious	Total Acreage	K (10yr)	N (10yr)	Q (10yr-cfs)	K (100yr)	N (100yr)	Q (100yr-cfs)
Vacant (OS)	5	9.10	1.16	0.76	6.21	1.87	0.76	10.00
Low Density Residential (R1-R3)	40	3.38	1.69	0.80	4.48	2.53	0.79	6.63
Mobile Home Park (R-4)	75	5.66	2.00	0.82	8.26	3.08	0.80	12.28
Industrial (M-1)	85	30.46	2.06	0.82	33.81	3.22	0.80	49.03
Commercial (C-2)	90	24.23	2.08	0.82	28.30	3.28	0.80	41.35
<b>Total</b>		72.84	<b>Total</b>		81.07	<b>Total</b>		119.28

Proposed Land Use	Proposed % Impervious	Total Acreage	K (10yr)	N (10yr)	Q (10yr-cfs)	K (100yr)	N (100yr)	Q (100yr-cfs)
Vacant (OS)	5	2	1.16	0.76	1.88	1.87	0.76	3.03
Residential Mixed Use (RMX-TO)	85	31	2.06	0.82	34.08	3.22	0.80	49.41
Mixed Use (C2-TO)	90	40	2.08	0.82	42.83	3.28	0.80	61.82
<b>Total</b>		72.84	<b>Total</b>		78.80	<b>Total</b>		114.26

Increased Q (10yr-cfs)
-2.27

Increased Q (100yr-cfs)
-5.02

**Long Term Development Scenario**

Existing Land Use	Existing % Impervious	Total Acreage	K (10yr)	N (10yr)	Q (10yr-cfs)	K (100yr)	N (100yr)	Q (100yr-cfs)
Vacant (OS)	5	19.89	1.16	0.76	11.26	1.87	0.76	18.10
Low Density Residential (R1-R3)	40	4.77	1.69	0.80	5.90	2.53	0.79	8.69
Mobile Home Park (R-4)	75	5.66	2.00	0.82	8.26	3.08	0.80	12.28
Industrial (M-1)	85	53.61	2.06	0.82	53.72	3.22	0.80	76.92
Commercial (C-2)	90	40.46	2.08	0.82	43.07	3.28	0.80	62.15
<b>Total</b>		124.39	<b>Total</b>		122.20	<b>Total</b>		178.14

Proposed Land Use	Proposed % Impervious	Total Acreage	K (10yr)	N (10yr)	Q (10yr-cfs)	K (100yr)	N (100yr)	Q (100yr-cfs)
Vacant (OS)	5	7	1.16	0.76	4.97	1.87	0.76	7.99
Residential Mixed Use (RMX-TO)	85	53	2.06	0.82	53.16	3.22	0.80	76.15
Mixed Use (C2-TO)	90	65	2.08	0.82	63.26	3.28	0.80	90.26
<b>Total</b>		124.40	<b>Total</b>		121.39	<b>Total</b>		174.40

Increased Q (10yr-cfs)
-0.81

Increased Q (100yr-cfs)
-3.74

**Change From Existing Conditions**

Development Scenario	Change in Q (10yr-cfs)	Change in Q (100yr-cfs)
Strategic Development	1.12	1.22
Development West of Tracks	-2.27	-5.02
Long Term Development	-0.81	-3.74

**Appendix E**  
*Sanitary Sewer Average Daily Flow Calculation Tables*

Long Term Development Scenario: Sewer System Flow Calculations

Map Annotation	Proposed								Existing								
	Total Area (ac)	Proposed LU	Zoning	Units	Capita per Dwelling Unit (Sac)	Gallons per Day Per Capita (Sac) gpd per ESD (CSD-1)	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Capita per Dwelling Unit (Sac)	Gallons per Day Per Capita (Sac) gpd per ESD (CSD-1)	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Average Parcel WW Flow (gpd)
A	0.45	Mixed-Use	C-2-TO	7	3	100	11000	7032	C-2	0.31	OFF,GENERAL ONE STORY	-	-	-	11000	3408	3408
									C-2	0.14	VACANT,RETAIL <2AC SITE	-	-	-	-		
B	0.45	Mixed-Use	C-2-TO	7	3	100	11000	6907	R-1	0.16	VACANT,RETAIL <2AC SITE	-	-	-	-	-	1541
									R-1	0.15	VACANT,RETAIL <2AC SITE	-	-	-	-		
C	0.45	Mixed-Use	C-2-TO	7	3	100	11000	6984	R-1	0.14	COM,USED CAR SALES LOT	-	-	11000	1541	1610	
									R-1	0.30	VACANT,RESIDENTIAL <2AC SITE	-	-	-	-		
D	0.45	Mixed-Use	C-2-TO	7	3	100	11000	7002	C-2	0.15	COM,TAKE-OUT RESTAURANT	-	-	11000	1610	2399	
									R-1	0.16	RES,SINGLE FAMILY IN SUBDIV	1	4	100	400		
E	1.45	Mixed-Use	C-2-TO	22	3	100	10800	22167	R-1	0.15	RES,SINGLE FAMILY IN SUBDIV	1	4	100	400	15937	
									C-2	0.15	IND,LIGHT INDUSTRY-FABRICATION	-	-	-	11000		1599
F	2.09	Mixed-Use	C-2-TO	31	3	100	10800	31974	M-1	0.25	COM,AUTO REPAIR SHOP	-	-	11000	2710	20494	
									M-1	0.73	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	-	11000		8012
G	2.18	Residential Mixed-Use	RMX-TO	33	3	100	9827	9827	M-1	0.47	IND,LIGHT INDUSTRY-OFC/WHSE	-	-	11000	5216	1200	
									M-1	0.16	IND,DISTRIBUTION & WAREHOUSES	-	-	-	11000		1753
H	2.09	Mixed-Use	C-2-TO	31	3	100	10800	31936	M-1	0.13	IND,MULTI-TENANT	-	-	11000	1414	21889	
									M-1	0.17	IND,MULTI-TENANT	-	-	-	11000		1907
I	5.67	Mixed-Use	C-2-TO	85	3	100	10000	82265	M-1	0.10	RES,SINGLE FAMILY IN SUBDIV	1	4	100	400	24347	
									M-1	0.17	RES,SINGLE FAMILY IN SUBDIV	1	4	100	400		
J	3.80	Residential Mixed-Use	RMX-TO	95	3	100	-	28497	M-1	0.22	IND,MULTI-TENANT	-	-	11000	2370	32963	
									M-1	1.13	IND,MULTI-TENANT	-	-	-	10800		12249
K	2.82	Residential Mixed-Use	RMX-TO	113	3	100	-	33892	M-1	1.55	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	6622	
									R-1	0.01	MISC,UNUSABLE-SMALL/MISSHAPED	-	-	-	-		
L	2.29	Residential Mixed-Use	RMX-TO	92	3	100	-	27526	R-1	0.15	RES,SINGLE FAMILY IN SUBDIV	1	4	100	400	15711	
									R-3	0.16	RES,TWO SINGLE FAMILY UNITS	2	4	100	800		
M	5.35	Residential Mixed-Use	RMX-TO	194	3	100	-	58288	R-3	0.16	VACANT,RESIDENTIAL <2AC SITE	-	-	-	-	0	
									R-3	0.16	VACANT,RESIDENTIAL <2AC SITE	-	-	-	-		
N	1.85	Mixed-Use	C-2-TO	28	3	100	10800	28263	M-1	0.04	PUB,STATE USE,EXEMPT	-	-	10800	20101	16866	
									M-1	0.02	PUB,SPEC.DISTRICT,NON-EXEMPT	-	-	-	-		



Long Term Development Scenario: Sewer System Flow Calculations

Map Annotation	Proposed								Existing								
	Total Area (ac)	Proposed LU	Zoning	Units	Capita per Dwelling Unit (Sac)	Gallons per Day Per Capita (Sac) gpd per ESD (CSD-1)	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Capita per Dwelling Unit (Sac)	Gallons per Day Per Capita (Sac) gpd per ESD (CSD-1)	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Average Parcel WW Flow (gpd)
O	1.83	Mixed-Use	C-2-TO	27	3	100	10800	27957	C-2	1.83	COM,TRAILER SALES & SERVICE	-	-	-	10800	19735	19735
P	1.67	Mixed-Use	C-2-TO	25	3	100	10800	25531	C-2	0.14	COM,USED CAR SALES LOT	-	-	-	10800	1499	18022
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1516	
									C-2	0.27	COM,TRAILER SALES & SERVICE	-	-	-	10800	2954	
									C-2	0.56	COM,TRAILER SALES & SERVICE	-	-	-	10800	6060	
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1515	
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1490	
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1494	
Q	1.83	Mixed-Use	C-2-TO	27	3	100	10800	27984	C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1494	19753
R	1.84	Mixed-Use	C-2-TO	28	3	100	10800	28142	M-1	1.83	COM,SMALL MULTI-TENANT	-	-	-	10800	19753	
									M-1	0.54	COM,TRAILER SALES & SERVICE	-	-	-	10800	5877	
									M-1	0.47	COM,SMALL SINGLE TENANT	-	-	-	11000	5116	
									M-1	0.16	COM,SMALL SINGLE TENANT	-	-	-	11000	1749	
									M-1	0.30	RES,SINGLE FAMILY IN SUBDIV	1	4	100	-	400	
									M-1	0.19	RES,SINGLE FAMILY NONSUBDIV	1	4	100	-	400	
									M-1	0.19	VACANT,RETAIL <2AC SITE	-	-	-	-	-	
S	4.55	Mixed-Use	C-2-TO	68	3	100	10000	65956	C-2	0.10	COM,TRAILER SALES & SERVICE	-	-	-	10000	998	45487
									C-2	1.24	COM,TRAILER SALES & SERVICE	-	-	-	10000	12419	
									C-2	1.20	COM,VEHICLE ORIENTED	-	-	-	10000	12047	
									C-2	2.00	COM,TRAILER SALES & SERVICE	-	-	-	10000	20024	
T	1.89	Mixed-Use	C-2-TO	28	3	100	10800	28980	M-1	1.77	COM,TRAILER SALES & SERVICE	-	-	-	10000	17716	18941
									M-1	0.12	COM,TRAILER SALES & SERVICE	-	-	-	10000	1225	
U	2.02	Residential Mixed-Use	RMX-TO	50	3	100	-	15115	M-1	2.02	COM,TRAILER SALES & SERVICE	-	-	-	10000	20154	20154
V	2.02	Mixed-Use	C-2-TO	30	3	100	10800	30970	M-1	2.02	COM,TRAILER SALES & SERVICE	-	-	-	10000	20242	20242
W	1.91	Mixed-Use	C-2-TO	29	3	100	10800	29234	M-1	1.64	RES,MOBILEHOME PARKS	25	3	100	-	7379	8598
									M-1	0.27	RES,MOBILEHOME PARKS	4	3	100	-	1219	
X	2.86	Residential Mixed-Use	RMX-TO	71	3	100	-	21439	M-1	2.86	IND,INDUSTRIAL USE	-	-	-	11000	31444	31444
Y	1.18	Mixed-Use	C-2-TO	18	3	100	10800	18084	R-1	0.07	RES,SINGLE FAMILY IN SUBDIV	1	4	100	-	400	12677
									C-2	0.82	IND,LIGHT INDUSTRY-DISTRIBUTION	-	-	-	11000	8985	
									C-2	0.30	IND,LIGHT INDUSTRIAL	-	-	-	11000	3292	
Z	3.21	Mixed-Use	C-2-TO	48	3	100	10400	47861	R-1	0.15	RES,SINGLE FAMILY IN SUBDIV	1	4	100	-	400	21603
									C-2	0.15	RES,MOBILEHOME PARKS	2	3	100	-	693	
									C-2	0.15	COM,TRAILER SALES & SERVICE	-	-	-	11000	1677	
									C-2	1.04	RES,MOBILEHOME PARKS	16	3	100	-	4684	
									C-2, M-1	0.68	RES,MOBILEHOME PARKS	10	3	100	-	3053	
									C-2	0.02	RES,MOBILEHOME PARKS	0	3	100	-	104	
									M-1	1.02	IND,DISTRIBUTION & WAREHOUSES	-	-	-	10800	10992	
AA	2.19	Mixed-Use	RMX-TO	131	-	310	-	40702	M-1	0.67	IND,LIGHT INDUSTRY-FABRICATION	-	-	-	1860	1237	3290
									M-1	0.25	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.52	IND,LIGHT INDUSTRY-FABRICATION	-	-	-	1860	974	
									M-1	0.21	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	-	1860	382	
									M-1	0.21	IND,DISTRIBUTION & WAREHOUSES	-	-	-	1860	387	
									M-1	0.13	RES,SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.12	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.09	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.42	IND,MULTI-TENANT	-	-	-	1860	776	
									M-1	0.21	VACANT,RECREATIONAL <2AC SITE	-	-	-	-	-	
BB	3.07	Mixed-Use	RMX-TO	184	-	310	-	57167	M-1	0.21	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	-	1860	387	4220
									M-1	0.21	RES,SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.21	IND,DISTRIBUTION & WAREHOUSES	-	-	-	1860	389	
									M-1	0.31	RES,SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.18	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.41	IND,LIGHT INDUSTRY-STORAGE	-	-	-	1860	769	
									M-1	0.21	IND,DISTRIBUTION & WAREHOUSES	-	-	-	1860	385	
									M-1	0.21	IND,DISTRIBUTION & WAREHOUSES	-	-	-	1860	387	
									M-1	0.14	IND,LIGHT INDUSTRY-OFC/WHSE	-	-	-	1860	255	
									M-1	0.14	IND,LIGHT INDUSTRY-OFC/WHSE	-	-	-	1860	252	
									M-1	0.13	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.09	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									CC	0.21	Mixed-Use	RMX-TO	-	-	310	-	
DD	1.14	Mixed-Use	RMX-TO	28	-	310	-	8807	M-1	0.21	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	-	1860	384	1314
									M-1	0.21	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.20	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.21	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.10	VACANT,RECREATIONAL <2AC SITE	-	-	-	-	-	
EE	3.28	Mixed-Use	RMX-TO	82	-	310	-	25412	M-1	0.21	RES,THREE SINGLE FAMILY UNITS	3	-	310	-	930	6099
									M-1	1.50	IND,LIGHT INDUSTRY-PROCESSING	-	-	-	1860	2782	
									M-1	1.16	IND,LIGHT INDUSTRY-ASSEMBLY	-	-	-	1860	2154	
FF	0.45	Mixed-Use	C-2-TO	7	-	310	1860	2914	M-1	0.63	IND,LIGHT INDUSTRY-ASSEMBLY	-	-	-	1860	1164	832
									C-2	0.11	COM,TRAILER SALES & SERVICE	-	-	-	1860	211	
									C-2-R	0.16	COM,TRAILER SALES & SERVICE	-	-	-	1860	306	
GG	0.18	Mixed-Use	RMX-TO	-	-	310	-	0	C-2-R	0.17	COM,TRAILER SALES & SERVICE	-	-	-	1860	315	0
									R-1	0.03	PUB,SPEC.DISTRICT,EXEMPT	-	-	-	-	-	
HH	0.18	Mixed-Use	C-2-TO	5	-	310	1860	1776	R-1	0.14	VACANT,RESIDENTIAL <2AC SITE	-	-	-	-	-	0
II	0.17	Mixed-Use	RMX-TO	4	-	310	-	1312	M-1	0.18	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	0
JJ	0.17	Mixed-Use	RMX-TO	4	-	310	-	1285	R-1	0.17	VACANT,RESIDENTIAL <2AC SITE	-	-	-	-	-	0
KK	5.74	Mixed-Use	C-2-TO	-	-	310	1860	10676	C-4-R, M-2	5.74	VACANT,OFFICE >5AC SITE	-	-	-	-	-	0
LL*	15.06	Mixed-Use	M-1, OB-PUD	227	-	310	1860	98428	M-1, OB-PUD	13.01	OFF,GENERAL MULTI-STORY	-	-	-	1860	24190	24190
									OB-PUD	0.64	PUB,SBE PROPERTY,NON-EXEMPT	-	-	-	-	-	
									OB-PUD	1.42	VACANT,OFFICE <2AC SITE	-	-	-	-	-	

Long Term Development Scenario: Sewer System Flow Calculations

Map Annotation	Total Area (ac)	Proposed							Existing								
		Proposed LU	Zoning	Units	Capita per Dwelling Unit (Sac)	Gallons per Day Per Capita (Sac) gpd per ESD (CSD-1)	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Capita per Dwelling Unit (Sac)	Gallons per Day Per Capita (Sac) gpd per ESD (CSD-1)	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Average Parcel WW Flow (gpd)
MM	3.16	Mixed-Use	RMX-TO	79	3	100	-	23720	OB-LI	1.40	IND.DISTRIBUTION & WAREHOUSES	-	-	-	10800	15155	34157
									OB-LI	1.76	COM.LARGE DISCOUNT STORE	-	-	-	10800	19002	
NN	0.32	Residential Mixed-Use	RMX-TO	5	3	100	-	1418	C-2-R	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	-	11000	2171	2171
OO	0.50	Mixed-Use	C-2-TO		3	100	11000	5469	R-3	0.12	PUB.COUNTY USE	-	-	-	-	-	
PP	1.89	Residential Mixed-Use	RMX-TO	28	3	100	-	8519	M-1	0.50	COM.SERVICE STATION	-	-	-	10800	5369	5369
									M-1	0.67	COM.AUTO REPAIR SHOP	-	-	-	10800	7204	20445
									M-1	0.95	IND.DISTRIBUTION & WAREHOUSES	-	-	-	10800	10293	
									M-1	0.27	IND.DISTRIBUTION & WAREHOUSES	-	-	-	10800	2948	
QQ	2.84	Mixed-Use	RMX-TO	71	-	310	-	22001	M-1	1.06	PUB.STATE USE,EXEMPT	-	-	-	-	-	3190
									M-1	0.29	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	537	
									M-1	0.06	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	
									M-1	0.40	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	745	
									M-1	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	379	
									M-1	0.20	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	-	1860	380	
									M-1	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	366	
									M-1	0.42	IND.BUILDING MATERIALS	-	-	-	1860	782	
									M-1	0.21	COM.TRAILER SALES & SERVICE	-	-	-	1860	385	
RR	0.52	Mixed-Use	RMX-TO	13	-	310	-	4000	M-1	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	381	
									M-1	0.10	RES.SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.44	PUB.STATE USE,NON-EXEMPT	-	-	-	-	-	7205
									M-1	0.24	PUB.STATE USE,NON-EXEMPT	-	-	-	-	-	
									C-2, M-1	0.13	PUB.STATE USE,EXEMPT	-	-	-	-	-	
									M-1	0.20	COM.SMALL SINGLE TENANT	-	-	-	1860	368	
									M-1	1.26	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	2341	
									M-1	0.11	RES.SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.11	RES.SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.41	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	762	
									M-1	1.24	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	2302	
									M-1	0.22	IND.LIGHT INDUSTRY-FABRICATION	-	-	-	1860	411	
									M-1	0.22	IND.LIGHT INDUSTRIAL	-	-	-	1860	401	6685
									M-1	1.32	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	2463	
									M-1	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	368	
									M-1	0.51	IND.BUILDING MATERIALS	-	-	-	1860	947	
									M-1	0.16	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	-	1860	291	
									M-1	0.51	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	-	1860	942	
									M-1	0.90	VACANT,RESIDENTIAL <2AC SITE	-	-	-	-	-	
									M-1	0.90	IND.LIGHT INDUSTRY-PROCESSING	-	-	-	1860	1674	
									M-1	0.83	* UNKNOWN USE CODE *	-	-	-	-	-	
									M-1	0.04	COM.BARS & LOUNGES	-	-	-	1860	69	
UU	7.31	Mixed-Use	RMX-TO	183	-	310	-	56646	M-1	0.91	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	1697	12027
									M-1	0.19	COM.BARS & LOUNGES	-	-	-	1860	362	
									M-1	0.92	IND.BUILDING MATERIALS	-	-	-	1860	1716	
									M-1	1.41	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	2616	
									M-1	0.18	RES.SINGLE FAMILY NONSUBDIV	1	-	310	-	310	
									M-1	0.15	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	271	
									M-1	0.28	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	517	
									M-1	0.18	OFF.GENERAL ONE STORY	-	-	-	1860	327	
									M-1	0.16	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	304	
									M-1	0.94	IND.DISTRIBUTION & WAREHOUSES	-	-	-	1860	1744	
									M-1	1.13	IND.LIGHT INDUSTRY-FABRICATION	-	-	-	1860	2093	
VV	0.95	Residential Mixed-Use	RMX-TO		3	100	11000	10441	M-1	0.95	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	-	10800	10251	10251
WW	1.85	Residential Mixed-Use	RMX-TO	46	3	100	-	13888	M-1	0.13		2	3	100	-	577	8333
									M-1	1.72	RES.MOBILEHOME PARKS	26	3	100	-	7756	
Signature Properties Development	1.26	Residential Mixed-Use	RMX-TO	20	3	100	-	6000	M-1	1.26	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	-
Lumberjack Site Development	2.80	Mixed-Use	C-2-TO	96	3	100	10800	59078	M-1	0.90	COM.LARGE DISCOUNT STORE	-	-	-	10800	9703	30418
									M-1	0.70	COM.LARGE DISCOUNT STORE	-	-	-	11000	7688	
									M-1	1.21	COM.LARGE DISCOUNT STORE	-	-	-	10800	13027	
Dixieanne Park	1.89	Residential Mixed-Use	A-OS		-	-	-	-	C-2	1.89	PUB,CITY USE,EXEMPT	-	-	-	-	-	-

Notes: Blue shading represents parcels in the Sacramento Zone, magenta shading represents parcels in the CSD-1 Zone.

Strategic Development Scenario: Sewer System Flow Calculations

Map Annotation	Total Area (ac)	Proposed							Existing								
		Proposed LU	Zoning	Units	Capita per Dwelling Unit	Gallons per Day Per Capita	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Capita Per Dwelling Unit	Gallons per Day per Capita	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Average Parcel WW Flow (gpd)
F	2.09	Mixed-Use	C-2-TO	31	3	100	10800	31974	M-1	0.16	IND.DISTRIBUTION & WAREHOUSES	-	-	-	11000	1753	20494
									M-1	0.13	IND.MULTI-TENANT	-	-	-	11000	1414	
									M-1	0.17	IND.MULTI-TENANT	-	-	-	11000	1907	
									M-1	0.10	RES.SINGLE FAMILY IN SUBDIV	1	4	100	-	400	
									M-1	0.17	RES.SINGLE FAMILY IN SUBDIV	1	4	100	-	400	
									M-1	0.22	IND.MULTI-TENANT	-	-	-	11000	2370	
									M-1	1.13	IND.MULTI-TENANT	-	-	-	10800	12249	
									M-1	1.55	VACANT INDUSTRIAL <2AC SITE	-	-	-	-	-	
									R-1	0.01	MISC.UNUSABLE-SMALL/MISSHAPED	-	-	-	-	-	
G	2.18	Residential Mixed-Use	RMX-TO	33	3	100	-	9827	R-1	0.15	RES.SINGLE FAMILY IN SUBDIV	1	4	100	-	400	1200
									R-3	0.16	RES.TWO SINGLE FAMILY UNITS	2	4	100	-	800	
									R-3	0.16	VACANT RESIDENTIAL <2AC SITE	-	-	-	-	-	
									R-3	0.16	VACANT RESIDENTIAL <2AC SITE	-	-	-	-	-	
									M-1	1.86	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	-	10800	20101	
									M-1	0.02	PUB.SPEC.DISTRICT, NON-EXEMPT	-	-	-	-	-	
									M-1	0.16	IND.DISTRIBUTION & WAREHOUSES	-	-	-	11000	1788	
									M-1	0.04	PUB.STATE USE EXEMPT	-	-	-	-	-	
									C-2	0.20	COM.AUTO REPAIR SHOP	-	-	-	11000	2174	
N	1.85	Mixed-Use	C-2-TO	28	3	100	10800	28263	C-2	0.34	RES.MOTELS	17	1	100	-	1675	16766
									C-2	1.17	IND.LIGHT INDUSTRY-AUTO YARD	-	-	-	11000	12916	
									C-2	0.14	VACANT RETAIL <2AC SITE	-	-	-	-	-	
Q	1.83	Mixed-Use	C-2-TO	27	3	100	10800	27984	M-1	1.83	COM.SMALL MULTI-TENANT	-	-	-	10800	19753	19753
NN	0.32	Residential Mixed-Use	RMX-TO	5	3	100	-	1418	C-2-R	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	-	11000	2171	2171
									R-3	0.12	PUB.COUNTY USE	-	-	-	-	-	
									M-1	0.67	COM.AUTO REPAIR SHOP	-	-	-	11000	7337	
PP	1.89	Residential Mixed-Use	RMX-TO	28	3	100	-	8519	M-1	0.95	IND.DISTRIBUTION & WAREHOUSES	-	-	-	10800	10293	20633
									M-1	0.27	IND.DISTRIBUTION & WAREHOUSES	-	-	-	11000	3002	
									M-1	0.90	COM.LARGE DISCOUNT STORE	-	-	-	10800	9703	
Signature Properties Development	1.26	Residential Mixed-Use	RMX-TO	20	3	100	-	6000	M-1	1.26	VACANT INDUSTRIAL <2AC SITE	-	-	-	-	-	-
									M-1	0.70	COM.LARGE DISCOUNT STORE	-	-	-	11000	7688	
									M-1	1.21	COM.LARGE DISCOUNT STORE	-	-	-	10800	13027	
Lumberjack Site Development	2.80	Mixed-Use	C-2-TO	96	3	100	10800	59078	M-1	0.70	COM.LARGE DISCOUNT STORE	-	-	-	11000	7688	30418
Dixieanne Park	1.89	Residential Mixed-Use	A-OS		-	-	-	-	C-2	1.89	PUB.CITY USE EXEMPT	-	-	-	-	-	-



West of Tracks Development Scenario: Sewer System Flow Calculations

Map Annotation	Proposed LU	Proposed							Existing								
		Zoning	Units	Total Area (ac)	Capita per Dwelling Unit	Gallons per Day Per Capita	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Capita Per Dwelling Unit	Gallons per Day per Capita	Avg. WW Flow (gpd/ac)	Average WW Flow (gpd)	Average Parcel WW Flow (gpd)
O	Mixed-Use	C-2-TO	27	1.83	3	100	10800	27957	C-2	1.83	COM,TRAILER SALES & SERVICE	-	-	-	10800	19735	19735
P	Mixed-Use	C-2-TO	25	1.67	3	100	10800	25531	C-2	0.14	COM,USED CAR SALES LOT	-	-	-	11000	1527	18050
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1516	
									C-2	0.27	COM,TRAILER SALES & SERVICE	-	-	-	10800	2954	
									C-2	0.56	COM,TRAILER SALES & SERVICE	-	-	-	10800	6060	
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1515	
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1490	
									C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1494	
Q	Mixed-Use	C-2-TO	27	1.83	3	100	10800	27984	C-2	0.14	COM,TRAILER SALES & SERVICE	-	-	-	10800	1494	19753
M-1	1.83	COM,SMALL MULTI-TENANT	-	-	-	10800	19753										
M-1	0.54	COM,TRAILER SALES & SERVICE	-	-	-	10800	5877										
M-1	0.47	COM,SMALL SINGLE TENANT	-	-	-	11000	5116										
M-1	0.16	COM,SMALL SINGLE TENANT	-	-	-	11000	1749										
M-1	0.30	RES,SINGLE FAMILY IN SUBDIV	1	4	100	-	400										
M-1	0.19	RES,SINGLE FAMILY NONSUBDIV	1	4	100	-	400										
S	Mixed-Use	C-2-TO	68	4.55	3	100	10000	65956	M-1	0.19	VACANT,RETAIL <2AC SITE	-	-	-	-	-	45487
									C-2	0.10	COM,TRAILER SALES & SERVICE	-	-	-	10000	998	
									C-2	1.24	COM,TRAILER SALES & SERVICE	-	-	-	10000	12419	
									C-2	1.20	COM,VEHICLE ORIENTED	-	-	-	10000	12047	
									C-2	2.00	COM,TRAILER SALES & SERVICE	-	-	-	10000	20024	
									M-1	1.77	COM,TRAILER SALES & SERVICE	-	-	-	10000	17716	
									M-1	0.12	COM,TRAILER SALES & SERVICE	-	-	-	10000	1225	
T	Mixed-Use	C-2-TO	28	1.89	3	100	10800	28980	M-1	0.12	COM,TRAILER SALES & SERVICE	-	-	-	10000	1225	18941
U	Residential Mixed-Use	RMX-TO	50	2.02	3	100	-	15115	M-1	2.02	COM,TRAILER SALES & SERVICE	-	-	-	10000	20154	20154
V	Mixed-Use	C-2-TO	30	2.02	3	100	10800	30970	M-1	2.02	COM,TRAILER SALES & SERVICE	-	-	-	10000	20242	20242
W	Mixed-Use	C-2-TO	29	1.91	3	100	10800	29234	M-1	1.64	RES,MOBILEHOME PARKS	25	3	100	-	7379	8598
X	Residential Mixed-Use	RMX-TO	71	2.86	3	100	-	21439	M-1	0.27	RES,MOBILEHOME PARKS	4	3	100	-	1219	31444
									M-1	2.86	IND,INDUSTRIAL USE	-	-	-	11000	31444	
Y	Mixed-Use	C-2-TO	18	1.18	3	100	10800	18084	R-1	0.07	RES,SINGLE FAMILY IN SUBDIV	1	4	100	-	400	12677
									C-2	0.82	IND,LIGHT INDUSTRY-DISTRIBUTION	-	-	-	11000	8985	
									C-2	0.30	IND,LIGHT INDUSTRIAL	-	-	-	11000	3292	
Z	Mixed-Use	C-2-TO	48	3.21	3	100	10400	47861	R-1	0.15	RES,SINGLE FAMILY IN SUBDIV	1	4	100	-	400	21603
									C-2	0.15	RES,MOBILEHOME PARKS	2	3	100	-	693	
									C-2	1.04	RES,MOBILEHOME PARKS	16	3	100	-	4684	
									C-2, M-1	0.68	RES,MOBILEHOME PARKS	10	3	100	-	3053	
									C-2	0.02	RES,MOBILEHOME PARKS	0	3	100	-	104	
									M-1	1.02	IND,DISTRIBUTION & WAREHOUSES	-	-	-	10800	10992	
									OB-LI	1.40	IND,DISTRIBUTION & WAREHOUSES	-	-	-	10800	15155	
MM	Mixed-Use	RMX-TO	79	3.16	3	100	-	23720	OB-LI	1.76	COM,LARGE DISCOUNT STORE	-	-	-	10800	19002	34157
									C-2-R	0.20	IND,DISTRIBUTION & WAREHOUSES	-	-	-	11000	2171	
NN	Residential Mixed-Use	RMX-TO	5	0.32	3	100	-	1418	R-3	0.12	PUB,COUNTY USE	-	-	-	-	-	2171
OO	Mixed-Use	C-2-TO		0.50	3	100	11000	5469	M-1	0.50	COM,SERVICE STATION	-	-	-	11000	5469	5469
PP	Residential Mixed-Use	RMX-TO	28	1.89	3	100	-	8519	M-1	0.67	COM,AUTO REPAIR SHOP	-	-	-	11000	7337	20633
									M-1	0.95	IND,DISTRIBUTION & WAREHOUSES	-	-	-	10800	10293	
									M-1	0.27	IND,DISTRIBUTION & WAREHOUSES	-	-	-	11000	3002	
VV	Residential Mixed-Use	RMX-TO		0.95	3	100	-	0	M-1	0.95	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	-	10800	10251	10251
WW	Residential Mixed-Use	RMX-TO	46	1.85	3	100	-	13888	M-1	0.13		2	3	100	-	577	8333
									M-1	1.72	RES,MOBILEHOME PARKS	26	3	100	-	7756	
Signature Properties Development	Residential Mixed-Use	RMX-TO	20	1.26	3	100	-	6000	M-1	1.26	VACANT,INDUSTRIAL <2AC SITE	-	-	-	-	-	-
Lumberjack Site Development	Mixed-Use	C-2-TO	96	2.80	3	100	10800	59078	M-1	0.90	COM,LARGE DISCOUNT STORE	-	-	-	10800	9703	30278
									M-1	0.70	COM,LARGE DISCOUNT STORE	-	-	-	10800	7549	
									M-1	1.21	COM,LARGE DISCOUNT STORE	-	-	-	10800	13027	
Dixianne Park	Residential Mixed-Use	A-OS		1.89	-	-	-	-	C-2	1.89	PUB,CITY USE,EXEMPT	-	-	-	-	-	-

**Appendix F**  
*Sanitary Sewer Pipe Flow Calculation Tables*

**Sanitary Sewer Pipe Flow Calculations**

**Existing Sacramento Zone Pipe Flows**

**Location:** Royal Oaks Outlet

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Existing Size (in)	Maximum Flow for Existing Diameter @ Min. Slope(gpd)	Existing Pipe Under Capacity?
Dixianne & Selma St. MH 302-603	1310	48,874	3.7	180,836	744	181,580	6	213,509	No
Green St. to Lexington St. MH 810-217	1,065	41,873	3.8	159,117	605	159,723	6	213,509	No
Lexington St. MH 217-501	640	108,751	3.5	380,627	364	380,991	6	213,509	Yes
Calvados Ave. (East of Evergreen St.) MH 603-510	980	174,107	3.3	574,552	742	575,294	8	386,458	Yes
Calvados Ave. (West of Evergreen St.) MH 510-609	1,300	323,330	2.8	905,324	1477	906,801	12	862,297	Yes
Arden Way MH 520-609	1,060	145,896	3.3	481,458	803	482,261	8	386,458	Yes
Royal Oaks MH 609-904 <sup>9</sup>	530	469,226	2.4	1,126,143	602	1,126,745	12	862,297	Yes

**Location:** Erickson St. to Beaumont St.

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Existing Size (in)	Maximum Flow for Existing Diameter @ Min. Slope(gpd)	Existing Pipe Under Capacity?
Erickson St.- Beaumont St. MH 706-906	1,174	29,426	3.9	114,761	667	115,428	6	213,509	No

**Location:** Evergreen St. to Boxwood St.

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Existing Size (in)	Maximum Flow for Existing Diameter @ Min. Slope(gpd)	Existing Pipe Under Capacity?
Evergreen St.-Boxwood St. MH 814-413	750	24,535	4.0	98,139	568	98,707	8	386,458	No

**Location:** Frienza Ave.

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Existing Size (in)	Maximum Flow for Existing Diameter @ Min. Slope(gpd)	Existing Pipe Under Capacity?
Evergreen St. MH 213-813	790	29,975	4	119,902	748	120,650	10	593,339	No
Evergreen St. MH 813-508	480	67,437	3.7	249,518	545	250,063	12	862,297	No
El Camino Ave. MH 708-903	550	74,322	3.6	267,560	313	267,872	6	213,509	Yes
Clay St. MH 903-606	610	114,374	3.4	388,873	347	389,219	6	213,509	Yes
Frienza Ave. MH 607-508	1540	204,396	3.0	613,187	1167	614,353	8	386,458	Yes
Lampasas Ave MH 508-108	430	271,833	2.7	733,949	489	734,437	12	862,297	No

**Proposed Sacramento Zone Pipe Flows: Long Term Development**

**Location:** Royal Oaks Outlet

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Total Flow Increase (gpd)	Existing Size (in)	Recommended Size (in)
Dixianne & Selma St. MH 302-603	1310	119,530	3.3	394,450	744	395,194	213,614	6	12
Green St. to Lexington St. MH 810-217	1,065	40,977	3.7	151,613	605	152,218	-7,504	6	8
Lexington St. MH 217-501	640	147,614	3.2	472,366	364	472,730	91,739	6	12
Calvados Ave. (East of Evergreen St.) MH 603-510	980	281,393	2.7	759,761	742	760,504	185,209	8	12
Calvados Ave. (West of Evergreen St.) MH 510-609	1,300	502,018	2.5	1,255,045	1477	1,256,523	349,722	12	18
Arden Way MH 520-609	1,060	211,333	3.1	655,131	803	655,935	173,674	8	12
Royal Oaks MH 609-904 <sup>9</sup>	530	713,351	2.3	1,640,707	402	1,641,109	514,363	8	18

**Location:** Erickson St. to Beaumont St.

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>2</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Total Flow Increase (gpd)	Existing Size (in)	Recommended Size (in)
Erickson St.- Beaumont St. MH 706-906	1,174	40,823	3.8	155,126	923	156,049	40,621	6	6

**Location:** Evergreen St. to Boxwood St.

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>2</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Total Flow Increase (gpd)	Existing Size (in)	Recommended Size (in)
Evergreen St.-Boxwood St. MH 814-413	750	32,757	4.0	131,030	568	131,598	32,891	8	8

**Location:** Frienza Ave.

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Total Flow Increase (gpd)	Existing Size (in)	Recommended Size (in)
Evergreen St. MH 213-813	790	32,243	3.9	125,748	748	126,496	5,846	10	10
Evergreen St. MH 813-508	480	77,214	3.6	277,970	545	278,515	28,452	12	12
El. Camino Ave. MH 708-903	550	116,617	3.4	396,498	313	396,810	128,938	6	12
Clay St. MH 903-606	610	174,152	3.2	557,286	347	557,633	168,414	6	12
Frienza Ave. MH 607-508	1540	277,683	2.7	749,743	1167	750,910	136,557	8	12
Lampasas Ave MH 508-108	430	354,897	2.6	922,731	489	923,220	188,783	12	12



**Proposed Sacramento Zone Pipe Flows : Strategic Development**

**Location:** Royal Oaks Outlet

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>2</sup>	Peaking Factor <sup>3</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>4</sup>	Design Flow (gpd)	Total Flow Increase (gpd)	Existing Size (in)	Recommended Size (in)
Dixianne & Selma St. MH 302-603	1310	48,874	3.7	180,836	744	181,580	0	6	6
Green St. to Lexington St. MH 810-217	1,065	35,910	3.8	136,458	605	137,063	-22,659	6	6
Lexington St. MH 217-501	640	108,751	3.5	380,627	364	380,991	0	6	12
Calvados Ave. (East of Evergreen St.) MH 603-510	980	174,107	3.3	574,552	742	575,294	0	8	12
Calvados Ave. (West of Evergreen St.) MH 510-609	1,300	347,250	2.8	972,300	1477	973,778	66,977	12	18
Arden Way MH 520-609	1,060	186,037	3.3	613,922	803	614,725	132,464	8	12
Royal Oaks MH 609-904 <sup>9</sup>	530	533,287	2.4	1,279,889	402	1,280,290	153,545	8	18

**CSD-1 District (Existing)**

**Location:** CSD-1 District

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>5</sup>	Peaking Factor <sup>6</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>7</sup>	Design Flow (gpd)	Existing Size (in)	Maximum Flow for Existing Diameter @ Min. Slope(gpd)	Existing Pipe Under Capacity?
Silica Ave. MH 201-203	620	31,443	1.7	54,478	10500	64,978	8	386,458	No
Silica Ave. MH 201-106	260	82,083	1.7	137,185	40500	177,685	8	386,458	No
Manning St. MH 816-201	1100	45,596	1.7	77,931	30000	107,931	8	386,458	No
Princeton Street MH 904-306	840	6,400	1.8	11,708	4500	16,208	6	213,509	No
Knoll Street MH 814-203	850	11,632	1.8	20,866	4500	25,366	6	213,509	No
Harvard St. MH 703-106	660	9,972	1.8	17,980	7000	24,980	6	213,509	No
Harvard St. MH 106-401	450	117,414	1.6	193,476	60500	253,976	8	386,458	No
Harvard St. MH 401-909	1150	141,604	1.6	231,576	80500	312,076	12	862,297	No

**CSD-1 District (Proposed)**

**Location:** CSD-1 District

Major Pipe Location <sup>1</sup>	Pipe Length (ft)	Average Flow (gpd) <sup>5</sup>	Peaking Factor <sup>6</sup>	Daily Peak Flow (gpd)	Avg. Infiltration (gpd) <sup>7</sup>	Design Flow (gpd)	Total Flow Increase (gpd)	Existing Size (in)	Recommended Size (in)
Silica Ave. MH 201-203	620	68,592	1.7	115,437	10500	125,937	60,959	8	8
Silica Ave. MH 201-106	260	169,880	1.6	275,751	40500	316,251	138,566	8	8
Manning St. MH 816-201	1100	78,595	1.7	131,577	30000	161,577	53,647	8	8
Princeton Street MH 904-306	840	7,685	1.8	13,976	4500	18,476	2,268	6	8
Knoll Street MH 814-203	850	16,801	1.8	29,762	4500	34,262	8,897	6	8
Harvard St. MH 703-106	660	114,682	1.6	189,153	7000	196,153	171,173	6	8
Harvard St. MH 106-401	450	324,645	1.6	512,682	60500	573,182	319,206	8	12
Harvard St. MH 401-909	1150	433,749	1.6	676,279	80500	756,779	444,703	12	12

**Notes**

1. "Major Pipes" are classified as pipes that collect substantial flows from laterals and other distribution mains.
2. City of Sacramento Standards- Section 9.1- Average Flow Determination.
3. City of Sacramento Standards Plate 9-2.
4. Calculated in accordance with City of Sacramento standards Section 9.2- Design Flow.
5. Calculated in accordance with the CSD-1 District Design Manual
6. Calculated in accordance with the CSD-1 District formula.  $PF=3.3-(1.8*Q^{.04})$ . (with a flow range of .1-50 MGD)
7. Calculated in accordance with CSD-1 District Table 7-1:Design Storm RDI/I Rates
8. Manhole Numbers Refer to Manhole Designations in 2005 Sacramento Sewer Map Book
9. The pipe segment on Royal Oaks Drive between MH 609 and 904 is outside of the project area and not included in cost estimates or proposed facility upgrade maps.

**Appendix G**  
*Water System Demand Calculation Tables*

Long Term Development Scenario: Water System Demand Calculations

Map Annotation	Proposed										Existing												
	Total Area (ac)	Proposed LU	Zoning	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Average Parcel Day Demand (gpd)
A	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2746	4943	6426	C-2	0.31	OFF,GENERAL ONE STORY	-	-	3	1.8	1.3	830	1493	1941	830
B	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2697	4855	6311	C-2	0.14	VACANT,RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	375
C	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2727	4909	6382	R-1	0.16	VACANT,RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	392
D	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2734	4922	6398	R-1	0.15	VACANT,RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	1819
E	1.45	Mixed-Use	C-2-TO	22	225	3	1.8	1.3	8770	15786	20522	R-1	0.14	COM,USED CAR SALES LOT	-	-	3	1.8	1.3	375	675	878	4954
F	2.09	Mixed-Use	C-2-TO	31	225	3	1.8	1.3	12650	22770	29600	R-1	0.30	VACANT,RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	7766
G	2.18	Residential Mixed-Use	RMX-TO	33	225	-	1.8	1.3	7370	13267	17247	C-2	0.15	COM,TAKE-OUT RESTAURANT	-	-	3	1.8	1.3	392	705	917	1950
H	2.09	Mixed-Use	C-2-TO	31	225	3	1.8	1.3	12634	22742	29565	R-1	0.16	RES,SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	7226
I	5.67	Mixed-Use	C-2-TO	85	225	3	1.8	1.3	34342	61815	80360	R-1	0.15	RES,SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	8014
J	3.80	Residential Mixed-Use	RMX-TO	95	225	-	1.8	1.3	21372	38470	50012	R-3	0.16	RES,TWO SINGLE FAMILY UNITS	2	650	-	1.8	1.3	1300	2340	3042	13424
K	2.82	Residential Mixed-Use	RMX-TO	113	225	-	1.8	1.3	25419	45754	59481	R-3	0.16	VACANT,RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	4230
L	2.29	Residential Mixed-Use	RMX-TO	92	225	-	1.8	1.3	20644	37160	48308	M-1	1.86	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	6646	11963	15551	5100
M	5.35	Residential Mixed-Use	RMX-TO	194	225	-	1.8	1.3	43716	78689	102295	M-1	0.02	PUB,STATE USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	0

Long Term Development Scenario: Water System Demand Calculations

Map Annotation	Proposed											Existing											
	Total Area (ac)	Proposed LU	Zoning	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Average Parcel Day Demand (gpd)
N	1.85	Mixed-Use	C-2-TO	28	225	3	1.8	1.3	11181	20126	26164	C-2	0.20	COM.AUTO REPAIR SHOP	-	-	-	1.8	1.3	529	953	1238	8492
												C-2	0.34	RES.MOTELS	17	225	-	1.8	1.3	3770	6785	8821	
												C-2	1.17	IND.LIGHT INDUSTRY-AUTO YARD	-	-	4	1.8	1.3	4193	7547	9811	
												C-2	0.14	VACANT.RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
O	1.83	Mixed-Use	C-2-TO	27	225	3	1.8	1.3	11061	19909	25882	C-2	1.83	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	4894	8808	11451	4894
P	1.67	Mixed-Use	C-2-TO	25	225	3	1.8	1.3	10101	18181	23635	C-2	0.14	COM.USED CAR SALES LOT	-	-	3	1.8	1.3	372	669	870	4469
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	376	677	880	
												C-2	0.27	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	732	1318	1714	
												C-2	0.56	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	1503	2705	3516	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	376	676	879	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	665	865	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	667	867	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	667	867	
Q	1.83	Mixed-Use	C-2-TO	27	225	3	1.8	1.3	11071	19928	25906	M-1	1.83	COM.SMALL MULTI-TENANT	-	-	3	1.8	1.3	4898	8817	11462	4898
R	1.84	Mixed-Use	C-2-TO	28	225	3	1.8	1.3	11134	20041	26053	M-1	0.54	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	1457	2623	3410	4429
												M-1	0.47	COM.SMALL SINGLE TENANT	-	-	3	1.8	1.3	1245	2242	2914	
												M-1	0.16	COM.SMALL SINGLE TENANT	-	-	3	1.8	1.3	426	767	997	
												M-1	0.30	RES.SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.19	RES.SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.19	VACANT.RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
S	4.55	Mixed-Use	C-2-TO	68	225	3	1.8	1.3	27533	49560	64428	C-2	0.10	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	267	481	625	12182
												C-2	1.24	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	3326	5986	7782	
												C-2	1.20	COM.VEHICLE ORIENTED	-	-	3	1.8	1.3	3226	5807	7549	
												C-2	2.00	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	5362	9652	12548	
T	1.89	Mixed-Use	C-2-TO	28	225	3	1.8	1.3	11465	20637	26828	M-1	1.77	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	4745	8540	11102	5072
U	2.02	Residential Mixed-Use	RMX-TO	50	225	-	1.8	1.3	11337	20406	26527	M-1	0.12	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	328	590	767	5397
V	2.02	Mixed-Use	C-2-TO	30	225	3	1.8	1.3	12252	22054	28670	M-1	2.02	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	5397	9715	12630	5397
W	1.91	Mixed-Use	C-2-TO	29	225	3	1.8	1.3	11565	20818	27063	M-1	1.64	RES.MOBILEHOME PARKS	25	225	-	1.8	1.3	5534	9961	12950	6449
X	2.86	Residential Mixed-Use	RMX-TO	71	225	-	1.8	1.3	16079	28942	37625	M-1	0.27	RES.MOBILEHOME PARKS	4	225	-	1.8	1.3	914	1646	2140	6449
Y	1.18	Mixed-Use	C-2-TO	18	225	3	1.8	1.3	7154	12878	16741	M-1	2.86	IND.INDUSTRIAL USE	-	-	4	1.8	1.3	10207	18373	23884	10207
												R-1	0.07	RES.SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												C-2	0.82	IND.LIGHT INDUSTRY-DISTRIBUTION	-	-	4	1.8	1.3	2917	5250	6825	
												C-2	0.30	IND.LIGHT INDUSTRIAL	-	-	4	1.8	1.3	1089	1924	2501	
Z	3.21	Mixed-Use	C-2-TO	48	225	3	1.8	1.3	19443	34998	45497	R-1	0.15	RES.SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	11093
												C-2	0.15	RES.MOBILEHOME PARKS	2	225	-	1.8	1.3	519	935	1215	
												C-2	0.15	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	408	735	955	
												C-2	1.04	RES.MOBILEHOME PARKS	16	225	-	1.8	1.3	3513	6324	8221	
												C-2	0.68	RES.MOBILEHOME PARKS	10	225	-	1.8	1.3	2290	4121	5358	
												C-2	0.02	RES.MOBILEHOME PARKS	0	225	-	1.8	1.3	78	141	183	
												M-1	1.02	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	3634	6542	8504	
												M-1	0.67	IND.LIGHT INDUSTRY-FABRICATION	-	-	4	1.8	1.3	2376	4276	5559	
AA	2.19	Mixed-Use	RMX-TO	131	225	-	1.8	1.3	29542	53175	69128	M-1	0.25	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	6371
												M-1	0.52	IND.LIGHT INDUSTRY-FABRICATION	-	-	4	1.8	1.3	1869	3364	4374	
												M-1	0.21	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	734	1321	1717	
												M-1	0.21	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	742	1336	1737	
												M-1	0.13	RES.SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.12	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.09	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.42	IND.MULTI-TENANT	-	-	4	1.8	1.3	1489	2681	3485	
BB	3.07	Mixed-Use	RMX-TO	184	225	-	1.8	1.3	41492	74686	97092	M-1	0.21	VACANT.RECREATIONAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	8212
												M-1	0.21	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	743	1337	1739	
												M-1	0.21	RES.SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.21	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	747	1345	1748	
												M-1	0.31	RES.SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.18	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.41	IND.LIGHT INDUSTRY-STORAGE	-	-	4	1.8	1.3	1477	2658	3456	
												M-1	0.21	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	739	1330	1729	
												M-1	0.21	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	743	1337	1738	
												M-1	0.14	IND.LIGHT INDUSTRY-OFC/WHSE	-	-	4	1.8	1.3	490	883	1148	
												M-1	0.14	IND.LIGHT INDUSTRY-OFC/WHSE	-	-	4	1.8	1.3	483	870	1130	
												M-1	0.13	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.09	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												CC	0.21	Mixed-Use	RMX-TO	-	225	-	1.8	1.3	0	0	
DD	1.14	Mixed-Use	RMX-TO	28	225	-	1.8	1.3	6392	11506	14958	M-1	0.21	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	737	1327	1725	2687
												M-1	0.21	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.20	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.21	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.10	VACANT.RECREATIONAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
EE	3.28	Mixed-Use	RMX-TO	82	225	-	1.8	1.3	18444	33200	43159	M-1	0.21	RES.THREE SINGLE FAMILY UNITS	3	650	-	1.8	1.3	1950	3510	4563	11708
												M-1	1.50	IND.LIGHT INDUSTRY-PROCESSING	-	-	4	1.8	1.3	5340	9612	12495	
												M-1	1.16	IND.LIGHT INDUSTRY-ASSEMBLY	-	-	4	1.8	1.3	4135	7442	9675	
M-1	0.63	IND.LIGHT INDUSTRY-ASSEMBLY	-	-	4	1.8	1.3	2234	4021	5227													

Long Term Development Scenario: Water System Demand Calculations

Map Annotation	Total Area (ac)	Proposed											Existing										
		Proposed LU	Zoning	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Average Parcel Day Demand (gpd)
FF	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2709	4877	6339	C-2	0.11	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	304	548	712	1199
			C-2-R									0.16	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	440	792	1030		
			C-2-R									0.17	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	454	817	1063		
GG	0.18	Mixed-Use	RMX-TO		225	-	1.8	1.3	0	0	0	R-1	0.03	PUB.SPEC.DISTRICT,EXEMPT	-	-	-	1.8	1.3	-	-	-	-
HH	0.18	Mixed-Use	C-2-TO	5	225	3	1.8	1.3	1534	2762	3591	R-1	0.14	VACANT,RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
II	0.17	Mixed-Use	RMX-TO	4	225	-	1.8	1.3	952	1714	2228	M-1	0.18	VACANT,INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
JJ	0.17	Mixed-Use	RMX-TO	4	225	-	1.8	1.3	933	1679	2183	R-1	0.17	VACANT,RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
KK	5.74	Mixed-Use	C-2-TO		225	3	1.8	1.3	15371	27669	35969	C-4-R, M-2	5.74	VACANT,OFFICE >5AC SITE	-	-	-	1.8	1.3	-	-	-	-
LL*	15.06	Mixed-Use	M-1, OB-PUD	227	225	3	1.8	1.3	91445	164600	213980	M-1, OB-PUD	13.01	OFF,GENERAL MULTI-STORY	-	-	3	1.8	1.3	34828	62691	81498	34828
			OB-PUD									0.64	PUB,SBE PROPERTY,NON-EXEMPT	-	-	-	1.8	1.3	-	-	-		
			OB-PUD									1.42	VACANT,OFFICE <2AC SITE	-	-	-	1.8	1.3	-	-	-		
MM	3.16	Mixed-Use	RMX-TO	79	225	-	1.8	1.3	17790	32022	41629	OB-LI	1.40	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	5010	9019	11725	9722
OB-LI	1.76	COM,LARGE DISCOUNT STORE	-	-	3	1.8	1.3	4712	8481	11026													
NN	0.32	Residential Mixed-Use	RMX-TO	5	225	-	1.8	1.3	1063	1914	2488	C-2-R	0.20	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	705	1269	1649	705
OO	0.50	Mixed-Use	C-2-TO		225	3	1.8	1.3	1331	2397	3116	R-3	0.12	PUB,COUNTY USE	-	-	-	1.8	1.3	-	-	-	-
PP	1.89	Residential Mixed-Use	RMX-TO	28	225	-	1.8	1.3	6389	11500	14950	M-1	0.50	COM,SERVICE STATION	-	-	3	1.8	1.3	1331	2397	3116	1331
												M-1	0.67	COM,AUTO REPAIR SHOP	-	-	3	1.8	1.3	1786	3215	4180	
												M-1	0.95	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	3403	6126	7963	
QQ	2.84	Mixed-Use	RMX-TO	71	225	-	1.8	1.3	15969	28743	37366	M-1	0.27	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	975	1754	2280	6123
												M-1	1.06	PUB,STATE USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	
												M-1	0.29	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	1031	1856	2413	
												M-1	0.06	VACANT,INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.40	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	1430	2574	3346	
												M-1	0.20	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	728	1310	1703	
												M-1	0.20	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	730	1313	1707	
												M-1	0.20	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	703	1265	1645	
												M-1	0.42	IND,BUILDING MATERIALS	-	-	4	1.8	1.3	1502	2704	3515	
												M-1	0.21	COM,TRAILER SALES & SERVICE	-	-	3	1.8	1.3	554	997	1296	
RR	0.52	Mixed-Use	RMX-TO	13	225	-	1.8	1.3	2903	5226	6794	M-1	0.20	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	731	1316	1711	1935
												M-1	0.10	RES,SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.44	PUB,STATE USE,NON-EXEMPT	-	-	-	1.8	1.3	-	-	-	
SS	4.57	Mixed-Use	RMX-TO	114	225	-	1.8	1.3	25699	46259	60137	M-1	0.24	PUB,STATE USE,NON-EXEMPT	-	-	-	1.8	1.3	-	-	-	13766
												C-2, M-1	0.13	PUB,STATE USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	
												M-1	0.20	COM,SMALL SINGLE TENANT	-	-	3	1.8	1.3	530	954	1240	
												M-1	1.26	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	4495	8091	10518	
												M-1	0.11	RES,SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.11	RES,SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.41	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	1462	2632	3422	
												M-1	1.24	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	4420	7956	10343	
												M-1	0.22	IND,LIGHT INDUSTRY-FABRICATION	-	-	4	1.8	1.3	788	1419	1844	
												M-1	0.22	IND,LIGHT INDUSTRIAL	-	-	4	1.8	1.3	770	1387	1803	
TT	4.49	Mixed-Use	RMX-TO		225	-	1.8	1.3	0	0	0	M-1	1.32	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	4729	8512	11065	12833
												M-1	0.20	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	706	1271	1652	
												M-1	0.51	IND,BUILDING MATERIALS	-	-	4	1.8	1.3	1817	3271	4253	
												M-1	0.16	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	558	1005	1307	
												M-1	0.51	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	1809	3256	4233	
												M-1	0.90	VACANT,RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	0.90	IND,LIGHT INDUSTRY-PROCESSING	-	-	4	1.8	1.3	3213	5783	7519	
UU	7.31	Mixed-Use	RMX-TO	183	225	-	1.8	1.3	41114	74005	96206	M-1	0.83	* UNKNOWN USE CODE *	-	-	-	1.8	1.3	-	-	-	22779
												M-1	0.04	COM,BARS & LOUNGES	-	-	3	1.8	1.3	100	179	233	
												M-1	0.91	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	3259	5865	7625	
												M-1	0.19	COM,BARS & LOUNGES	-	-	3	1.8	1.3	521	938	1220	
												M-1	0.92	IND,BUILDING MATERIALS	-	-	4	1.8	1.3	3293	5928	7706	
												M-1	1.41	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	5021	9038	11750	
												M-1	0.18	RES,SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.15	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	521	938	1219	
												M-1	0.28	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	993	1788	2324	
												M-1	0.18	OFF,GENERAL ONE STORY	-	-	3	1.8	1.3	471	848	1103	
VV	0.95	Residential Mixed-Use	RMX-TO		-	3	1.8	1.3	2542	4576	5948	M-1	0.95	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	3389	6101	7931	3389
												M-1	0.13	IND,LIGHT INDUSTRY-CONSTRUCT	2	225	-	1.8	1.3	433	779	1013	
WW	1.85	Residential Mixed-Use	RMX-TO	46	225	-	1.8	1.3	10416	18749	24374	M-1	1.72	RES,MOBILEHOME PARKS	26	225	-	1.8	1.3	5817	10470	13611	6250
Signature Properties Development	1.26	Residential Mixed-Use	RMX-TO	20	225	-	1.8	1.3	4500	8100	10530	M-1	1.26	VACANT,INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
Lumberjack Site Development	2.80	Mixed-Use	C-2-TO	96	225	3	1.8	1.3	29108	52394	68113	M-1	0.90	COM,LARGE DISCOUNT STORE	-	-	3	1.8	1.3	2406	4331	5630	7508
												M-1	0.70	COM,LARGE DISCOUNT STORE	-	-	3	1.8	1.3	1872	3369	4380	
												M-1	1.21	COM,LARGE DISCOUNT STORE	-	-	3	1.8	1.3	3230	5814	7559	
Dixieanne Park	1.89	Residential Mixed-Use	A-OS		225	-	-	-	-	-	-	C-2	1.89	PUB,CITY USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	-

Strategic Development Scenario: Water System Demand Calculations

Map Annotation	Proposed											Existing											
	Total Area (ac)	Proposed LU	Zoning	Units	Gallons per Day per Unit	Average Flow per Acre (ac-ft)/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Gallons per Day per Unit	Average Flow per Acre (ac-ft)/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Average Parcel Day Demand (gpd)
F	2.09	Mixed-Use	C-2-TO	31	225	3	1.8	1.3	12661	22790	51906	M-1	0.16	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	569	1025	55	7726
												M-1	0.13	IND.MULTI-TENANT	-	-	4	1.8	1.3	459	826	45	
												M-1	0.17	IND.MULTI-TENANT	-	-	4	1.8	1.3	619	1114	60	
												M-1	0.10	RES.SINGLE FAMILY IN SUBDIV	1	630	-	1.8	1.3	630	1134	61	
												M-1	0.17	RES.SINGLE FAMILY IN SUBDIV	1	630	-	1.8	1.3	630	1134	61	
												M-1	0.22	IND.MULTI-TENANT	-	-	4	1.8	1.3	769	1385	75	
												M-1	1.13	IND.MULTI-TENANT	-	-	4	1.8	1.3	4050	7290	395	
G	2.18	Residential Mixed-Use	RMX-TO	33	225	-	1.8	1.3	7370	13267	51906	M-1	1.55	VACANT INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	1890
												R-1	0.01	MISC.UNUSABLE-SMALL/MISSHAPED	-	-	-	1.8	1.3	-	-	-	
												R-1	0.15	RES.SINGLE FAMILY IN SUBDIV	1	630	-	1.8	1.3	630	1134	61	
												R-3	0.16	RES.TWO SINGLE FAMILY UNITS	2	630	-	1.8	1.3	1260	2268	123	
												R-3	0.16	VACANT RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												R-3	0.16	VACANT RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	1.86	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	6646	11963	648	
H	2.09	Mixed-Use	C-2-TO	31	225	3	1.8	1.3	12634	22742	51906	M-1	0.02	PUB.SPEC.DISTRICT, NON-EXEMPT	-	-	-	1.8	1.3	-	-	-	7226
												M-1	0.16	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	580	1045	57	
												M-1	0.04	PUB.STATE USE, EXEMPT	-	-	-	1.8	1.3	-	-	-	
												C-2	0.20	COM.AUTO REPAIR SHOP	-	-	3	1.8	1.3	529	953	52	
N	1.85	Mixed-Use	C-2-TO	28	225	3	1.8	1.3	11181	20126	51906	C-2	0.34	RES.MOTELS	17	225	-	1.8	1.3	3770	6785	368	8492
												C-2	1.17	IND.LIGHT INDUSTRY-AUTO YARD	-	-	4	1.8	1.3	4193	7547	409	
												C-2	0.14	VACANT RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												M-1	1.83	COM.SMALL MULTI-TENANT	-	-	3	1.8	1.3	4898	8817	478	
Q	1.83	Mixed-Use	C-2-TO	27	225	3	1.8	1.3	11071	19928	25906	M-1	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	705	1269	69	705
												R-3	0.12	PUB.COUNTY USE	-	-	-	1.8	1.3	-	-	-	
PP	1.89	Residential Mixed-Use	RMX-TO	28	225	-	1.8	1.3	6389	39928	51906	M-1	0.67	COM.AUTO REPAIR SHOP	-	-	3	1.8	1.3	1786	3215	174	6164
												M-1	0.95	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	3403	6126	332	
												M-1	0.27	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	975	1754	95	
Signature Properties Development	1.26	Residential Mixed-Use	RMX-TO	20	225	-	1.8	1.3	4500	8100	10530	M-1	1.26	VACANT INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
Lumberjack Site Development	2.80	Mixed-Use	C-2-TO	96	225	3	1.8	1.3	29108	39928	51906	M-1	0.90	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	2406	4331	235	7508
												M-1	0.70	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	1872	3369	182	
												M-1	1.21	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	3230	5814	315	
Dixieanne Park	1.89	Residential Mixed-Use	A-OS	-	-	-	1.8	1.3	-	-	-	C-2	1.89	PUB.CITY USE, EXEMPT	-	-	-	1.8	1.3	-	-	-	-

West of Tracks Development Scenario: Water System Demand Calculations

Map Annotation	Total Area (ac)	Proposed										Existing											
		Proposed LU	Zoning	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Gallons per Day per Unit	Average Flow per Acre (ac-ft)/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Average Parcel Day Demand (gpd)
A	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2361	4249	5524	C-2	0.31	OFF,GENERAL ONE STORY	-	-	3	1.8	1.3	830	1493	1941	830
B	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	1921	3457	4495	C-2	0.14	VACANT,RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
												R-1	0.16	VACANT,RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
C	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	2336	4204	5465	R-1	0.15	VACANT,RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
												R-1	0.14	COM,USED CAR SALES LOT	-	-	3	1.8	1.3	375	675	878	-
D	0.45	Mixed-Use	C-2-TO	7	225	3	1.8	1.3	1949	3508	4560	R-1	0.30	VACANT,RESIDENTIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
												C-2	0.15	COM,TAKE-OUT RESTAURANT	-	-	3	1.8	1.3	392	705	917	-
E	1.45	Mixed-Use	C-2-TO	22	225	3	1.8	1.3	5550	9989	12986	R-1	0.16	RES,SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	-
												R-1	0.15	RES,SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	-
F	2.09	Mixed-Use	C-2-TO	31	225	3	1.8	1.3	7480	13464	17503	C-2	0.15	IND,LIGHT INDUSTRY-FABRICATION	-	-	4	1.8	1.3	519	934	1215	-
												M-1	0.25	COM,AUTO REPAIR SHOP	-	-	3	1.8	1.3	660	1187	1544	-
G	2.18	Residential Mixed-Use	RMX-TO	33	225	-	1.8	1.3	7370	13267	17247	M-1	0.73	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	2601	4681	6086	-
												M-1	0.47	IND,LIGHT INDUSTRY-OF/WHSE	-	-	4	1.8	1.3	1693	3048	3962	-
H	2.09	Mixed-Use	C-2-TO	31	225	3	1.8	1.3	12029	21652	28148	M-1	0.16	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	580	1045	1358	-
												M-1	0.04	PUB,STATE USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	-
I	5.67	Mixed-Use	C-2-TO	85	225	3	1.8	1.3	20582	37048	48162	M-1	0.16	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	1912	3442	4474	-
												M-1	1.32	IND,LIGHT INDUSTRY-PROCESSING	-	-	4	1.8	1.3	4712	8481	11025	-
J	3.80	Residential Mixed-Use	RMX-TO	95	225	-	1.8	1.3	21372	38470	50012	M-1	0.39	IND,LIGHT INDUSTRY-PROCESSING	-	-	4	1.8	1.3	1390	2503	3254	-
												M-1	2.12	PUB,COUNTY USE	-	-	-	1.8	1.3	-	-	-	-
K	2.82	Residential Mixed-Use	RMX-TO	113	225	-	1.8	1.3	25419	45754	59481	M-1	0.65	PUB,STATE USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	-
												M-1	0.60	VACANT,INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
L	2.29	Residential Mixed-Use	RMX-TO	92	225	-	1.8	1.3	20644	37160	48308	M-1	0.32	RES,SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	-
												M-1	0.54	IND,DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	1935	3482	4527	-
M	5.35	Residential Mixed-Use	RMX-TO	194	225	-	1.8	1.3	43716	78689	102295	M-1	0.32	RES,SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	-
												M-1	0.41	IND,LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	1451	2612	3396	-



West of Tracks Development Scenario: Water System Demand Calculations

Map Annotation	Total Area (ac)	Proposed										Existing											
		Proposed LU	Zoning	Units	Gallons per Day per Unit	Average Flow per Acre ft/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Existing Zoning	Total Area (ac)	Existing LU-Desc	Units	Gallons per Day per Unit	Average Flow per Acre (ac-ft)/(ac-yr)	Peak Factor Max Day	Peak Factor Max Hour	Average Day Demand (gpd)	Total Max Day Demand	Peak Hour Demand (gph)	Average Parcel Day Demand (gpd)
N	1.85	Mixed-Use	C-2-TO	28	225	3	1.8	1.3	6764	12175	15827	C-2	0.20	COM.AUTO REPAIR SHOP	-	-	3	1.8	1.3	529	953	1238	8492
												C-2	0.34	RES.MOTELS	17	225	-	1.8	1.3	3770	6785	8821	
												C-2	1.17	IND.LIGHT INDUSTRY-AUTO YARD	-	-	4	1.8	1.3	4193	7547	9811	
												C-2	0.14	VACANT.RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
O	1.83	Mixed-Use	C-2-TO	27	225	3	1.8	1.3	11061	19909	25882	C-2	1.83	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	4894	8808	11451	4894
												C-2	0.14	COM.USED CAR SALES LOT	-	-	3	1.8	1.3	372	669	870	
P	1.67	Mixed-Use	C-2-TO	25	225	3	1.8	1.3	6004	10806	14048	C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	376	677	890	4469
												C-2	0.27	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	732	1318	1714	
												C-2	0.56	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	1503	2705	3516	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	376	676	879	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	665	865	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	667	867	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	667	867	
												C-2	0.14	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	370	667	867	
Q	1.83	Mixed-Use	C-2-TO	27	225	3	1.8	1.3	11071	19928	25906	M-1	1.83	COM.SMALL MULTI-TENANT	-	-	3	1.8	1.3	4898	8817	11462	4898
												M-1	0.54	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	1457	2623	3410	
												M-1	0.47	COM.SMALL SINGLE TENANT	-	-	3	1.8	1.3	1245	2242	2914	
												M-1	0.16	COM.SMALL SINGLE TENANT	-	-	3	1.8	1.3	426	767	997	
												M-1	0.30	RES.SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.19	RES.SINGLE FAMILY NONSUBDIV	1	650	-	1.8	1.3	650	1170	1521	
												M-1	0.19	VACANT.RETAIL <2AC SITE	-	-	-	1.8	1.3	-	-	-	
												C-2	0.10	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	267	481	625	
S	4.55	Mixed-Use	C-2-TO	68	225	3	1.8	1.3	15619	28114	36548	C-2	1.24	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	3326	5986	7782	12182
												C-2	1.20	COM.VEHICLE ORIENTED	-	-	3	1.8	1.3	3226	5807	7549	
												C-2	2.00	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	5362	9652	12548	
												C-2	1.77	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	4745	8540	11102	
T	1.89	Mixed-Use	C-2-TO	28	225	3	1.8	1.3	11137	20047	26061	M-1	0.12	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	328	590	767	5072
												M-1	1.77	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	4745	8540	11102	
U	2.02	Residential Mixed-Use	RMX-TO	50	225	-	1.8	1.3	11337	20406	26527	M-1	2.02	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	5397	9715	12630	5397
V	2.02	Mixed-Use	C-2-TO	30	225	3	1.8	1.3	12252	22054	28670	M-1	2.02	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	5421	9757	12685	5421
W	1.91	Mixed-Use	C-2-TO	29	225	3	1.8	1.3	10840	19512	25365	M-1	1.64	RES.MOBILEHOME PARKS	25	225	-	1.8	1.3	5534	9961	12950	6449
												M-1	0.27	RES.MOBILEHOME PARKS	4	225	-	1.8	1.3	914	1646	2140	
X	2.86	Residential Mixed-Use	RMX-TO	71	225	-	1.8	1.3	16079	28942	37625	M-1	2.86	IND.INDUSTRIAL USE	-	-	4	1.8	1.3	10207	18373	23884	10207
Y	1.18	Mixed-Use	C-2-TO	18	225	3	1.8	1.3	4165	7498	9747	R-1	0.07	RES.SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	4635
												C-2	0.82	IND.LIGHT INDUSTRY-DISTRIBUTION	-	-	4	1.8	1.3	2917	5250	6825	
												C-2	0.30	IND.LIGHT INDUSTRIAL	-	-	4	1.8	1.3	1069	1924	2501	
												R-1	0.15	RES.SINGLE FAMILY IN SUBDIV	1	650	-	1.8	1.3	650	1170	1521	
Z	3.21	Mixed-Use	C-2-TO	48	225	3	1.8	1.3	11231	20215	26279	C-2	0.15	RES.MOBILEHOME PARKS	2	225	-	1.8	1.3	519	935	1215	11093
												C-2	0.15	COM.TRAILER SALES & SERVICE	-	-	3	1.8	1.3	408	735	955	
												C-2	1.04	RES.MOBILEHOME PARKS	16	225	-	1.8	1.3	3513	6324	8221	
												C-2	0.68	RES.MOBILEHOME PARKS	10	225	-	1.8	1.3	2290	4121	5358	
												C-2	0.02	RES.MOBILEHOME PARKS	0	225	-	1.8	1.3	78	141	183	
												M-1	1.02	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	3634	6542	8504	
												OB-LI	1.40	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	5010	9019	11725	
												OB-LI	1.76	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	4712	8481	11026	
MM	3.16	Mixed-Use	RMX-TO	79	225	-	1.8	1.3	17790	32022	41629	C-2-R	0.20	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	705	1269	1649	9722
												R-3	0.12	PUB.COUNTY USE	-	-	-	1.8	1.3	-	-	-	
NN	0.32	Residential Mixed-Use	RMX-TO	5	225	-	1.8	1.3	1063	1914	2488	M-1	0.50	COM.SERVICE STATION	-	-	3	1.8	1.3	1331	2397	3116	1331
OO	0.50	Mixed-Use	C-2-TO	225	3	1.8	1.3	1331	2397	3116	3116	M-1	0.67	COM.AUTO REPAIR SHOP	-	-	3	1.8	1.3	1786	3215	4180	6164
												M-1	0.95	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	3403	6126	7963	
												M-1	0.27	IND.DISTRIBUTION & WAREHOUSES	-	-	4	1.8	1.3	975	1754	2280	
												M-1	0.95	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	3389	6101	7931	
PP	1.89	Residential Mixed-Use	RMX-TO	28	225	-	1.8	1.3	6389	11500	14950	M-1	0.13	RES.MOBILEHOME PARKS	2	225	-	1.8	1.3	433	779	1013	6250
												M-1	1.72	RES.MOBILEHOME PARKS	26	225	-	1.8	1.3	5817	10470	13611	
VV	0.95	Residential Mixed-Use	RMX-TO	225	3	1.8	1.3	2542	4576	5948	M-1	0.95	IND.LIGHT INDUSTRY-CONSTRUCT	-	-	4	1.8	1.3	3389	6101	7931	3389	
WW	1.85	Residential Mixed-Use	RMX-TO	46	225	-	1.8	1.3	10416	18749	24374	M-1	0.13	RES.MOBILEHOME PARKS	2	225	-	1.8	1.3	433	779	1013	6250
												M-1	1.72	RES.MOBILEHOME PARKS	26	225	-	1.8	1.3	5817	10470	13611	
Signature Properties Development	1.26	Residential Mixed-Use	RMX-TO	20	225	-	1.8	1.3	4500	8100	10530	M-1	1.26	VACANT.INDUSTRIAL <2AC SITE	-	-	-	1.8	1.3	-	-	-	-
Lumberjack Site Development	2.80	Mixed-Use	C-2-TO	96	225	3	1.8	1.3	24006	43211	56174	M-1	0.90	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	2406	4331	5630	7508
												M-1	0.70	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	1872	3369	4380	
												M-1	1.21	COM.LARGE DISCOUNT STORE	-	-	3	1.8	1.3	3230	5814	7559	
Dixieanne Park	1.89	Residential Mixed-Use	A-OS	-	-	-	1.8	1.3	-	-	-	C-2	1.89	PUB.CITY USE,EXEMPT	-	-	-	1.8	1.3	-	-	-	-

# Index Analysis

Criterion Planners

CRITERION - INDEX INDICATORS		EXISTING CONDITIONS		ORIGINAL ANALYSIS				REVISED ANALYSIS			Comments
		Original	Revised	Opportunity 1 - W/O Bridge	Opportunity 1 - W/Bridge	Opportunity 2 - W/O Bridge	Opportunity 2 - W/Bridge	Strategic	West of Tracks	Entire Project Area	
<b>DEMOGRAPHICS</b>		<b>Units</b>									
Population	residents	642	856	3,607	3,607	5,763	5,763	1,725	7,125	7,125	Population estimates based on 2.7 residents/dwelling unit.
Employment	employees	2,758	2,753	2,632	2,632	3,215	3,215	2,753	3,527	3,527	
Population Density	residents/gross acre	2.77	3.69	15.56	15.56	24.87	24.87	7.44	30.74	30.74	
<b>LAND-USE</b>											
Study Area Acreage	total acres		231.8					231.8	231.8	231.8	
Average Parcel Size	avg square feet		33,774					17,087	5,359	5,347	
Use Mix	0-1 scale	0.21	0.17	0.52	0.52	0.52	0.52	0.21	0.33	0.33	
Use Balance	0-1 scale	0.81	0.83	0.82	0.82	0.82	0.82	0.87	0.91	0.91	
Development Footprint	net acres/1000 residents		234.7					117.3	26.6	26.6	
<b>HOUSING</b>											
Dwelling Density	DU/gross acre	1.28	1.37	7.71	7.71	12.73	12.73	2.76	11.39	11.39	
Dwelling Unit Count	total DU		317					639	2,639	2,639	
Student Enrollment Level	% student capacity used										School enrollment boundaries and capacity are required.
Residential Footprint	net acres/1000 residents		26.0					17.3	8.3	8.3	
Single-Family Parcel Size	avg square feet		12,051					4,003	1,803	1,803	
Single-Family Dwelling Density	DU/net acre	6.52	13.01	6.45	6.45	6.45	6.45	18.17	27.27	27.27	"Residential 1" (15 du/acre) defined as single-family.
Multi-Family Dwelling Density	DU/net acre	23.96	19.27	21.67	21.67	36.00	36.00	32.26	56.29	56.29	"Residential 2, 3, & 4" (25+ du/acre) defined as multi-family.
Single-Family Dwelling Share	% total DU	24.3	73.8	2.6	2.6	1.6	1.6	65.6	24.1	24.1	
Multi-Family Dwelling Share	% total DU	75.7	26.2	97.4	97.4	98.4	98.4	34.4	75.9	75.9	
Amenities Adjacency	% pop w/i user buffer	0	26.6	40.0	40.0	39.9	39.9	13.2	9.8	9.8	Amenities are Woodlake and Northwood Elementary Schools.
Amenities Proximity	avg walk ft to closest	6,183	3,427	2,427	2,396	2,417	2,387	2,743	2,757	2,644	
Transit Adjacency to Housing	% pop w/i user buffer	91.1	93.4	89.2	89.2	89.3	89.3	87.5	92.2	99.9	
Transit Proximity to Housing	avg walk ft to closest stop	2,833	2,265	2,052	1,685	2,055	1,672	1,512	1,362	628	
Wastewater Generation	gallons/day		51,354.0					103,518.0	427,506.1	427,506.1	Scores are reported cumulative, not per capita.
Solid Waste Generation	lbs/day		2,131.2					4,296.0	17,741.5	17,741.5	
Residential Structural Energy Use	MMBtu/yr/capita		37					35	29	29	
Residential Water Consumption	gallons/day/capita		79.6					71.0	63.4	63.4	
Household Energy Consumption	MMBtu/yr/capita		37					35	29	28	
<b>EMPLOYMENT</b>											
Jobs to Housing Balance	jobs/DU	9.32	8.68	1.47	1.47	1.09	1.09	4.31	1.34	1.34	
Employment Density	emps/net acre	32.47	31.92	32.29	32.29	39.11	39.11	34.94	91.26	91.26	
Transit Adjacency to Employment	% emps w/i user buffer	71.4	91.9	69.7	69.7	72.4	72.4	91.3	93.4	100.0	
Transit Proximity to Employment	avg walk ft to closest stop	3809	1,748	3,400	2,204	3,128	2,142	1,689	1,554	616	
<b>RECREATION</b>											
Park Space Supply	acres/1000 persons	0	2.2	2.4	2.4	1.5	1.5	1.1	1.5	1.5	Includes parks and plazas
Neighborhood Park Adjacency to Housing	% pop w/i user buffer		47.1					69.9	94.2	94.2	
Neighborhood Park Proximity to Housing	avg walk ft to closest park		2,009					1,500	849	819	
Neighborhood Park Adjacency to Employment	% pop w/i user buffer		23.1					22.7	90.0	90.0	
Neighborhood Park Proximity to Employment	avg walk ft to closest park		3,681					3,671	1,358	1,294	
Parks & Plazas Adjacency to Housing	% pop w/i user buffer		47.1					77.2	100.0	100.0	
Parks & Plazas Proximity to Housing	avg walk ft to closest park		2,009					1,189	433	433	
Parks & Plazas Adjacency to Employment	% pop w/i user buffer		23.1					77.2	99.8	99.8	
Parks & Plazas Proximity to Employment	avg walk ft to closest park		3,681					1,858	776	776	
All Parks & Greenways Adjacency to Housing	% pop w/i user buffer		47.1					91.8	100.0	100.0	
All Parks & Greenways Proximity to Housing	avg walk ft to closest park		2,009					694	108	108	
All Parks & Greenways Adjacency to Employment	% pop w/i user buffer		23.1					90.3	100.0	100.0	
All Parks & Greenways Proximity to Employment	avg walk ft to closest park		3,681					1,766	371	371	

CRITERION - INDEX INDICATORS		EXISTING CONDITIONS		ORIGINAL ANALYSIS				REVISED ANALYSIS			Comments
		Original	Revised	Opportunity 1 - W/O Bridge	Opportunity 1 - W/Bridge	Opportunity 2 - W/O Bridge	Opportunity 2 - W/Bridge	Strategic	West of Tracks	Entire Project Area	
<b>ENVIRONMENT</b>											
NOx Pollutant Emissions	lbs/capita/yr	29	29	26	26	25	25	27	25	25	
HC Pollutant Emissions	lbs/capita/yr	56	56	52	51	50	49	53	48	48	
CO Pollutant Emissions	lbs/capita/yr	431	431	401	391	388	382	407	373	370	
Greenhouse Gas Emissions	lbs/capita/yr	7,665	7,665	7,126	6,960	6,895	6,789	7,236	6,633	6,577	
Open Space Share	% total net area	0	1.2	2.2	2.7	2.7	2.7	2.1	16.8	16.8	Includes Neighborhood Parks and Greenways.
Open Space Connectivity	0-1 scale		0.53					0.44	0.39	0.39	
Stormwater Runoff	cu ft/acre/yr		72,712					71,798	69,586	69,652	No Best Management Practices defined in plans.
Nonpoint Source Pollution	kg/acre/yr		132.9					130.8	128.0	128.2	
Imperviousness	% of total net land area		69.70					69.17	66.30	66.37	
Floodplain Encroachment	% study area w/ floodplain		0					0	0	0	
<b>TRAVEL</b>											
Internal Street Connectivity	cul-de-sac/intersection ratio	0.9	0.85	0.87	0.85	0.85	0.85	0.88	0.86	0.86	
External Street Connectivity	avg ft between ingress/egress streets	634	1,315	634	634	634	634	1,315	1,005	1,005	
Street Segment Length	avg ft		421					334	229	229	
Street Centerline Distance	total ft		31,054					36,586	64,896	65,380	
Street Network Density	centerline mi/sq mi	16.8	16.2	16.6	18.4	18.4	18.4	19.1	33.9	34.2	
Street Network Extent	centerline miles/1000 residents	9.5	6.9	3.3	1.9	1.8	1.2	4.0	1.7	1.7	
Transit Service Coverage	stops/sq mi		11.0					11.0	24.9	46.9	
Transit Service Density	vehicle route mi/sq mi		174.4					174.4	204.1	340.7	
Transit-Oriented Residential Density	DU/net acre w/i user buffer of stops	20.1	19.19	44.88	21.43	21.43	39.83	33.91	43.38	48.66	
Transit-Oriented Employment Density	emps/net acre w/i user buffer of stops	37.9	25.09	26.59	17.04	17.04	25.69	31.62	58.63	91.80	
Light Rail Transit Boardings	avg persons/day		495					586	930	930	Indicator scores are unreliable because the SA should extend 2 miles around LRT stop.
Pedestrian Network Coverage	% of streets w/sidewalks	53.4	48.6	70.5	100.0	100.0	100.0	85.8	100.0	100.0	
Pedestrian Crossing Distance	avg curb-to-curb ft		42					37	30	30	
Pedestrian Intersection Safety	% intersections w/traffic controls		10.9					16.4	7.0	7.0	
Street Route Directness	walk distance/straightline ratio	3.2	2.99	2.85	2.01	3.01	2.03	2.62	3.11	2.35	
Pedestrian Setback	avg commercial bldg setback ft		76					76	45	45	Replaced Ped Accessibility
Bicycle Network Coverage	% street centerlines w/i bike route		8.46					7.18	4.05	4.05	
Residential Multi-Modal Access	%DU w/3+ modes w/i 1/8 mi	59.7	57.0	84.2	65.4	65.4	65.0	63.4	76.4	90.6	
Home Based Vehicle Miles Traveled	mi/day/capita	21.0	21.0	19.5	19.1	18.9	18.6	19.8	18.2	18.0	
Non-Home Based Vehicle Miles Traveled	mi/day/capita		-					-	-	-	No NHBVMT available for existing conditions.
Home Based Vehicle Trips	trips/day/capita	4.1	4.1	3.7	3.6	3.6	3.6	3.8	3.6	3.6	
Non-Home Based Vehicle Trips	trips/day/capita		-					-	-	-	No NHBVT available for existing conditions.
Personal Vehicle Energy Use	MMBtu/yr/capita		48					45	41	41	
Parking Lot Size	avg lot acres		-					-	-	-	Insufficient data.
Parking Requirements	total spaces required	0	-	862	6,333	6,333	4,201	-	-	-	Insufficient data.

# Community Workshop Summaries

Moore Iacofano Goltsman, Inc.

# SWANSTON STATION AREA TRANSIT VILLAGE PLAN CITY OF SACRAMENTO

**COMMUNITY WORKSHOP #1 – VISIONING**  
Saturday, May 13, 2006 ♦ 9:00 a.m. – 2:00 p.m.  
North Sacramento School District Offices  
670 Dixie Avenue

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## W O R K S H O P   S U M M A R Y

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**MOORE IACOFANO GOLTSMAN INC.**

800 Hearst Avenue  
Berkeley, CA 94710  
510.845.7549

## INTRODUCTION

The Swanston Station Area Transit Village Plan, which was initiated by the City of Sacramento in November of 2005, is intended to be a long-range, implementable plan to guide improvements in a ¼- to ½-mile-wide circle around the Swanston Light Rail Station. The plan will contain urban design, land use, transportation, parking, open space, and infrastructure goals and policies that will guide development decisions around the station over the next twenty years. In addition, the plan will include an environmental review and an economic analysis and feasibility study.

One of the City of Sacramento's goals is to apply smart growth principles that provide for a mix of housing types, promote residential and commercial mixed-use development opportunities to support redevelopment of the area, increase light rail ridership, improve pedestrian circulation and access to light rail, and create connections to the greater community of North Sacramento. The Swanston Station Plan will serve as a "turnkey" toward the development of a transit-oriented district, with a unique sense of identity that helps to revitalize the surrounding neighborhood. The Plan will build upon previous and ongoing study efforts, such as the North Sacramento Redevelopment Plan, the Transit for Livable Communities project, and the SACOG Blueprint Study.

## MEETING FORMAT & CONTENT

On May 13th, 2006, approximately 15 community members and five city staff members convened for the first of the project's three Community Workshops. The purpose of this workshop was to develop a community-supported vision for Swanston Station, while recognizing the previous studies and projects in the area. The workshop was held from 9:00 a.m. to 2:00 p.m. at the North Sacramento School District Offices, 670 Dixie Avenue

Brian Abbanat, the City of Sacramento's Project Manager, opened the meeting and introduced the project. Sandy Sheedy, Sacramento City Councilmember, District 2, welcomed community members and encouraged people to think of creative solutions to issues confronting the station. Steve Cohn, Sacramento City Councilmember, District 3, also welcomed workshop attendees and made some brief remarks regarding the importance of sustainable growth. Daniel Iacofano of Moore Iacofano Goltsman (MIG) Inc. provided an overview of the agenda, project and planning process, and introduced the project team.

Mukul Malhotra, MIG, presented the preliminary assets, issues and opportunities, and urban design streetscape language. Mr. Iacofano facilitated a discussion in which workshop participants provided feedback on the overall vision and goals for the station, key assets, primary issues and opportunities, and urban design considerations. Mr. Malhotra provided input to the discussion, graphically recorded the meeting and helped to answer questions.

Following the discussion/presentation, the group conducted a brief driving tour of the project area. The tour included a viewing of key sites along Dixie Avenue, including the Dixie Tot Lot, Dixie Park, the Evergreen Estates, and the station area. The driving tour then stopped on the roof of the USAA parking structure, where the group had an excellent aerial view of the station and the surrounding area. The tour concluded with a brief tour of the Ben Ali Neighborhood.

The workshop culminated in an interactive, small group planning and design exercise, the objective of which was to create a design concept for the opportunity sites near Swanston Station. Exercise participants were divided into two teams and asked to "build" their vision of Swanston Station using colored blocks and paper, which represented different land uses. Each group had two MIG facilitators who helped assist in the design and build process. Daniel Iacofano and Barry Wasserman facilitated

Group 1, while Dan Drazen and Mukul Malhotra facilitated Group 2. At the conclusion of the process, each team selected a reporter to present the team's design concept. The results of the small group planning and design exercise can be found on page 6.

The feedback generated at this meeting will provide critical direction in the development and implementation of the Swanston Station Area Transit Village Plan. The following report summarizes the major input, findings and outcomes from discussions in this workshop and from written comment cards submitted by attendees. In addition, this report includes written comments that were submitted by community members during a door-to-door outreach drive that was conducted by the city, prior to the workshop. These comments are noted in italics.



## **DISCUSSION/PRESENTATION**

The summary of the discussion/presentation is organized into the following sections:

- I. Vision & Goals
- II. Assets
- III. Issues & Opportunities

### **I. Vision & Goals**

- Create a mix of uses
- Design comfortable, shady transit station shelters
- Encourage design that is bike and pedestrian-friendly
- Ensure that the area is well-connected and supported by multiple modes of transportation
- Make the area safe
- Promote local-serving retail

### **II. Assets**

- *Proximity to Downtown, regional freeway system, and Arden Fair Mall*
- *Increased and improved commercial and retail development along Del Paso Blvd.*

### **III. Issues & Opportunities**

#### **Development Opportunities**

- Gain more control over the type/kind of development
- Encourage/facilitate land assembly; overcome the challenge of land acquisition due to numerous parcel owners
- *Each station could strengthen and foster the success of the other; consider transit-oriented development at Marconi Station*

#### **Land Use/Urban Design**

- Add a kiosk at the station area, which sells coffee, juice, etc.
- *Create high-rise office buildings (10+ stories)*
- *Encourage service-oriented businesses*
- *Maintain North Sacramento's strong job/housing balance*
- *Move the self-storage facility*
- *Promote mixed-use development with ground floor retail and lofts above; add rooftop green space*
- Surround Dixieanne Park with positive uses
- Reduce or eliminate undesirable uses, such as liquor stores
- *Create streetscape of trees, benches and landscaping*

#### **Image & Safety**

- Add locks to garbage cans to prevent scavenging
- *Confront homelessness, crime and drug abuse*
- Consider how transfer station may attract transients
- Control the amount of alcohol that is sold in the area

- *Eliminate illegitimate businesses in the area*
- Increase police/security presence to reduce prevalence of prostitution and drugs
- Prioritize safety and cleanliness
- *Start clean-up drives along the tracks*

### **Neighborhood Amenities**

- Add a grocery store
- *Encourage the development of a community garden*

### **Traffic & Circulation**

- *Develop new east-west connections across the tracks; strengthen existing east-west connections*
- Explore making new east-west connection accessible to all modes of travel

### **Transit**

- Increase frequency of bus service
- Use rising gas prices as a way to increase ridership

### **Station Area**

- Shift the station platform to the northeast corner of the station area
- Improve shade and protection from the elements at station shelter
- Capitalize on abundance of station area parking
- Incorporate an ornamental fountain into the station design
- Relocate bus transfer facility to Swanston Station
- Address issues at the Arden/Del Paso Transfer Station: missed bus connections, drinking, fighting.

### **Pedestrian Environment**

- Add a sidewalk along Arden Way between Royal Oaks and Swanston Station
- *Improve lighting and sidewalks*
- Mitigate fast-moving traffic along Arden Way

### **Other**

- Build upon previous studies and planning efforts
- Improve coordination between agencies
- *Minimize noise from the railroad tracks*
- *Consider conducting the same study at Marconi Station*

## SWANSTON STATION AREA DRIVING TOUR



*Workshop participants examine Swanston Station from the top level of the USAA parking structure*



*View of the station area and Downtown from the top level of the USAA parking structure*

## SMALL GROUP PLANNING AND DESIGN EXERCISE

### GROUP 1

#### Overall Vision

Group 1 envisioned well-connected transit-oriented residential development, with a series of pocket plazas defined by a mix of uses, on the west side of the station. This group also planned medium-intensity row housing to the west of the station area, which respects the existing fabric of the Dixieanne Neighborhood. Group 1's vision reconnects the city's street grid by extending existing streets, and by creating a multi-modal underpass below the tracks.

#### Land Uses/Urban Design

- Concentrate office development at the intersection of Calvados Avenue and Selma Street
- Build row housing with alleys on the west of the tracks and high-density residential with podium parking on the east of the tracks
- Build any needed parking structures along the tracks
- Incorporate pocket plazas and fingers of green space into the village design
- Provide retail at strategic locations:
  - Transit plazas
  - Corner of Harvard Street and Arden Way

#### Transportation/Circulation

- Develop east-west pedestrian connection across the light rail tracks: an overhead pedestrian connection at the existing station and a multi-modal tunnel that connects Silica Avenue and Dixieanne Avenue
- Develop more mid-block pedestrian connections.
- Start a people mover/shuttle with key destinations in North Sacramento.
- Make Swanston Station a stop on the Capitol Corridor system
- Establish Evergreen Street as a primary north-south connector
- Establish Dixieanne Avenue as the main residential spine of the Dixieanne Neighborhood
- Extend the existing city street grid

#### Station Design/Environment

- Shift the station platform northeast to Dixieanne and Silica Avenue to create a mixed-use node
- Add public art at the station
- Create a transit station plaza that is served and defined by a mix of building types with ground-floor commercial

## A. Group 1 Design Concept



### DESIGN CONCEPT LEGEND

#### Blocks

- Dark Brown – Residential
- Red – Retail/Commercial
- Salmon – Office
- Grey – Parking Structure

#### Paper

- Light Green – Park/Open Space
- Pink – Pedestrian Street/Plaza
- Blue – Surface Parking
- Tan – Surface Plazas

## B. Group 1 Conceptual Map



## **GROUP 2**

### **Overall Vision**

Group 2 envisioned high-density mixed-use residential development around the station, including a new multi-modal transfer facility at the southwest corner of the station area. The station was envisioned to have a unique sense of identity by creating a strong mixed-use built edge along the western edge of the tracks. Group 2's vision also enhances the pedestrian experience through new and stronger connections, and by breaking up larger parcels to create more intimate, human scale blocks.

### **Land Uses/Urban Design**

- Convert the existing station parking area to a high-intensity mix of pedestrian-friendly office, commercial and housing
- Build high-density residential development with pocket parks and open space on the existing USAA site, and along Selma and Lexington Street
- Include commercial/retail development along Arden Way
- Consider adding a senior center at the USAA site
- Encourage neighborhood-serving retail
- Include residential loft development
- Incorporate ground floor retail into three and four story buildings
- Develop underutilized sites
- Promote more infill development
- Rezone incompatible land uses
- Design pocket parks and open space within new infill development

### **Transportation/Circulation**

- Develop new east-west connections across the railroad tracks at Dixie Avenue and Silica Avenue; strengthen existing pedestrian and bicycle connections along the Arden Way overpass
- Improve the pedestrian environment along El Camino Avenue
- Make Dixie Avenue more pedestrian-friendly and the main residential street of the Dixie Neighborhood
- Establish Evergreen Street as a primary north-south connector
- Use existing USAA parking for TOD development
- Create bus berths at the southwest corner of the station

### **Station Design/Environment**

- Add bike patrols at the station
- Shift the station platform northeast to Dixie Avenue and Silica Avenue to create a commercial/retail and residential node.
- Keep station safe and clean

## A. Group 2 Design Concept



### DESIGN CONCEPT LEGEND

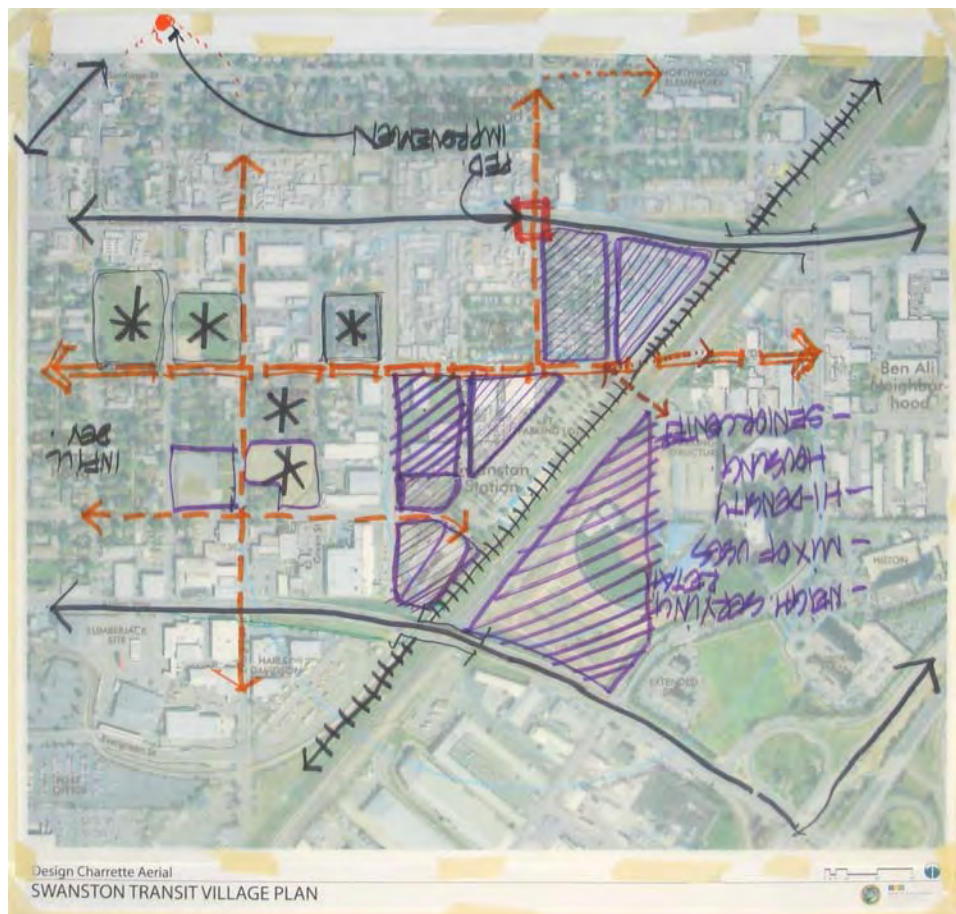
#### Blocks

- Dark Brown – Residential
- Red – Retail/Commercial
- Salmon – Office
- Grey – Parking Structure

#### Paper

- Light Green – Park/Open Space
- Pink – Pedestrian Street/Plaza
- Blue – Surface Parking
- Tan – Surface Plazas

## B. Group 2 Conceptual Map



## **NEXT STEPS**

The next Swanston Station Area Transit Village Plan community workshop will be held from 6:00 – 9:00 p.m. on October 18<sup>th</sup>, 2006, at the North Sacramento School District Offices (670 Dixie Avenue). The purpose of this next meeting will be to confirm that the project's draft plan incorporates the community's vision and public input.



# SWANSTON STATION AREA TRANSIT VILLAGE PLAN CITY OF SACRAMENTO

**COMMUNITY WORKSHOP #2 – DEVELOP AND SELECT ALTERNATIVE**  
Wednesday, October 18, 2006 ♦ 6:00 p.m. – 9:00 p.m.  
North Sacramento School District Offices  
670 Dixie Avenue

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## W O R K S H O P   S U M M A R Y

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**MOORE IACOFANO GOLTSMAN INC.**

800 Hearst Avenue  
Berkeley, CA 94710  
510.845.7549

## **INTRODUCTION**

The Swanston Station Area Transit Village Plan, which was initiated by the City of Sacramento in November of 2005, is intended to be a long-range, implementable plan to guide improvements in a ¼- to ½-mile-wide circle around the Swanston Light Rail Station. The plan will contain urban design, land use, transportation, parking, open space, and infrastructure goals and policies that will guide development decisions around the station over the next twenty years. In addition, the plan will include an environmental review and an economic analysis and feasibility study.

One of the City of Sacramento's goals is to apply smart growth principles that provide for a mix of housing types, promote residential and commercial mixed-use development opportunities to support redevelopment of the area, increase light rail ridership, improve pedestrian circulation and access to light rail, and create connections to the greater community of North Sacramento. The Swanston Station Plan will serve as a "turnkey" toward the development of a transit-oriented district, with a unique sense of identity that helps to revitalize the surrounding neighborhood. The Plan will build upon previous and ongoing study efforts, such as the North Sacramento Redevelopment Plan, the Transit for Livable Communities project, and the SACOG Blueprint Study.

## **MEETING FORMAT**

On October 18th, 2006, approximately 60 community members and City staff representatives convened for the second of three Community Workshops. The purpose of this workshop was to develop and select an alternative for the station area. The workshop was held from 6:00 to 9:00 p.m. at the North Sacramento School District Offices, 670 Dixie Avenue.

## **WELCOME & OPENING**

Brian Abbanat, the City of Sacramento's Project Manager, opened the meeting and introduced the project. Sandy Sheedy, Sacramento City Councilmember, District 2, welcomed community members and thanked them for their participation in the planning process. Daniel Iacofano of Moore Iacofano Goltsman (MIG) Inc. provided an overview of the agenda, project and planning process, and introduced the project team.

## **PRESENTATION**

Mr. Iacofano and Mukul Malhotra, MIG, presented key findings on the following topics:

- Community Visioning Workshop Debrief
- Review of Vision, Assets, Issues & Opportunities
- Review of Transportation, Infrastructure & Economic Analysis
- Overall Planning Principles & Development Framework
- Urban Design Concepts
- Phasing & Priority Improvements

Please see the PowerPoint presentation for a complete list of points made during this portion of the meeting.

## **DISCUSSION**

The feedback generated at this meeting will provide critical direction in the development and implementation of the Swanston Station Area Transit Village Plan. The following section summarizes the major input, findings and outcomes from discussions in this workshop and from written comment cards submitted by attendees.

### **I. Vision & Goals**

- Create a well-connected, multi-modal neighborhood, which serves both residents and workers:
  - Buses
  - Trains (Amtrak and Regional Transit)
  - Bike
  - Pedestrian
- Bring more businesses, jobs, and homeowners to the neighborhood.
- Improve convenience and safety for residents who don't have personal transportation.
- Make Dixie Ave. more pedestrian and bicycle friendly.
- Incorporate easy, non-vehicular connections to neighborhood amenities and core services including stores and schools.

### **II. Issues & Opportunities**

- Reduce the amount of parking at the station.
- Build a grocery store.
- Create a connection to the post office from Royal Oaks Station.
- Staff the station with Regional Transit attendants.
- Explore the creation of a charter school.
- Improve the connections to local schools.
- Explore the mixed-use potential along Dixie Ave.
- Include mixed-use residential development at Silica Ave. and Harvard St.
- Add a neighborhood shuttle service – like paratransit.
- Ensure the safety of families and children at Dixie Ave. and Evergreen St., if that becomes a major intersection.
- Renovate/close the trailer park; develop low-rent housing that can replace the trailer park.
- Add public restrooms next to plazas and the transit station.

### **III. Development Principles**

- Follow the principles outlined by SACOG.
- Ensure that pedestrians and trains can safely operate side-by-side.
- Make sure that new housing is well designed, like Victory Townhomes.

### **IV. Phasing/Priority Improvements**

- Explore development fees as an option for funding public improvements.
- Define timeline for "short-term"/strategic phase.

## **NEXT STEPS**

The next Swanston Station Area Transit Village Plan community workshop will be held from 6:00 – 9:00 p.m. on February 15, 2007, at the North Sacramento School District Offices (670 Dixie Avenue). The purpose of this final workshop will be to review the project's draft plan and to confirm that it reflects the community's vision and public input.

# SWANSTON STATION AREA TRANSIT VILLAGE PLAN CITY OF SACRAMENTO

## COMMUNITY WORKSHOP #3

Wednesday, April 16, 2007 ♦ 6:00 p.m. – 8:30 p.m.  
North Sacramento School District Offices  
670 Dixie Avenue

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## W O R K S H O P S U M M A R Y

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## INTRODUCTION

The Swanston Station Area Transit Village Plan, which was initiated by the City of Sacramento in November of 2005, is intended to be a long-range, implementable plan to guide improvements in a ¼- to ½-mile-wide circle around the Swanston Light Rail Station. The plan will contain urban design, land use, transportation, parking, open space, and infrastructure goals and policies that will guide development decisions around the station over the next twenty years. In addition, the plan will include an environmental review and an economic analysis and feasibility study.

One of the City of Sacramento's goals is to apply smart growth principles that provide for a mix of housing types, promote residential and commercial mixed-use development opportunities to support redevelopment of the area, increase light rail ridership, improve pedestrian circulation and access to light rail, and create connections to the greater community of North Sacramento. The Swanston Station Plan will serve as a "turnkey" toward the development of a transit-oriented district, with a unique sense of identity that helps to revitalize the surrounding neighborhood. The Plan will build upon previous and ongoing study efforts, such as the North Sacramento Redevelopment Plan, the Transit for Livable Communities project, and the SACOG Blueprint Study.

## MEETING FORMAT

On April 16th, 2007, approximately 60 community members and City staff convened for the third of three Community Workshops. The workshop was held from 6:00 to 9:00 p.m. at the North Sacramento School District Offices, 670 Dixie Avenue.

Brian Abbanat, the City of Sacramento's Project Manager, opened the meeting and introduced the project. Sandy Sheedy, Sacramento City Councilmember, District 2, welcomed community members and thanked them for their participation in the planning process. Daniel Iacofano of Moore Iacofano Goltsman (MIG) Inc. provided an overview of the agenda, project and planning process, and introduced the project team.

## PRESENTATION

Mr. Iacofano and Mukul Malhotra, MIG, presented key findings on the following topics:

- Vision & Overall Planning Strategies
- Refined Development Framework
- Specific Plan Elements
  - Land Use Plan
  - Zoning Plan
  - Circulation
  - Parks & Open Space
  - Urban Design Illustrative
  - Design Guidelines
  - Phasing
  - Preliminary Infrastructure Analysis
  - Preliminary Financing Strategies
- Urban Design Concepts and Guidelines

Please see the PowerPoint presentation for a complete list of points made during this portion of the meeting.

## **DISCUSSION**

The feedback generated at this meeting will provide critical direction in the development and implementation of the Swanston Station Area Transit Village Plan. The following section summarizes the major input, findings and outcomes from discussions in this workshop and from written comment cards submitted by attendees.

### **I. Issues & Opportunities**

#### **Safety**

- Increase police patrols along Dixieanne Ave.; need for stronger security measures (2)
- Add more lighting along Dixieanne Ave.
- Address homeless issues
- Clean-up the neighborhood
- Enhance safety for transit users – on and off light rail trains (2)
- Establish a safe way to cross El Camino Ave.
- Improve connectivity across the tracks – Capital City Freeway and Business 80
- Address pedestrian safety issues along Arden Way

#### **Community Facilities**

- Expand library facilities at Del Paso Blvd; utilize the empty building next door
- Add a new community center with opportunities for teen recreation
- Bring a grocery store to the area

#### **Other**

- Establish an advocate/coordinator for change in the area
- Address concern that mobile home park may need to be removed
- Repair gaps/holes in fences along light rail tracks on Arden Way

### **II. Design Concepts**

- Ensure that trees are well placed and maintained
- Encourage more infill residential development



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BERKELEY, CA 94710  
510 845 7549  
[WWW.MIGCOM.COM](http://WWW.MIGCOM.COM)