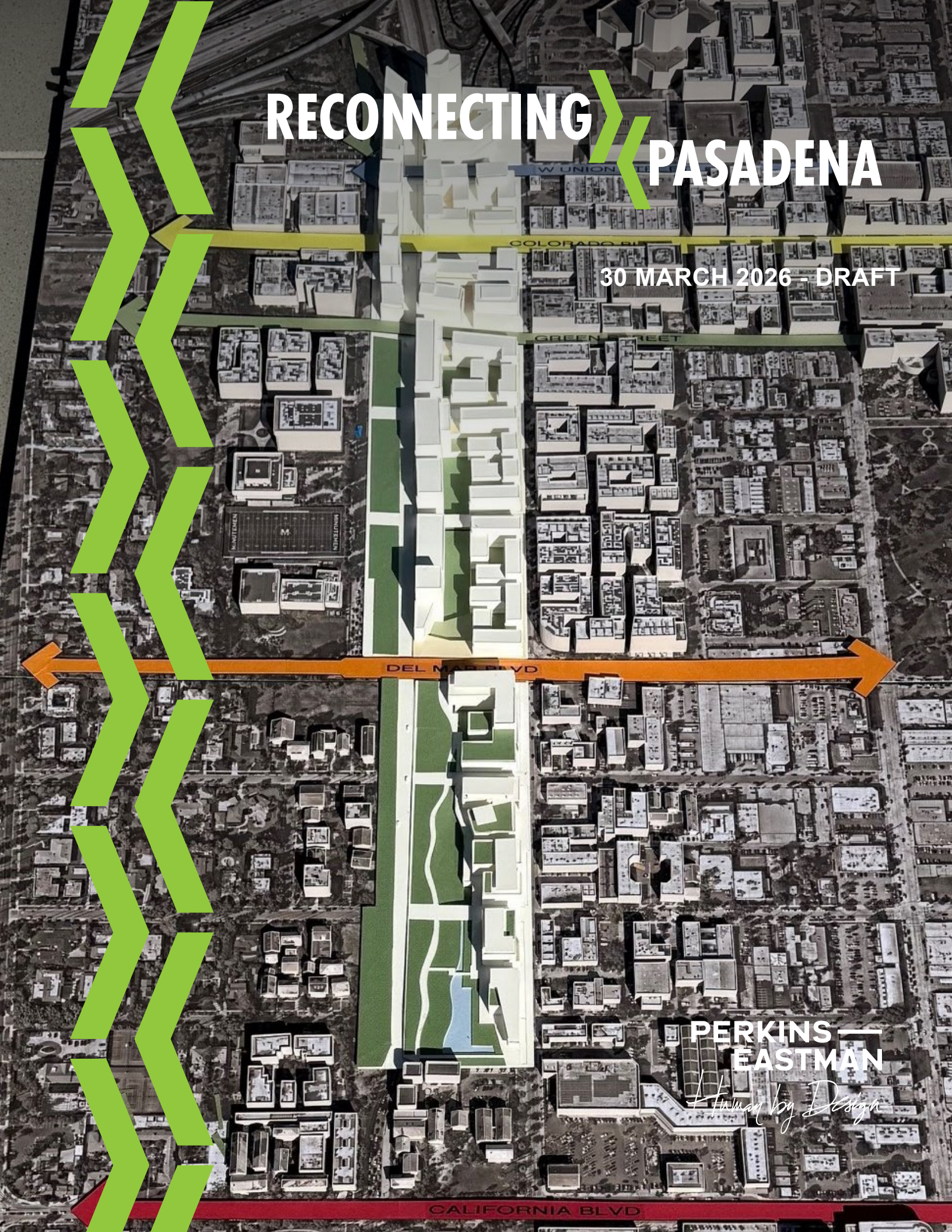


RECONNECTING PASADENA

30 MARCH 2026 - DRAFT

PERKINS —
EASTMAN

Human by Design





RECONNECTING PASADENA

DRAFT VISION PLAN
MARCH 30, 2026

Prepared for

The City of Pasadena

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Placeit!

With support from Point C, LLC



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Plan Organization

EXECUTIVE SUMMARY

1 Introduction: This Chapter describes the 710 Vision Plan project governance, and introduces the Plan's organizing concepts.

2 Context: This Chapter summarizes the 710 Project Area's relinquishment. It then describes Plan phases and the public engagement process. The Chapter includes an overview of Project Area conditions, City of Pasadena's land use planning policy context, and economic development objectives.

3 Restorative Justice: This Chapter provides background information on the concept of Restorative Justice, and includes a definition of Restorative Justice as applicable to the 710 Project. The chapter summarizes the 710 Reconnecting Communities Advisory Group (RC Advisory Group) Restorative Justice Elements and describes how they could be applied throughout the project lifecycle.

4 Physical Connection: This Chapter describes transportation challenges, existing conditions, goals and conceptual street networks. It includes a brief summary of transportation findings, and suggests actions at the project, citywide and regional scales to reconnect.

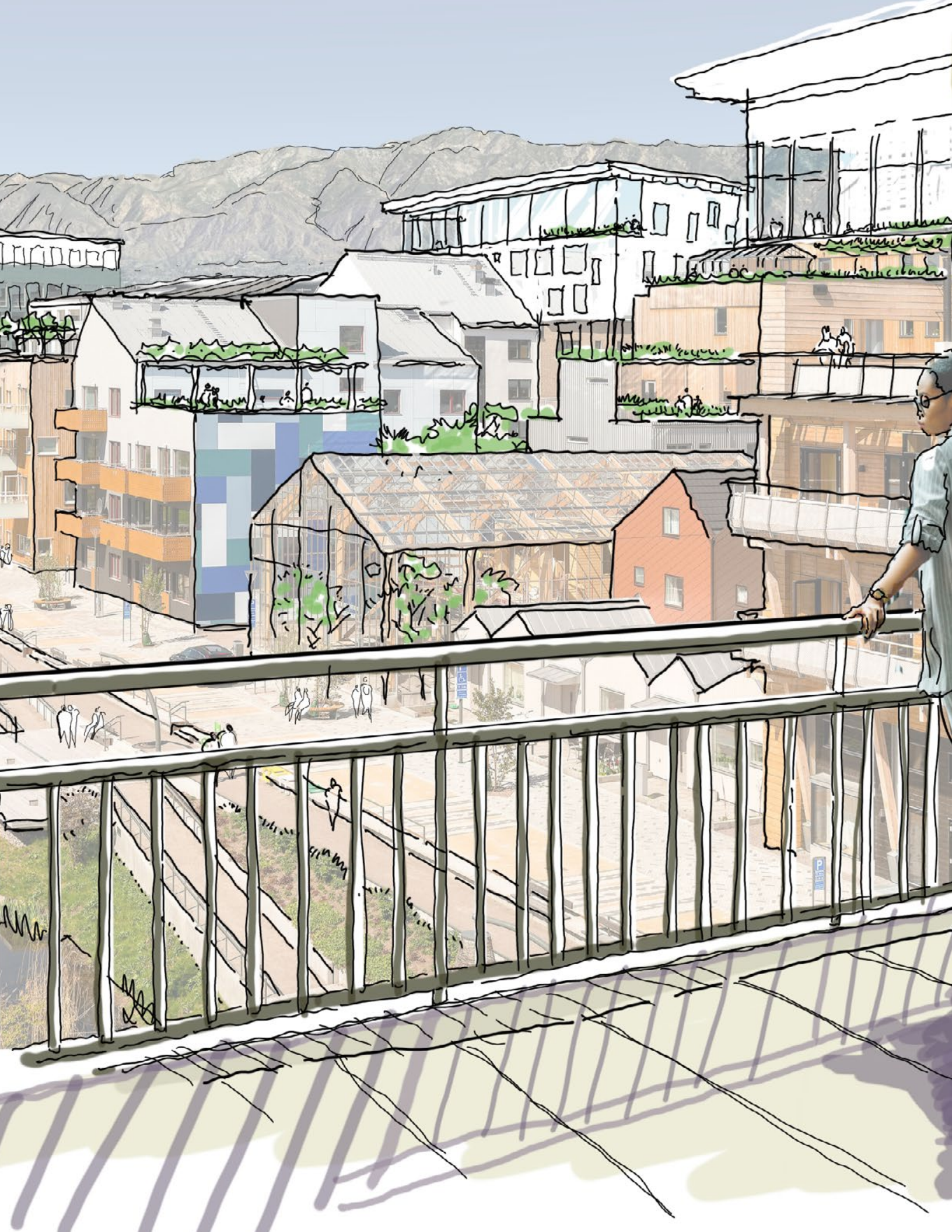
5 Human Connection: This Chapter describes an initial vision for the future Project Area built environment, offering two concepts based on the two roadway frameworks described in Chapter 4. Three "areas" are explored with diagrams and illustrations. The Chapter concludes with public realm ideas, and examples of inspirational projects for – residential, cultural, art and innovation spaces.

6 Sustainability: This Chapter recommends strategies for future net zero feasibility, preserving potable water, and managing wastewater. It outlines how the City of Pasadena may seek out third party certifications in future project phases. An Appendix details findings associated with the removal of the existing Caltrans Stormwater Basin.

7 Implementation: This Chapter summarizes economic and cost findings associated with building in the Project Area. It then suggests near and midterm actions for Restorative Justice, Physical Connection, Human Connection, Sustainability and Funding and Finance.

List of Appendices

- A. Restorative Justice Framework
- B. Restorative Justice 710 Advisory Group Recommendations
- C. Transportation Analysis Findings
- D. Sustainability and Net Zero Feasibility in the 710 Project Area
- E. Caltrans Stormwater Basin Sizing
- F. Preliminary Economic Analysis



1

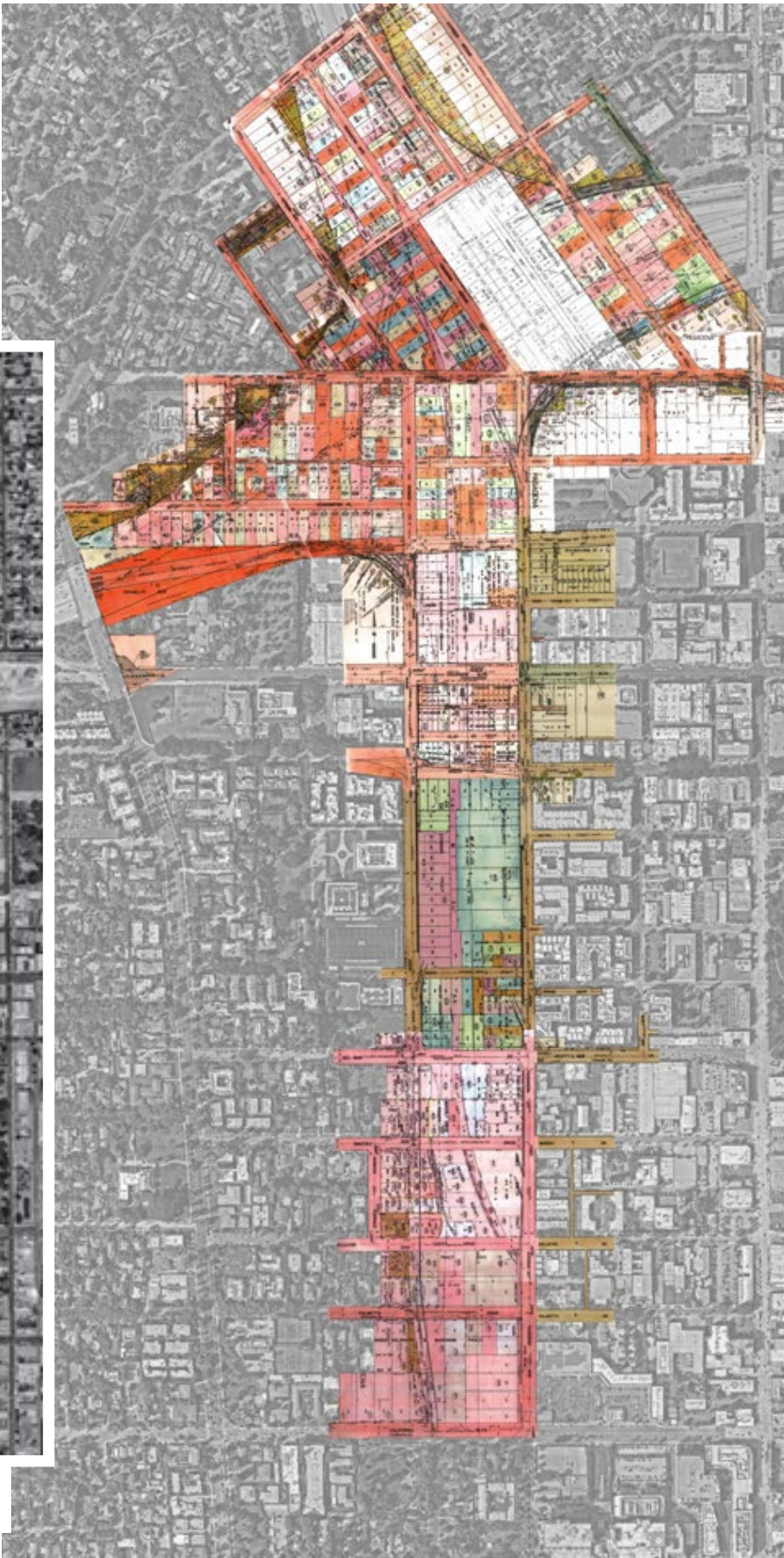
EXECUTIVE SUMMARY & INTRODUCTION



AN IMAGE RECONSTRUCTING THE STREETS
AND PROPERTIES THE RELINQUISHED
AREA BEFORE CONSTRUCTION OF
THE INTERCHANGE



THE SR-710/I-210 INTERCHANGE IN 1974



EXECUTIVE SUMMARY

This Vision Plan will help the City of Pasadena determine the best way to relink communities separated for over 50 years, serving as a guiding document for subsequent planning and entitlement processes. The Plan outlines opportunities to reconnect both physically and socially. It documents:

- concepts of “restorative justice” as applicable to the 710 Project Area,
- how to transform the I-210/SR-710/I-134 interchange’s regional to regional connections into regional to local and local to local connections, offering project driven, citywide and regional mobility and circulation strategies,
- a preliminary framework of land-uses to help define the building blocks of new neighborhoods,
- “game changing” sustainability and resiliency ideas to implement Pasadena’s Climate Action Plan, and City goals for both climate resiliency and sustainability.

This Vision Plan also puts forward aspirational public objectives including housing affordability, and targeted investments for displaced and impacted communities.

Public engagement conducted over its 2-year duration instruct the concepts as presented. This Plan has benefited greatly from historic research completed as part of the City of Pasadena’s Reconnecting Pasadena “Historic Project,” and its crucial undertaking to listen and learn across many platforms.

The resulting Project offers a lens, and a shared purpose to transform a freeway back into a neighborhood. To rebuild in the 710 Project Area, the City must assume a full complement of urban infrastructure and critical systems: multi-modal (transit-friendly, vehicular and pedestrian complete streets) mobility improvements, new public spaces, potable water and electrical power. It must also rework the existing stormwater storage and reuse system. Each of these elements must be carefully shaped to support future public and private development—potentially up to ~3.5 million gross square feet of program.

The Vision Plan sketches two generalized land use and urban form concepts. While still preliminary, “Boulevard and Paseos” offers the most resolved of the two roadway networks; it helps to slow and redirect traffic via a new surface level street and enables the City to realign the southern portion of St. John Avenue.

“Gardens and Terraces” is distinguished as it maintains the full area between bounding streets for redevelopment, assuming less intervention. Both concepts enable the City of Pasadena to further explore the best means to reconfigure the existing interchange, while adding new infrastructure essential to reduce regional through travel.

Both also offer pathways to meet project-driven organizing concepts and illustrate a connected, safe, multi-modal, and ultimately, human-scaled set of improvements.

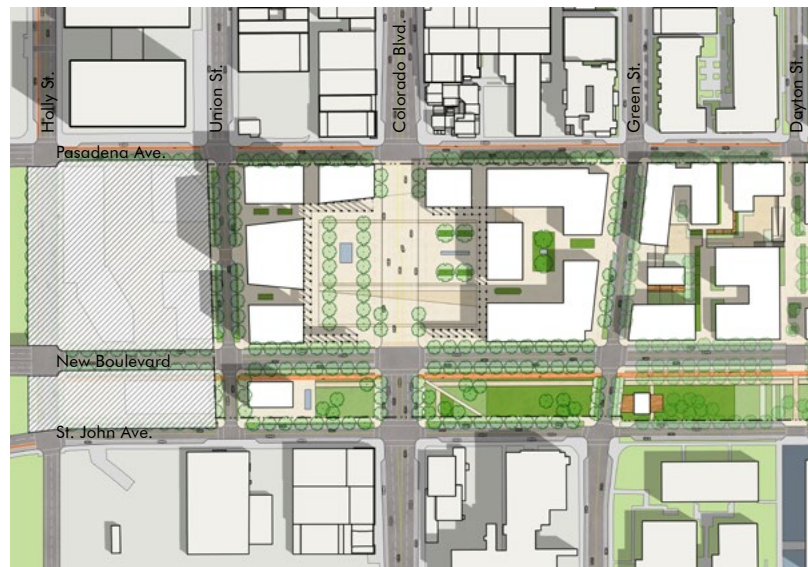
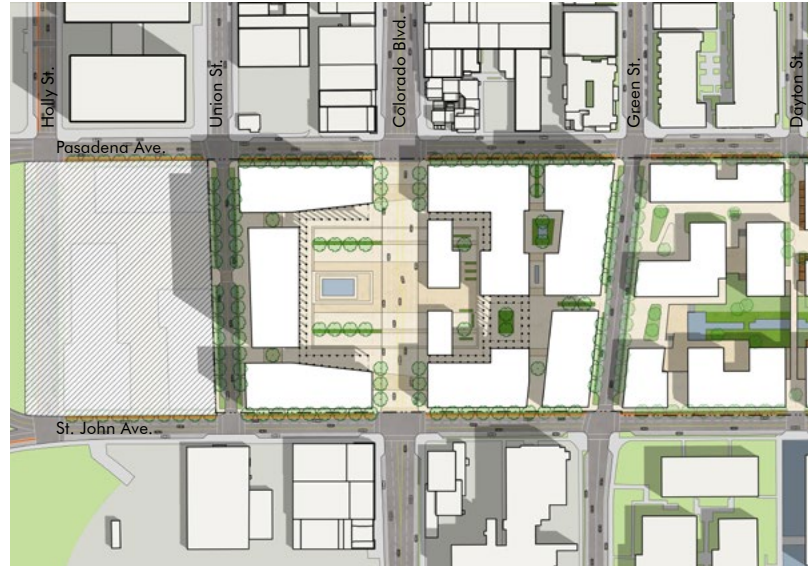
EXECUTIVE SUMMARY

“To come up with innovative ideas, it’s important to go beyond your comfort zone...you’ve got to start with an abundance of options—including some wild ideas—that you can build on and test.” IDEO

The redevelopment of approximately ten new city blocks is possible in the Project Area. Blocks are differentiated by *new* east to west connections (paseos and ways), and existing east west bridges that could be re-built or adapted as walkable streets. A key difference between the two concepts is evident in the arrangement of north-south public spaces, use of topographic changes, and existence of a new 2-way surface street in the Boulevards and Paseos option.

Both concepts celebrate Colorado Boulevard with a multipurpose civic space and arrange a variety of public spaces across the Project Area to complement development. To the south of Del Mar public space is shown as associated with new stormwater capture infrastructure. Both concepts further city opportunities that include, but are not limited to

- anchoring the west end of the Holly Street civic axis;
- addressing parking, and access needs for Rose Bowl events;
- filling in the gap along Colorado Boulevard;
- establishing a Rose Parade viewing site;
- connecting between local streets;
- unlocking value for development; and
- mending the edges of the freeway frontage roads (St. John and Pasadena Avenue) on both the west and east sides between California Blvd and Walnut Street.





GARDENS AND TERRACES ILLUSTRATIVE PLAN: THIS CONCEPT RECONFIGURING EXISTING NORTH-SOUTH BOUNDING STREETS (ST. JOHN AND PASADENA AVE.) TO 2-WAY COMPLETE STREETS. THIS CONCEPT ENABLES DEVELOPMENT TO THE INTERIOR OF THE SITE. NEW CITY BLOCKS ARE DELINEATED BY EAST TO WEST PATHWAYS ACROSS THE SITE. A NORTH TO SOUTH PUBLIC EASEMENTS WOULD BE ESTABLISHED WITH NEW DEVELOPMENT, ENABLING A CONTINUOUS NORTH-SOUTH PUBLIC OPEN SPACE TO THE INTERIOR OF THE PROJECT AREA. SMALLER INTERCONNECTED SPACES TRAVEL FROM GREEN STREET TO SOUTH OF DEL MAR AVENUE.



BOULEVARD AND PASEOS ILLUSTRATIVE PLAN: A NEW BOULEVARD CONNECTS AT THE CURRENT STREET LEVEL THROUGH THE SITE. THIS NEW COMPLETE STREET IS COMPLEMENTED TO THE WEST BY A PUBLIC LINEAR PARK. THE BOULEVARD AND PASEOS CONCEPT ALSO ENABLES A REIMAGINED, PEDESTRIAN FRIENDLY MAPLE STREET TO THE NORTH.



1.1 Introduction | Reconnecting Pasadena

This Vision Plan is dedicated to those who worked tirelessly to make this opportunity possible, limit the freeway-to-freeway connections and opened the door to the opportunity to return this property to the City to reconnect our communities.

The Reconnecting Pasadena Vision Plan offers options and opportunities on how to reconnect, both physically and socially, while exploring how the history of twentieth century freeway construction impacted the City of Pasadena and the 710 Project Area. These concepts give shape to what might replace the existing freeway “stub,” weaving together ideas for mobility—walkable streets, and transportation infrastructure with a more equitable, resilient built environment. The vision is directional. Like a lighthouse, it illuminates rather than limits, offering direction rather than destination. Most importantly, the vision is both restorative and regenerative—encouraging approaches that could go beyond “business as usual” and reinforce the City’s leadership in the Los Angeles region, California and nationally.

Key to the City of Pasadena’s acceptance of authority over the economic and land use potential for the relinquished State Route 710 (SR-710) property was the predicate of “relinquishment,” first by Caltrans and echoed by the Federal Highway Administration (FHWA), that the subject property greatly retains and promotes a **“transportation purpose.”**

In the following, this “transportation purpose” is fully integrated. The Plan suggests initial physical infrastructure improvements to create a walkable and livable neighborhood—this proposal for many forms of mobility moves Pasadena away from single-use, auto-oriented design. Concepts for multi-modal access, complete streets and active transportation are explored in parallel with ideas for more compact and diverse land uses, while retaining the programmatic flexibility that gives the community a say in future phases, and allows the Project Area vision to evolve as times and markets change.

This Plan is intentionally conceptual. It is to serve as a guide for steps to come. Pasadena’s City Council will provide direction on these concepts and lay the groundwork for next phases when concepts will be further refined, validated and entitled with input from many participants—including public actors, Pasadena’s organizations and institutions, and of course, community.

1.2 Project Governance

This planning process was funded by the federal Reconnecting Communities Pilot (RCP) Program. The RCP dedicated \$1 billion in discretionary grants nationwide to support planning and capital construction projects to restore connectivity as a direct response to a legacy of freeway building practices that displaced communities and disconnected them from essential goods and services while deepening health and wealth disparities along socioeconomic lines. The following groups and committees reviewed and directed work on the Vision Plan.

710 Advisory Group

City Council appointed a 16-member Reconnecting Communities 710 Advisory Group (RC Advisory Group) in April 2023. The Group offered unique perspectives from across the City of Pasadena. Its objective was to provide guidance to the Vision Plan to create a forward looking, equitable new neighborhood. One member, Jose Luis Correa is a descendant of community members who were displaced due to the SR-710.

Over the course of the project the RC Advisory Group met monthly in City Hall and the Robinson Park Recreation Center. The Group later formed two Standing Committees to more closely investigate proposed Land Use and Mobility and Restorative Justice strategies.

Members of the Advisory Group:

- Danny Parker, Chair
- Blair Miller, Vice Chair (Land Use and Mobility)
- Remy De La Peza, Vice Chair (term ended 11/2025)
- Adriana Lim (Restorative Justice)
- Ali Barar (Land Use and Mobility)
- Bryan Takeda (Restorative Justice)
- Charles Loveman (Land Use and Mobility)
- Cynthia Kurtz (Land Use and Mobility)
- Jasmin Shupper (Restorative Justice)
- Joel Bryant (Land Use and Mobility)
- Jose Luis Correa (Restorative Justice)
- Mic Hansen (Land Use and Mobility)

- Michelle Richardson Bailey
- Randy Shulman (Land Use and Mobility)
- Tina Williams (Restorative Justice)
- Wayne Brandt (Land Use and Mobility)

City of Pasadena

A cross-departmental City Executive Committee met monthly for regular updates on Physical Plan progress and Historic Consultant workstreams.

The Executive Committee is comprised of:

- Miguel Márquez, City Manager
- Brenda Harvey-Williams, Assistant City Manager
- Matthew Hawkesworth, Assistant City Manager
- Jennifer Paige, Director Planning and Community Development
- Joaquin Siques, Director Department of Transportation
- David Klug, Economic Development Director
- David Reyes, General Manager Pasadena Water and Power
- Greg de Vinck, Public Works Director
- Tony Harris, Point C LLC¹
- David Grannis, Point C LLC

¹ PointC, LLC is a Pasadena-based consulting firm that led the City's efforts during the relinquishment process.

City Council Ad Hoc

The Mayor appointed a City Council Ad Hoc Committee to provide guidance on the Reconnecting Pasadena project at key milestones. The Ad Hoc Committee met on a periodic basis. It consisted of:

- Mayor Victor Gordo
- Councilmember Tyron Hampton, District 1
- Councilmember Steve Madison, District 6
- Councilmember Jason Lyon, District 7

External Partners

In support of the Vision Plan effort the City of Pasadena Department of Transportation (PDOT), and the Consultant team met on a regular basis with leadership and staff from Caltrans District 7 in two Working Groups.

City of Pasadena Caltrans District 7 Mobility Working Group

This Working Group provided guidance on proposed I-210/SR-710/SR-134 interchange reconfiguration options, roadway and circulation network approaches the “Gateway” site, and identified key areas for future evaluation.

The Working Group provided also advised on how local roadway scenarios could tie into broader Caltrans

regional objectives, and its preferences to safely terminate the freeway while avoiding impact to the mainline. The Working Group met on a monthly basis.

City of Pasadena Caltrans District 7 Sustainability Working Group

During the initial construction of the SR-710/ I-210 interchange Caltrans built a stormwater collection area and pump to the south of Del Mar Avenue.

This property now owned by the City of Pasadena was transferred as part of the relinquishment. A working Group was established to explore the potential to relocate the Caltrans stormwater basin, share emerging land use and transportation concepts, and coordinate with the future project redevelopment process.

The Working Group also reviewed a concept-level hydrologic analysis to quantify peak flow rates and volumes and delineated drainage areas reaching the existing basin using the best available topographic data and storm drain mapping.

1.3 Vision Plan Organizing Concepts



PHYSICAL RECONNECTION

The Project relinks communities from east to west and north to south.

How can local and regional circulation changes transform a freeway into a neighborhood?

The Vision Plan explores local circulation frameworks that prioritize reconnection across the Project Area and improve links to Pasadena's Northwest. Project goals seek to ensure that the amount of regional trips using the corridor remain at or below today's numbers.

The Plan also suggests an overall project-driven auto trip reduction goal of 30–35% from baseline to ensure continued support for and expansion of transportation alternatives.



PLACE CREATION

The Project is designed around places

How can the Project Area add to Pasadena's inventory of well-loved places?

Vision Plan concepts includes many forms of public amenity - a plaza on Colorado Boulevard, pedestrian paseos, public courtyards, community gardens, and active recreation. Current concepts suggest 20–24% of the Project Area could be allocated as public space. A forthcoming "public realm" framework could define and program these places. Art, educational or cultural moments can be reflective of the site's history.



COMMUNITY COHESION

The Project complements sociability & fosters human connection

How can new land use programs complement and connect with adjacent neighborhoods and contribute to a welcoming environment?

In addition to housing, this plan imagines cultural, entertainment, and office uses, leveraging the Project Area's proximity to Old Pasadena businesses. Small scale spaces, food halls and markets are envisioned near Colorado Boulevard, while a portion of the site offers opportunities for community-driven learning spaces, residential and employment uses.



COMMUNITY REPAIR, HEALTH & WELL-BEING

The Project provides a path to restorative investments

How can the Project repair the past, elevate equity and improve the lives of future generations?

A Restorative Justice Framework describes concepts, strategies and interventions to repair harms resulting from the 710 freeway construction. The Plan recommends a strong affordable housing component, while pointing to a range of potential investments for impacted and/or displaced community members.



ECONOMIC VITALITY

The Project attracts & expands opportunity

How can the Project be a net contributor to the City's tax base?
How can the Project enable local business participation in construction and delivery over time?

Future land uses build on City economic development goals—to offer and attract the future's economic engines that will move our economy forward.

The Restorative Justice Framework proposes strategies to engage with small businesses, encouraging workforce training, and procurement intervention programs supporting local businesses.

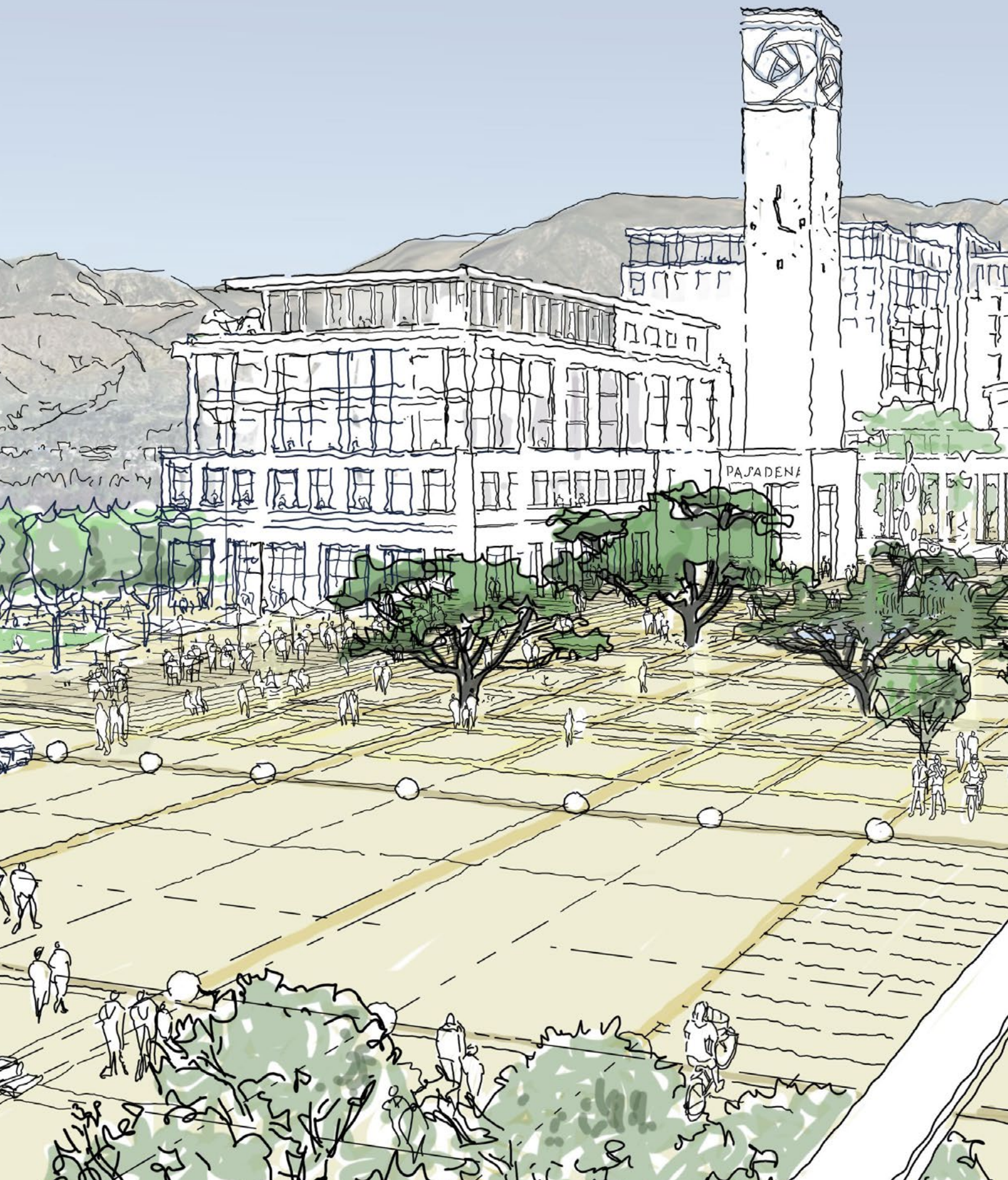


SUSTAINABILITY, CLIMATE & RESILIENCY

The Project is a proactive contributor to the local ecosystem

What is the collective impact of the Project Area's redevelopment?
How can the Project improve City resilience?

The Vision Plan sketches a pathway for net zero energy, suggesting that the City's investment in renewable energy and reduced energy use can be emphasized right from the start. The Project Area can incorporate passive design, cool roofs, a tree canopy target, natural landscapes, water conservation and water reclamation and filtration.





2

CONTEXT

2.1 The Relinquishment Process

State Route 710 was intended to connect the City of Pasadena with the Cities of Long Beach and Port of Los Angeles via twenty-six (26) miles of roadway. After significant community opposition over several decades, the highway was not completed, and five miles in Pasadena and adjacent South Pasadena were left unconstructed.

The citizens of Pasadena and South Pasadena led one of the longest grassroots freeway battles in the nation. Intense community opposition and the growing expense of the roadway's construction led the California Department of Transportation (Caltrans) to officially defund the SR-710 corridor in 2017. The official decision not to pursue a freeway extension is documented in Caltrans' selection of the Transportation System Management/Transportation Demand Management (TSM/TDM) alternative as the preferred alternative in the 2018 SR-710 Environmental Impact Report (EIR).¹ See a timeline on Page 28.

Leveraging the strong community support to reconsider the roadway's design and restore local connectivity, the City of Pasadena and Caltrans established a working group to assess the technical feasibility of converting the SR-710 stub's freeway-to-freeway connections into freeway-to-local street connections and, ultimately, to relinquishment. Both parties agreed that if this technical analysis determined the transition to be feasible, a revision of the freeway agreement between Caltrans and the City of Pasadena was possible. Published in 2021 the "SR-710 Northern Stub Repurposing Technical Feasibility Assessment"² demonstrated that this conversion does not compromise the safety or

operations of the state and interstate highway facilities at the Northern Stub's confluence.

With this finding in place, the next step for both parties was the **relinquishment** of the Caltrans right-of-way, deeding of the property back to the City of Pasadena as it was no longer needed for state transportation purposes. The California Transportation Commission approved the relinquishment, and ownership was transferred to the City of Pasadena in August 2022. The "Northern Stub" of the land relinquished covers the area from Union Street to California Boulevard, and St. John Avenue to Pasadena Avenue - an area of roughly 50 acres, see Figure 2.1.

This Vision Plan focuses on this area, and its immediate surrounds. Designated as the "Project Area," the site consists of a 25-30 foot deep excavated ditch with freeway, transition lanes, and on and off ramps flanked by two one-way at-grade frontage roads – St. John Avenue on the west traveling southbound and Pasadena Avenue on the east traveling northbound.

Within the Project Area, what had been local east-to-west moving streets were re-built by Caltrans as bridges to serve as freeway-local arterial connections across at Walnut Street, Union Street, Colorado Boulevard,

¹ 2018 Final Environmental Impact Report / Environmental Impact Statement (Final EIR / EIS) for the SR-710 North Project released by Los Angeles County Metropolitan Transportation Authority (Metro) and the California Department of Transportation (Caltrans)

² See: <https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/SR-710-N-Stub-Repurposing-Technical-Feasibility-Assessment.pdf>

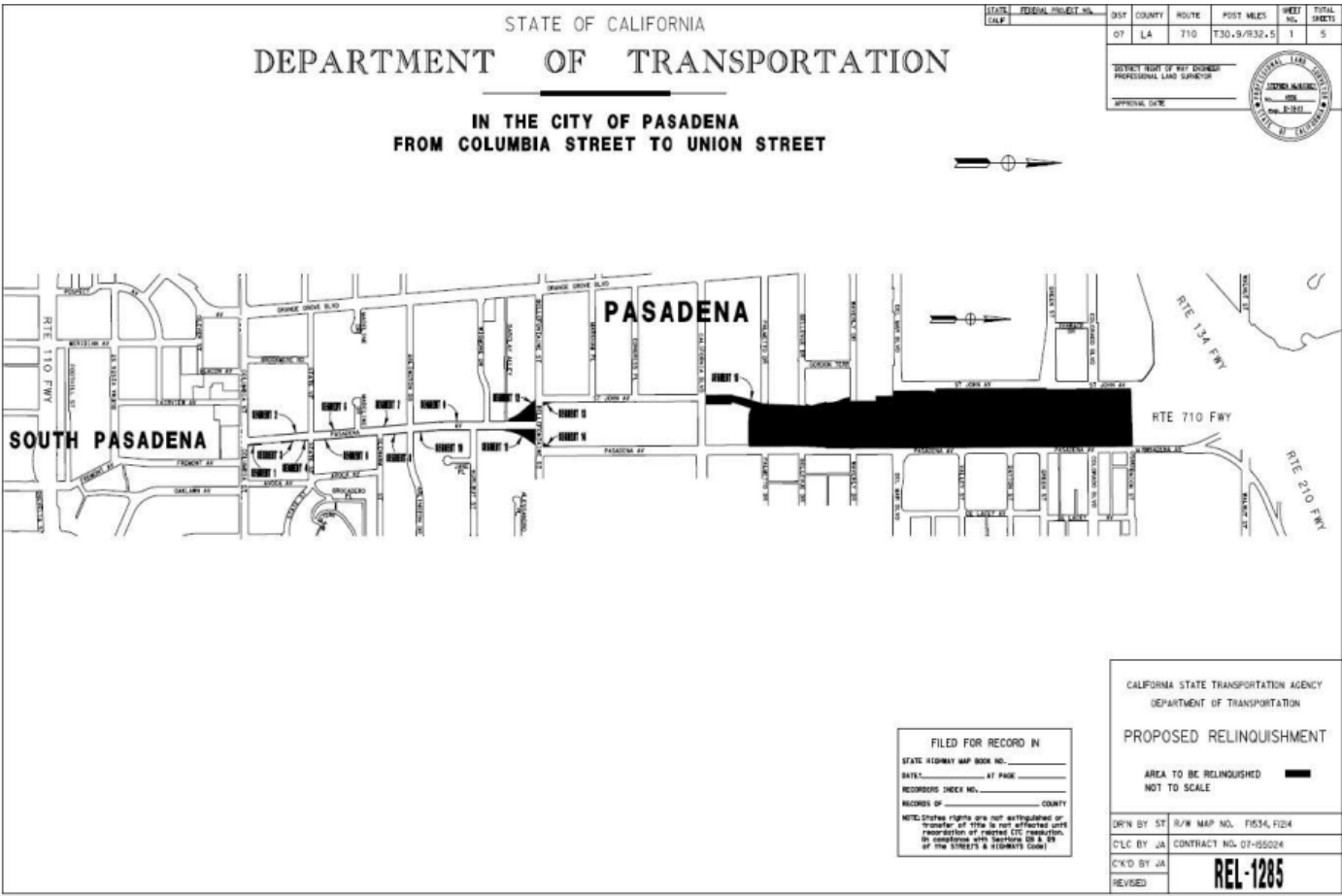


FIG 2.1 LEGAL DEFINITION OF RELINQUISHMENT AREA



AS SEEN LOOKING TO THE NORTH SHOWING THE 710 APPROACH TO THE 210 INCLUDING THE CORSON STREET FRONTAGE ROAD AND 134 CONNECTION



AS SEEN LOOKING TO THE SOUTH SHOWING THE MAPLE STREET FLYOVER, AND A SEQUENCE OF CONNECTING BRIDGES OVER THE 710 PROJECT AREA

**PLANNING BEGINS
FOR THE 210 & 710 HIGHWAYS**

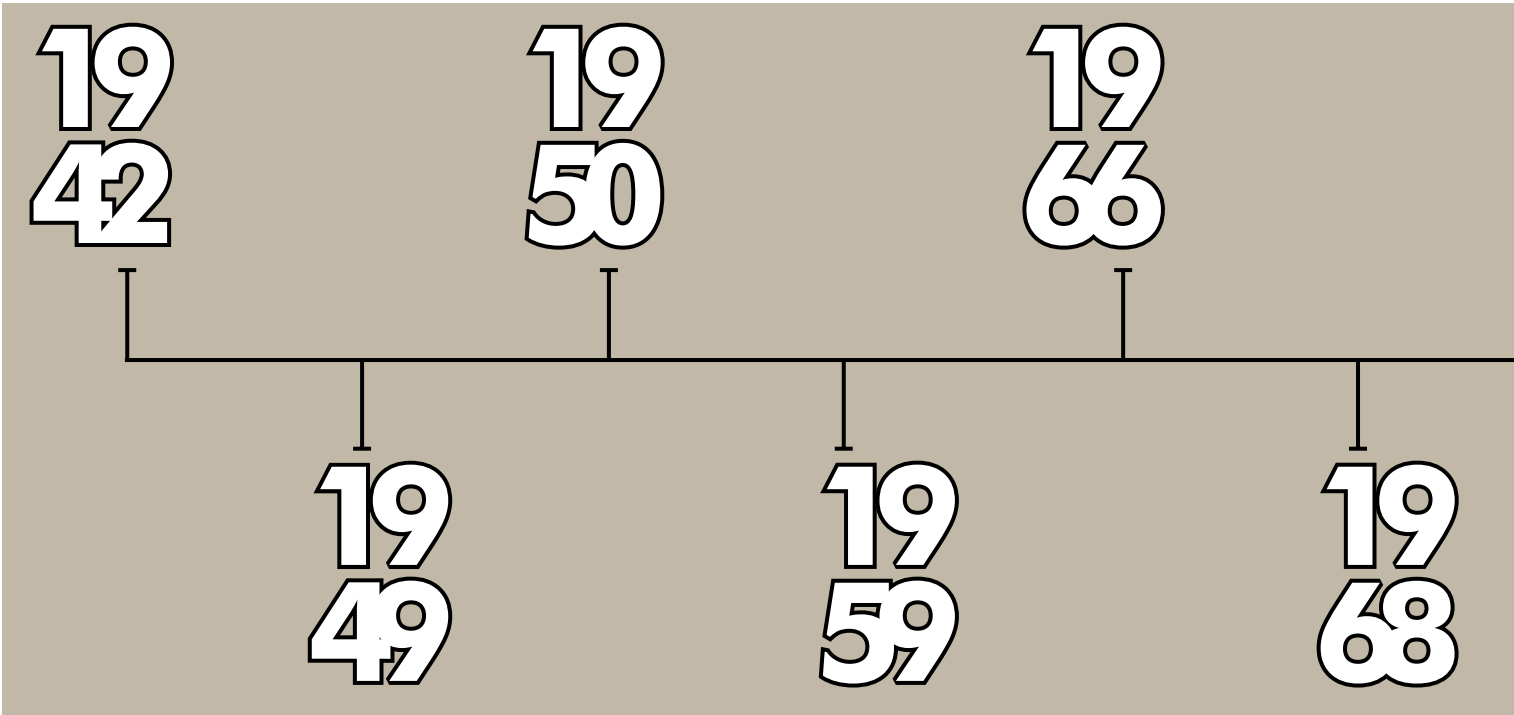
Initial planning efforts for the I-210 and SR-710 were launched, supported by the Federal-Aid Highway Act. These plans aimed to connect key regional hubs but also set the stage for decades of displacement.

**STREET CAR
SERVICES CUT**

Pasadena’s streetcar services were discontinued, reflecting the prioritization of automobile infrastructure. This shift contributed to the expansion of suburbs, and disinvestment in urban centers.

**HIGHWAYS REACH PASADENA
210 & 710 EXTENSION**

Construction of the I-210 and SR-710 freeways extend into Pasadena. While they improved regional connectivity, the freeways began to fragment established communities within the City.



**CONSTRUCTION BEGINS
FOR THE 710 HIGHWAY**

Construction for the I-210 and SR-710 freeways officially began in 1949, spurred by the post-war emphasis on modernizing transportation infrastructure. This marked the start of a project that would reshape not only Pasadena but also the greater Los Angeles region.

**PROPERTY ACQUISITION
CONTINUES UNTIL EARLY 1970S**

I-210 and SR-710 freeways reach Pasadena, displacing several communities of color. The construction leveraged redlining practices and existing racial covenants, uprooting families and reshaping the City’s social fabric.

**FAIR HOUSING ACT
ENACTED 1968**

Fair Housing Act prohibits racial discrimination in housing practices and promotes equal access to housing. While a critical step forward, its impact was limited in Pasadena, where systemic inequalities like redlining and displacement from highway construction continued to affect communities of color.

MTA DEFUNDS RAILWAYS REFORM AND ACCOUNTABILITY ACT

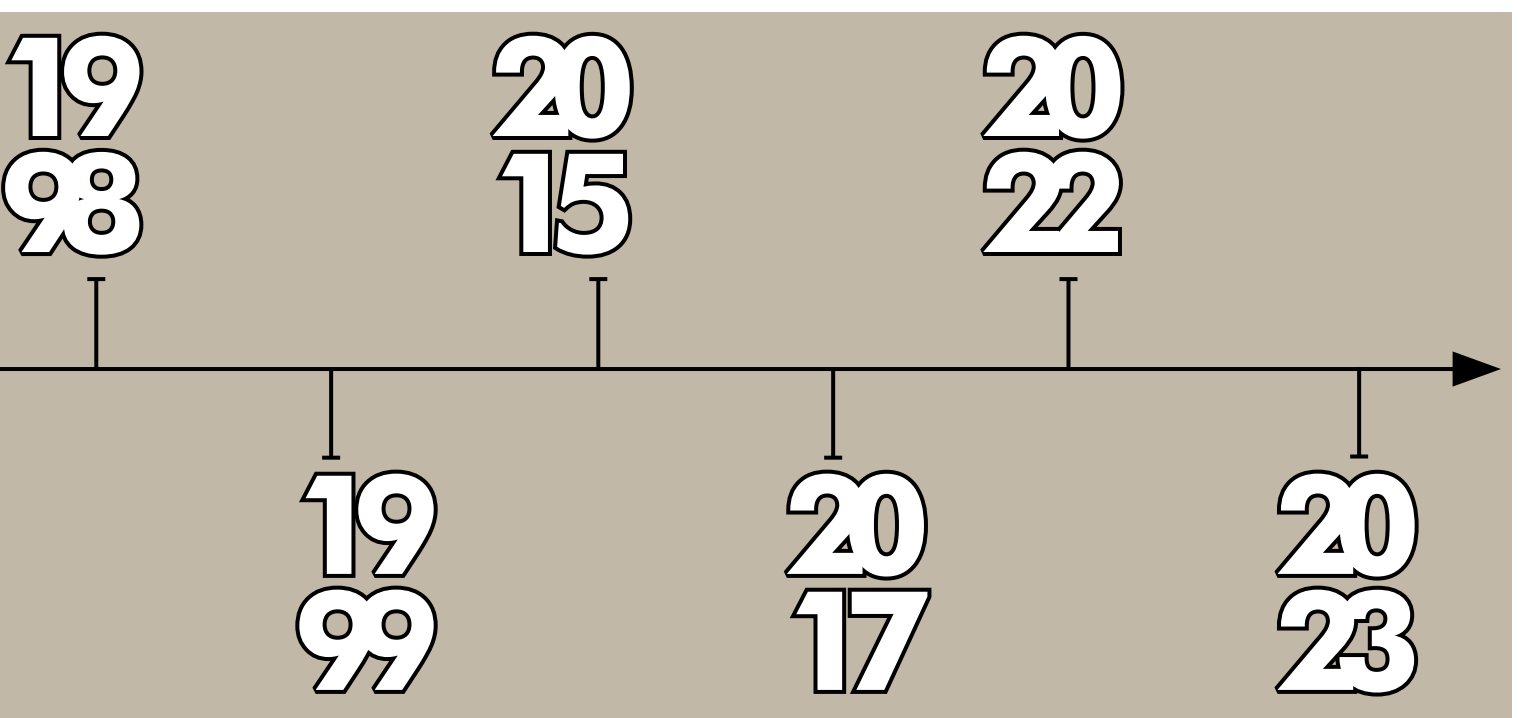
Metropolitan Transportation Authority (MTA) passed the Reform and Accountability Act, redirecting funds away from rail transit projects. This decision reflected shifts in transportation priorities, delaying efforts to expand public transit in the region.

WEST PASADENA RESIDENTS ASSOCIATION PROPOSAL COMMUNITY THINKING OF IMPACT

The West Pasadena Residents Association (WPRA) began advocating for a comprehensive assessment of the 710 highway's impacts. Efforts included community development of the Connecting Pasadena Project (CPP), and various city-led working groups.

TRANSFER OF LAND CALTRANS RELINQUISHES LAND

Caltrans officially transferred ownership of the 710 corridor land to the City of Pasadena. The handover enabled community-driven planning to address the legacy of displacement and envision new uses for reclaimed space.



710 EXTENSION HALTED RESIDENTS OF PASADENA RESIST

Plans to extend the 710 highway through the City of South Pasadena were halted due to resistance from Pasadena and South Pasadena residents.

710 DEFUNDED CITY COUNCIL OPPOSES TUNNEL

Pasadena's City Council formally opposed the proposed underground extension of the 710 highway. Caltrans officials defunded the project and prioritizing alternative approaches.

RECONNECTING PASADENA

Pasadena launched the Reconnecting Communities project including research into past decisions. The plan will initiate a process to reconnect the 710-stub study area, and provide outreach across Pasadena's neighborhoods.

Green Street, and Del Mar Boulevard. These bridges, designed in anticipation of a robust freeway system that will no longer be realized, were also transferred into City ownership. There are also northbound ramps from Pasadena Avenue into the ditch (from which there is access to northbound and eastbound I-210 and westbound SR-134), a northbound and a southbound connection to Walnut Street, and one southbound ramp to St. John Avenue.

Relinquishment Findings

Today, the SR-710 connector is the route of choice for many north-south regional travelers during commuter peak periods. Traffic count data from the *SR-710 Northern Stub Repurposing Technical Feasibility Assessment* documented between approximately 3,600 and 4,800 vehicles per hour (combined AM and PM peak hours or total for each individual peak) in each direction along the Stub or on the adjacent streets (southbound on St. John Avenue, northbound on Pasadena Avenue).

The volume of traffic moving through the Stub underscores the challenge of redesigning a transportation network here. Nearby alternatives for traveling north and south in the vicinity of the Project Area include Orange Grove Boulevard, Fair Oaks Avenue, and Arroyo Parkway, each of which have capacity limitations and, in many cases, pass sensitive uses (e.g., residential, park, etc.).

Existing north-south traffic would need to be redistributed at the subregional and regional level (either further to the east or west than Orange Grove Boulevard, Fair Oaks Avenue, Marengo Ave, and Arroyo Parkway or via other modes of travel), otherwise that traffic would need to be accommodated within the Project's new street network.

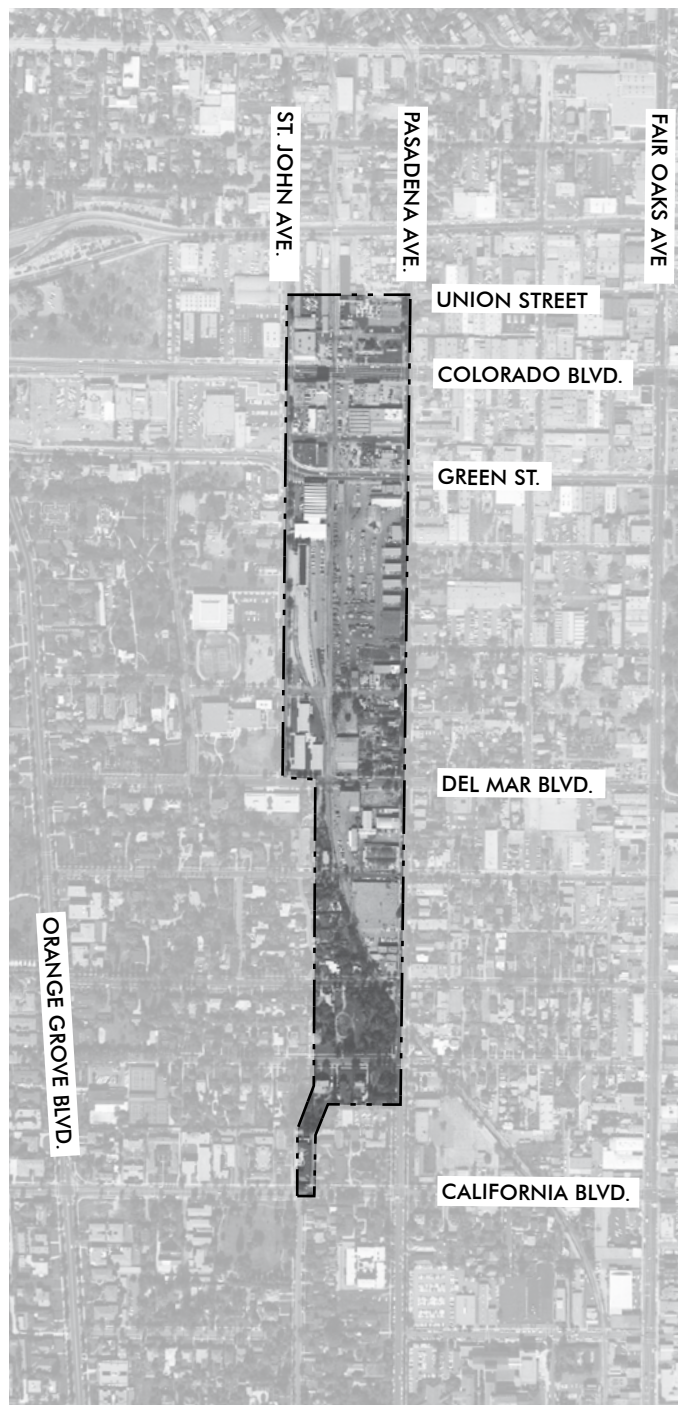


FIG. 2.2 THE RELINQUISHMENT AREA OVERLAYED ON HISTORIC PHOTOGRAPH BEFORE THE FREEWAY WAS CONSTRUCTED

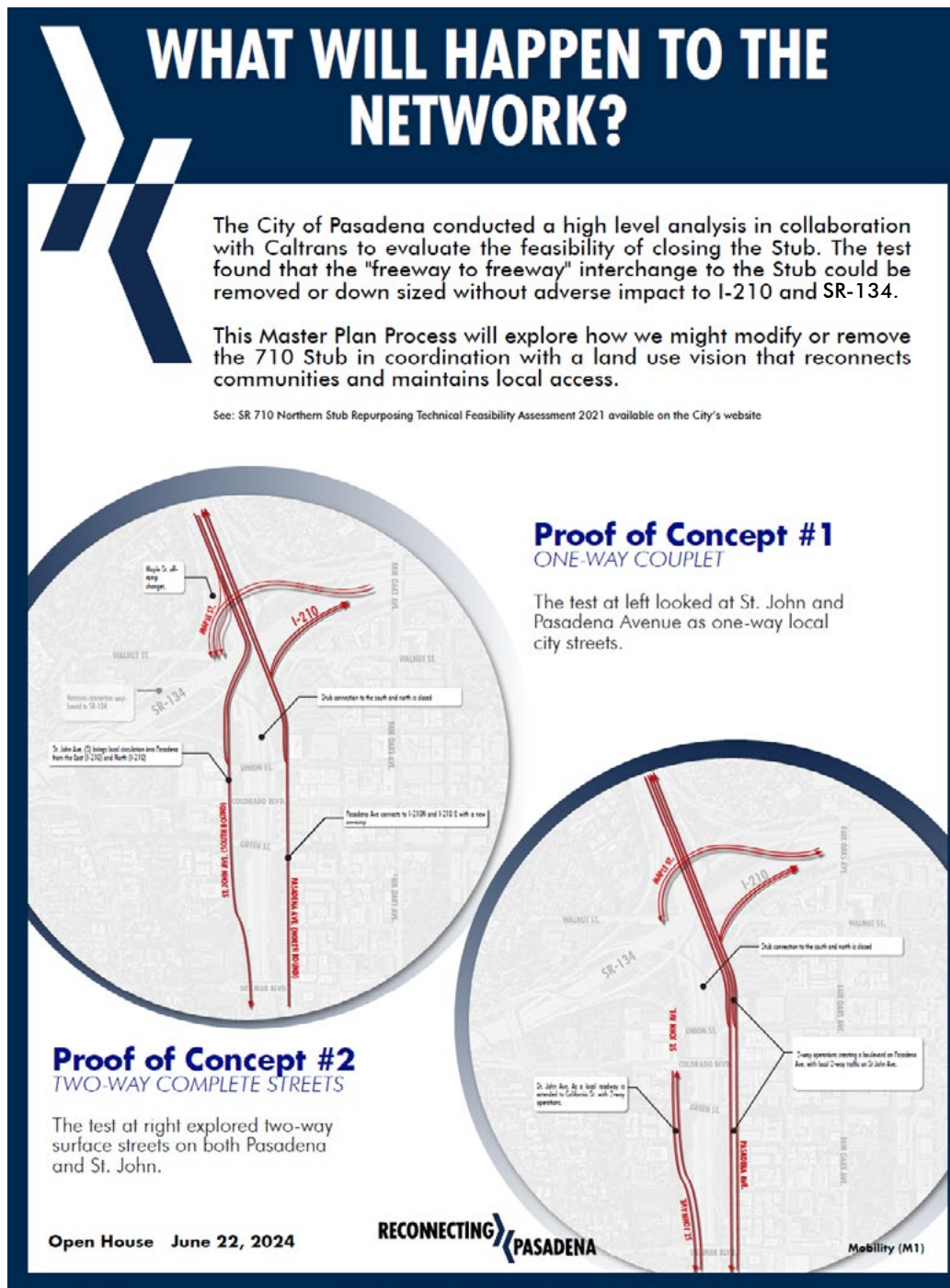


FIG. 2.3 INFORMATION BOARD FROM RECONNECTING PASADENA COMMUNITY EVENT ONE, JUNE 2024. THIS EVENT SHOWCASED INFORMATION ON THE RELINQUISHMENT AND ITS FINDINGS, SETTING THE STAGE FOR THE VISION PLAN.

2.2 Vision Plan Process and Engagement

This Vision Plan project process took place over three phases. The process sought to address transportation challenges while also solving for concepts to reconnect socially through land uses.

PHASE ONE Discovery: Historic Consultants conducted demographic, and archival research and collected oral histories. A separate physical planning Consultant team assessed land use, sustainability and transportation conditions, and compiled digital information on the Project Area. The team created preliminary organizing concepts, and “blue sky visioning.” Early ideas were vetted via fatal flaws. Compelling ideas were brought forward to the RC Advisory Group and the City’s Caltrans District 7 Mobility Working Group. This input was used to guide development of Project Area options.

PHASE TWO Options & Engage: In spring 2025, the team produced working physical and digital models of the Project Area to test urban form and layout new local roadways. Physical models helped the public understand how building forms could fill in the “ditch,” and various

street and network structures could come together to reconnect across the Project Area. In summer 2025, the Consultant team, alongside Pasadena’s Department of Transportation and Caltrans District 7, further developed scenarios to terminate and reconfigure the freeway and its ramps; and remove and relocate the Caltrans stormwater basis. These scenarios were tested to gather preliminary information on land use economics, mobility and accessibility strategies, energy and power requirements, water resources, and stormwater. These findings were shared in September 2025 at Public Event #3. The team also gathered feedback on the initial concepts from the RC Advisory Group, City Council Ad Hoc and Executive Committees.

PHASE THREE Document & Refine: The final phase focused on further refinements, and compiling information into a Draft and Final Vision Plan. This Phase also documents initial recommendations for the Plan’s implementation, including suggested next steps and areas needing further resolution.

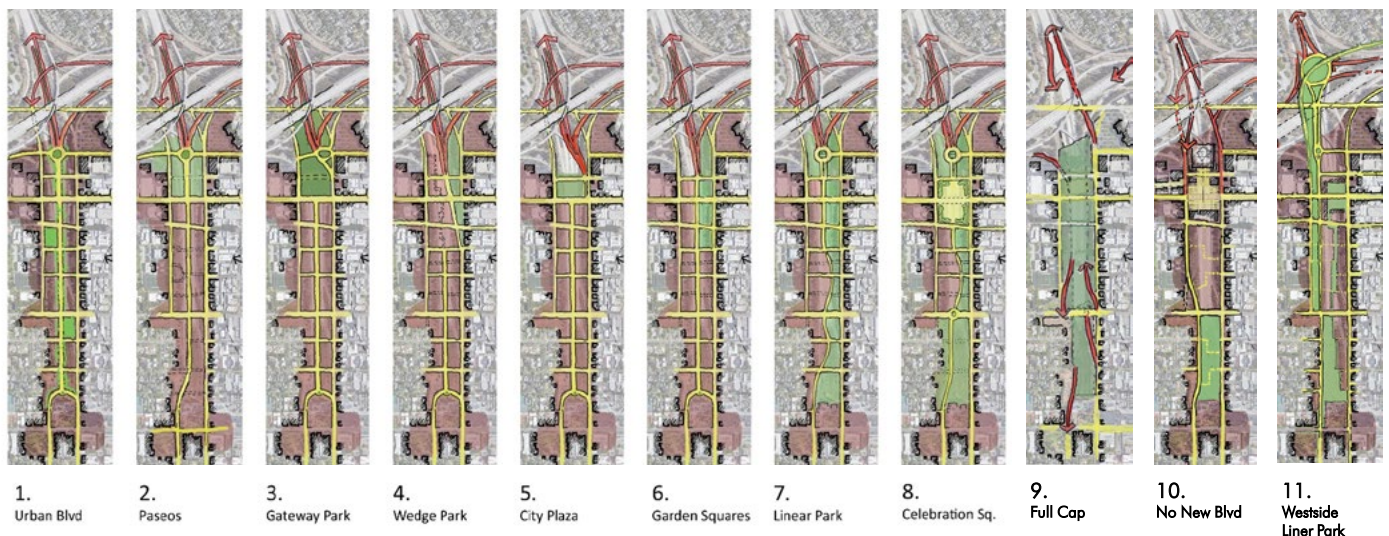
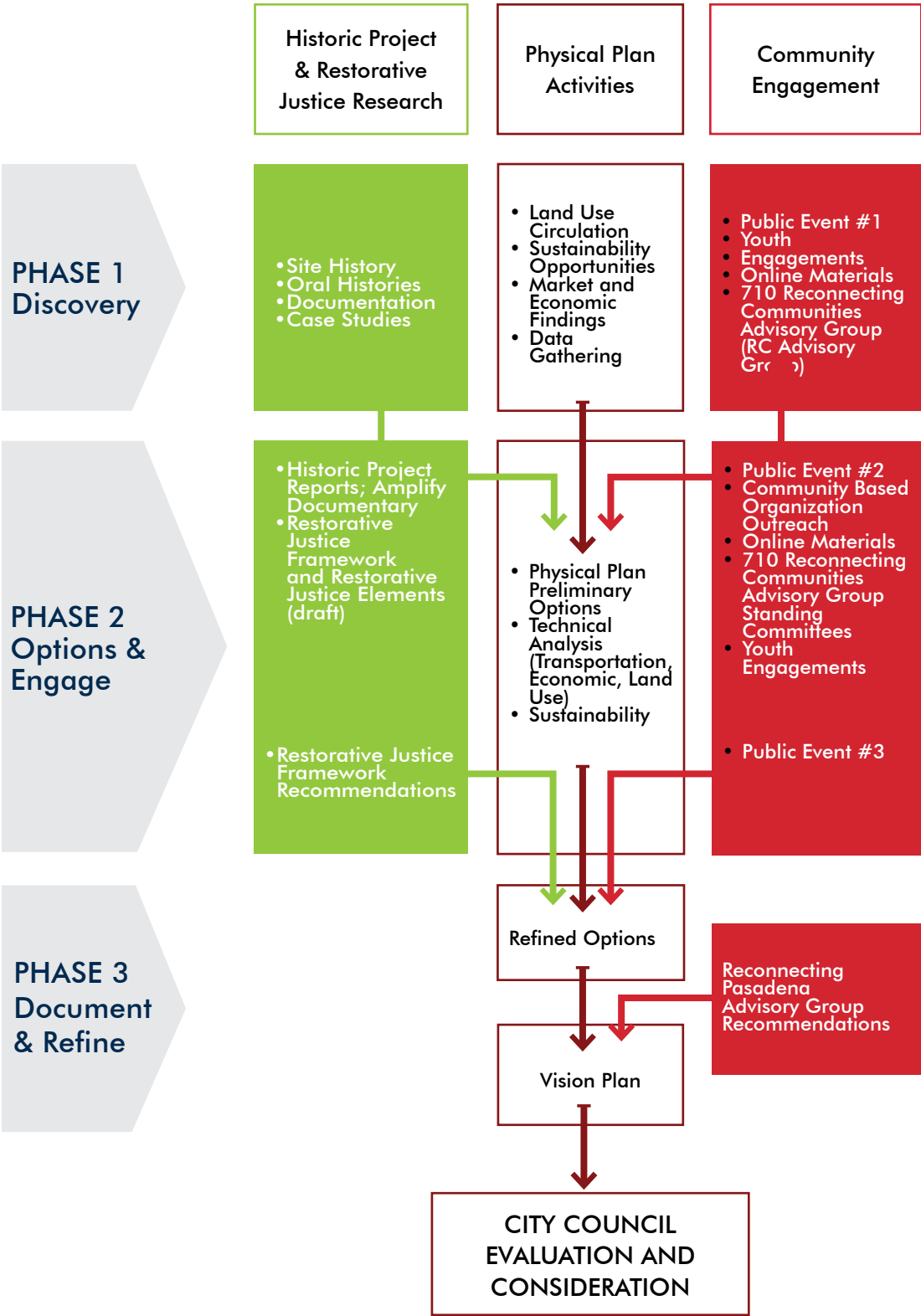


FIG 2.4: BLUE SKY IDEAS GENERATED IN THE DISCOVERY PHASE FOR THE COMBINED CIRCULATION AND LAND USE CONCEPTS. EARLY CONCEPTS TESTED THE LOCATION AND NUMBER OF STREETS, PUBLIC SPACES, AND TOPOGRAPHIC CHANGES.



2.2.1 PUBLIC ENGAGEMENT

The City and its Consultant team held a variety of meetings across the City and created an accessible project-based online storymap. The following section summarizes these engagement activities and what was heard at sessions.

Public Event One

On June 22, 2024, the City held a meeting at Victory Park Recreation Center. This half-day session introduced the project context and gave community members the opportunity to ask questions and discuss what they would like to see in the area. The event drew approximately 170–180 attendees.

The Consultant team displayed a physical model of the existing site and a series of presentation boards summarizing the project process and schedule, land uses, the relinquishment technical study and current conditions.

Placeit! conducted an interactive, intergenerational model-building workshop. Their questions focused on the relationship between future land use programs and urban form and each participant's ideal city environment.

All materials and interpretation services were provided in Spanish for community members.

Public Event Two

The City held a second city-wide event in April 2025 at the Pasadena Convention Center with approximately 140-160 participants. The meeting included members of the consultant physical planning team, Historic Consultants and City of Pasadena staff. This event initiated the "Options and Engage" project phase. Two dozen boards showcased physical design opportunities, place-making ideas and preliminary historic findings, as well as providing a draft restorative justice definition and related elements.

This event included a screening of the Oral History Documentary, *Amplify* and a short video showcasing some of the key concepts and considerations for the site's future physical framework.



PASADENA RESIDENTS AT PUBLIC EVENT ONE



PASADENA RESIDENTS AT PUBLIC EVENT TWO

A survey asking questions about preliminary design concepts and community priorities was conducted both online and in-person.

All printed materials were available in both English and Spanish, including a copy of the presentation slides in Spanish.

Public Event Three

A presentation and panel discussion was held in-person and online in September, 2025 at the historic Friendship Pasadena Church. Approximately 98–125 community members attended the workshop with additional participants online. Panelists presented land use, design and circulation ideas and responded to questions from the participants. In addition, live polling with in-person and remote participants focused on what elements or features they would prioritize from the project concepts and ideas. For those that missed the second workshop, the *Amplify Oral History Documentary* was played on loop.

All printed materials were available in both English and Spanish, including a copy of the presentation slides. All boards and materials were uploaded to the project storymap.

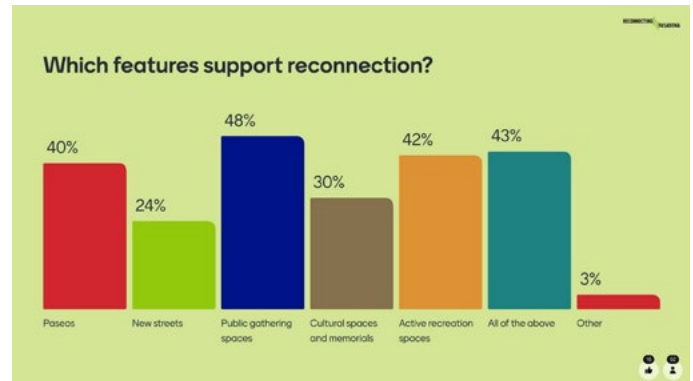
Community Based Organizations (CBO) Partnerships

The Reconnecting Pasadena Project initiated official agreements with six local Community Based Organizations (CBO). These agreements were established to:

- Involve and receive feedback from harder to reach groups and communities.
- Extend project information to areas served by CBO partners through their existing events and activities.
- Benefit from CBO's relationships with the community, and existing practices.

CBO Partnerships included:

Urban Homestead: a pioneering model for urban sustainability in cities. Their mission, as urban farmers is to cultivate space for community through food.



PASADENA RESIDENTS AT FRIENDSHIP CHURCH PARTICIPATE IN LIVE POLLING



FULL SCALE STUDY MODELS HELP PARTICIPANTS UNDERSTAND THE SCALE OF THE SITE AND HOW TO RECONNECT ACROSS.

Day One: a community-based nonprofit organization with a 37-year history of providing effective, high quality and culturally sensitive public health education, intervention, and policy development in the San Gabriel Valley.

BikeLA: a nonprofit organization that works to make all communities in LA County healthy, safe, and fun places to ride a bike through advocacy, education, and outreach. They envision a Los Angeles County that is a great place for everyday, year round bicycling.

Center for Restorative Justice: a place-based organization that educates and equips communities to address the history of racial injustice and disrupt its ongoing impact by making the past present.

Outreach activities included CBO roundtable meetings to share project milestones, discuss outreach strategies, and coordinate approaches. Throughout the process, CBO partners were provided digital

toolkits and encouraged to continue sharing project information within their networks to build awareness and participation.

Online materials and storymap

The Project team created an online interactive storymap to provide residents and stakeholders with updated materials. The storymap included maps, visuals, and explanations that highlight the 710 Project Area, its history, and its potential for a new future. At the bottom of the storymap, community members were invited to provide their name and email address to stay up to date with the project using a built-in sign-up form.

Other Events

Former State Assemblymember Chris Holden’s Annual Block Party: In August 2024, the project gathered feedback through a “What is Your Ideal City Place?” display board, highlighting community desires for



PLACEIT! FACILITATED A WORKSHOP WITH STUDENTS ON THE FOLLOWING PROMPTS: IMAGINE THE 710 GONE. IN ITS PLACE, BUILD THE COMMUNITY OF YOUR DREAMS (WHEN BUILDING, CONSIDER YOUR PHYSICAL, SOCIAL, AND CULTURAL NEEDS)



A PHYSICAL MODEL OF PROJECT AREA AS SHOWN AT EVENT TWO



MODEL BUILDING ACTIVITY AT EVENT ONE



THE AMPLIFY ORAL HISTORY DOCUMENTARY WAS SCREENED EVENT TWO AND THREE



AN EXISTING CONDITIONS MODEL WAS SHOWN AT MANY LOCAL EVENTS

affordable housing, green spaces, and public gathering spaces.

Pasadena Latino Heritage Parade and Festival: In October 2024, participants shared ideas for parks, affordable housing, and cultural spaces while acknowledging the historical displacement caused by the construction of the SR-710 freeway.

Pasadena Fall Festival: In October 2024, attendees added over 100 comments to an interactive “tree,” prioritizing parks, green spaces, mixed-use developments, and restorative measures for displaced communities.

A Focus on Youth Engagement

Youth engagement was designed to inform, inspire, and empower young people. Through interactive, hands-on activities and facilitated dialogue, the project team engaged high school and college students across Pasadena.

In September 2024, the City of Pasadena hosted two interactive youth-focused workshops at Pasadena City College, facilitated by Place It! Fifty-three students were introduced to the Project and concepts of urban planning. Participants participated in sensory-based, model-building activities that encouraged them to translate lived experiences, memories, and aspirations into physical design concepts for the future of the Project Area. Project boards were displayed throughout the sessions to support learning and discussion.

In May 2025, the project team partnered with the community-based organization Day One to host a youth workshop. Participants engaged in hands-on model building with color-coded, Lego-style blocks to design their vision for the Project Area. Youth emphasized inclusive public spaces, parks, affordable housing, mobility improvements, and community-serving uses. Participants presented their models and discussed the values behind their design choices. Ideas generated included water features, libraries, museums, nonprofit spaces, small retail, food trucks, bike paths, open



YOUTH EVENT AT DAY ONE



(ABOVE) PRESENTATION BOARDS AND RESPONSES AT EVENT ONE

green space, mixed-use development, schools, and a transportation hub. Students explored ideas related to connectivity, mobility, sustainability, housing, and public space.

A youth forum at Friendship Pasadena Church in December 2025, was sponsored by Councilmember Tyron Hampton and Perkins Eastman, and organized by Sequoyah School, Muir High School, and community advocates. As part of a planned “710 Community Fellows Program” approximately forty teens attended the Youth Forum. Mixed teams of students participated in a day-long program emphasizing dialogue, inquiry, and critical thinking. Students interviewed guest presenters and toured the SR-710 corridor. The workshop revealed a strong appreciation for the project’s complexity and its potential to benefit the community. 80% of participants expressed interest in learning more about urban design, development processes, and local policymaking, while 60% were surprised by the history of displacement associated with the freeway. Key areas of interest included affordable housing, bike infrastructure, restorative justice, defining the public good, and ensuring inclusive community dialogue.



(ABOVE) STUDENTS ATTEND THE YOUTH FORUM THE 710 COMMUNITY FELLOWS PROGRAM. THIS IS A PROGRAM OF CITY COUNCIL DISTRICT 1 - COUNCILMEMBER TYRON HAMPTON, WITH SUPPORT FROM: MUIR HIGH SCHOOL ENGINEERING AND ENVIRONMENTAL SCIENCES ACADEMY, SEQUOYAH SCHOOL, THE DBK GROUP, ARROYO SECO PLACEKEEPERS, CENTER FOR RESTORATIVE JUSTICE, PERKINS EASTMAN AND THE ARMORY CENTER FOR THE ARTS.

2.2.2 KEY THEMES FROM PUBLIC ENGAGEMENT

Themes heard from the community across all engagements are summarized following:

RESTORE PHYSICAL CONNECTION

- Better connect across the SR-710 ditch, include all modes (vehicles, transit, bikes and pedestrians) especially to the Northwest neighborhoods and east to west.

BUILD HOUSING

- Include housing here with many forms, and make affordability a priority. Try to achieve something unique.

APPLY “DENSITY” CAREFULLY - KEEP PASADENA BEAUTIFUL

- Leverage the existing assets of the communities nearby, including multifamily housing. Be respectful of existing neighborhoods.
- Support, but don't compete with Old Pasadena.
- Reduce traffic impacts to adjacent streets and make it nice to walk, create a place and a new neighborhood where people will want to live, play and work.

FOCUS ON PROSPERITY, RESTORATIVE JUSTICE, COMMUNITY ECONOMIC OPPORTUNITY

- Introduce welcoming places to interact, gather, and connect (all ages).
- Ensure the redevelopment includes a variety of green spaces, parks and activities, especially for youth.
- Acknowledge and honor displaced communities and take meaningful action to support impacted communities.
- Implement effective strategies to balance economics and public benefit.

LEADERSHIP IN SUSTAINABILITY

- Pioneer transformative sustainability initiatives, explore and apply strategies for renewable energy systems, preserve natural resources and reduce ground water use.
- Apply climate sensitive design, mitigate for extreme heat, design for public health and wellness.
- Use the project area to implement the City's Climate Action Plan.

2.3 Project Area Planning Context

“Pasadena is defined by its public spaces, its beautiful neighborhoods, thriving business districts, and historic assets like City Hall, the Rose Bowl, Ambassador Auditorium, and Caltech—all contributing to our sense of place. With the Vision Plan we can learn from and reflect the best aspects of what surrounds it.” Mayor Victor Gordo

Because the Project Area is an operating roadway, it is not part of the Pasadena General Plan and designates no land uses for the site. The Project Area spans nearly 4,000 feet—approximately ten city blocks. Abutting Old Pasadena, it interfaces with diverse land uses, ranging from office and retail to multifamily residential. The SR-710 ditch serves both barrier and edge of Old Pasadena. The Project Area is the transition—from busy and walkable blocks on its east side to the more auto-oriented and suburban-scaled commercial areas and mixed residential along St. John Avenue and Orange Grove Boulevard to the west. A ridge on the west side of the site further adds to this transition, acting as a visual feature in places like Del Mar Boulevard.

Colorado Boulevard is one of Pasadena’s signature streets. Land uses on both sides of the Project Area offer street-level retail. Further south on Green Street and beyond, this walkable mixed use character is less consistent and shifts to include residential apartments and mixed commercial uses. See Figure 2.5



THE PROJECT TEAM CONDUCTED A WALKING TOUR OF THE SITE WITH CITY LEADERS.

1. INTERCHANGE WEST

- Long walking distance to street activity
- Feels unsafe; lack of intuitive orientation
- Monumental scale of concrete structures unsettling as a pedestrian

2. AUTO DEALERSHIPS

- Commercial setting with one- and two-story auto dealerships and surface parking
- Sidewalks lack trees or pedestrian buffers from cars
- Adjacent to the Norton Simon Museum

3. AMBASSADOR'S EDGE

- Hillside transition with green campus environments
- South of Del Mar is the longest block in study area, limited east-to-west access
- Limited public access to Ambassador Auditorium and Maranatha High School

4. SOUTH OF DEL MAR

- Caltrans owned stormwater facility
- Stormwater collects in a pond and is then pumped off-site under Del Mar

5. NORTHWEST GATEWAY/PARSONS

- Parson Headquarters (former) west-side parking lot looking to be redeveloped with new multifamily housing located to the east

6. COLORADO BLVD

- Signature Pasadena Street
- Up to 4 stories with varied land uses but limited active uses
- Some mid-block crossings of Pasadena Ave. to the north and south

7. OLD PASADENA

- Premier local and regional shopping destination
- Walking streets, active alleys, retail and restaurants
- Shared parking structures on Holly Street

8. URBAN RESIDENTIAL

- Mid-rise apartments including Westgate Apartments constructed in the 2000s
- Entries located at street level or raised with parking below
- Midblock crossings and paseos, but some are gated and private

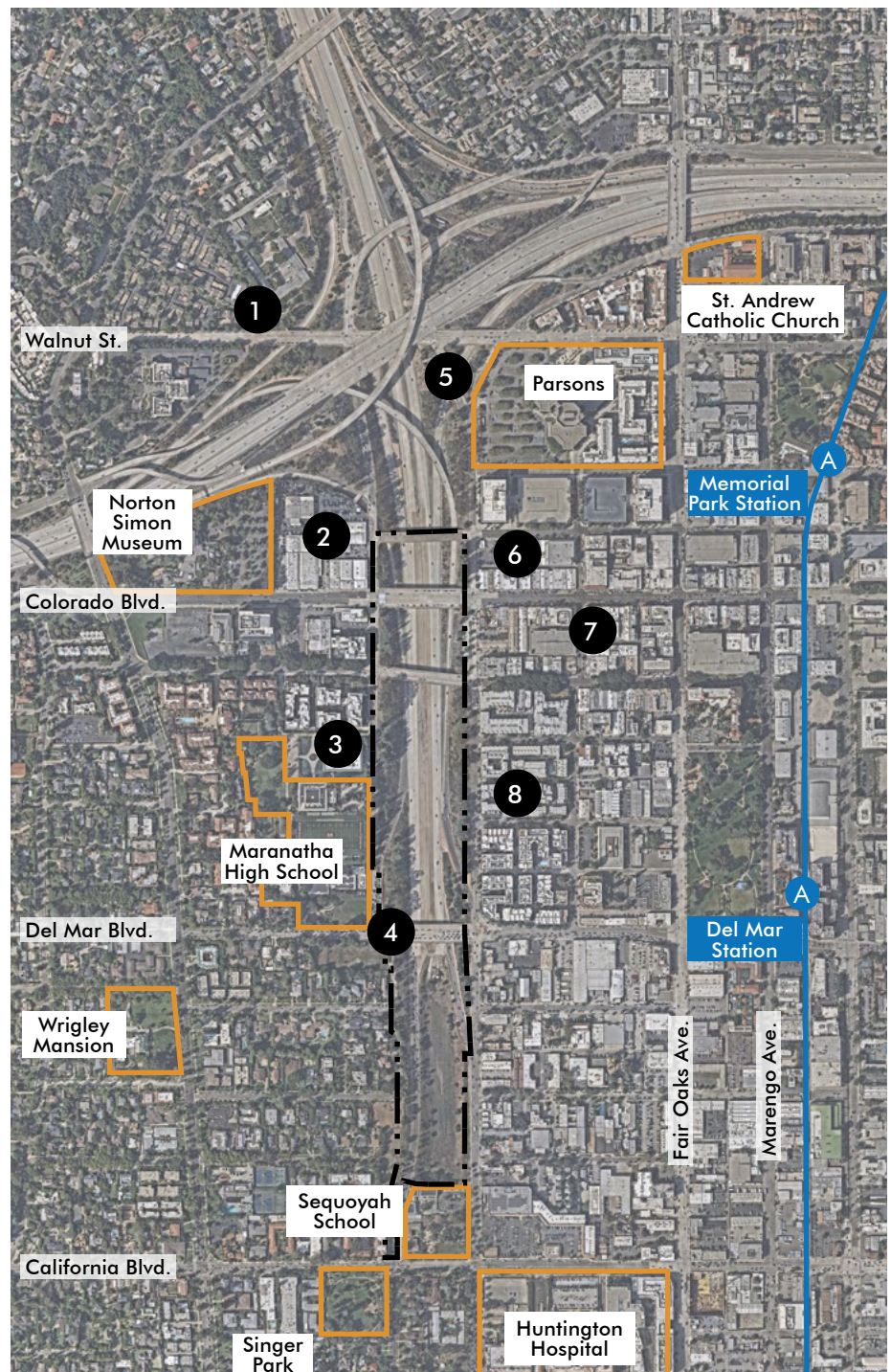


FIGURE 2.5: LAND USES INFLUENCING THE PROJECT AREA

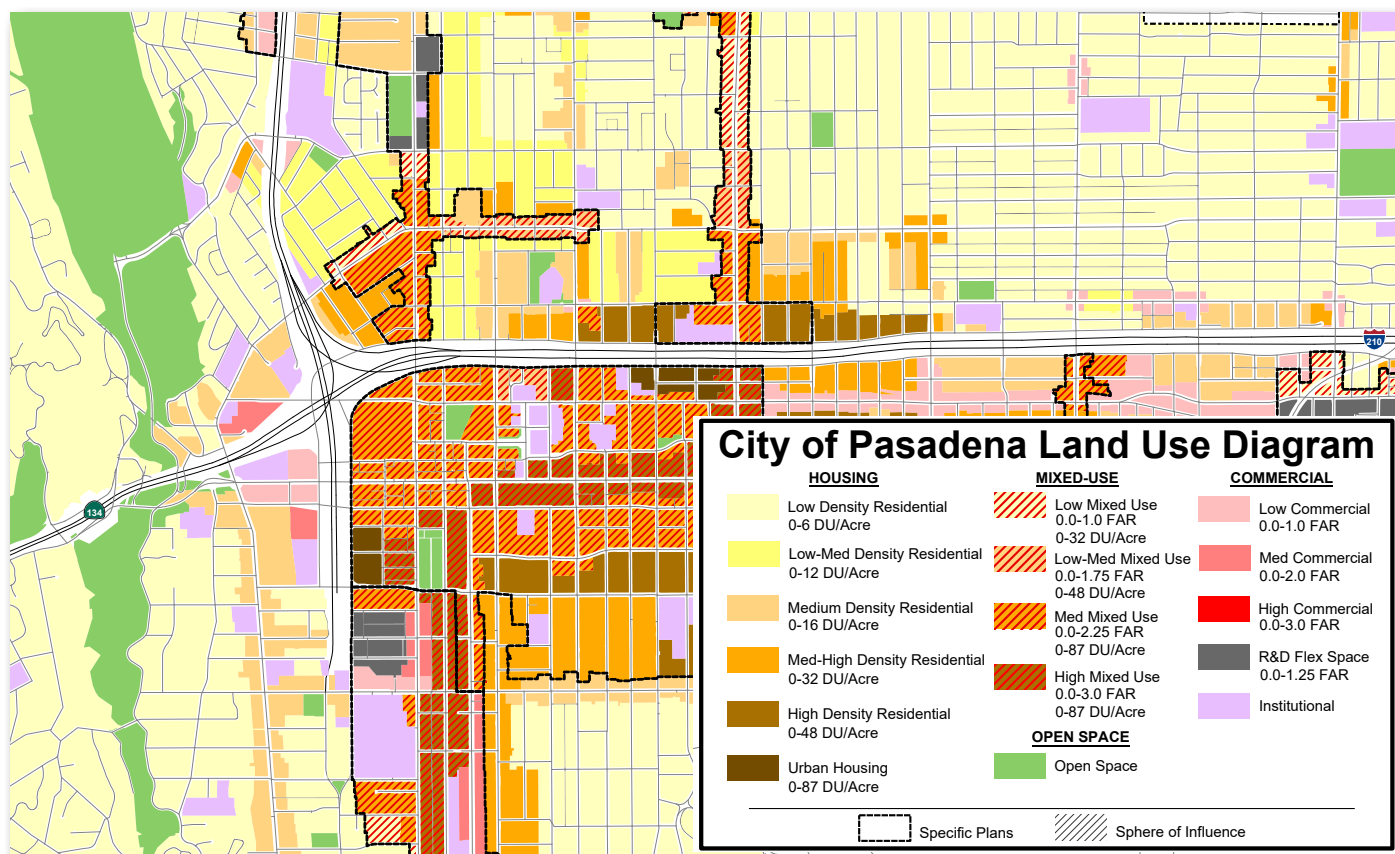


FIG 2.6: PASADENA GENERAL PLAN LAND USE DIAGRAM

2.3.1 PROJECT LAND USE PLANNING CONTEXT

Figure 2.7 shows the Specific Plan boundaries adjacent to the Project Area.

Central District Specific Plan

The 2023 Central District Specific Plan establishes the design and development standards to the east of the Study Area. It includes a description and goals for its “sub-districts.”

Old Pasadena

The historic core of the City and vibrant retail and entertainment destination; a network of alleys and paseos enhance pedestrian connectivity. District land uses and policies here seek to strengthen Old Pasadena as a mixed-use activity center that fosters retail,

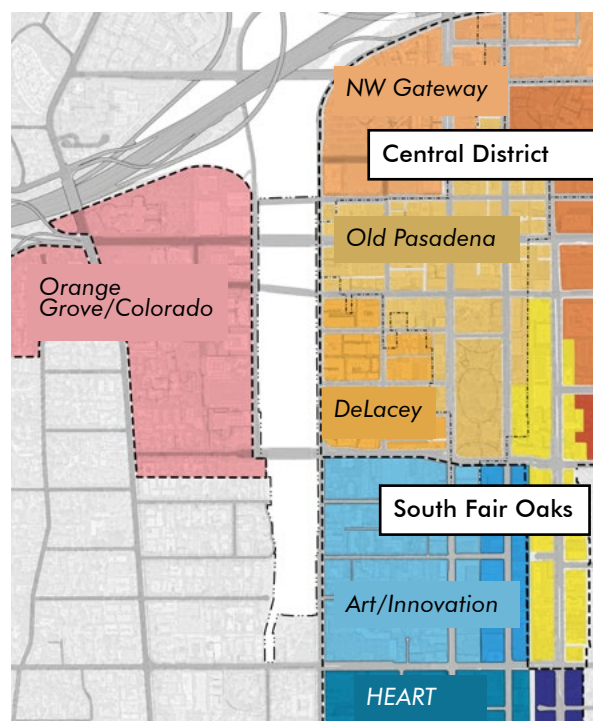


FIG 2.7: SPECIFIC PLAN BOUNDARIES & NEIGHBORHOOD DESIGNATIONS.

entertainment, employment, and residential uses within a walkable setting. Pasadena's museums, theaters, and dining scene draw visitors from across the region. Old Pasadena is already a critical cultural hub, source of civic pride and identity, and major tax base, providing 20% of the City's sales tax receipts with seven million visitors per year.

De Lacey

Medium to high-density residential and commercial neighborhood distinguished by the Westgate Apartments. This District aims to develop high-quality residential and mixed-use properties near Del Mar Station and Central Park to enhance the neighborhood's appeal. These blocks incorporate some ground level units, and landscaped paseos within the blocks.

Northwest Gateway

Distinguished by the former Parsons Corporation office complex, this area supports the Central District as a designated major employment center and prominent downtown entrance by enhancing the existing mixed-use character with a variety of retail, office, services, and multifamily housing.

South Fair Oaks Specific Plan

The 2022 South Fair Oaks Specific Plan facilitates a creative, innovative, and health-oriented mixed-use district that provides multi-family housing.

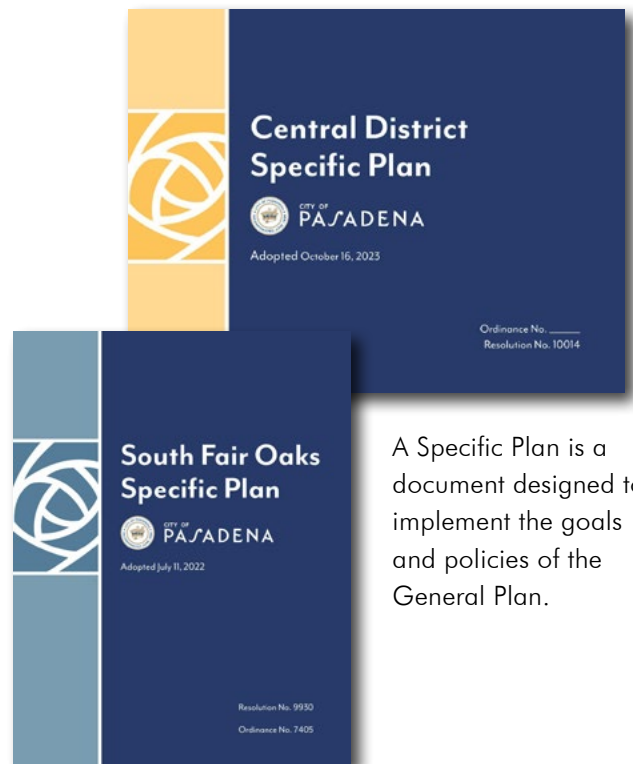
Arts and Innovation Flex

This commercially focused District between Del Mar and California is an eclectic district with a mix of residential and nonresidential uses that support existing businesses and encourage economic vitality for the City.

Flexible uses include research and development, creative office, and light industrial. The lower scale of buildings supports adaptive reuse, with an emphasis on start-ups and biotech.

HEART

To the south of California is an active arts and medical district with a mix of land uses and amenities that serves residents, students, employees throughout the day. The HEART district will support medical office use, with some taller buildings to complement Huntington Hospital.



A Specific Plan is a document designed to implement the goals and policies of the General Plan.

2.4 Understanding Scale

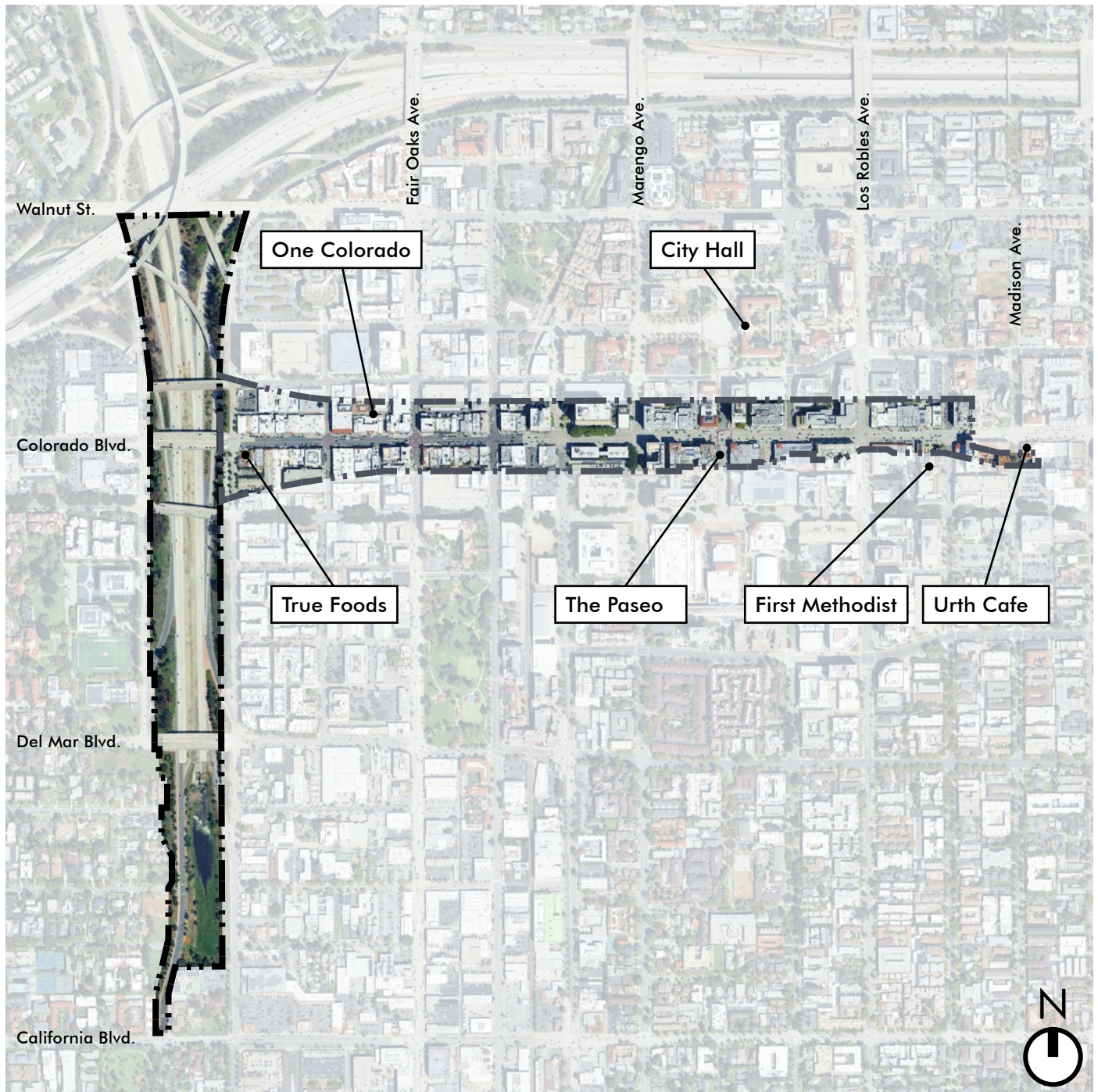


FIGURE 2.7: THE PROJECT AREA EXTENDS APPROXIMATELY TEN CITY BLOCKS. IF TURNED ON ITS SIDE, THE PROJECT SITE WOULD EXTEND TO COLORADO AND MADISON AVENUE (URTH CAFE), ENABLING A VARIETY OF DESIGN TREATMENTS THROUGH THE SITE.

The following pages offer a series of “scale comparisons” showing the relationship of one of the blocks to a well-known place in Pasadena.

ONE COLORADO

The One Colorado project includes intimate public spaces approximately the same size as the northernmost block of the project site. This block is composed of multiple brick buildings, open-air alleys, courts, in keeping with Old Pasadena. It offers 243,508 square feet of retail and dining.

The site also has a movie theater, parking, and event space and hosts a series of programmed outdoor events.



ONE COLORADO PLAZA HAS ACTIVATED STORE FRONTS, SHARED TABLES AND A MOVIE THEATER.

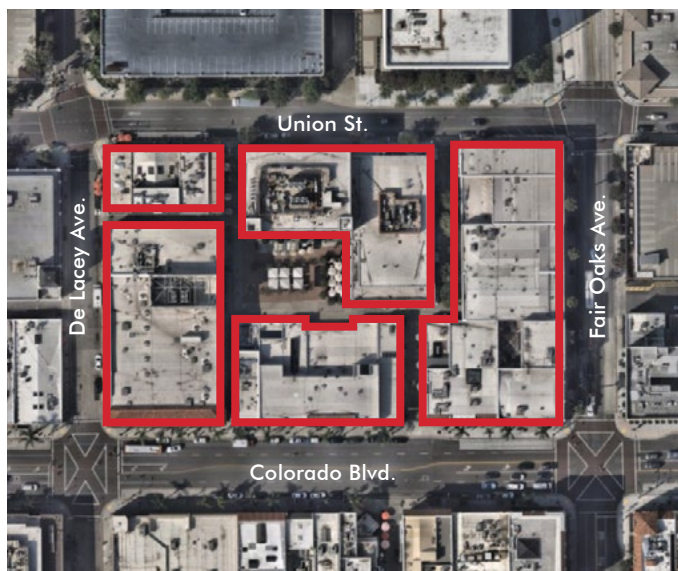


FIG 2.8: ONE COLORADO

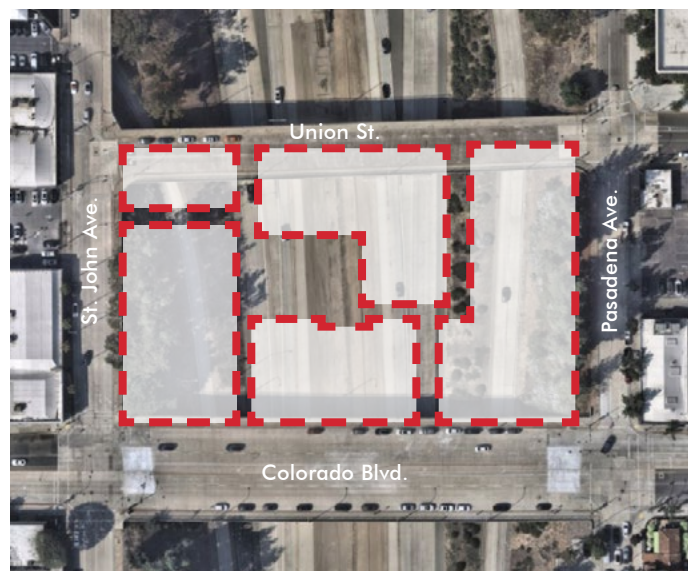


FIG 2.9: PROJECT AREA BETWEEN UNION ST. AND COLORADO BOULEVARD COULD HOST A SIMILAR SCALE DEVELOPMENT.

PASADENA CITY COLLEGE

The main quadrant of the Pasadena City College Campus has a civic scale presence. This campus, including the arts center and gymnasium, would fit on the site.

With a larger block size, some form of institutional or educational user could create an institutional campus-like environment on part of the site.



MAIN QUADRANT OF PASADENA CITY COLLEGE.

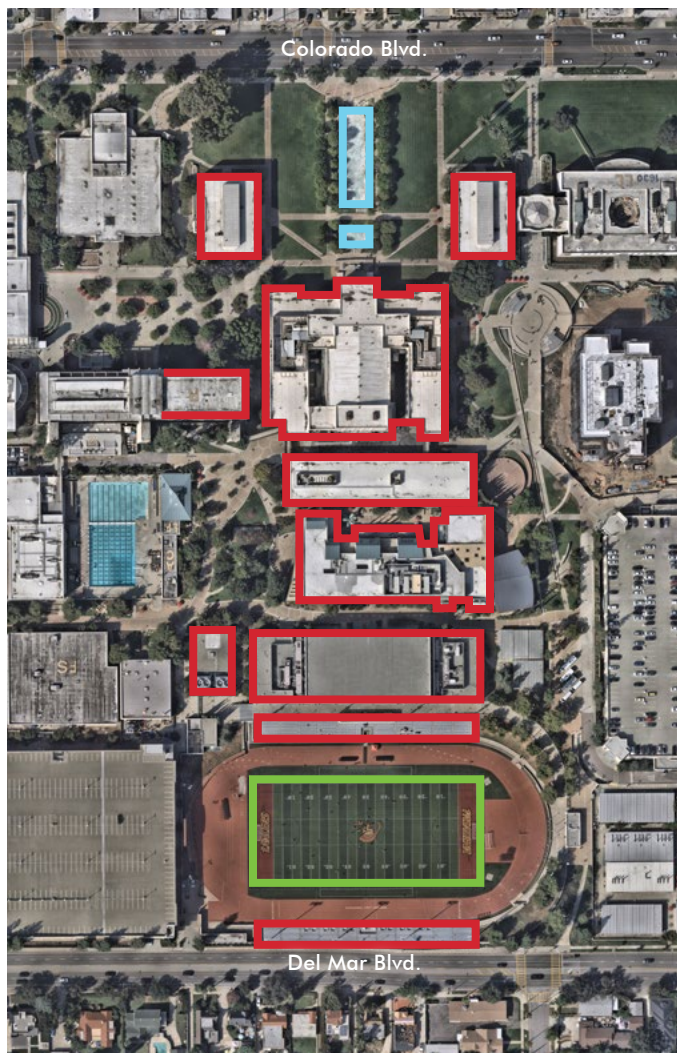


FIG 2.10: PASADENA CITY COLLEGE

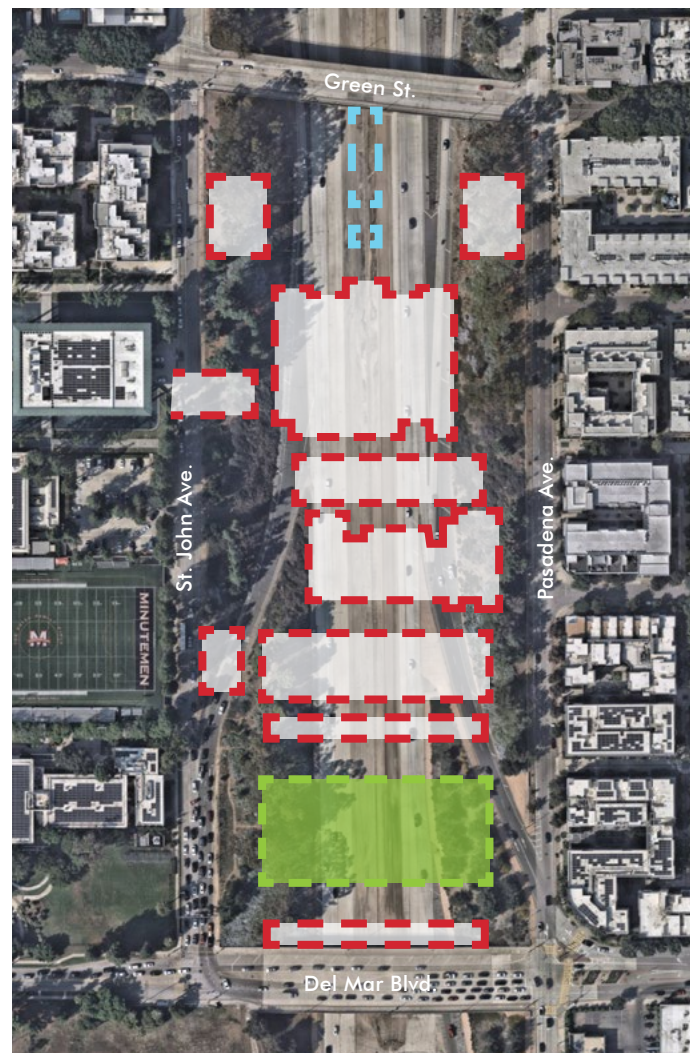


FIG 2.11: PROJECT AREA BETWEEN W GREEN ST. AND W DEL MAR BLVD. COULD HOST A CAMPUS-LIKE DEVELOPMENT.

PASADENA PLAYHOUSE

The Pasadena Playhouse area, located at Colorado Boulevard and El Molino is comparable to the Project Area between Green St. and Colorado Blvd. in the Project site. This illustrates the potential for one part of the project to become a cultural haven, home to spaces such as theaters, art galleries, eateries, museums, and independent shops. The Playhouse District is anchored by three theaters, food and beverage, new hospitality, and convenient parking.



PASADENA PLAYHOUSE DISTRICT PLAZA



FIG 2.12: PLAYHOUSE DISTRICT



FIG 2.13: PROJECT AREA BETWEEN COLORADO AND GREEN COULD OFFER MULTIPLE PATHS AND WAYS THROUGH WITH ACTIVE OPEN SPACES.

PLACEMAKING IN PASADENA

Pasadena's built environment comprises a unique blend of California mission style architecture and contemporary human scaled buildings. A walk through the central district is to experience the art of the intentional placemaking. The area offers some of its most iconic 'third places' such as the intimate courtyards and gardens of the Plaza Las Fuentes, Ambassador Gardens, and the active alleys of Old Pasadena, Westgate, as well as the iconic City Hall arcades and its well-loved fountain courtyard.



2.5 Land Use Opportunities

The project team gathered information about real estate market trends, City policy priorities, and economic development goals to understand the potential for various land uses in the Project Area. During the “Discovery” phase, this information was supplemented with individual interviews with those working in real estate development, affordable housing, biosciences, deep tech, and economic development. The project team also met with community members and the RC Advisory Group to gather input.

Summary | Trends and Opportunities

Over the past five years, much of the City’s real estate development have been concentrated near to the Project Area in the Central District, the city’s economic powerhouse.

- According to the City’s 2024 Economic Development Strategy Report, the area adjacent to the Project Area (Quadrant B as shown in the map below) accounts for over 13 million square feet of office space (78% of the citywide total), 5.4 million square feet of retail space (54% of the citywide total), and

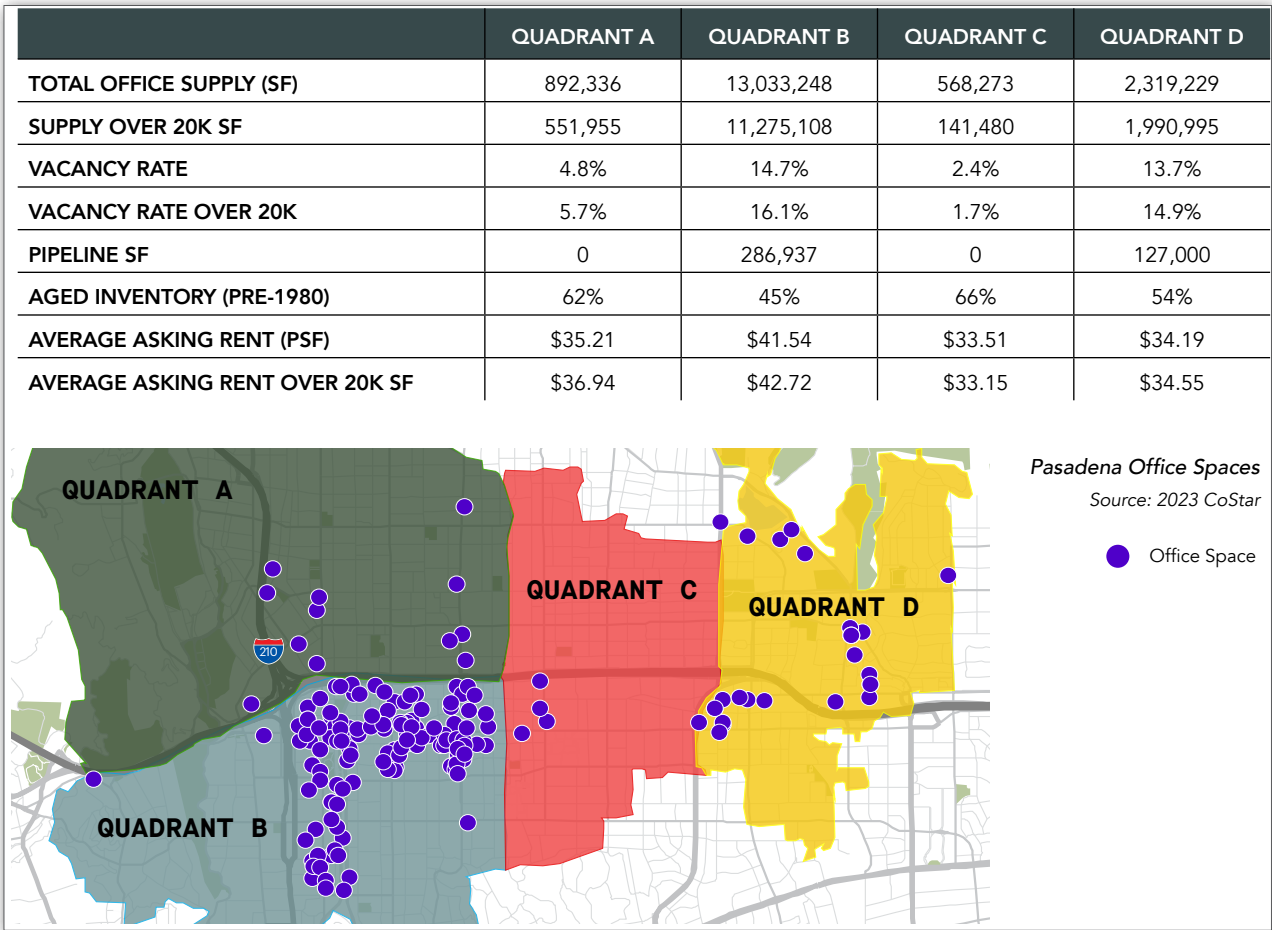


IMAGE SOURCE: 2024 ECONOMIC DEVELOPMENT STRATEGY REPORT, PAGE 18

a significant share of the City’s tech businesses clustered between Caltech and Huntington Hospital.

- In 2023-2024 the Pasadena office market continues to recover from the pandemic. In 2024 there was a 16.1% office vacancy rate in Quadrant B. Pasadena’s Economic Development Strategy Report proposes shifting this under-performing office to meet high demand for lab space serving deep tech businesses.
- Pasadena has the highest employment levels among competitive cities in the San Gabriel Valley and a highly skilled workforce. 57% of residents hold a bachelor’s degree or higher, and 12% of residents are self-employed entrepreneurs. However, only 12% of employees living in Pasadena also work in the City. Challenges in housing affordability and workforce housing availability can lead to long commutes, and can impact employer recruitment, reducing Pasadena’s competitive advantage. For example, Huntington Hospital draws employees

from the Inland Empire, from as far away as Ontario and Victorville.

- Pasadena already has the highest amount of square feet (SF) of retail per capita in the San Gabriel Valley, over supplied by an estimated 1.2 million SF.

Table 2.1 synthesizes policy and market alignment in the Project Area reflecting conditions in 2024–2025. Housing, parks and amenities, and Deep Tech are listed as high opportunity land uses. There is also moderate alignment with uses that contribute to a convivial and hospitable environment, such as a hotel, dining, entertainment or specialized events venue.

The RC Advisory Group Land Use and Mobility Standing Committee (LUM) recommend an emphasis on residential uses alongside employment, integrated with green spaces, public uses and programs. The LUM cautioned against over-reliance on retail, suggesting that Project Area land uses remain flexible to respond to

Table 2.1: Current Policy and Market Alignment in Project Area

Land Use Type	Evidence of Market Demand	Alignment with City Planning + Policy Goals	Composite Priority Level
Multifamily Residential	High	High	High
Deep Tech & Innovation	High	High	High
Parks and Recreation	High	High	High
Medical Office/ Healthcare	High	High	High
Dining & Entertainment	Moderate	High	Moderate/High
Hotel	Moderate	Moderate	Moderate
Student Housing / Co-Living	Moderate	Moderate	Moderate
General Office	Moderate	Moderate	Moderate
Higher Education	Moderate	Moderate	Moderate
Industrial / Flex	Moderate	Low	Low/Moderate
Traditional Retail	Low	Low	Low

“HIGH” OPPORTUNITY USES DEMONSTRATE HIGH MARKET DEMAND AND ALIGNMENT WITH THE CITY’S PLANNING AND POLICY GOALS AND COULD SUPPORT A SIGNIFICANT FOOTPRINT WITHIN THE DEVELOPMENT SCENARIOS.

“MODERATE” OPPORTUNITY USES DEMONSTRATE MODERATE MARKET DEMAND AND ALIGNMENT WITH GOALS, COULD PLAY A SUPPORTING ROLE TO THE “HIGH” PRIORITY USES, AND WOULD HELP TO FOSTER A VIBRANT, MIXED-USE ENVIRONMENT.

“LOW” OPPORTUNITY USES DEMONSTRATE LOWER OR UNCERTAIN MARKET DEMAND, ARE NOT IN ALIGNMENT WITH PLANNING AND POLICY GOALS, AND SHOULD ONLY BE INCLUDED IF SPECIFIC TENANTS OR STRATEGIC PARTNERSHIPS CAN BE IDENTIFIED.

rapidly shifting marketplace dynamics, focusing instead on ways to meet project goals for a livable, accessible, and vibrant place.

Stakeholders also discussed the ability to use the already excavated ditch for parking as a positive, but noted its lack of existing infrastructure. Both conditions are unique and will have specific cost implications.

More information on High and Moderate Opportunity Land Uses in the Project Area below:

Highest Opportunity: Residential

Market indicators, policy priorities and public support converge on the opportunity for both rental and ownership residential uses in the Project Area; with a particular focus on workforce housing, and overall housing affordability. New residences will bind the neighborhood together, enhancing vibrancy and supporting viability of nearby businesses in Old Pasadena.

The housing shortage in California means that home prices across Los Angeles County are significantly higher than many can afford. The median home price in Pasadena exceeds \$1.4 million; requiring high annual earnings to afford a home. As the project process entered into Phase 2 “Options and Engage,” the Eaton and Palisades fires erupted, further strengthening public calls to include residential capacity.

- Pasadena’s Regional Housing Need Allocation (RHNA) is 9,429 housing units for 2021–2029. This includes 2,747 units at very low income, 1,662 at low income and 1,565 at moderate income.
- According to SCAG’s 2020 housing data, 57% of the city are renters.

New residential units at various affordability levels would help to meet the City’s RHNA objectives and implement Restorative Justice recommendations (See Chapter 3). RHNA objectives include:

- Increase the housing supply and mix of housing types, tenure and affordability
- Promote socioeconomic equity

- Affirmatively further fair housing, which means “taking meaningful actions, in addition to combating discrimination, that overcome patterns of segregation and foster inclusive communities free from barriers that restrict access to opportunity based on protected characteristics.” [Government Code Section 8899.50]

Testing conducted during the Options and Engage Phase demonstrated that the Project Area can achieve from 1600–1900 units while maintaining a livable and sustainable built environment. This number is comparable to the overall number of displaced units documented in the 710 Historic Project, and meeting the Restorative Justice Standing Committee recommendations. Further study, and innovative approaches would be needed to achieve affordability levels beyond Pasadena’s existing inclusionary housing ordinance.

High Opportunity: Parks, Recreation and Public Amenity

Parks and public amenities can anchor this renewed neighborhood. Located just two blocks from Central Park, the Project Area is also near several of the city’s premier attractions, including the Gamble House, the Norton Simon Museum and the Rose Bowl. During the Options and Engagement Phase, public discussions focused on establishing a high-quality public realm, with strong support for public art, landscaping and programming that fosters social cohesion.

Various public spaces can be integrated into the site. These may range from small plazas and civic squares to substantial green spaces dedicated to sports and recreation. Additionally, the inclusion of “micro-forests” could boost the area’s regenerative properties by providing plant and insect habitats while enhancing community wellness and climate resilience through cooling and greening.

Suggested programs from public comments included learning environments, such as day care, schools and playgrounds; multigenerational spaces, such as senior centers; and multipurpose meeting rooms and art

venues. Other proposals featured pools, courts, fields, urban farms, gardens and dog parks.

Concepts in this Vision Plan suggest that up to seven acres or 20%–24% of relinquished area could be dedicated to public park and/or related amenity spaces.

High Opportunity: Deep Tech & Innovation

Caltech defines “Deep Tech” as comprised of five “pillars:” Lifesciences/Biotech, Artificial Intelligence, Robotics, Quantum and Aerospace. Although each of the five are distinct fields of study, each focuses on the advancement of technologies that can transform industries and improve lives.

UCLA, USC, Caltech, Cal State LA, Pasadena Bioscience Collaborative and Huntington Medical Center are located proximate to the Project Area, each contributing to a workforce that is highly specialized in computer, engineering, and innovation occupations. Pasadena currently outpaces Los Angeles County in these fields

in both job growth and their proportional share of the total workforce. Industry trends further show a growing preference for partnerships, and clusters- essentially institutions and companies locating near to each other to create a regional ecosystem that can support end-to-end discovery processes. The Project Area’s proximity to universities and research institutions provides a competitive advantage. There is also potential to attract secondary industries that support larger medical facilities and hospitals located along Fair Oaks Ave., Foothill Blvd., and Colorado Blvd.

Research and lab facilities are located in highly specialized spaces. A select area within the Project could offer an inclusive, built to suit campus or multi-building environment near to Old Pasadena and/or the emerging Arts and Innovation and HEART districts. Tailored office and lab space could be designed in tandem with mixed-use amenities, supporting growth and establishment of related spin-off companies. Depending on the tenant, an estimated 500,000 SF up to 1 million SF of



IMAGE SOURCE: 2024 ECONOMIC DEVELOPMENT STRATEGIC PLAN GUIDING PRINCIPLES

space could be a realistic target. Recent capital market challenges and a change in Federal policy is suppressing tenant demand growth and will reduce new real estate deliveries in 2026 and beyond, but the longer-term supply and demand outlook suggests continued growth.

The focus on Deep Tech and Innovation also supports broader Project Goals for economic vitality. The bioscience industries can support STEM education and a base of career-focused employment—notably, 67% of the bioscience workforce do not have a 4-year degree.

As the Vision Plan moves into its future design and entitlement phases standards and regulations could be refined to better facilitate these types of spaces in the Pasadena codes. Already in 2023, the City of Pasadena approved a series of code amendments aimed at relaxing regulations that had impeded development of research and development space.

Moderate Opportunity: Medical Office Uses and Healthcare

There is a concentration of new medical office developments in Pasadena, with four out of five recent office projects focused on healthcare facilities. Stakeholders noted some interest in larger facilities, such as a Surgery Center. The Project Area's proximity to Huntington Hospital may enhance its potential for medical office use in the long term, in addition to the attractiveness of activity nodes in Old Pasadena.

Moderate Opportunity: Hospitality, Dining and Entertainment.

Old Pasadena has an enviable restaurant scene, with a variety of entertainment venues. The Project Area can be designed to be complementary of these existing businesses rather than competitive. Smaller establishments within the Project Area can help extend the character of Old Pasadena while focusing on smaller

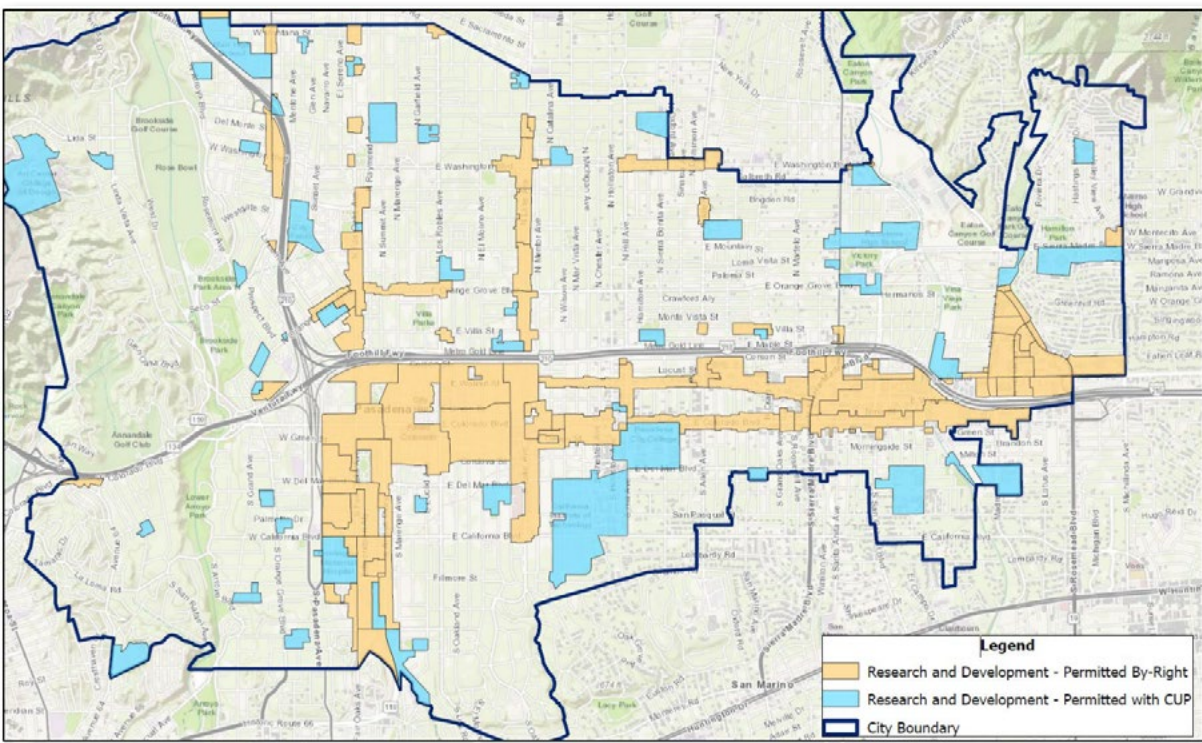


IMAGE SOURCE: DECEMBER 2023 RESEARCH & DEVELOPMENT ZONING CODE AMENDMENTS CITY COUNCIL PRESENTATION

spaces and vending opportunities, such as a Market Hall. Additional entertainment should not be precluded as a catalyst for the project, as it could enhance the city's existing destination retail.

Both the upscale/luxury and midscale hotel sub-markets have nearly reached pre-pandemic demand and occupancy levels, and both have surpassed pre-pandemic Average Daily Rates (ADRs), demonstrating a significant recovery in demand. The resurgence in hotel demand has been largely driven by leisure travel as opposed to business travel.

Increasing hotel inventory may help alleviate some of the housing market pressure exerted by short-term rentals by potentially easing competition for residential properties. The project could enable hospitality, and assume a 200-300 room hotel within the Project Area, to meet strong market indicators.



AERIAL PHOTOGRAPH LOOKING NORTH FROM THE DITCH, WITH SR-134 AND I-210 FREEWAYS IN THE FOREGROUND.



3

RESTORATIVE JUSTICE



3.1 Creating a Restorative Justice Framework

The following chapter defines **Restorative Justice (RJ)** and explores how these concepts might be applied as the Project Area transforms. Grounded in theory, local and national context, concepts of restorative justice help the community and its leaders examine and address the underlying conditions that harm marginalized groups.

During the Reconnecting Pasadena “Discovery” phase the Consultant team undertook a literature review characterizing the practices, interventions, and approaches a restorative project would ideally incorporate. The Consultant team canvased contemporary definitions of restorative justice, especially for those projects aiming to reconnect neighborhoods impacted by mid-century freeway construction. The Consultant team presented this material alongside case studies to the RC Advisory Group and at a city-wide public meeting. These findings demonstrate that remedy, healing, restitution, and reform are core themes in restorative justice planning; each theme emphasizing the needs of unfairly burdened communities.

In a multi-phase planning and redevelopment effort such as what make take place in the 710 Project Area, a restorative vision for the site can be enacted in partnership with the impacted community via formal goals and adopted city policy. This approach ensures that investments, benefits, and ultimately, the built environment itself responds to past harms and reflects a more inclusive future. Of note, Pasadena and its communities were impacted by the construction of three freeways, SR-134, I-210, and SR-710. For purposes of the Vision Plan following statement developed by the Reconnecting Communities Restorative Justice Standing Committee (RJSC) defines Restorative Justice as relates to these activities.

“Restorative Justice is a dynamic process which takes action to repair direct and indirect harms caused by the proposed construction of the 710 and the construction of the 210 freeways and their broader impact in Pasadena.

It will identify, publicly inform, officially acknowledge, respond to, and remedy these injustices through open and responsive engagement with the disproportionately impacted communities.

This will ensure the development of community-driven solutions, including non-repetition of harm, integrated through the vision plan design elements for City Council’s consideration.”

Restorative Justice “Elements” described in this chapter were developed to operationalize these concepts. Over several sessions, the Restorative Justice Standing Committee (RJSC) vetted, refined and coordinated Elements in relation to emerging findings about the SR-710 and I-210 history, displacement and freeway construction (see call out box on the following page). Broadly these Restorative Justice (RJ) Elements discuss:

- The need to acknowledge past wrongs and the history related to the construction of the freeway.
- *Process and Policy*: how the 710 Vision Plan and subsequent processes are conducted, including various means to ensure community-driven, equitable outcomes.

- *Future physical design*: recommendations that define preferred physical solutions for the Project Area, e.g. memorials, public spaces and other features.
- *Future Programming*: recommendations for project uses and approaches, with a focus on affordable housing, community-based programs and targeted investments for impacted and/or displaced communities.

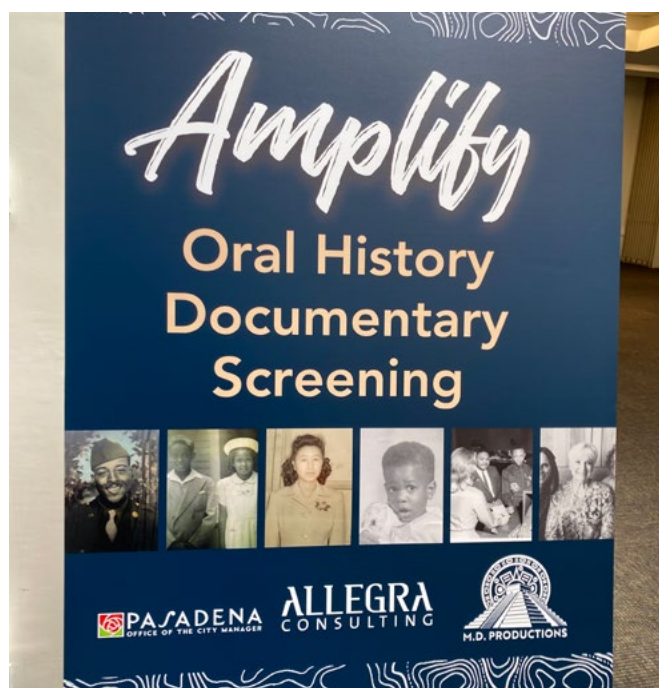
3.1.1 THE HISTORY OF THE SR-710

The Vision Plan has been grounded in the history of the SR-710 freeway construction and its ramifications—especially on marginalized communities of color. Information detailing what kind of place the Project Area was before the freeway was here, how the freeway route was selected, and who and what specifically was displaced has been compiled and is now available for review on the city’s website. Three reports and a video documentary telling this story help acknowledge past injustices. The three separate projects identify and memorialize various aspects of the community that existed. The findings, collectively termed the “Historic Project,” underpin the basis for RC Advisory Group recommendations and have influenced Project Area design concepts.

- *Historical Data/Setting, prepared by Architectural Resources Group (July 2025)*
- *Impacts of Freeways and Other Mechanisms on Segregation in Pasadena, prepared by the University of California Los Angeles Institute of Transportation Studies (May 2025)*
- *Oral History Project, including the Amplify documentary and a report of findings titled 710 Reconnecting Communities Oral History Report, prepared by Allegra Consulting (March 2025)*

The *Amplify* Oral History Documentary and its companion report personalize the legacy of mid-century freeway building and urban renewal, giving voice to anger over systemic racism, lack of trust in government leadership, and lost generational wealth. Derived from one-on-one and group interviews reporting

All RC Advisory Group Restorative Justice Elements are found in Appendix A. This comprises the Advisory Group’s full proposal to City Council, including recommendations for remuneration, qualifying displacement criteria, and future project governance. All Restorative Justice Elements are subject to Council adoption. The following section refers to, and summarizes this document in the pink text boxes.

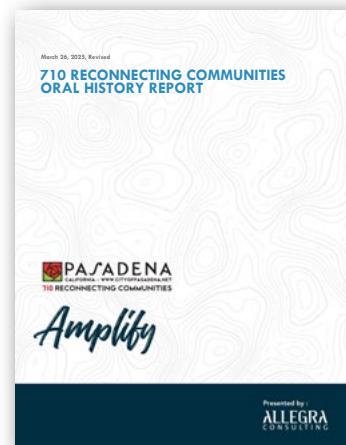


<https://www.cityofpasadena.net/city-manager/wp-content/uploads/sites/2/2025-06-18-RJ-Allegra-Pasadena-Report.pdf?v=1751846400045>

Video Documentary: <https://vimeo.com/1071494727>

ORAL HISTORIES, ALLEGRA CONSULTING

This report documents the experiences of residents, businesses, and institutions displaced or impacted by the SR-710 freeway construction during the late 1960s and 1970s and paints a picture through interviews and stories. Through both qualitative and quantitative data, the report pulls from 159 contacts/survey respondents, 49 displaced residents, and 42 displaced businesses. It includes 32 interviews and 14 videos, and a video documentary “Amplify.”



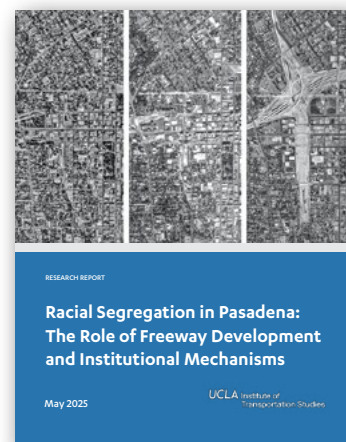
HISTORIC REPORT ON THE 710 DISPLACEMENT, ARG

This report documents the history of the SR-710 Freeway construction and its impacts. The report compiles available recorded information about residents and businesses specifically displaced by the freeway. The list of property owners includes name, street or location, and the type of property acquisition used; name, address, and building type are included in the list of occupants. The report does not include detailed information on property values in the displacement area at the time properties were acquired by Caltrans or a discussion of any relocation assistance provided to area residents.



RACIAL SEGREGATION IN PASADENA, UCLA

UCLA’s study focuses on the historic and current patterns of racial/ethnic residential segregation, examining the role of freeways and other mechanisms in shaping these outcomes. Using quantitative data, the report compares racial segregation in Pasadena with the rest of L.A. County and analyzes demographic changes in the neighborhoods containing I-210 and SR-710 before and after their construction. The study investigates institutional policies, practices, and projects that contributed to segregation, including housing discrimination. The findings offer insights to support Pasadena’s efforts to redress the historical impacts of freeway development.



shows how redlining, racial segregation, economic and environmental harm tested the resilience of the displaced. Consultant outreach, conducted from April to July 2024, focused on displaced residents, their descendants, others impacted by the construction of the freeway(s), and individuals with historical knowledge of Pasadena.

Architectural Resources Group traces the nation's history of road building, combined with urban development. Archival research uncovers the specific transaction process by which the Division of Highways (now the California Department of Transportation, or Caltrans) acquired property in the area. It also provides data

related to residents, businesses, and institutions that were displaced. For purposes of this historic documentation, the "study area" is shown on the map on Page 62. The relinquishment area is shown in red with a larger study area shown in black.

This information, as well as the findings of the UCLA Center for Neighborhood Knowledge team leads to the fundamental condition for the Restorative Justice Framework. A summary of the RC Advisory Group recommendation is shown in the call out below.

RESTORATIVE JUSTICE (RJ) ELEMENT: HIGHWAY CONSTRUCTION

City of Pasadena recognizes the harm caused by the construction of the SR-710 and, through the Reconnecting Communities Planning project, is working to recognize and address this harm.

RJ ELEMENT: HISTORIC ACKNOWLEDGMENT

The City should include a formal apology, and future commissions and public art in dialogue with historic material, ensuring lessons help create more just and inclusive spaces. Additionally, the City should:

- Create a permanent programmable and publicly accessible physical space reflective of the community, that brings to life the cultural, and physical aspects of the community that existed before the construction of the SR-710, and triggers reflection of cultural histories for the future.
- Create and include an educational or performing arts component, based on the history of the 710 Stub area, in the curriculum of local schools and/or libraries.

3.2 Restorative Planning and Process Tools

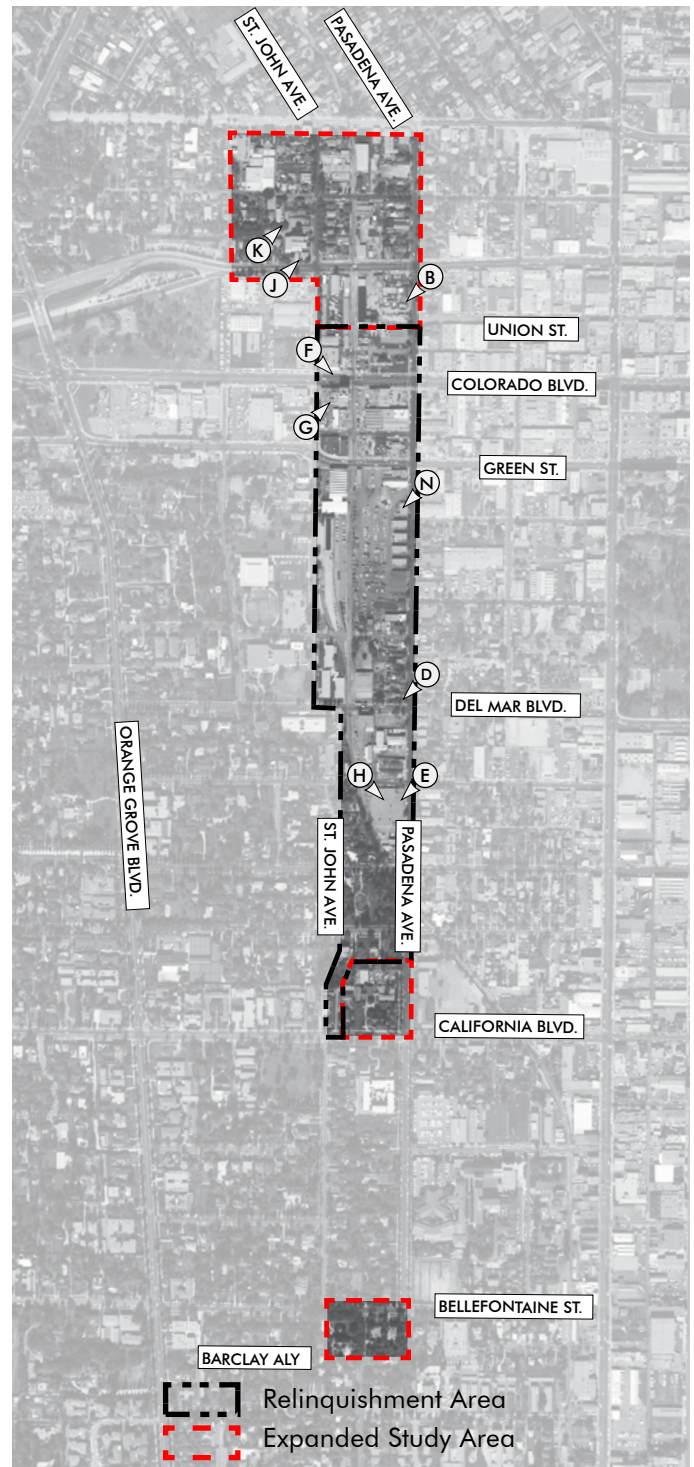
Restorative projects often define success through the depth of community engagement, the inclusivity of the decision-making process over time, as well as the outcomes for priority populations. Project materials and decisions are transparent, and accessible; community members have a clear understanding of how input is to be incorporated.

Many contemporary planning tools and processes can be tailored to address these concepts. During the current *planning/visioning phase* of the 710 redevelopment, the RC Advisory Group has served as the formal mechanism for community input.

The RC Advisory Group advises how this role might be incorporated into *future project phases*. An Element as proposed by the RC Advisory Group on Page 63 suggests the creation of a new *community oversight body* to ensure continuity of the project's restorative vision. Most importantly, the RC Advisory Group proposes that this body of community stakeholders, the Restorative Justice Community Oversight Committee (RJCOC) be empowered with formal responsibility.

As envisioned by the RC Advisory Group, the RJCOC would take on a defined set of duties to help with project implementation and on-going decision making. This would enable the impacted community members the ability to effectively contribute to design solutions, future developments, and provide a means to collaborate with private/public sector delivery entities.

IMAGE SOURCE: ARCHITECTURAL RESOURCES GROUP - FIGURE SHOWS BOTH "RELINQUISHED PROPERTY" IN CITY CONTROL AND A BROADER STUDY AREA.



DISTRICT		R/W	AGENT	BUREAU OF PUBLIC ROADS		DATE	
PARCEL NO.	GRANTOR OR GRANTEE	TO BE ACQ.	EXCESS TOTAL	INST.	RECORDING DATE	O.R.	
41716	Ambassador College	14,778	14,778	Fee	5-29-69	D4385-323	
41717	Jones Desert Stone	5,300	5,300	Fee	10-31-69	D4542-525	
41718		5,677	5,677	Cond.	6-1-70	D4729-98	
41719		5,101	5,101	Fee	8-20-69	D4472-81	
41720		7,650	7,650	Fee	7-14-70	D4771-76	
41721		7,621	7,621	Fee	7-14-70	D4771-76	
41722		18,473	18,473	Fee	8-14-70	D-4801-642	
41723		10,533	10,533	Fee	8-20-68	D4105-610	
41724		5,050	5,050	Fee	8-20-68	D4105-610	
41725		10,966	10,966	Fee	9-2-69	D4483-442	
41726		5,049	5,049	Fee	11-18-68	D4197-331	
41727		5,049	5,049	Fee	2-19-70	D4637-218	
41728	Union Oil Co.	21,582	21,582	Fee	8-5-69	D4456-937	
41730	Throop, et. ux.	13,964	13,964	Fee	12-17-68	D4226-216	

SOURCE ARG

BUILDING TYPE	NUMBER OF BUILDINGS IN RELINQUISHMENT	NUMBER OF BUILDINGS IN BROADER STUDY AREA
Residential		
Buildings	56	117
Units	64	168
Commercial	18	50
Institutional	6	10
Industrial	14	8
Total Buildings (Known)	94	188

SOME OF THE BUILDINGS DEMOLISHED WITHIN THE BROADER STUDY AREA

*LETTERS AS INDICATED ON FIGURE X. SOURCE ARG.

COMMERCIAL			INSTITUTIONAL		INDUSTRIAL	
A	Peerless Sheet Metal Works	J	First African Methodist Episcopal Church	N	Orbon Lumber Company	
B	Bill's Beech Inn Tavern	K	United Presbyterian Church	O	Northside Metal Products	
C	Gerhart Ray Inc. Building Contractors	L	Neighborhood Church of Pasadena/Sugar Tree Nursery School	P	Screw Machine Products	
D	Green Buck Restaurant	M	Ambassador College Circulation Annex, & student dormitory	Q	Croan Engineering Co. Plastic Manufacturing	
E	Vroman's California School Book Depository			R	H.A. Jones Desert Stone	
F	Jack Wall Chevrolet Dealership			S	Orth Mayflower Van & Storage	
G	Bill's Coffee Shop & Restaurant					
H	Lyons & Carnahan Publishers					

3.3 Restorative Outcomes and Delivery Strategies

Page 65 summarizes RC Advisory Group suggested interventions that will lead to more equitable outcomes. The Elements describe providing for a range of ownership opportunities across various income levels, ensuring access to homeownership opportunities, the creation of a community trust to fund wealth generation in the long term, and ensuring the city's invest in on-going data gathering around the needs of impacted and displaced community via surveys, databases and registries.

As the full redevelopment of the 710 Project Area will be delivered over several decades, with many participants, RJ Elements address future delivery procedures—in particular acknowledging that future agreements will be negotiated with various private/public entities, and the city must procure all services related to the project area redevelopment—from demolition, to new infrastructure planning and construction to the tenanting of new homes. Each of these activities presents an opportunity to infuse restorative justice concepts.

The following RJ Elements also describe equitable outcomes from the completed project, ensuring that site improvements and new buildings can contribute to community health and well-being via urban greening, sustainability enhancements and climate resilient infrastructure. This is the basis of a planning framework that ensures all Pasadena residents can benefit from site development.

RJ ELEMENT | RESTORATIVE JUSTICE COMMUNITY OVERSIGHT COMMITTEE (RJCOC)

While decision-making power in Pasadena lies in the hands of the City Council, it is important to create open dialogue with impacted communities in development of the 710 Stub area. This should be a structured and inclusive process where impacted community members are actively heard, allowing them to share their experiences, express concerns, and articulate their aspirations for their community, even if the community isn't a formal or final decision-maker.

Working in close coordination with the Planning Commission, the RJCOC should be integrated into the process to help keep the project on track and aligned with community expectations.

RJ ELEMENT | POLICY ADOPTION

Encouraging adoption and prioritization of measures that prevent future harm caused by infrastructure or other policies to impacting vulnerable communities in Pasadena.

RJ ELEMENT | COMMUNITIES WEALTH GENERATION THROUGH HOME & BUSINESS OWNERSHIP

Outlining an inclusive approach to economic development, including recommended mechanisms for impacted or displaced communities to share in the 710-redevelopment project's economic benefits.

RJ ELEMENT | HARD INFRASTRUCTURE

Delivering new regional and local infrastructure, streets, bridges, active transportation, parks, water and power infrastructure; including a focus on improving connectivity with Pasadena's historically redlined Northwest neighborhoods.

RJ ELEMENT | AFFORDABLE HOUSING & AFFORDABLE HOUSING REGISTRY

This Element focuses on lasting economic justice to ensure future community members can own property, build equity, and remain rooted in their place.

Home ownership is a vehicle for wealth generation. Displaced community members (or their descendants) should have access to priority home ownership at various levels of affordability and/or business ownership incubator programs. The RC Advisory Group seeks to prioritize housing, with particular attention to housing affordability, home and business ownership opportunities. The RC Advisory Group recommends the City explore means to achieve 25-35% of units built in the 710 Project Area to be affordable, as well as the development of workforce housing units.

A survey of Displaced Communities is also proposed to optimize requirements for affordability levels, unit sizes and types.

RJ ELEMENT | BUSINESS DEVELOPMENT SUPPORT

Working collaboratively and transparently with community partners, undertake a local business database and maintain a certified registry of impacted community businesses owned by individuals or families displaced by the construction of the SR-710.

This Element also proposes further business development support mechanisms such as access to micro loans, hiring of impacted community members, and co-ops.

RJ ELEMENT | WORKFORCE DEVELOPMENT

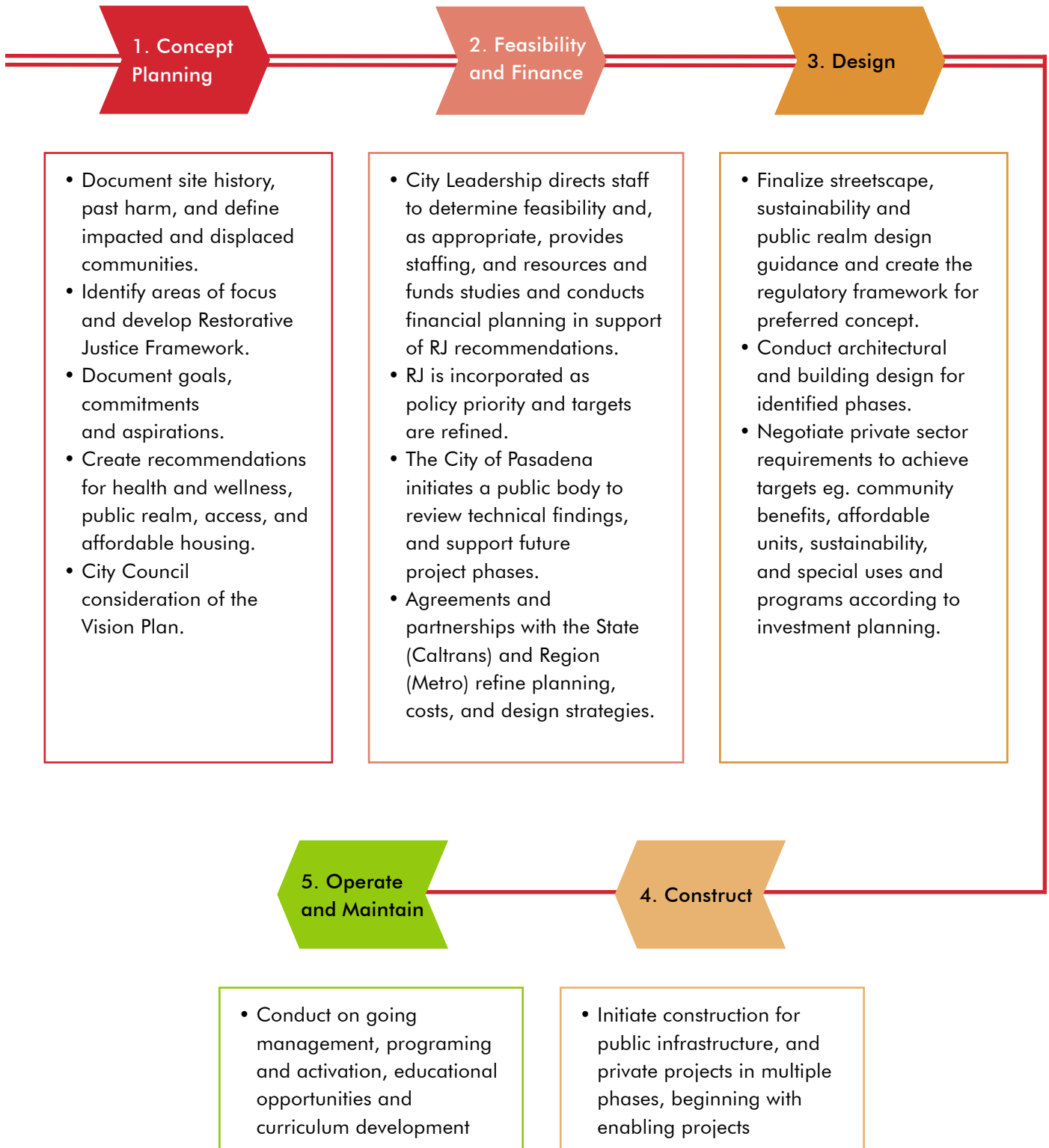
Ensuring that impacted communities and those who were harmed, even if they no longer reside in Pasadena are included in future relevant training or workforce development programs. Over the course of the project, this might manifest in future delivery phases with specialized programmatic offerings related to the project construction and development, workforce training and/or small business development; e.g.

- Business interventions, training programs in project management, compliance, and finance.
- Mentorship or joint venture partnerships between large firms and small, local, disadvantaged businesses Small Business/Workforce Investment

RJ ELEMENT | COMMUNITY BENEFITS PLANNING

Providing a framework for negotiation and provision of specific and binding agreements that tie benefits such as construction standards, equitable labor practices, affordable housing, or shared public spaces that can be delivered and maintained.

RESTORATIVE JUSTICE APPLIED IN SR-710 REDEVELOPMENT



Glossary:

“Displaced Communities” is defined as people and their descendants who were forced to move due to the construction of the 710 and 210 freeways, (bounded approximately by Northwest Arroyo/Woodbury to the north, Mentone/Montana to the northeast, St. John Avenue to the west, and Pasadena Avenue to California Street on the east) or other institutional policies, practices, and projects that contributed to segregation, including housing discrimination, redlining, and the redevelopment of the central business district and adjacent areas.

“Impacted Communities” is defined as people in neighborhoods displaced by the construction of the 710 and 210 freeways or other institutional policies, practices, and projects that contributed to segregation, including housing discrimination, redlining, and the redevelopment of the central business district and adjacent areas.



GREEN BUCK RESTAURANT STAFF; PHOTO CREDIT: JUDY RISBY



CONGREGATION AT THE JAPANESE UNION PRESBYTERIAN CHURCH ON KENSINGTON IN PASADENA. PHOTO SOURCE: PASADENA CITY COLLEGE

Site history in brief

The history of urban and suburban land use in the twentieth century, including the creation of the nation's freeway system, is fundamentally intertwined with then-prevailing ideas of race, class, and ethnicity. During the post-war period, freeway construction was one of the driving forces in urban planning. As noted in the Historic Project reports, decision-making related to freeway construction in Pasadena as well as in many other places in the US privileged the voices and neighborhoods of affluent White residents over working class neighborhoods and communities of color. The SR-710 Freeway construction, part of a wave of national infrastructure expansion, exposed and exacerbated systematic racism in urban planning.

The history of change in the SR-710 Project Area also exists within the broader context of Pasadena and Los Angeles County growth. UCLA's researchers found that neighborhoods along the built and unbuilt freeway corridor have grown increasingly segregated and economically polarized. Their report shows that from 1960 to 1970, tracts affected by freeway construction lost almost **1,800 units** of housing (-28%), while the city overall and the tract, not directly impacted by freeway construction, experienced steady growth. Home values, rents, and income generally fell north of SR-710 (I-210 adjacent) but rose around it and south of it.

In this way, Pasadena mirrored national trends in housing discrimination. Restrictive covenants, codified in home deeds, left limited housing options for non-white households, forcing communities of color into a few neighborhoods. While the Supreme Court in *Buchanan v. Warley* (1917) struck down the constitutionality of such racial discriminatory practices, private actors would still use them, and by 1942 nearly 60% of Pasadena properties had such restrictions. These practices restricted housing options for displaced families, forcing

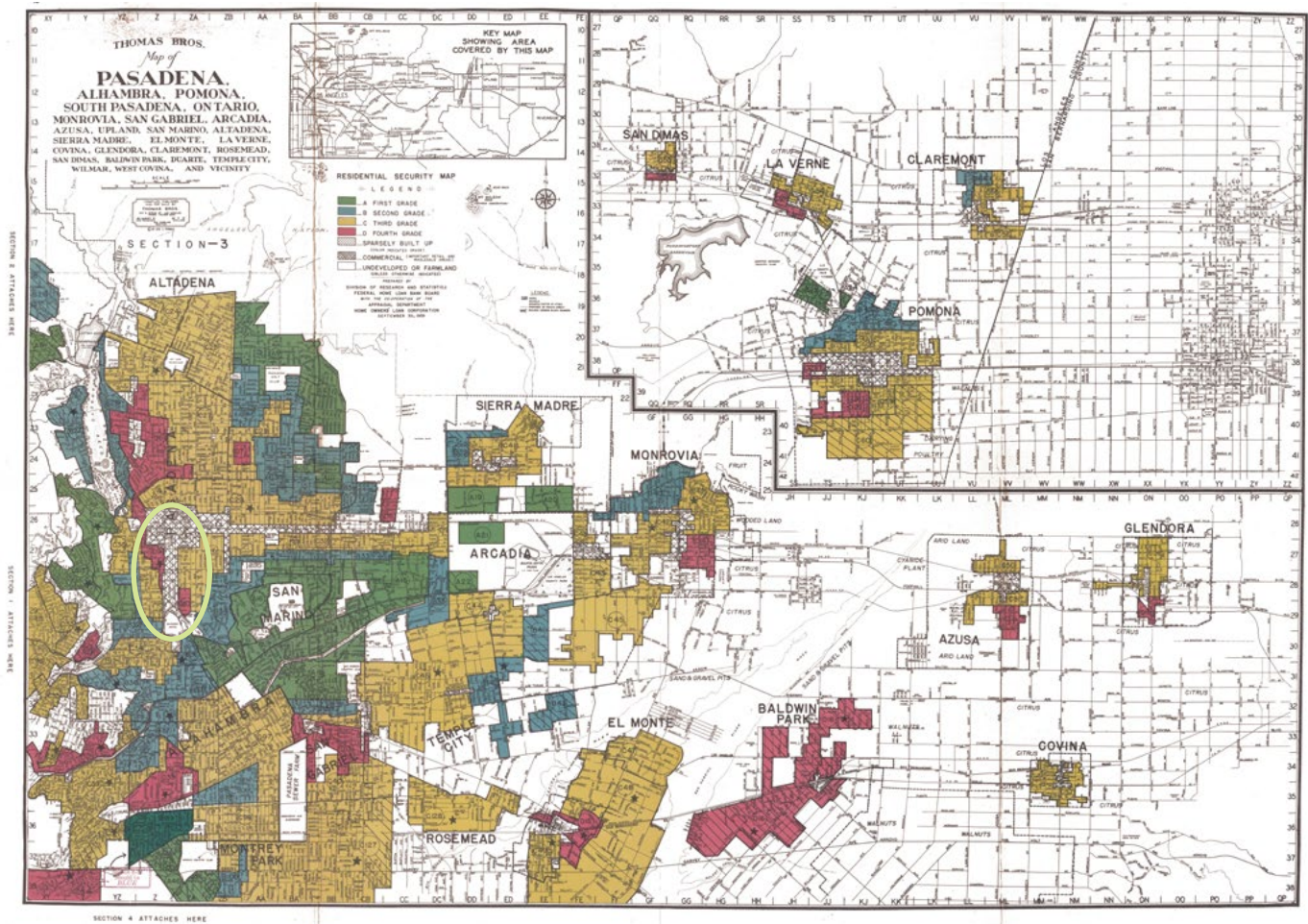
some to relocate outside Pasadena. This often led to the erosion of generational wealth as these families struggled to attain homeownership in a biased real estate market.

Historic reporting found that the SR-710/I-210 interchange displaced an "active central business district," characterized as a diverse "walkable work community" of businesses and residents. This neighborhood was home to many thriving Black, Mexican, and Japanese-owned and led institutions in Pasadena, including Carrie McAdoo's Grocery, the Green Buck restaurant, the Bellefontaine Nursery, James Woods Mortuary, and the First AME Church.

Although many of the businesses relocated, the construction of the SR-710 and the full I-210/SR-134/SR-710 interchange fragmented a thriving community of color.

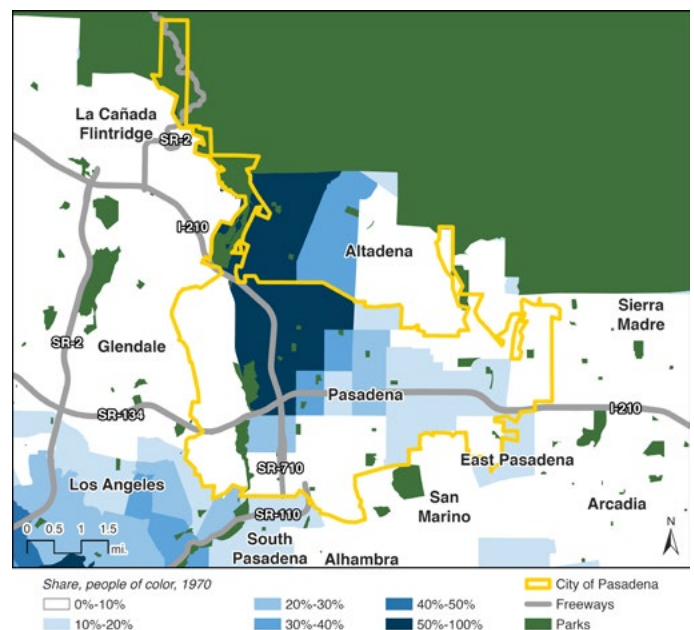
UCLA researchers also point to urban renewal projects as vessels for disproportionate displacement of communities of color under the guise of eliminating urban blight. Specifically, they assert the City's 1962 General Plan, and major developments such as the Norton Simon Museum, Parsons headquarters, Ambassador College, and Old Pasadena—contributed to housing loss and displacement, with residents of color particularly affected near the SR-710 stub.

In the face of these barriers, residents of color successfully organized protests and pursued legal remedies. Restrictive covenants and redlining became illegal in 1962. The Fair Housing Act was adopted in 1968.



HOME OWNER'S LOAN CORPORATION MAP SHOWING THE CITY OF PASADENA AND THE SR-710 NORTHERN STUB LOCATION.
SOURCE: HISTORIC REPORT ON THE 710 DISPLACEMENT FOR THE CITY MANAGER'S OFFICE - ALLEGRA CONSULTING

In the 1930s the federal mortgage loan agency created policies that deemed communities of color as “hazardous” for mortgage lending purposes. Known as redlining, for the color on the Homeowner’s Loan Corporation (HOLC) maps, the practice systematically undervalued properties and created barriers to homeownership for non-white residents. In their report, UCLA researchers analyze a 1939 HOLC map of the City of Pasadena that reveals “areas safeguarded against residents of color were often graded more favorably.” Researchers cross referenced this redlined map to current home values, revealing a lasting impact of Northwest Pasadena as a community with a greater concentration of people of color and lower home values. The City of Pasadena and many cities nationally also deemed these same formerly redlined communities as “blighted” to justify land clearance and redevelopment in a process called “urban renewal.”



MAP SOURCE: UCLA

CASE STUDIES

Restorative Justice process, outcomes, and tools applied in other jurisdictions



SOURCE: CITY OF PORTLAND.- LOWER ALBINA TODAY

PORTLAND, OR: LOWER ALBINA & I-5 LID

This Portland-based planning project comprises planning by Oregon Department of Transportation, the City of Portland, Prosper Portland and others. The vision for Lower Albina ties together a I-5 cover, and urban development strategies for 94 acres to foster equitable outcomes, centered on restorative development. Endorsed by city, state and federal actors in 2024, Portland is moving to transform the land use, urban design and access strategies including significant safety improvements, bike and pedestrian paths, local street reconnection, and programmatic activation. Updated land use and transportation strategies tie into on-going negotiations for redevelopment and reinvestment in the lower Albina District.

In 2020, the Albina Vision Trust (AVT) 501c3 was established to steward the project. AVT works with the Portland Bureau of Planning and Sustainability, Portland Bureau of Transportation, ODOT, and other private developer stakeholders to establish, align, and leverage partnerships and investments that support the area's redevelopment vision. AVT has led a 3-year community investment strategy building to frame negotiation and transactions with the area's public landowners.

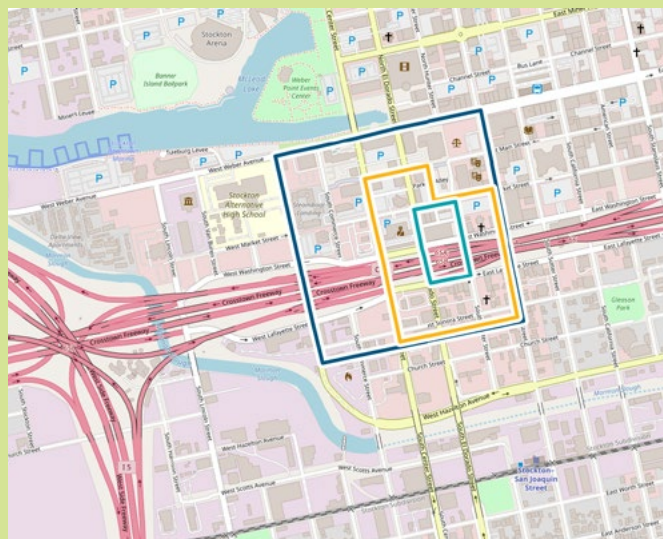


SOURCE: RECONNECT RONDO

ST. PAUL, MN: RECONNECT RONDO

This project aims “to create Minnesota’s first African American cultural enterprise district connected by a community land bridge.” The project goal is to repair, restore, and revitalize the Rondo neighborhood and help address the racial disparity gaps in Minnesota. The project emerges from the harms resulting from construction of the I-94 freeway. Ultimately, the goal is to inclusively grow Rondo’s economic base and increase the City’s revenues by \$3.8–4.2 million annually.

The Rondo Roundtable is an independent group of 14 members including local businesses, neighborhood leaders, and elders that have a strong commitment to overseeing this project’s ultimate success and Rondo’s community-led revitalization. The project aims to create 468-576 housing units in Rondo with a stated goal to “Provide mechanisms to minimize barriers, and provide financial incentives, to promote the production and preservation of a diverse, safe, healthy, and affordable housing stock for residents to build wealth.”



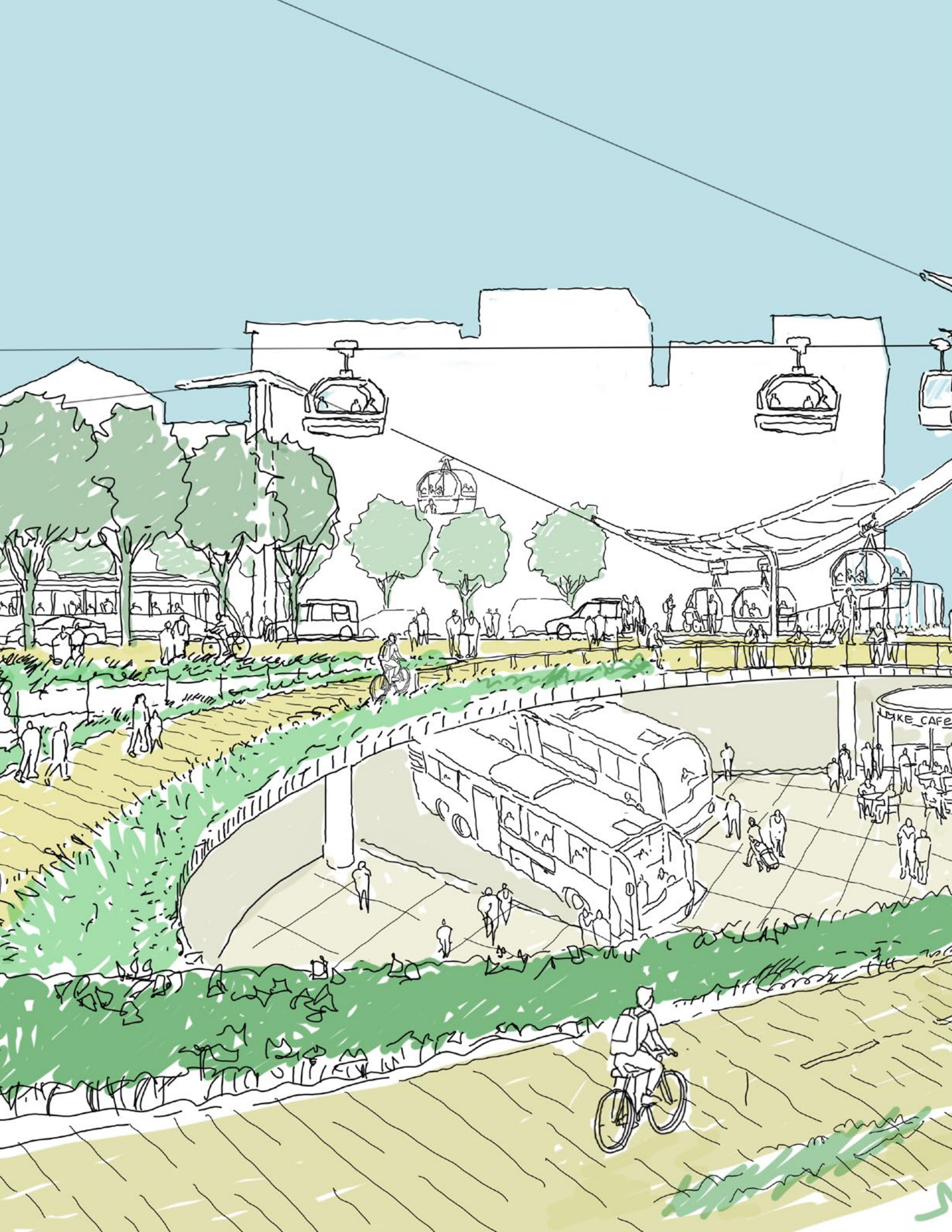
SOURCE: [HTTPS://WWW.ITS.UCLA.EDU/PORTFOLIO-ITEMS/BULLDOZING-ASIAN-COMMUNITIES-STORYMAP/](https://www.its.ucla.edu/portfolio-items/bulldozing-asian-communities-storymap/)

STOCKTON, CA: DOWNTOWN TRANSFORMATION PROJECT

“The one-two punch of redevelopment and the building of the Crosstown Freeway destroyed hundreds of homes, and displaced over a thousand people living in the Asian enclaves. Such losses were not just physical. Losing Little Manila, Chinatown, and Japantown meant an end for community—shuttering gathering places such as stores, cultural centers, and social clubs that had drawn people together from throughout the region.” *UCLA findings included in the Transforming Stockton project.*

In a shift away from past practices, Caltrans is providing program support to transform portions of the corridor under the SR 4 Crosstown Freeway to help restore the once vibrant cultural identity and community and reconnect the community north and south of the Crosstown Freeway. Planning within the context of restorative justice has led to partnerships between the Agency, City and local CBOs like Little Manila Rising.

<https://www.its.ucla.edu/portfolio-items/bulldozing-asian-communities-storymap/>



4

PHYSICAL RECONNECTION



4.1 Transportation Opportunities

The relinquishment of approximately 50 acres to the City of Pasadena provides an opportunity to transform a single purpose mobility solution (the freeway stub) into a 21st century model of integrated transportation; enhancing community connectivity, multi-modal access and advancing California's climate change objectives.

Fundamental to achieving physical reconnection will be the modification or removal of the existing regional-to-regional freeway connections while re-building a livable and walkable neighborhood. Residents near the Project Area, and those who use the connector frequently, while often conceptually supportive of the closure of the SR-710, are concerned about access to surrounding land uses and the potential for traffic to spill over into surrounding neighborhoods. Over the course of this process, public comment has focused on concerns around how the SR-710 connector's transformation might impact adjacent streets, when this might happen, and how local mobility, and the operations of remaining nearby freeway on-and-off ramps will change.

It is important to point out that the SR-710 Stub was not constructed just as a "stub" highway facility where a freeway simply dead-ended. Rather, the interchange of I-210/SR-134/SR-710 was fully built as a complete four-legged interchange with its fourth (southern) leg being the mainline of the SR-710 freeway (See Figure 4.1). The interchange was built with all eight freeway to freeway direct system connector ramps. These included the two ramps to/from the I-210 (on the east) and the two ramps to/from SR-134 (on the west) all of which connected to/from the SR-710's freeway mainline. This mainline only extended roughly two-thirds of a mile beyond the interchange, terminating just south of Del Mar Boulevard, with ramps connecting to/from California Boulevard.

In addition, Pasadena Avenue and St. John Avenue were fully built as one way couplets to function as frontage roads for the planned SR-710 Freeway, mirroring the role of their respective extensions. Corson Street and Maple Street serve as frontage roads for I-210 freeway east of the interchange. These frontage roads were intended to provide local land use access and connections to the freeway via on and off ramps.

Once the SR-710 mainline stub is removed, the four direct connector ramps and the one way frontage road configuration—part of the freeway system—will no longer be needed. An overarching objective for the Project is to envision a "right sized," and complete multimodal circulation network that supports future mobility. In essence, the long-term vision is to establish a three legged interchange supported by a local street system capable of serving both regional travel and the planned development. To achieve this vision, the following steps are required:

- Repurpose the freeway-to-freeway connector ramps to and from the SR-710 mainline stub with freeway-to-local/local-to-freeway connections.
- Modify the existing local roadway network and develop new local roadways through the area to support the planned development.
- Reconnect these roadways to the local network in Pasadena and the regional system.



This Transportation Chapter clarifies how to complete these three steps at a conceptual level answering:

- What are the best means to reconfigure the stub to act as a terminus with suitable and adequate local connections?
- Where are the optimal points to terminate/originate modified off/on ramps to create a new local interchange access area and enable supporting surface street connections?
- How can the project accommodate existing traffic redistribution, while maintaining access and connectivity to existing destinations, including the Huntington Memorial Hospital?
- How can the project reestablish and reconnect the urban fabric with a more diverse palette of “ways” that promote mobility for all?
- What levers are available to improve safety, reduce vehicles miles traveled (VMT) and ensure that the City of Pasadena can design a walkable environment?
- If the couplet of St. John and Pasadena Avenue no longer act as freeway frontage roads and thoroughfares, how sequentially can the City of Pasadena modify the network?

The Plan’s transportation goals listed in Section 4.3. will help the City plan both for local mobility, creating a robust, walkable and resilient circulation network, while appreciating the broader changes to regional traffic patterns over time.

Throughout the project’s implementation, a close working partnership with Caltrans, the Los Angeles County Metropolitan Transportation Authority (Metro), and the Southern California Association of Governments (SCAG) will be essential.

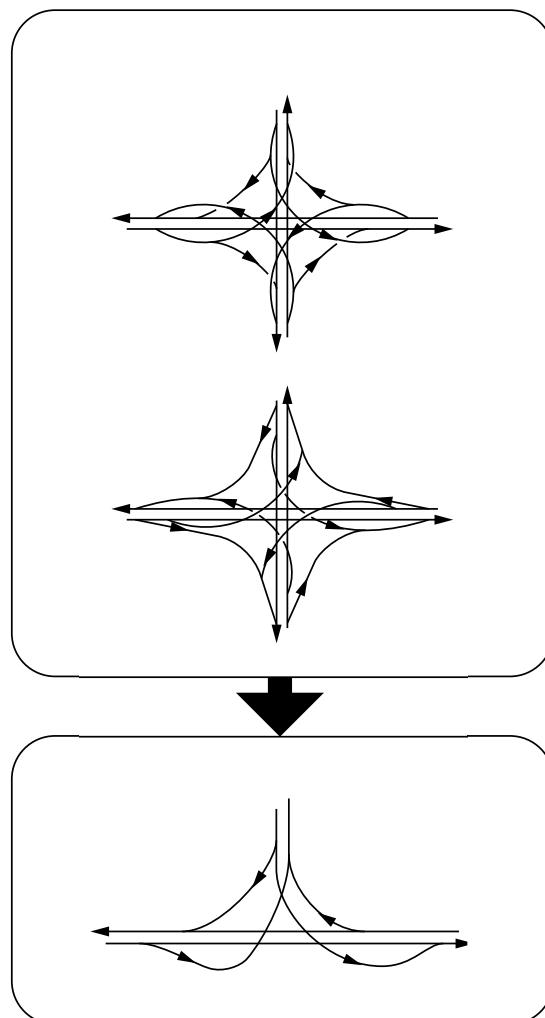


FIGURE 4.1: TYPE F-1 INTERCHANGE, TRANSFORMING TO A VARIATION OF THE TYPE F-5 INTERCHANGE IN THE FUTURE WITH A NEW TERMINATION.

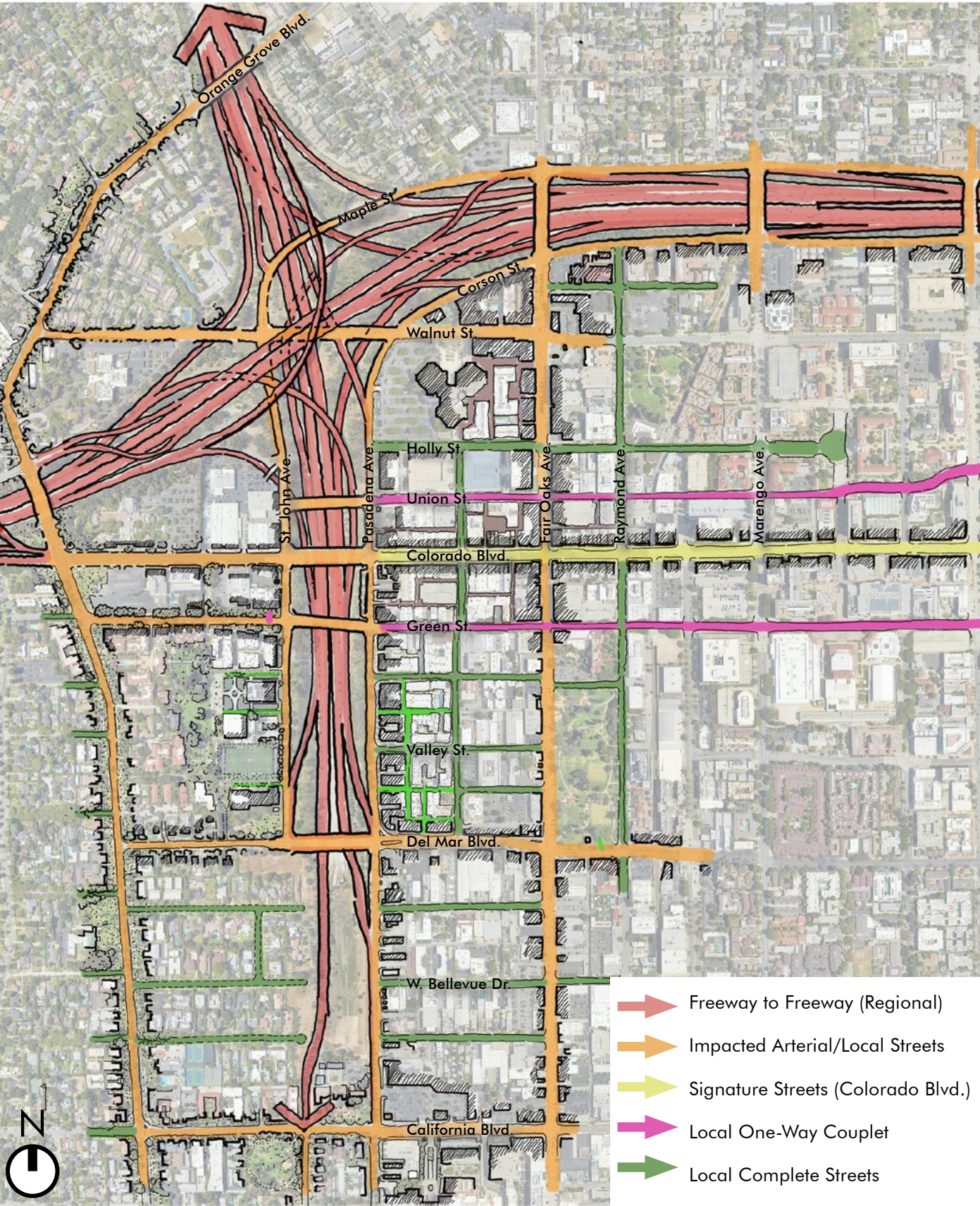


FIGURE 4.2: CURRENT STREET NETWORK AND STREET CLASSIFICATIONS

4.2 What is here today?

East-west traffic volumes through the Project Area are substantially lower than the north-south volumes, both because the Arroyo Seco forms a natural barrier west of Orange Grove Boulevard and because SR-134 and I-210 provide primary east-west regional connectivity.

Today there are five east-west connections within the Project Site, including bridges at Walnut Street, Union Street, Colorado Boulevard, Green Street, and Del Mar Boulevard. California Blvd at the south end of the Project acts as a primary east-west connector in the City. Much of the existing east-west traffic across the stub is concentrated on Walnut Street, Colorado Boulevard, and Del Mar Boulevard. These wide streets provide multiple travel lanes and dedicated turn lanes that facilitate access to the 710 Stub from Walnut, Colorado Boulevard and Del Mar Boulevard freeway ramps.

In contrast to north-south traffic traveling through, most east-west traffic through the Project has an origin or destination in Pasadena. Union Street and Green Street effectively provide one-way couplets, as Union Street is a

westbound-only street and Green Street, east of the stub, is an eastbound-only street.

The series of existing roadway bridges across the Project Area vary in width and utility. These are summarized in Table 4.1. The Walnut Street bridge, at approximately 80 feet wide, provides five lanes and sidewalks. The Colorado Boulevard bridge provides five lanes and sidewalks; however with wide lanes and on-street parking, its 110 SF cross-section is not friendly for pedestrians. The Del Mar Boulevard bridge is also wider than it needs to be for the travel lanes it provides. None of the bridges crossing the Project Area provide bicycle lanes.

There are notable gaps in east-west connectivity of approximately 1,300 feet between Green Street and Del Mar Boulevard and over 1,700 feet between Del Mar Boulevard and California Boulevard. These long gaps affect the accessibility of the existing street network which results in longer trips, thus higher Vehicle Miles Traveled (VMT).

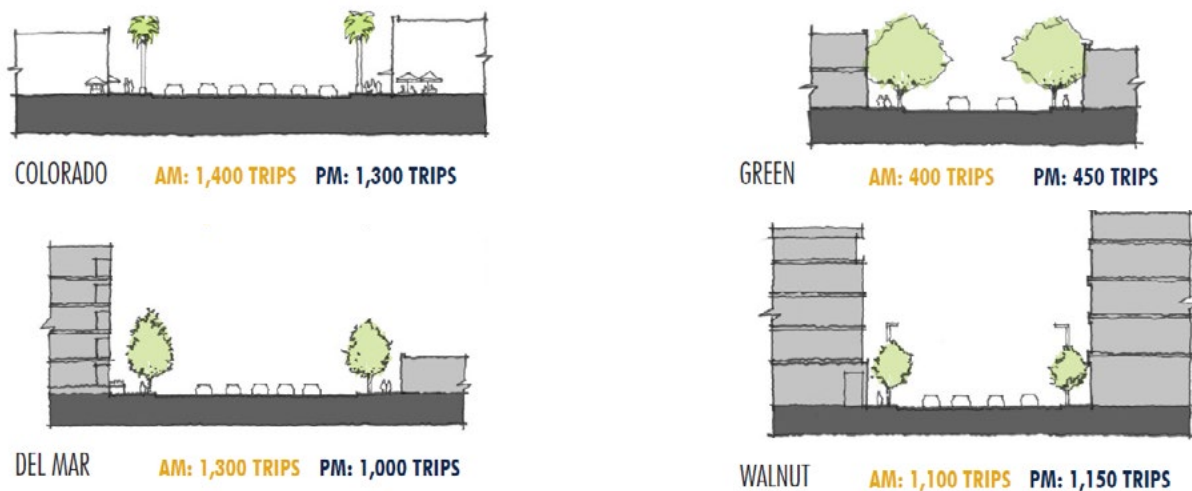


FIGURE 4.3: LANES AND TRIP AVERAGES ON EXISTING PROJECT AREA EAST- WEST TRAVELING STREETS

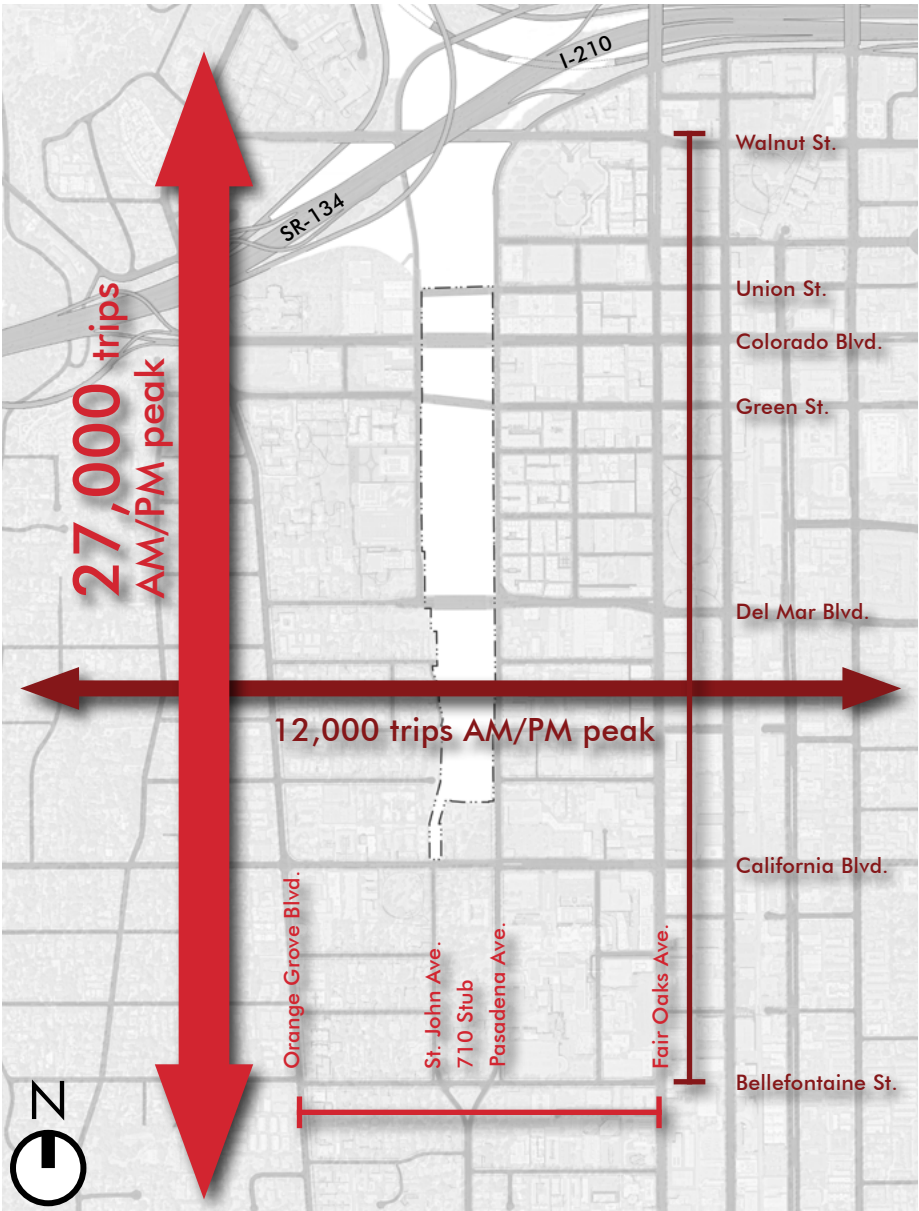


FIGURE 4.4: RELATIVE NORTH SOUTH VS. EAST WEST TRAFFIC DISTRIBUTION.

THIS GRAPHIC SHOWS THE EAST-WEST STREETS IN THE STUDY AREA.

AT A HIGH LEVEL THE COMBINED MOVEMENT ON ALL FIVE STREETS LISTED NORTHBOUND/ SOUTHBOUND ABOVE IS ESTIMATED AT 27,000 VEHICLES DURING THE COMBINED AM AND PM PEAK HOUR. THERE IS ABOUT HALF THIS AMOUNT OR 12,000 VEHICLES EAST/WEST BOUND DURING THE COMBINED AM AND PM PEAK HOUR ON ALL SEVEN STREETS. THIS INFORMATION IS SOURCED FROM THE SR-710 NORTHERN STUB REPURPOSING TECHNICAL FEASIBILITY ASSESSMENT.

- █ NORTH/SOUTH TRAFFIC ON ALL STREETS ABOVE
- █ EAST/WEST TRAFFIC ON ALL STREETS ABOVE

Between Green Street and Del Mar Boulevard, there are major destinations along St. John Avenue, including apartment buildings, the Ambassador Auditorium, and Maranatha High School. Vehicular traffic from the east side of the stub must use Green Street or a street further north to get to St. John Avenue to access these destinations and must use Del Mar Boulevard to return to the east side of the stub, resulting in concentrated traffic flows at peak times.

Pedestrian or bicycle traffic to/from those destinations is discouraged by the potentially long detours to reach the existing stub crossing points at Green Street or Del Mar Boulevard, which can add several minutes to a trip and tilt the mode decision in favor of automobiles.

Streets around the Project Area are designed to accommodate faster moving cars. This means streets are designed to the “automobile scale,” with less activity or amenities for pedestrians such as wider sidewalks, landscape or shade trees. The speed limit on streets within the study area ranges between 25–35mph. However, people drive noticeably faster than the limit on Pasadena and St John Avenues.

TABLE 4.1: CHARACTERISTICS OF EAST-WEST STREETS IN THE STUDY AREA

STREET	CONNECTS ACROSS STUB	LANES [A]	ROAD WIDTH [A]	BRIDGE/ROW WIDTH [A]	PARKING [A]	
Walnut Street	Yes	2 WB, 2 EB, turn lane	62 feet	80 feet	-	-
Holly Street	No	1 WB, 2 EB	46 feet	68 feet	-	WB bike lanes
Union Street	Yes	2 WB	38 feet	56 feet	WB only, metered	-
Colorado Boulevard	Yes	2 WB, 2 EB, turn lane	86 feet	108 feet	both ways, metered	lanes wider than needed
Green Street	Yes	1 WB, 2 EB	44 feet	64 feet	WB only, metered	-
Dayton Street	No	1 WB, 1 EB	34 feet	54 feet	both ways, metered	-
Central Court Paseo	No	Pedestrian Only	20 feet	-	-	-
Valley Street	No	1 WB, 1 EB	34 feet	54 feet	both ways, metered	-
Orange Place	No	Pedestrian Only	20 feet	-	-	-
Del Mar Boulevard	Yes	1 WB, 2 EB 2 turn lanes	80 feet	100 feet	-	"Add'l WB lane striped out"
Waverly Drive	No	1 WB, 1 EB	34 feet	60 feet	both ways	-
Bellevue Drive	No	1 WB, 1 EB	30 feet	60 feet	both ways	-
Palmetto Drive	No	1 WB, 1 EB	30 feet	60 feet	both ways	-
California Boulevard	Yes	2 WB, 2 EB, turn lane	56 feet	72 feet	-	-

Notes:

ROW = right-of-way; WB = westbound; EB = eastbound. All road, bridge, and right-of-way measurements are approximations.

[a] For streets with connections across the stub, this is evaluated on the bridge or connection. For those without, it is evaluated just east of Pasadena Avenue.

4.2.1 WALK AND BIKE SHED CHARACTERISTICS

The Project Area's walk and bike sheds are .5 mile or a ten minute walk (Walk Shed) to a 3 mile or 15 minute biking distance (Bike Shed) shown at right. Walk and Bike sheds provide information on the demographic, and socioeconomic characteristics of those living near and traveling near to the Project Area. This information is gathered from Pasadena's Pedestrian Action Plan, revised in 2024² which shows the strong potential to improve walking, biking and transit alternatives.

Socioeconomic Character: Walk- and bike-sheds encompass both the wealthiest and poorest neighborhoods in Pasadena. There are larger concentrations of populations below the poverty line to the northeast. These populations are more likely to rely on walking, biking, and transit for their daily needs.

Population Density: There are 10,000 residents in a 15-minute (1 mile) walkshed and 100,000 residents within a 15-minute (3 mile) bicycle or micromobility shed. This density is not evenly distributed. Neighborhoods to the east of the study area site are generally denser.

Seniors and Children: Transit-dependent age groups vary from 30-50% across census tracts in walk- and bike-shed. Although this percentage is in line with the national average, it is relatively high for an urban area, which tends to have a greater proportion of working age adults. There are more children in the northeast part of the study area whereas with more seniors in the west.

Population with Disability: Approximately 10% of the population within the walk and bike shed live with a disability, the same as the national average.

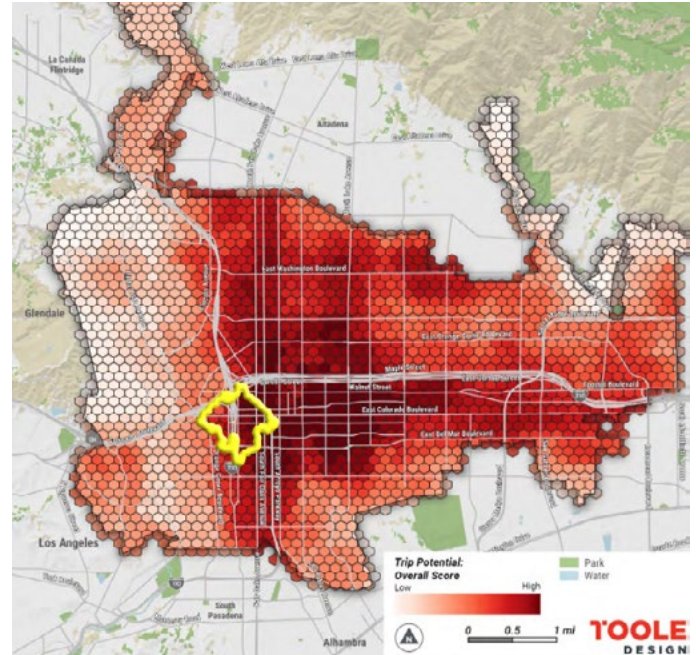


FIGURE 4.5: EXISTING 10-MINUTE WALKSHED HAS A HIGH PEDESTRIAN AND TRANSIT TRIP POTENTIAL. MAP SOURCE: PASADENA PEDESTRIAN ACTION PLAN SHOWING TRIP POTENTIAL

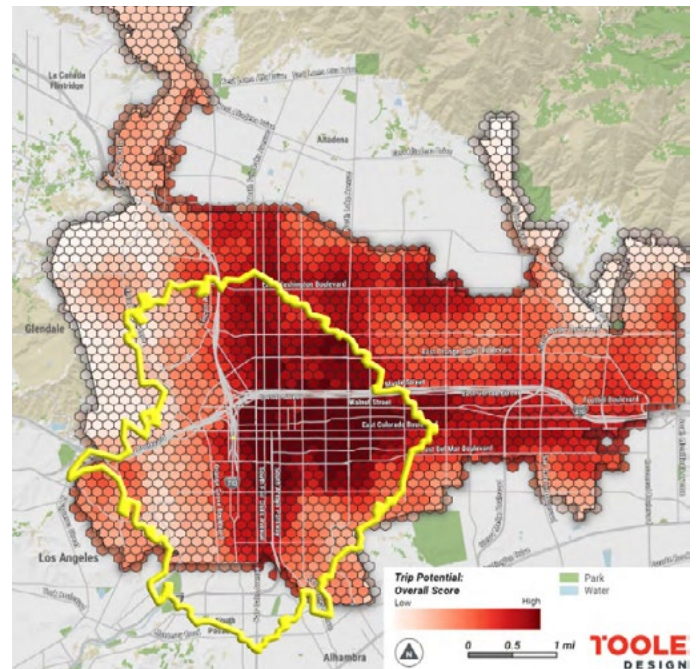


FIGURE 4.6: EXISTING 15-MINUTE BIKESHED SHOWS HIGH POPULATION AREAS WITH HIGH PEDESTRIAN AND TRANSIT TRIP POTENTIAL. MAP SOURCE: PASADENA PEDESTRIAN ACTION PLAN SHOWING TRIP POTENTIAL

² <https://www.cityofpasadena.net/transportation/transportation-improvements/transportation-safety-improvements-pasadena-pedestrian-transportation-action-plan-revised-2024-2/>

4.3 Transportation Goals

1. BUILD INFRASTRUCTURE TO RECONNECT

- Redesign bounding streets, especially Pasadena Avenue to slow traffic and provide crossings at comfortable walking distances - Complete Streets.
- Coordinate with Pasadena Measure R MIP¹ near term projects for pedestrian crossings, bicycle lanes, intersection redesigns, and signalization adjacent to the Project Area.
- Enable east-west “paseos” that cross the Project Area. These links can be car-free while supporting fire and life safety.
- Plan for a minimum of two additional vehicular links across from east-to-west, with one connection north of Del Mar Boulevard and one connection to the south of Del Mar Boulevard.
- Connect to Pasadena’s Northwest neighborhoods with new or redesigned infrastructure and/or transit and transportation alternatives.

2. RIGHT-SIZE REGIONAL TO LOCAL CONNECTIONS

In coordination with Caltrans, identify and address where regional infrastructure can be adjusted and optimized. Focus on shifting regional-to-regional, and regional-to-local connections to local-to-local connections, while maintaining adequate capacity, and ensuring regional through travel stays at or below today’s condition. Ensure connections to Huntington Memorial Hospital are adequately maintained.

3. REDUCE REGIONAL THROUGHPUT

Reduce regional cut-through traffic from today’s travel patterns, estimated at ~50% of existing north-south travel. Apply comprehensive actions to mitigate congestion particularly at nearby exits at Orange Grove Boulevard, Fair Oaks Avenue and Marengo Ave.

4. DESIGN FOR SAFETY

With safety as the primary design standard, prioritize improvements to existing local streets that enable future stub redevelopment. Build on the City’s Street Design Guide to create a circulation network with safe speeds, increase comfort and lower the risk of collision.

5. ENABLE FUTURE TRANSIT

Enable future transit and innovative transportation opportunities. Explore a mobility hub (connecting various regional transit/mobility services to local areas including Northwest Pasadena), and implement a active transportation network, transit circulator system and transit and micro-transit connectors.

6. BE FLEXIBLE

Assume the circulation network will be multi-year and multi-phase. Provide a robust, outcome driven vision to guide negotiations with State and Regional partners. Develop and adapt the network to the emerging land use, project delivery, and phasing plan.

7. USE LOCAL CIRCULATION NETWORK TO CREATE PLACE

Design a multi-modal circulation network to prioritize walkable, human-scaled environments to enhance social cohesion, and encourage people to participate in public life. Create a transportation and land use vision to enable residents to walk to parks, shops, schools, and transit.

8. COMMIT TO A PROJECT-DRIVEN TRIP REDUCTION GOAL

Commit to a trip reduction goal of 30% for commercial/employment uses and 35% for residential uses from baseline. Apply a range of integrated land use, design and transportation demand management strategies to reduce project-driven trips and encourage mode shift.

¹ Measure R MIP in Pasadena refers to Mobility Improvement Projects (MIP) funded by L.A. County’s voter-approved Measure R sales tax, supporting local transportation upgrades like safer bike/pedestrian paths, better sidewalks, and improved traffic signals.

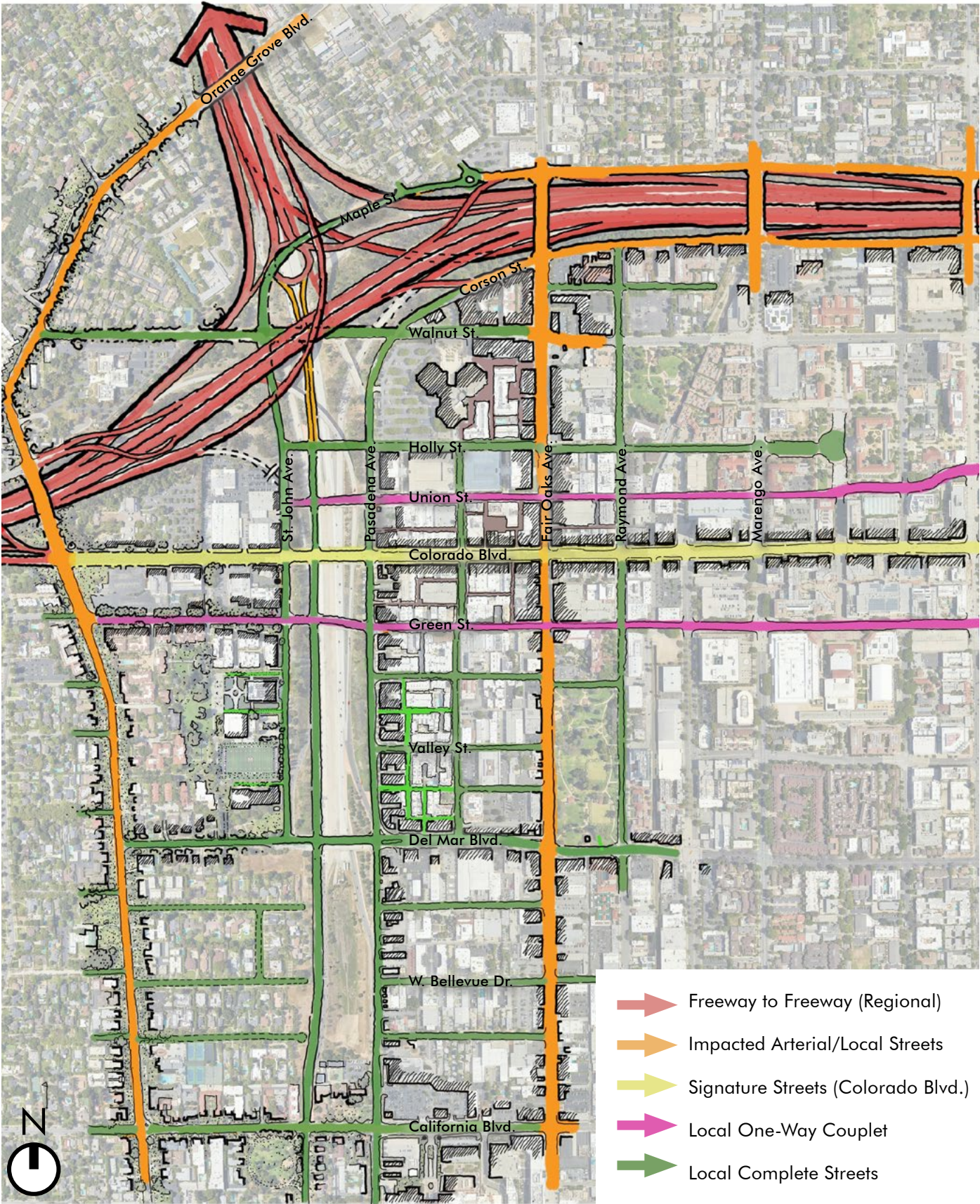


FIGURE 4.7: ONE OF THE OPTIONS FOR A STREET NETWORK AND STREET CLASSIFICATIONS, SHOWING A SHIFT TOWARDS MORE LOCAL CONNECTIONS. THIS FIGURE SHOWS THE “BOULEVARD AND PASEOS” CIRCULATION NETWORK FOR PURPOSES OF ILLUSTRATION. THE DIAGRAM REMOVES THE REGIONAL LINKS AND REPLACES THEM WITH THREE SURFACE LEVEL STREETS (SHOWN IN GREEN).

4.4 Conceptual Roadway Networks

The Consultant team developed a series of conceptual street networks to explore how to achieve Transportation Goals. To develop the roadway networks, the team began with the Relinquishment Feasibility Assessment³ and applied best practices using professional judgment in transportation planning, urban design and engineering, along with knowledge of local and regional conditions. Conceptual roadway networks begin by disconnecting the area from the regional freeway system and progressively add means to control regional traffic flow via a full intersection, roundabout, and/or roadway re-configuration (See Figures 4.8-4.11). For example, prior to relinquishment and under Caltrans operation protocols, Pasadena and St. John Avenues were designed and operated as freeway frontage roads. This Vision Plan analysis compared existing one-way operation to that of returning these rights of way to two-way operation (the same operating context of most of the surrounding neighborhood streets and arterials) but, with the express objective of “complete streets” that provided for multi-modal operation, enhanced safety, slower speeds.

The consultant team built seven high level transportation modeling scenarios from these frameworks. Modeling variations explore

- Relative effectiveness of arterial network configurations What is minimum number of lanes traveling north to south, or east-west needed for capacity?
- How can the Project Area connect into the regional freeway system variously from I-210/SR-134 (no connections, full intersection, roundabout, selected ramps, etc.) Which of these connections is acceptable to meet safety objectives, and Caltrans requirements?
- Means to connect regional travelers into the interchange variously: north of Walnut, at Holly, at Union, at street level or lower level to maintain traffic safety.

³ See: <https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/SR-710-N-Stub-Repurposing-Technical-Feasibility-Assessment.pdf>

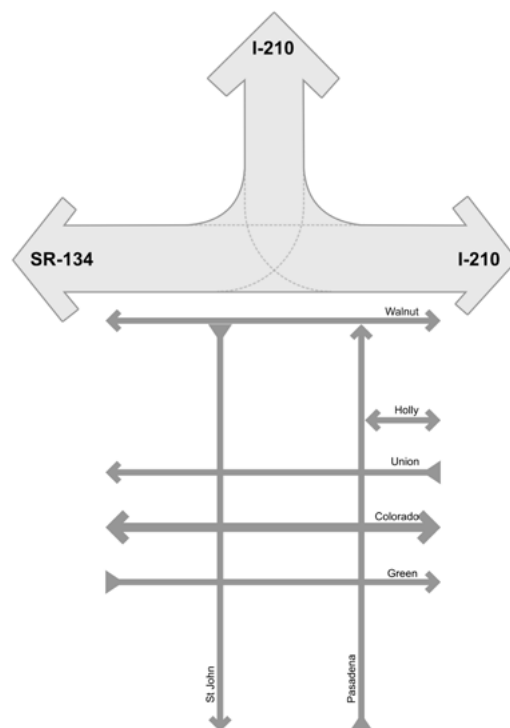


FIGURE 4.8 “DISCONNECT”. NO CONNECTION TO REGIONAL NETWORK

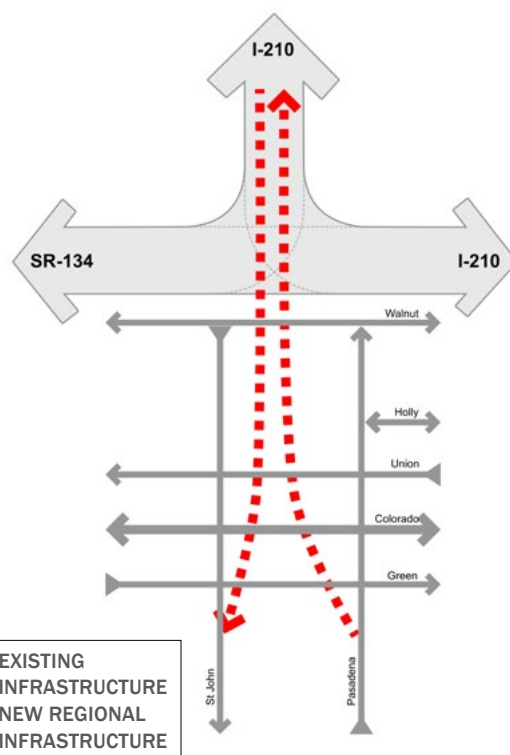


FIGURE 4.9 REFINEMENT TO RELINQUISHMENT FEASIBILITY ASSESSMENT (SCENARIO 2).

- Number of recommended locations for future east-west vehicular crossings
- Number of lanes and preliminary dimensions of local streets.

Transportation Modeling Scenarios

1 **2025 Existing Conditions:** This scenario is essentially the existing condition. It looks at the current City Traffic Model in the General Plan and assumes No Project.

2 **2035 No Build (Future Base Case):** This scenario provides information on the Project Area assuming Pasadena's General Plan land use build out and with the existing freeway network.

3 **2035 Disconnect No Project (all ramps removed) with Project (Fig 4.8)** This scenario assumes all ramp connections between the stub and other three legs of the interchange including SR-134 (west) and I-210 (east and north) are eliminated from the network. This scenario tells us which areas would be impacted even if no land uses were added.

4 **2035 Disconnect With Project (all ramps removed)** This is the same "Disconnected" scenario except it includes the full development of land uses in the 710 Project Area.

5 **2035 Gardens and Terraces (Network) (Fig 4.10, 4.11)** Various one-way and two-way connections between I-210 and St John Avenue and Pasadena Avenue were tested. This option does not have direct new connections to/from SR-134 and I-210 to the east.

6 **2035 Boulevards & Paseos (Network) (Fig 4.11, 4.12)** This scenario incorporates a roundabout north of SR-134 and direct ramp connections to/from all three remaining legs of the interchange.

7 **2035 Boulevards & Paseos with TDM (Fig 4.11, 4.12)** This scenario tested reduced demand due to the application of Transportation Demand Management measures.

The following describes the two roadway networks used the modeling scenarios and their assumptions.

4.4.1 GARDENS AND TERRACES

This roadway network explored a connection into the Project Area south of Union Street. There is no Holly Street extension assumed, and limited change to Maple Street Overpass. North-to-south movement is bi-directional on St. John Avenue and Pasadena Avenue, and vehicular traffic is controlled and slowed. This scenario assumes:

1. New measures to slow traffic entering the Project Area with a new two-way intersection just south of Walnut St. This assumes traffic moving south bound from the I-210 to either St. John or Pasadena Avenue is slowed and may travel on either street to the south, a similar decision is enabled moving to the I-210 NB. No pedestrians will be allowed at this intersection; the northern interface with the I-210 rises to street level after Walnut Street.
2. Assumes the conversion of St. John Avenue and Pasadena Avenue to two-way streets, with slower, controlled traffic movement, stop signs, signals, and bicycle lanes. Mid-block crossings are

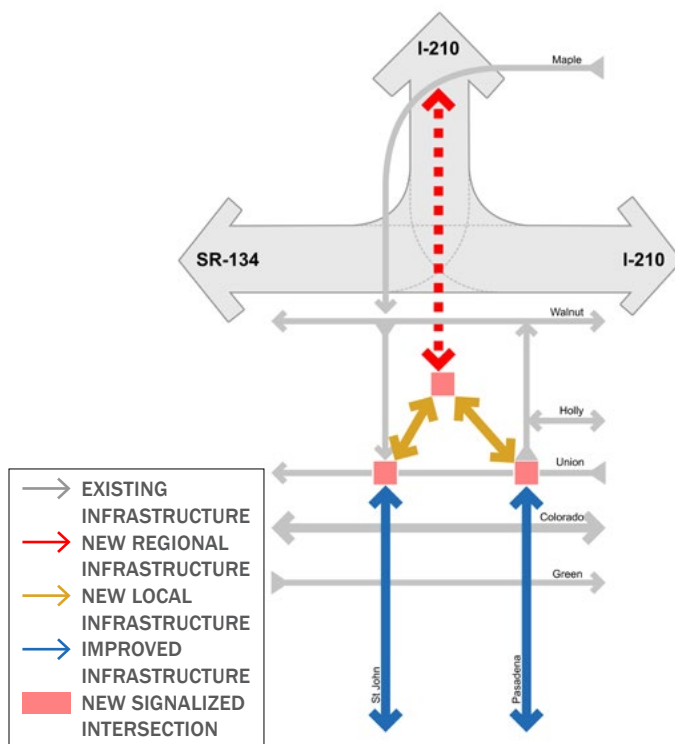


FIGURE 4.10: A FULL INTERSECTION, GARDENS AND TERRACES SIMPLE DIAGRAM

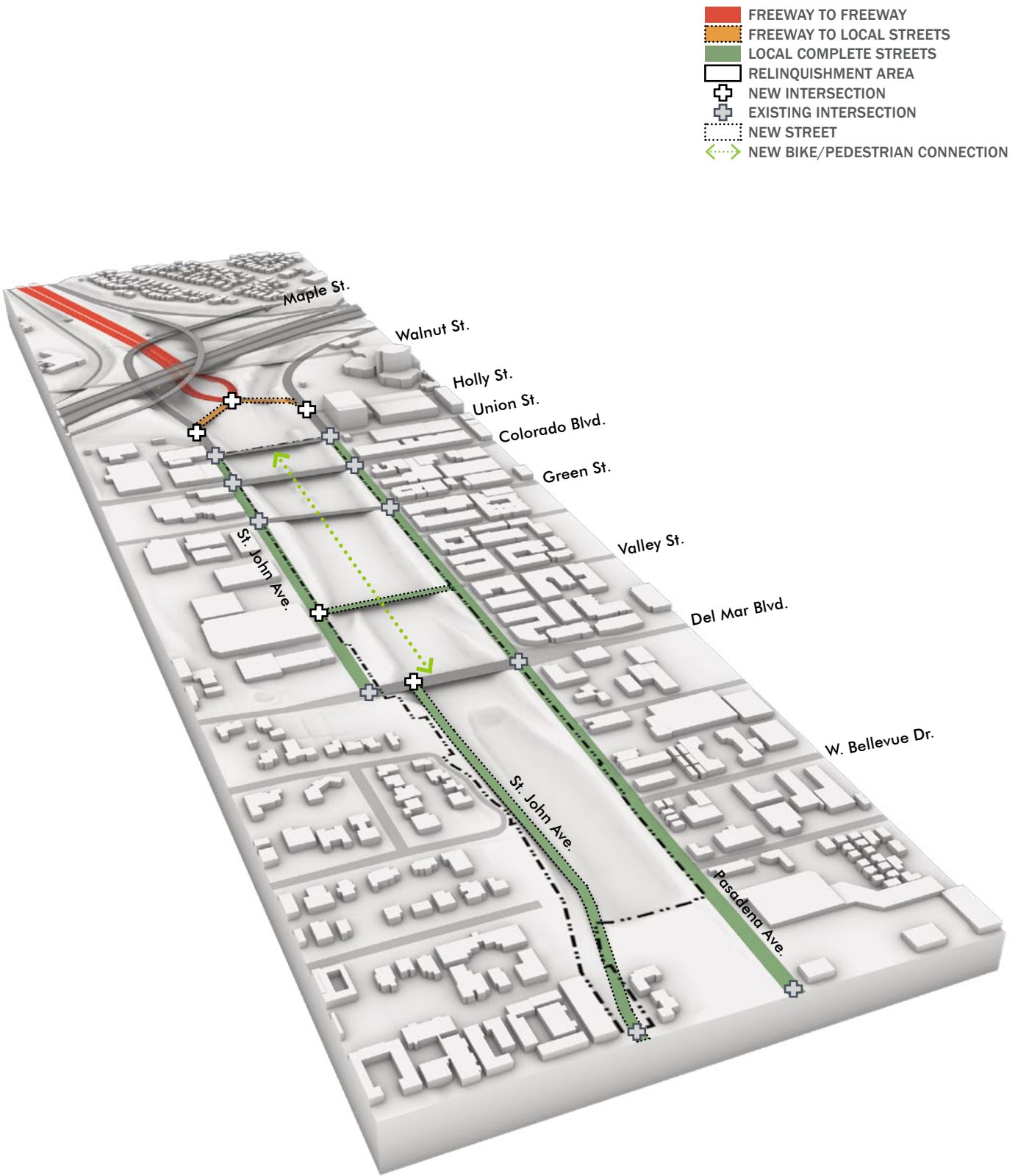


FIGURE 4.11: GARDENS AND TERRACES CIRCULATION FRAMEWORK

added as paseos. A cycle track is located along Pasadena Avenue.

3. Includes a new east-west connecting vehicular roadway at Valley Street. For purposes of evaluation, this option does not include a new east-west connection at Bellevue Street.

4. Assumes a car-free, walking and cycling link, oriented in a north-south direction, at the center of the site from Union Street to Del Mar Avenue.

5. Assumes all existing bridges within the study area are adapted and narrowed as necessary to interface with proposed land uses but would essentially be maintained as bridges (not rebuilt as streets).

6. The connection from the Stub to SR-134 is removed. The Pasadena Avenue on ramps (north and south of Del Mar Boulevard) are closed, and the existing Del Mar bridge can be rebuilt with a 60' right-of-way.

4.4.2 BOULEVARDS AND PASEOS

This roadway network assumes interventions can be made north of Union Street, outside of the relinquishment boundary. Assumptions of the Boulevards and Paseos roadway network:

1. A roundabout is constructed to provide local interchange access and smooth traffic flow into and out of the area from I-210 SB and enable entrance to the stub at Holly Street. The roundabout location is located north of the interchange at the existing freeway grade level, offering visual and physical cues to slow speeds. The roundabout is assumed to include 4-lanes with 6-connecting links. The preliminary roundabout design, from Caltrans' best practice guidance, is vehicular only, with no pedestrian access. The approach to street level begins after Walnut Street.

2. St. John and Pasadena Avenues are converted to two-way streets. Adding a new multimodal boulevard enables St. John Avenue to be designed for reduced traffic/local access only. New intersections on both Pasadena and St. John Avenues are added as necessary, including mid-block crossings at Paseos.

3. The new multimodal two-way boulevard could accommodate a new local transit route. It is assumed at 1-lane in each direction, with parking. The traffic flow could be managed to provide added capacity in peak hours by precluding on-street parking during these hours. A 2-way bicycle track could be incorporated.

4. Valley Street and Bellevue Drive are new east-to-west vehicular connections with traffic control. Holly Street Extension is included.

6. Maple Street connects into a calmed St. John Boulevard and can be redesigned to improve cycling and walking access to the study area.

7. There is an opportunity to connect to the study area from SR-134 EB at Holly Street. The existing SR-134 EB could be designed to enter as a transit-only route to a lower-level "mobility facility."

9. The Del Mar Boulevard on ramps are closed and Del Mar is rebuilt with a 60' right of way.

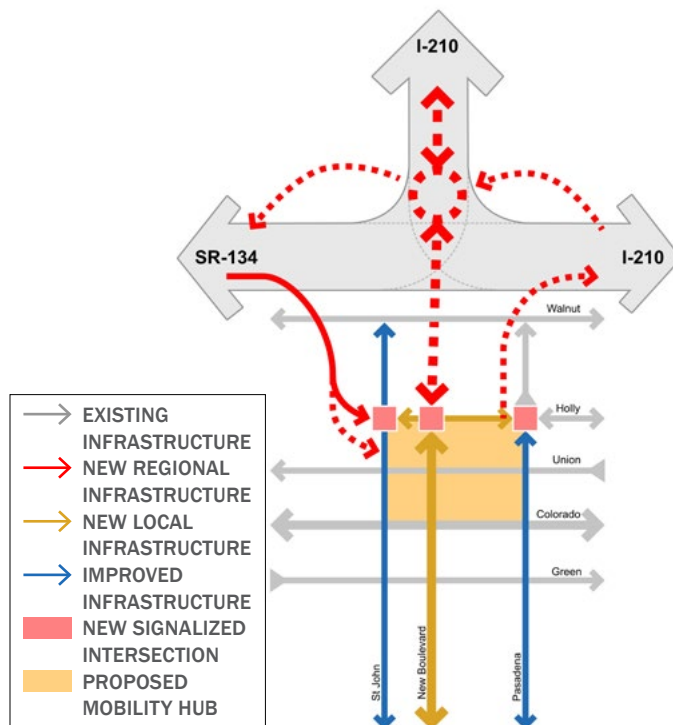


FIGURE 4.12: "BOULEVARD AND PASEOS"

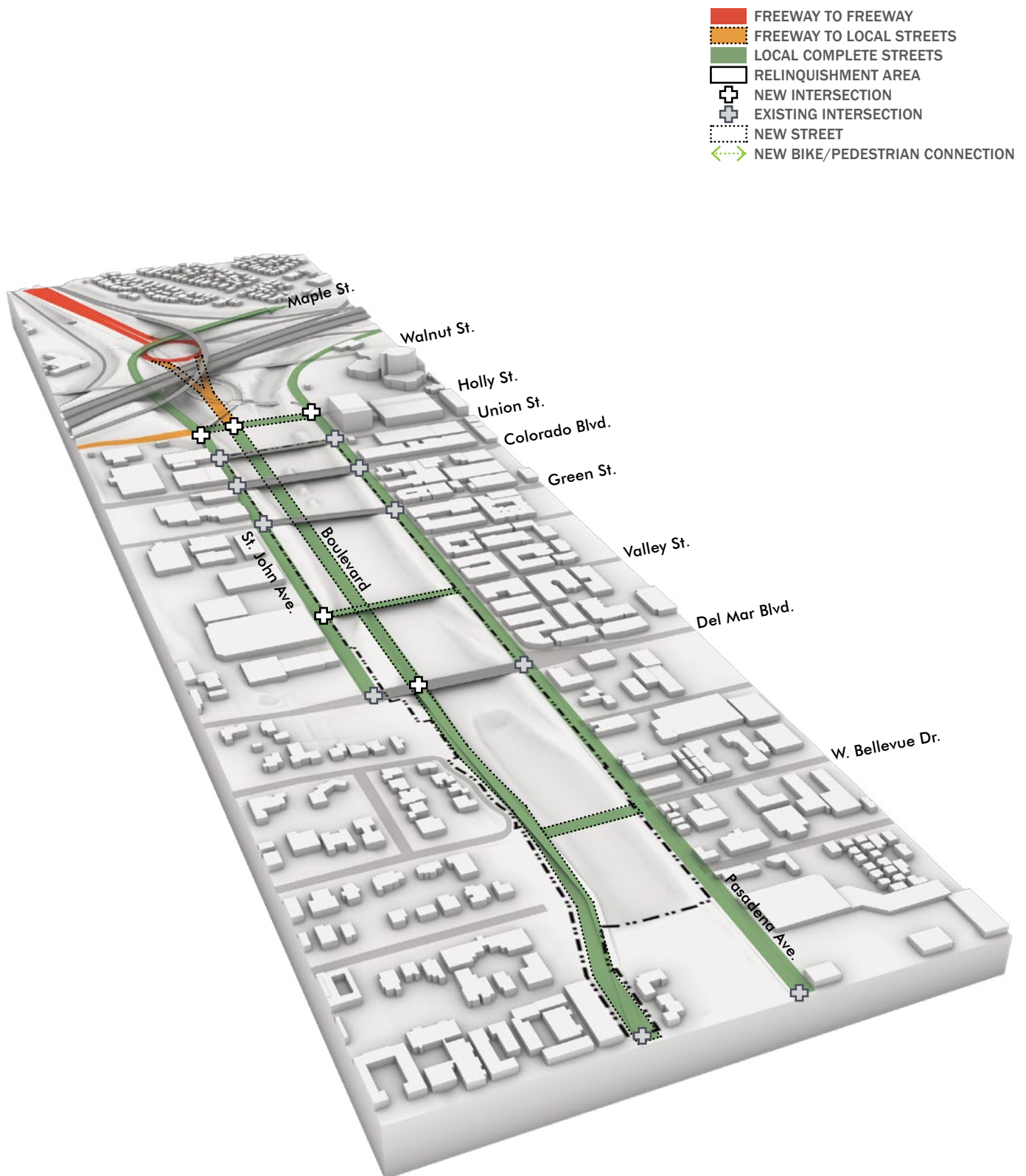


FIGURE 4.13: BOULEVARD AND PASEOS CIRCULATION FRAMEWORK INCLUDES A ROUNDABOUT CONNECTION NORTH OF WALNUT STREET AND A NEW NORTH TO SOUTH STREET TO CONNECT THROUGH THE SITE. THIS NEW BOULEVARD CONNECTS THROUGH TO THE SOUTH, WHILE ST. JOHN AVENUE TERMINATES AT DEL MAR BOULEVARD IN A T INTERSECTION (SIMILAR TO CURRENT CONDITIONS).

4.4.3 MOBILITY HUB OPPORTUNITY

In coordination with the Caltrans District 7/City of Pasadena Mobility Working Group, the project team identified an opportunity for a “mobility hub” at/or beyond the northern end of the relinquishment area between Walnut and Union Streets, designated as a potential “gateway.”

There is a robust basis in policy and, most importantly, in the existing and planned multi-modal transportation options available and connectivity to both regional and local destinations that make a mobility hub at this location an opportunity to provide people with more access and mobility choices, thus reducing single-occupant motor vehicle traffic., and additionally, a generally positive public response in has emerged in support of a well-designed and activated mobility hub in this location. And finally, this feature would also support the underlying “transportation purpose” of the 710 relinquishment.

For purposes of evaluation, a “mobility hub” has been assumed in the “Boulevard and Paseos” roadway network.

The Gardens and Terraces scenario could also host a mobility hub, provided it is located south of Union Street and may be more moderate in scale and service provision. In both cases, the mobility hub offers a means to address the core issues around the interface between the regional and local circulation and helps both slow and most importantly, convert regional movement to local movement.

See more discussion on the Mobility Hub in Section 4.6.3.

4.4.5 SUMMARY OF FINDINGS

A transportation evaluation assessed high-level metrics for a) corridor volumes using screenlines, and b) vehicle-miles of travel (VMT). A comparison between the seven scenarios listed on Page _ was conducted in a refined Travel Demand Model maintained by the City of Pasadena given regional and local growth in LA County to 2035. The Vision Plan does not include

detailed transportation findings, such as Intersection Level of Service (LOS) analysis, or CEQA level traffic analysis. These would be completed in subsequent phases of work. Land use program capacity referenced in the transportation models were generalized and noted as follows:⁴

Boulevard and Paseos Land Use Assumptions-

- 1.9 million square feet Residential
- 1.3 million square feet Commercial

Gardens and Terraces Land Use Assumptions

- 2.1 million square feet Residential
- 1.4 million Square feet Commercial

Tests on these roadway networks highlight characteristics that have the greatest influence on “project generated” traffic including:

- How traffic may be redistributed in the area,
- Possible trip reduction strategies for both project-generated trips, and regional through trips,
- Which of the conceptual circulation networks provides optimal balance between the new neighborhoods, the City and regional traffic.

The following elements are foundational to an optimal multimodal circulation system and should be incorporated during the future planning and design phases:

Avoid a north-south one-way couplet. As discussed in earlier sections, Pasadena Avenue and St. John Avenue in their current one-way couplet configuration are not compatible with the optimal roadway network that will serve the Project Area. As two-way roadways, both streets will function more compatibly as complete streets to serve the future development and connect with Pasadena’s remaining street network.

Create a new full local interchange to the north of the relinquishment. A full local interchange, such as a roundabout interchange, is essential to provide complete and efficient access between the future 50-acre

4. Variation in land use assumptions between Gardens and Terraces and Boulevard and Paseos scenarios primarily result from the total amount of space dedicated to building area; e.g. Boulevards and Paseos has less land area dedicated to the street network. See Chapter 5 Page _ for more detail.

development area and the regional freeway system. This new interchange would accomplish the following:

- Prevent project-generated roadway traffic from overloading nearby streets and adjacent interchanges, including Colorado/Orange Grove and Fair Oaks, by giving drivers a direct and appropriate point of freeway access.
- Offer a more balanced and safer connection for longstanding regional vehicular through-traffic traveling north, east, and west, which is expected to continue using the area's "right-sized" street network.

By accommodating these movements at a dedicated interchange, regional vehicular through-traffic is less likely to divert onto and overburden Pasadena's other interchanges and arterial streets.

Accommodate capacity with adequate lanes traveling north-south. It is important to provide no less than three continuous north-south roadways that are appropriately sized and well designed. These corridors (e.g. Pasadena, St. John and another boulevard) should be capable of accommodating projected traffic while also incorporating multimodal complete-streets features which will support travel by car, transit, bicycle, and pedestrians.

Include new east-west connections. Three properly sized additional east-west connecting streets (i.e. Holly Street, Valley Street and Bellevue Drive) may be necessary to provide adequate multimodal access to future developments and connections to adjacent areas in Pasadena. Of these, Holly Street will offer a potential multimodal connection between City Hall, the Metro A Line Memorial Park Station and the west side.

Plan for transit and travel demand management. The travel demand analysis indicates that once the stub and unnecessary ramps are repurposed, and the roadway network is properly reconnected, the corridor can operate at manageable traffic levels in the long term—comparable to today's traffic volumes—even with the additional trips generated by the project's proposed land use development. Achieving this outcome, however, depends on meeting trip-reduction targets assumed in the analysis and described in Section 4.5. The next phases of planning

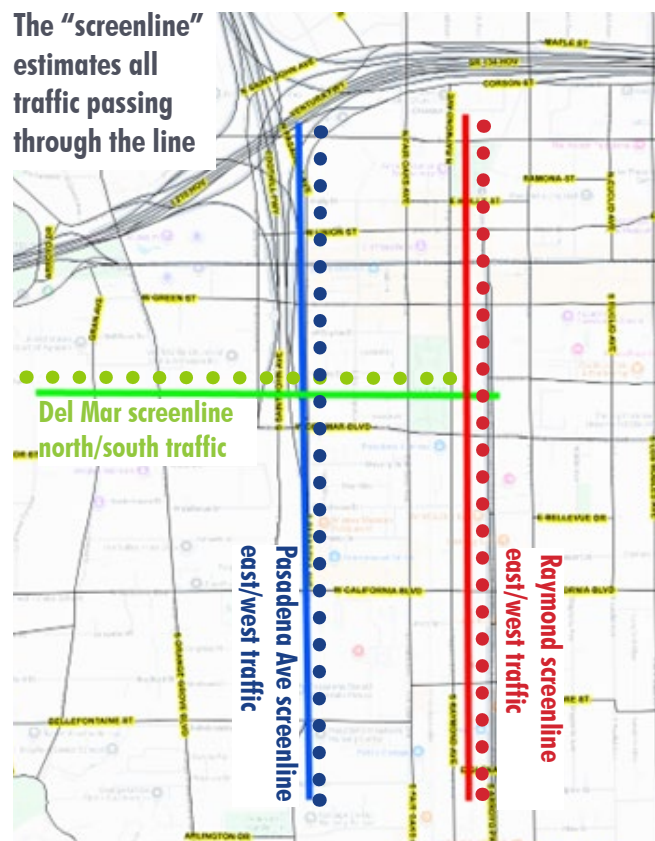


FIG 4.14 SCREEN LINE TESTS (ABOVE) The project team conducted three screenline tests to understand traffic volumes extracted along the Transportation model for street segments. When considering traffic volumes at the screenline level, the combination of the proposed network alternatives plus the project land uses generate traffic forecasts that do not substantially increase traffic in the project area.

Findings showed that all "With Project" scenarios generate slightly more east-west traffic serving local neighborhoods within the City Pasadena and substantially less north-south traffic compared to 2035 No Build scenario. From this analysis the consultant team can assume there will likely be less north-south through traffic traveling to the City of South Pasadena (and beyond) in the "With Project" alternatives. See Appendix C for more information.

must include proactive, practical strategies such as high-quality transit interconnectivity (new routes, stations, and links to existing and planned regional transit), development of a regional mobility hub, and strong policies to implement and monitor travel-demand-management measures for the new development.

4.5 A project-driven trip reduction goal

It is possible to lessen future project-driven trip generation and vehicular miles traveled (VMT) using strategies that intentionally mix land uses, with intentional form, street and block design. Taken together, these strategies could help the future project meet a **trip reduction target of 30% for commercial/employment uses and 35% for residential uses from baseline.**

(For more information on this Goal see Appendix C.) This project trip reduction goal would be used over time to ensure transportation and land use decisions happen in tandem, inform decision-making around parking locations and amounts, and put in place various incentives to offset projected trips. The city can evaluate the performance of the system at each phase and adjust as necessary, prior to proceeding with the next phase of development. Detailed assessment of these strategies will depend on the nature of the future occupants, not known at this time, and who may change throughout the project's lifespan. The Boulevards and Paseos circulation network already exhibits many design characteristics supportive of lower-vehicular miles traveled (VMT) outcomes.

4.5.1 INTEGRATING LAND USE AND TRANSPORTATION

The following strategies are organized following the "6Ds of Transit-Oriented Development," a well-researched framework describing how the built environment influences an individual's transportation choice. Together, they create a mutually reinforcing system where land-use design and a mobility management framework work in tandem to lower the length and distance of an auto trip, improve safety, expand travel choices, and support more sustainable, efficient urban development.

In fact, transit rich, pedestrian friendly environments show statistical reductions in traffic injuries or fatalities, reduced air pollution and increased levels of daily physical exercise.¹ The following 6 "Ds" are core to the Project Area transportation approach:

Density: concentrate people and activities.

Land uses that concentrate housing, jobs, and amenities within a compact footprint (near transit) help reduce trip lengths because more daily needs can be met close by. Studies consistently show that compact, mixed neighborhoods are better able to allow individuals and families to reduce their reliance on autos and provide better mobility for non-driving populations.^{2,3} Increased population density also supports frequent, high-capacity transit service by generating consistent ridership for rapid transit.

Diversity of land use mix: daily needs can be met nearby.

Land use diversity typically includes residential units of varying types and price points, retail and services (such as grocery, childcare, dining, personal services), employment uses (such as office, co-working, medical, civic), and public spaces and amenities. When close together, diverse uses can significantly reduce car dependency. This helps people choose to stay, walk, and spend their dollars locally rather than drive elsewhere. For this reason, it is important to maintain a balanced mix of residential and non-residential uses—to reduce the need for auto trips, increase foot traffic for local businesses, and balance travel movement at different times of day (not just during commuter peaks).

¹ TRB/IOM Committee on Physical Activity, Health, Transportation, and Land Use (2005). "Does the Built Environment Influence Physical Activity? Examining the Evidence". TRB Special Report 282, Transportation Research Board/Institute of Medicine.

² Frank, L. and Pivo, G. 1994. "Impacts of Mixed Use and Density on Utilization of Three Modes of Travel, Single Occupant Vehicle, Transit and Walking." Transportation Research Record. Vol. 1466, pp 37-43

³ Handy, S. 1993. "Regional Versus Local Accessibility; Neo-Traditional Development and its Implications for Non-Work Travel." Built Environment, Vol. 18, No.4, pp. 253-267.

Arterial Roadways AM+PM Peak Hour VMT

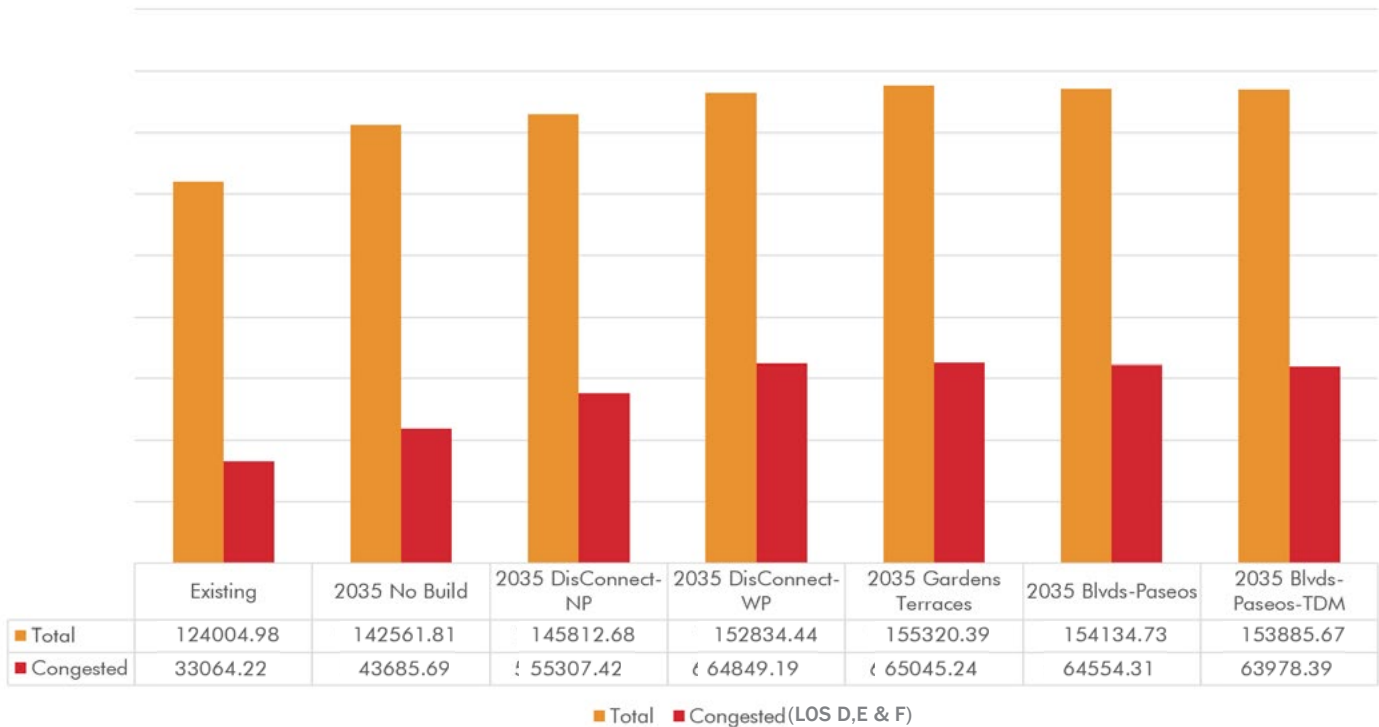


FIG 4.15 LEVEL OF CONGESTION ON CORRIDORS. VMT is an indicator of the total the amount of traffic traveling within a location. “Level of Service” (LOS) shows degrees of congestion, LOS A represents free flow conditions while LOS F represents highly congested conditions. The above chart compares Total and Congested VMT within a one and a half mile radius of the Project Area using the scenarios described on p.84. Overall VMT increases with the addition of the project, but the Boulevards and Paseos scenario forecasts slightly less total VMT and less congested VMT compared to the Gardens and Terraces alternative. Some of the differences above can also be attributed to adding new East West and North to South streets in the Project Area.



FIGURE 4.16: BOULEVARD AND PASEOS BLOCK STRUCTURE WITH 1/4 MILE WALKSHED.

Design for Pedestrians

Human-scaled streets and buildings create a comfortable environment that makes walking, biking, and transit use intuitive and enjoyable. Building massing, high-quality public realm and, an easy-to-navigate street grid contribute to the walking experience.

Speed also factors into design—the likelihood of a pedestrian being hit and the severity of injury increases with higher vehicle speeds; most pedestrian deaths occur on urban roads with posted speed limits of 45–50 miles per hour. Research shows that reducing speed limits from 30 mph to 20 mph reduces the likelihood of severe injury or death for pedestrians struck by a vehicle from 45% to 5%. Similarly, 20 mph zones in the UK reduced child pedestrian and child cyclist accidents by 67%.⁴

Destination Accessibility

This strategy ensures people can reach many jobs and services quickly via transit or other active modes.

Distance to Transit

Minimizing the time and effort required to access high-quality transit leads to a compounding economic benefit of well-planned density. The Project Site is located within ½ mile of two Metro A Line light rail stations (Memorial Park station and Del Mar station) and has the potential to be served by future Bus Rapid Transit (BRT). Significant linkages between the availability of active transportation options also correlate strongly with improved health factors.⁵

Demand Management

Transportation Demand Management uses strategies such as parking pricing, transit benefits, and mobility services to further reduce reliance on single-occupant vehicles. In established urban areas, TDM strategies help reduce auto dependence and make the transportation system more efficient. TDM strategies work by: Providing alternatives to single-occupant vehicles (transit, biking, carshare, walking, telecommuting);

- Making alternatives more attractive (convenience, cost savings, time savings);
- Making driving less attractive in certain contexts (pricing, limited parking); and
- Supporting people through information and incentives (education, mobility services).

In addition to the six “Ds,” **Parking strategies** can be one of the most powerful land-use levers for influencing travel behavior by managing parking supply and pricing. An oversupply of free parking encourages driving, while charging for parking and giving residents and employees the option to forego paying for spaces they don’t need shifts choices dramatically.

Right sizing parking supplies can free up resources for more productive uses. People are more likely to bike, walk, or take transit if it is more convenient and/or less expensive than driving, travel times are competitive, there is clear wayfinding and safe infrastructure, and they have access to carshare or rideshare for occasional trips.

⁴Pilkington P. Reducing the speed limit to 20 mph in urban areas. Child deaths and injuries would be decreased. BMJ. 2000 Apr 29;320(7243):1160. doi: 10.1136/bmj.320.7243.1160. PMID: 10784528; PMCID: PMC1127572

⁵. Frank, L. et. al (2005). “Travel Behavior, Environmental and Health Impacts of Community Design and Transportation Investment (LU-TAQH) A Study of Land Use, Transportation, Air Quality And Health in King County, WA” Atlanta GA, L. Frank and Company, Inc.

CASE STUDY: Making A Walkable Downtown - Vancouver, BC

The impacts of Vancouver City Council's momentous 1973 vote to halt the I-5 freeway at the city's southern boundary rippled across the Metro Vancouver Region. An action Pasadena is considering today with the removal of the SR-710 connector. Fifty years later, Vancouver is a leading model for the successful implementation of transportation strategies that make transit, walking and, cycling realistic alternatives to driving.

When combined with planning that emphasizes compact, walkable and transit accessible land uses this results in changed behaviors.

From 1996–2011, the city reported a 25% reduction in the number of vehicles entering the downtown peninsula, despite a population increase over the same period of 75%. Indeed, with a focus on higher density housing options, people who live and work on the Downtown peninsula make 52% of their estimated daily trips by non-motorized means. Furthermore, the City is tracking a decline in the number of registered automobiles, while access to a private vehicle through car sharing has remained steady at 86%.



THE DIVERSITY OF LAND USES ALONG HUMAN-SCALED STREETS AND BUILDINGS IMPROVE AND ENCOURAGE THE PEDESTRIAN EXPERIENCE, AS SHOWN IN THIS PHOTO OF ROBSON STREET IN VANCOUVER, B.C., CANADA.

4.6 Managing Change



Returning the Project Area to a mix of walkable blocks requires tools—from transit alternatives to rethinking connection holistically. This means transforming streets now operating as components of a fast-moving “regional system,” to emphasize a multimodal approach that results in safer, and slower local travel.

Moving forward with a future preferred roadway network will influence the street and block pattern, infrastructure costs, project phasing as well as the amount of land available for development. In this way, the roadway network is critical path to future project implementation as it will also determine how much vehicular capacity can be accommodated and at what level in the north-south and east-west directions. The City should coordinate with other transportation agencies (e.g. Caltrans, Metro, SCAG) to deliver on the most feasible roadway network that meets the Plan’s Transportation Goals. To support discussion this Vision Plan maintains both high and lower intervention roadway networks and offers the following activities. Activities are organized within a) the Project Area, b) outside of the Project but within the City of Pasadena’s control, and c) Regional activities to be conducted in partnership with the State and other actors.

Project Area Change

Both Boulevards and Paseos and Gardens and Terraces offer public streets with safe and comfortable routes for vehicles, pedestrians and bicycles. Both concepts introduce a regular, walkable block structure.

Improving North-to-South Mobility

The total amount of north-south capacity is apportioned to either two primary roadways or three, as noted there is a preference for three north to south moving streets.

- In the Gardens and Terraces circulation network, north-south vehicular movement would be maintained on existing streets (Pasadena Avenue, St. John Avenue). In Gardens and Terraces, the future right-of-way for St. John and Pasadena Ave is 2-lanes in each direction, with a parking lane.
- In Boulevard & Paseos, a new street traveling from Union to Del Mar contributes to vehicular, transit, and non-motorized movement. It would have a travel lane in each direction, parking lane, and cycle route. Boulevard & Paseos would enable the de-emphasis of St. John Avenue and Pasadena Ave as arterials.

Improving East-to-West Mobility.

Both roadway networks include new east-to-west vehicular streets, with a minimum of one full crossing assumed north and south of Del Mar; e.g., Valley Street and Bellevue Drive. Valley Street connects to Fair Oaks Avenue while Valley Street breaks down the super block evenly. The final location of the two vehicular street locations is flexible, a third location outside the scope of this Plan could be considered at Holly Street.

Observations:

- Consolidated land uses to the west of the site (Ambassador College, Maranatha High School) reduce the cost/benefit for additional vehicular through streets to the north of Del Mar.
- Shifts in topography to the south of Del Mar constrain a new east-to-west vehicular crossing at Waverly, Palmetto, or Bellevue to connect into the street network in West Pasadena. In both circulation frameworks, Bellevue Street is assumed as a local connector, with a T intersection at St. John Avenue.
- The primary mode of access from east-to-west within the study area could be pedestrian-friendly paseos that connect between St. John Ave and Pasadena



FIGURE 4.17: A NEW LINEAR PARK IS SHOWN BETWEEN ST. JOHN AVE AND A NEW NORTH-SOUTH BOULEVARD.



FIGURE 4.18: A NEW CENTRAL BOULEVARD COULD ENABLE ST. JOHN AVE. TO ACT AS A LOCAL STREET. THIS SECTION SHOWS A LINEAR PARK, AND ADDS A NEW SURFACE LEVEL NORTH-SOUTH COMPLETE STREET.

Ave. Paseos are assumed at a regular distance of 200–300 feet.

- Paseos should be open to the public and may be delivered as a condition of development. In some instances, paseos could connect into semiprivate or private courtyards for residential buildings.
- In both scenarios the City will need to plan and facilitate conversion of specific bridges to local streets, more study would be required to facilitate this once a preferred roadway network is identified.

Other Recommendations

- A ground floor environment should include attention to distance between building entries, materiality, landscape and programs.

- Plan for enabling street infrastructure projects, e.g., coordinate Measure R near term projects with the emerging roadway network.
- Streetscapes should enable a mature tree canopy, lighting, seating, and other amenities.
- Integrate bicycle networks and secure bike parking facilities.
- Pursue a well-designed TDM program concurrent with redevelopment to make alternative mobility as competitive as possible with driving alone.
- Coordinate new parking resources to support public parking uses and alleviate vehicular demand in a “park once” environment. Continue to explore synergies to efficiently use public garages on Holly Street.

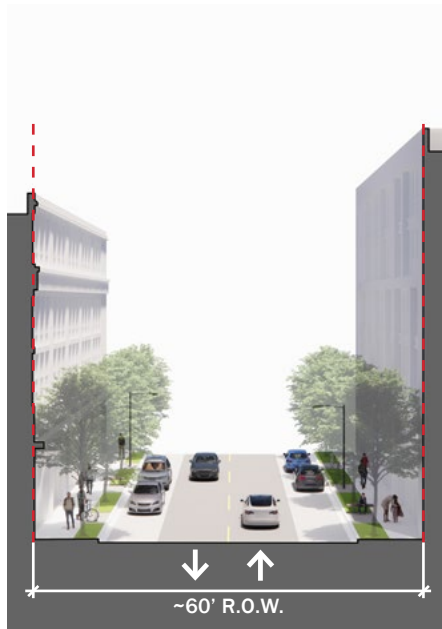


FIGURE 4.19: TYPICAL EAST-WEST STREET.

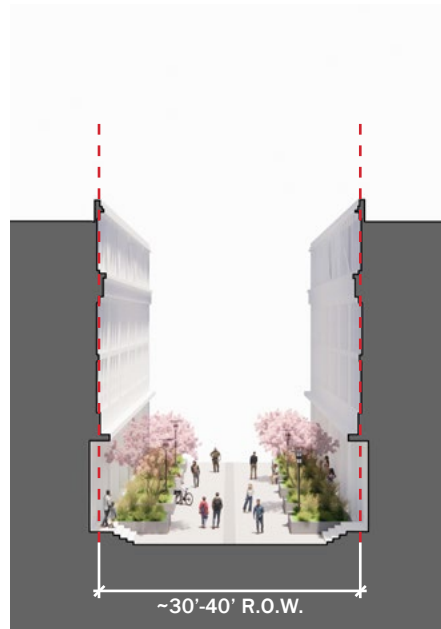


FIGURE 4.20: GREEN PEDESTRIAN PASEO.

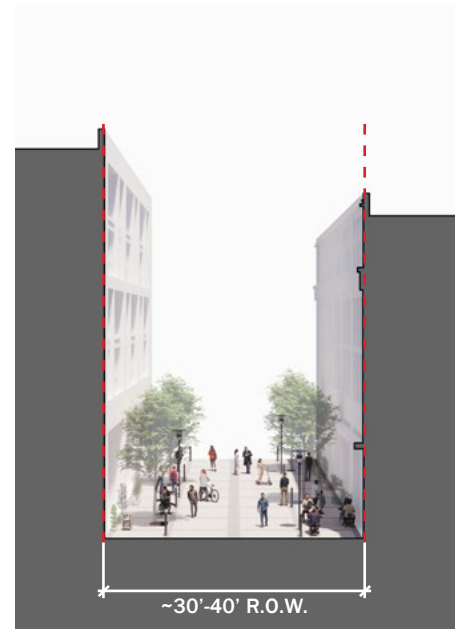


FIGURE 4.21: URBAN PEDESTRIAN PASEO.



FIGURE 4.22: EXISTING CONDITION OF THE PASADENA AVENUE LOOKING NORTH



FIGURE 4.23: ARTISTIC ILLUSTRATION SHOWING HUMAN-SCALED BUILDINGS LINING AN IMPROVED PASADENA AVENUE.



FIGURE 4.24: EXISTING CONDITION OF THE PASADENA AVENUE AND DEL MAR BOULEVARD INTERSECTION.



FIGURE 4.25: ARTISTIC ILLUSTRATION OF THE INTERSECTION OF PASADENA AVENUE AND DEL MAR BOULEVARD, SHOWING HUMAN-SCALED STREETS AND BUILDINGS IMPROVING THE EXPERIENCE FOR MOTORISTS, PEDESTRIANS AND CYCLISTS.

4.6.1 CITY SCALE CHANGE

The Project Area's redesign can improve access to City Hall, Metro A line Stations, the Arroyo, the Rose Bowl, and neighborhoods beyond. In particular, the 710 Project can connect to Pasadena's Northwest neighborhoods focusing on creating an improved non-motorized link. Caltrans has also identified the I-210 overpasses directly east of the highway interchange as the highest priority for improving non-motorized connectivity, better connecting Northwest Pasadena to Memorial Park station.

Fig 4.28 explores how north of Union Street could act as buffer, activated place, and mobility resource. There is an opportunity to explore the concept of a "mobility hub," a facility that could incorporate design elements to facilitate transfer between different modes, alongside elements for passenger comfort, safety, and convenience. Mobility hubs can be optimized for movement while integrating active uses and programs like cafes, retail spaces for commuters waiting for buses and making connections.

Fig. 4.29 shows how Project Area within the context of the City's transit network can help to "connect the dots" between destinations and in its long term transit vision. The forthcoming Pasadena Transit Short Range Transit Plan already pursues better integration between local and regional transit; improved transit service to the Rose Bowl and upper Arroyo; establishment of more direct connections between West and East Pasadena and the potential for bus only lanes on Colorado Boulevard designed to complement LA Metro's NoHo to Pasadena BRT project.

This progressive approach to managing the Project Area's future transit and transportation resources could also be applied to the Project Area's future *parking* resource as well. In Old Pasadena, curb space may become more critical as uber/lyft/waymo and delivery service popularity rise. Heavy use of these services along with the City's shift towards priced

parking could eliminate some off-street parking demand. In its Citywide Parking Strategic plan, the City of Pasadena outlines ways to balance short-term parking and delivery needs, including timed and priced parking. Redevelopment in the stub offers an opportunity to explore more broadly and coordinate this changing dynamic.

Recommended Items

- In coordination with Caltrans, the City should continue to redesign, and plan for the phased closure of I-710 stub frontage roads and on-ramps.
- The City, in coordination with Pasadena Transit should leverage the Project Area location to explore a local, zero-emission transit connector (such as Streetcar) running north-south within the Project Area, potentially connecting to a variety of local destinations (e.g, Old Town, Northwest Pasadena, Huntington Hospital and medical services etc.)
- As a feasible, the City should plan to redesign the Maple Street overpass, concurrent with the development of a preferred local roadway network.
- Include design treatments to reduce the perceived distance to transit with safe, comfortable, and well lit pedestrian or bicycle paths to Memorial Park Station and Del Mar Metro A Line stations.
- Connect to the Rose Bowl. LA Metro A Line riders from Downtown Los Angeles and potential park-and-riders could use a dedicated location to access shuttles or other modes to reach the Rose Bowl. Future event staging could be organized in an adaptable location to be identified in subsequent phases.
- Explore the potential for shared parking within the Project Area creating a "park once" environment and find synergies in coordination with efficient use of the public garages on Holly Street.



FIGURE 4.26: MAPLE STREET PEDESTRIAN, CYCLE AND CAR IMPROVEMENTS CONCEPT. MAINTAINS A TWO LANE CAR ACCESS, WITH THE ADDITION OF A WIDER MULTI-USE PATH TO ACCOMMODATE PEDESTRIANS AND BICYCLISTS. A RAISED PLANTER ALLOWS FOR TREES AND LANDSCAPE.



FIGURE 4.27: MAPLE STREET PEDESTRIAN AND CYCLE ONLY CONCEPT COULD. REMOVE CAR ACCESS, TURNING THE RAMP INTO A FULLY PEDESTRIAN AND BICYCLE ONLY BRIDGE.

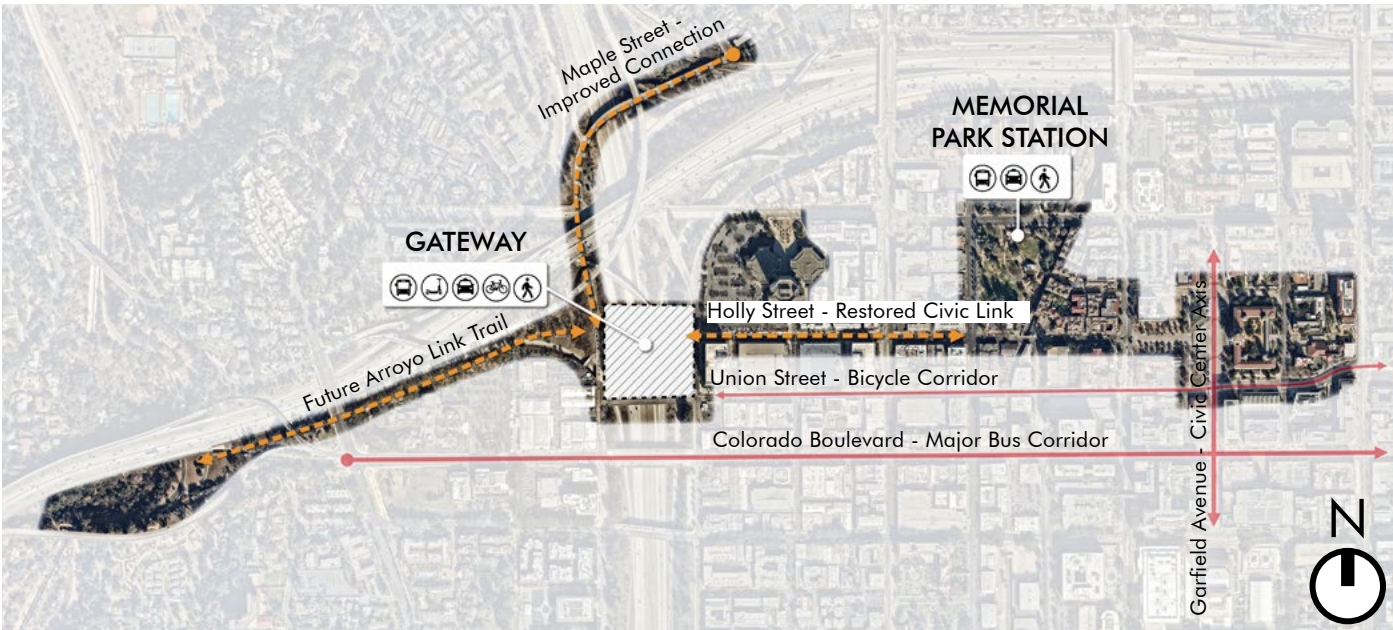


FIGURE 4.28: THIS DIAGRAM SHOWS AN EAST-WEST CONNECTION BETWEEN THE ARROYO SECO, THE PROJECT SITE AND CITY HALL. THIS CONNECTS THROUGH THE SITE AT A FUTURE “GATEWAY” OR MOBILITY HUB LOCATION WITH DIRECT FREEWAY ACCESS.

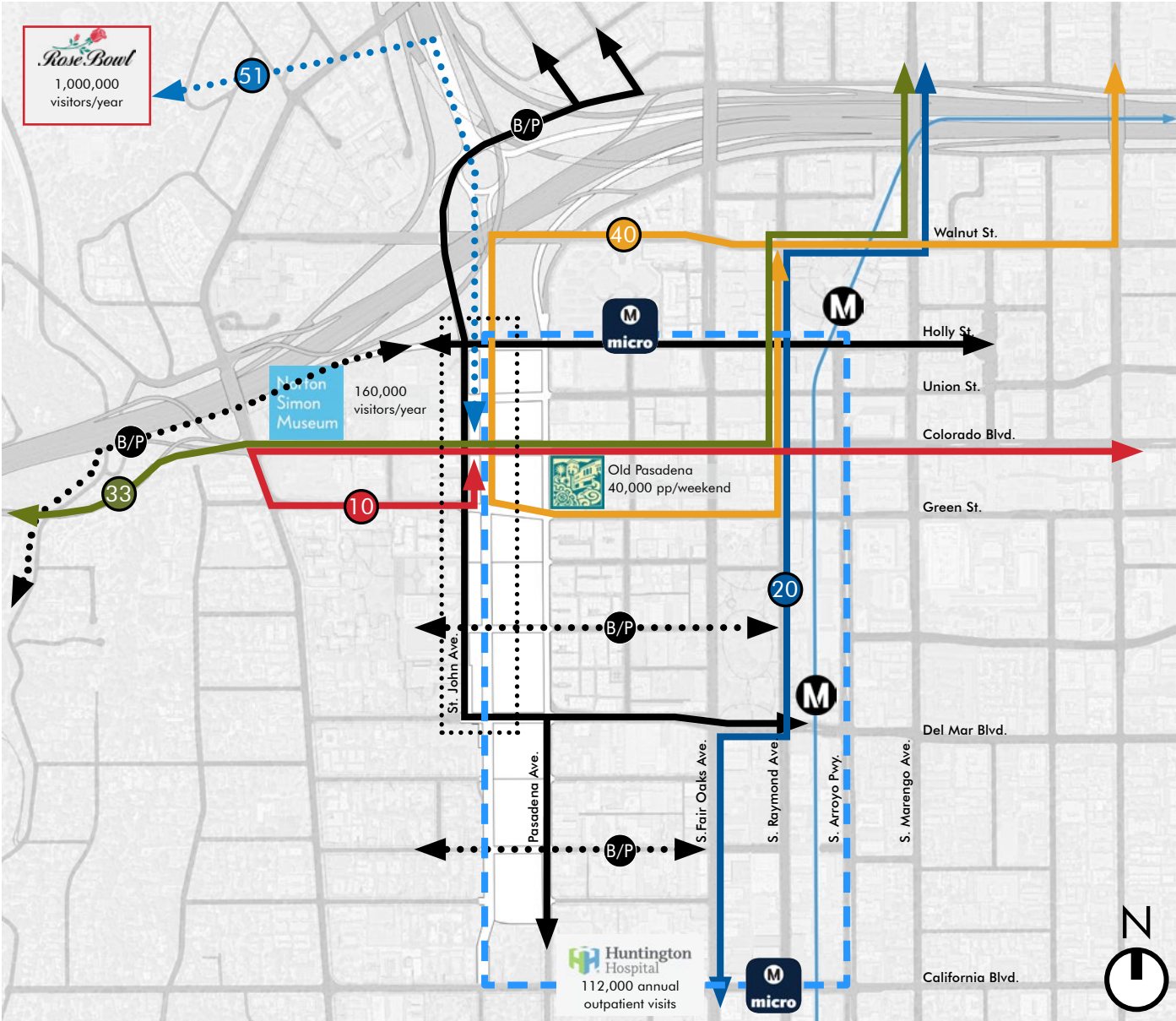


FIGURE 4.29: THE PROJECT AREA OFFERS AN OPPORTUNITY TO RETHINK LOCAL TRANSIT SERVICE, INCLUDING A LOCAL TRANSIT CONNECTION THAT TRAVELS THOUGH THE SITE TO CITY DESTINATIONS.

- ROUTE 10
- ROUTE 20
- ROUTE 33
- ROUTE 40
- ROUTE 51
- METRO MICRO
- METRO A LINE
- NEW MULTIMODAL CONNECTION
- NEW BIKE/PEDESTRIAN EMPHASIS

4.6.2 REGIONAL SCALE CHANGE

The City of Pasadena must navigate how proposed changes to the freeway ramp and interchange will affect travel patterns well beyond the Project Area. These choices will affect not only the amount of regional traffic that can be accommodated through the Project Site, but also on other streets in the City.

The implementation of a new intersection to the north of the stub can slow traffic from the freeways (including southbound and westbound from I-210) and serve as a transition to the local street network. To implement this project, the City must continue to pursue partnerships with both state and regional actors.

Suggested actions in the next Project phases should include:

- Partner with Caltrans to select the preferred termination option north of Union St, and proceed into the Caltrans Project Initiation Process. As noted, under the Gardens and Terraces circulation scenario, a new signalized intersection would be located between Walnut Street and Union Street, providing access to St. John Avenue and Pasadena Avenue.
- Under the Boulevard & Paseos circulation scenario, the I-210 would terminate at a roundabout located north of Walnut Street, and leading to the New Central Boulevard.
- Encourage Caltrans to improve the operations of I-210 interchange to improve safety and reduce weaving.
- Work with Caltrans to replace and reassign existing freeway signs, particularly I-210 southbound direction and SR-134 eastbound direction that direct drivers to the 710 stub to reach SR-110 toward downtown Los Angeles.

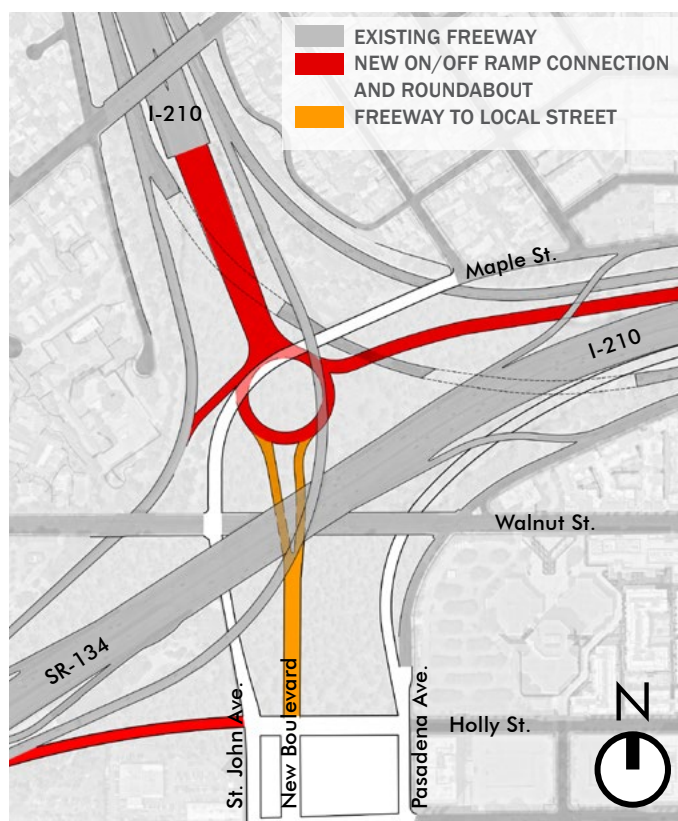


FIGURE 4.30: PROPOSED IMPROVEMENTS FOR THE FREEWAY TO LOCAL STREETS TRANSITION IN THE BOULEVARD AND PASEOS SCENARIO



GILMAN STREET ROUNDABOUT IN BERKELEY, CA
SOURCE: CALIFORNIA DOT



FIGURE 4.31: SUMMARY OF PROPOSED PROJECTS

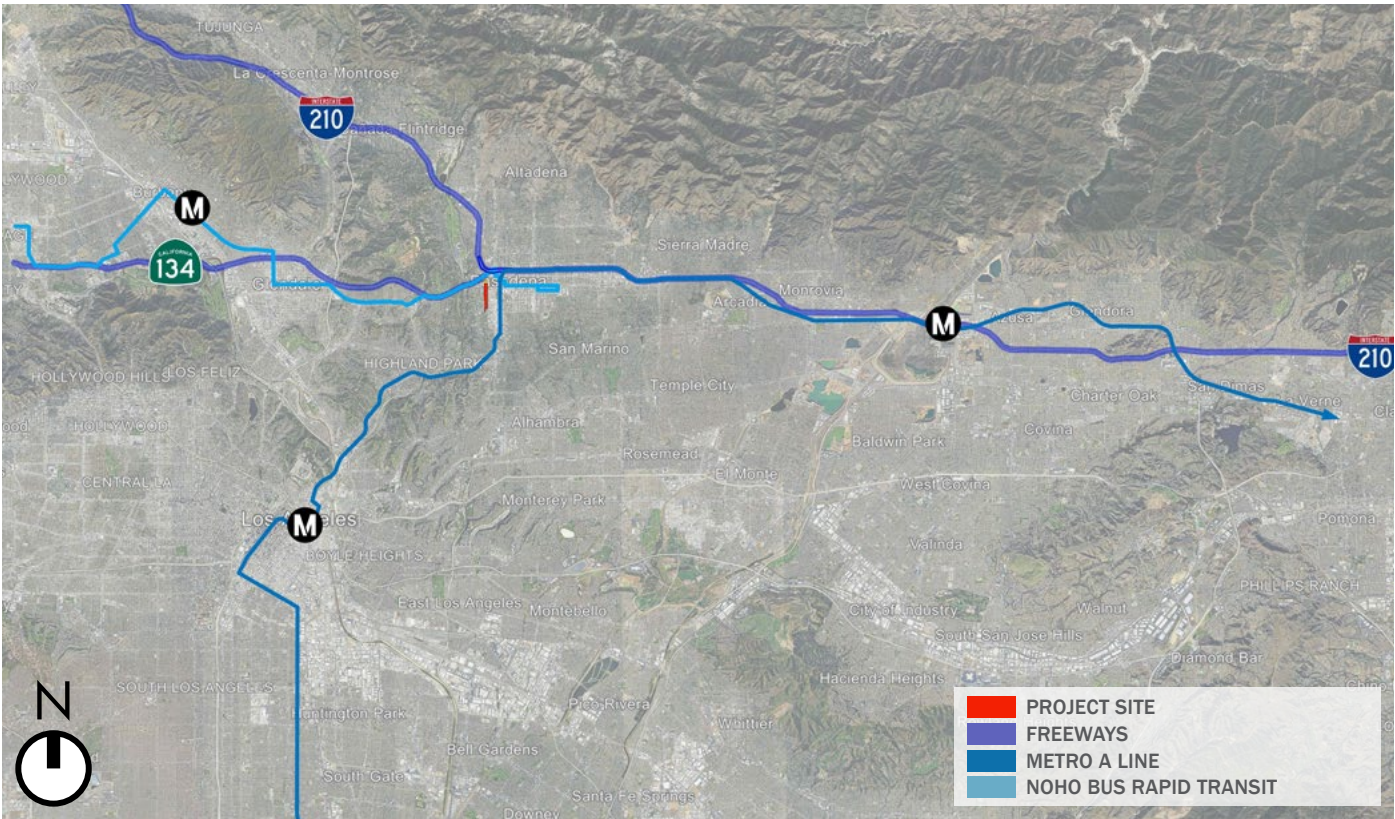


FIGURE 4.32: NOHO BUS RAPID TRANSIT AND METRO A LINE PROVIDE REGIONAL TRANSIT ACCESS.

4.6.3 PARTNERING FOR FUTURE MOBILITY

The City and Caltrans identified an opportunity for an activated multi-modal facility positioned to the north of Union Street. Redevelopment in this location could support transit connectivity from local to regional transit, and a variety of transportation and accompanying services along with pedestrian-oriented design features and other uses. Redevelopment of the “gateway” site—as facilitated by the repurposing of the freeway-to-freeway connectors to local-to-freeway/freeway-to-local—could enable the extension of Holly Street as an improved link into the City, and lay the basis for an architectural landmark where new programs could be serviced directly via access to the freeway interchange.

Preliminarily, a “gateway” could be the recipient of reuse and repurposing of existing ramps from SR-134. This advantage could offer unique spatial opportunities for bus layover space, and/or transfer. A future design could also showcase views and spaces that capture the energy of people meeting, moving, and connecting.

Goals for the gateway site might include:

- A transit facility that supports a full complement of transportation choices, pairing transit services and features to balance and complement LA Metro’s planned investment in the Memorial Park LRT Station.
- Reuse, and repurposing of existing ramps to the gateway mobility hub.
- Enabling future connection to LA Metro’s planned NoHo to Pasadena Bus Rapid Transit (BRT).

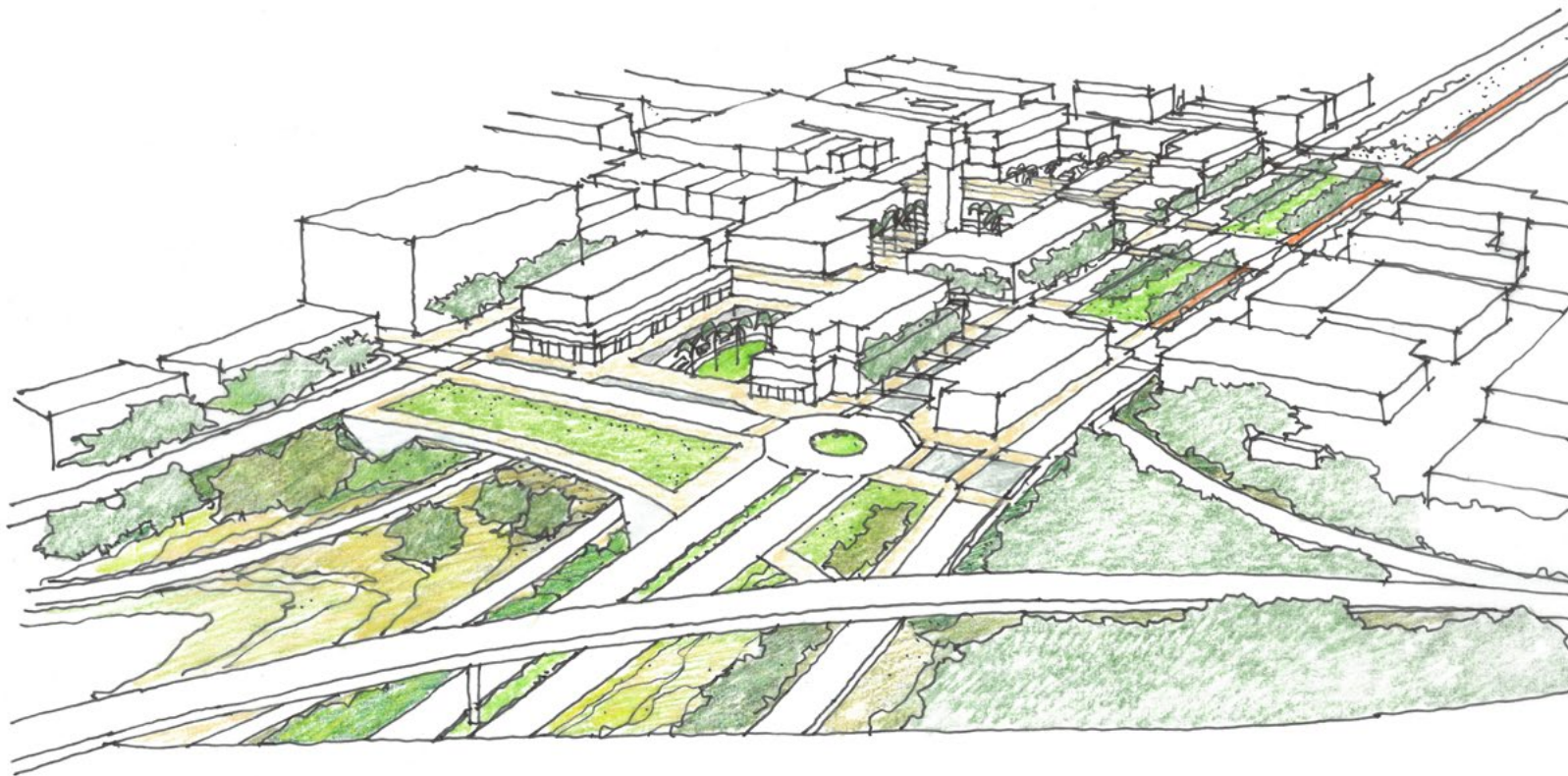


FIGURE 4.33: ARTISTS DRAWING SHOWING THE NORTHERN “GATEWAY” SITE SUPPORTING NEW PROGRAMS, AND TRANSIT FACILITY

- Extending Holly Street as a multi-modal corridor-to connect the northern end of the Project Area.

Areas needing further resolution include:

- Ownership: Parties responsible for next phases, including partner providers and participants, delivery strategies, design and engineering, permitting and entitlement, construction, and operations and maintenance.
- Project Development Structure: Phasing and sequencing of a gateway mobility hub and its relationship to the interchange reconfiguration, the project area, and to key adjacent destinations and other regional mobility options serving the City.

- The gateway site could be included in a future Caltrans Project Study Report under a cooperative agreement with Caltrans.



TABLE 4.2: MOBILITY HUB ATTRIBUTES

	BOULEVARD AND PASEOS	GARDENS AND TERRACES
ROADWAY NETWORK	MOBILITY HUB (BOULEVARDS AND PASEOS)	MOBILITY HUB (GARDENS AND TERRACES)
ENABLES REGIONAL TRANSIT ACCESS	Direct highway access enabled via mobility deck; opportunity for interconnected services, as well as layby.	Regional access to site from bus routes at Fair Oaks or Orange Grove at street level.
ENABLES LOCAL TRANSIT ACCESS; CONNECTS TO NORTHWEST NEIGHBORHOODS	Enables transit area with efficient transfers to connecting services; enables options for local bus and/or future transit connection on new Boulevard. Potential for transit/shuttle route as a circulator.	Accommodates local bus in future with potential access on Union Street. Potential for shuttle route to act as circulator on existing streets.
PEDESTRIAN/BIKE CONNECTIVITY	Holly Street is extended as a multi-modal corridor and connects to Memorial Park.	Does not assume a Holly street connection to Memorial Park.
PLACEMAKING	High potential for active, attractive public realm connections. Potentially supports mixed-use, cultural or institutional co-location.	Focus on bike/ped, and select non motorized services. Good temporary or tactical urbanism opportunity.





5

HUMAN CONNECTIONS

5.1 Design Principles

The Vision Plan reimagines the 710-corridor land uses and urban form to create a shared future with both physical and social reconnection. These concepts give shape to what might replace the existing freeway “stub,” weaving together ideas for mobility - walkable streets, and transportation infrastructure with a more equitable, resilient built environment.

The Project Area offers the opportunity not only to “solve for itself” but to address a host of challenges facing the City as a whole. There is more to be gained than just filling in the gap. Concepts respond to the following Design Principles. Both Concepts further City opportunities that include, but are not limited to

- anchoring the west end of the Holly Street civic axis
- addressing parking, and access needs for Rose Bowl events
- filling in the gap along Colorado Boulevard
- establishing a Rose Parade viewing site
- connecting between local streets
- unlocking value for development, and
- mending the edges of the freeway frontage roads (St. John and Pasadena Avenue) on both the west and east sides between California Blvd and Walnut Street.

Extend Pasadena’s Urban Edge West

This Design Principle emerges from the fundamental difference between the east and west sides of the 710 stub. The west side is generally lower density, greener and more sub-urban; while to the east exists a more urban mix of uses, walkable streets, and robust character defining places like Old Pasadena, De Lacey and Huntington Memorial Hospital. Buffering the west from the east acts as a container for the Project Area, while extending the downtown into the stub leads to design choices for Pasadena Ave as a more walkable environment, and the connections of paseos and walking paths.



FIGURE 5.1: THE PLAN MOVES THE URBAN EDGE TO THE WEST

Establish Three Complementary Neighborhoods

This Plan seeks to create neighborhoods that are compatible, taking clues from existing adjacent land uses. At the northern end of the Project Area, Colorado Boulevard's lends its character as the City's "main street" helping to define the proposed "Colorado Civic area." Between Green Street and Del Mar, the De Lacey neighborhood to the east and the Ambassador Gardens, Auditorium and Maranatha School to the west side offer help define the "Central Area." Del Mar is a wide street, it is the limit of a space now characterized by greater topographical changes, stormwater collection, and a high ridge to the west. This larger district is influenced by the Arts & Innovation Flex District, Huntington Hospital to the east and Sequoyah school to the south.

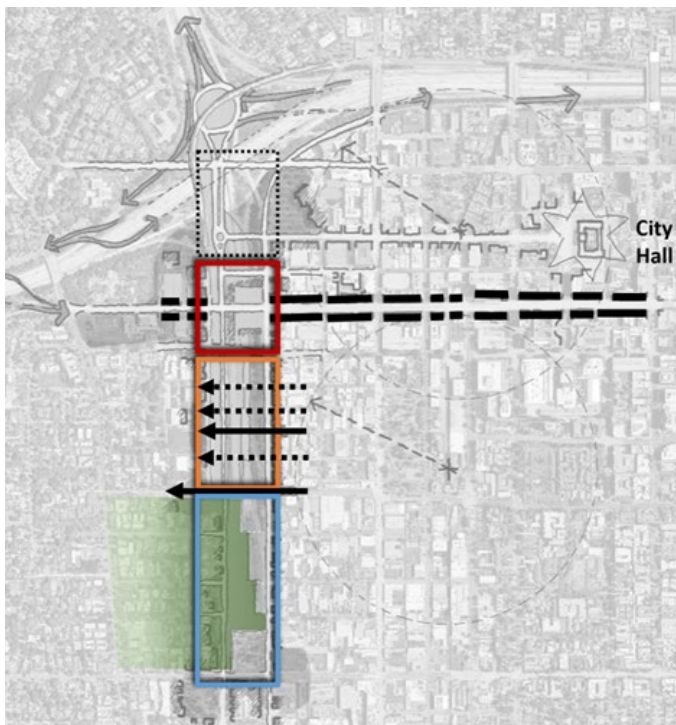


FIGURE 5.2: CREATE THREE DISTINCT AREAS/NEIGHBORHOODS

Build Up and Build Down

Each area must be responsive to a timeframe and specific project/s needs that will vary over the life of the project. The Vision Plan anticipates and encourages a variety of approaches to leverage the already excavated ditch. Perhaps more importantly the plan does not encourage uniform capping or filling of the Project Area, each of the Vision Plan concepts point to how to use multiple levels—in the street network, public space network, and ultimately in the vertical development. For more information see the following page.

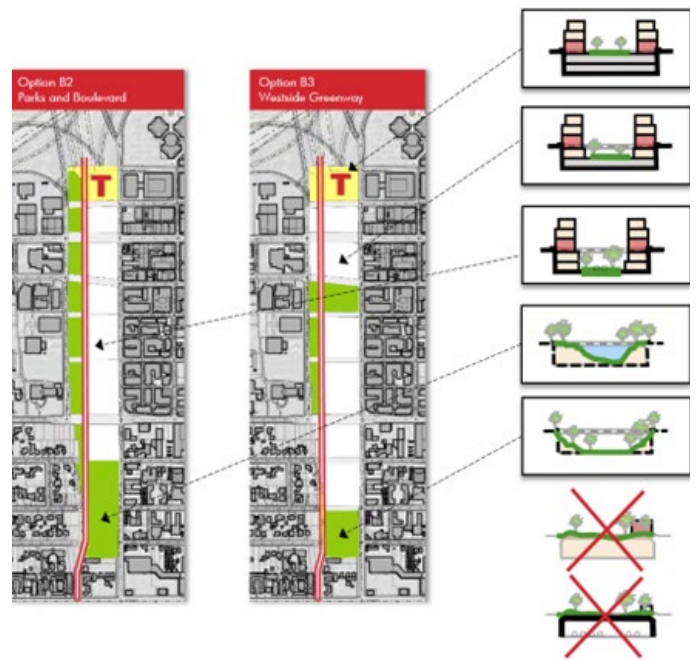
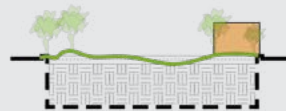
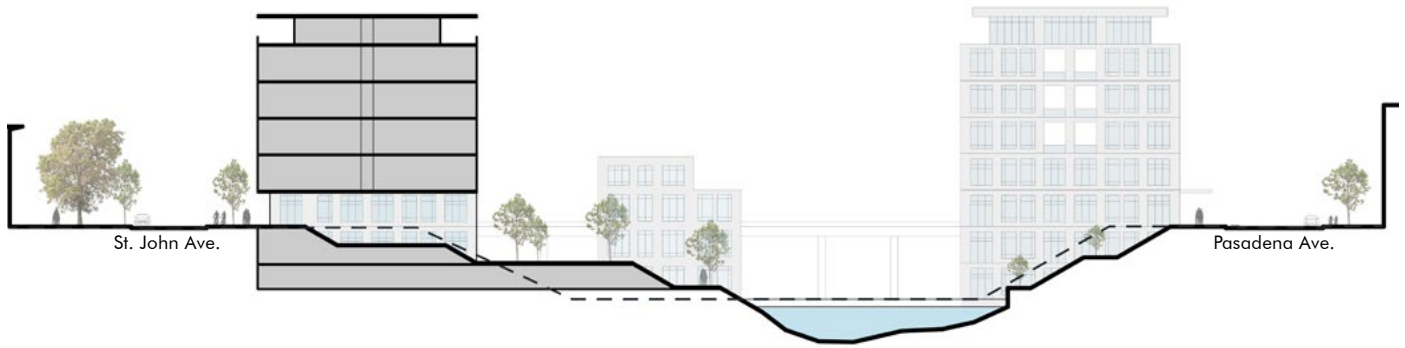


FIGURE 5.3: EACH AREA/PROJECT CAN RESPOND TO THE TOPOGRAPHIC CHALLENGES OF THE SITE UNIQUELY, PROVIDED THE URBAN DESIGN OBJECTIVES ARE MET.

Exploring Topography: Build Up and Build Down in the Project Area

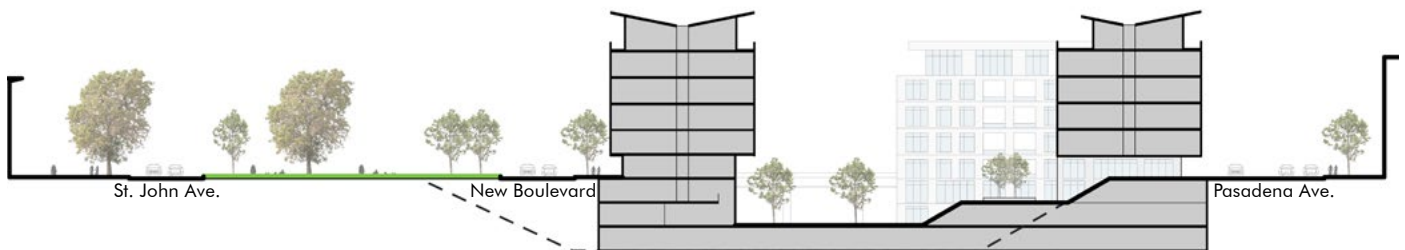
1. **Complete Fill:** Importing soil to recreate the “natural” topography of the site would require a substantial amount of heavy vehicle road trips over many years only to return the site to a starting point.
2. **Full Cap:** This implies the continued use of the freeway stub function below a constructed cap or lid, both expensive and not fulfilling the placemaking and development objectives of the vision plan.
3. **Building Down:** This strategy takes advantage of the current topography of the excavated site, yielding both a natural earth base and the opportunity for multiple levels of additional development below street level.
4. **Build Down & Build Up:** This strategy affords the opportunity of a lower-level podium (parking/water storage) and the opportunity for some additional development below street level with sunken plazas and gardens.
5. **Building Up:** This strategy maximizes the podium below street-level for the development of parking and/or mobility supporting uses, creating a new opportunity for street-level plazas, court yards and gardens.
6. **Terraced Slopes:** This strategy, most suitable at the south end, allows for new landforms to be created for parks, gardens and play areas as well as the planting of larger specimen trees in natural ground.
7. **Lakes and Streams:** This strategy encourages the use of water as both passive and perhaps active uses to be incorporated in the design.





Gardens and Terraces—Central Area (Typical E-W Section)

This approach anticipates the location of the primary north-south spine of public open space to be at the lowest garden level of the project, below street level. The open space, gardens and terraces, would be incrementally built by the developers as a public easement, and coordinated by the project delivery team.



Boulevard and Paseos—Central Area (Typical E-W Section)

This approach anticipates the location of the primary north-south spine of public open space to be at street level. The open space, a linear greenway, would be located on the western edge of the site between the new boulevard and the reconfigured St. John Street. At the lower level, below the new boulevard, would be a service road/utility corridor serving the new development sites.

5.2 Three Neighborhoods

The Plan suggests up to 1,800 units of housing can be accommodated across the site. Residential uses are to be complimented by a variety of programs that make this neighborhood walkable, and livable—including spaces for jobs, public services, eating, entertainment, shopping, and new business enterprise. Total developable area (Table 5.1) assumed in the following concept plans is estimated between 3.2 to 3.5 million SF. Land use estimates were created to support information gathering and are generalized.

Up to a million SF of combined parking is assumed to be located in underground in parking garages within the already excavated “ditch.” The Project Area is subject to state law which does not allow jurisdictions to set parking minimums tied to land uses near to transit stops

(AB 2097). For purposes of this Plan, land use scenarios assume parking rates comparable to recent and relevant City of Pasadena development and would be influenced by the market. Parking rates would also be controlled as part of the Transportation Demand Management framework outlined in Chapter 4, future street and circulation access strategies, and could offer various shared parking scenarios, that effectively “unbundle” future spaces from land uses.

Figure 5.4 shows the three approximate neighborhood areas within the Relinquishment boundary, and a fourth area to the north, the “Gateway.” The gateway comprises the interface with the interchange, from Holly Street to Union Street. This area would be heavily



FIGURE 5.4: THREE DISTINCT LAND USE AREAS WITHIN THE RELINQUISHMENT THIS SUGGESTS AN APPROXIMATE AREA TO ORGANIZE PROJECT AREA URBAN FORM AND LAND USE.

influencing and influenced by changes to the Project Area. Areas described following include:

- Civic and cultural uses centering on Colorado Boulevard; this area is envisioned with a broad mix of uses, but might naturally veer towards more intensive commercial use.
- A Central area from Green Street to Del Mar Boulevard as a sustainable green urban residential village.
- To the South of Del Mar Boulevard, and the lowest part of the Project Area, offers opportunities to accommodate various innovation spaces, in dialogue with Pasadena's high tech and life-science cluster. Alternatively this area could support a future workforce and residential neighborhood.

TABLE 5.1 PRELIMINARY PROJECT AREA CAPACITY ESTIMATES

AREA		GARDENS AND TERRACES		BOULEVARD AND PASEOS	
Relinquishment Total Area (including all rights of way)		38.02 ac	1,656,285 sf	38.02 ac	1,656,285 sf
Total Development Area (excluding rights of way)		22.91 ac	997,855 sf	20.98 ac	913,991 sf
Relinquishment Dedicated Park Area		9.07 ac	394,492 sf	7.57 ac	329,750 sf
Maximum Construction Area		3,491,600 sf		3,072,535 sf	
Generalized Land Use Breakdown	Residential	2,097,500 sf	60%	1,852,070 sf	60%
	Non Residential	1,394,100 sf	40%	1,220,465 sf	40%

5.3 Vision Concepts

The concepts shown at right offer a vision of what the Project Area's build-out might accomplish.

Both concepts focus on establishing walkable spaces, and special places (town square, courtyards, linear, neighborhood parks, gardens).

Plans show the great variety of new addresses that could be provided.

The Boulevard and Paseo's concept realigns the southern portion of St John Avenue and introduces a new surface street.

Gardens and Terraces maintains the full area between bounding streets for redevelopment.

Both concepts celebrate Colorado Boulevard with a multipurpose civic space and offer a variety of public spaces to the south of Del Mar.

The following section describes urban design characteristics, desired attributes and distinguishing features for the three neighborhood areas.

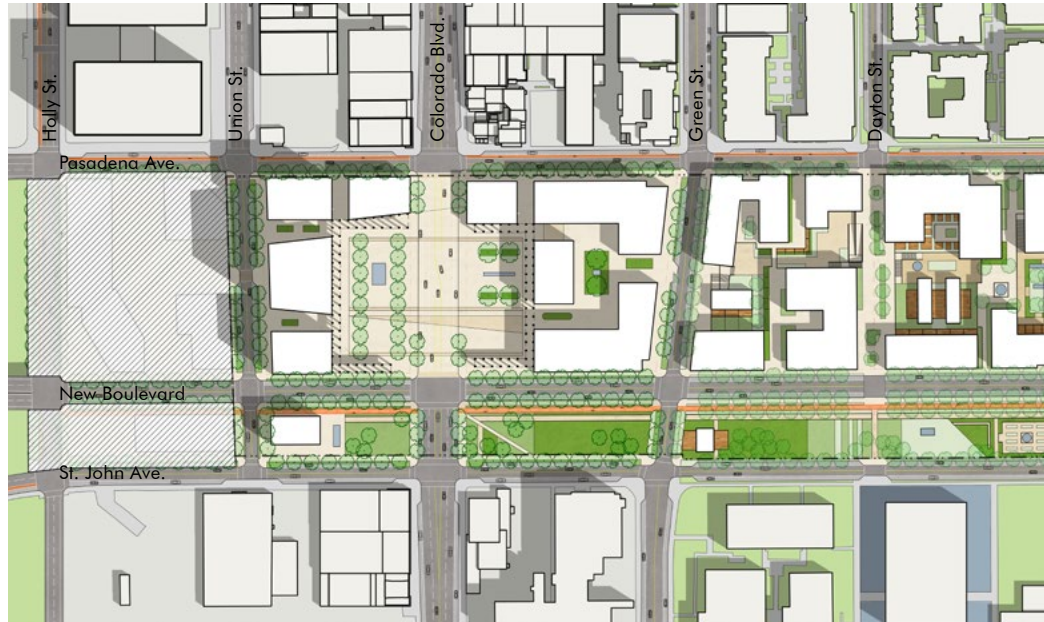
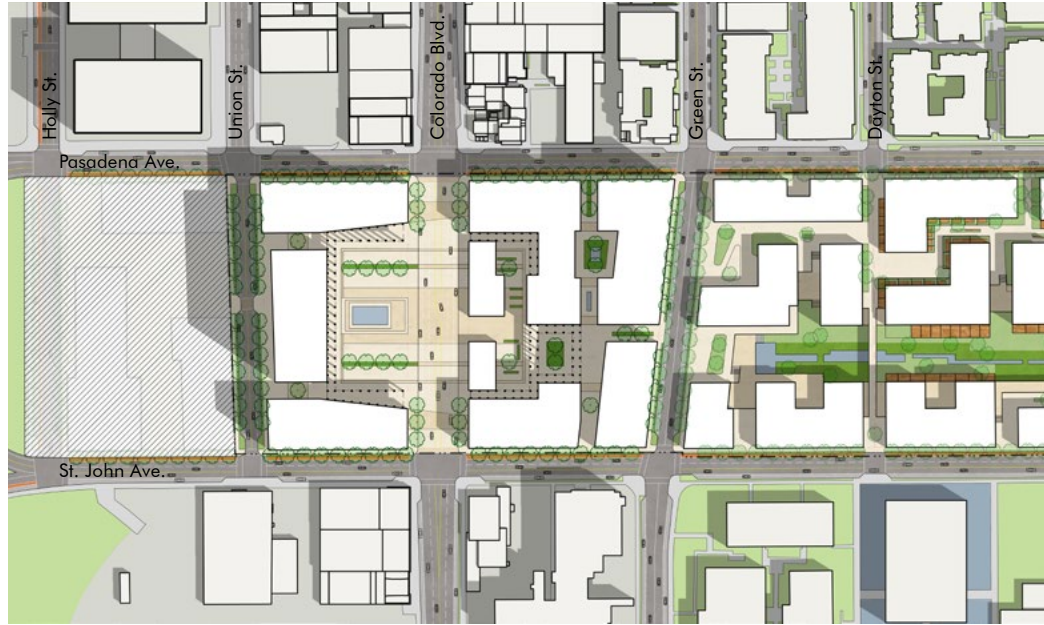




FIGURE 5.5: GARDENS AND TERRACES ILLUSTRATIVE PLAN: THIS CONCEPT EXPLORES DEVELOPING THE INTERIOR OF THE SITE. EAST-WEST BRIDGES ARE ADAPTED TO FUNCTION AS STREETS, BLOCKS ARE DELINEATED BY NEW WAYS ACROSS EAST TO WEST. PUBLIC EASEMENT IS ESTABLISHED WITH NEW DEVELOPMENT TO ENABLE A CONTINUOUS NORTH-SOUTH, POTENTIALLY AT DIFFERENT LEVELS.



FIGURE 5.6: BOULEVARD AND PASEOS ILLUSTRATIVE PLAN: A NEW BOULEVARD CONNECTS INTO THE TERMINATION OF THE FREEWAY. THE BOULEVARD IS A COMPLETE STREET CONNECTION, WITH NEW INTERSECTIONS AND CROSSINGS. A NEW PUBLIC LINEAR PARK OFFERS A NORTH SOUTH OPEN SPACE WITH PUBLIC PROGRAMMING. THIS BOULEVARD AND PARK COULD CONNECT SINGER PARK IN THE SOUTH WITH A REIMAGINED, PEDESTRIAN FRIENDLY MAPLE STREET IN THE NORTH.

5.3.1 Colorado Civic Area

Colorado Civic Area between Union Street and Green Street establishes a vibrant, and activated commercial mixed residential neighborhood, anchoring the western end of Colorado Boulevard as a destination for commercial, cultural, hospitality and housing.

A plaza or town square spanning Colorado Boulevard creates a new space for seasonal activities and events, such as a Farmers Market, a space framing the beginning of the Rose Parade, and/or a place for remembrance and civic celebrations.

Buildings along Colorado Boulevard maintain the 2-3 story character to the east with select taller buildings set back from the street. Thoughtful arrangement of building volumes and height around the town square will highlight views of the mountains beyond.

The ground plane will be activated with cafés, restaurants and shops for both residents and visitors. Shade trees, lighting, planters, public art, and water features contribute to a charming and comfortable environment. While the area draws inspiration from Old Pasadena, it serves to compliment it and not compete.

Vehicular traffic along Colorado Boulevard circulates around the town square, using the Green-Union Street couplet on event days, providing a car free environment. A parking structure below the area is shared between programs.



FIGURE 5.7: BUILD UP



FIGURE 5.8: ARTISTIC ILLUSTRATION OF PROPOSED CIVIC AREA FOR BOULEVARD AND PASEOS.

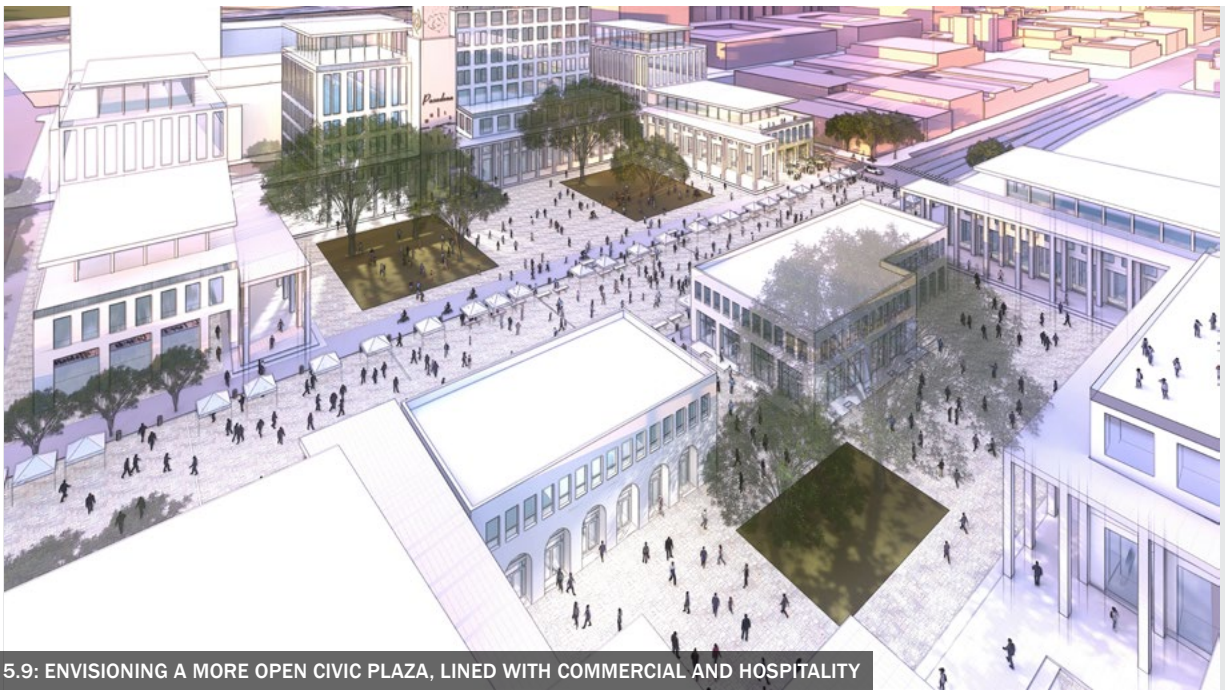


FIGURE 5.9: ENVISIONING A MORE OPEN CIVIC PLAZA, LINED WITH COMMERCIAL AND HOSPITALITY



FIGURE 5.10: GARDEN AND TERRACES—CIVIC AREA

GARDENS AND TERRACES

- ① A plaza similar in size to courtyard at City Hall is contained by active building frontages with residential and commercial uses above.
- ② A signature civic plaza with curb-less paving crosses Colorado Boulevard and can be closed for special events like parades or street fairs.
- ③ Buildings along Colorado Boulevard remain low to tie into the historic character to the West, with higher buildings set back from the street.



FIGURE 5.11: ENVISIONING A CIVIC PLAZA CONNECTING INTO THE NEW BOULEVARD



FIGURE 5.12: BOULEVARD AND PASEOS—CIVIC AREA

BOULEVARD AND PASEOS

- ① A large civic plaza with curb-less paving straddles Colorado. More open space at the ground plane is offset with the potential for taller buildings, and more intensive development to the south.
- ② The linear park, new boulevard and civic plaza create a gateway to the west. Some active public program flows to the south.
- ③ The new boulevard offers pedestrian, cycling and transit access into the project.

DESIGN AND LAND USE VISION

Estimated total program area: 620,000 to 750,000 square feet.

LAND USE		DESIRED ATTRIBUTES
TOTAL LAND AREA	293,640 SF (6.74 ac)	
RESIDENTIAL	~200-300 units	Apartments and condos for sale and rent, workforce housing, affordable housing, family-sized units
SMALL BUSINESS & RETAIL	~10% of program area	Extend the small scale retail character west along Colorado Boulevard, including a market hall and small scale vending.
CULTURAL & ENTERTAINMENT	~10% of program area	Enable and extend cultural facilities into the area, with smaller footprints.
HOSPITALITY	~20% of program area	A new ~250 room hotel adjacent to Old Pasadena can complement destinations, and office spaces.
PUBLIC OPEN SPACE ALLOCATION	~20% of total land area	Create an active public space spanning Colorado Boulevard for holding events, viewing the parade, and local cultural programs.

Urban Form Ideas

1. Taller building floor plates capture & frame views to the north, while providing noise protection from the I-210/ SR-134 interchange.
2. Extend the street surface level across district in both schemes. Include passages that connect to adjacent alleyways. Create a shared parkign resource underground.
3. Maintain a lower scale street wall on Colorado to complement historic scale.
4. Public programming spaces.



FIGURE 5.13: CIVIC AREA BIG IDEAS



TOP FIGURE 5.14: ARTISTIC ILLUSTRATION OF PROPOSED CIVIC AREA AS SEEN FROM THE THE COURTYARD OF TRUE FOODS AT THE INTERSECTION WITH PASADENA AVENUE, LOOKING WEST INTO WHAT COULD BE A FARMER'S MARKET ACTIVITY.

BOTTOM: EXISTING CONDITIONS PHOTO OF COLORADO BOULEVARD BRIDGE LOOKING EAST INTO DOWNTOWN PASADENA FROM THE INTERSECTION WITH ST. JOHN AVENUE.



5.3.2 Central Area

The area between Green Street and Del Mar will be residential, characterized by smaller scale open spaces, and shady pedestrian paseos. The area incorporates east-west connections for cars (Valley Street) and at least three new pedestrian-first public accessible ways. Corner stores, cafes, coffee shops and local serving businesses—such as gyms, daycare, or professional services activate Green Street, the new Valley extension and a re-imagined Del Mar Boulevard. These uses are incorporated into residential buildings.

Street frontages through out the area offer ground-oriented housing with semi-private porch spaces that are generously scaled, set back and screened from the street edge- offering future residents both prospect and refuge and encouraging their use.

Creative building volumes incorporate terraces and gardens at multiple levels, looking on to smaller interior spaces and courtyards. Plantings and tree canopy combine to create a climate appropriate native habitat, where each development contributes to a holistic landscape. Green high performance buildings apply passive design strategies, and contribute to sustainable water (greywater) and power (renewables) systems.

Building form and massing build off of design standards already at the city, while enabling necessary flexibility to encourage green and high performance strategies.

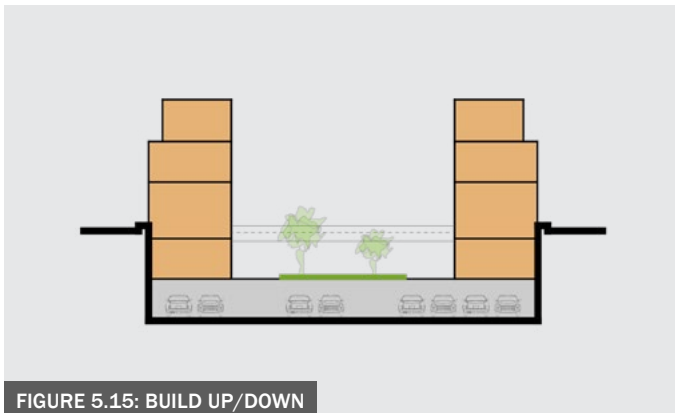




FIGURE 5.16: ARTISTIC ILLUSTRATION OF PASADENA AVENUE AS A COMPLETE STREET.



FIGURE 5.17: ARTISTIC ILLUSTRATION DEPICTING THE INTERNAL OPEN SPACE WITH RESIDENTIAL OPENING INTO IT AT DIFFERENT LEVELS.



FIGURE 5.18: GARDEN AND TERRACES—CENTRAL AREA

GARDEN AND TERRACES

- 1 Bridges and paseos connect at street level.
- 2 A linear lower level semi-public garden reaches from Green Street to Del Mar Boulevard and connects to the south.
- 3 New East-West street goes through at Valley Street
- 4 At street level, small courtyards, patios, and balconies provide semi-private spaces to residents.

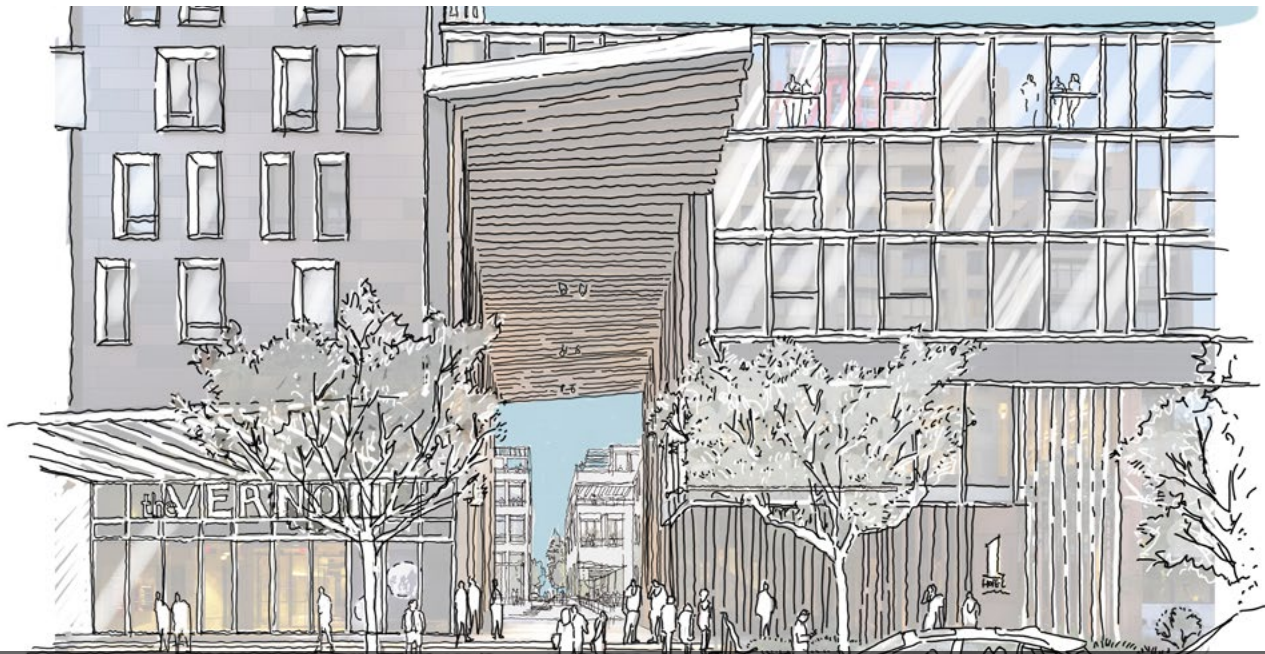


FIGURE 5.19: ARTISTIC ILLUSTRATION OF PASEO CONNECTING FROM PASADENA AVENUE INTO THE COURTYARDS OF RESIDENTIAL BUILDINGS.

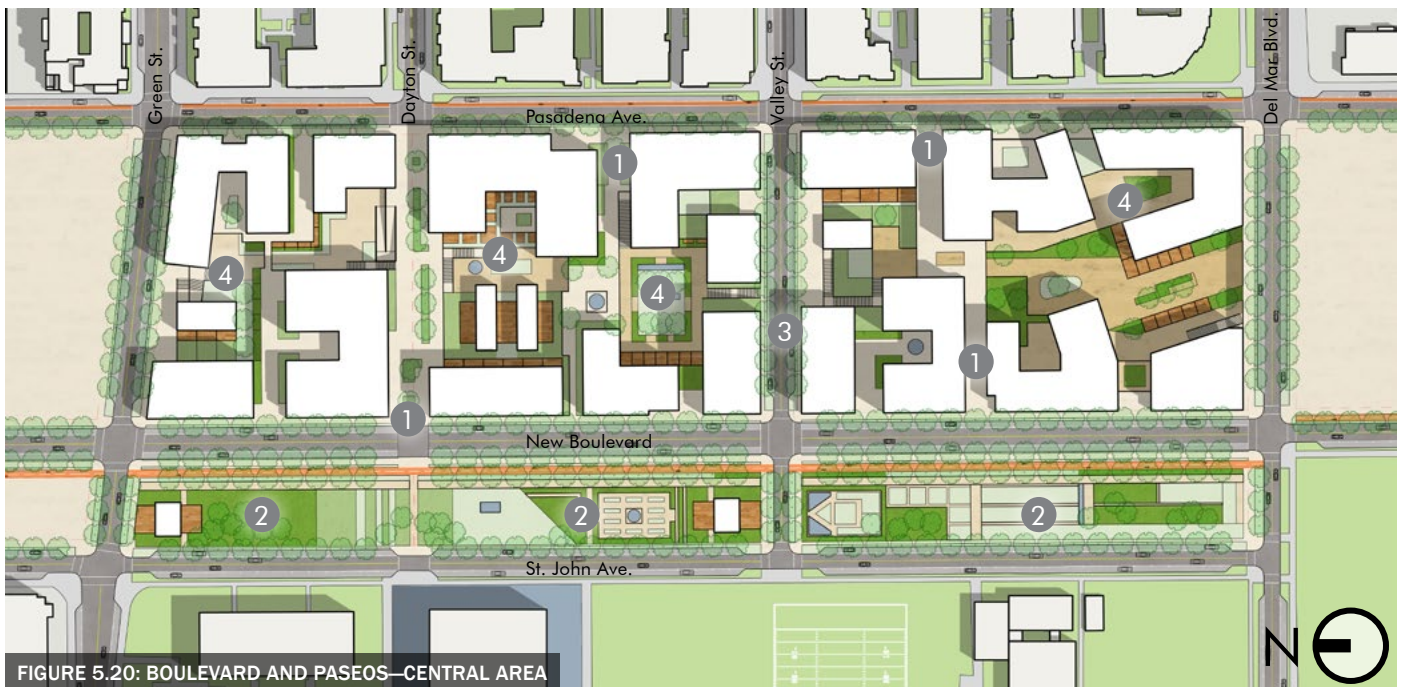


FIGURE 5.20: BOULEVARD AND PASEOS—CENTRAL AREA

BOULEVARD AND PASEOS

- 1 Paseos connect at street level. These link into park areas on the west side.
- 2 Linear public park spaces enable sustainable stormwater treatment, various play and green spaces.
- 3 New East-West street goes through at Valley Street
- 4 Semi-private courtyards provide open space to residents

DESIGN AND LAND USE VISION

Estimated total program area: ~1.3–1.6 million square feet

LAND USE		DESIGN ATTRIBUTES
TOTAL LAND AREA	650,720 sf (14.94 ac)	
RESIDENTIAL	~1,000–1,400 units	Target special demographics such as student and senior housing, and workforce. Enable ground-oriented, family-sized units, and buildings offering various floor plates and unit sizes.
SMALL BUSINESS, RETAIL AND, FOOD & BEVERAGE	~2% of program area	Limited small scale retail and personal services
COMMERCIAL	~2% of program area	Neighborhood-scale commercial
PUBLIC OPEN SPACE ALLOCATION	~20% of total land area	Create a green North-South open space connection between Green Street and Del Mar Boulevard, and new East-West public connections/paseos.

Urban Form Ideas

1. Amenity spaces and courtyards are distributed among the residential buildings at multiple levels.
2. Green St., Valley St. and Del Mar Blvd. are active complete streets and provide neighborhood supporting retail.
3. Courtyards and creative building forms keep visual interest, with multiple architects and developers contributing to the District over time.
4. Public programming spaces.



FIGURE 5.21: CENTRAL AREA BIG IDEAS



TOP FIGURE 5.22: ARTISTIC ILLUSTRATION OF PROPOSED LINEAR PARK SHOWING RESIDENTS ENJOYING THE AMENITIES OF THE NEW OPEN SPACE.

BOTTOM: EXISTING CONDITIONS PHOTO OF ST. JOHN AVENUE LOOKING NORTH.



5.3.3 Del Mar to California

With a larger scale, this area could accommodate a campus like environment. Topographic changes invite a unique design response with terracing, play and active landscapes. One concept (Gardens and Terraces) connects below a rebuilt Del Mar, while Boulevards and Paseos rebuilds the street at the surface level. Both concepts reconfigure St. John Ave to bring this up to connect into Del Mar Ave. With the Caltrans Stormwater basin relocated, an active park space of three to four acres could showcase a storm water collection function. New park spaces could be lined with research and development and/or residential mix offering program that blends into the park spaces.

Cars travel to local destinations from St. John and/or a new Boulevard east on Bellevue Dr. Two to three pedestrian ways traverse east to west; these bridges offer pathways into the park via stairs, terraces or hillsides. A public/private partnering strategy leverages Pasadena's existing assets, bringing together learning environments, innovation and public programs continuing Pasadena's competitive advantage in the region.

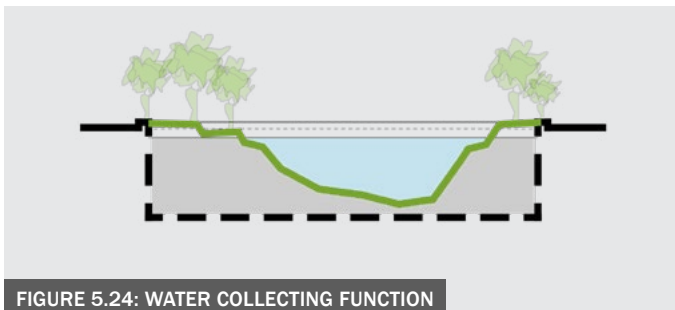
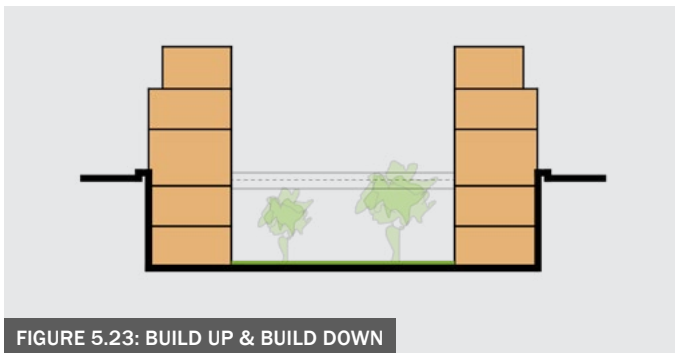




FIGURE 5.25: ARTISTIC ILLUSTRATION OVERLOOKING FORMER DITCH AT THE SOUTHERN END OF THE RELINQUISHMENT AREA



FIGURE 5.26: ARTISTIC AERIAL ILLUSTRATION OF GARDEN AND TERRACES - INNOVATION AREA



FIGURE 5.27: GARDEN AND TERRACES - INNOVATION AREA

GARDENS AND TERRACES

- ① Compact buildings complete the street wall of Pasadena Avenue and provide terraced passageways to public park space below.
- ② Subterranean water detention is covered with active open spaces, shallow waterways and green space.
- ③ The large topographic change on the west side provides an opportunity for steps and terracing. This concept assumes one new crossing at Bellevue Drive as a pedestrian way.
- ④ The Del Mar Boulevard bridge is retained; buildings and open spaces gently terrace down from the street level to park space within the former ditch.



FIGURE 5.28: ARTISTIC AERIAL ILLUSTRATION OF BOULEVARD AND PASEOS - INNOVATION AREA

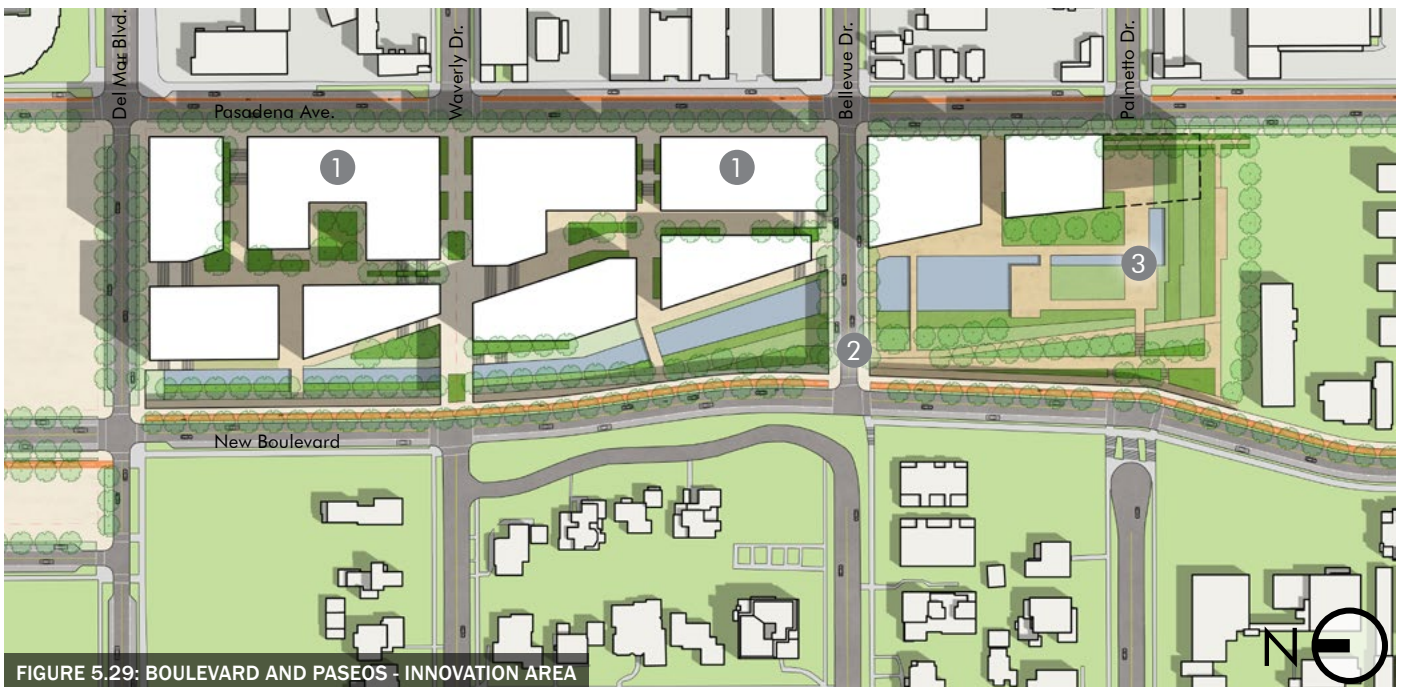


FIGURE 5.29: BOULEVARD AND PASEOS - INNOVATION AREA

BOULEVARD AND PASEOS

- ① Larger floor plates on Pasadena Avenue face towards transitioning HeART arts and innovation District. A campus like environment enables future employment/ innovation/ mixed with larger institutional or private partners.
- ② A new street connection at Bellevue Drive provides greater access for potential commercial or institutional campus uses.
- ③ New public open space including water features, natural systems, terraces, and water-based active play spaces, connect south to the Sequoyah School campus.

DESIGN AND LAND USE VISION

Estimated total program area: ~750,000 to 1.1 million square feet

LAND USE		DESIGN ATTRIBUTES
TOTAL LAND AREA	473,485 sf (10.87 ac)	
RESIDENTIAL	~200–300 units	Flexible land uses. The site can accomodate a variety of uses and typologies.
GENERAL COMMERCIAL, RESEARCH AND DEVELOPMENT	up to 75% of program area	Create a catalyst for the area. Flexible use spaces that enable innovation, research, and arts.
PUBLIC OPEN SPACE	~35% of total parcel area	Create an active public space that integrates the topography of the stub. Enable new educational programming.

Urban Form Ideas

1. Buildings line Pasadena Avenue and give way to open space to create a sensitive transition to the single-family neighborhood to the west.
2. Public open space takes advantage of the existing topography with terracing, public steps, water features and abundant landscaping.
3. Complete streets are complimented by paseos, bridges, and pathways through the park space.





TOP FIGURE 5.31: ARTISTIC ILLUSTRATION OF PROPOSED GARDEN AND TERRACES - INNOVATION AREA AS SEEN FROM HAVENDALE DRIVE.

BOTTOM: EXISTING CONDITIONS OF THE "DITCH" AS SEEN FROM HAVENDALE DRIVE LOOKING SOUTH.



5.4 Public Realm Strategy

Landscape as a tool for Restorative Justice

The Restorative Justice Standing Committee (RJSC) recommended documenting those displaced by the construction of the SR-710 and I-210. The following public realm strategy suggests a multi-layered landscape network—one that delivers tangible community benefits, including improved microclimate, cleaner air, and biophilic environments, while also providing a platform to respectfully honor the community’s rich and complex history.

The following section focuses on the landscape strategies that can help build a more just and restorative environment for all.

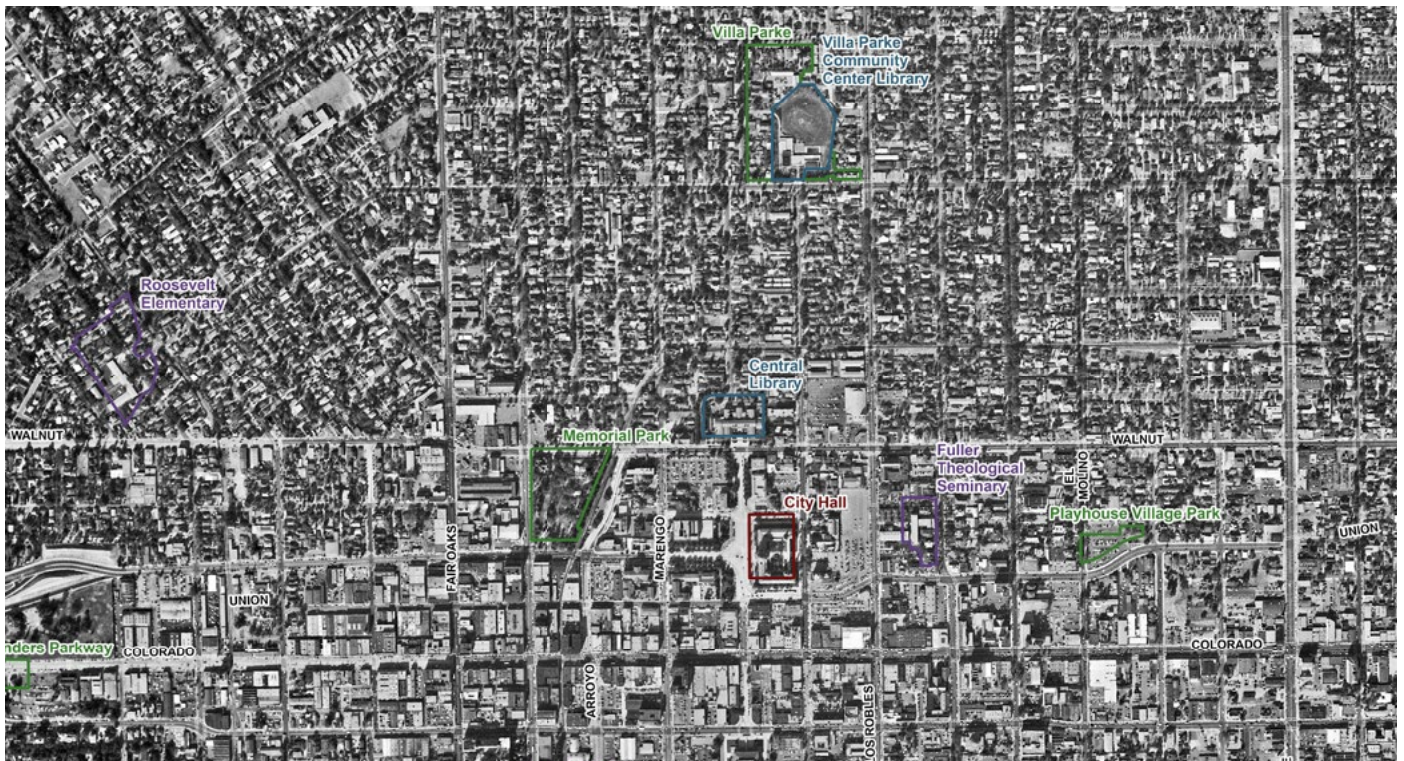


FIGURE 5.32: 1952 AERIAL OF THE CITY OF PASADENA ILLUSTRATES SOME OF THE MEANINGFUL COMMUNITY AMENITIES AFFECTED BY THE CREATION OF THE FREEWAYS. SPECIAL RESEARCH COLLECTIONS, UCSB LIBRARY, UNIVERSITY OF CALIFORNIA SANTA BARBARA; AERIAL PHOTOGRAPHY COLLECTION. PASADENA [AIR PHOTO]. 1:20,000. FLIGHT ID AXJ-1952. FRAME 14K-11. PASADENA, CALIF. 1952.

Commonwealth | Community Wealth

The RJSC recommends a range of strategies to reinvest in community wealth. Within the public realm—both built and natural—there is a powerful opportunity to invest in the commonwealth: the shared spaces collectively owned, experienced, and stewarded by the public. This section articulates the “why” behind the landscape strategies presented in the remainder of this document. It establishes the conceptual and ethical foundation that guides the design moves that follow.

Memory Traces

The harm inflicted on the landscape includes the demolition of homes and buildings. This loss to the built environment can be acknowledged through landscape-based commemorative gestures. For example, the 107 buildings demolished within the 710 relinquishment area could be translated into 107 distinct landscape moments. These may take the form of literal imprints or more abstract, gestural traces—spatial markers that embed memory into everyday experience.

Ecology as Healer

Two of the major streets crossing the site—Green and Del Mar—already allude to the region’s broader ecological identity, connecting symbolically to the San Gabriel Mountains to the north and the Pacific Ocean to the south.

By investing in the public realm as commonwealth, the landscape can reference the larger environmental systems that define the region. Design strategies may draw from four major ecoregions—Coastal and Marine, Coastal Plain, Coastal Sage Scrub and Grasslands, and Chaparral and Scrubland—positioning ecology not only as context, but as an active agent of restoration and healing.



FIGURE 5.33: FOUR ECOREGIONS SUMMARIZE THE ENVIRONMENT OF PASADENA IN ITS SOUTHERN CALIFORNIA CONTEXT, FROM HILLS TO OCEAN

A Tripartite Engagement with the Public Realm: Celebrating, Weaving, and Pausing

Building on the foundational principles outlined above, three interrelated expressions: celebrating, weaving, and pausing describe landscape interventions. These actions describe not only design strategies, but the ways in which the community may engage with the public realm in the future—through commemoration, everyday experience, and the continuity of their lived practices, their “lifeways.” While each of these expressions can occur throughout the site, emphasizing them differently across the areas identified in 5.4. can translate the “why” into spatial and experiential strategies for the Project Area.

Pausing for Commemoration

Pausing creates intentional spaces for reverence, reflection, and quiet connection. It invites a slowing of movement—of people, of stormwater, of traffic—and offers moments where memory and ecology intersect.

South of Del Mar lends itself particularly well to this expression. Here, the site’s natural stormwater detention capacity can be enhanced and paired with recreational water features. In the Gardens and Terraces scheme, this takes the form of a canal extending into the heart of the community as a blue spine. In the Boulevard and Paseos scheme, it becomes a park of pools and naturalized detention areas—spaces where water, landscape, and reflection converge.

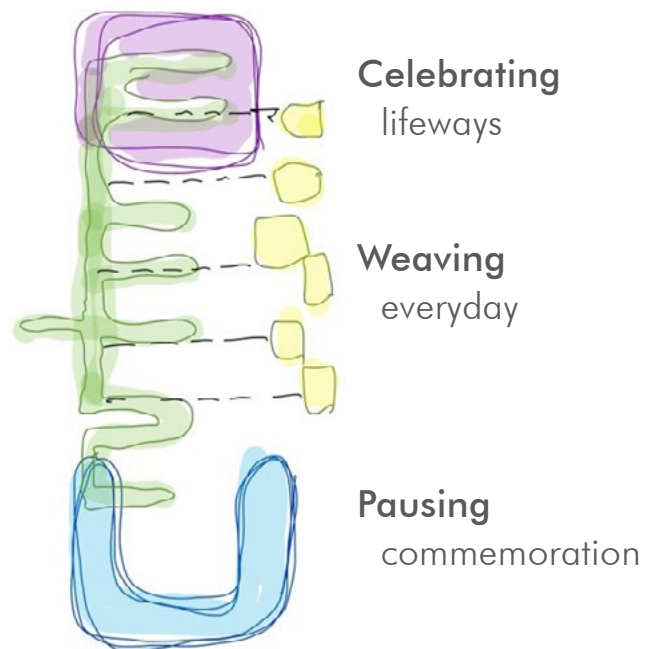


FIGURE 5.34: CONCEPT DIAGRAM FOR A LANDSCAPE OF COMMONWEALTH AND COMMUNITY MEMORY.



Weaving the Everyday

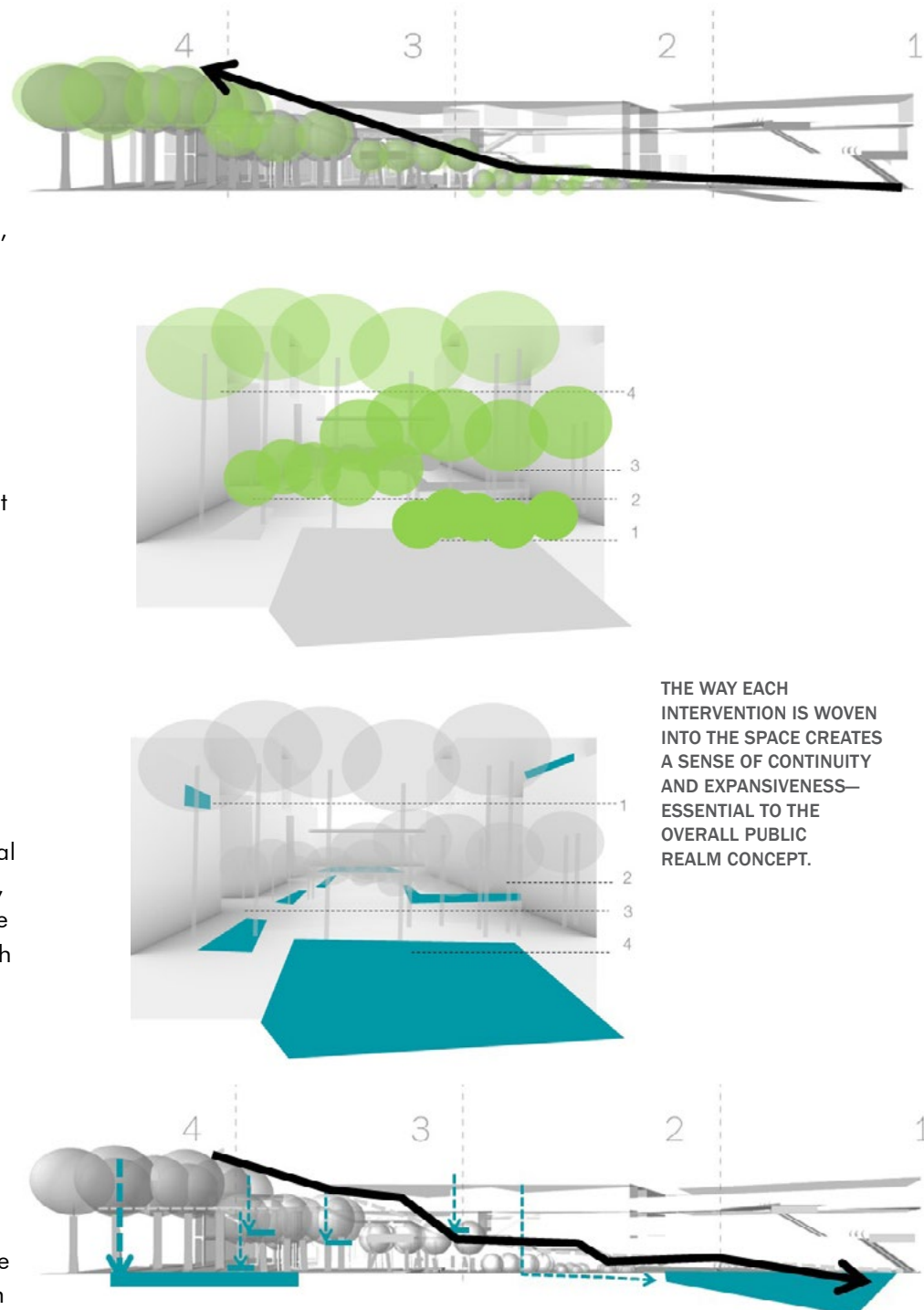
Weaving embeds environmental awareness into daily life. Proposed green infrastructure replaces the gray infrastructure that once fractured the community, transforming it into a visible, living system.

In the Project's Central Area, layered ecologies respond to the site's topography, creating immersive green environments. To the south of Del Mar interconnected stormwater systems form a continuous hydrological network. Plant collections extend shade and soften thresholds, while stormwater features manage water locally and connect to the broader system. Together, they demonstrate that infrastructure can be ecological, integrated, and life-supporting.

Celebrating in our Lifeways

Celebrating acknowledges that individual spaces—balconies, gardens, courtyards, shaded walkways—also contribute to the public realm, they are the space in which we perform our rituals, embrace our uniqueness.

In this way, private and semi-private spaces participate in a collective network, reinforcing the idea that a commonwealth is greater than the sum of its parts. Through everyday acts—walking, gathering, tending, resting—the landscape becomes a shared expression of continuity, resilience, and belonging.



THE WAY EACH INTERVENTION IS WOVEN INTO THE SPACE CREATES A SENSE OF CONTINUITY AND EXPANSIVENESS—ESSENTIAL TO THE OVERALL PUBLIC REALM CONCEPT.

FIGURE 5.35: GREEN AND BLUE ECOLOGICAL NETWORKS FORM A HEALING COMMONWEALTH, SERVING AS THE CANVAS FOR LAYERED LANDSCAPE INTERVENTIONS OF MEMORY AND COMMEMORATION.

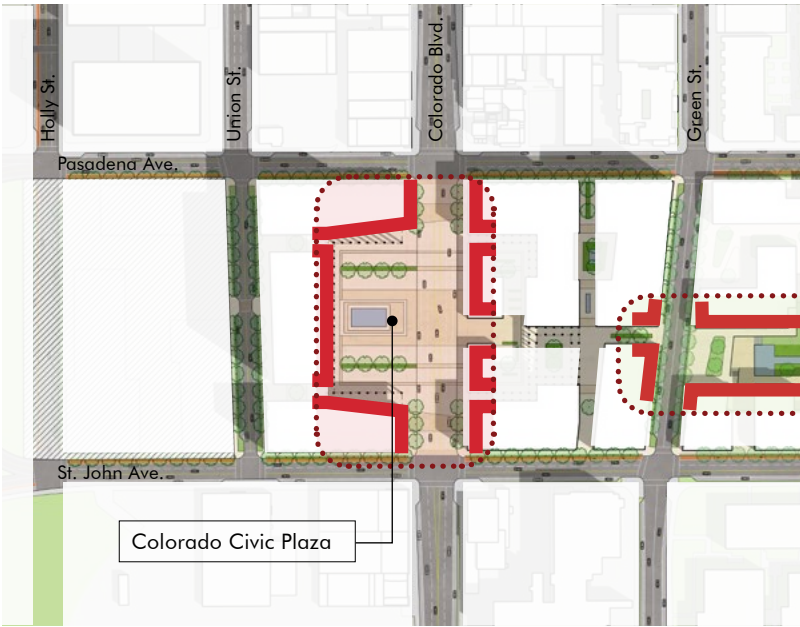


FIGURE 5.36: PUBLIC REALM FRAMEWORK FOR GARDENS AND TERRACES

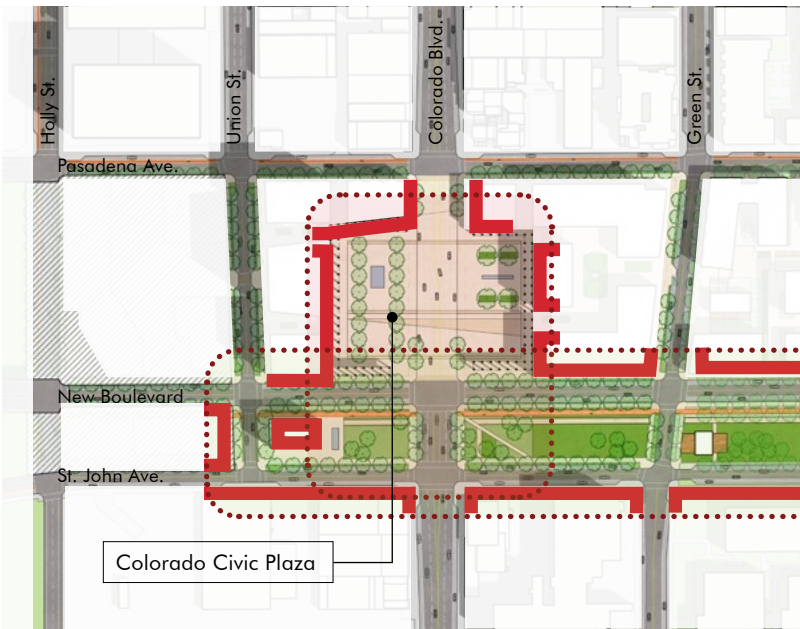


FIGURE 5.37: PUBLIC REALM FRAMEWORK FOR BOULEVARD AND PASEOS

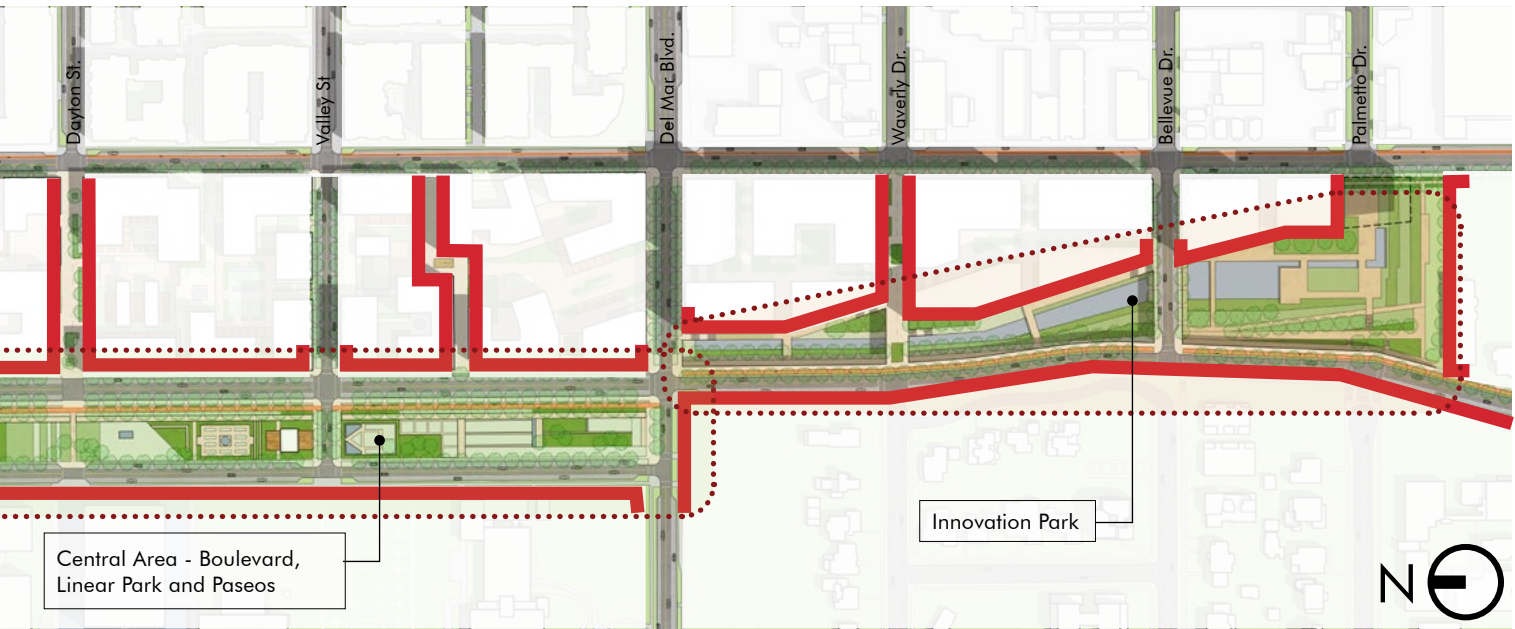
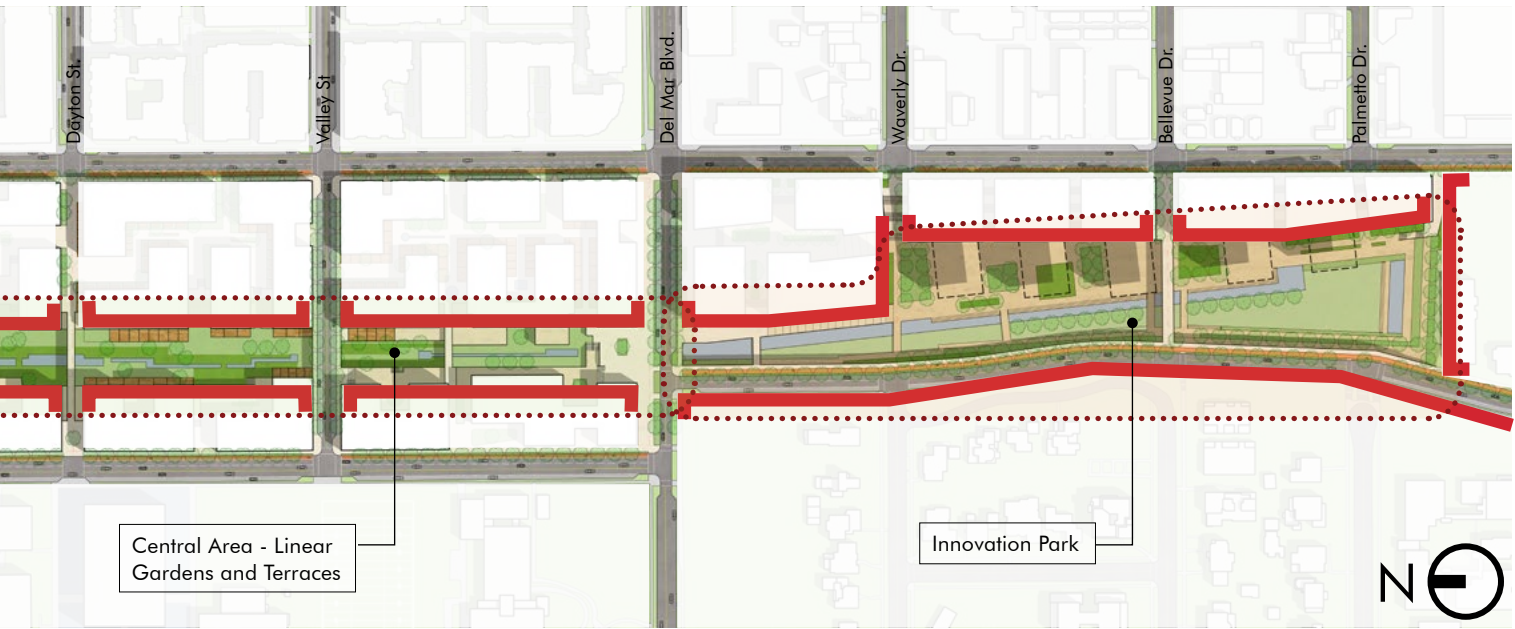




FIGURE 5.38: GARDENS AND TERRACES

-  Celebrating
lifeways
-  Weaving
everyday
-  Pausing
commemoration



FIGURE 5.39: BOULEVARD AND PASEOS



Landscape Typologies

To guide the deployment of the three expressions of the commonwealth—celebrating, weaving, and pausing—this Plan proposes a series of typologies within each category. Typologies serve as organizational tools, helping translate overarching values into spatial strategies that can be implemented across the site.

In the pages that follow, we define each family of open spaces and present a curated catalog of examples. Together, these illustrate how landscapes can be intentionally designed to express commemoration, support everyday life, and reflect the community's lifeways—ensuring that each intervention contributes meaningfully to the larger public realm framework.



GREEN VALLEY TOWN SQUARE, NAUCK, VA



FIGURE 5.40: LANDSCAPES THAT MIX AMENITIES WITH STORYTELLING.

Commemoration Landscape Typologies

The commemoration typologies embedded in the landscape pose a central question: Can common spaces be designed to serve the everyday needs of the community while also telling the stories of what once existed here? A sequence of rocks evokes the region's arroyos; a provocative sculpture recalls what infrastructure once sought to erase.

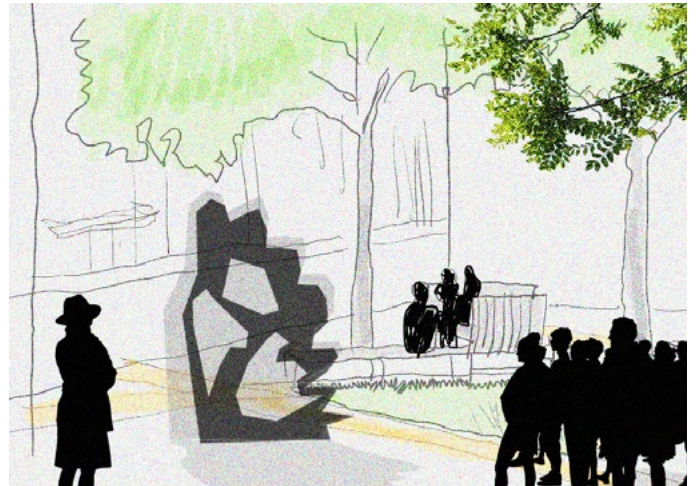


FIGURE 5.41: EVERY CORNER OF THE COMMONWEALTH OFFERS A MOMENT TO PAUSE, REFLECT, AND ENCOUNTER HISTORY.

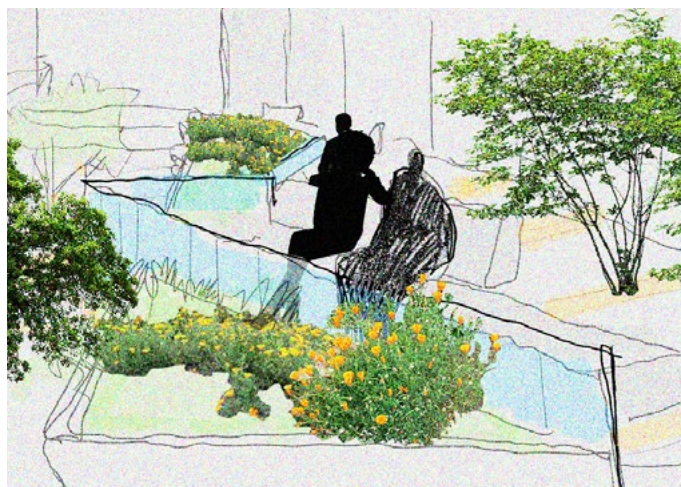


FIGURE 5.42: LANDSCAPES THAT CONTRIBUTE TO A LARGER URBAN ECOLOGY.

Everyday Landscape Typologies

The everyday typologies in the landscape propose a new paradigm for open space design. Can private spaces within the development—balconies, gardens, building entries, and gated courtyards—be designed to maintain their privacy while functioning as an interconnected network of green and blue infrastructure? In doing so, they would integrate the entire landscape and remind us of the power of continuity.



FIGURE 5.43: PRIVATE AND SHARED AREAS ARE VISUALLY CONNECTED, AS OPEN SPACE THEY FORM A CONTINUOUS LANDSCAPE, A COMMONWEALTH.



FIGURE 5.44: LANDSCAPES THAT ENCOURAGE INTERACTION.

Lifeways Landscape Typologies

The lifeways open space typologies are spaces that foster interaction among community members. They occur at intersections, within openings in building massing, along thoroughfares, and throughout open space spines. As a strategy, they pose a guiding question: Can these open spaces provide safe, healing environments woven into the development to maximize health, educational, and recreational benefits?



FIGURE 5.45: SAFE, PRACTICAL AMENITIES SHARED BY ALL—WOVEN WITH TRACES OF URBAN PATTERNS THAT CONNECT SITES AND EVOKE MEMORY.

5.5 A Visual Catalogue of Special Places

5.5.1 A Place to Live—Residential Inspiration From Around the Region and the Globe



LA PLAZA VILLAGE - LA
SOURCE: COLLINS MORLEY



DEL MAR STATION - PASADENA
SOURCE: MOULE & POLYZOIDES



LA PLAZA VILLAGE
SOURCE: COLLINS MORLEY



IVY STATION - CULVER CITY
SOURCE: KFA, LLP

Multiple Levels and Terraces

LA Plaza Village is a 425,000sf mixed-use complex in Los Angeles Historic District. 355 units with 20% affordable located in five buildings on multiple levels.

Integrated public features

Housing incorporates ground level support spaces - restaurants, outdoor dining, street graphics, public art, special paving, pedestrian plazas, benches, wayfinding signs.



CLICHY BATIGNOLLES - PARIS
SOURCE: METALOCUS



GAREY BUILDING - APTOS CA
SOURCE: LOWE REAL ESTATE



CLICHY BATIGNOLLES, PARIS
SOURCE: METALOCUS



GAREY BRIDGE
SOURCE: LOWE REAL ESTATE

Sustainability features

Model sustainable development with solar technology green building features for natural lighting, heating and cooling, and sustainable water systems.

Integrated green spaces

The pedestrian paseo offers programmed events and activities that connect Garey residents to the neighboring community.

5.5.2 A Place for Arts—Arts, Cultural and Community Uses—Inspiration

The Broad Museum

The Broad is sited on site on Grand Avenue in downtown Los Angeles to act as a cultural anchor, accelerating the revitalization of Grand Avenue into a vibrant, mixed-use district. Since opening, the museum has increased foot traffic, supported nearby businesses, and brought over \$54 million in economic benefits to LA County. The Broad's 24,000-square-foot plaza, designed by Diller Scofidio + Renfro and Hood Design Studio, was developed alongside the 2015 museum opening to catalyze downtown L.A.'s pedestrian life. It features a "bosque" of 100-year-old Barouni olive trees, a sunlit lawn, and unique, salvaged-wood seating to serve as a public, artistic, and functional, urban landscape.



THE BROAD MUSEUM
SOURCE: HOOD DESIGN

Sherman Phoenix Marketplace

In 2016, following civil unrest in the Sherman Park neighborhood of Milwaukee, the building that is now the Sherman Phoenix was one of many that were burned down.

This history transforms it from a simple retail space into a symbol of transformation and triumph, a "phoenix rising from the ashes." It represents the community's ability to turn fire and water damage into a vibrant marketplace and business incubator. the Phoenix operates as a social enterprise. It provides essential technical assistance and support, going beyond a simple tenant-landlord relationship. This model has struck a chord because it prioritizes the success of its resident businesses. <https://www.pps.org/article/how-to-grow-hope-legacy-wealth-in-marketplaces>



SHERMAN PHOENIX MARKETPLACE, MILWAUKEE WI
SOURCE: PROJECT FOR PUBLIC SPACES.

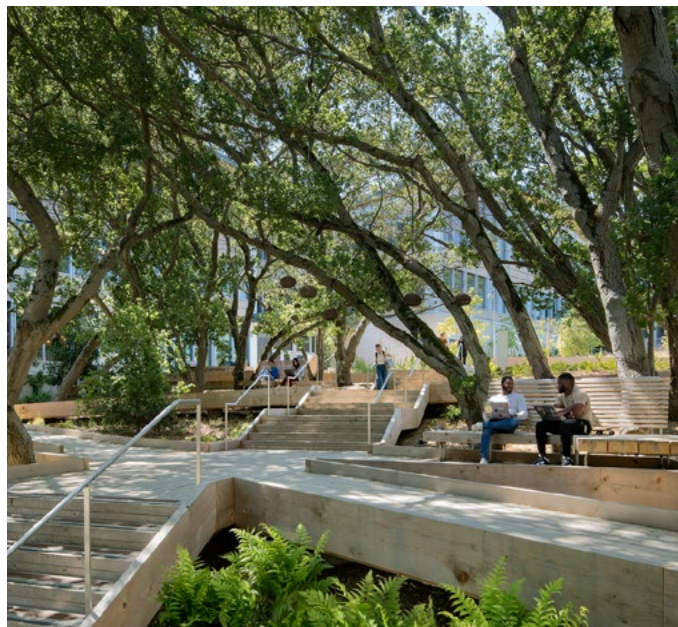
5.5.3 A Place for Learning Environments, Campuses & Innovation—Inspiration

YouTube Campus, Silicon Valley

The landscape design follows a transect from the San Bruno Mountains to the Bay, incorporating 2.8 acres of native planting and 445 locally native trees to support pollinators and local biodiversity.

The campus features buildings constructed with a mass timber framework, which, along with other low-carbon materials, reduced embodied carbon by approximately 22,000 metric tons. An onsite 391,000-gallon rainwater cistern captures and diverts up to 1.3 million gallons of water annually for irrigation and plumbing.

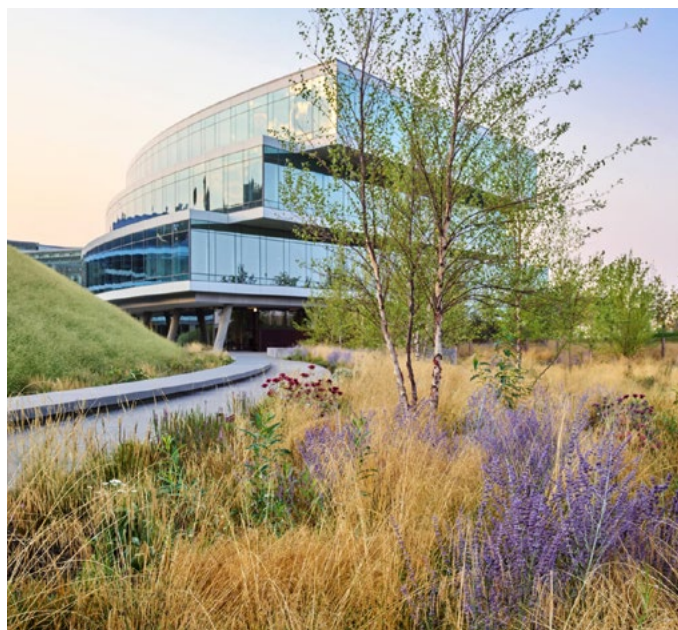
An all-electric design supported by 1.4 MW of solar panels and a 5.3 MWH battery microgrid allows the campus to operate off-grid for up to five hours daily.



YOUTUBE CAMPUS EXPANSION.
SOURCE: EHDD ARCHITECTS.

Expedia Campus, Seattle

Expedia Group's 40-acre Seattle headquarters on Elliott Bay is designed around biophilic principles, achieving LEED v4 Gold, SITES v2 Gold, and Salmon-Safe certifications. The campus integrates high-performance environmental systems with extensive public-facing waterfront amenities. The campus captures and collects approximately 95% of all rainwater that falls on-site through nine rain gardens, four green roofs, and permeable surfaces. This captured water is recycled into a 12,000-square-foot cascading water feature and used for landscape irrigation. The design repurposed five existing lab buildings and salvaged 800,000 square feet of lab equipment.



EXPEDIA HEADQUARTERS
SOURCE: SURFACEDSIGN, INC.

5.5.1 Landscape and Public Places for commemoration, celebration and the everyday

Pausing for Commemoration



LIFT EV'RY VOICE AND SING PARK, JACKSONVILLE, FL



MC COLL PARK, TENSEGRITY SCULPTURE, CHARLOTTE, NC

Celebrating in our Lifeways



CALIFORNIA GARDENS AT THE OAKLAND MUSEUM OF CA



VIADUCT RAIL PARK, PHILADELPHIA, PA (TEMPORARY INSTALLATION)

Weaving the Everyday



EVERY CORNER OF THE COMMONWEALTH OFFERS A MOMENT TO PAUSE, REFLECT, AND ENCOUNTER HISTORY.



SPLASH PAD PARK, OAKLAND, CA

ALL IMAGES ON THESE PAGES: HOOD DESIGN STUDIO



7TH STREET GATEWAY, OAKLAND, CA



AUGUST WILSON HOUSE, PITTSBURGH, PA



SOLAR STRAND, BUFFALO, NY



BAISLEY PARK, QUEENS, NEW YORK, NY



SHADE STRUCTURE AT INTUIT DOME, CLIPPERS ARENA, INGLEWOOD, CA



THE BROAD MUSEUM, LOS ANGELES, CA



6

RESILIENCY + SUSTAINABILITY CONCEPTS



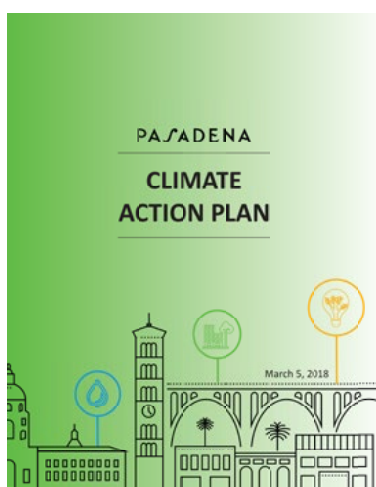
6.1 Once-in-a-Generation Opportunity

Rebuilding in the SR-710 project area presents a rare opportunity. This former freeway stub can be re-imagined as a climate-positive and healthy community designed to embed resilience, public health, and equity into its physical form from day one.

Rather than retrofitting sustainability onto an inherited urban fabric, the 710-redevelopment can be a demonstration of what it means to plan for a hotter, drier, and more carbon-constrained future from the start. The unique conditions and scale of the Project Area offer a chance for “district-scale” implementation of the Pasadena Climate Action Plan, and can help translate its targets into place-based, measurable outcomes. Similarly at leveraging the scale of this multi-block site, the City of Pasadena can deploy shared infrastructure, achieve cost-effective decarbonization, embed climate resiliency, and pilot climate strategies that would be impractical in isolated developments. Relevant to the 710-redevelopment are the city’s current adopted plans and policies:

- Pasadena Climate Action Plan (CAP): carbon neutrality, heat resilience, and mode shift
- Pasadena Water & Power Resolution 9977: 100% carbon-free electricity by 2030
- Green City Action Plan and Water Integrated Resources Plan (WIRP): stormwater capture, reuse, and groundwater recharge
- ITS Master Plan: safe, low-carbon, and multimodal mobility

Aligning early with these frameworks reduces regulatory risk, avoids costly future retrofits, and prevents stranded assets—while accelerating progress toward Pasadena’s long-term climate commitments.



The City of Pasadena’s Climate Action Plan (CAP) aims to build resilient, sustainable communities by reducing greenhouse gas emissions and minimizing our carbon footprint. CAP highlights:

- Energy Efficiency and Conservation
- Sustainable Mobility and Land Use
- Solid Waste Reduction
- Water Conservation
- Urban Greening

6.1.1 THE RESILIENCE CHALLENGE: PASADENA'S FUTURE CLIMATE

The following environmental conditions must be mitigated through design:

Extreme Heat. Climate projections indicate that Pasadena's "heat stress" days could triple by 2080. The existing condition—now dominated by asphalt, concrete, and minimal tree canopy—exacerbate urban heat island effects, increasing cooling demand and public-health risks.

Air Quality. The Project Area ranks in the 80th percentile for pollution burden according to CalEnviroScreen

4.0. With more than 40,000 heavy-duty diesel trucks traveling the adjacent corridor daily, exposure to PM2.5 and nitrogen oxides poses a chronic health risk, particularly for vulnerable populations.

Acoustic Stress. Continuous freight traffic generates elevated noise levels associated with sleep disruption, cardiovascular stress, and diminished mental well-being.

These challenges underscore the need for future design and construction strategies to explicitly mitigate environmental stressors rather than amplify them.

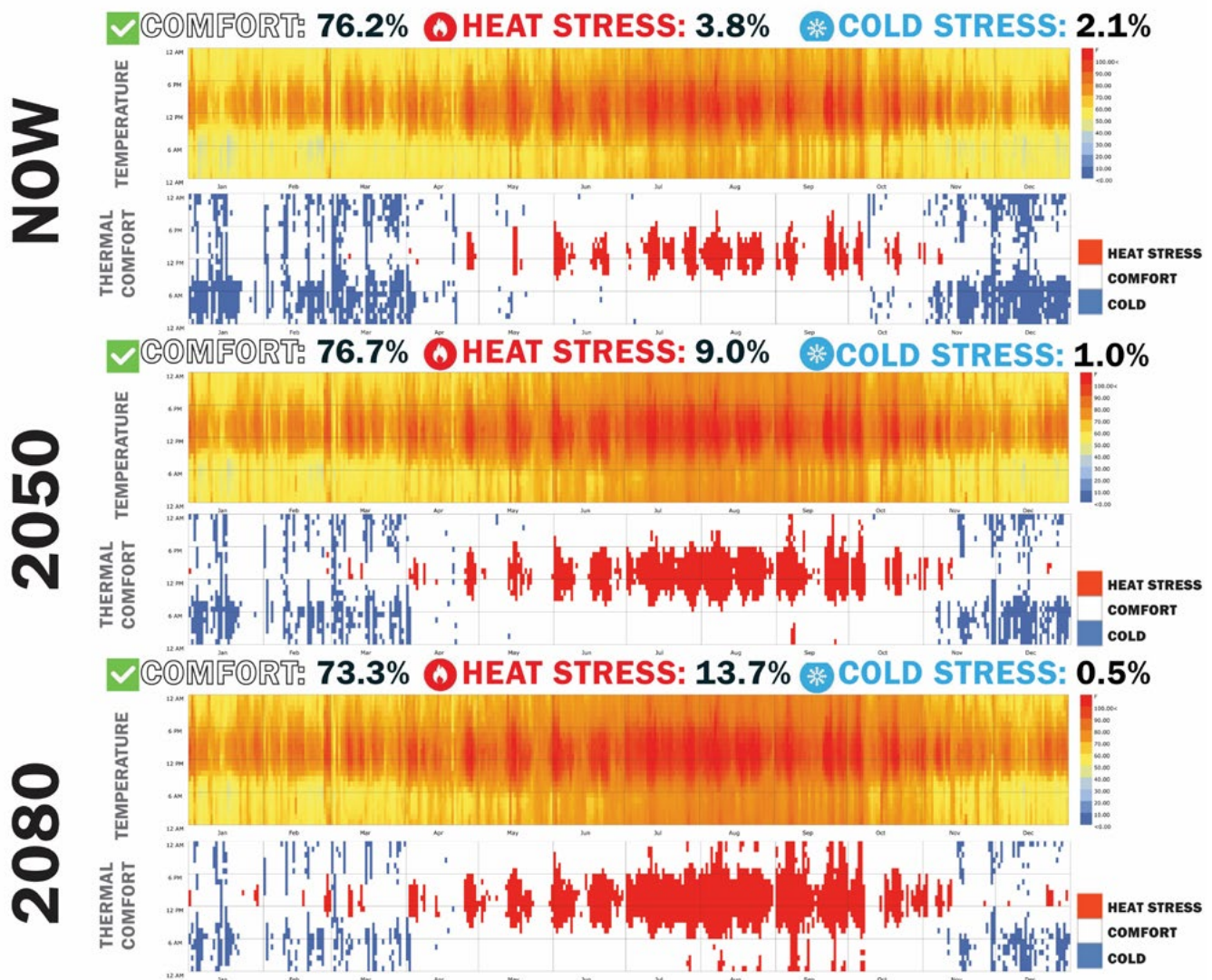


FIGURE 6.1: ANNUAL THERMAL COMFORT NOW AND FUTURE CLIMATE

6.2 Sustainability Framework

To address challenges, the 710 Reconnecting Pasadena Vision Plan focuses on three integrated objectives.

1. Net-Zero-Ready Energy | This section provides approaches to make the future redevelopment a model for clean, resilient energy in Pasadena and establishes a roadmap that makes net-zero energy both feasible and cost-effective. This would also commit Pasadena to tracking energy use down the line.

2. Climate, Health, and Wellness | This section describes how to design comfortable, livable environments year-round and recommends approaches that mitigate heat, and support cleaner air, acoustic comfort, and public health from the outset.

3. Water and Resource Circularity | Leveraging the multi-block nature of the site, intentional planning for the project's redevelopment offers real opportunities to treat water, materials, and land as closed-loop systems, prioritizing conservation, reuse, and ecological regeneration.

Note: this chapter is not intended to serve as a comprehensive resilience and sustainability plan. Instead, it identifies only the core strategies that should guide future project phases, including target setting, infrastructure investment, and developer requirements, ensuring that sustainability is foundational rather than additive.

6.2.1 Integrated Energy and Carbon Strategy

To achieve net-zero performance across the site, the Project must address two interrelated challenges:

Decarbonization: Electric only energy is balanced by renewable generation, micro-grids and supports Pasadena Water & Power's transition to 100% carbon-

free electricity by 2030. This approach will also eliminate fossil fuel emission and insulate the district from future carbon-related costs.

Resilience: As heat stress days increase, electrical demand and outage risks will rise, making passive survivability and distributed energy systems essential for public safety.

To meet these challenges, the Vision Plan proposes an energy hierarchy that front-loads low-cost, high-impact strategies to permanently reduce energy demand while positioning the district to benefit from California's increasingly clean grid and available incentives.

Energy Hierarchy:



AVOID: Minimize energy demand through climate-responsive urban form, heat reduction interventions, high-performance envelopes, and an all-electric requirement. Include low embodied carbon in material selection.



REDUCE: Deploy high-efficiency/heat reducing building systems and district-scale infrastructure that shares thermal loads.



RECOVER: Capture waste heat and maximize on-site renewable energy paired with storage.



MITIGATE: Address remaining impacts through urban greening and carbon sequestration. Consider purchasing off-sets.

Four net-zero strategies (see Table 6.1) are structured and described across two **scales**: district-or site-wide approaches that leverage the 710 Project Area's full extent, and building-specific measures. Each recommendation has been tested for its estimated carbon reduction and co-benefits.

TABLE 6.1: NET ZERO STRATEGIES FOR THE 710-PROJECT AREA & SCALE OF INTERVENTION

NET ZERO STRATEGY	 DISTRICT WIDE	 BUILDING
1. Apply Passive Design	• Street and block orientation & proportions • Urban Forest	• Design tight envelopes • Right size openings • Provide shading
2. Explore sustainable mechanical systems	• Municipal waste heat recovery • Ground source heat exchange • Thermal storage tanks • Central Utility Plant	• Require all electric buildings
3. Facilitate on-site generation and maximize renewable sources	• Microgrid • Urban Solar • Battery storage • Develop energy goals for the Project • Commit to specific energy goals for the project	• Rooftop Solar above code • Battery Storage
4. Plan for embodied carbon reduction	• Minimize cut and fill • Lower embodied carbon of infrastructure • Infrastructure adaptive reuse	• Minimize cut and fill • Lower embodied carbon of construction materials

6.2.2 66% Potential Peak-Load Reduction for 710 Development

Layered energy strategies extend power capacity and postpone the need for new power generation.

To optimize the energy resilience of the 710 development and minimize the strain on local utility infrastructure, a layered demand-reduction strategy was modeled. This approach evaluates the compounding benefits of efficiency and technology:

- **Baseline Compliance:** A standard code-compliant development.
- **Efficiency Gains:** Transitioning to 'Net Zero Ready' building envelopes and systems reduces this requirement, representing a significant decrease in initial cooling and heating loads.
- **Operational Diversity:** By accounting for the non-simultaneous nature of energy use across the

diverse program types (using a conservative 0.85 diversity factor), the projected actual demand is further refined.

- **Onsite Generation & Storage:** The final layer - integrating roof-mounted solar photovoltaics and battery storage systems shaves the remaining peak.

The resulting 66% total reduction in peak load is critical for the project's long-term sustainability. By lowering the peak demand threshold, the development can effectively extend existing power capacity and postpone the capital-intensive requirement for new district power generation plants. This not only reduces operational costs but also aligns the 710 development with regional decarbonization goals.

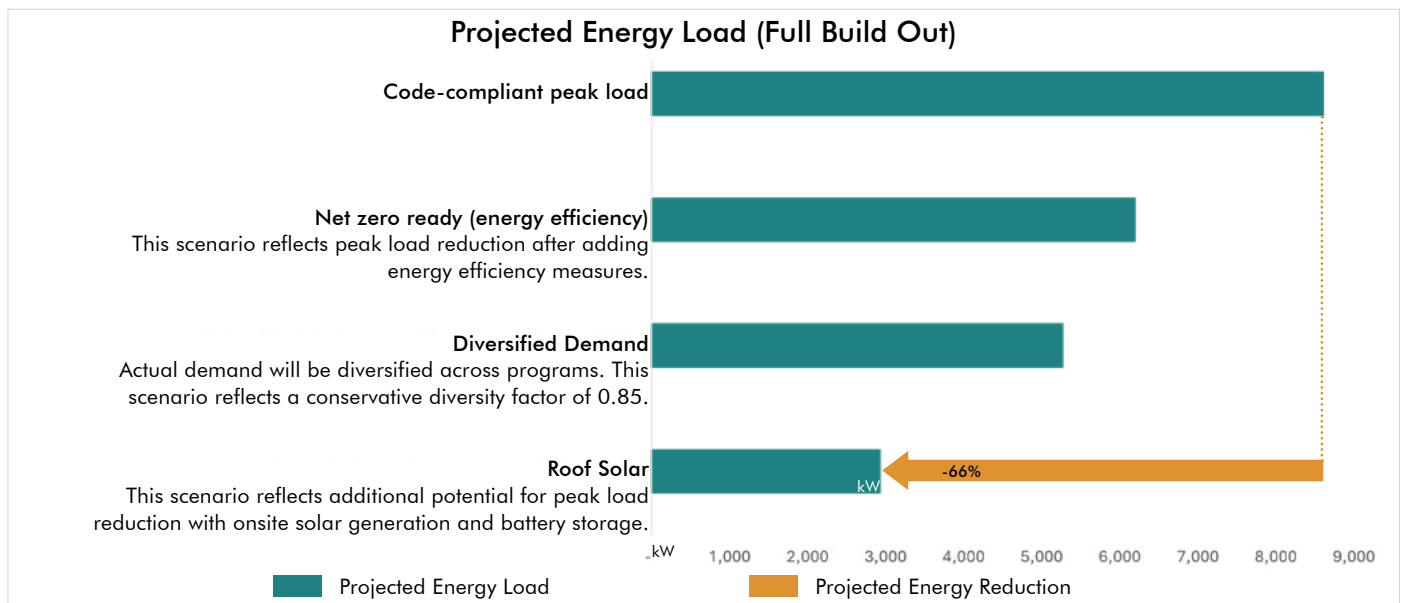


FIGURE 6.2: PROJECTED ENERGY LOAD (FULL BUILD OUT).

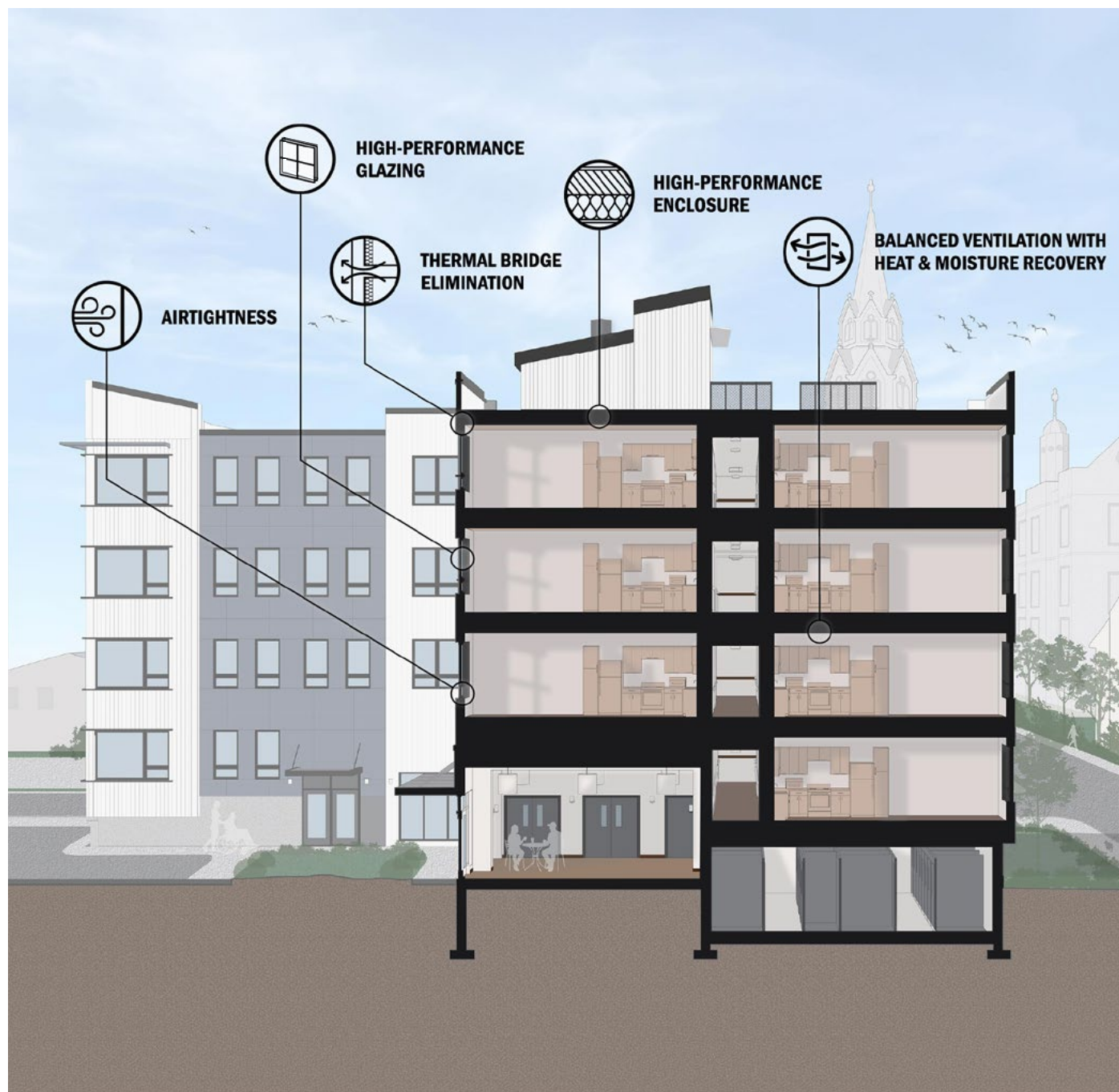


FIGURE 6.3: BUILDING ENERGY EFFICIENT STRATEGIES.

6.3 Net Zero Feasibility

6.3.1 APPLY PASSIVE DESIGN FOR THERMAL COMFORT

Passive design is the most cost-effective and time-tested strategy. At the site planning or district scale this means orienting future streets and blocks to channel prevailing breezes, a robust urban forest and cool-pavement technology, and provision of architectural features that shade public spaces. At the building scale, passive design requires intentional building systems—such as controlled ventilation, right-sized glazing, cool roofs and comprehensive exterior shading.

Collectively, these passive design strategies could reduce projected operational energy use by approximately **30 percent across the full project site** while improving indoor comfort, reducing peak loads, and maintaining habitability during power outages. Air tight building envelopes have other benefits—enhancing indoor air quality and acoustic performance, both key to building in the Project Area’s freeway adjacent location.

- **Recommendation:** Further define, and require passive design performance metrics for the site above code, such as limits on cooling loads or minimum shading coverage.
- **Recommendation:** Include passive design features into future building design guidance; e.g. guidelines, regulations, and incentives to encourage these practices.

6.3.2 EXPLORE SUSTAINABLE MECHANICAL SYSTEMS | A GAME-CHANGING OPPORTUNITY

Mechanical thermal systems capitalize on load diversity across multi buildings and mixed uses. Waste heat rejected from one building can be recovered and used elsewhere, maximizing efficiency and reducing equipment redundancy. With good planning, a site-wide thermal loop can be augmented over time as buildings come online. The team evaluated and identified

the following systems as the most applicable to the Project Area:

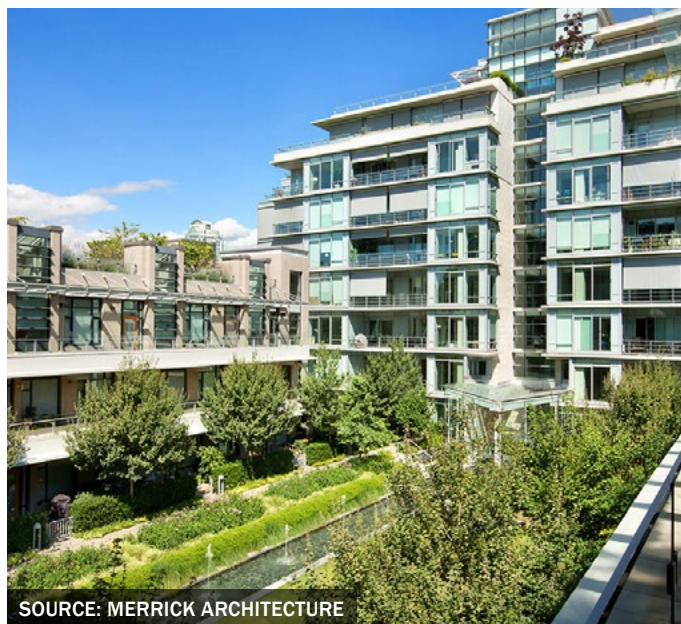
- Ground-source heat exchange
- Waste heat recovery
- Thermal storage

In each instance the City of Pasadena can continue to evaluate the application of these district-scale systems through a business case and technical study aligned with future infrastructure and proposed land uses. Unlike retrofit projects, future utility corridors, sewer alignments, and plant locations can each be planned in coordination—maximizing performance while minimizing future disruption.

6.3.2.1 BUILDING SCALE: HIGH-EFFICIENCY, ALL-ELECTRIC SYSTEMS

All buildings in the Project Area should be fully electric, eliminating on-site combustion and aligning with Pasadena Water and Power’s clean-energy trajectory. With no existing gas infrastructure, all-electric construction avoids the upfront cost of new gas lines, connection fees, and future upgrades—while reducing seismic risk, fire hazards, and building ventilation requirements. Studies have deemed all-electric new construction cost-neutral or cost negative compared to mixed-fuel systems once avoided gas infrastructure is accounted for. Furthermore, heat pump systems deliver two to four times the efficiency of gas equipment, reducing heating energy by 30–60 percent and operational carbon emissions by up to 90 percent.

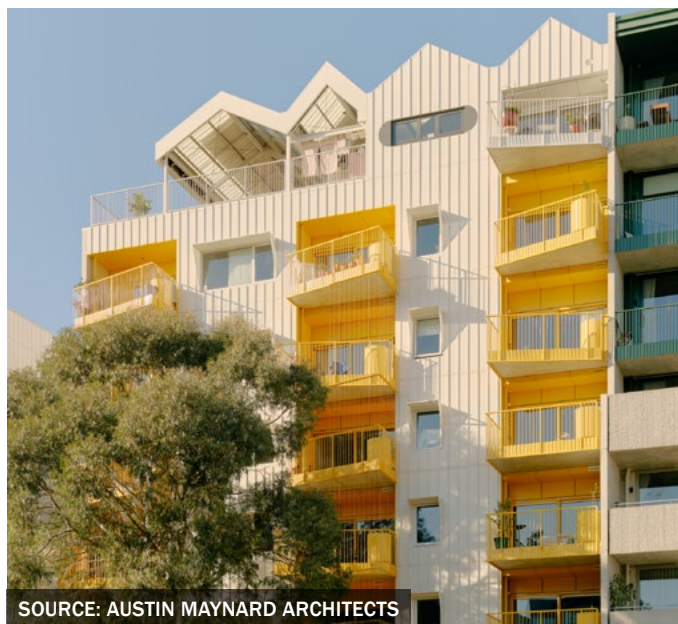
- **Recommendation:** Establish an all-electric building requirement and set energy metrics, prohibit new gas infrastructure within the Project Area.



SOURCE: MERRICK ARCHITECTURE

THE VILLAGE ON FALSE CREEK, VANCOUVER, BC. THE VILLAGE IS PART OF A NEIGHBORHOOD THAT WAS DESIGNED FOR HIGH ENVIRONMENTAL PERFORMANCE.

PASSIVE DESIGN FEATURES INCLUDE SOLAR ORIENTATION WHICH MAXIMIZES THE AMOUNT OF NATURAL DAYLIGHT AND HEAT GAIN INTO BUILDINGS WHILE REDUCING THE NEED FOR ELECTRICITY GENERATION. SOLAR SHADING THROUGH OVERHANGS WHICH PROTECT FROM THE HIGH-ANGLE SUMMER SUN WHILE LETTING IN THE LOWER-ANGLE WINTER SUN, AND THE LUSH VEGETATION IN ITS COURTYARDS AS NATURAL BARRIERS FOR THE SUN.



SOURCE: AUSTIN MAYNARD ARCHITECTS

PARKLIFE, NIGHTINGALE VILLAGE, AUSTRALIA. PARKLIFE IS PART OF AUSTRALIA'S FIRST CARBON NEUTRAL RESIDENTIAL PRECINCT WHICH IS A HIGH-PERFORMING COMMUNITY.

SOLAR SHADING THROUGH OVERHANGS PROTECT FROM THE HIGH-ANGLE SUMMER SUN WHILE LETTING IN THE LOWER-ANGLE WINTER SUN, AND AN ENERGY RECOVERY VENTILATION SYSTEM THAT PROVIDES FRESH AIR WHILE MAINTAINING HIGH ENERGY EFFICIENCY IN AN AIRTIGHT BUILDING.



6.3.2.2 DISTRICT SCALE: GROUND-SOURCE HEAT EXCHANGE

Shallow geothermal systems, or fifth-generation district heating and cooling (5GDHC), are particularly well suited to Pasadena's climate. By leveraging stable underground temperatures and the excavation already present in the Project Area, these systems can reduce operational carbon emissions by 50–80 percent, especially as the electric grid continues to decarbonize.

Comparable projects—from Stockton, California, to Denver's National Western Center—demonstrate the scalability and resilience benefits of (shallow) district geothermal systems, even in warm climates.

Central Utility Plants (CUPs) allow cities, neighborhoods and campuses to achieve efficiencies that are fundamentally unattainable at the single-building level. By aggregating heating and cooling loads, recovering waste heat, and deploying thermal energy storage, CUPs reduce energy use, water consumption, peak electrical demand, and greenhouse gas emissions—while improving resilience and long-term cost stability.

- **Recommendation:** During project design phases, reserve space to enable future utility corridors for a Central Utility Plant and thermal storage to serve the 710 Project Area.

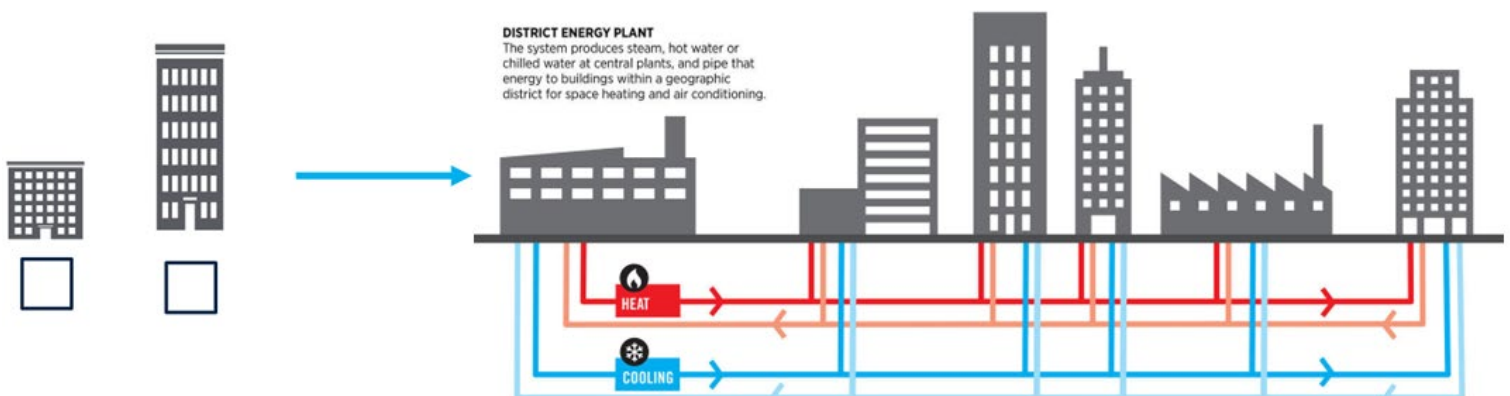
- **Recommendation:** Initiate an early-stage feasibility study evaluating heat recovery potential, load diversity, water savings, and phased implementation aligned with district build-out.

6.3.4 FACILITATE ON SITE GENERATION AND MAXIMIZE RENEWABLE SOURCES

District energy systems and electrical microgrids enable buildings to share energy, balance loads, and maintain power during outages. Microgrids can integrate on-site generation, energy storage, and controls across multiple buildings, operating either connected to or independent from the main grid.

Preliminary massing studies suggest that available roof area could supply approximately 12 percent of site energy demand through solar PV alone. Case studies from Pasadena, Santa Monica, UC Irvine, and Stone Edge Farm demonstrate 20–50% operational carbon reductions over 10–15 year payback periods. There is also significant resilience benefits during heat waves and wildfire events

- **Recommendation:** Reserve physical space and utility corridors for future district energy infrastructure and explore an Integrated Energy Services Provider (IESP) model.



CASE STUDIES

Central Utility Plants & Thermal Energy Systems—Proven Models

The following three case studies demonstrate that the **greatest gains in efficiency, resilience, and emissions reduction come from treating energy and waste streams as shared, district-scale resources.** Planning now for a Central Utility Plant enables the project to leverage heat recovery from buildings from thermal storage, and from wastewater- transforming hidden systems into civic assets and aligning infrastructure investment with long-term climate goals. Central Utility Plants integrate multiple complementary strategies—heat recovery, thermal storage, electrification, and wastewater energy harvesting—into a single, resilient system. A CUP that combines load diversity–based heat recovery (Stanford), thermal energy storage for load shifting and grid alignment (Google) and municipal and on-site wastewater heat recovery (South East False Creek Neighborhood Energy Utility (NEU)) could significantly reduce operational carbon emissions, potable water use, and peak electrical demand, while improving long-term affordability and resilience.

HEAT RECOVERY AND LOAD DIVERSITY: STANFORD UNIVERSITY

At Stanford University, energy monitoring revealed that approximately 70 percent of campus heating and cooling demands overlap in real time, driven by the diversity of uses across housing, classrooms, and labs and medical facilities. This overlap creates a powerful opportunity: cooling one set of buildings generates waste heat that can be captured and reused to heat others. Stanford’s Central Energy Facility leverages this dynamic through a heat recovery–based district energy system, dramatically reducing the need for evaporative cooling and fossil fuel combustion. The system has achieved significant reductions in natural gas use. Lower reliance on cooling towers and more than 70 percent

average annual water savings, is another critical co-benefit in drought-prone California.

Thermal energy storage further amplifies these benefits. By heating or cooling water during optimal conditions—rather than at peak demand—the system smooths load fluctuations across the campus. This flexibility improves system efficiency, reduces operating costs, and enhances resilience during grid stress events. The future land uses in the 710 Project Area will likely host a mix of residential, institutional, commercial, and potentially civic uses with differing occupancy schedules. This diversity creates the same opportunity for heat recovery and load balancing at a larger scale.



STANFORD UNIVERSITY CENTRAL UTILITY PLANT (2015)
SOURCE: [HTTPS://SESI.STANFORD.EDU/ENERGY-SYSTEMS/CENTRAL-ENERGY-FACILITY](https://sesi.stanford.edu/energy-systems/central-energy-facility)

CASE STUDIES

Central Utility Plants & Thermal Energy Systems—Proven Models

FULLY ELECTRIC SYSTEMS AND THERMAL STORAGE: GOOGLE'S MOFFETT PARK CAMPUS

As Pasadena Water & Power advances toward 100 percent carbon-free electricity, district-scale thermal storage can help the future neighborhood operate in harmony with the grid—reducing costs while improving reliability during extreme heat events. At Google's Moffett Park campus, a fully electric, fossil-fuel-free

energy system demonstrates how thermal storage can support both decarbonization and grid responsiveness. The campus relies on four large-scale thermal energy storage tanks as a core component of its mechanical strategy. While total energy-use reductions are relatively modest—on the order of five percent—the system's true value lies in load shifting. Thermal storage transforms electrification from a liability into an asset, allowing buildings to align energy use with grid conditions rather than exacerbating peak demand.

By operating heating and cooling systems during periods of lower grid carbon intensity and more favorable ambient temperatures, the campus:

- Displaces more than 5,250 metric tons of carbon emissions annually
- Significantly reduces peak electrical demand
- Achieves operational cost savings that result in payback periods under ten years



GOOGLE'S MOFFETT PARK CAMPUS. TOP: CONCEPT MASSING; BOTTOM: PHOTO OF THE BUILT CONDITIONS. SOURCE: WEST8.

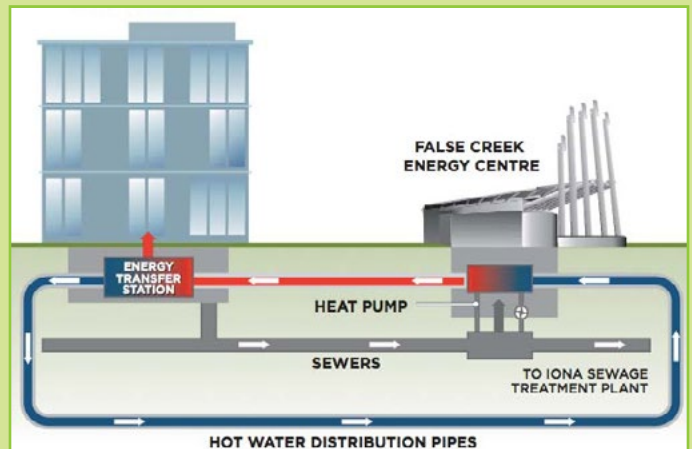
MUNICIPAL WASTEWATER HEAT RECOVERY: VANCOUVER'S FALSE CREEK NEIGHBORHOOD

The False Creek Neighborhood Energy Utility (NEU) in Southeast False Creek, Vancouver provides space heating and domestic hot water to a dense, mixed-use neighborhood through a closed-loop district energy network. At the core of the system is a sewage heat recovery plant that extracts thermal energy from municipal wastewater—capturing heat from showers, laundry, and dishwashing that would otherwise be lost. Heat pumps raise the recovered water temperature to approximately 176°F (80°C), achieving roughly 320 percent efficiency. This recovered heat supplies about 70 percent of the system's energy, with a commitment

to transition to 100 percent renewable energy by 2030. During peak demand periods, a renewable gas boiler provides supplemental capacity. The facility was strategically located beneath a bridge to minimize land-use impacts, and its exhaust stacks were designed as public art—transforming necessary infrastructure into a visible civic asset.

Critically, the NEU is owned and operated by the City of Vancouver, making it both publicly accountable and financially self-sustaining. The utility generates a return on investment while maintaining competitive energy rates, demonstrating that low-carbon district energy can be both economically viable and socially responsible.

The system was designed to be scalable and modular, expanding in phases as development comes online. This approach avoids costly retrofits and allows infrastructure investment to keep pace with growth.



AT RIGHT: SOUTH EAST FALSE CREEK NEIGHBORHOOD ENERGY UTILITY (NEU). TOP: FALSE CREEK ENERGY CENTRE; MIDDLE: CONCEPT DIAGRAM OF THE SYSTEM; BOTTOM: AERIAL PHOTO OF SOUTHEAST FALSE CREEK NEIGHBORHOOD.

SOURCE: CITY OF VANCOUVER, BC, CANADA; PERKINS EASTMAN



6.3.5 PLAN TO REDUCE EMBODIED CARBON

The carbon embedded in infrastructure systems—streets, utilities, grading, and water management—will be a defining component of the 710 Project Area’s whole-life climate impact. Because the district will be built largely from the ground up, early decisions about roadway construction, utility alignments, stormwater systems, and earthwork have a greater influence on total embodied carbon than individual buildings alone. Minimizing this impact requires embedding carbon-conscious decision-making into infrastructure planning and procurement, not just architectural design. Future development agreements and public infrastructure contracts should treat sustainability as a core value by prioritizing:

- Minimized cut-and-fill and balanced earthwork, reducing hauling, soil and export, and associated emissions
- Re-use demolition concrete as aggregate as feasible.
- Efficient street and utility layouts that reduce digging, pavement area, and material quantities
- Low-embodied-carbon materials for roads, sidewalks, pipes, and structures, including reduced-cement concrete, recycled aggregates, and optimized asphalt mixes
- Infrastructure co-location and multifunctional systems, such as stormwater capture integrated into streetscapes, bioswales, and public spaces.
- Adaptive reuse of existing infrastructure where feasible, avoiding unnecessary demolition and replacement.
- Sustainable waste management programs

These strategies will be refined and operationalized through developer RFPs, infrastructure design standards, and public works specifications, where the greatest leverage exists to reduce embodied carbon at scale.

Recommendation

- Treat embodied carbon as a primary infrastructure performance metric. Require embodied-carbon assessments for major public and private infrastructure projects—including roads, utilities, and water systems—and establish district-wide carbon reduction targets aligned with state and regional benchmarks.

6.4 Water Circularity & Resilient Water Systems

Water resilience is a core component of community health, climate adaptation, and long-term affordability. As climate change intensifies drought cycles and extreme storm events in Southern California, the 710 District presents a critical opportunity to shift from a linear, supply-dependent water model to a circular water system that prioritizes conservation, reuse, and local resource recovery.

The 710 Project Area has no existing potable water, sewer, or stormwater infrastructure. Undeveloped from a utilities standpoint, it requires new connections to the Pasadena Water Department and municipal sewer system to support future development. Planning-level assumptions estimate a full build-out potable water demand of approximately 707,580 gallons per day (5,929 acre-feet per year).

The site also functions as a low point within the surrounding watershed, receiving stormwater runoff from adjacent roadways and surrounding areas. Runoff is conveyed through the City's storm drain system to the Los Angeles River; however, the existing system is unable to accommodate 100-year storm events, creating localized flood risk due to the site's depressed elevation. There is no on-site stormwater detention, infiltration, or reuse infrastructure, and any future wastewater service would require construction of a sewer lift station to connect to municipal sewer lines located at higher elevations.

6.4.1 REDUCE POTABLE WATER DEMAND THROUGH EFFICIENCY

High-efficiency fixtures, drought-tolerant landscaping, and smart monitoring can reduce potable demand by 20–30 percent.

Recommendation

- Require water-efficient fixtures and smart monitoring to exceed baseline code performance.

6.4.2 WATER REUSE AND ALTERNATIVE SUPPLIES

To move beyond efficiency alone, non-potable water reuse at both the building and district scales is encouraged. There are several viable strategies that can significantly reduce potable water demand while remaining adaptable to regulatory and phasing constraints.

Recommendation

- Recycled or greywater for irrigation can be sourced from city or on-site wastewater treatment systems
- Enable greywater reuse for indoor non-potable applications, such as toilet flushing and laundry, enabled through dual plumbing and on-site treatment.
- Rainwater harvesting, integrated with stormwater detention systems to support irrigation, reduce potable demand and alleviate the pressure on the urban stormwater drainage system.

6.4.3 STORMWATER MANAGEMENT, DETENTION, AND RECHARGE

Stormwater management is both a life-safety issue and a resource opportunity in the 710 Project Area. Because it lies below surrounding roadways and existing storm drains cannot accommodate 100-year storm events, an integrated detention system is recommended to manage extreme rainfall and reduce downstream flooding.

Rather than treating stormwater solely as runoff to be conveyed offsite, the Vision Plan prioritizes on-site

TABLE 6.2—WATER USE ASSUMPTIONS		
Baseline Water Use	707,580 GPD	5,929 acre-ft/year
Less Additional Conservation (5)	141,516 GPD	1,186 acre-ft/year
Total Potable Water Use	566,064 GPD	4,743 acre-ft/year

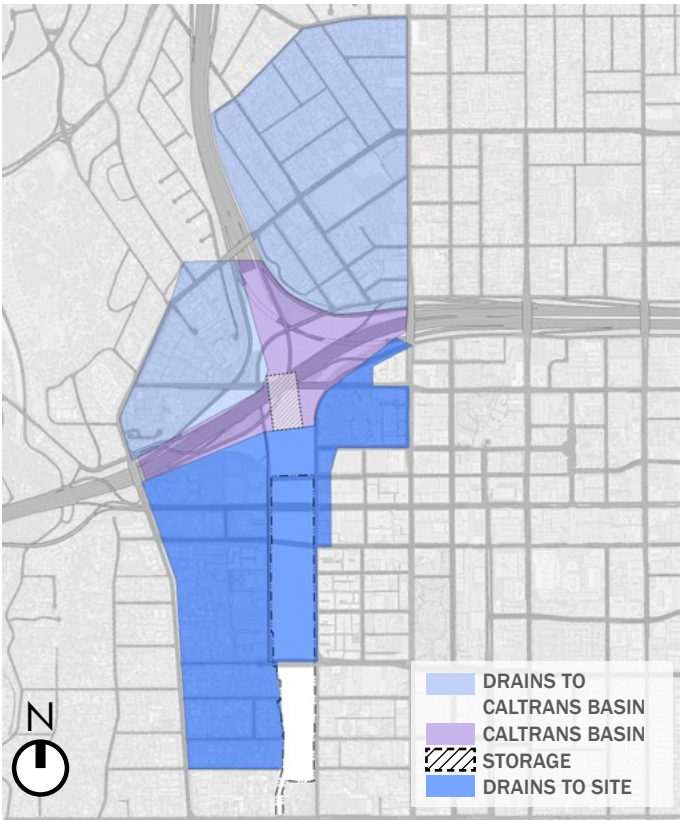


FIG 6.4 EXTENT OF STORMWATER FLOWS INTO EXISTING STORMWATER FACILITY.

capture, reuse, and infiltration. District-scale stormwater strategies include:

- Detention systems integrated beneath green spaces, streets, or boulevards
- Rain gardens, bioswales, and landscaped detention ponds
- Permeable paving and smart irrigation controls to enhance infiltration
- Detention tanks sized for irrigation reuse and groundwater recharge

These systems reduce pollution loads, support groundwater replenishment, and create visible landscape features that reinforce environmental stewardship.

Recommendation

- Establish stormwater capture and reuse targets that exceed minimum low impact development requirements and prioritize multi-benefit infrastructure that combines flood control, water supply, and public realm enhancements.

6.4.4 WASTEWATER TREATMENT AND RESOURCE RECOVERY

Conventional wastewater management relies on off-site municipal treatment. This will require a new sewer lift station due to site topography and lack of existing infrastructure.

Alternatively, the 710 Project Area offers opportunity to introduce decentralized site-wide treatment for the whole area. These treatment systems meet sustainability

objectives as they enable reuse and recover resources. These decentralized systems also offer reduced conveyance needs, thermal heat recovery, and can be flexibly implemented in phases.

The following decentralized systems were evaluated as potential solutions for the site at a high level:

- District greywater systems, such as Epic Cleantech, enabling nutrient and thermal energy recovery
- Blackwater treatment systems (this system was not selected to move forward)
- Packaged wastewater treatment plants (e.g., Smith & Loveless, Kubota), offering modular scalability

District- or building-scale greywater systems can treat up to 205,000 gallons per day, supporting irrigation and indoor reuse while providing educational and visibility benefits for residents and visitors.

Recommendation

- Initiate phased feasibility studies to select an appropriate district-scale wastewater treatment, including governance models, lifecycle costs, and integration with energy systems.
- Require new buildings to demonstrate greywater and recycled-water readiness, including space allocation, dual plumbing pathways, and coordination with public health approvals.

6.4.5 REMOVAL OF EXISTING CALTRANS STORMWATER PUMP

To facilitate future development in the 710 Project Area, the team conducted a conceptual drainage design to relocate the existing Caltrans detention basin and pump. This study included:

- Delineation of all drainage areas reaching the existing basin using best available topographic data and storm drain mapping.
- Concept level hydrologic analysis using LA County's Modrat to conservatively quantify peak flow rates and volumes.

The analysis found that the vacated 710 Project Area would continue to need its own detention basin for its drainage, although in the future, this would be City controlled and that pumping is likely necessary.

Further work is needed to

- Identify and verify design constraints and considerations; validate all assumptions to manage the division of future water stormwater flows between the City and Caltrans. Further study would also identify future areas where basins, above or underground may be feasible.

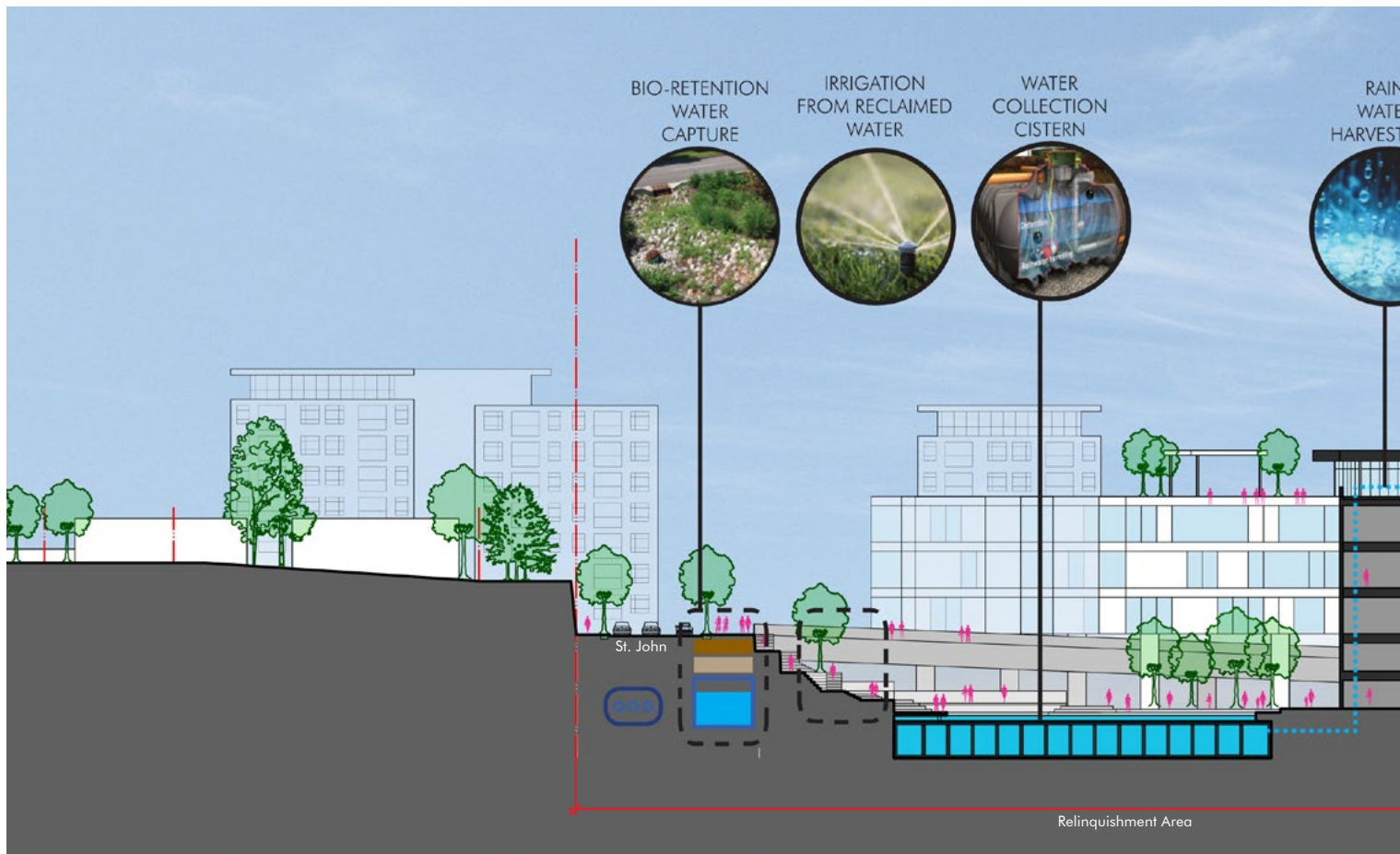
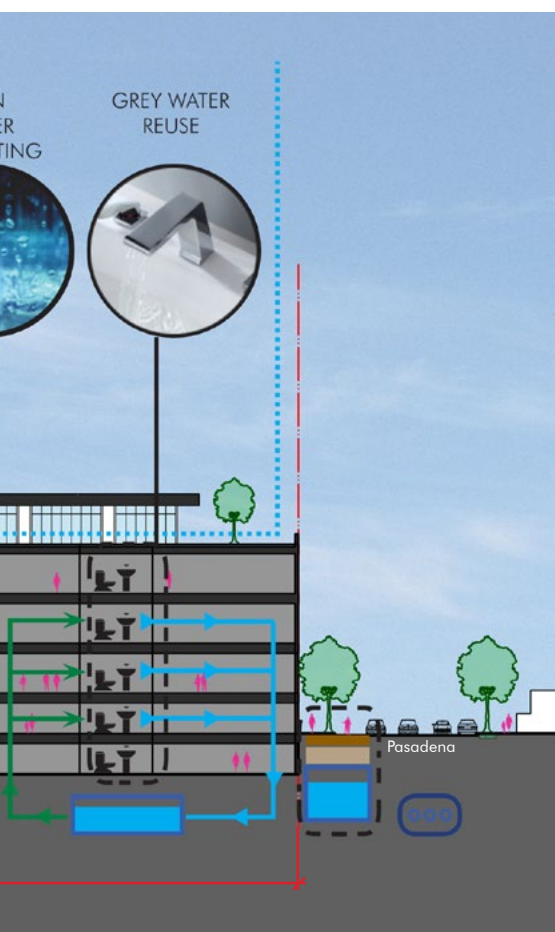


FIGURE 6.5 ILLUSTRATION SHOWING A RANGE OF SUSTAINABLE WATER TREATMENTS THAT COULD BE INCORPORATED INTO THE PROJECT AREA. NOTE THAT THIS DIAGRAM ASSUMES A STORM WATER BASIN IS LOCATED BELOW GRADE SOUTH OF DEL MAR AVENUE TO DETAIN AND STORE STORMWATER FLOWS.

Once an agreement on the overall approach for the basin removal is confirmed,

project planning, design and expected construction schedules.

- Caltrans and the City of Pasadena can work together to establish responsibility for ownership and maintenance;
- Identify additional studies needed- i.e. geotechnical studies, detailed hydrologic and hydraulic analyses to fine tune designs;
- Identify funding sources for studies, design and construction and jurisdiction responsibility;
- Identify timing of studies, design, and funding as relates to the overall 710-redevelopment





6.5 Climate, Health, and Wellness

The Vision Plan establishes strategies to address three interrelated challenges: air quality, noise, and heat. Taken together, these measures position the 710 Project Area as a healthier alternative to conventional freeway-adjacent development—one that actively mitigates environmental stressors rather than accepting them as unavoidable.

Climate resilience at the 710 Project Area is inseparable from human wellness. The legacy of freeway infrastructure has left the surrounding area exposed to elevated air pollution, chronic noise, and extreme heat—all of which disproportionately affect children, seniors, and other vulnerable populations. Health is a design responsibility, where urban form, landscape, and infrastructure work together to reduce exposure and improve daily living conditions. The following strategies ensure that future residents are not merely protected from environmental hazards, but benefit daily from a neighborhood designed to support physical, mental, and social well-being.

6.5.1 AIR QUALITY AND NOISE MITIGATION—REDUCE EXPOSURE TO AIR POLLUTION

The corridor exposes nearby residents, schools, and parks to elevated concentrations of fine particulate matter (PM_{2.5}) and nitrogen oxides (NO_x), pollutants linked to asthma, cardiovascular disease, and developmental risks in children. Addressing this exposure is most critical for sensitive uses such as housing, schools, childcare facilities, and outdoor recreation spaces.

The most effective strategies are distance and buffering; e.g. increasing the physical separation between pollution sources and sensitive receptors, while using design to dilute, filter, and redirect pollutants.

At the planning level, Air Quality strategies focus on increasing distance from pollution sources, buffering

sensitive uses, and improving filtration. Air-quality-informed site planning and ventilation strategies should apply to all sensitive uses, supported by exposure analysis during entitlement and design review.

The following best practice strategies apply to the Project Area:

Consider Air Quality When Siting Future Land Use

- Consider minimum 150–300 foot setbacks between the freeway and sensitive uses, informed by exposure modeling and peer precedent.
- Locate less sensitive uses such as parking, commercial services, or utility functions closest to the freeway edge.

Create Green Buffer Zones

- Create continuous vegetated buffers and berms along the freeway interface.
- Use multi-layered vegetation (trees, shrubs, and groundcover) selected for pollutant interception and dispersion.
- Integrate buffers with stormwater and habitat functions to maximize co-benefits.

Future Building Design and Ventilation

- Position air intakes and operable windows away from the freeway.
- Require MERV-13 or higher filtration for residential buildings and all sensitive occupancies.

- For schools and childcare facilities, consider enhanced HVAC requirements, including advanced filtration.

6.5.2 REDUCE NOISE EXPOSURE

Chronic exposure to highway noise is associated with increased cardiovascular stress, sleep disruption, and cognitive impacts—particularly for children. Noise mitigation is addressed through land-use placement, massing, and façade performance and can be supplemented by the intentional placement of noise barriers.

Recommendation

Adopt acoustic performance standards tied to measured or modeled noise exposure, ensuring mitigation is tailored to site-specific conditions rather than applied uniformly. The following best practice strategies reduce noise exposure:

Noise Mapping

- Conduct noise mapping to inform land use placement, building orientation, and façade design.

Strategic Massing and Use Placement

- Place less noise-sensitive uses (parking, commercial, service spaces) closest to the freeway.
- Locate residential buildings, schools, and parks further from the noise source, shielded by intervening structures and landscape buffers.

Building Configuration

- Orient buildings so that quieter interior spaces—such as bedrooms and classrooms—are located on façades facing away from the freeway.
- Use courtyards and U-shaped building forms to create acoustically protected outdoor spaces.

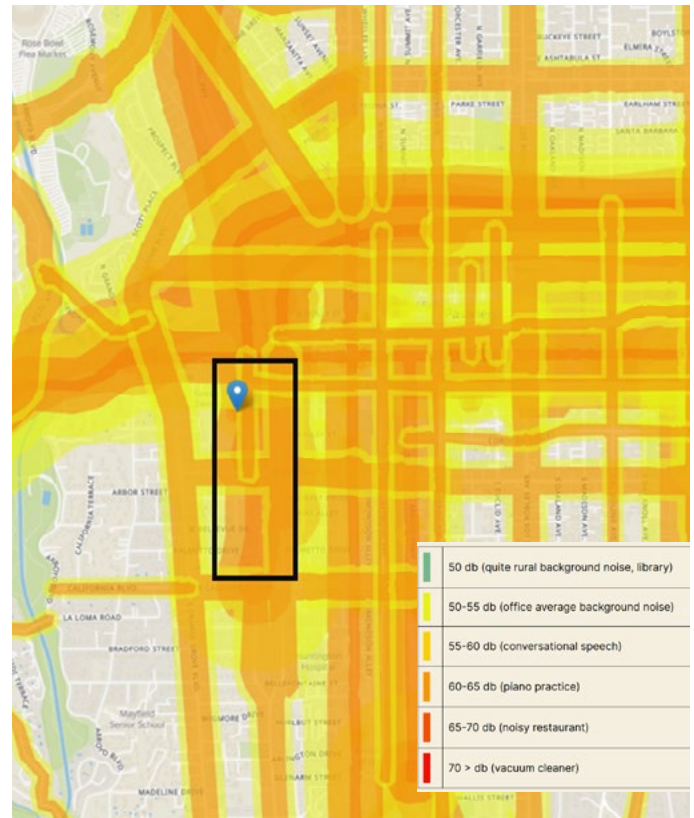


FIG 6.5 NOISE MAP SHOWING THE PROJECT AREA SOURCE: [HTTPS://NOISE-MAP.COM/HOME/#CONTACT-SECTION](https://noise-map.com/home/#contact-section)

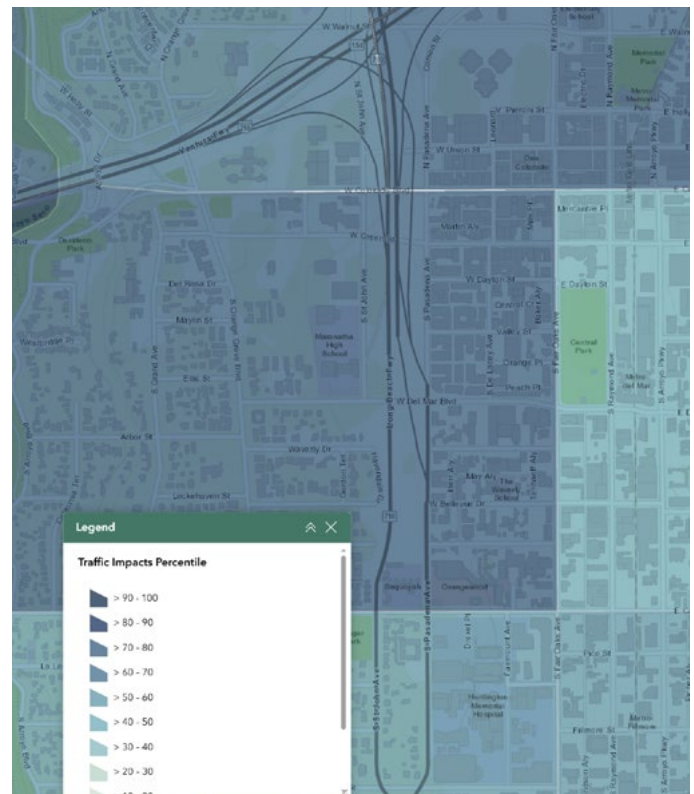


FIG 6.6 CALENVIROSCREEN TRAFFIC IMPACT PERCENTILE MAP

Façades and Barriers

- Establish minimum acoustic performance standards for façades, including target STC (Sound Transmission Class) and NRC (Noise Reduction Coefficient) values appropriate to exposure levels.
- Employ a mix of barrier materials—such as earth berms, concrete, masonry, wood, metal, or transparent panels—integrated with landscape design to reduce visual and acoustic impacts

6.5.3 URBAN HEAT MITIGATION AND TREE CANOPY—TREES AS ESSENTIAL HEALTH INFRASTRUCTURE

Urban heat is one of the most immediate and dangerous climate risks facing Pasadena. Designing streets, parks, and plazas with large canopy trees, shaded walkways, and planted public spaces is essential to ensuring that people can safely enjoy the new neighborhood throughout the day and across seasons.

A strong urban forest delivers multiple, overlapping benefits: it reduces ambient temperatures, improves air quality, supports mental health, enhances social cohesion, and encourages walking and cycling. These benefits are particularly important in freeway-adjacent communities where heat and pollution burdens overlap.

Pasadena brings a strong foundation to this work. The City has been recognized as a Tree City USA for nearly three decades, manages more than 60,000 public trees across 250+ species, and enforces one of the region's most robust Tree Protection Ordinances. Recent increases in annual tree planting paired with an emphasis on drought-tolerant native species signal a continued commitment to canopy expansion as a climate resilience strategy.

Public health research consistently shows that neighborhoods with higher tree cover experience lower rates of heat-related illness, reduced stress, improved mental health, and better overall health outcomes, even when controlling for socioeconomic factors.

Recommendation

- Establish canopy coverage targets as a binding planning metric, supported by long-term maintenance requirements and species selection guidelines aligned with drought resilience and habitat goals. The following quantitative canopy targets are tailored to the district's climate and land use mix. While many Southern California communities average 15–20% canopy cover, higher targets are both achievable and necessary to meaningfully reduce heat exposure in this context.

Recommended Targets

- Expanded canopy at the following levels can reduce local temperatures by 4–7°F, significantly improve outdoor thermal comfort, and dramatically increase walking and cycling rates—supporting both public health and climate goals.

25–30% canopy cover district-wide

30–35% canopy cover for parks, schools, pedestrian corridors, and key public spaces

6.6 Leveraging Third-Party Rating Systems

Third-party rating systems provide a structured framework for implementation, verification, and accountability ensuring that Vision Plan goals translate into measurable performance over time.

For the 710 District, district-scale certification systems such as LEED for Neighborhood Development (LEED ND) and the WELL Community Standard offer complementary pathways to reinforce the City's climate, equity, and public-health objectives.

Rather than prescribing a single certification outcome, it is possible to strategically align with the frameworks and metrics of these systems, using them as tools to guide design, coordinate stakeholders, and verify performance.

- Align goals and checklists with LEED ND and WELL Community credit structures
- Encourage certification for select catalytic projects, or early phases
- Require select credits or performance thresholds (e.g., air quality, canopy, walkability) regardless of formal certification
- Use third-party verification to support CEQA findings, grant applications, and public accountability

Potential Benefits

- *Reduced Risk:* Clear, tested frameworks reduce uncertainty for developers and reviewers.
- *Accountability:* Independent verification ensures performance commitments are met.
- *Funding Leverage:* Many state and federal grants prioritize projects aligned with recognized rating systems.
- *Public Trust:* Transparent standards build confidence that health and climate goals are real, not symbolic.

6.6.1 LEED FOR NEIGHBORHOOD DEVELOPMENT: CLIMATE-POSITIVE URBAN FORM

LEED for Neighborhood Development is specifically designed to evaluate sustainability at the district scale, integrating land use, transportation, energy, water, and ecosystem health. Its structure aligns closely with the Vision Plan's emphasis on compact development, shared infrastructure, and reduced environmental exposure. It also provides a phased certification pathway, allowing early design commitments to be locked in while accommodating long-term build out.

Recommendation: Use LEED ND as a planning and entitlement alignment tool, referencing its credit categories to structure zoning overlays, street standards, and infrastructure requirements—without requiring full certification unless market conditions support it. Key LEED ND alignments include:

Integrated Land Use and Transportation

- Encourages compact, mixed-use development that reduces vehicle miles traveled and associated emissions.
- Supports walkability, transit access, and bicycle infrastructure—reinforcing the City's ITS Master Plan.
- Climate and Energy Performance
- Rewards district energy systems, on-site renewable generation, and reduced operational carbon.
- Supports all-electric strategies and infrastructure readiness for future decarbonization.



US GREEN BUILDING COUNCIL—LEED
FOR CITIES AND COMMUNITIES



INTERNATIONAL WELL BUILDING INSTITUTE—
THE WELL COMMUNITY STANDARD

Heat and Ecology

- Incentivizes tree canopy expansion, green infrastructure, and heat island mitigation—directly supporting urban heat and wellness goals.

6.6.2 WELL COMMUNITY STANDARD: HEALTH-CENTERED NEIGHBORHOOD DESIGN

As an alternative or supplementary to LEED, the WELL Community Standard focuses explicitly on human health and well-being at the community scale, addressing air, water, sound, thermal comfort, movement, and mental health. It complements LEED ND by translating environmental performance into direct public health outcomes.

- **Recommendation:** Reference WELL Community metrics as health performance benchmarks, particularly for sensitive uses and public spaces, to ensure that wellness outcomes are measurable and verifiable. Key WELL Community alignments include:

Air and Acoustic Health

- Establishes performance-based thresholds for indoor and outdoor air quality, filtration, and noise reduction.

Thermal Comfort and Heat Resilience

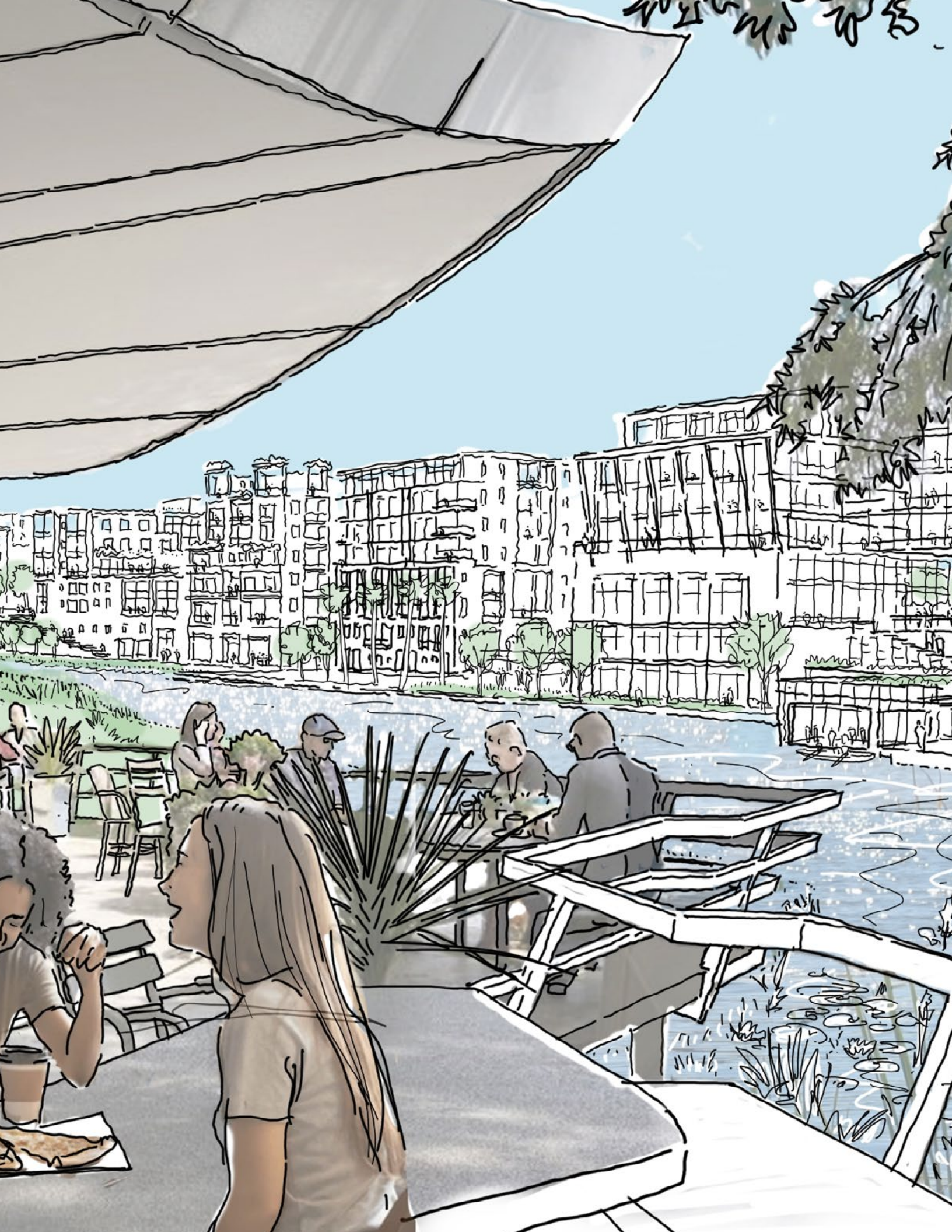
- Encourages shaded public spaces, heat mitigation strategies, and passive survivability—critical in a warming climate.

Active Living and Mental Health

- Promote walkable streets, access to green space, and social infrastructure that supports community cohesion and stress reduction.

Equity and Vulnerable Populations

- Emphasizes protection for sensitive uses such as schools, childcare facilities, and senior housing—aligning with Pasadena’s public health priorities.



7

IMPLEMENTATION + NEXT STEPS



7.1 Feasibility at the Concept Stage

To build in the 710-corridor, the City must assume a full complement of infrastructure—multi-modal (transit-friendly, vehicular and pedestrian complete streets) mobility improvements, new public spaces, and critical systems—including potable water and electrical power. It must also rework existing water storage and stormwater facilities. Implementation of the vision requires a robust process, conducted over multiple phases with an estimated duration of approximately 20 years to full build out. Each element must be carefully planned to support future public and private vertical development (estimated at 3–3.5 million gross square feet). In addition to baseline public infrastructure, this Plan also puts forward a compliment of aspirational public objectives through its Restorative Justice Framework, and a set of resilience and sustainability recommendations.

To support early-stage planning and provide a rough understanding of some of the potential costs, the Consultant team conducted a “Scenario Feasibility Analysis.” This analysis looked at the “horizontal costs,” based on the foundational roadway network assumptions, and preliminary “vertical costs,” based on generalized land uses and buildings (multifamily with below grade parking).

Additional funding streams and approaches will be needed to support the type of high-quality, sustainable, resilient, and equitable development the City seeks to reach its policy goals. The Consultant team found that in 2025, high construction material costs, elevated labor costs, and sustained high interest rates significantly constrain the projected development feasibility. These factors are dynamic. Using the analysis as a framework, the City can revisit assumptions and update feasibility as market conditions, policy priorities, and project designs evolve. Potential land value payments, infrastructure cost sharing, or other public-benefit contributions can be layered on in subsequent phases. Enabling flexible land

uses at this early stage can help to ensure long-term feasibility, allowing the project to pivot to the market.

7.1.1 Scenario testing for affordable housing

To provide a basis to understand the effects of a commitment to increased affordability as sought by the RC Advisory Group, the Project team conducted a series of sensitivity tests—these test focus on how requirements for affordability both in its depth of affordability and the number of affordable units might impact overall project feasibility. Tests show that the redevelopment must carefully balance ambition with market realism. Across all tested scenarios, increases in the share of affordable housing units generally reduce net profit and increase the required financing gap.

- Residential land uses were assumed in all scenarios in accordance with the requirements of the City’s existing Inclusionary Housing Ordinance.
- Sensitivity test scenarios developed to explore higher percentages of residential units (e.g. 75% of the total program is assumed as residential) performed better, and showed the strongest net profit, equity multiple, levered internal rate of return (IRR), and resilience to affordability and timing sensitivities.
- However, timing assumptions will strongly influence feasibility, pushing implementation more towards shorter phased strategies, as well as additional clarity needed for future public-sector participation (non-profit structure, ownership or rental) which is unknown at this stage of the project.
- Higher commercial shares modestly improve feasibility, reflecting current demand dynamics and revenue performance.

7.1.2 Preliminary Roadway Cost Estimating

Table 7.1 shows preliminary infrastructure cost estimates needed to complete a portion of the multi-modal transportation network envisioned: the “complete streets” roadway program. These estimates include all roadway

infrastructure within the public right-of-way (streets, sidewalks, curbs, landscaping, light poles, etc.), but do not include major water or utility-related costs, as there is not enough information at this stage to cost those elements. Horizontal infrastructure costs are not inclusive of future resilience and/or sustainability commitments. These costs are unlikely to be fully reimbursed by private development under current conditions, indicating a need for public-sector funding mechanisms, including, but not limited to, Enhanced Infrastructure Financing Districts (EIFDs), Community Facility Districts (CFDs), grants, or long-term financing. Table 7.1 shows how

as additional streets are added in the Boulevard and Paseo's concept the costs rise. Two versions of the Boulevard and Paseo's concept were explored reflecting various means to rebuild streets; e.g. on fill (building up the dirt underneath) or on a deck; e.g. deck enabling a connected volume of structured spaces below.

7.1.3 Project Revenues

The consultant team quantified the potential increase in property tax revenues associated with a build-out of the proposed development programs, including estimates of how those revenues could be distributed among the

TABLE 7.1 ROADWAY ONLY INFRASTRUCTURE COST ESTIMATES

COST ESTIMATES	GARDEN AND TERRACES	BOULEVARD AND PASEOS	
	<i>Maintains/adapts majority of east-to-west bridges</i>	<i>Adds new, and Rebuilds East-to-West Street on Fill</i>	<i>Adds new, and Rebuilds East-to-West Streets Slab on Deck</i>
Low Range	\$127 million	\$235 million	\$339 million
Estimated Probable Cost	\$132 million	\$247 million	\$355 million
High Range	\$147 million	\$272 million	\$392 million

TABLE 7.2 PROPERTY TAX PROCEEDS

Land Use Mix Assumptions	GARDEN AND TERRACES		BOULEVARD AND PASEOS	
	75% Residential	60% Residential	75% Residential	60% Residential
100-Year Property Tax Proceeds	\$12.1 billion	\$11.4 billion	\$11.0 billion	\$10.3 billion
Estimated City Share (20%)	\$2.4 billion	\$2.3 billion	\$2.2 billion	\$2.1 billion

SOURCE: AECOM

City of Pasadena, Los Angeles County, and other taxing entities in a typical stabilized year. Preliminary analysis indicates that cumulative 100-year property tax revenues could exceed \$10 billion in total, with approximately \$2 billion accruing to the City of Pasadena. These long-term revenues represent a significant public-sector return associated with redevelopment, even in the absence of near-term land payments (e.g. lease structures).

In addition to property taxes, the project is expected to generate substantial other public revenues over its lifecycle, including sales tax, income tax, hotel occupancy tax (where applicable at nearby sites), and other transaction-based taxes at the local, state, and federal levels. Fee revenues, such as permit fees, impact fees, and planning fees, are also anticipated and are embedded within the construction cost assumptions used in the proforma analysis. As with all planning-level analyses, these value capture estimates reflect current market conditions and baseline assumptions and will evolve over time as project design, phasing, policy frameworks, and economic conditions change.

Determining Next Steps

With City Council's consideration, and their direction on vision concepts, the next phases of work will clarify choices. The City will determine the planning process for entitlement and environmental clearance, project schedule and phases, and the potential for new investment partnerships. The Project may be subdivided into a series of capital projects alongside developer and private sector driven investment. A phased approach to the Project Area's development offers benefits. This can help balance the upfront cost of infrastructure needed to support future vertical development. A phased approach could involve a series of actions, strategies and partnerships, in addition to new internal city resources and/or management structures. Phased development could also offer longer hold periods to materially improve feasibility, and could offer various incremental delivery, long-term ownership and/or public-private partnership opportunities.

The final redevelopment must also be stewarded by sustained and coordinated operations—from maintenance of potential new park facilities to programmatic activation of this urban neighborhood within the overall services of the City of Pasadena.

It is anticipated that the City will establish a governance entity to oversee a Finance, Design, Build, Operation and Maintenance (FDBOM) strategy that generates community benefit, leverages increased value, and ensures long-term operational success.

Next steps include the resolution of outstanding questions—technical, programmatic, and financing to make the vision into a reality. At high level, these might include:

- Initiate process for entitlements and regulatory requirements
- Clarify City land contribution assumptions
- Delivery mechanisms: Determine the appropriate path, e.g. ground lease structure vs. land sales and related trade-offs between land value, public benefit, and project outcomes.
- Ensure a delivery mechanism is coordinated with the Restorative Justice strategy.
- Resolve phasing, funding strategies, and risk considerations, including assessments of ongoing city costs of operating the site (public services)

Section 7.2 summarizes the next steps and unresolved issues for the areas discussed in this Plan. Next steps are organized into Near Term (0-5 years) and Mid Term (5–10 years).

- Restorative Justice
- Physical Reconnection | Mobility and Circulation
- Land Use Programs and Affordability
- Sustainability Objectives
- Funding and Finance

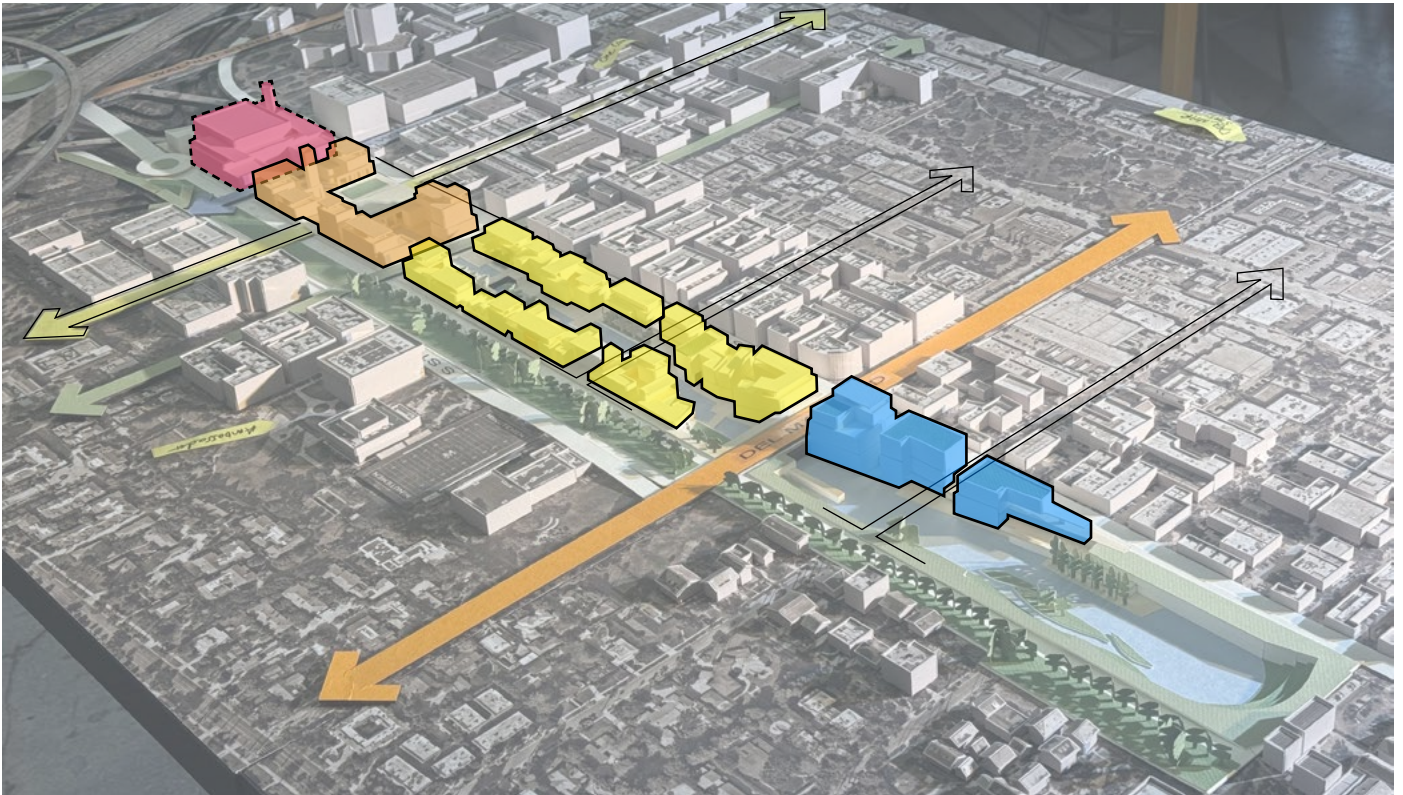


FIG 7.1: VERTICAL DEVELOPMENT WILL BE DEVELOPED IN CONCERT WITH NEW INFRASTRUCTURE FOR ROADWAYS, ENERGY, WATER AND POWER

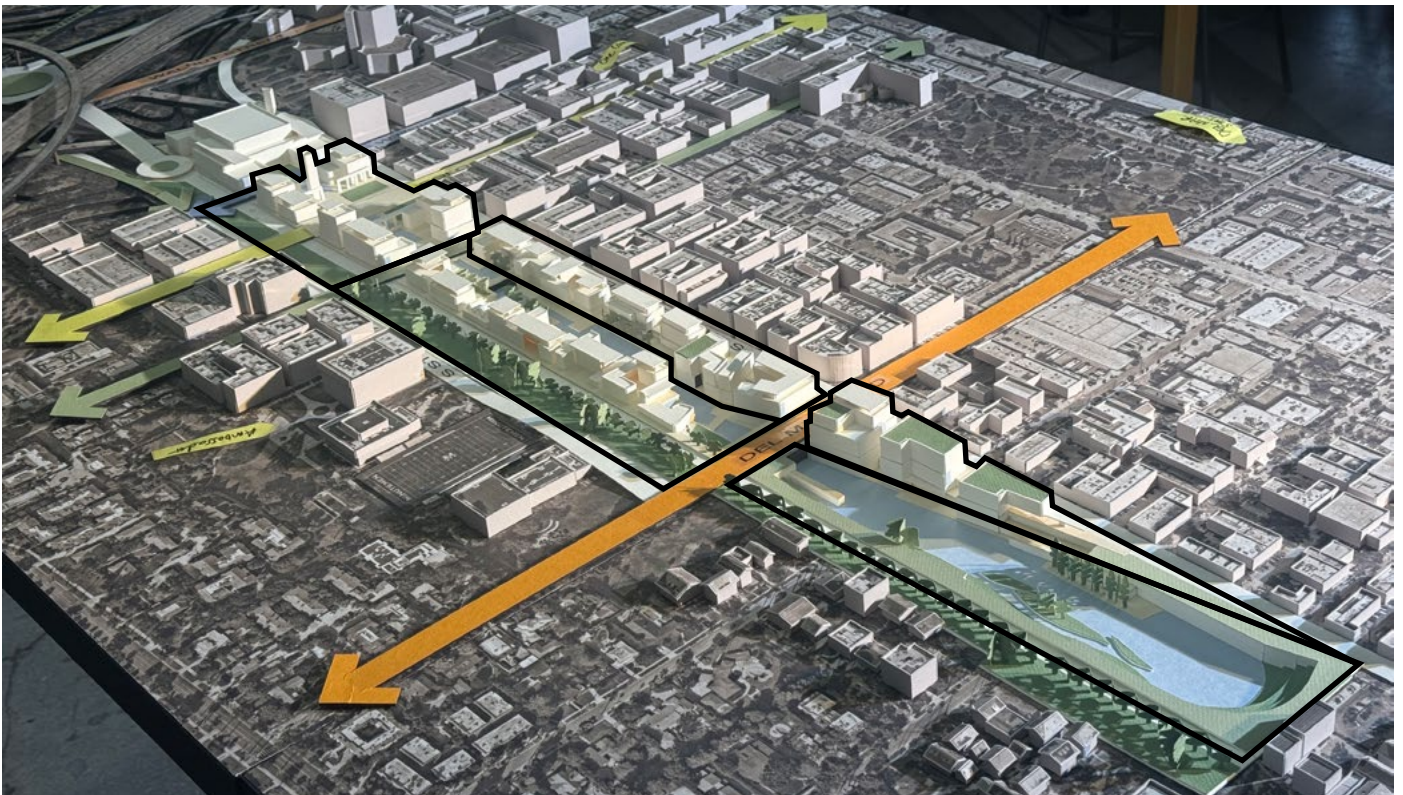


FIGURE 7.2: FUTURE PHASES MAY COMBINE BOTH VERTICAL AND HORIZONTAL DEVELOPMENTS TO ACHIEVE KEY PUBLIC OBJECTIVES. BLACK LINES ARE AN EXAMPLE OF HOW PHASES COULD BE BROKEN OUT.

7.2 Next Steps

7.2.1 Restorative Justice

Near term actions for Restorative Justice focus on validation of feasible targets for affordability and other public benefits. The Restorative Justice Framework commits the City to enable new housing for impacted communities, and other specialized populations—students, seniors, and families.

Advisory Group recommendations (yet to be endorsed by Council) suggest that the City initiate a mechanism that ties restorative justice goals to the project’s long term redevelopment, offering ideas for a community led oversight body.

ACTION		TIME FRAME
1.	Conduct necessary studies to confirm housing affordability targets within the project area’s boundaries. (RJ Element Affordable housing and Affordable Housing Registry)	Near-term
2.	Build on the work conducted in the Reconnecting Pasadena “Historic Project” to confirm a strategy for the creation, and maintenance of a Restorative Justice “registry” for displaced and impacted community members. Work on this strategy in coordination with appropriate citizen-led organizations. (RJ Element Affordable housing and Affordable Housing Registry)	Mid-term
3.	Initiate a “public realm plan” for the Project Area concurrent with Council direction and identify a site to incorporate a memorial or public art dedication.	Mid-term
4.	Issue a formal apology from the City of Pasadena (RJ Elements Highway Construction and Historic Acknowledgment) specific to the 710 corridor.	Near-term
5.	Clarify commitments and projected potential costs associated with RJ elements including remuneration recommendations, to be used in future project financing assumptions. (RJ Element Communities Wealth Generation through Home and Business Ownership)	Near-term

7.2.2 Physical Reconnection, Mobility and Circulation

Council-approved direction on an initial roadway network will influence the street and block pattern, related infrastructure costs, initial project phasing as well as the amount of land available for development. Clarity on the circulation network is critical to future project implementation as it will also determine early-phase vehicular capacity that can be accommodated

and at what level in the north-south and east-west directions. Next steps should also include City coordination with Caltrans to repurpose the SR-134/SR-710/I-210 interchange to a feasible local-to-regional circulation network that meets transportation goals—complementing three north-south running streets, and a full terminus to slow regional traffic.

ACTION	TIME FRAME
Complete Memorandum of Understanding with Caltrans District 7, defining roles and responsibilities for Projection Initiation Agreements to address I-210/SR-134 ramp closures and reconfiguration. 1. Evaluate and establish a preferred circulation approach, either the Boulevard & Paseos or the Gardens & Terraces framework, to support regional-to-local connections. Identify phasing of ramp reconfiguration with Caltrans, followed by required Project Study Reports (PSR) to be prepared by Caltrans.	Near-term/Midterm
2 Coordinate with Caltrans on the “Gateway” parcel for a mobility hub and ancillary land uses.	Near Term
3 Encourage Caltrans to address freeway and interchange improvements adjacent to the Project Area to alleviate bottlenecks and improve safety; e.g. means to reduce weaving in the 210-to-210 movements.	Mid-Term
4 Conduct Measure R Coordination: Update street designs for Pasadena Ave to anticipate its future 2-way street configuration. Identify and design related enabling projects; e.g. assess opportunity for Del Mar Ave on-ramp reconfiguration and/or closure to support early redevelopment project phases.	Near-term
5 Leverage the project’s central location and provide for a local transit circulator/connector to provide transit connectivity to Northwest Pasadena, Old Pasadena, Huntington Hospital, and other key local and regional destinations.	Mid-Term
6 Initiate a project with Caltrans District 7 to reassign/remove directional signage on I-210 to alleviate through traffic, specifically, signs encouraging travelers to use the SR-710 stub to get to the I-110.	Mid-Term
7 Coordinate with Metro on regional improvements to Memorial Park Station and the No Ho to Pasadena Bus Rapid Transit project.	Mid-Term
8 Coordinate with the former Parsons redevelopment regarding design of Holly Street and plan for the street extension into the future neighborhood.	Near-term
9 Develop a Transportation Demand Management (TDM) plan for the area and consider setting up a Transportation Management Organization (TMO) for the project area.	Mid-Term/Long Term
10 Continue to explore the potential redesign of Maple Street—as part of multi-modal options for connectivity to key Pasadena destinations.	Mid-Term

7.2.3 Land Use Programs and Affordability

The Vision Plan describes the programmatic attributes, targeted uses, and urban form vision for three proposed areas including the potential for up to 1800 housing units of many types. The next step is to create a preferred scenario, identify phased development

projects, with a focus first on residential uses. Additional work must also be conducted to remove the Caltrans stormwater facility south of Del Mar and plan for the required new stormwater and electrical infrastructure to complement the new growth.

ACTION		TIME FRAME
1.	Conduct additional land use planning and programming for entitlement and environmental clearance. Further refine all land use mix assumptions and develop both design and development standards that support cultural programming, educational activities, and commercial use to serve corridor communities.	Near-Term
2.	In coordination with future project governance, conduct a residential housing study to determine target household demographics and conduct further testing to determine the location, scale and affordability levels that can be supported in the Project Area, without becoming infeasible. Target demographics should be inclusive of student, senior and family housing. Consider means to prioritize residential land uses in identified early project phases and explore working with select housing partners.	Near-Term
3.	Consider a contiguous 4-acres of new park space on the site, including active and passive programs (sports fields, recreation facilities and learning opportunities) as part of future entitlement process. Develop a Public Realm Plan as part of the entitlement process that supports an inventory of additional smaller plaza, park spaces on each block to increase the park and public space allocate to approximately 7 acres.	Near-Term/Mid-Term
4.	Coordinate with City Planning on the next General Plan Update (specifically updates to the Land Use and Circulation Elements).	Mid-Term

7.2.4 Sustainability and Resilience

All sustainability and resiliency actions should be developed and implemented in conjunction with future land use and comprehensive mobility planning. A policy decision will be required to commit to “game changing” and district level solutions explored in the document—around specifically district energy, and piloting leading

technologies reducing the Project’s carbon impact by half. The Vision Plan encourages exploration of pioneering, district-level sustainability and resilience strategies that could position the Project as a leader within the Southern California region.

ACTION	TIME FRAME
1. Coordinate with the City of Pasadena Climate Action Plan update, and commit to a net-zero feasible 710 Development.	Near-Term
2. Circular Water Planning—Coordinate with Caltrans to identify a new location for the existing stormwater facility and initiate the necessary technical study to size and locate the new stormwater pump(s).	Near-Term
3. Conduct technical studies to plan for “game-changers”—future district scale stormwater and renewable energy strategies and systems such as a Central Utility District, microgrid etc. Coordinate these findings with the funding and financing plan, with consideration of overall return on investment.	Near-Term/Mid-Term
4. Coordinate with Pasadena Water and Power to allocate space for future battery storage facility in coordination with solar power, and micro grid.	Mid-Term
5. Include public health targets in future design guidelines with attention to air quality, noise and extreme heat.	Near-Term
6. Commit to sustainability goals and potential Third Party certifications—LEED and /or Well.	Near-Term
7. Embed heat mitigation strategies as part of entitlement and development standards (e.g., cool roofs, cool pavement, tree canopy, etc.)	Near-Term

7.2.5 Funding and Finance

The Project Area is well positioned to leverage a layered funding and financing strategy that combines development-based contributions, local value capture tools, and state and federal capital programs. At the project level, development-based funding sources such as impact fees, development agreement provisions, exactions, and direct developer equity and conventional debt represent the most immediately available and controllable tools. These mechanisms could be directly tied to project phasing and entitlement and can support a wide range of on-site infrastructure, including streets, utilities, open space, and vertical development.

Land-secured and municipal financing mechanisms provide opportunities to supplement development-based funding and support larger-scale horizontal improvements. Community Financing Districts (CFDs) and Enhanced Infrastructure Financing Districts (EIFD) are particularly strong fits for the site, as they allow the City to capture future value created by redevelopment through parcel-based assessments or tax increment to fund infrastructure, public facilities, and transit-oriented improvements. While General Obligation (GO) bonds and parcel taxes offer broader funding capacity, their reliance on voter approval and citywide priorities make them less reliable as primary sources.

State and federal programs represent a critical source of catalytic capital, particularly for affordable housing, transportation, green infrastructure, and climate resilience improvements. Affordable housing development can be supported through a combination of Low-Income Housing Tax Credits (LIHTC) and tax-exempt Private Activity Bonds (PAB). Non-residential and community-serving components of the project may leverage New Markets Tax Credits (NMTC) to support job-generating commercial and mixed-use development.

Transportation, stormwater, and public realm investments could be especially well aligned with regional, state and federal grant programs, including Measure W, Active Transportation Program, Prop 1 Stormwater Grant Program, Urban Greening, and CalFire Urban Forestry.

Some of these programs also support complete streets, multimodal access, green infrastructure, heat mitigation, and nature-based solutions, all of which are central to reconnecting the site to surrounding neighborhoods. Larger-scale transportation and infrastructure improvements may also be eligible for federal credit assistance through Transportation Infrastructure Finance and Innovation Act (TIFIA) or long-term financing through Community Development Block Grant (CDBG) Section 108. Collectively, these sources can significantly reduce the local funding burden while advancing equity, climate resilience, and economic development goals.

Overall, the strongest funding strategy for the 710 Project Area is a coordinated approach that aligns development-based contributions and value capture tools with targeted state and federal grants and financing programs. This approach enables the City to maximize leverage, phase infrastructure investment alongside development, and align funding sources with specific project components.

ACTION	TIME FRAME
1. In conjunction with a Reconnecting Pasadena governance structure, explore the formation of funding and finance powers and opportunities, including, but not limited to, a taxing district (Enhanced Infrastructure Financing District) to help finance the long-term build-out of the area.	Near-term
2. In conjunction with a Reconnecting Pasadena governance structure, develop a financing plan and coordinate with potential grants, partners and state level objectives. As part of the above, identify funding streams and public private partnership approaches to support high-quality, sustainable, resilient, and equitable development goals—including community and cultural facilities, learning centers, and intergenerational spaces.	Near-term
3. Identify and fund critical enabling projects with a positive cost/benefit outcome for the City of Pasadena.	Near-term/Mid-term



Reconnecting Pasadena 710 Vision Plan

Recommended Restorative Justice Elements by the Restorative Justice Standing Committee (RJSC)

**For the purposes of this document, “DISPLACED COMMUNITIES” is defined as people and their descendants who were forced to move due to the construction of the 710 and 210 freeways. This includes those displaced from neighborhoods within the parameters of the 710 and 210 freeway bounded approximately by Northwest Arroyo/Woodbury to the north, Mentone/Montana to the northeast, St. John Avenue to the west, and Pasadena Avenue to Columbia Street on the east, or other institutional policies, practices, and projects that contributed to segregation, including housing discrimination, redlining, and the redevelopment of the central business district and adjacent areas.*

***For the purposes of this document, “IMPACTED COMMUNITIES” are adjacent to those that are negatively impacted, but not displaced by the 710 & 210 parameters as stated above.*

Eligibility for specific recommendations are reflected in the element’s recommendations below.

	Restorative Justice Element	RJSC Recommendation
1.	Highway Construction	The Restorative Justice Standing Committee (RJSC) acknowledges that the City of Pasadena recognizes the harm caused by the construction of the SR-710 and, through the Reconnecting Communities Planning project, is working to recognize and address this harm.
2.	Policy Adoption	The City should consider the RJSC's revised restorative justice elements for application to the 710 Vision Plan project and to the entire City where applicable. Prioritizing measures that prevent future harm caused by infrastructure or policies to impacted or vulnerable communities in Pasadena.
3.	Historical Acknowledgement	1. A formal public acknowledgment of harms and an apology from the Mayor on behalf of the City of Pasadena. We also encourage apologies from other government entities, involved in the displacement of the impacted communities (e.g. State and Federal government). 2. The creation of permanent programmable and publicly accessible physical space reflective of the community, that brings to life the cultural, and physical aspects of the community that existed before the construction of the SR-710, and triggers reflection of cultural histories for the future. 3. The creation and inclusion of an educational or performing arts component, based on the history of the 710 Stub area, in the curriculum of local schools and/or libraries.

	Restorative Justice Element	RJSC Recommendation
4.	Hard Infrastructure	The City should prioritize circulation and mobility options for the 710 Vision Plan project that prioritizes infrastructure connectivity with the historically redlined Northwest section of Pasadena. Creating infrastructure that will foster involvement and movement to and from impacted communities and the entire City into the proposed 710 Stub area and related community engagement events or opportunities.
5.	Restorative Justice Community Oversight Committee (RJCOC)	While the RJSC recognizes that the decision-making power in Pasadena lies in the hands of the City Council, it understands the importance of open dialogue with impacted communities** in the development of the 710 Stub area. This should be a structured and inclusive process where impacted community members are actively heard, allowing them to share their experiences, express concerns, and articulate their aspirations for their community, even if the community isn't a formal or final decision-maker. What is the Restorative Justice Community Oversight Committee? The Restorative Justice Community Oversight Committee (RJCOC) is a body of community stakeholders that will be responsible for ensuring that all aspects of implementation of development of all matters pertaining to the 710 Stub will be consistent and will follow all the RJ Elements of the RC 710 Vision Plan. The RJCOC will play an essential role in ensuring the success and accountability of the project. Working in close coordination with the Planning Commission, the RJCOC will be integrated into the process at a key stage to help keep the project on track and aligned with community expectations. The RJCOC is responsible for reviewing project plans prior to their presentation to the Planning Commission and City Council, providing early input and oversight. The committee will be actively involved in all aspects of the project, offering guidance, raising concerns, and ensuring transparency throughout the planning and implementation phases. This is a stipend-based position, requiring a significant time commitment. Specific recommendations include: 1. Creation of a RJCOC appointed by the City Council, with at least 51% of the members being descendants and/or a representative of those displaced or impacted by the construction of the SR 710 freeway and 210 freeway (between Northwest-

		Arroyo/Woodbury, Northeast- Mentone/Montana, West-St. John, East Pasadena Ave to California Street). The priority criteria for RJCOC selection of the 4-year term must include the following: - Representation of the displaced, descendants and those that were directly harmed or their designated representative (51%) and those that no longer reside in Pasadena. - Representative demographics and ethnicity as specified in the UCLA report - Representation of each City Council District - Individual or professional skills - Renters - The RJCOC will facilitate and ensure impacted communities participate in an inclusive open dialogue process meant to guide the implementation of the 710 Vision Plan project. - To enable participation, the RJCOC will be tasked with creating a registry of those displaced by the partial construction of the 710 freeway within the parameters listed above and other institutional policies, practices, and projects that contributed to segregation, including housing discrimination, redlining, and the redevelopment of the central business district and adjacent areas for identification, of right of first opportunities outlined in the remainder of the document.
6.	Community Benefits Planning Framework	Meaningful, measurable community benefits, such as equitable labor practices, affordable housing, or shared public spaces, should be delivered and maintained. Legal agreements to be considered include, but are not limited to, Disposition and Development Agreements, Ground Leases, and Community Benefit Agreements (CBAs). City policies applicable to the entire 710 stub area, such as Specific Plans, may also apply. These instruments are legally binding and commonly used in development negotiations. Ultimately, the City Council serves as the final decision-making authority and signatory to any agreements. Specific recommendations include: Based on the Restorative Justice Elements, a matrix of the anticipated community benefits will have been received by the end of the project. The matrix will include all of the different types of benefits outlined in this document, the potential funding sources of the benefit, and the timeline.

		2. RJCOC to receive copies of each legal agreement signed by the City, along with a summary of the community benefits included in the agreement, the mechanism for enforcement, applicable penalties outlined by the RJCOC (to be determined), and the implementation schedule. RJCOC shall also have the capacity to monitor compliance with these agreements, including reviewing progress, identifying non-compliance, and recommending corrective actions to the City Council as needed.
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7. Communities Wealth Generation through Home and Business Ownership	The City should prioritize housing affordability, but more importantly, home and business ownership as part of the implementation of the 710 Vision Plan. The RJSC believes home ownership is a vehicle for wealth generation. Displaced Community members at various levels of affordability should have access to priority home ownership and/or business ownership incubator programs. The approach recognizes that lasting economic justice requires not only jobs and services but also asset-building, ensuring that community members can own property, build equity, and remain rooted in their place. Specific recommendations include: 1. The focus of community wealth generation through home or business ownership must be on displaced homeowners, renters, and non-profit, business owners and institutions affected by the construction of the SR-710 and I-210 freeways, as well as other institutional forces such as land-use regulations, redlining, and racially restrictive covenants, regardless of age or income level. Displaced communities include institutions and businesses that were also displaced. 2. The RJSC aims to make community wealth generation accessible to all Impacted communities by providing a range of ownership opportunities across various income and age levels and by ensuring access to homeownership opportunities for low-, moderate-, middle-income households and above. They support ownership models that allow for upward mobility and neighborhood stability. Some homes may contain covenants that ensure a constant inventory of affordable housing while also requiring a portion of housing units in all sizes, allowing for the eventual resale to help residents build equity. a. The total housing benefit for Targeted Beneficiaries will be valued at least \$25M 2025 dollars, or 1% of the estimated value of the housing and commercial, whichever is higher. These housing benefit dollars can be used for any of the programs listed below, or any additional programs developed by the City and the RJCOC. These housing benefit dollars are meant to be in addition to the value of the 20% set-aside, in-lieu fees and any external subsidies, such as tax credits. b. Financing for the proposed 1% of estimated housing benefit dollars should be included in first round of tax increment financing, infrastructure bonding or other financing tools.
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		c. Prior to initiating the project, a survey shall be completed of Displaced Communities, to determine the optimum affordability and size mix that would meet the needs of the greatest number of interested and qualified buyers and renters. Based on this information, the RJCOC will work with the City to define recommended affordability levels (15% ownership affordable and 20% rental affordable) and unit sizes for the affordable for-sale and rental homes in the 710 Stub area, within the parameters of what is typically finance-able. 3. The RJSC strongly believes in creating generational wealth through education, scholarships, internships, and other workforce-development opportunities, with priority given to the project's impacted communities. Opportunities for workforce development should be tied to the CBA, other mechanisms and RJ elements. 4. Additional research will be conducted to identify the mechanism to administer the funds the Community Trust will provide support for eligible individuals and projects within the impacted communities by providing such as but not limiting to: a. The proposed 1% of estimated housing benefit dollars, referenced above in 2a will also fund remuneration to homeowners, business owners, and institutions displaced by the 710 freeway. Remuneration payments will be calculated to be approximately \$150k based on the 1% estimated housing benefit calculation and the number of businesses, institutions, and residents displaced identified in the Architectural Resources Group report. Additional data and verification is necessary to identify, locate and determine the number of qualified participants and the potential cost of this entire proposal. b. Forgivable second mortgages c. Business loans d. Educational scholarships e. Tuition assistance f. Grants to impacted or displaced cultural institutions
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8.	Affordable Housing and Affordable Housing Registry	Create an affordable housing registry for individuals displaced by the 710 and 210 freeways, serving as a mechanism to facilitate accessibility to affordable housing for those on the registry. The system will use marketing to notify qualified communities about housing stock availability, ensuring a transparent and seamless application process and emphasizing that 25-35% of affordable housing units built in the 710 Stub Area shall be affordable, as well as the development of workforce housing units. 1. The City will create an eligibility registry for affordable housing in the 710 study area. The registry will prioritize those who are eligible, with Displaced Community members and their descendants at the top of the list, followed by other Impacted Community members. Those at the top of the list will have the first right of opportunity to rent or purchase a home in the 710 Stub area. 2. A survey of Displaced Communities shall be conducted to determine the optimal mix of affordability levels, unit sizes and types. Based on the survey findings, the RJCOC will collaborate with the City to recommend affordability targets— ex. 15% affordable ownership and 20% affordable rental—as well as appropriate unit sizes, including family-sized units with three or more bedrooms, that would best meet the needs of the greatest number of interested and qualified buyers and renters of for-sale and rental homes in the 710 Stub area. The creation of affordable housing will be responsive to internal/external subsidies available and prioritized at the Federal and State funding levels. a. Displaced Homeowners - Persons who previously owned and occupied the 710 properties at the time it was acquired by the state and were displaced due to the project. b. Displaced Renters (Including Impacted Communities) - Individuals who rented and were displaced from the area because of the construction of the SR-710 freeway. c. Adjacent Displaced - Individuals displaced by Parsons, Ambassador Auditorium, Pepper Street Project, and the Norton Simon Museum.
9.	Business Development Support	The City should provide or increase the existing 5% bid preference for certified small businesses in procurement and contracting for development in the 710 Stub area. Additionally, creating mechanisms to facilitate the use of local training and hire programs for the local workforce requirements. Impacted communities or those harmed who no longer reside in Pasadena are also eligible to participate. Specific recommendations include but are not limited to: 1. The Restorative Justice Community Oversight Committee (RJCOC) will work with City staff in building a local business database and maintaining a certified registry of impacted

		community businesses owned by individuals or families displaced by the construction of the SR 710. 2. Request for Proposals (RFPs) will be created to prioritize accessibility, encourage participation from local and small businesses, and maximize the likelihood of success. 3. Access to micro-loans, working capital, or mobilization funding for businesses preparing to fulfill contracts. 4. Require or incentivize prime contractors and developers to subcontract with impacted community businesses, where possible utilize materials sourced from local suppliers. 5. Facilitate joint venture partnerships that benefit all types of business structures including co-ops and intentionally cultivating business districts that support displaced business populations.
10.	Workforce Development	The City should include the impacted communities and those who were harmed, even if they no longer reside in Pasadena, in any training or workforce development programs created as a result of the RJSC's work. Specific recommendations include: 1. At the direction of the RJCOC City staff (EDD) will develop a local business database and maintain a certified registry of impacted community businesses owned by individuals or families displaced by the construction of the SR-710, even if they no longer reside in Pasadena. The creation of a partnership with existing businesses in Pasadena as well as new businesses in all industries occupying the 710 Stub area to train and develop impacted communities. Training and employment percentage requirements will be part of the CBA that will cover the entire 710 Stub area. 2. Business interventions should include training programs in project management, compliance, and finance. 3. Facilitate mentorship or joint venture partnerships between large firms and small, local, disadvantaged businesses.

Appendix X

Restorative Justice Framework and Policy - DRAFT

Table of Contents

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Section	Content
Section 1- Executive Summary	Summarizes the key takeaways from the Restorative Justice Framework (RJF).
Section 2 – Project Context	Provides context for the specific harms that the RJF intends to address.
Section 3- Methodology	Outlines the methodology to develop the RJF.
Section 4- Background	Describes the approaches and theories of restorative justice that informed this process
Section 5- Defining Pasadena-Focused Restorative Justice	Introduces Pasadena’s working definition of restorative justice for the SR-710 master plan. This includes a set of guiding principles that ground this work and support the case study analysis and identification of promising practices.
Section 6- Restorative Justice Elements	Establishes elements of restorative justice that the City may employ. This includes interventions that address the following: (1) acknowledging the past, (2) establishing inclusive processes, (3) focusing on equitable outcomes, and (4) promising tools that support the City’s restorative justice goals.
Section 7- Restorative Justice Case Study Analysis	Analyzes case studies to surface relevant examples of how other jurisdictions have applied concepts of restorative justice. The case studies will be part of the final Restorative Justice

	Framework, informing recommendations, best practices, and pathways for the City of Pasadena’s consideration.
Section 8- Pasadena- Focused Restorative Justice Promising Practices	Summarizes input from the 710 Advisory Group, 710 Advisory Group subcommittees, and the broader public. This section informs the prioritization of the restorative justice elements and recommendations.
Section 9- Recommendations:	Outlines recommendations to inform the City’s Reconnect Pasadena Master Plan process. Together, these items will act as the north star for the RJF.

1. Executive Summary

Introduction

Estolano Advisors (EA) developed a Restorative Justice Framework (RJF) for the City of Pasadena to inform its redevelopment of the 710 “stub.” The research was grounded in theoretical, historical, and case study analyses, with the goal of producing a tool that helps the City of Pasadena weigh land use, development, sustainability, and mobility options. To support the planning process, the consultant team worked with the City of Pasadena and project stakeholders to develop the following: (1) a working definition of restorative justice, (2) an overview of key restorative justice themes and promising practices; (3) a list of key restorative justice elements to help weigh options and measure success; and (4) a set of case studies that contain relevant best practices for the City of Pasadena. Using these inputs, the consultant team created a list of recommendations to inform the City’s next steps.

Pasadena's Restorative Justice Definition

The guidance and feedback of several stakeholders – including representatives from City Council, city staff, and the 710 Advisory Group – informed Pasadena’s working definition of restorative justice:

Restorative Justice takes action to address past harm caused by construction of the 710 freeway in Pasadena. It seeks to identify, acknowledge, remedy, and respond to these harms through open and responsive engagement with impacted communities with the goal of developing meaningful community-identified solutions for City Council’s consideration.

Key Themes

EA reviewed academic literature to guide the development of Pasadena’s RJF and surface key themes. Restorative, transformative, and reparative planning frameworks are theoretical

approaches developed to address harms such as displacement, gentrification, and environmental injustice.

Remedy, healing, restitution, and reform are key themes for these planning approaches. They emphasize the needs of unfairly burdened communities and ask decision-makers to examine – and address – the underlying conditions that harm marginalized groups. Participants may define success by evaluating the depth of community engagement, the inclusivity of the decision-making process, as well as the outcomes for priority populations

Restorative Justice Elements

The literature review informed the development of practices, interventions, and approaches that ground Pasadena's Restorative Justice Framework. These elements highlight model policies, inclusive processes, and holistic evaluation criteria from across the country. For Pasadena, these draft Restorative Justice Elements can be used to examine alternatives, articulate priorities, and ensure alignment between community members and local government.

The Restorative Justice Elements are grouped into four categories:

- **Past:** acknowledging historic harms
- **Process:** fostering inclusive engagement to ensure community priorities and preferences are clearly defined
- **Outcomes:** evaluation frameworks to measure progress
- **Tools:** promising policy interventions that support more equitable outcomes

Within these four categories, there are 12 elements:

- 1) **Historical Acknowledgement** (*past*): The project connects to the historical legacy of a project that harmed a marginalized community. The history of the project is acknowledged, documented, and incorporated in future planning efforts, with an eye for creating interventions that respond to historic inequities.
- 2) **Open Dialogue** (*process*): A formal mechanism whereby impacted community members are heard. This allows them to air grievances with the expectation that decision-makers will take action to address their issue(s) and recognize the importance of their lived experiences.
- 3) **Clear Feedback Process** (*process*): The project has a transparent and accessible mechanism for community members and local leaders to provide feedback. Community members have a clear understanding of how their input will be considered and incorporated into the final product.
- 4) **Co-Creation Planning** (*process*): The planning process is collaborative and considers the community as a designer and decision-maker. It acknowledges that community members are well-equipped to articulate what they want to see in their community.

- 5) **Support Community Oversight** (*outcomes*): The project gives community representatives an official supervisory duty, formally establishing their role in the implementation process.
- 6) **Impacted Communities Wealth Generation** (*outcomes*): The project articulates an inclusive approach to economic development. It specifies how wealth is generated, who stands to gain financially, and identifies the populations that are typically excluded. It includes mechanisms for impacted low-income communities to share in the project's economic benefits.
- 7) **Legislative Action** (*outcomes*): The project led to or was built upon by formal legislative response of a governmental entity, usually a City Council, in the form of city ordinances or resolutions. Examples include, updating the approach to community engagement for all planning projects, adopting policies that require community benefits agreements when certain conditions are met, and/or formalizing mechanisms that enable community members to formally prioritize investment priorities (e.g., participatory budgeting). The key component of this element is the government body taking direct action through their legislative authority.
- 8) **Community Benefits Agreement** (*tools*): A legally binding agreement between community representatives and a developer that defines specific benefits. These may include construction and operations labor standards, provision of community spaces, and/or affordable housing requirements.
- 9) **Affordable Housing** (*tools*): The project includes required affordable housing units.
- 10) **Procurement Intervention** (*tools*): The project requires the inclusion of Disadvantaged Business Enterprises (DBE) and Minority/Women-Owned Business Enterprise (WMBE).
- 11) **Small Business/Workforce Investment** (*tools*): The project integrates a workforce training and/or small business development program for community members and entrepreneurs.
- 12) **Hard Infrastructure** (*tools*): The project includes specific multi-modal transportation improvements, open spaces and urban greening, sustainability enhancements, climate resilient infrastructure, and monuments.

Case Study Profiles

The consultant team used the elements listed above to evaluate promising practices in other jurisdictions. As part of the case study research, the consultant team identified projects from across the country that are pursuing inclusive, large-scale redevelopment projects like Pasadena's. Researchers used the elements to evaluate case studies and surface projects, policies, and outcomes that were most aligned with Pasadena's stated goals. Based on this analysis, three key case study profiles rose to the top:

- **Portland, OR - Broadway Corridor Community Benefits Agreement:**
The project area is a 32-acre site, 14 of which is a former United States Postal Service site and is located within the Central City in northwest Portland. It has the potential to create nearly four million square feet of new economic, business, social, and community development opportunities. Prosper Portland is pursuing the planning and redevelopment of the Broadway Corridor with an intentional focus on

ensuring that all communities have an opportunity to engage in and benefit from its redevelopment. Robust community engagement informed the approved Master Plan that will guide future development and priorities for public benefits via public and private investment.

- **Portland, OR – I-5 Rose Quarter Improvement Project:**

The I-5 Rose Quarter Improvement Project will construct a cap over a portion of I-5 that displaced members of the Black and Japanese Albina neighborhood in the 60s and 70s. These Reconnecting Communities projects support the reconnection of the previously displaced Northeast Albina neighborhood. This project will build a highway cover, new streets over the highway to connect existing streets, a pedestrian bridge, ramp to ramp highway connections, and relocate the I-5 South-bound off ramp to increase mobility, safety and connection in Northeast Albina. Benefits include improving safety and mobility on local streets, creating new space for community development, and developing a diverse and skilled workforce.

- **St. Paul, MN – Reconnect Rondo:**

This project aims "to create Minnesota's first African American cultural enterprise district connected by a community land bridge."ⁱ The aim is to repair, restore, and revitalize the Rondo neighborhood and address the racial disparity gaps in Minnesota. The project's benefits will help improve the realities for African Americans in Minnesota while addressing the historical harms inflicted by the construction of the I-94 freeway. The concept for this project is "restorative development," where the project provides new housing, jobs, business, and nonprofit workspace. Ultimately, the goal is to inclusively grow Rondo's economic base and increase the City's revenues by \$3.8 - 4.2 million annually.ⁱⁱ

Promising Practices for Pasadena

This section analyzes community input and the current utilization of the restorative justice element in Pasadena. This will incorporate landscape research, additional landscape research on the Pasadena context, and key information from the Reconnecting Pasadena Master Plan process to articulate the applicability of the restorative justice element.

Here are current examples of each restorative justice element and its utilization in the City of Pasadena.

Restorative Justice Element	Definition	Current Utilization in Pasadena
Open Dialogue (OD)	A formal mechanism whereby impacted community members are heard. This allows them to air grievances with the	Our Pasadena- Putting the Plan in Motion The City of Pasadena's Planning and Community Development Department

	expectation that decision-makers will take action to address their issue(s) and recognizes the importance of their lived experiences.	launched the Our Pasadena Plan in 2018. The process has included a series of community open houses and rounds of community workshops to collect input on the City's General and Specific Plans.
Clear Feedback Process (CFP)	The project has a transparent and accessible mechanism for community members and local leaders to provide feedback. Community members have a clear understanding of how their input will be considered and incorporated into the final product.	Reconnecting Communities 710 Advisory Group (RCAG) The RCAG was formed by the Pasadena City Council and members appointed to provide a mechanism in Pasadena's planning process that creates opportunity for residents and local stakeholders to weigh in, give feedback to the ongoing process, and advise council members.
Co-Creation Planning (CCP)* <i>*This is a very high bar requiring community members to have decision-making authority in the process.</i>	The planning process is collaborative and considers the community as a designer and decision-maker. It acknowledges that community members are well-equipped to articulate what they want to see in their community.	None
Historical Acknowledgement (HA)	The project connects to the historical legacy of a planning or development project that harmed an under-resourced or marginalized community. The history of the project is acknowledged, documented, and incorporated in future	Historic Report on the SR-710 Displacement Part of the City of Pasadena's scope for the 710 Planning process includes the Historic Project work led by three consultants, ARG, Allegra, and UCLA. ARG will document the demographics

	planning efforts, with an eye for creating interventions that respond to historic inequities.	of the people displaced & number, types of buildings, and institutions. Allegra is tasked with identifying persons or descendants of persons displaced or impacted by the construction of the 710 freeway. UCLA will document the impact the construction of 710 and 210 freeways had on the Pasadena community by analyzing census data from 1950 to the present and other factors like redlining, racial covenants, and urban renewal.
Impacted Communities Wealth Generation (ICWG)	The project articulates an inclusive approach to economic development. It specifies how wealth is generated, who stands to gain financially, and specifies the populations that are typically excluded. It includes mechanisms for impacted low-income communities to share in the project's economic benefits.	Pasadena Local Preference and Priority System Guidelines The City of Pasadena outlines preference and prioritization requirements to allocate affordable housing units. Sixth priority is given to households that have been “involuntarily displaced” from the City. *Although California’s Prop 209 bars public agencies from giving preference based on race or gender, preference to directly impacted community members is not.
Support Community Oversight (SCO)	The project gives community representatives an official supervisory duty, formally establishing their role in the implementation process.	None

Community Benefits Agreement (CBA)	A legally binding agreement between community representatives and a developer that defines specific benefits. These may include construction and operations labor standards, provision of community spaces, and/or affordable housing requirements.	Heritage Square Senior Apartments – Local Benefits Plan Housing developers negotiated a local benefits plan with the Fair Oaks Project Area Committee to codify community benefits including workforce, contracting, and housing.
Affordable Housing (AH)** <i>**Can be part of CBA</i>	The project includes required affordable housing units.	PMC 17.42.040- Inclusionary Housing Ordinance Pasadena’s Zoning Code requires 20 percent of residential dwelling units in a project be sold or rented at an affordable rate.
Procurement Intervention (PI)	The project requires the inclusion of Disadvantaged Business Enterprises (DBE) and Minority/Women-Owned Business Enterprise (WMBE).	Pasadena First Buy Local Where applicable, the City of Pasadena offers a 5 percent bid preference to certified small businesses and local businesses in procurement, contracting, and hiring efforts. Prop 209 precludes preferences for minority or women-owned businesses in public contracting.
Small Business/Workforce Investment (SBWI)	The project integrates a workforce training and/or small business development program for community members and entrepreneurs.	First Source Hiring Program – This is a program that creates voluntary and mandatory local hire requirements for development projects.

Hard Infrastructure (HI)	The project includes specific multi-modal transportation improvements, open spaces and urban greening, sustainability enhancements, climate resilient infrastructure, and monuments.	Reconnecting Pasadena 710 Master Plan Process – This project seeks to “enhance connectivity, mobility and quality of life” in and around the 710 Stub through “transportation infrastructure, economic opportunities, cultural attractions and green space.”
Legislative Action (LA)	The project led to or was built upon by formal legislative response of a governmental entity, usually a City Council, in the form of city ordinances or resolutions. Examples include, updating the approach to community engagement for all planning projects, adopting policies that require community benefits agreements when certain conditions are met, and/or formalizing mechanisms that enable community members to formally prioritize investment priorities (e.g., participatory budgeting). The key component of this element is the government body taking direct action through their legislative authority.	None

Based on the current utilization in Pasadena and community prioritization, here are the elements in which the City has the most opportunity to build promising practices.

- **Affordable Housing (AH):** The current provision of 20% affordable housing in Pasadena’s zoning code presents an opportunity to steward the development of

more housing for Pasadena's most vulnerable residents. The City could increase this provision through the 710 Master Plan.

- **Historical Acknowledgement (HA):** Akin to the ReConnect Rondo case study, the City of Pasadena could issue a formal apology codified through City Council acknowledging the harm caused by the construction of the freeway interchange that connected SR-710, SR-134, and I-210. The harm cited could include findings from the Historic Project work led by three consultants, ARG, Allegra, and UCLA.
- **Community Benefits Agreement (CBA):** Similar to the Portland Broadway Corridor Community Benefits Agreement, the City could codify through City Council a community benefits plan to ensure all Pasadena residents have the opportunity to benefit from the subsequent development of the Site. Benefits could include but are not limited to provisions to promote workforce construction equity around hiring and wages, targeted procurement requirements for disadvantaged business enterprises (DBE), and affordable housing requirements.

2. Project Context

2.1 – The 710 Harm

As part of the master planning process, UCLA historical researchers used quantitative and qualitative data to analyze the demographic neighborhood impacts of freeway construction. Specifically, their analysis focused on the demographic conditions before and after the building of Interstate 210 and State Route 710, or the “study area”. The researchers divided the “study area” into five subsections or “tracts”: North, North Center, Center, South Center, and South. The Center section is the massive interchange, with the South Center subsection is the portion that includes the “stub.”ⁱⁱⁱ (See **Figure E-1**)

This RJF works to specifically address the harm in the Center and South Center Tracts. However, this report acknowledges UCLA researcher's overall quantification of the general harm caused by the 710 and 210 freeway construction and the history of Pasadena's discriminatory housing practices across all tracts. In total, UCLA researcher's analysis reveals a loss of nearly 1,800 housing units, a 28% reduction from 1960 to 1970 across all tracts, except the South tract, which was not directly impacted by freeway construction.^{iv}

Their findings detailed that the “center tract, which includes the interchange, was heavily affected by freeway development, where housing units declined from 1,470 units in 1950...to only 433 units by 1980s.”^v This 71% cumulative decrease had its most significant drop of 59% during the freeway construction period between 1960 and 1970. Further, UCLA researchers revealed that the South Center tract, which includes the specific SR-710 stub, saw an overall 25% reduction in housing units from 1,153 in 1950 to 865 in 1980.^{vi}

RECONNECTING PASADENA

The housing unit loss led to population loss. The freeway development shifted racial demographics of the neighborhoods in and around the development sites. The area of the interchange, the Center tract, shifted from a majority non-Hispanic white population in 1950, to a majority residents of color in 1980. The stub area, or the South Center tract, shifted from a majority people of color residents in 1950, to a majority non-Hispanic white population in 1980.^{vii} The share of residents of color in the South Center tract dropped from 52% in 1950, to 23% in 1980. Segregation in the Center tract increased from 1960 to 1970, but remained low to moderate, whereas the South Center tract maintained high levels of segregation between 1960 and 1970.^{viii}

Figure E-1. Pasadena Study Area Tracts

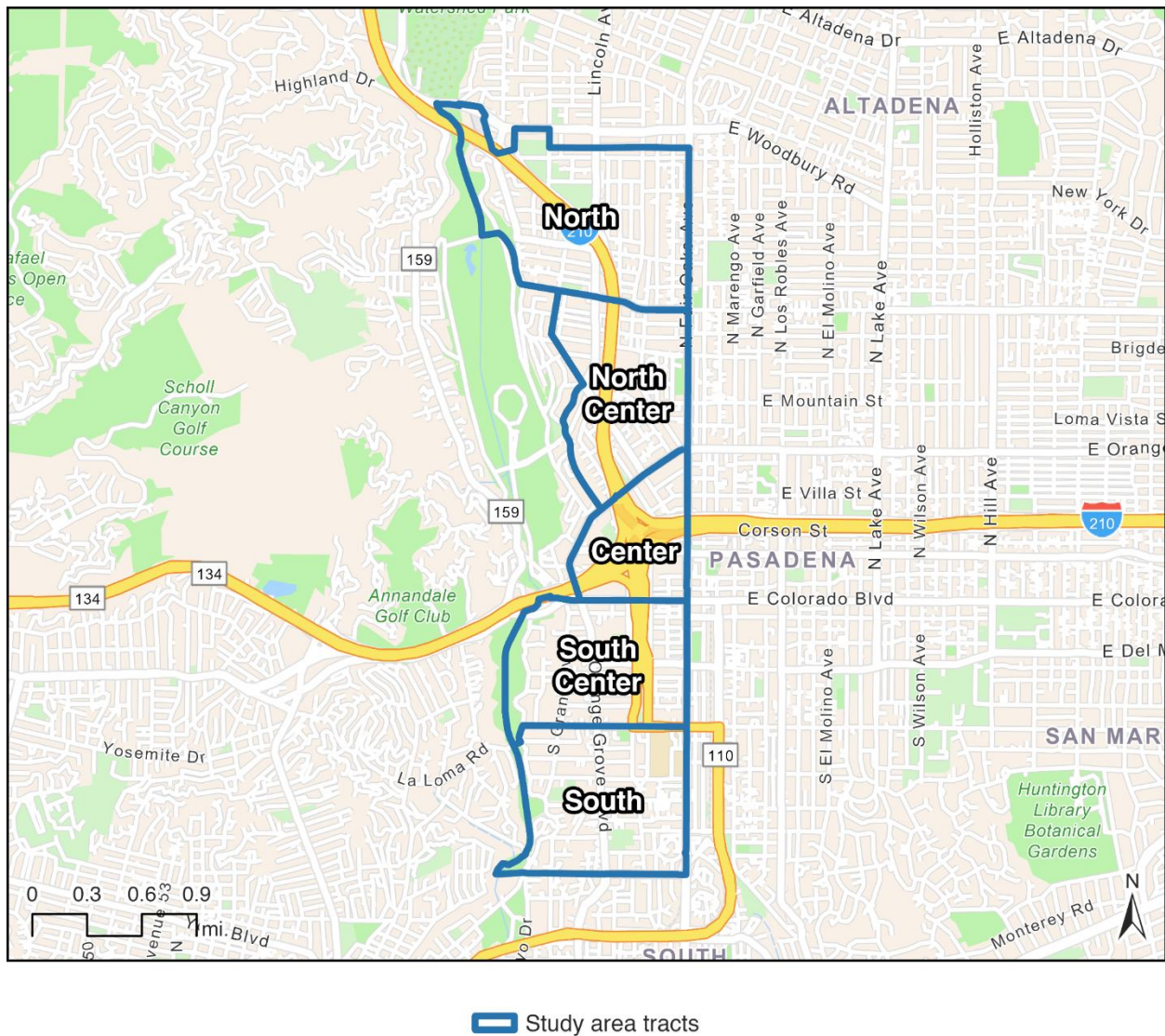
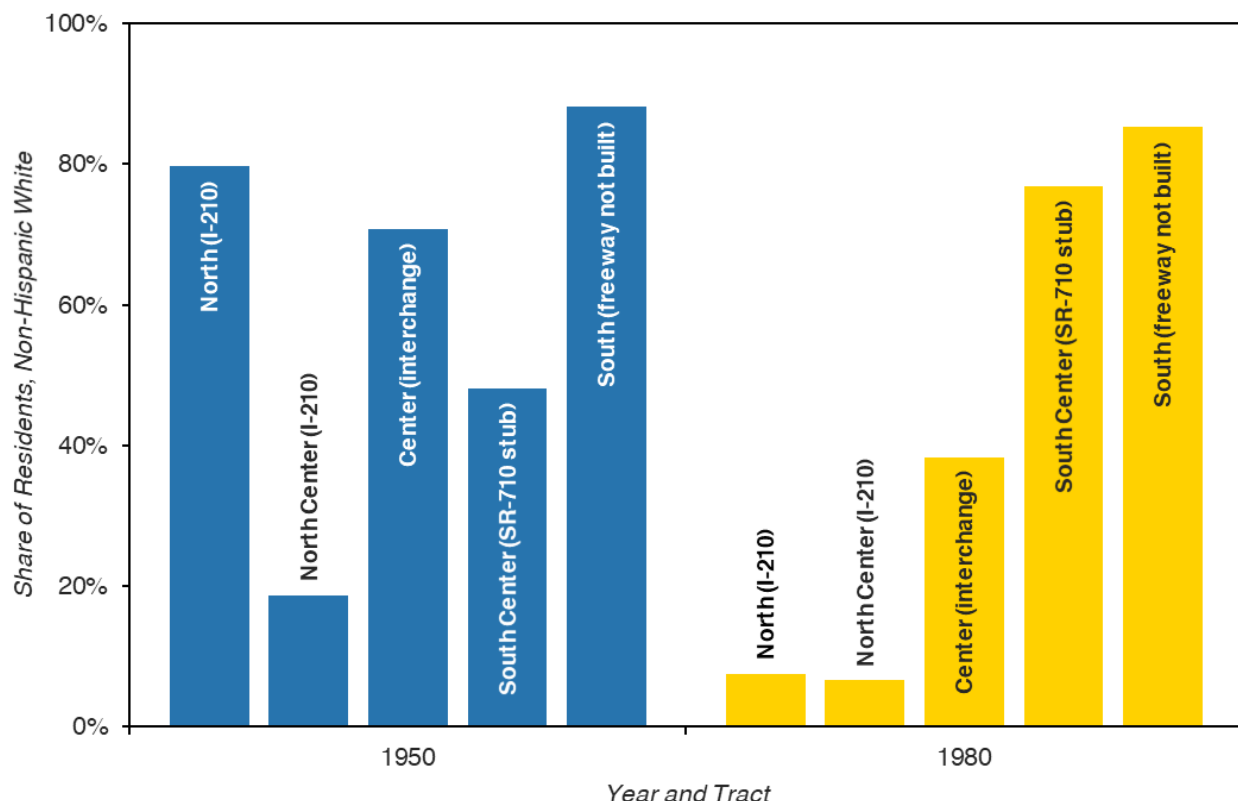


Figure E-2. Share of Non-Hispanic White in the Study Area Tracts, 1950-1980



2.2 – Institutional Discriminatory Harm

To amplify their analysis, UCLA researchers also reviewed qualitative data that establishes freeway construction was not the only influencing factor in creating a more segregated and economically unequal Pasadena. Like much of the country, Pasadena historically had a combination of private and public forces creating discriminatory housing practices.^{ix}

Restrictive covenants, codified in home deeds, left limited housing options for non-white households, forcing communities of color into a few neighborhoods. While the Supreme Court in *Buchanan v. Warley* (1917) struck down the constitutionality of such racial discriminatory practices, private actors would still use them, and by 1942 nearly 60% of Pasadena properties had such restrictions.^x

Public actors also contributed to a segregated Pasadena. As the researchers noted, “while there is no evidence that the city engaged in explicit racial zoning, it appears Pasadena implemented land-use regulations that, while not overtly racist, had a disproportionate impact on people of color and reinforced segregation (Shook, 2020).”^{xi} Specifically, the City

of Pasadena limited multi-family housing and the lot size requirements for single-family homes in land use zoning to restrict housing availability for low-income families and families of color.

Redlining, another prevalent housing discriminatory practice involving banks and insurance company's financial manipulation tactics, was prevalent throughout the country, including Pasadena. In the 1930's the federal mortgage loan agency created policies that deemed communities of color as "hazardous" for mortgage lending purposes.^{xii} This practice systematically undervalued properties and created barriers to homeownership for non-white residents. In their report, UCLA researchers analyze a 1939 Homeowner's Loan Corporation (HOLC) redlined map of the City of Pasadena that reveals "areas safeguarded against residents of color were often graded more favorably."^{xiii} Researchers cross referenced this redlined map to current home values, revealing a lasting impact of northwest Pasadena as a community with a greater concentration of people of color and lower home values.

The impact to northwest Pasadena aligns with the researchers' revelations that the Northern tract of the study area reflects a "tipping point" phenomenon. The population of this Northern tract moved from being predominantly white in 1950 to predominantly people of color after the completion of the freeways by the 1970s.^{xiv} Their evidence suggest the freeway construction certainly initiated the large population shift of this neighborhood, increasing its overall population and people of color population. However, these prevalent discriminatory housing practices in Pasadena supported further residential segregation.

Although Caltrans ultimately facilitated the displacement through freeway construction of several homes and in turn displaced communities of color, these housing practices exacerbated the harm by making it difficult for displaced residents of color to move into other Pasadena neighborhoods. More so, UCLA researchers point to urban renewal projects as further vessels for disproportionate displacement of communities of color under the guise of eliminating urban blight.^{xv} Specifically, they assert the "City's 1962 General Plan, and major developments such as the Norton Simon Museum, Parsons headquarters, Ambassador College, and Old Pasadena—contributed to housing loss and displacement, with residents of color particularly affected near the SR-710 stub."^{xvi} Similar to the discriminatory housing practices, these development projects bolster the demographic shifts in the South center tract beyond the impact of the freeway construction.

Ultimately, this research further establishes Caltrans' decision to build a freeway interchange resulted in the displacement of residents and businesses – primarily people of color low income homeowners and renters.^{xvii} An alternative route through the more sparsely populated Arroyo Seco adjacent to the Rose Bowl was heavily opposed by wealthy, white homeowners in areas such as La Cañada Flintridge and by groups such as the Pasadena Citizens Committee on Freeways.^{xviii} This opposition found a receptive audience in state elected leaders and Pasadena city officials at the time.^{xix}

Significantly, the SR-710 interchange displaced an "active central business district,"^{xx} characterized as a "walkable work community" of primarily Black and Japanese residents.^{xxi} This neighborhood was home to many prominent and thriving Black, Mexican, and

Japanese-owned and led institutions in Pasadena, including Carrie McAdoo's Grocery, Jesusita's Tortilla Factory (now known as Mijares Restaurant), the Bellefontaine Nursery, James Woods Mortuary, and the 1st AME Church.^{xxii} Although many of the businesses relocated, the construction of the SR-710 interchange fragmented a thriving community of color. The interchange represents another chapter in U.S. history where freeway construction disproportionately harmed communities of color by displacing families and businesses, lowering land values, and depressing rents.^{xxiii}

2.3 – The Response

After building the interchange that displaced residents and businesses 60 years ago, the state never completed the freeway. In 2022, Caltrans relinquished portions of the SR-710 interchange to the City of Pasadena.^{xxiv} In that same year, the City received a U.S. Department of Transportation (USDOT) Reconnecting Communities planning grant, creating an opportunity to address the 710's legacy of displacement.^{xxv} Utilizing this funding, the City of Pasadena began the Reconnecting Pasadena Master Plan Process to develop land currently occupied by highway infrastructure. The goal of the master plan is to redevelop the site for the benefit of Pasadena and its residents, with an emphasis on addressing the harms faced by communities that were displaced.

Through the master planning effort, the City of Pasadena aims to set forth a reparative vision for this site -- one where investments, benefits, and the built environment respond to past harms and reflect a more inclusive future. The City engaged Perkins Eastman and Estolano Advisors (EA) to develop a Restorative Justice Framework (RJF) that will address the history of harm that the SR-710 interchange has brought to the surrounding community. The RJF will accompany and guide the visioning, planning and future re-development of the site, helping to ground decision-making and set forth a process by which the City, residents, businesses, and relevant stakeholders can evaluate the effects of proposed land use alternatives to repair and prevent future harm.

3. Methodology

In February 2024, the City secured Perkins Eastman as a Master Plan consultant to develop a vision for the SR-710 study area. As part of the Perkins Eastman team, Estolano Advisors (EA) led the process of developing the Restorative Justice Framework (RJF). Outside of the Perkins Eastman team, additional consultants have been engaged to document the social, economic, and demographic history of the study area. The information gathered by this wider consultant team will also be integrated into final RJF document. Below, we outline the process to develop the RJF.

3.1 – Phase 1 Scope Refinement and Information Gathering (Q1 2024 – Q3 2024):

Staff from the City of Pasadena worked with the consultant team to conceptualize and refine the concept of restorative justice in the context of the SR-710 interchange. Initially, the EA



team drafted a definition based on a literature review of racial justice and the guiding principles included in the City of Pasadena’s General Plan. This definition was refined over the course of the project. Phase 1 activities included:

- Information gathering, landscape scan of restorative justice practices and principles in urban planning and development.
- Development of restorative justice guiding principles.
- Definition of 12 core elements of restorative justice.
- Identification of select case studies.

EA conducted an assessment and prioritization of case studies in coordination with the City. The 12 elements were used to identify the most relevant case studies and will be deployed to inform the community’s prioritization of promising practices in Section 8 (“Promising Practices for Pasadena”). Section 7 (“Restorative Justice Case Study Analysis”) includes a description of the three most relevant case studies, while the appendix highlights two additional case studies.

3.2 – Phase 2 Options and Alternatives (Q3 2024 – Q1 2025):

The consultant team conducted case study research and refined the RJF through interviews with relevant stakeholders. The team also held a series of conversations with City staff and the City Council Ad Hoc Committee to present case studies, refine the restorative justice definition, and discuss the 12 RJF elements. The Reconnecting Communities Advisory Group, its subcommittee, and the broader public informed prioritization of restorative justice elements. Section 8 (“Promising Practices for Pasadena”) documents the outcomes of Phase 2. Ultimately, those promising practices will inform the policy recommendations in Section 9 (“Recommendations”).

3.3 – Phase 3 Plan Integration (Q1 2025- Q2 2025):

The final RJF will include findings and recommendations from Phases 1 and 2, codifying commitments and priorities in Section 9 (“Recommendations”).

4. Background

This section includes a primer on restorative justice in an urban planning context. It outlines how planning practitioners and decision-makers can recognize, acknowledge, and address historic harms. Because this report uses terminology that may not be widely recognized, the consultant team is listing the terms that we commonly use and explaining how this report defines those concepts.

4.1 – Commonly Used Terms

Pasadena 710 Project

- **SR-710 Interchange:** In the 1970's the SR-710 Northern Interchange was constructed to connect the 710 Long Beach Freeway to the 210 and 134 freeways. The construction of the 710 was never completed, resulting in the 710 northern "stub."^{xxvi}
- **710 Northern Stub:** The northern stub is the area of land between Union Street, Columbia Street, St John Avenue and Pasadena Avenue. This area was relinquished to the City of Pasadena in 2022.^{xxvii}
- **Reconnecting Communities Grant:** In 2023, the City of Pasadena was awarded a \$2 million Reconnecting Communities grant from the US Department of Transportation (USDOT) to fund the planning of the 710-stub redevelopment. The Reconnecting Communities and Neighborhoods (RCN) program is a federal infrastructure program operated by the USDOT to support community-centered connection projects that address the repercussions of previous transportation developments.^{xxviii}

Urban Planning Harms

- **Highway construction displacement:** the forced removal of residents or businesses to build highways. The Federal Aid Highway Act of 1956 created a national movement of highway construction that resulted in 475,000 households and over one million people being displaced between 1957 to 1977.^{xxix} As part of this process, property owners sold their properties to the public agency through "hardship acquisition" or "eminent domain."^{xxx}
- **Redlining:** a practice of discriminatory lending established by the Federal Housing Authority and the Home Owners Loan Corporation (HOLC) in 1933 that graded neighborhoods on the perceived risks of extending loans. The HOLC

assessed a neighborhood's desirability using the race and ethnicity of residents, where neighborhoods with more residents of color were more likely to be assigned a "D" rating and "redlined." Redlining increased the barriers to home ownership for communities of color and lowered property values in predominantly non-white neighborhoods.^{xxxix}

- **Urban Renewal:** refers to the policy era in the 1950s and 1960s that leveraged funding from the 1949 American Housing Act and the 1956 Federal Aid Highway Act programs to demolish "blighted" neighborhoods in cities across the country. Urban Renewal processes – like highway construction in Pasadena – displaced, separated, and destroyed many predominantly Black neighborhoods in the country.^{xxxii}

Restorative Justice

- **Harms:** In restorative justice, harms involve an action that has a negative impact on an individual or community.^{xxxiii} The displacement of neighborhood residents and businesses in and around the SR-710 stub is an example of a specific harm.
- **Reparative Justice:** This is a framework that centers those who were harmed, with the intent of repairing past harm, stopping present harm, and preventing future harms from occurring through: 1) transformation, 2) restoration, and 3) nourish and uplift.^{xxxiv}
- **Restorative Justice:** This is a holistic and empathetic conflict remediation process that functions as an alternative to the conventionally punitive criminal justice system.^{xxxv} Through this process, the victims, the offenders, and the broader community come together to define reparations, take accountability, and reconcile harms.^{xxxvi}
- **Transformative Justice:** This framework seeks to heal communities by transforming the systems that enabled harms. The approach focuses on rectifying underlying, systemic issues to prevent negative outcomes.^{xxxvii}

Urban Planning Frameworks

- **Rationalism/Rational Planning:** This refers to a planning framework that uses objective reason to guide decision-making. It tends to value data and practitioner expertise over community input when making planning decisions. Large infrastructure projects like highways were developed during an era when rational planning was pervasive.^{xxxviii} In Pasadena, rational planning was used to justify the alignment of the I-210 Foothill Freeway through a densely populated community of color, despite the objections of residents.^{xxxix}

- **Reparative Planning:** This refers to a planning framework that addresses past planning harms. Reparative planning goes beyond the process of restorative planning by focusing on community empowerment and the historical and current context of racism and capitalism.^{xi}
- **Restorative Planning:** This is a planning framework that aims to directly address and resolve past harms through remedy and reform.^{xii}
- **Transformative Planning:** This refers to a planning framework that builds on the goals of restorative planning to address and repair harm with an understanding that the existing processes and procedures that create harm must be transformed to address the harms.^{xiii}

4.2 – Critiques of Rational Planning Approaches

Traditionally, urban planners have operated under a top-down “rational” approach where planners and government officials make decisions for diverse constituencies with limited community input.^{xliii} These planning decisions historically created disproportionate burdens on communities of color, even if the intent was not explicitly discriminatory. Challenges in top-down planning approaches include:

- **Power and Privilege:** Rational Planning assumes that a planner’s professional expertise enables them to determine what is best for a community, privileging “scientific and technical knowledge over” the public’s lived experience.^{xliv} Rational planning also perpetuates systemic inequities based on race, class, gender, and ability. Historically, practicing planners – as well as white-collar government officials and elected leaders – have not been fully representative of the diverse communities they serve. In cases where public input is considered, this creates an advantage for well-resourced communities that are able to navigate a system centered on protecting dominant white, middle-class interests. Under rational planning, this may lead to a narrow conception of what constitutes the public interest in community engagement and decision making.
- **Fractured Relationships:** The power and privilege awarded to some community interests over others in rational planning creates distrust amongst historically harmed communities. The Allegra Group’s oral history research cited a lack of trust in the City’s efforts because of Pasadena’s role in perpetuating the displacement associated with the SR-710 interchange and I-210 freeway construction.^{xlv}
- **Biases and an Overreliance on Technical Expertise:** A planner’s implicit biases can unconsciously guide decision making. As noted earlier, the planning profession has not historically represented the ethnic, racial, class, and gender identities of the communities they serve. Rational Planning assumes that a planner can and will understand the complexities and realities of a community

strictly through research and data.^{xlvi} By centering formal education and technical expertise, Rational Planning relegates decision-making to an elite group that often lacks transparency. For individuals and communities outside of this process, this framework can create confusion and perpetuate distrust in systems and the actors that uphold them.

4.3 – Theories of Restorative Justice in Planning

Figure 1: Restorative Justice Planning Frameworks

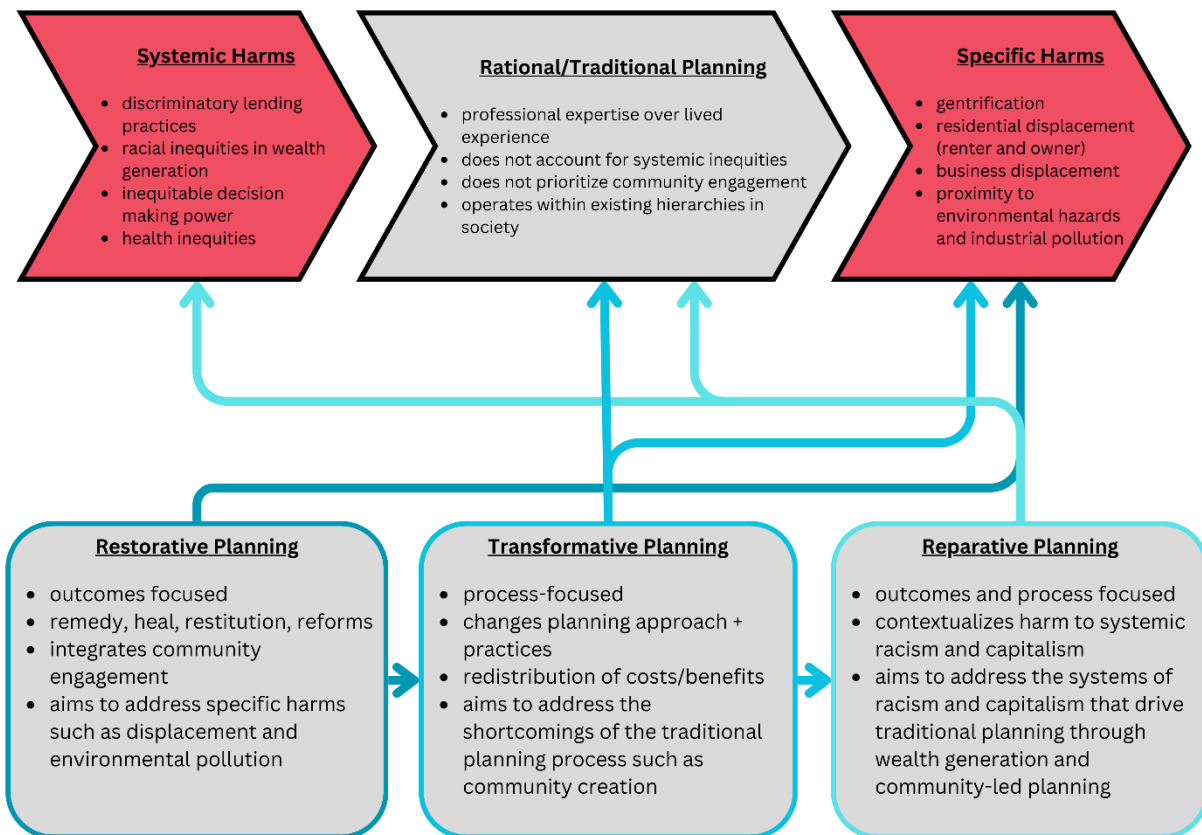


Figure 1 illustrates the relationship of planning frameworks to specific and systemic harms. The top row establishes how systemic harms like inequitable wealth generation and decision-making authority enable rational planning to perpetuate certain harms. The bottom row visualizes the evolution of planning frameworks from restorative, to transformative, then reparative and what each framework seeks to address.

In the past half century, in response to these critiques, alternative frameworks for planning for racial equity and community healing have created an evolving discourse in planning theory. These practices, focused on equity and repair, are rooted in philosophies of justice to address systemic harms. Below, we summarize these approaches to provide context for Pasadena's approach.

1. **Restorative Planning** frameworks promote equitable communities and focus on repairing harm by adapting restorative justice models from the criminal justice system. Where practitioners in the legal field focus on healing interpersonal harms, restorative justice in planning and public policy spaces emphasizes addressing systemic inequities.^{xlvii} In a 2014 analysis of restorative planning ethics, Lisa Schweitzer outlines a set of actions that public institutions and Planners must take to restore communities after a harm:^{xlviii}
 - a) Remedy of wrong
 - b) Healing and public atonement
 - c) Group-level compensation or restitution
 - d) Enacted reforms to confront historical institutional values.
2. **Transformative Planning** builds on restorative planning theories and requires practitioners to examine the systemic inequities that planning perpetuates.^{xlix} Transformative planning rests on the assumption that traditional planning approaches reinforce unfair social, health, and economic systems; and, thus, it is not the solution to repair harms.^l The core tenants of transformative planning include the following:
 - a) Focus on the specific needs of diverse groups and the redistribution of resources
 - b) Define a process to challenge the structural inequities of status quo planning processes
 - c) Embed the intersections of oppressions^{li}
3. **Reparative Planning** incorporates Black radical thought into the framework of transformative planning to develop systems to repair communities.^{lii} Reparative planning expands on restorative planning frameworks by incorporating the following values:^{liii}
 - a) Recognize the history of racialized expropriation
 - b) Address the structural inequalities of power
 - c) Implementing material redistribution, adapting social hierarchies to make decision-making more just, and transforming spaces to acknowledge and center marginalized communities.

For each of these frameworks, the core values can inform metrics to evaluate and assess processes and outcomes.

4.4 – Evaluating Restorative Justice in Practice

For Pasadena’s planning effort, the consultant team drew on the theories outlined above to create the 12 elements that inform the Restorative Justice Framework. The elements will serve as an evaluation tool for the City to assess land use alternatives and policies that may be incorporated into the approved mater plan. To provide additional context for the elements, we are including some key questions that informed the consultant team’s selection of the restorative justice elements.^{liv}

- a) Are there community and public spaces that are safe, inclusive, easy to access via public transport, and allow for access and use of space without spending money?
- b) Is there adequate affordable housing?
- c) Is the community served by sufficient amenities such as clean water, reliable electricity, high-speed internet, and regular refuse collection?
- d) Are there high-performing local schools and accessible leisure spaces?
- e) Does the current infrastructure support the local environmental sustainability and climate resilience goals?
- f) Are there barriers hindering meaningful participation in planning processes?
- g) How can current urban planning processes change so that decision-making does not perpetuate structural inequalities?
- h) What types of infrastructure are prioritized over others? Does this serve the needs of the community?

5. Defining Restorative Justice in Pasadena

5.1 – Pasadena’s Definition of Restorative Justice

Restorative Justice takes action to address past harm caused by construction of the 710 freeway in Pasadena. It seeks to identify, acknowledge, remedy, and respond to these harms through open and responsive engagement with impacted communities. Our goal is to develop meaningful community-identified solutions for City Council’s consideration.

This definition reflects iterative feedback from City staff, the City Council Ad Hoc Committee, the Advisory Group, and the community. The following subsections outline the process stakeholders used to define restorative justice for Pasadena and the 710 stub.

5.2 – Guiding Principles

Estolano Advisors reviewed the City of Pasadena’s General Plan land use Guiding Principles and highlighted four elements that are most aligned with the landscape of restorative justice principles:

1. **Target growth** to enhance quality of life
2. **Community participation** is welcomed
3. **Regional leader**
4. **Economic vitality** through jobs, services, and opportunities

The consultant team pulled key themes from its landscape scan with these general plan principles in mind. City staff and the Ad Hoc Committee refined those themes to develop five guiding principles:

1. **Acknowledge**, respond to, and address past harm
(target growth, regional leader)
2. **Engage** all parties involved in harm
(community participation)
3. **Open dialogue** and communication
(community participation)
4. **Accountability**, honesty, and taking responsibility
(regional leader)
5. **Resolution** with community-supported interventions
(target growth, regional leader, economic vitality)

These principles will inform and guide how we define and evaluate restorative justice for the purpose of the SR-710 Master Planning process.

5.3 Definitions of Restorative Justice

Estolano Advisors led an iterative process to draft and review the Pasadena-focused definition of Restorative Justice with City staff, the City Council Ad Hoc Committee (Ad Hoc Committee), and the Advisory Group. Through landscape research, EA proposed several potential definitions for restorative justice, including a planning- and process-focused approaches. City staff met with EA several times to adjust the definition’s language before presenting a working draft directly to the Ad Hoc Committee. After a July 31, 2024, meeting with the Ad Hoc Committee, comprised of Mayor Victor Gordo, Vice Mayor Steve Madison,

Councilmember Jason Lyon, and Councilmember Tyron Hampton, the City confirmed the current working definition of Restorative Justice. For context, we are providing the process- and planning-focused definitions below:

Process-Focused: Restorative Justice is a process that engages impacted communities in a dialogue to address past harm. Participants collectively develop solutions focused on: (1) holding parties accountable for the harm caused and (2) by providing restitution to those harmed.¹

Planning-Focused: Restorative Justice builds community by addressing and remedying the impacts of past harm perpetuated by government institutions. It asks decision-makers to account for historic wrongs by working with affected communities to co-develop solutions.²

Pasadena's definition merges the process and planning approaches and aligns with Schweitzer's criteria for restorative planning. This definition of Restorative Justice is the north star of the framework and will inform case study analysis, best practices, and planning decisions for the SR-710 stub. Using Pasadena's working definition, and based on outcomes from the landscape scan, the consultant team developed the restorative justice framework elements described below.

6. Restorative Justice Elements

6.1 Twelve Restorative Justice Elements

The RJF led us to a working Restorative Justice definition for Pasadena. Based on that definition, restorative justice theories outlined in the RJF, and feedback from the Ad-Hoc committee, EA proceeded to develop a restorative justice case study analysis matrix (matrix) of ten significant project elements. These initial ten elements quickly expanded to thirteen as the team researched specific case studies and received feedback from City Staff and the Ad-Hoc Committee.

Using planning efforts that surfaced during the RJF landscape scan, and in consultation with the Advisory Committee and the UCLA historical consultants,^{iv} EA began researching eight case studies. As the team began to measure these case studies against the thirteen restorative justice elements, EA expanded its analysis. This included a more explicit focus on highway construction-related projects and other U.S. Department of Transportation Reconnecting Communities Grant projects, which expanded the universe of total case

¹ Here for reference only, The Pasadena-Focused definition will be used.

² Here for reference only, The Pasadena-Focused definition will be used.

studies reviewed to eighteen. Given that many examples were chosen because they responded to the socioeconomic, environmental, and policy implications related to highway construction projects, EA eliminated one element: Highway Construction. This rounded out the list of twelve restorative justice elements.

Finally, after initial rounds of feedback from the City of Pasadena’s Executive committee and internal assessments within the Consultant team, Estolano Advisors concluded that the twelve elements should be divided into larger themed categories: (1) Past, (2) Process, (3) Outcomes, and (4) Tools. These four categories represent a more concise representation of how implementers of this framework should think about these restorative justice elements. Estolano believes that these categories serve to make this conceptual material more digestible, while also presenting the opportunity to the City to better analyze its existing systems, programs, and policies. Those four categories, twelve elements, definitions, and examples are noted below:

RJ Element	Definition	Case Study Example
PAST		
Historical Acknowledgement (HA)	The project connects to the historical legacy of a planning or development project that harmed an under-resourced or marginalized community. The history of the project is acknowledged, documented, and incorporated in future planning efforts, with an eye for creating interventions that respond to historic inequities. <i>For this element, we ask: Does the project go beyond acknowledging the historic significance of this place? How does it meaningfully incorporate lessons learned to create more just and inclusive spaces?</i>	St. Paul, MN – Reconnect Rondo In 2015, the City of St. Paul and Minnesota Department of Transportation both issued a formal and public apology for the displacement and destruction of the Rondo community for the development of the I-94 highway. The Rondo Commemorative Plaza also acts as a physical historical landmark. Stockton, CA - Downtown Transformation Project Caltrans is leading this project, not the City, and revitalizing the area with hard infrastructure that builds on TCP grant funding to create greater multi-modal options across the downtown area. While mainly a hard infrastructure place making project, the agency and City have worked with local CBOs like Little Manila Rising as part of the historical acknowledgment of the displacement of what was once

		the largest Asian immigrant population in the U.S.
PROCESS		
Open Dialogue (OD)	A formal mechanism whereby impacted community members are heard. This allows people to air grievances with the expectation that decision-makers will take action to address their issue(s) and recognize the importance of their lived experiences. <i>Here EA asked: Does the case study reflect responsive community engagement through direct open dialogue with the community?</i>	St. Paul, MN – Reconnect Rondo The state of Minnesota and the City of St. Paul have opened several channels for the community to speak on the project, with ReConnect Rondo serving as the community-led anchor organization. ReConnect Rondo has used community meetings, partnerships with technical assistance providers like the Urban Land Institute, and non-traditional methods of engagement like hackathons to support diverse, community-led input.
Clear Feedback Process (CFP)	The project has a transparent and accessible mechanism for community members and local leaders to provide feedback. Community members have a clear understanding of how their input will be considered and incorporated into the final product. <i>Here, we ask: Is there evidence that community feedback was received by diverse stakeholders and responded to meaningfully?</i>	Detroit, MI - I-375 Reconnecting Communities Project The project is analyzing the community feedback to develop a comprehensive Neighborhood Framework Plan to serve as a guideline for the vision and outcomes of the project to benefit City and community needs. In this way, the City and State are looping back with stakeholders by being responsive to

		needs and directions to guide the goals for the project.
Co-Creation Planning (CCP)* <i>*This is a very high bar requiring community members to have decision-making authority in the process.</i>	The planning process is collaborative and considers the community as a designer and decision-maker. It acknowledges that community members are well-equipped to articulate what they want to see in their community. <i>Here, we ask: Does the community have some direct influence on decision-making?</i>	Portland, OR - Broadway Corridor Community Benefits Agreement The planning and engagement process was guided by the goal of co-designing the site with community members early in the process. Robust community engagement informed the approved Master Plan that will guide future development and priorities for public benefits via public and private investment.
OUTCOMES		
Support Community Oversight (SCO)	The project gives community representatives an official supervisory duty, formally establishing their role in the implementation process. <i>Here EA asks: How are impacted communities ensuring accountability?</i>	Los Angeles, CA - ULA Citizen Oversight Committee The Citizen Oversight Committee was created to oversee and monitor the implementation of Measure ULA (United to House LA). This committee is comprised of fifteen stakeholders to manage and audit the funds administered as part of the ULA property sale tax for affordable housing.
Impacted Communities Wealth Generation (ICWG)	The project articulates an inclusive approach to economic development. It specifies how wealth is generated, who stands to gain financially, and specifies the populations that are typically excluded. It includes mechanisms for impacted low-income communities to share in the project's economic benefits. <i>Here EA asks: How does the impacted community directly and financially benefit?</i>	Evanston, IL - Local Reparations Restorative Housing Program Evanston, IL's reparations for Black residents' program held community meetings where residents consistently lifted affordable housing and economic development as priorities. As a result, the first round of reparations payments in Evanston, IL was allocated to housing payments, home improvements, and mortgage assistance.

Legislative Action (LA)	The project led to or was built upon by formal legislative response of a governmental entity, usually a City Council, in the form of city ordinances or resolutions. Examples include, updating the approach to community engagement for all planning projects, adopting policies that require community benefits agreements when certain conditions are met, and/or formalizing mechanisms that enable community members to formally prioritize investment priorities (e.g., participatory budgeting). The key component of this element is the government body taking direct action through their legislative authority. <i>For this, we ask: Did this project lead to lasting policy change beyond the study area? Did community members and local leaders institutionalize lessons learned, best practices, and model policies?</i>	San Jose, CA - Tenants Preference Program A citywide policy prioritizes households facing significant displacement risks when evaluating affordable housing applicants. While unrelated to highway construction, this is an example of a mitigation policy to reduce harm to low-income communities where new real estate development can exacerbate residential displacement.
TOOLS		
Community Benefits Agreement (CBA)	A legally binding agreement between community representatives and a developer that defines specific benefits. These may include construction and operations labor standards, provision of community spaces, and/or affordable housing requirements. <i>For this element, we ask: Does the project incorporate a legally binding agreement that articulates specific benefits, goals, and accountability mechanisms that community members can rely upon?</i>	Portland, OR - Broadway Corridor Community Benefits Agreement Prosper Portland's Broadway Corridor community benefits agreement for the redevelopment at the former USPS site with the Portland Housing Bureau. Community benefits include construction and operations workforce goals, wage standards, affordable housing provisions, requirements to provide opportunities for underrepresented businesses and entrepreneurs, sustainability requirements, and community oversight.

Affordable Housing (AH) ***Can be part of CBA	The project includes required affordable housing units. <i>Here, we ask: Does the project incorporate an affordable housing component?</i>	Portland, OR - Broadway Corridor Community Benefits Agreement A 10% affordable housing baseline is set in the Broadway Corridor CBA, with tenant preferences for Black, Indigenous, Japanese, and Chinese-American Communities. Evanston, IL - Local Reparations Restorative Housing Program Evanston, IL's reparations for Black residents' program held community meetings where residents consistently lifted affordable housing and economic development as priorities. As a result, the first round of reparations payments in Evanston, IL is allocated to housing payments, home improvements, and mortgage assistance.)
Procurement Intervention (PI)	The project requires the inclusion of Disadvantaged Business Enterprises (DBE) and Minority/Women-Owned Business Enterprise (WMBE). <i>Here, we ask: Does the project include mechanisms that support equitable contracting opportunities that prioritize disadvantaged businesses?</i>	Portland, OR - Broadway Corridor Community Benefits Agreement Prosper Portland's Broadway Corridor project included specific mechanisms to expand contracting opportunities for woman- and minority-owned businesses during the construction and operations phases.
Small Business/Workforce Investment (SBWI)	The project integrates a workforce training and/or small business development program for community members and entrepreneurs. <i>Here, we ask: Does the project prioritize investments and opportunities related to small business entrepreneurship? Do those investments target communities that bore the negative effects of small business displacement?</i>	Inland Empire - IE Works - The Inland Empire's water and wastewater utilities consortium, IE Works, partnered with the California High Road Training Partnership (H RTP), and the US Department of Education to develop pathways to water and wastewater careers in the region. The IE Works program creates internships, pre-apprenticeship, and registered apprenticeship programs that prioritize women, Black and Latinx

		communities, transition-age youth, low-income communities, and those re-entering the workforce.
Hard Infrastructure (HI)	The project includes specific multi-modal transportation improvements, open spaces and urban greening, sustainability enhancements, climate resilient infrastructure, and monuments. <i>Here, we ask: Do infrastructure improvements provide multiple benefits? To whom do those benefits accrue? Who may be harmed?</i>	Detroit, MI - I-375 Reconnecting Communities Project The I-375 Reconnecting Communities Project will guide a transformational project that proposes to reconnect the City of Detroit from the physical and emotional division created decades ago in the name of “urban renewal.” The plan will replace I-375 and the Gratiot Connector with a surface-level boulevard and grid that creates a mobility vision prioritizing pedestrians in walkable connections.

7. Restorative Justice Case Study Analysis

7.1 – Case Study Analysis Overview

EA analyzed eighteen case studies and measured each against the twelve restorative justice elements. EA employed a matrix to evaluate how well each case study embodied these twelve restorative justice framework elements. Below is an overview of the matrix’s function:

- The [matrix](#) uses a cumulative measurement system, with case studies that contain more framework elements receiving higher scores (e.g., least alignment = 0; most alignment = 13)
- If a particular element has “0,” this means the element is not present; if the element has a “1,” this means that it is present.

Based on the analysis, the average case study had roughly seven elements, with a range of three to eleven elements. The bolded and highlighted cases included the most restorative justice elements and aligned closely with the Pasadena-focused restorative justice definition. The most aligned case studies are:

1. Portland, OR - Broadway Corridor Community Benefits Agreement
2. Portland, OR – I-5 Rose Quarter Improvement Project
3. St. Paul, MN – Reconnect Rondo

Case Study	Restorative Justice Elements Present
Portland, OR- Broadway Corridor Community Benefits Agreement	11
Portland, OR – I-5 Rose Quarter Improvement Project	10
St. Paul, MN – Reconnect Rondo	10
Austin, TX – I-35 Cap & Stitch	9
Detroit, MI – I-375 Reconnecting Communities Project	8
Evanston, IL - Restorative Housing Program	8
San Jose, CA- Google Community Investment Project	8
Atlanta, GA – The Stitch Phase 1	7
Los Angeles, CA – Transit Oriented Communities (TOC) Incentive Program	7
New Orleans, LA – Reconnecting Claiborne	7
Rochester, NY – Inner Loop North Project	7
Philadelphia, PA – Chinatown Stitch	6
Los Angeles, CA – ULA Citizen Oversight Committee	5
Oakland, CA – Encampment Management Policy	5
Los Angeles, CA - Black Owned and Operated Community Land Trust	4
San Jose, CA - Tenants Preference Program	4
Stockton, CA Downtown Transformation Project	4
Inland Empire, CA - IE Works	3

7.2 – Case Study Trends

This section highlights key themes and takeaways from the matrix, revealing some insights for each stakeholders' consideration.

Case Study Project Type	Key Trend/Takeaway
Historical Acknowledgement Projects: 12	Roughly 61% of the case studies had elements of historical acknowledgment. This means 11 projects included a component that marked the historical significance of a community, populace, and/or individual(s) in the project area.
Impacted Communities Wealth Generation Projects: 10	Nearly 56% of projects supported income and wealth generation for impacted community members. This means

	that over half the projects were focused on building community wealth for underserved populations.
Reconnecting Communities Grant Project: 9	Like the Pasadena SR-710 project, exactly half of the case studies are previous or current participants in the USDOT Reconnecting Communities Pilot Planning Grant program.
Support Community Oversight Projects: 8	Roughly 44% of cases aligned with this element, which indicates that, among this sample, community-led accountability mechanisms are not widespread.
California-Based Projects: 8	California-based case studies accounted for less than half (44%) of the case studies. This ensured the opportunity for Pasadena to learn from other municipal and regional approaches to restorative justice.
Community Benefits Agreement Projects: 2	The least aligned element (11%) across projects may be indicative of the relatively difficult task of codifying community benefits through a CBA. While community benefits like income wealth generation (56%), small business support (56%), or affordable housing (61%) were present in more case studies, only two had CBAs.

7.3 – Case Study Profiles

Below is a more in-depth analysis of the three most aligned case studies.

Portland, OR – Broadway Corridor Community Benefits Agreement

BACKGROUND

The project area is a 32-acre site, 14 of which is a former United States Postal Service site and is located within the Central City in northwest Portland. The project area presents the potential to create nearly four million square feet of new economic, business, social, and community development opportunities.

The overall project is a part of the Central City 2035 Plan, with most of the properties within the Broadway Corridor owned by Prosper Portland, an economic and urban development agency for the City of Portland. Prosper Portland is pursuing the planning

and redevelopment of the Broadway Corridor with an intentional focus on ensuring that all communities have an opportunity to engage in and benefit from its redevelopment. Robust community engagement informed the approved Master Plan that will guide future development and priorities for public benefits via public and private investment.

RESTORATIVE JUSTICE ELEMENTS PRESENT

PAST	
Historical Acknowledgment	The project's explicit focus on benefiting disadvantaged communities is an acknowledgment that the City has fallen short of this effort in the past.
PROCESS	
Open Dialogue	Mechanisms such as the Broadway Corridor Labor-Management Community Oversight Committee (LMCOC) and the Steering Committee allow for all parties involved to communicate throughout planning and implementation.
Clear Feedback Process	The Steering Committee, town halls, and public engagement events allow for public feedback throughout the planning process.
Co-creation Planning	The planning and engagement process was guided by the goal of co-designing the site with community members early in the process.
OUTCOMES	
Support Community Oversight	The Broadway Corridor Labor Management Community Oversight Committee (LMCOC) holds developers and employers accountable to the CBA goals.
Impacted Communities Wealth Generation	The USPS Master Plan promotes equitable wealth creation by establishing opportunities for minority-owned small business participation, establishing wage standards for construction and operations, as well as by setting job recruitment and placement targets for historically underrepresented populations.
TOOLS	
Community Benefits Agreement	A Community Benefits Agreement (CBA) has not been signed by a contracted developer for the project but was approved by Portland's City Council in September 2020. ^{lvi}

Affordable Housing	A 10% affordable housing baseline is set in the CBA, with tenant preferences for Black, Indigenous, Japanese, and Chinese American Communities.
Procurement Intervention	Business and workforce goals were set in the CBA that incentivizes minority-owned and COBID firms. While a developer has not implemented these requirements, City Agencies, including Prosper Portland have adhered to the CBA's guidelines in their own procurement processes in the demolition and relocation of the USPS building.
Small Business Workforce Investment	\$3 million invested toward affordable commercial tenanting.

RACIAL EQUITY IMPACT ASSESSMENT

Before the project began, Prosper Portland conducted a Racial Equity Impact Assessment to guide the project's implementation. The document articulates a plan for Prosper Portland to achieve equitable outcomes for the project.

"A Racial Equity Impact Analysis (REIA) is an assessment of how institutional racism historically impacts decision-making on a project and an analysis of how the project can be done differently to address historical inequities. According to Race Forward, a REIA is 'used to reduce, eliminate, and prevent racial discrimination and inequities.' A REIA process examines who the affected stakeholders are in the project, identifies the racial inequities through data and analysis of past projects, and examines ways to interrupt the status quo through the decision-making process to lead to more equitable outcomes."^{lvii}

EQUITY AUDIT FINDINGS

The audit yielded ten ideas that act as grounding principles for this project:

1. Engage regionally diverse stakeholders
2. Hold a conversation about equity before the project starts
3. Structure deals with equity goals in mind
4. Find development partners who will achieve equity objectives.
5. Leverage equity goals from institutional partners and industry
6. Engage stakeholders in a meaningful and effective way
7. Check our own assumptions; question every process
8. Be more creative in finding ways to support minority owned and community owned assets.

9. Make the competitive process more welcoming, and designed in the eyes of those we want to include
10. Have a long-term perspective^{lviii}

OUTCOMES

While the original developer for the project backed out of the project during the COVID-19 pandemic, the City of Portland unanimously approved the project's CBA and overall language in September 2020.^{lix} This allowed the City of Portland to ensure that its agencies and bureaus met these standards of the CBA throughout their own project work on the site. As of January 2024, the demolition and movement of the USPS site has yielded the following outcomes:

- \$36,000,000 has been spent on minority-owned firms.
- 93% of costs spent on the Certification Office for Business Inclusion and Diversity (COBID)
- 24% of total project hours were worked by apprentices, 70% by minority workers, and 20% by women
- Labor-Management Community Oversight Committee (LMOC) independently coordinates data tracking

PROCESS

Two members of the Prosper Equity Council (an internal organizational governing body focused on achieving equity through training, caucusing, meetings, etc.) facilitated five meetings with the Broadway Corridor Redevelopment Team. These meetings involved an equity audit of past projects with similar goals, highlighting lessons learned on project success. Following these meetings, Prosper Portland engaged with the project Steering Committee to:

- Use the equity audit to identify revised project goals and success metrics for the Broadway project.
- Identify a comprehensive list of stakeholders that may be involved in the master planning process as key partners in implementing the project's desired equity outcomes.
- Key partners are defined as – (1) Community Experts, (2) Partners, (3) Technical Experts, and (4) End Users

Portland, OR – I-5 Mitigation: Rose Quarter Improvement Project

BACKGROUND

In 2024, the I-5 Rose Quarter Improvement project was one of two projects addressing the negative impacts of I-5 in Portland, Oregon to receive Reconnecting Communities grant funding. The I-5 Rose Quarter Improvement Project will construct a cap over a portion of I-5 that displaced members of the Black and Japanese Albina neighborhood in

the 60s and 70s.^{lx} These Reconnecting Communities projects support the reconnection of the previously displaced Northeast Albina neighborhood.

The purpose is to improve safety and congestion where three major interstates converge and to reconnect the Albina neighborhood. This project will build a highway cover, new streets over the highway to connect existing streets, a pedestrian bridge, ramp to ramp highway connections, and relocate the I-5 South-bound off ramp to increase mobility, safety and connection in Northeast Albina. Benefits include improving safety and mobility on local streets, creating new space for community development, and developing a diverse and skilled workforce.^{lxi}

Before these communities were cut off from Downtown Portland by this interstate highway, they were redlined. Historians note that “in 1919, the Portland Realty Board mandated that real estate agents do not sell property to Black or Asian populations in ‘white neighborhoods,’ leaving them few other options outside Albina. This mandate wasn’t changed until 1956.”^{lxii} Despite these racist policies, Albina turned into a thriving and culturally rich community by mid-century as the historic Vanport Flood and migration for jobs during World War II forced Black families to move to the neighborhood.^{lxiii} By 1960 four out of five Black Portlanders lived in the neighborhood. However, urban renewal policies, the construction of the I-5 highway of the 70s, and the upzoning and gentrification of Albina^{lxiv} displaced hundreds of Black families.

RESTORATIVE JUSTICE ELEMENTS PRESENT

PAST	
Historical Acknowledgement	This project has a substantial historical element. It uses a documentary-style approach that employs community storytelling through video diaries. It stands as a living testament to the community, its history, and what occurred due to I-5’s construction.
PROCESS	
Open Dialogue	The process has included several community-led bodies, including a Community Advisory Committee, the Historic Albina Advisory Board, the Community Oversight Advisory Committee, and the Executive Steering Committee. ^{lxv}
Clear Feedback Process	The project established several clear lines of feedback for the community to engage with the City and the State. Initially, the Executive Steering Committee considered feedback from the Historic Albina Advisory Board (HAAB), the Community Oversight Advisory Committee (COAC), and the Independent Cover Assessment team. As of September 2021, the Historic

	Albina Advisory Board assumes the advisory role to the Oregon Department of Transportation.^{lxvi} <i>*Although ODOT's process was intended to include clear community feedback, ODOT dissolved the Executive Steering Committee and created the HAAB in 2021 for criticism of the project.^{lxvii}</i>
OUTCOMES	
Support Community Oversight	The Historic Albina Advisory Board plays a role in ensuring that community-led recommendations are conferred to ODOT, while the Community Oversight Advisory Committee monitors the construction contractor to ensure that DBE and workforce goals are met.^{lxviii}
Impacted Communities Wealth Generation	The project includes several mechanisms to enable community wealth generation, including workforce development programs to build “capacity in local underrepresented populations to meet local construction workforce needs” and establishing a DBE/On-the-Job Training Advisory Committee to provide recommendations on project development.^{lxix}
TOOLS	
Procurement Intervention	The construction contractor was required to develop a Diversity plan that articulated the DBE goal of ensuring that 18% to 22% of contracting opportunities go to disadvantaged enterprises. The plan also includes mechanisms to increase DBE participation and retention, including receiving technical assistance, training, and mentorship.^{lxx}
Small Business Workforce Investment	The diversity plan also discusses the project's workforce and small business investment goals, as directed by the COAC. This includes working “with workforce providers to increase access for underrepresented local populations” and providing opportunities to “facilitate new relationships between minority subcontractors and prime contractors.”^{lxxi}
Hard Infrastructure	This is a transportation infrastructure project aimed at reducing traffic congestion through infrastructure upgrades. The goal is to increase neighborhood connections through local street improvements to offer greater visibility, protection, and access for people walking, biking, and rolling. Improvements include: ○ Highway Cover

	○ East-West Roadway crossing over I-5 ○ Multimodal Local Street Improvements ○ Pedestrian and Bicycle Bridge ○ Auxiliary Lanes and Shoulders ○ I-5 Southbound Off-Ramp Relocation
Legislative Action	The project, which originally started as a freeway widening project, exemplifies how community and local advocacy can drive government to take legislative action at the state level. The community's desire to limit freeway expansions, include a freeway cap, and remove sensitive uses (e.g., schools) from the I-5 corridor led to changes in state policy. This includes allocating funding for the re-siting of Harriet Tubman Middle School, allocating funding to support the Albina Vision Trust's freeway cap idea, and securing Reconnecting Communities grant to support cap construction without widening the freeway.^{lxxii}

PROCESS & TIMELINE^{lxxiii}

2017: Oregon House Bill 2017 is passed partially funding the I-5 Rose Quarter Improvement Project. The Federal Highway Administration (FHWA) and ODOT initiated the National Environmental Policy Act (NEPA) environmental review process.

2018: The Central City 2035 Plan and 2035 Transportation Systems Plan are adopted and are included in the project. Metro includes this project in its 2018 Regional Transportation Plan.

2019: Oregon Department of Transportation (ODOT) and FHWA release the NEPA Environmental Assessment followed by a 45-day public comment period

2020: ODOT issues notice of intent to award a Construction Manager/General Contractor. ODOT and FHWA prepare a Revised Environmental Assessment and FHWA signs a "Finding of No Significant Impact" for the I-5 Rose Quarter Improvement Project

2021: ODOT dissolved the Executive Steering Committee and replaced the body with the Historic Albina Advisory Board, causing the organization to lose strong community supporters, including the Albina Vision Trust.

2021: An updated design package is released and reflects community input from the 2019 Environmental Assessment, and Independent Cover Assessment, and an Environmental Peer Review. The Project Advisory Committee recommends adopting the Proposed Hybrid 3 Cover Concept design option as an outcome of the Independent Cover Assessment Process.

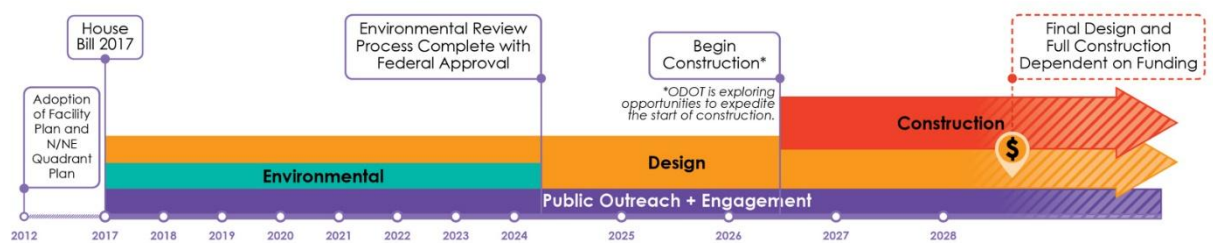
2021: Governor Karen Brown facilitated negotiations between Albina Vision Trust and ODOT to compromise on the Hybrid 3 Cover Concept Design and regain community stakeholder buy-in.^{lxxiv}

2022: ODOT and FHWA release a Supplemental Environmental Assessment incorporating the new design package update, followed by a 50-day public comment period.

2023: In response to public comments made during the project's Supplemental Environmental Assessment comment period, ODOT implemented design refinements, including a new flyover southbound I-5 off-ramp and a bicycle/pedestrian-only bridge over I-5 near the Moda Center that will enhance safety by reducing conflicts between cars and trucks and people walking, biking, or rolling in the area.

2024: ODOT receives federal approval to proceed with the project and can continue moving forward with more detailed project design and construction. The project was also a recipient of the USDPT Reconnecting Communities and Neighborhood grant, totaling \$450 million.

Figure 3. Portland I-5 Mitigation/Rose Quarter Improvement Project Timeline



Please Note: Construction schedule is subject to change

OUTCOMES

Restorative Justice is an explicit component of this project. While the process has been fraught as detailed in the timeline above, the potential for this outcome is clear. The existing Albina community has been integral in supporting the project, documenting the history of the community, ensuring acknowledgment of past harms, and exercising oversight of the project.

Creation of the Community Oversight and Advisory Committee (COAC) to monitor the construction contractor, ensuring that disadvantaged business requirements and targeted hiring mandates are met.^{lxxv} Restorative Justice is included in the Project Fact Sheet and Diversity Plan. It includes an emphasis on supporting small businesses and Tim providing workforce development opportunities.

St. Paul, MN – Reconnect Rondo

BACKGROUND

Once the largest concentration of African Americans in the City of St. Paul (80%), Rondo was a thriving community for businesses and homeowners. From 1956 to 1968 the construction of the I-94 highway split the community in half.^{lxxvi} As a result of freeway construction:

- 300 businesses were destroyed
- 700 African American-owned homes were destroyed
- \$270 million home ownership equity gap in Rondo due to inadequate compensation for the home's true market value.

This project aims "to create Minnesota's first African American cultural enterprise district connected by a community land bridge."^{lxxvii} The aim is to repair, restore, and revitalize the Rondo neighborhood and address the racial disparity gaps in Minnesota. The project's benefits will help improve the realities for African Americans in Minnesota while addressing the historical harms inflicted by the construction of the I-94 freeway. The concept for this project is "restorative development," where the project provides new housing, jobs, business, and nonprofit workspace. Ultimately, the goal is to inclusively grow Rondo's economic base and increase the City's revenues by \$3.8 - 4.2 million annually.^{lxxviii}

This project is ongoing, and Reconnect Rondo is a 501(c)3 nonprofit organization leading the effort. They received a \$2 million USDOT Reconnecting Communities Grant in fiscal year 2022 but did not receive any funding in 2023.

RESTORATIVE JUSTICE ELEMENTS PRESENT

PAST	
Historical Acknowledgment	The City and State both issued a formal and public apology for the displacement and destruction of the Rondo community. The Rondo Commemorative Plaza also acts as a physical historical landmark.
PROCESS	
Open Dialogue	The state of Minnesota and the City of St. Paul have opened several channels for the community to speak on the project, with ReConnect Rondo serving as the community-led anchor organization. ReConnect Rondo has used community meetings, partnerships with technical assistance providers like the Urban Land Institute, and non-traditional methods of engagement like hackathons to support diverse, community-led input.

Clear Feedback Process	There has been a direct process set up for the community to receive feedback and have a back-and-forth conversation with the State, City, and relevant stakeholders on the vision for this project. This includes formal community engagement mechanisms to inform feasibility studies and inform design priorities, as well as community-supported recommendations ^{lxxxix} embedded in the project's 4P (people, public, private, and philanthropic) funding model.
Co-Creation Planning	Intentional on space and making sure community understands the concepts before making the decisions.
OUTCOME	
Support Community Oversight	Community steering and oversight committees have guided the project's goals and hold the government accountable for delivering on the collective vision from the community. While these entities have existed at different stages of the project, there is now a separate entity that has been formed, the Rondo Roundtable ^{lxxx} , that is an independent group of 14 members including local businesses, neighborhood leaders, and elders that have a strong commitment to overseeing this project's ultimate success and Rondo's community-led revitalization.
Impacted Communities Wealth Generation	Restorative Development is the guiding light for this project, with an emphasis on providing economic benefits for the community. As outlined in the project's proposed funding document, this may include establishing a community enterprise trust that would manage air and development rights, providing title and land to community members in perpetuity, developing a community-driven master plan, and creating standards for operational governance. ^{lxxxi}
TOOLS	
Affordable Housing	The project aims to create 468-576 housing units in Rondo with a stated goal to "Provide mechanisms to minimize barriers, and provide financial incentives, to promote the production and preservation of a diverse, safe, healthy, and affordable housing stock for residents to build wealth." ^{lxxxii}
Procurement Intervention	Rondo's Anti-Displacement and Community Investment Strategy ^{lxxxiii} calls for a full economic cycle of benefits that are envisioned for the community. Key among them is a Community Investment Fund to ensure that the

	Rondo community directly benefits from the physical development of the land bridge, which would include contracting opportunities for small businesses and employment opportunities for local residents.
Small Business Workforce Investment	The project's 4P financing plan calls for the creation of “an enterprise or system of economic business capacity building, workforce development, and wealth building.” ^{lxxxiv}
Hard Infrastructure	The entire project is grounded in the creation of a physical land bridge that will cover or “cap” the I-94 freeway and build a restorative development. The development proposed would include physical housing, office, transportation upgrades, and green space. ^{lxxxv}

PROCESS & TIMELINE^{lxxxvi}

Figure 1. Reconnect Rondo Process Timeline



2009: First discussion of a possible “cap” over I-94 (i.e., the Rondo Land Bridge)

2015: MnDOT Commissioner Charlie Zelle and Saint Paul Mayor Chris Coleman apologize to Rondo residents for the negative effects of freeway construction

2016: Urban Land Institute (ULI) and MnDOT complete Healthy Communities Initiative

2016: U.S. DOT selects Rondo for Everyplace Counts Design Challenge

2017: ReConnect Rondo, Inc. is formed

2017: ULI supports the Rondo land bridge in developer dialogue

2017: *Nobel Peace Prize Forum* pushes efforts to rebuild Rondo neighborhood

2018: The National ULI Advisory Service panel recommendation calls for 21 acres of new land over I-94 through the Rondo land bridge

2018: Macalester College completes *Place-Based Study of Gentrification and Housing Resiliency for Rondo*

2018: *Public Spaces Proximate to I-94 Analysis* completed. Rondo Ave, Inc. and Friendly Street Initiative Form ReConnect Rondo to study the potential of a land bridge

2019: ReConnect Rondo presents to the Saint Paul Planning Commission

2020: ReConnect Rondo receives Ramsey Court revitalization grant

2020: Rondo land bridge feasibility study completed

2020: Nordic City Solutions select Rondo for Net-Zero Energy development exploration

2020: Rondo Roundtable is relaunched in pursuit of African American cultural district planning and coordination

2020: ReConnect Rondo initiates master planning discussion with the City of St. Paul

2021: ReConnect Rondo prepares for bonding year, pre-planning resources

2022: ReConnect Rondo bond request for pre-planning

2022: Reconnecting Communities grant awarded

Figure 2. Detailed Reconnect Rondo Process Timeline



OUTCOMES

MDOT and the St. Paul Mayor officially apologized for their institutional role in perpetuating historical wrongs. Thus far, project stakeholders have conducted a series of historical, planning, economic impact, development, and feasibility studies, including:

- Rondo Past Prosperity Study
- Rondo Land Bridge Feasibility Study
- Rondo Land Bridge Health Impact Assessment
- ULI Advisory Service Panel Report
- Neighborhood Master Planning Study

The planning efforts have yielded significant community engagement outcomes, building substantial local support for the project. The level of community support, advocacy, and organizing around this collective vision to repair the harm from the splitting in half of Rondo has led to several community-led events, projects, and initiatives, including:

- Formation of ReConnect Rondo as an official organization
- Creation of Rondo Days, a festival planned and held in celebration of Rondo since 1983
- [Rondo Commemorative Plaza](#) completed in 2016

Figure 3. Rondo Commemorative Plaza



lxxxvii

7.4 – Case Study Lessons Learned

Portland Broadway Corridor - Community Benefits Agreement Developer Partnership

The negotiations facilitated by Prosper Portland between the Steering Committee and developers created delays in the development of the former USPS site. This case uplifts the necessity to ensure that developers are aware of and committed to the community goals of a CBA or RJF at the front end of project solicitation. It is also important for the government body to support the community and ensure a selected developer follows through and adheres to outlined agreements.

I-5 Rose Quarter – Transparency and Delivery

ODOT's lack of transparency and accountability to the Executive Steering Committee deepened the existing distrust of government with the Albina Community. Although the process has been fraught, the governor's facilitation to compromise with community has realigned the development plan with community needs, but the distrust and apprehension because of ODOT's actions remain. This case uplifts the importance of transparency throughout the process to rebuild community trust. It also emphasizes how overpromising and underdelivering will create further harm and deepen distrust.

Reconnect Rondo – Timing and Intention

Reconnect Rondo as an organization centered on community decision making and community context throughout its planning process. Their timeline showcases the importance of intention and consistency to meet community needs. This case uplifts the value to slow down the process and educate the community to make well-informed decisions.

8. Promising Practices for Pasadena

8.1 – Community Input on Restorative Justice Elements

This section outlines summaries of EA's engagement with the 710 Advisory Group on October 16, 2024, the Advisory Group subcommittee, and the January 25, 2025 Open House. During this Open House, EA gathered input from community members on their prioritization of the restorative justice elements.

710 Advisory Group Meeting Summary

October 16, 2024: EA presented a project update to Advisory Group members in October. In this meeting, the EA team introduced the working Pasadena focused Restorative Justice definition and 12 case study elements. Along with this broader

summation of the Restorative Justice Framework development, EA provided an in-depth view into two case study profiles, Reconnect Rondo and Portland's Broadway Corridor.

Advisory Group members asked questions about process, expectations, and clarifications to case study elements and the two case study profiles. They generally responded positively to the 12 case study elements developed by EA, and the initial proposal to categorize them into four larger themes.

The City suggested the Advisory Group members organize themselves into subcommittees to dive deeper into topic areas of the master planning project. Members discussed how the process and subcommittees will center Restorative Justice throughout all the planning elements and recommendations. One of the subcommittees created was for Restorative Justice, which will take EA's presented materials to carry forward the development and further feedback of the master plan's Restorative Justice Framework.

710 Advisory Group Subcommittee Summary

[placeholder text]

Community Open House Summary

[placeholder text]

8.2 – Restorative Justice Scenarios in the Pasadena Context

Based on community's prioritization of restorative justice elements, this section analyzes scenarios based on the restorative justice elements community input prioritized and the current utilization of the restorative justice element in Pasadena. This will incorporate landscape research, additional landscape research on the Pasadena context, and key information from the Reconnecting Pasadena Master Plan process to articulate the applicability of the restorative justice element.

Here are current examples of each restorative justice element and its utilization in the City of Pasadena.

Restorative Justice Element	Definition	Current Utilization in Pasadena
Open Dialogue (OD)	A formal mechanism whereby impacted community members are heard. This allows people to air grievances with the expectation that decision-makers will take action to	Our Pasadena- Putting the Plan in Motion The City of Pasadena's Planning and Community Development Department launched the Our Pasadena

	address their issue(s) and recognizes the importance of their lived experiences.	Plan in 2018. The process has included a series of community open houses and rounds of community workshops to collect input on the City's General and Specific Plans.
Clear Feedback Process (CFP)	The project has a transparent and accessible mechanism for community members and local leaders to provide feedback. Community members have a clear understanding of how their input will be considered and incorporated into the final product.	Reconnecting Communities 710 Advisory Group (RCAG) The RCAG was formed by the Pasadena City Council and members appointed to provide a mechanism in Pasadena's planning process that creates opportunity for residents and local stakeholders to weigh in, give feedback to the ongoing process, and advise council members.
Co-Creation Planning (CCP)* <i>*This is a very high bar requiring community members to have decision-making authority in the process.</i>	The planning process is collaborative and considers the community as a designer and decision-maker. It acknowledges that community members are well-equipped to articulate what they want to see in their community.	N/A
Historical Acknowledgement (HA)	The project connects to the historical legacy of a planning or development project that harmed an under-resourced or marginalized community. The history of the project is acknowledged, documented, and	Historic Report on the SR-710 Displacement Part of the City of Pasadena's scope for the 710 Planning process includes the Historic Project work led by three consultants, ARG, Allegra, and UCLA. ARG will

	incorporated in future planning efforts, with an eye for creating interventions that respond to historic inequities.	document the demographics of the people displaced & number, types of buildings, and institutions. Allegra is tasked with identifying persons or descendants of persons displaced or impacted by the construction of the 710 freeway. UCLA will document the impact the construction of 710 and 210 freeways had on the Pasadena community by analyzing census data from 1950 to the present and other factors like redlining, racial covenants, and urban renewal.
Impacted Communities Wealth Generation (ICWG)	The project articulates an inclusive approach to economic development. It specifies how wealth is generated, who stands to gain financially, and specifies the populations that are typically excluded. It includes mechanisms for impacted low-income communities to share in the project's economic benefits.	Pasadena Local Preference and Priority System Guidelines – The City of Pasadena outlines preference and prioritization requirements to allocate affordable housing units. Sixth priority is given to households that have been “involuntarily displaced” from the City. <i>*Although California’s Prop 209 bars public agencies from giving preference based on race or gender, there are other socioeconomic characteristics that the City may consider. One example would include the State of California’s designation of priority populations.</i>

Support Community Oversight (SCO)	The project gives community representatives an official supervisory duty, formally establishing their role in the implementation process.	None
Community Benefits Agreement (CBA)	A legally binding agreement between community representatives and a developer that defines specific benefits. These may include construction and operations labor standards, provision of community spaces, and/or affordable housing requirements.	Heritage Square Senior Apartments – Local Benefits Plan Housing developers negotiated a local benefits plan with the Fair Oaks Project Area Committee to codify community benefits including workforce, contracting, and housing.
Affordable Housing (AH)** <i>**Can be part of CBA</i>	The project includes required affordable housing units.	PMC 17.42.040-Inclusionary Housing Ordinance Pasadena's Zoning Code requires 20 percent of residential dwelling units in a project be sold or rented at an affordable rate.
Procurement Intervention (PI)	The project requires the inclusion of Disadvantaged Business Enterprises (DBE) and Minority/Women-Owned Business Enterprise (WMBE).	Pasadena First Buy Local Where applicable, the City of Pasadena offers a 5 percent bid preference to certified small businesses and local businesses in procurement, contracting, and hiring efforts. Prop 209 precludes preferences for minority or women-owned businesses in public contracting.

Small Business/Workforce Investment (SBWI)	The project integrates a workforce training and/or small business development program for community members and entrepreneurs.	First Source Hiring Program This is a program that creates voluntary and mandatory local hire requirements for development projects.
Hard Infrastructure (HI)	The project includes specific multi-modal transportation improvements, open spaces and urban greening, sustainability enhancements, climate resilient infrastructure, and monuments.	Reconnecting Pasadena 710 Master Plan Process This project seeks to “enhance connectivity, mobility and quality of life” in and around the 710 Stub through “transportation infrastructure, economic opportunities, cultural attractions and green space.”
Legislative Action (LA)	The project led to or was built upon by formal legislative response of a governmental entity, usually a City Council, in the form of city ordinances or resolutions. Examples include, updating the approach to community engagement for all planning projects, adopting policies that require community benefits agreements when certain conditions are met, and/or formalizing mechanisms that enable community members to formally prioritize investment priorities (e.g., participatory budgeting). The key component of this element is the government body	None

	taking direct action through their legislative authority.	
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8.3 – Restorative Justice Promising Practices

Based on the current utilization in Pasadena and community prioritization, here are the elements in which the City has the most opportunity to build promising practices.

- **Affordable Housing (AH):** The current provision of 20% affordable housing in Pasadena’s zoning code presents an opportunity to steward the development of more housing for Pasadena’s most vulnerable residents. The City could increase this provision through the 710 Master Plan.
- **Historical Acknowledgement (HA):** Akin to the ReConnect Rondo case study, the City of Pasadena could issue a formal apology codified through City Council acknowledging the harm caused by the construction of the freeway interchange that connected SR-710, SR-134, and I-210. The harm cited could include findings from the Historic Project work led by three consultants, ARG, Allegra, and UCLA.
- **Community Benefits Agreement (CBA):** Similar to the Portland Broadway Corridor Community Benefits Agreement, the City could codify through City Council a community benefits plan to ensure all Pasadena residents have the opportunity to benefit from the subsequent development of the Site. Benefits could include but are not limited to provisions to promote workforce construction equity around hiring and wages, targeted procurement requirements for disadvantaged business enterprises (DBE), and affordable housing requirements.

9. Recommendations

EA recommends the following approaches to further integrate a restorative approach to the Reconnecting Pasadena Master Plan Process.

[placeholder for recommendations]

10. Appendix

Section 4.3 – Theories of Restorative Justice in Planning

The various planning frameworks of justice highlight the necessity for substantive changes in procedure and systems to create equitable results. A 2021 report used the Reparative Planning framework to develop a matrix of recommended practices through an empirical analysis of ACT-LA's organizing methods.^{lxxxviii}

- Build **scalable** decision making and **coalition building** infrastructure
- Operate **cross-spatially** and create counter spaces for organizing outside of institutional forums
- **Align visions** internally and externally
- Work **regionally** and **multi-disciplinary**
- Plan for the **current population**
- Remain **flexible**

Section 7.3 – Case Study Profiles

Evanston, IL – Restorative Housing Program

BACKGROUND

This is the first reparations initiative developed by the City of Evanston. The initiative acknowledges the harm caused to Black/African American Evanston residents due to discriminatory housing policies and practices and inaction on the part of the City from 1919 to 1969. The goal of the Program is to:

- Revitalize, preserve, and stabilize Black/African American owner-occupied homes in Evanston
- Increase homeownership and build the wealth of Black/African American residents.
- Build intergenerational equity amongst Black/African American residents
- Improve the retention rate of Black/African American homeowners in the City of Evanston

RESTORATIVE JUSTICE ELEMENTS PRESENT

PAST	
Historical acknowledgment	The Restorative Housing Reparations Program seeks to address a specific harm to Evanston's Black residents. The City acknowledges that discriminatory housing policies and practices from 1919 to 1969 deprived Black families the opportunity to pursue economic opportunities and build generational wealth.
PROCESS	
Open Dialogue	The city has established several bodies to solicit community input and ensure open dialogue on the policy throughout. This includes the Reparations Committee comprised of a majority of community members, as well as several working groups focused on topics such as Community Unity, Economic Development, and Education Initiatives, among others.
Clear Feedback Process	The Equity and Empowerment Commission and the Reparations Committee have established formal feedback loops for community-identified recommendations to be considered by council. This includes hosting a series of community meetings and town halls. In addition, the Committee-approved community outreach plan will identify how community members will participate in the process moving forward. ^{lxxxix}
OUTCOME	
Support Community Oversight	Two-thirds of the Reparations Committee -- which oversees and monitors reparations payments --is held by non-aldermanic community members.
Impacted Communities Wealth Generation	The Council developed a 3% sales tax on gross Cannabis sales to produce revenue to fund the reparations payments. By dedicating this revenue to support Black families that missed out on wealth building opportunities through homeownership, the fund supports wealth generation for marginalized populations.
TOOLS	
Affordable Housing	This program focuses on supporting housing and homeownership for the Black community of Evanston.
Legislative Action	Evanston City Council passed Resolution 58-R-19 in June 2019, affirming the City's commitment to end structural racism and achieve racial equity. In November 2019, the Council passed Resolution 126-R-19, which established the "Adult Use Cannabis

	Tax” to fund reparations efforts to create direct benefits to housing and economic development, and in 2020 codified the Reparations Committee.
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PROCESS & TIMELINE

This section provides an overview of the project process and timeline.

June 5, 2019: Evanston passed [Resolution 58-R-19](#) affirming the City’s commitment to end structural racism and achieve racial equity.

July 2019: The City Council’s Equity and Empowerment Commission held two community meetings to gather public input on reparations in July 2019.

- “The purpose of the Equity & Empowerment Commission is to identify and eradicate inequities in City services, programs, human resource practices, and decision-making processes. The goal is to ensure that all residents receive equal service and treatment regardless of race, color, religion, ancestry, national origin, veteran status, sexual orientation, age, marital status, familial status, disability, gender identity, and gender expression.”^{xc}
- Participation is citizen-centered, with only one alderman assigned to qualify for the commission, and the remaining eight participants having expertise in areas of human rights, social justice, physical and mental disability, and the Spanish language.

September 2019: Council accepted the Commission’s report

November 14, 2019: City Council passed [Resolution 126-R-19](#) “Establishing a City of Evanston Funding Source Devoted to Local Reparations.”^{xc} This resolution approved a September 9, 2019, recommendation from the Equity & Empowerment Commission regarding local reparations for African American residents to the City. It called for the following:

- Creation of a City Council subcommittee to conduct a feasibility study of Commission recommendations on housing assistance and economic development projects.
- Establishes the “Adult Use Cannabis Tax” as a new revenue source as of 2020 and seeks to dedicate this funding source to local reparations programs, effectively establishing the “Local Reparations Fund.”^{xcii}
- It committed the first \$10,000,000 of the City’s Municipal Cannabis Retailers’ Occupation Tax (3% on gross sales of cannabis) to fund local reparations for housing and economic development programs for Black Evanston residents.^{xciii}

November 9, 2020: Council adopted Ordinance [102-O-20](#) amending portions of the city code to codify the Reparations Committee. The new committee expands membership to include citizens, two Alderman, and four at-large members. The committee is tasked with the following:



- Oversight of the Reparations Fund
- Evaluation of applications and providing recommended funding allocations to housing and economic development programs that address historical discrimination by the City
- Monitoring how funding recipients are affected and measuring programmatic impacts in each ward

September 21 – November 5, 2021: The City opened applications for the program

May 2, 2022: The City selected the first 16 beneficiaries of the Local Reparations Restorative Housing Program, with recipients receiving financial compensation totaling \$400,000.^{xciv}

August 16, 2023: As of this date, Evanston's Reparations Committee announced it had dispersed \$1,092,924 in reparations through the housing and \$439,397 was pending disbursement for mortgage assistance and/or construction and remodeling projects.

FUNDING

The program receives its funding from a tax levied on cannabis dispensaries and sales. Participants in the program, receive a \$25,000 direct benefit to support and address discriminatory housing policies of Evanston. Funds support the following initiatives:

1. **Home Ownership:** The Home Ownership initiative provides down payment/closing cost assistance to purchase real property located within the City.
2. **Home Improvement:** The Home Improvement initiative provides funds to repair, improve, or modernize real property located within the City.
3. **Mortgage Assistance:** Mortgage Assistance initiatives provide funds to pay down mortgage principal, interest, and/or late penalties for real property located within the City

PARTICIPANTS

Eligibility for the program is limited to "Black Residents that lived in Evanston during the period of harm, which was 1919 - 1969, or their direct descendants are eligible."^{xcv} Currently, City staff anticipates disbursing reparations funds to at least 80 direct descendants in 2024. There might be more disbursement pending the revenues received from the second cannabis dispensary, which opened in February 2024.^{xcvi}

Rochester, NY – Inner Loop North Planning Project

BACKGROUND

This project is a continuation of the successful completion of the Inner-Loop East Project that concluded in 2019. The Inner Loop East Project converted a sunken section of the inner-city expressway ("loop"). Originally designed and developed in the 1950s as the City of Rochester was growing, the highway was seen as a way for residents to quickly access the downtown business district.

The City demolished 1,300 homes and businesses to make way for the expressway. However, the federal government added to the construction of interstate highways to the South, East, and West of Downtown. Rochester's population has since plummeted, and the "loop" was a displacement vessel that never achieved its intended utility. In 2012 through a Transportation Investment Generating Economic Recovery (TIGER) Grant, the City filled in the eastern portion of the 6-lane sunken expressway, freeing up 5.7 acres of land that was converted into a roadway with several infrastructure enhancements such as mixed-use developments, crosswalks, and cycle tracks. Inner Loop North's Planning Study was conducted in 2022 and took a community-centered co-design approach to the development. Unlike Inner Loop East, the Inner Loop North project is more centered around elements of Restorative Justice, especially in the co-creation of the development.

Many U.S. cities, like New Orleans and Baltimore, are looking at Rochester's case study and are interested in replicating it by using federal dollars from USDOT's Reconnecting Communities Pilot Program.

RESTORATIVE JUSTICE ELEMENTS PRESENT

PAST	
Historical Acknowledgment	Historical documentation is built into the project from the start. All community events and engagement sessions begin with a historical recounting and acknowledgment.
PROCESS	
Open Dialogue	Community-based groups, like Hinge Neighbors, are actively working with the City to identify priorities and share concerns about how the engagement process should be altered to avoid some of the more top-down planning that characterized the Inner Loop East project. ^{xcvii} The City has hosted ten public workshops, six Community Advisory Committee meetings, six Technical Advisory Committee Meetings, three pop-up events, and an online survey. ^{xcviii}
Clear Feedback Process	Hinge Neighbors has played a central role in influencing the process, including hosting four community workshops in 2021 and creating a refined community-

	generated plan. The City has incorporated this feedback and the plan in the preferred concept. ^{xcix}
Co-Creation Planning	Community-identified needs were codified in Hinge Neighbor's Plan and the community's Screening Tool for Equity Analysis of Projects . ^c
OUTCOME	
Support Community Oversight	Two-thirds of the Reparations Committee --which oversees and monitors reparations payments --is held by non-aldermanic community members.
Impacted Communities Wealth Generation	The Council developed a 3% sales tax on gross Cannabis sales to produce revenue to fund the reparations payments. By dedicating this revenue to support Black families that missed out on wealth building opportunities through homeownership, the fund supports wealth generation for marginalized populations.
TOOLS	
Affordable Housing Element	One strong example of Co-creation planning is the affordable housing element of this project. Unlike the Inner Loop East project, community members want to see lower density affordable housing and a pathway to full home ownership, not mixed-use development and condos as in the Inner Loop East Project. ^{ci}
Hard Infrastructure	The project calls for filling in the highway trench and includes new bicycle and pedestrian facilities, new development at varying intensities (including lower-density housing, mixed-use developments, and commercial zoning), as well as open space. ^{cii}

PROCESS & TIMELINE^{ciii}

1990s: Local Leaders began exploring the removal of the inner loop highway as a form of redevelopment in Downtown Rochester.

2014: The highway's least-utilized eastern segment was closed to traffic and the City launched a \$21 million public works project to fill in the freeway trench. Proposed improvements included: Bulb-outs, protected bike lanes, apartment buildings with varied brick faces, first-floor retail, and landscaped sidewalks hugging the downtown side of Union Street

2019: The Inner Loop East Project is completed. Neighborhood of Play, a mixed-use development serving downtown, is created. It included a \$75 Million, 90,000 sq ft. museum



expansion, 238 apartment units, with 100 for people making 60-80% are median income, and a new hotel.

2021: The U.S. House of Representatives approved \$4 million in funding to transform Rochester's 1.5-mile-long stretch of Inner Loop North into a street-level boulevard. The project aims to reconnect northern neighborhoods to downtown. The Federal funding will support the study, design, and planning phases of the project, which is estimated to cost up to \$50 million to complete.

2022: Governor Kathy Hochul announced that New York was committing \$100 million to remove the last 1.5 miles of the Inner Loop's northern stretch, opening another 22 acres for development and public space.

OUTCOMES

- **Inner Loop East Economic Payoff:** More than \$200 million in new investment has been generated since the expressway was filled in and there is 95% occupancy of new apartment developments. However, vacant and unused lots still exist, with the idea of possible expansion of hotels, parking garages, and a 60-unit affordable housing complex with ground-floor retail.
- **Inner Loop Planning Study** – The planning project took a community-centered approach to re-design the corridor based on community-identified needs. Historical documentation and analysis of the "inner loop" and the displacement that occurred is a component of this project. Much more community-engaged focused than Inner Loop East in terms of community oversight and guidance of the project.
 - "The City developed six different concepts for what the area would look like without the Inner Loop. The community settled on one anchored by a traditional grid layout. One of the most symbolic improvements is a full restoration of Franklin Square, a city park dating back to 1826 that had been split apart by the Inner Loop."
 - Community-led planning process revealed that residents do not want to see a replica of a large development like in Inner Loop East, but rather they want low-density, affordable housing.

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c City of Rochester. "Hinge Neighbors," December 8, 2021. <https://www.innerloopnorth.com/post/hinge-neighbors>.

c Hinge Neighbors. "Inner Loop," n.d. <https://hingeneighbors.com/inner-loop>

^{ci} Byrnes, Mark. "Rochester's Inner Loop Project Shows What Happens After a Highway Dies."

^{cii} City of Rochester. "Preferred Inner Loop North Transformation Concept," n.d.
https://www.innerloopnorth.com/files/ugd/86b242_cda457306e6545a5a39984fe0c81945e.pdf.

^{ciii} Byrnes, Mark. "Rochester's Inner Loop Project Shows What Happens After a Highway Dies."

RECONNECTING PASADENA

SR-710 Master Plan

COMMUNITY INPUT ON SR-710 RESTORATIVE JUSTICE FRAMEWORK

Reconnecting Communities
Restorative Justice Standing
Committee Meeting Presentation
June 4, 2025



2 mins

MEETING OBJECTIVES



**Summarize community
input on the Restorative
Justice Framework**



**Gather input on which
case study elements
resonate for a Pasadena-
focused approach**



2 mins



MEETING AGENDA

Recap of Consultant Work & Feedback Process on Restorative Justice (RJ) Framework | 5 minutes

Defining Pasadena- Focused Restorative Justice | 2 minutes

April 12th Community Open House: Survey Results Summary | 10 minutes

Live Poll on Restorative Justice Elements| 5 minutes



5 mins

Recap of Consultant Work on Restorative Justice (RJ) Framework



5 mins

EA SCOPE OVERVIEW

Restorative Justice Framework (RJF)

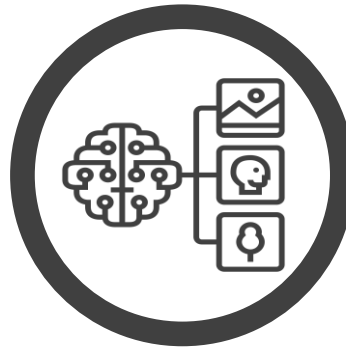


Guide for technical team's work



analysis and scope
refinement (Mar-Oct 2024)

landscape scan



options
and alternatives
(Sept 2024 – August 2025)

case studies + best practices document



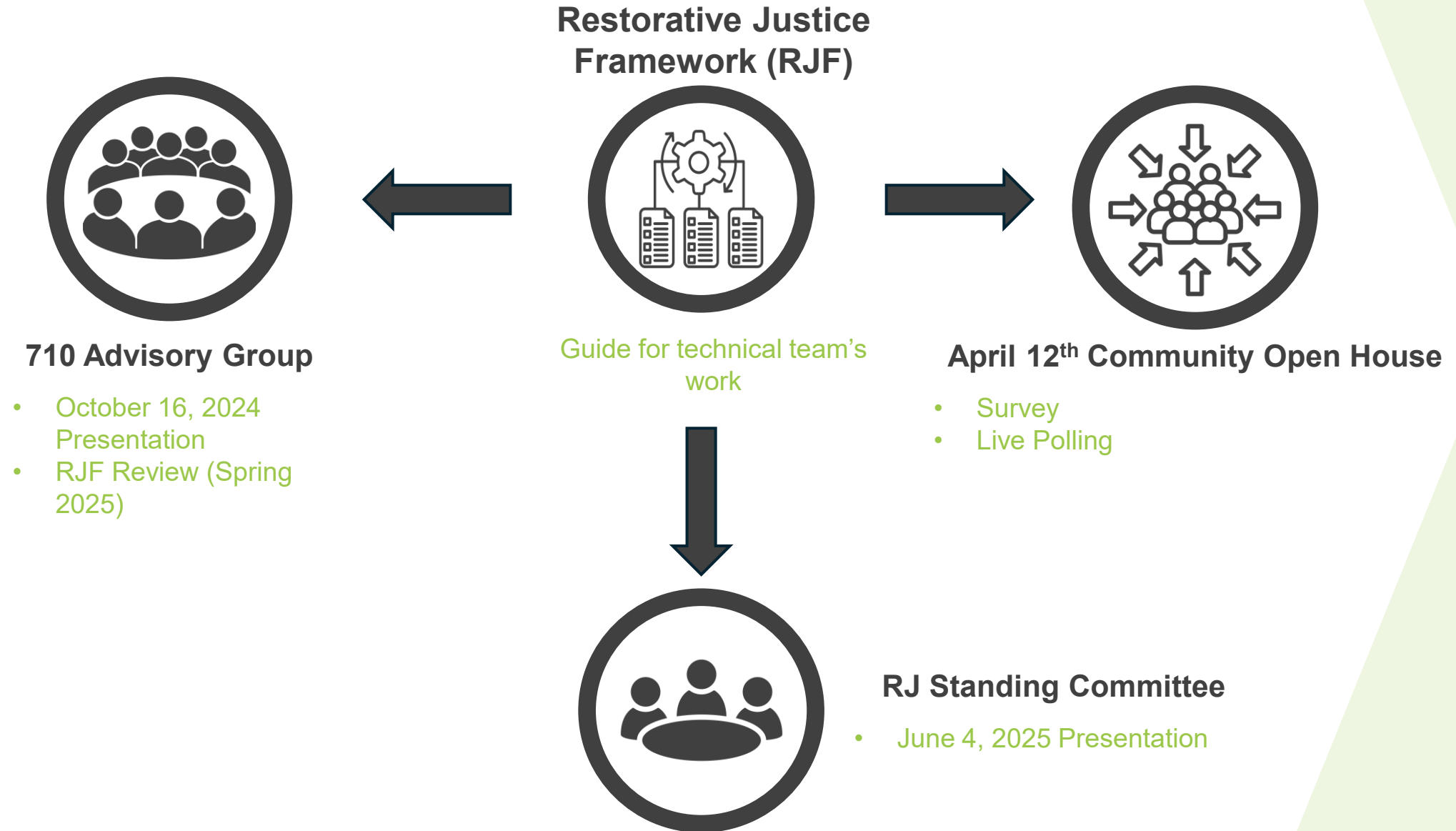
plan
Integration
(August – Fall 2025)

restorative justice framework



5 mins

FEEDBACK PROCESS





2 mins



DEFINING RESTORATIVE JUSTICE:

Pasadena-Focused



2 mins

WORKING DEFINITION

what does the city hope to accomplish through the restorative justice framework?



Pasadena-Focused: Restorative Justice addresses past harms caused by construction of the 710 freeway in Pasadena.

It seeks to identify, acknowledge, and respond to these harms through open and responsive engagement with impacted communities, with the goal to develop meaningful community-identified solutions for City Council's consideration.



10 mins



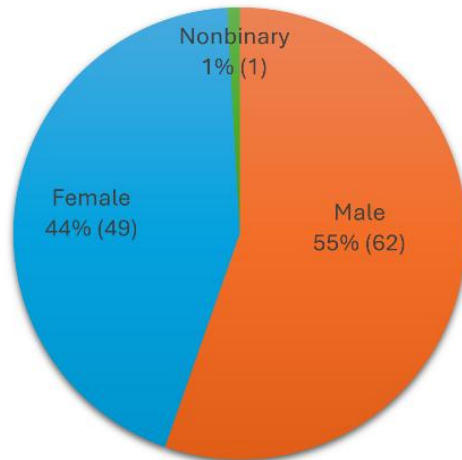
APRIL 12, 2025 COMMUNITY OPEN HOUSE: SURVEY RESULTS SUMMARY



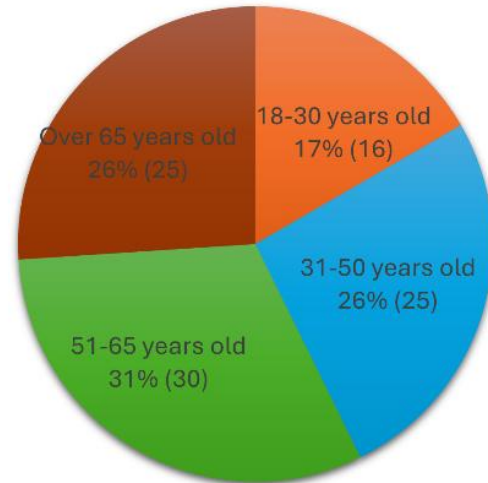
10 mins

Community Engagement Workshop Participation

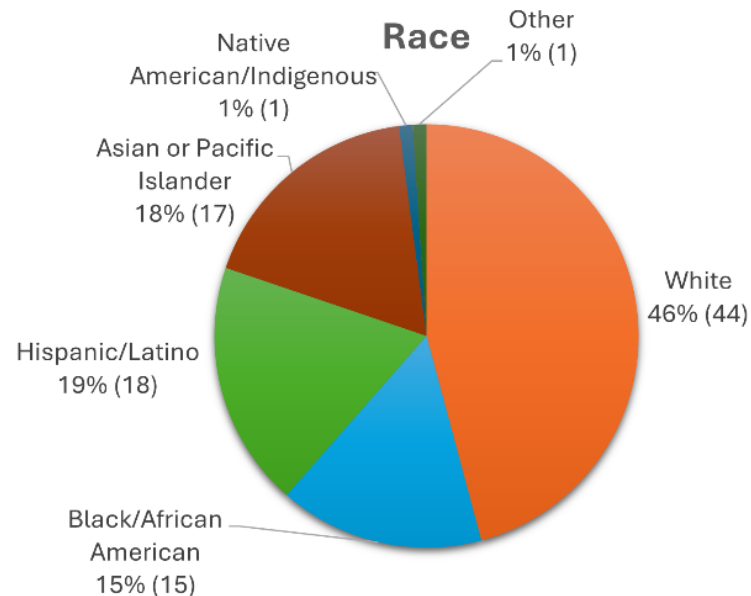
Gender



Age



Race



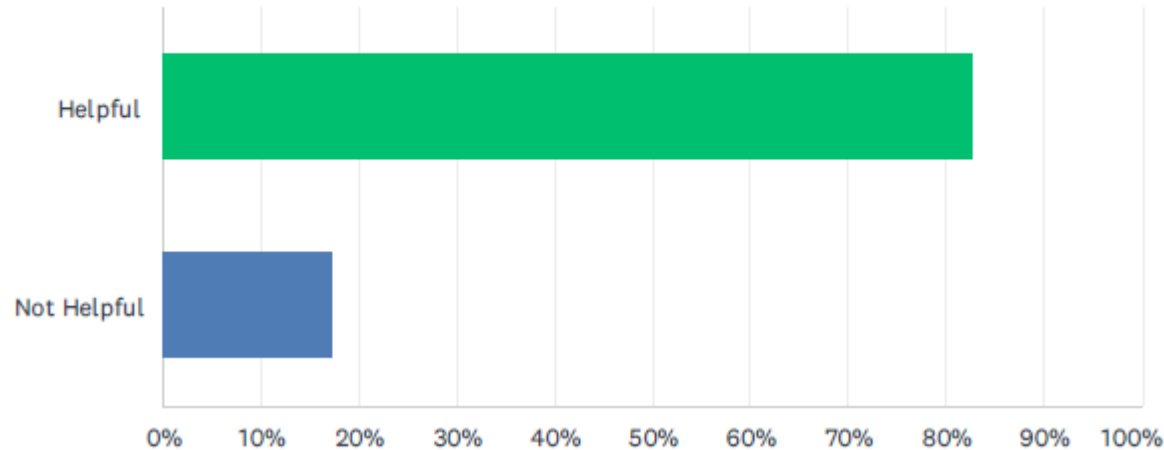
- Approximately **140 community members** attended
- **24% (28 responses)** of attendees represented the **91105 zip code**
- **51% (39 responses)** of attendees **participated** with the project before
- **31% (19 responses)** of attendees **heard** about the workshop **via email**



10 mins

Q1: Referencing the "Definitions and Resources" of Restorative Justice above, how helpful are the workshop and online materials posted on the project page in learning more about restorative justice?

Answered: 75 Skipped: 13

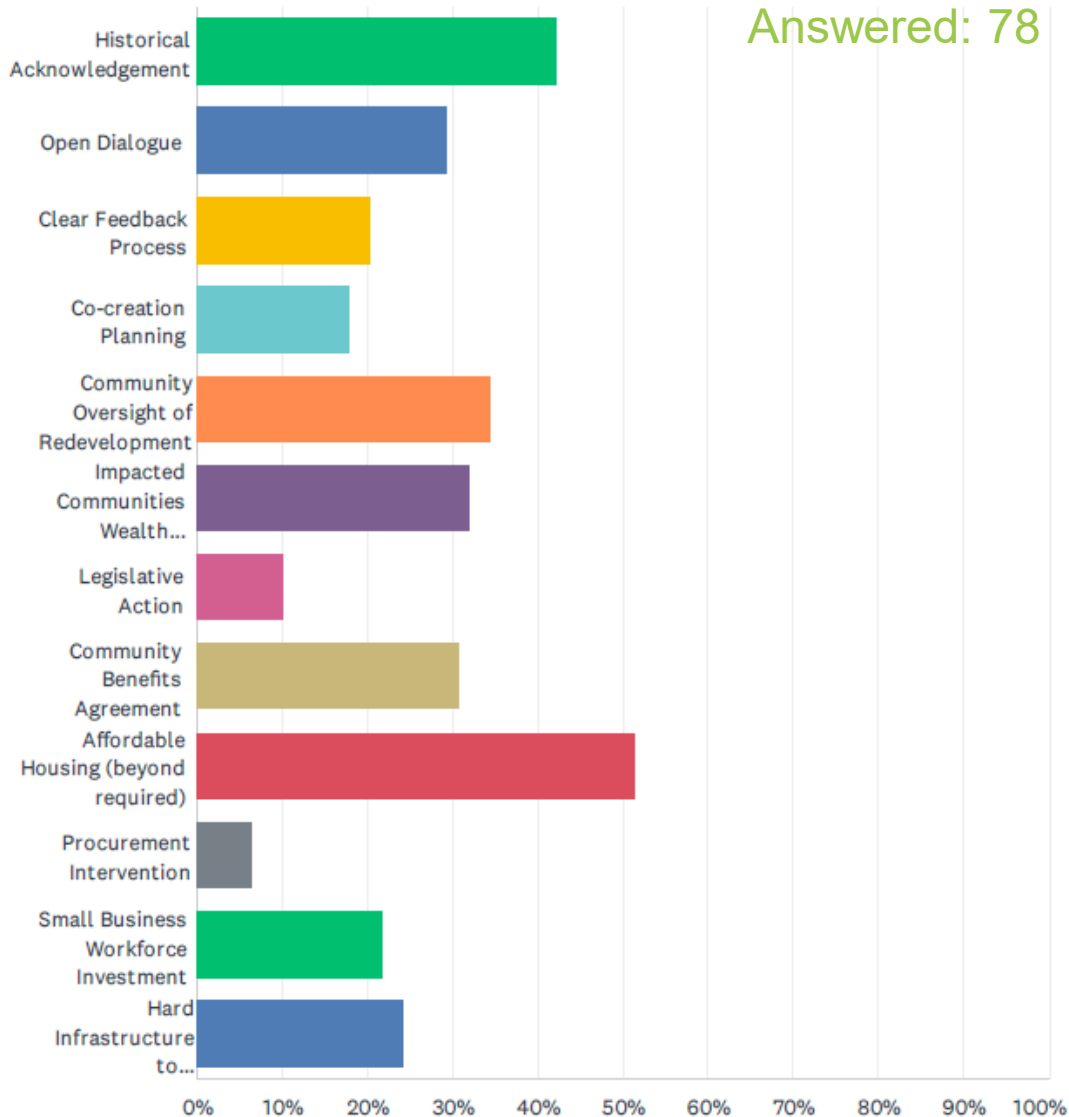


ANSWER CHOICES	RESPONSES	
Helpful	82.67%	62
Not Helpful	17.33%	13
TOTAL		75



10 mins

Q2: After reviewing materials in RJF "Project Elements and Case Studies" above, which guiding elements of Restorative Justice Framework are most important to you? (Pick 3)



Answered: 78

Skipped: 10

Top 3 Restorative Justice Elements

1. Affordable Housing (beyond required) – **51% (40 responses)**
2. Historical Acknowledgement – **42% (33 responses)**
3. Community Oversight of Redevelopment – **35% (27 responses)**

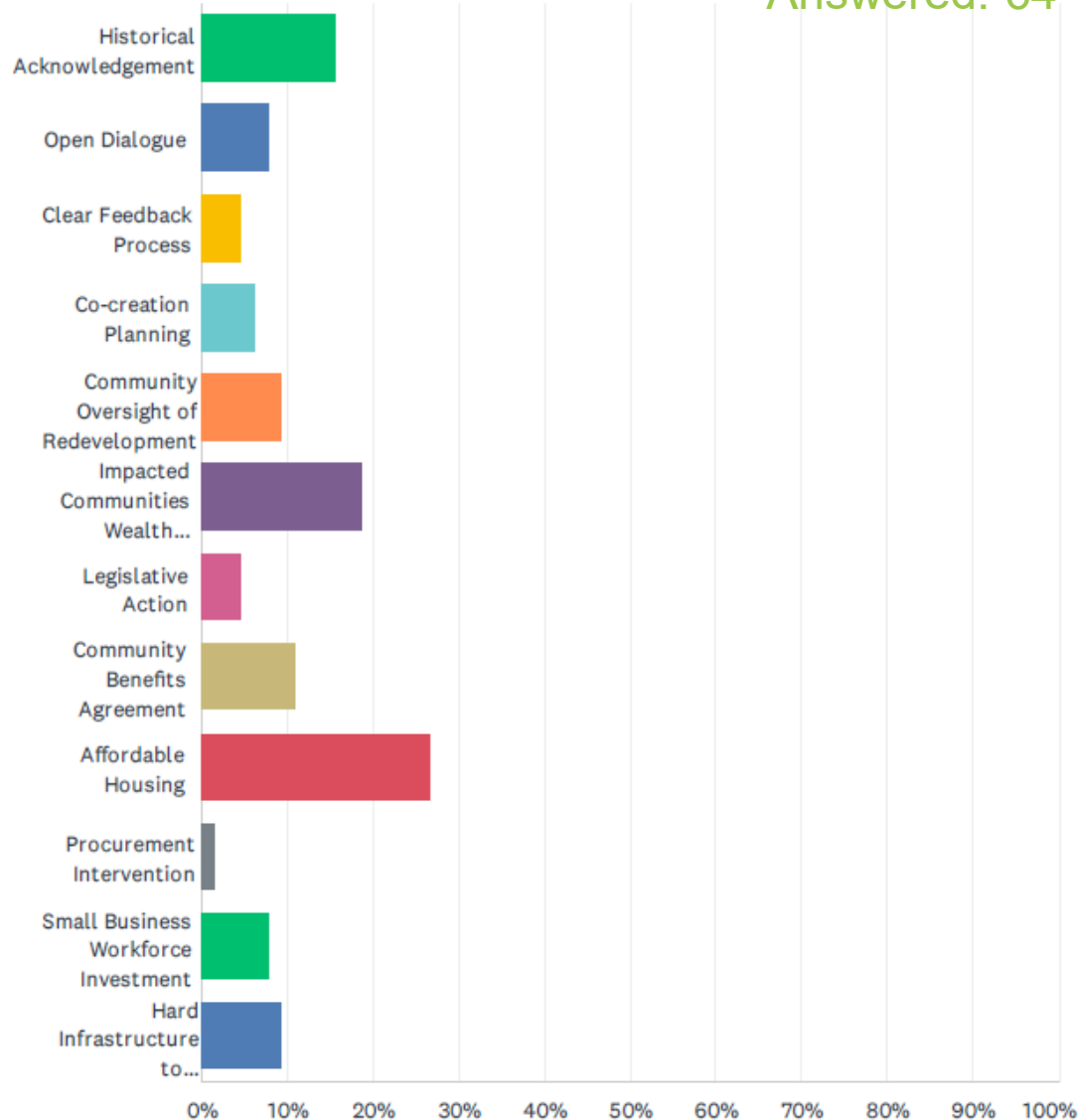


10 mins

Q3: Of these options, which one is your top priority to further explore in the Options Phase? Explain why.

Answered: 64

Skipped: 24



Top Priority Restorative Justice Elements to Explore:

1. Affordable Housing (beyond required) – **27% (17 responses)**
2. Impacted Communities Wealth Generation – **19% (12 responses)**
3. Historical Acknowledgement – **16% (10 responses)**



10 mins

Q3: Of these options, which one is your top priority to further explore in the Options Phase? Explain why.

Answered: 64 Skipped: 24

Affordable Housing (beyond required)

27% (17 responses)

“Affordable housing, although everything is important. I wonder if some [affordable] units could be set aside for descendants of those who live in the area so they could have right of first refusal”

“Affordable housing because housing is a basic human right and people should be able to be hated and still enjoy life -not have to work 3 jobs”

Impacted Communities Wealth Generation

19% (12 responses)

“Wealth Generation - if we are truly aiming for restorative justice then we need to ask ‘who is being restored?’”

“Impacted communities wealth generation - those affected should receive compensation or other benefits to make them whole”

Historical Acknowledgement

16% (10 responses)

“There was an incredible loss of history and potential for community.”

“It is important to expose & acknowledge past injustices inflicted on communities of color. The impacts of the 710 needed to be recorded so the price of eminent domain will be in the historical record”



10 mins

Q4: *What is Restorative Justice to you?*

Answered: 58

Skipped: 30

Acknowledgement of Past Harms

- *“Restorative Justice is acknowledgment of past wrongs and restoring the dignity of POC (people of color) in moving forward.”*
- *“Those of us who suffered no loss need to be cognizant of those who did and be willing to perhaps give up a little to partially rectify those injustices.”*
- *“making people that were displaced whole again”*
- *“Healing wounds inflicted by Caltrans & Pasadena City government”*
- *“Restorative justice is acknowledging past wrongs and hearing from all those impacted, then making present-day and future changes to provide for needs that were not met and remediate harms caused”*
- *“Acknowledgment & memorializing & real action to help those whose lives and legacies have been harmed”*
- *“Using historical knowledge of harm via built environment and then applying intentional strategies to restore opportunity & dignity to those harmed -- and their descendants”*



10 mins

Q4: *What is Restorative Justice to you?*

Answered: 58

Skipped: 30

Action-Oriented Restoration

- *“land back to local native peoples or space for them”*
- *“Perhaps connect 20% of the property to a land trust for long term affordable housing, either ownership or senior housing”*
- *“I support this concept. We have to make the implementation of this simple. How about offering a discounted price on the replacement housing to families who can document that they were impacted.”*
- *“To restore what was lost to eminent domain measures. Bringing back cultural hubs”*
- *“I believe appropriate restorative justice should include acknowledgment of the displacement, seeking of meaningful input in the design going forward, and opportunities for contracts and jobs related to the redevelopment. I do not believe that direct reparations are appropriate.”*
- *“Build 50,000 units of high rise housing in the 710 ditch. Reduce exurban traffic and encourage the use of the Metro”*
- *“Restoring to the community a good percentage of the value for property taken from the community.”*



10 mins

Q4: *What is Restorative Justice to you?*

Answered: 58

Skipped: 30

Inclusion and Community Voice

- *“Design wherein those affected by change have a say in what comes next.”*
- *“Acknowledge, identify compensate. Somehow families who lost so much s/b included in this process.”*

Equity and Prevention of Future Harm

- *“In today's time, the emphasis should be on helping minority neighborhoods in Altadena & Pasadena”*
- *“Acknowledging actual history but not wallowing in it [and] make changes to prevent unfair practices in future”*
- *“Repairing past harms through acknowledgement and actionable steps that benefit those harmed while paving the way for a more equitable and fair future”*



10 mins

Q4: *What is Restorative Justice to you?*

Answered: 58

Skipped: 30

Critique and Skepticism

- *“How can we talk restorative Justice when we haven't even stopped the harm? We have 200+ houses that need to be sold, returned to owners, sold to [nonprofit organizations]. We keep wasting time.”*
- *“Let's move forward. Everyone has past grievances.”*
- *“Restorative Justice is important, but the emphasis should be on the future and what to do with the ditch. Too much time & effort has been spent on this subject.”*
- *“To be honest I still struggle to understand the term after all this work. The examples do not help either. There are so many CalTrans homes that have been abandoned for years - thousands of neighbors were recently displaced by fire - why hasn't the city started selling these homes??? People need homes now. Sure, give priority to people who lost theirs to the 710 project but haven't most of them passed away? Seems too little too late.”*
- *“It's meaningless because those who were displaced all over the country by freeways and infrastructure received some sort of compensation when these things occurred. This is just an attempt to be 'woke.'”*



5 mins



COMMUNITY INPUT: LIVE POLLING



5 mins



LIVE POLLING

Join at menti.com | use code 7347 7790

Mentimeter

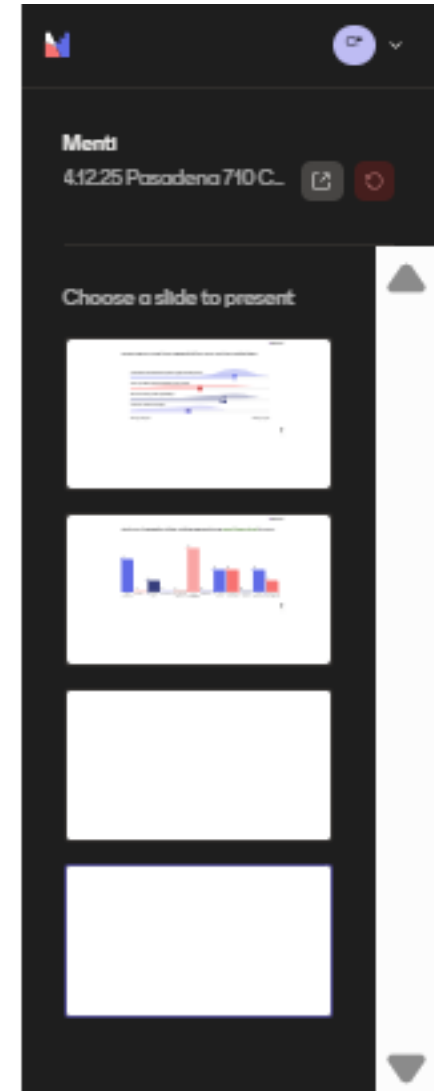
Is there anything else you would like to share?

Many of the proposed actions appear to be a tepid response to a very serious, generational injustice. I urge the City and stakeholders to do their utmost to address the wrongs committed

Thank you!

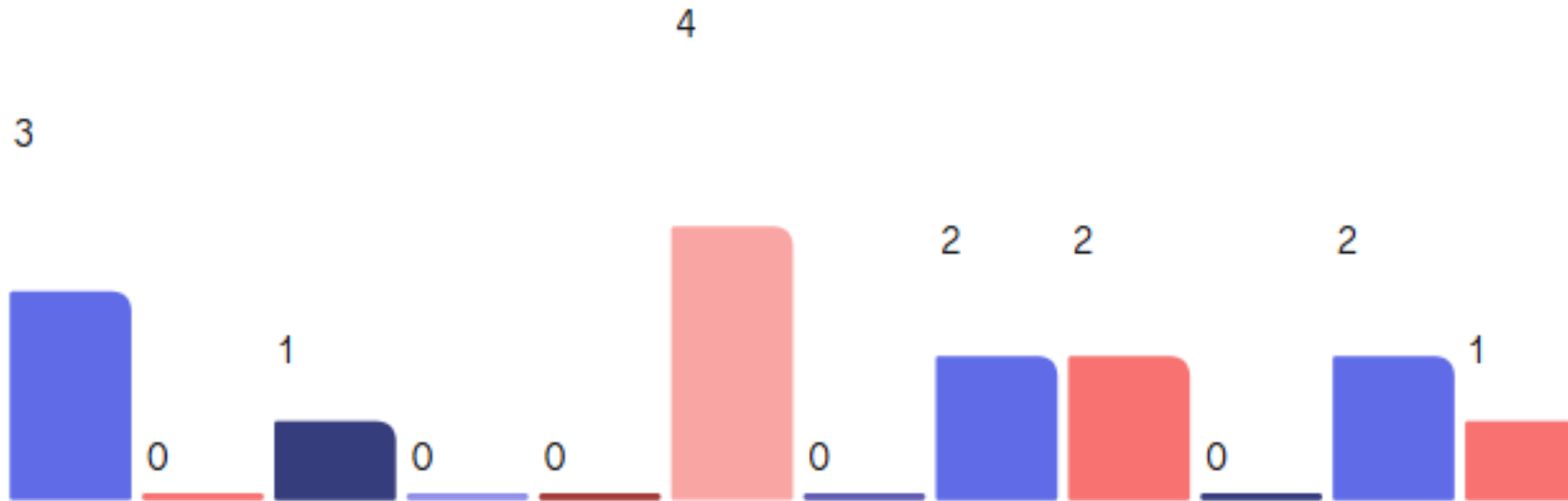
The impacts of redlining and eminent domain had a major displacement effect that was worsened by the loss of generational wealth and for minority families to choose where they want to live or purchase

Since the 710 area has been returned to the City, I would recommend consideration be given to taking maybe 20% of the land and converting it to a land trust to provide long-term affordability housing.





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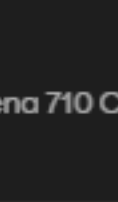
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4.12.25 Pasadena 710 C...




Choose a slide to present

How helpful are the presentation and online materials?



Which of the Restorative Justice elements are **most important** to you?



Which of the Restorative Justice elements are **least important** to you?





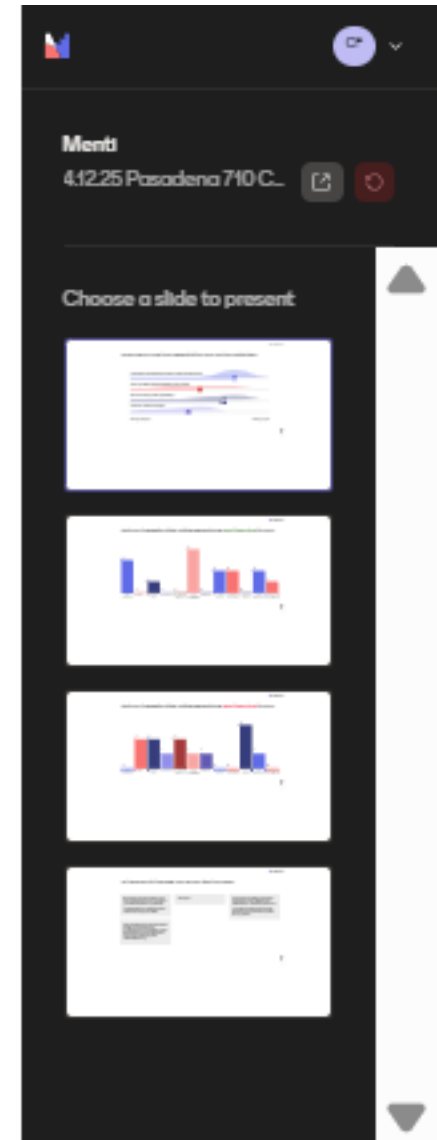
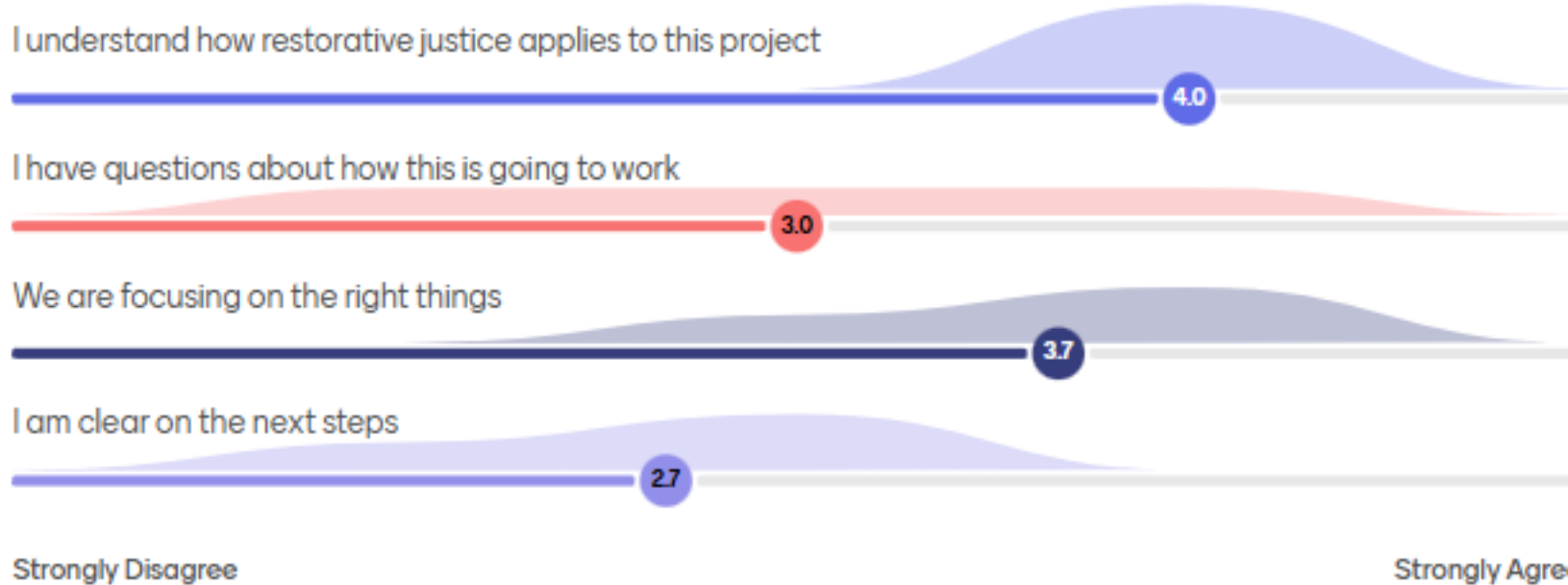
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How helpful are the presentation and online materials?





5 mins

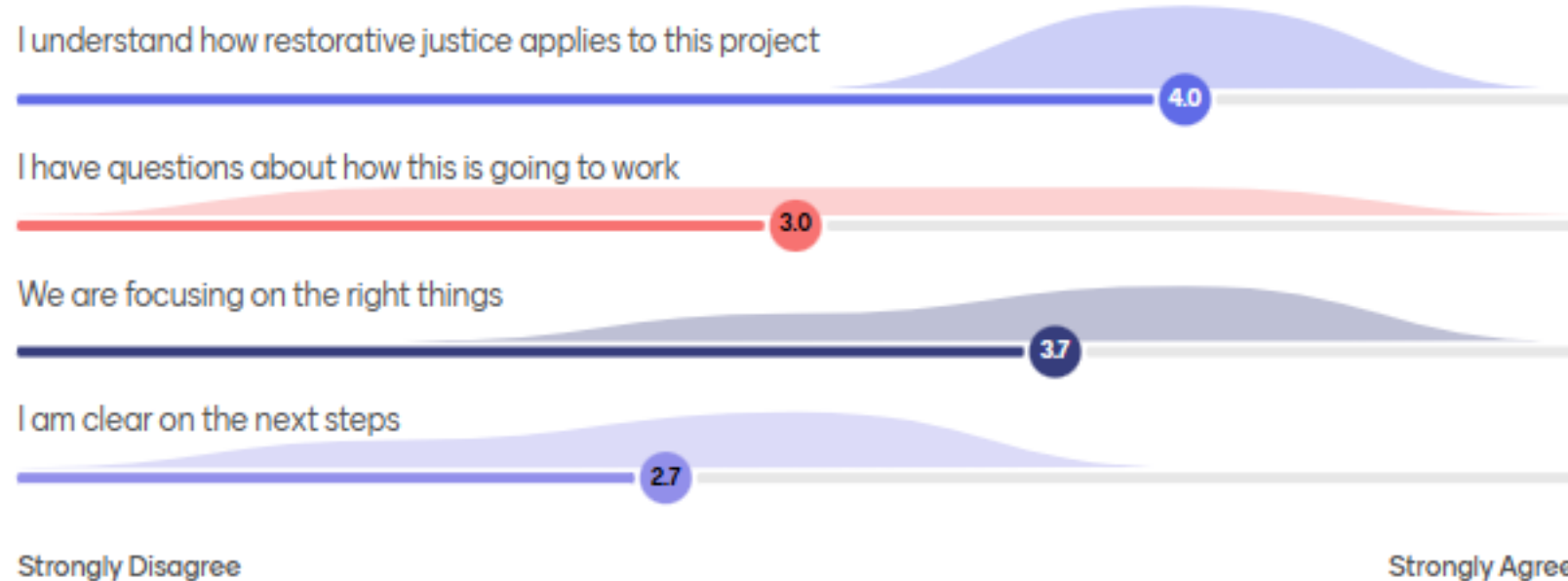


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Mentimeter

How helpful are the presentation and online materials?





THANK YOU!

APPENDIX C – **DRAFT** TECHNICAL MEMORANDUM

To: City of Pasadena
100 N. Garfield Avenue
Pasadena, CA 91101

From: Iteris, Inc.
801 South Grand Avenue, Suite 750
Los Angeles, CA 90017

Date: March 16, 2026

RE: 710 Reconnecting Pasadena – **DRAFT** Traffic Forecasting and Analysis Report

1 INTRODUCTION

This memorandum documents the methodology used and results of a high-level traffic forecasting analysis developed for various land use and roadway network alternatives for the 710 Reconnecting Pasadena project. Alternatives were developed through an iterative process. As the project land use and network alternatives were being tested/refined, ongoing traffic analysis helped shape the proposed highway networks and reduced the number of sub-options being tested. This refinement process ultimately led to two With Project alternatives: known as “Gardens and Terraces” and “Boulevards and Paseos”. A comparative analysis of these two project alternatives with other scenarios was performed to assess the broad transportation effects of developing the stub area. The comparison was made to Existing conditions, a Future No Build Scenario and Future “Disconnect” scenarios where the ramp and direct access between the stub area and the adjacent freeways was eliminated without adding any replacement roadway capacity. A TDM scenario was also considered. Three types of analysis were performed:

1. **Screenline analysis** – This analysis was used to assess the volumes of traffic traveling on north-south streets and east-west streets in the vicinity of the stub area.
2. **Vehicle Miles Traveled (VMT) by Level of Service (LOS) analysis** – This analysis was used to assess the total amount of vehicular traffic within an area and how much of that traffic experiences delay.
3. **Hots Spots analysis** – This analysis was used to assess the peak hour arterial street volume to capacity ratios at two known busy locations on Orange Grove Boulevard and Fair Oaks Avenue.

Lastly, an overall summary of conclusions is provided as well as a list of likely future traffic analysis needs for the next steps of the project.

1.1 Background Conditions

In order to prepare the high-level analysis, an understanding of background transportation conditions was necessary. Data from multiple sources was obtained to understand both the magnitude and pattern of traffic volumes in the area during typical weekday conditions. **Figure 1** presents a comparison of the current traffic volume flow in the vicinity of the 710 stub area. The values shown (27,000 vehicles for north-south, 12,000 vehicles for east-west) represent the total of the AM peak hour and PM peak hour, for both directions of traffic flow. As shown, the north-south flow of traffic during these periods is more than double the east-west flow, even though the east-west flow calculation includes more streets. The traffic count data was obtained from the *SR-710 Northern Stub Repurposing Feasibility Study*.

Figure 1 – Current Traffic Volume Comparison

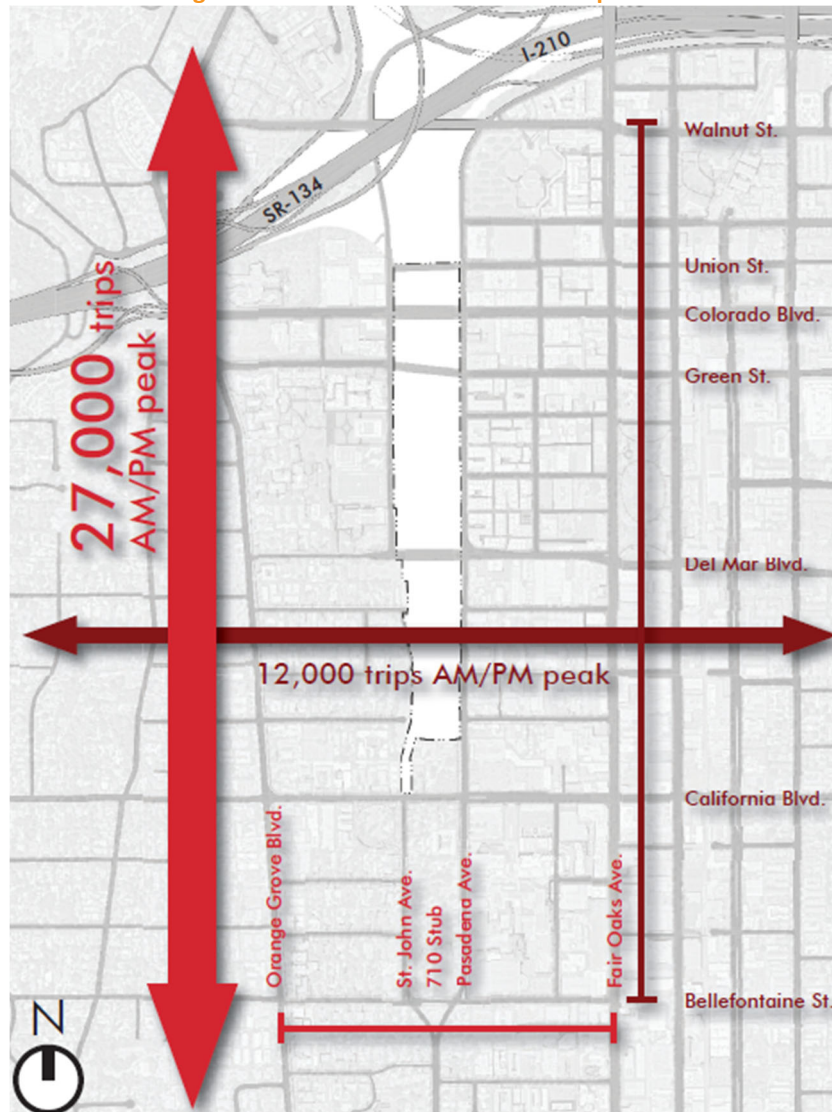


Figure 2 presents an estimate of the amount of “pass-through” traffic along the 710 freeway stub as compared to traffic with a destination in the area. The data was calculated using StreetLight Data, a software platform that aggregates cellular phone data to perform origin-destination traffic analyses along roadways or other geographic areas. In this case, southbound freeway ramp traffic, from I-210 Eastbound, I-210 Westbound, and SR-134 Eastbound, destined for the 710 freeway was compiled and assessed. As shown, approximately 45 to 50% of the current traffic along the freeway stub is passing through (i.e., has a destination outside the immediate area).

Figure 2 – Regional Pass-through versus Local Traffic Distribution

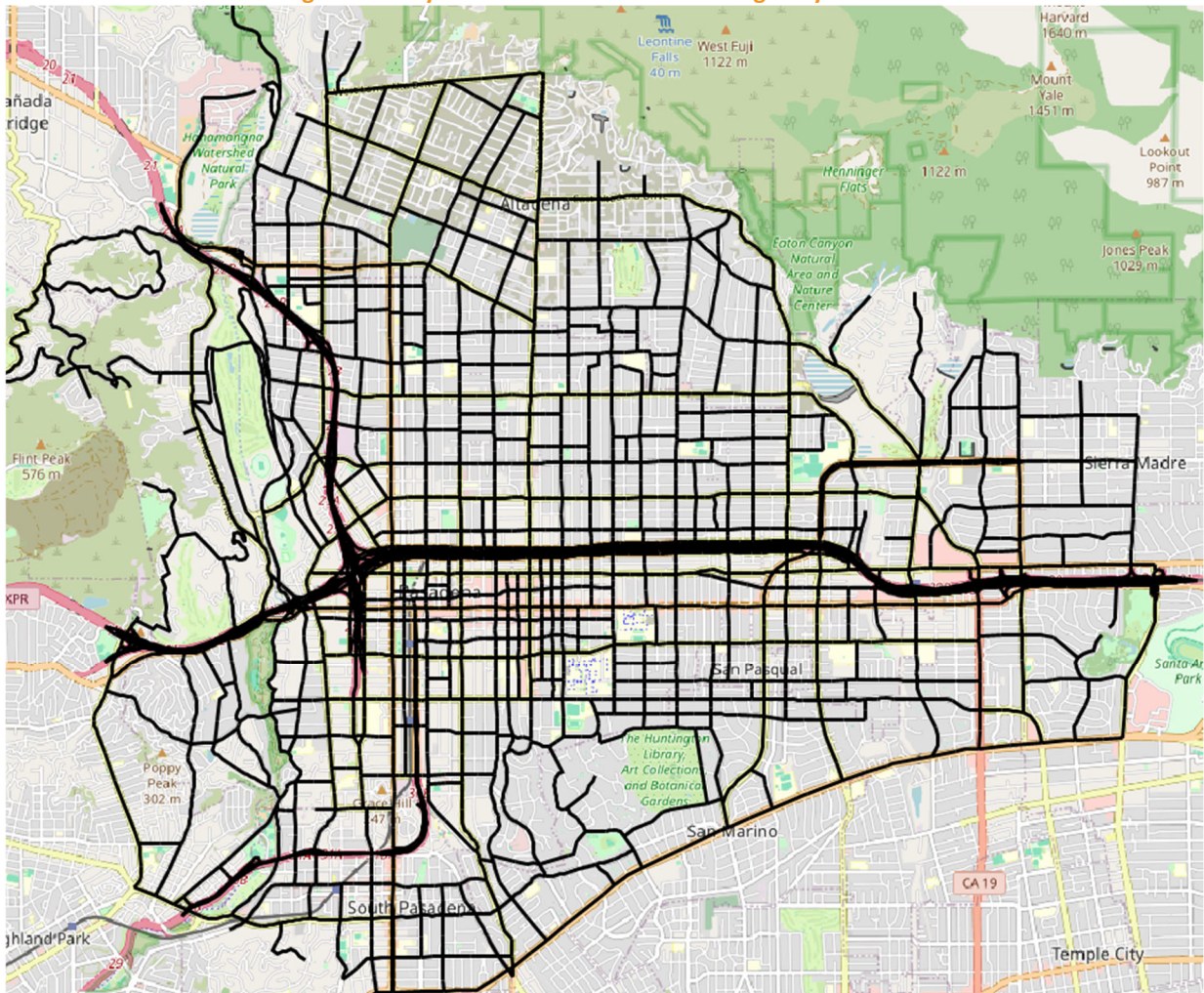


2 METHODOLOGY

The approach to testing the various project alternatives utilized traffic forecasts from the City of Pasadena Traffic Model. This model is a “windowed” traffic model extending a few miles beyond the City boundary. The model consists of existing and future General Plan Buildout land uses and roadway networks. The extent of the highway network is shown in **Figure 3**.

The buildout highway network included the I-710 extension to the south, which is no longer a viable project. Thus, this freeway extension was removed for the purposes of all model runs. Detail was added to the model by aggregating and disaggregating Traffic Analysis Zones (TAZs) in the 710 stub area (**Table 1**) to more closely match the proposed land use parcels and support more detailed loading of traffic onto the highway network. The revised TAZ centroid connector loading points are shown in **Figure 4** and the TAZs to parcel correspondence is shown in **Table 1**.

Figure 3 – City of Pasadena Traffic Model Highway Network



The analysis of each scenario involved coding land use and highway network assumptions into the City of Pasadena's travel Demand Model (model) and analyzing the model outputs to make generalized conclusions regarding the effects on the surrounding roadway system for each scenario compared to others. The City of Pasadena traffic model is based on a single-mode (automobiles), highway network-only and the resulting vehicular traffic assignment. While there are built-in mode choice assumptions (using an imported regional mode-choice matrix) for transit, walk and bicycle modes for each area of the City, the transit and non-motorized component of the model is not dynamic and will require further separate and detailed analysis once the project's land use and network assumptions have been further refined.

While not explicitly included in the traffic model, multimodal design elements to encourage walking, biking and transit use across the scenarios would play a role to reduce dependence on the single use/auto traffic. On top of this, Transportation Demand Management (TDM) measures then build upon land use and other multimodal incentives, on top of the transportation network design features incorporated into the build scenarios, to further reduce automobile demand.

Figure 4 – Disaggregation of TAZs in the Stub Area

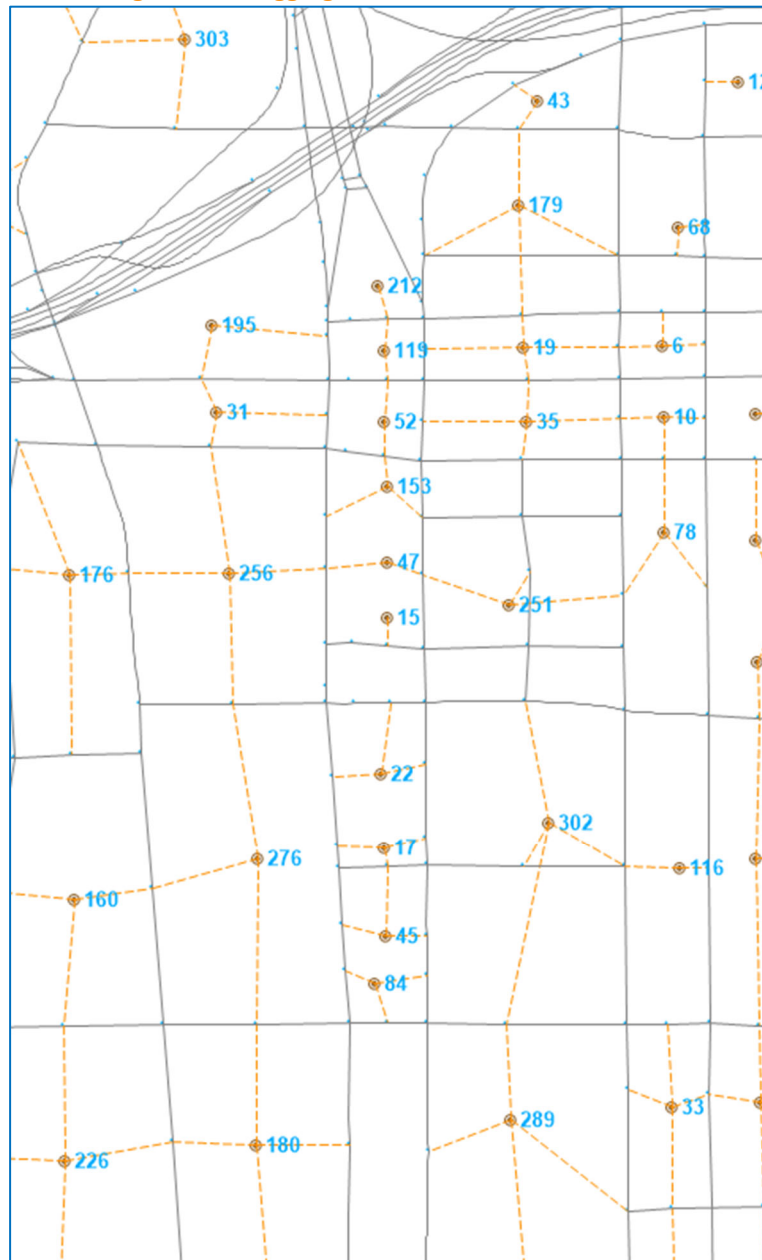


Table 1 – Correspondence between TAZ and Parcel Numbers

Parcel	New TAZ	Aggregated TAZs	Remainder TAZ
A	212	212/609	609
B	119	119/83	83
C	52	52/24	24
D	153	153/62	62
E	47	47/91	91
F	15	15/29	29
G	22	22/36	36
H	17	17/60	60
J	45	45/93	93
K ¹	84	84/72	72

1 = This existing parcel's land use is not proposed to change with the project.

3 LAND USE ASSUMPTIONS

Future buildout land use assumptions for the project were provided by Perkins Eastman. The following summarizes the assumptions:

- The original land uses considered 8 million square feet of development with a 5.5 Floor Area Ratio (FAR). The land use forecasts were then scaled back to 3.2 to 3.4 million square feet based on revised market analysis performed by land use consultant AECOM.
- The stub-area project is divided into nine parcels labelled A through J as shown in **Figure 5**. The northern parcel A is a Caltrans-owned parcel and not part of the 710 stub project. However, since it is likely that development will occur in parcel A, future land uses were assumed for this parcel and the traffic generated by this parcel was added to the roadway network. Parcel K is assumed to not change land use from its current designation.
- Two circulation options were identified, Option A and Option B. Option A (Gardens and Terraces – No Central Boulevard) and Option B (Boulevards and Paseos - With Central Boulevard) have slightly different land use assumptions as follows and summarized in **Table 2**:
 - Gardens and Terraces consists of approximately 1.9 million square feet of residential and 1.4 million square feet of non-residential land use.
 - Boulevards and Paseos consists of approximately 1.8 million square feet of residential and 1.3 million square feet of non-residential land use.
- For the residential land use, an average unit size of 1,100 square feet (i.e., multi-family) was assumed, resulting in:
 - Gardens and Terraces: 1,906 residential units
 - Boulevards and Paseos: 1,757 residential units
- The non-residential land use categories assumed were: Retail, Restaurant, Office and Medical Office
- Medical office is a very high trip generator and based on discussions with City staff it was determined that a more appropriate target land-use for potential tenants might be biotech companies or a medical research campus which both generate fewer trips than Medical office. Therefore, an additional method with the medical office square footage converted to standard/general office square footage was tested. Based on the results, the traffic forecasting analysis moved forward assuming the standard/general office land use.

Figure 5 – Project Parcel Boundaries



Table 2 – Project Land Use Assumptions

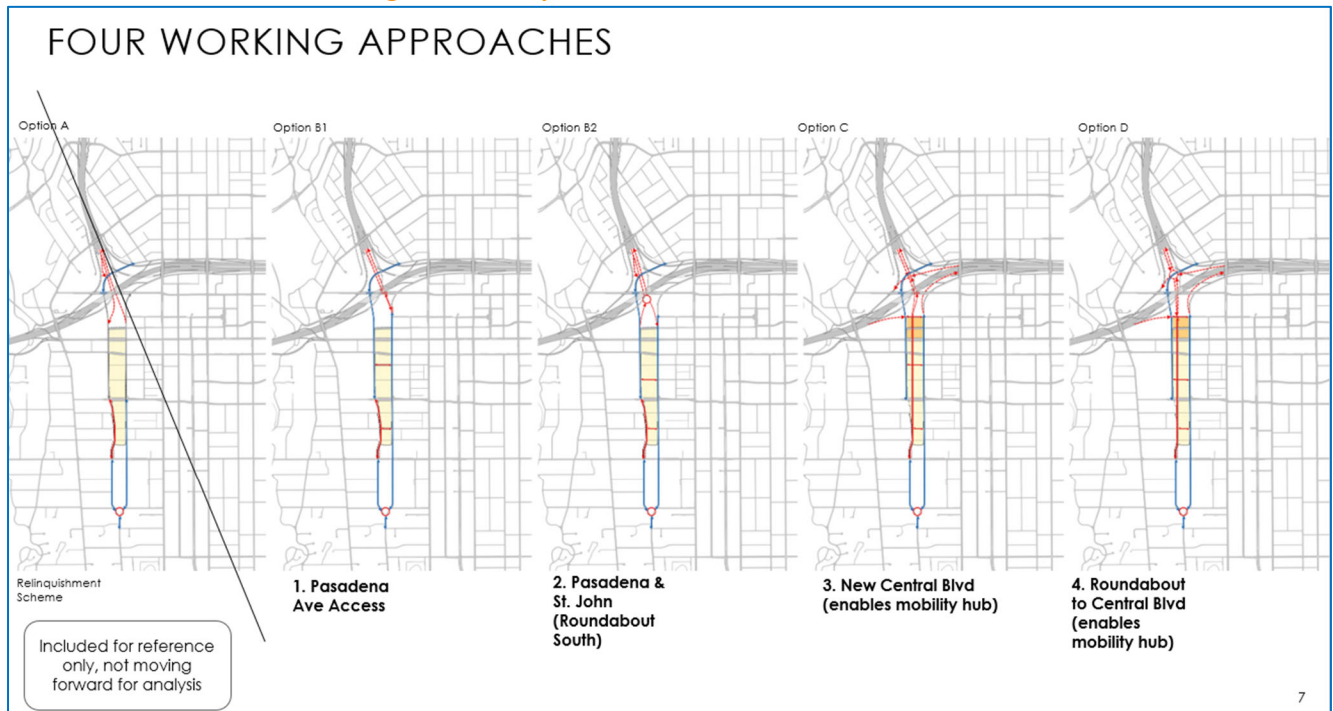
Option	Residential Units	Non-Residential TSF			
		Retail	Restaurant	Office	Medical Office
Gardens & Terraces	1,906	150	140	987	717
Boulevards & Paseos	1,757	78	78	705	1,135

4 ALTERNATIVES REFINEMENT

The development of alternatives for evaluation of circulation network options was an iterative process starting with the options considered in the Caltrans Relinquishment Feasibility Study. The subsequent process included discussion of a number of potential roadway configurations and regional connectivity, then progressed through the application of best practices and professional judgment in transportation planning and engineering along with knowledge of local and regional conditions, historical trends, and known circulation issues in the area.

As the alternatives were developed and refined, some were eliminated at the initial stages for various reasons such as feasibility or traffic circulation and safety concerns. However, it should be emphasized that even with the iterative and progressive refinements, the 710 Reconnect Communities project's land use options and circulation network definitions are still, at this stage, not detailed enough to develop traffic forecasts to support a CEQA-level Environmental process analysis. **Figure 6** shows examples of the development of alternatives.

Figure 6 – Examples of Alternative Refinement Process



5 TRANSPORTATION EVALUATION FINDINGS

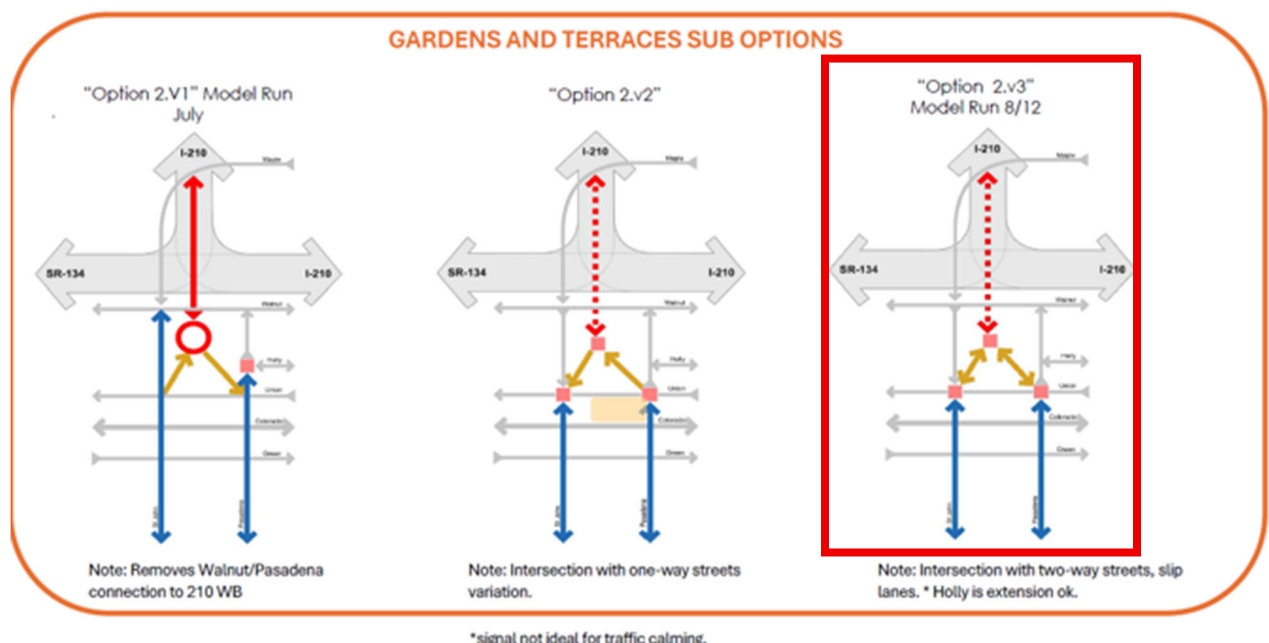
The transportation evaluation performed was a high-level “alternatives” analysis, based on potential demand. This is most appropriate for comparing various high-level metrics such as corridor volumes, vehicle-miles of travel (VMT) among various scenarios including Existing and Future Baseline conditions and the several short-listed With-Project (Build) scenarios. More detailed analysis such as intersection delay and queuing is not appropriate at this study level of detail since intersection lane configurations have not been designed and traffic signal timing optimization has not been performed. In addition, the project land uses are still being refined. A more detailed analysis shall be performed in a future phase of the project once alternatives and land uses have been further refined.

The modeled network scenarios analyzed and compared in this stage of the evaluation are described in the following bullet points. The future forecast year of 2035 was chosen since this is the future analysis year used in the City of Pasadena’s traffic model. This forecast year is suitable for comparing conceptual analysis results since it includes all of the anticipated future growth within the City. Demographic forecasts from both the SCAG Regional Population Forecasts and the California Department of Finance both indicate very low growth is anticipated after 2035, with the population of Los Angeles County expected to level out and eventually decline after 2045.

1. **Existing Conditions** is a reflection of the current baseline traffic conditions in the City’s model.
2. **2035 No Build** represents the existing highway network (with no 710 southern extension) and buildout of land uses according to the City’s currently adopted General Plan (No proposed land uses in the Project Area).

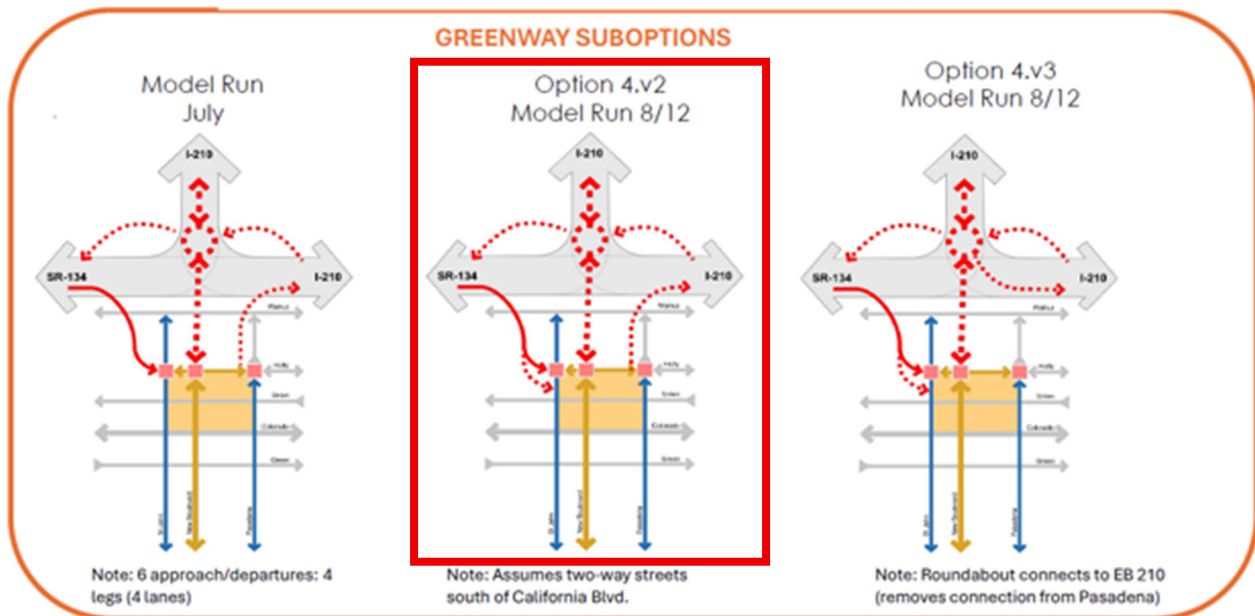
3. **2035 Disconnect (Ramps removed) No Project** is a future current General Plan Buildout land use scenario (No proposed land uses in the Project Area) but assumes all ramp connections between the “stub” and other three legs of the interchange including SR-134 (west) and I-210 (east and north) eliminated from the highway network.
4. **2035 Disconnect (Ramps removed) With Project** is the same “disconnected” network scenario as in Scenario 3, above, except it includes the full development of all land uses assumed in the Reconnect Pasadena Project area.
5. **2035 Gardens and Terraces.** This is described in detail in section 4.4.1 of the Draft Vision Plan. An initial roundabout configuration was eliminated during the scenario refinement process due to locational physical constraint issues and also during traffic modeling it became clear that certain movements would not be viable. Therefore, a roundabout was not an efficient solution and was replaced by a traffic signal. Various one-way and two-way connections between I-210 and St John Avenue and Pasadena Avenue were considered and tested. This option also does not have direct new connections to/from SR-134 and I-210 to the east. The final configuration tested was Option 2.V3 which includes a two-way connection to I-210 north to and from St John Avenue and Pasadena Avenue. This scenario is shown in **Figure 7**.

Figure 7 – Gardens and Terraces example sub options



6. **2035 Boulevards and Paseos.** This alternative is described in section 4.4.2 of the Draft Vision Plan and incorporates a new roundabout north of SR-134 and direct ramp connections to/from all three remaining legs of the interchange. Other sub-options were reviewed and analyzed including leaving St John Avenue and Pasadena Avenue as one-way streets and converting them to two-way streets. An option with a connection from the roundabout to the eastbound I-210 instead of a connector from Pasadena Avenue was also tested. The final option selected for the alternatives analysis was Option 4.v2, the middle of the three options shown below in **Figure 8**.

Figure 8 – Boulevards and Paseos (Greenway/Central Boulevard) sub-options



7. **2035 Boulevards and Paseos with 25% TDM.** This alternative uses the same highway network as alternative 6 but with reduced demand due to the application of Transportation Demand Management (TDM) measures to the proposed new land use development. The purpose of this scenario is to examine the effects of potential trip reductions on the City and regional circulation system. A package of TDM measures is assumed to reduce trip generation by compared to standard trip generation assumptions. As noted in the Draft Vision Plan, it is estimated that TDM measures could potentially provide up to a 30%-35% reduction in trips depending on transit and other alternatives provided. For modeling purposes, a 25% reduction in automobile trips was explicitly assumed. This 25% can be accomplished through of a variety of different potential TDM packages. An example of a potential TDM package is shown in **Table 3**. Where the TDM measures and associated potential trip reduction percentages are taken from the California Air Pollution Control Officers (CAPCOA) handbook. The additional 5%-10% trip reduction needed to achieve a total 30%-35% reduction is assumed to be inherent in the mix of land uses that will result in more internal and fewer external trips for example by combining residential, office and commercial uses in the same parcel.

Table 3 – Example TDM Measures from CAPCOA Handbook

Employees			Residents		
T-3	Transit-oriented Development	5%	T-3	Transit-oriented Development	5%
T-10	End-of-Trip Bicycle Facilities	1%	T-15	Limit Residential Parking Supply	6%
T-12/13	Price Workplace Parking/Cash-out	15%	T-16	Unbundled Residential Parking	8%
T-18	Pedestrian Network Improvement	2%	T-18	Pedestrian Network Improvement	2%
T-25	Transit Network Coverage	2%	T-23	Community Based Travel Planning	2%
			T-25	Transit Network Coverage	2%
Total		25%	Total		25%

Table 4 shows the lane configurations assumed in each With Project alternative. In the “Gardens and Terraces” both St John Avenue and Pasadena Avenue are assumed to be four lane streets (2-lanes in each direction) throughout the study area. In the “Boulevards-Paseos” alternative St John Avenue was assumed to be a two-lane

street north of Del Mar Boulevard and a four-lane street south of Del Mar Boulevard. The new Central Boulevard is assumed as a four-lane street north of Colorado Boulevard and reducing to a two-lane street through the project area and terminating at Del Mar Boulevard. Both alternatives therefore assume four northbound lanes and four southbound through the project area south of Holly Street to provide roughly the same overall roadway capacity though the stub area for each alternative for comparison purposes.

Table 4 – Number Lanes by Roadway Segment
(North of Colorado Blvd / Colorado Blvd to Del Mar Blvd / South of Del Mar Blvd)

Attribute	Street	Existing	Gardens- Terraces	Boulevards-Paseos
Number of Lanes	St John Avenue	2 / 2 / -	4 / 4 / 4	2 / 2 / 4
	Central Boulevard	-	-	4 / 2 / NA
	710 Freeway Stub	5 / 5 / 4	-	-
	Pasadena Avenue	2 / 2 / 2	4 / 4 / 4	4 / 4 / 4

It should be noted that while some apparent generalized congestion areas are noticeable in Existing conditions (e.g. on Orange Grove Boulevard in the vicinity of Colorado Boulevard), as mentioned earlier, the intention of this alternatives analysis is to provide a high-level generalized comparative performance evaluation of the various circulation networks against each other which is consistent with the conceptual nature of the project at this long-range master planning stage. Therefore, these evaluations are based on total corridor and areawide traffic flows in the general vicinity of the study area rather than focusing on traffic operations or projected congestion on individual streets, segments, or intersections. However, a generalized potential hotspot analysis was also provided at two known locations of congestion. The following analyses were performed:

- **Screenline Analysis** – A screenline analysis focuses on overall traffic flows within a broad travel corridor aggregated over a series of generally parallel streets. The screenline analysis is a useful method to compare the total flows in a travel corridor as opposed to focusing on individual roadways within the corridor. It can also be used for generalized corridor capacity evaluations, although it was not done in this case.
- **VMT by LOS Analysis** – Vehicle-miles-traveled (VMT) is also a generalized transportation metric that provides an insight into not only the volume of traffic generated by a project, or over an area, but also the length of the trips over an area's travel network. A VMT analysis is also useful for comparing overall effects of alternative transportation actions and projects. VMT analysis can provide total VMT as well as VMT under various traffic operating levels of service, for example congested vs. uncongested conditions to evaluate relative effects of alternatives.
- **Hotspot V/C Analysis** – In contrast to the previous two measures, this evaluation metric focuses on the operating conditions of specific roadway segments in terms of volume to capacity ratios and levels of service; however, it is only employed in this analysis with the caveat that the observations are using raw volume outputs from the travel demand model and are provided only to compare network alternatives in general as they related to selected key roadway locations of interest in the project area.

5.1 Screenline Analysis

Screenlines represent a theoretical (imaginary) cut-line drawn though generally parallel streets which represent alternative paths that traffic can follow within a general travel corridor between origins and destinations. Traffic volumes extracted from the model for street segments along screenlines provide a generalized representation of level of traffic volumes through an area; for example, all east-west movements or north-south movements by

direction within a broad corridor. Given that this analysis uses model volumes only, the results should not be used to compare against the existing traffic counts and patterns provided in from Section 1.1. **Figure 9** shows three screenlines selected in the vicinity of the study area and **Table 5** lists the individual streets/roadways which are included in each of the three screenlines.

Table 5 – Screenline Streets

Screenlines		
Direction of Traffic Flow	Location of Screenline and Color on Map	Intersecting Roadways included in Corridor
East-West Traffic Flow	#1 West of Pasadena Avenue (Blue)	Walnut Street
		Holly Street
		Union Street
		Colorado Boulevard
		Green Street
		Orange Place
		Del Mar Boulevard
		Bellevue Drive
		California Boulevard
		Bellefontaine Street
	#2 East of Raymond Avenue (Red)	Walnut Street
		Holly Street
		Union Street
		Colorado Boulevard
		Green Street
		Del Mar Boulevard
		California Boulevard
		Fillmore Street
North-South Traffic Flow	#3 North of Del Mar Boulevard (Green)	Grand Avenue
		Orange Grove Boulevard
		St John Avenue (West)
		Central Boulevard
		SR-710 Southbound Off-Ramp
		SR-710 Southbound Mainline
		SR-710 Northbound Mainline
		SR-710 Northbound On-Ramp
		Pasadena Avenue
		De Lacey Avenue
		Fair Oaks Avenue
		Raymond Avenue
		Arroyo Parkway Southbound
		Arroyo Parkway Northbound

Figure 10 shows the east-west traffic (crossing the north-south screenline, #1) west of Pasadena Avenue and provides the total forecast two-way AM and PM peak hour traffic volumes in the east-west direction immediately adjacent to the study area. While Average Daily Traffic (ADT) is often used as a time period for traffic volumes using the peak hours better represents the volume of traffic in the most congested travel conditions.

The Boulevards and Paseos alternative shows the highest screenline volumes largely due to the addition of two new east-west streets, the Holly Steet and Bellevue Drive extensions, in the middle of the project area. The Boulevards and Paseos alternative also has direct east-west ramps connecting to SR-134 and I-210 East, therefore it provides more robust regional to local connections facilitating higher east-west volumes.

The Disconnect No Project alternative results in the lowest screenline volumes since access to the area to and from the SR-134 and I-210 freeways is significantly reduced compared to the other alternatives due to disconnection of the regional interchange ramps meaning that traffic is forced to reroute to less direct travel paths.

The TDM alternative results in only a marginal decrease in east-west volumes since the majority of the east-west traffic is not project related.

Figure 10 – Screenline #1 - Peak Hour East-West Traffic Volumes (West of Pasadena Avenue)

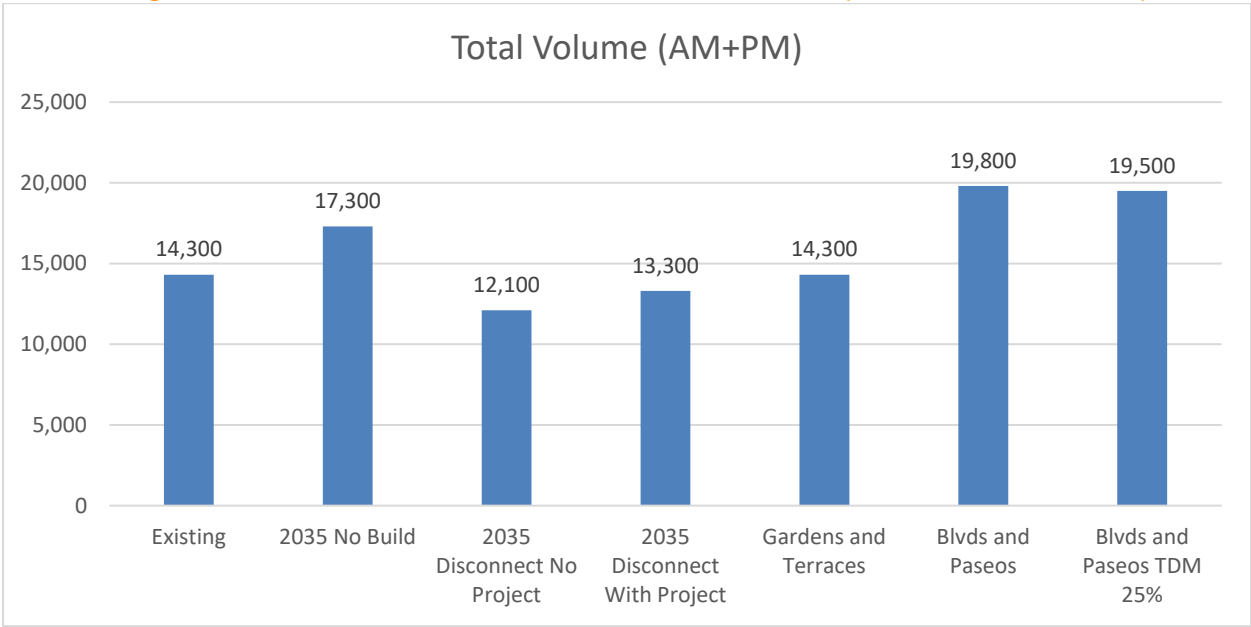


Figure 11 shows the east-west traffic (crossing the north-south screenline, #2) located just east of Raymond Avenue, approximately 1/3 of a mile east of the study area. At this location, the Gardens and Terraces alternative shows the highest east-west traffic volumes. It is possible that this reflects the diversion of project and regional east-west traffic further east due to the lack of a complete interchange with SR-134 and I-210 near the project.

Traffic volumes in the Boulevard and Paseos alternatives are lower than Gardens and Terraces and only marginally higher than the 2035 No Build alternative despite the addition of traffic from the project. The TDM alternative results in a marginal slight decrease in east-west volumes since again the majority of the traffic is not project related.

Figure 11– Screenline #2 - Peak Hour East-West Traffic Volumes (East of Raymond Avenue)

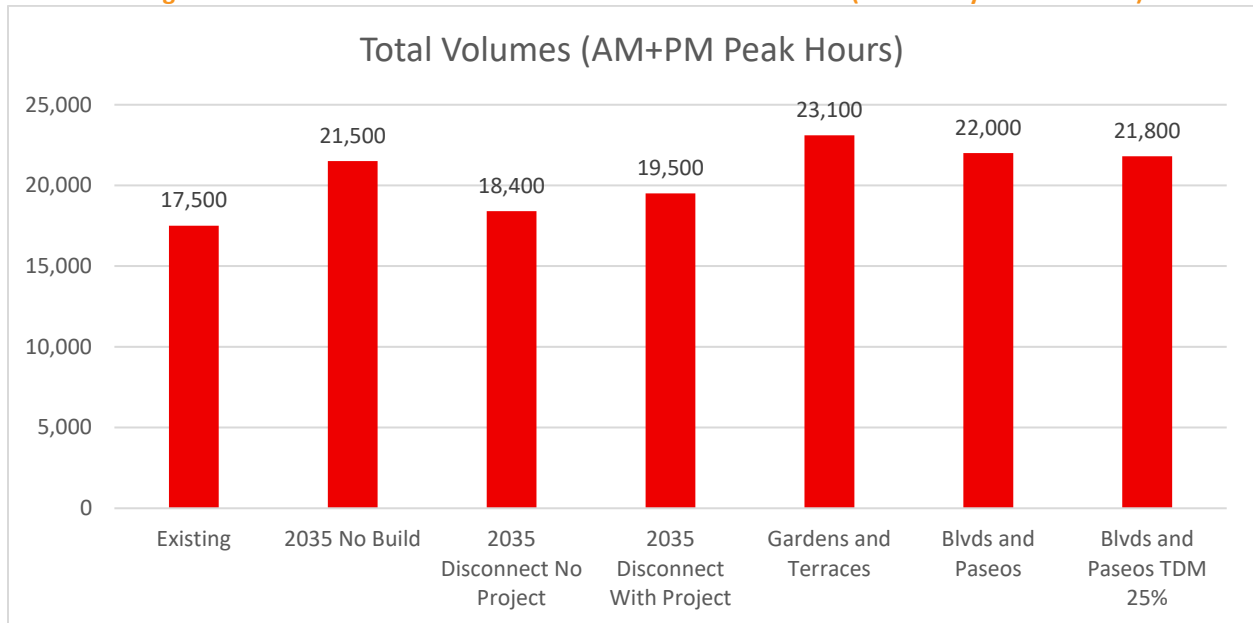
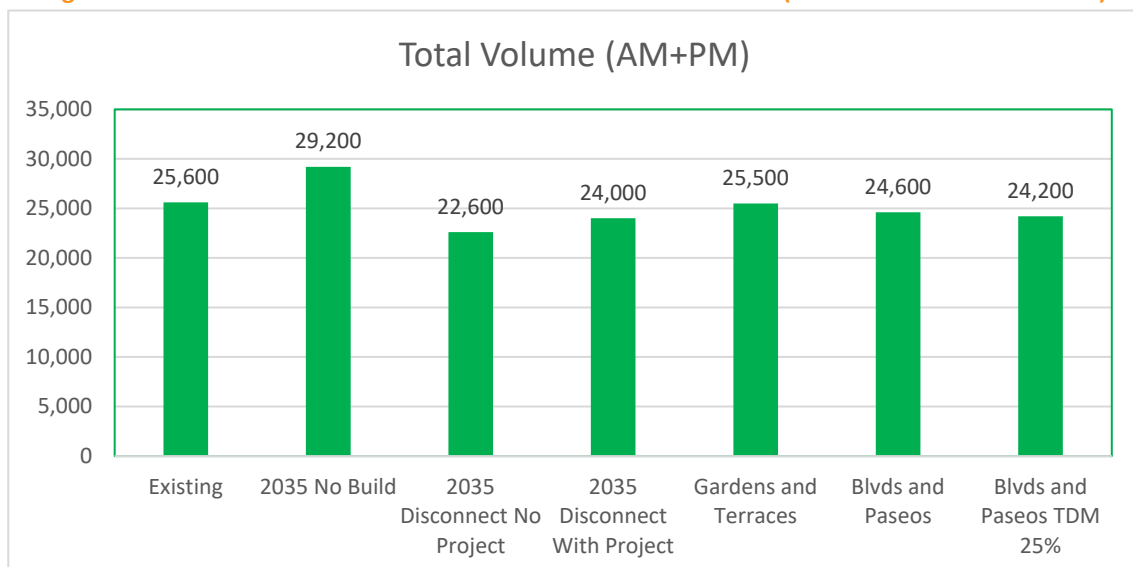


Figure 12 shows a comparison of the AM and PM peak hour two-way north-south traffic volumes (crossing the east-west screenline, #3). In general, traffic volumes for all three With Project alternatives are comparable to Existing conditions and significantly below the 2035 No Build scenario. They are also not significantly higher than the Disconnect No Project alternative, despite providing more robust regional interchange connections with the remaining three freeway legs. The Boulevards and Paseos alternative results in an overall reduction in north-south traffic compared to the Gardens and Terraces alternative.

Even with the addition of a full interchange (via a roundabout) and a new north-south facility (Central Boulevard) in the Boulevards and Paseos alternative, the results suggest that the potential traffic calming on St John Avenue may help to mitigate any potential increase in traffic volumes. The fact that even with the project, the north-south traffic volumes are forecast to be lower than the 2035 No Build scenario and even lower than existing conditions indicates that the amount of through north-south through traffic is significantly reduced. The TDM alternative results in a further marginal decrease in north-south volumes along the screenline.

Figure 12 – Screenline #3 - Peak Hour North-South Traffic Volumes (North of Del Mar Boulevard)



In summary, the screenline analysis suggests the following outcomes:

- While the “Disconnect” scenarios are anticipated to generate the lowest levels of traffic in study area, that is due to the significant reduced accessibility to the study area which means that traffic is forced to divert on longer alternative travel paths and increasing VMT (see VMT section below).
- The “With Project” alternatives are anticipated to generate slightly more east-west traffic serving local neighborhoods within the City Pasadena and substantially less north-south traffic compared to 2035 No Build scenario and comparable to existing conditions.
- There will likely be less north-south through traffic travelled to the City of South Pasadena (and beyond) in the With Project alternatives, as compared to the 2035 No Build.
- When considering traffic volumes at the screenline level, the combination of the proposed network alternatives plus the project land uses are anticipated to generate traffic forecasts that do not substantially increase traffic in the vicinity of the project.

5.2 Vehicle Miles Travelled by Level of Service Analysis

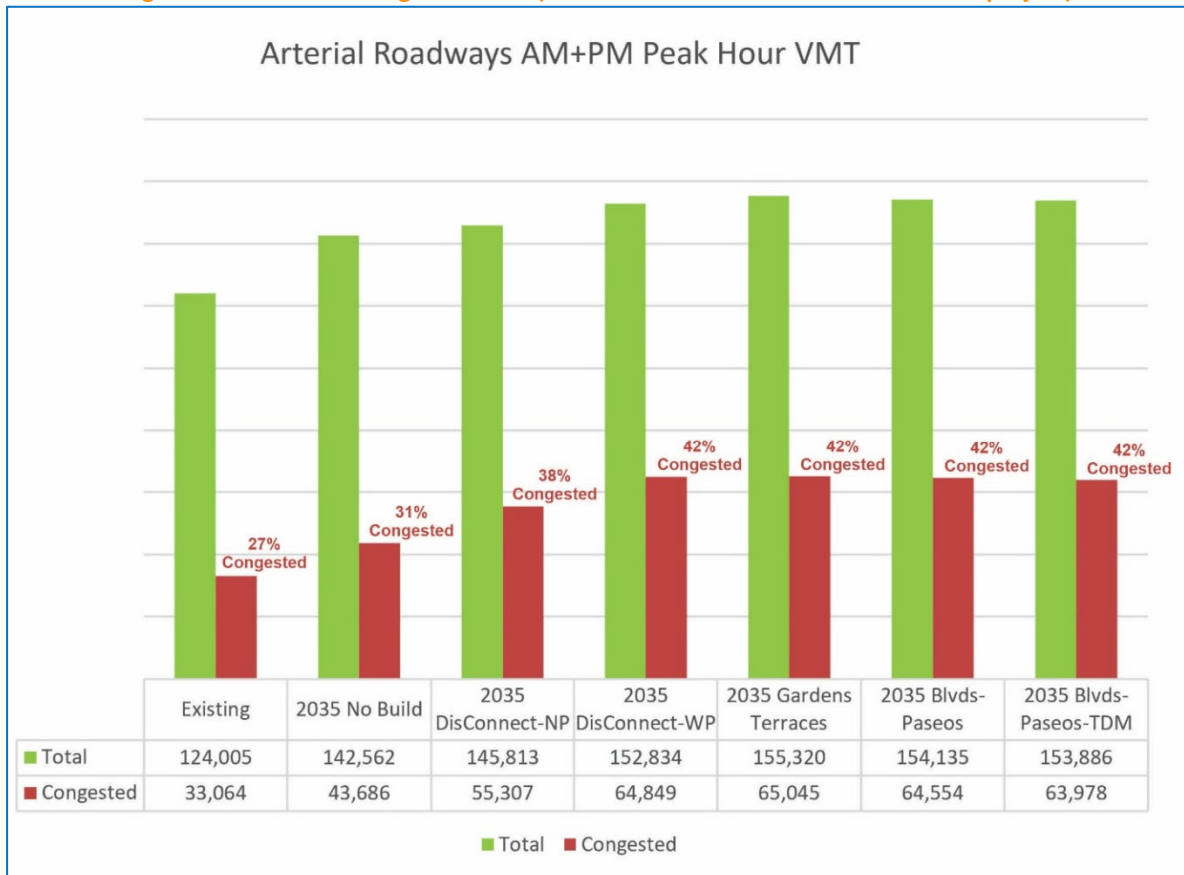
The second analysis utilizes a composite metric, VMT by level of service (LOS). This metric identifies roadway segments operating by LOS grade and calculates the VMT (traffic volume multiplied by the distance of each segment) for each segment, then sums up all of the VMT for all segments operating at each LOS. The metric provides a measure of how much overall delay vehicles experience within an area and provides a metric that can be used to compare overall congestion within a geographic area between alternatives. SB 743, which took effect in July 2020, mandated replacing traffic congestion (LOS) with Vehicle Miles Traveled (VMT) (which measures the overall amount that people drive) for assessing transportation impacts under CEQA for new projects, requiring reports to analyze project-generated VMT focusing on reduced driving and promoting sustainable travel. VMT is becoming an increasingly important metric for measuring overall traffic volumes within a set geographic area. VMT will be a key metric for the stub area projects’ CEQA approval process. Caltrans metrics for analyzing the traffic effects of new development and transportation projects are increasingly focusing more on VMT and less on LOS alone. It should be noted that although no CEQA environmental analysis is being performed at this stage of the project, the VMT metric was employed to assist in comparing the project alternatives as it provides a good areawide performance measure. A VMT analysis will be necessary in subsequent phases of this project.

While VMT is an indicator of the total amount of traffic within an area, LOS shows degrees of congestion (at specific streets or intersections) ranked from A to F. LOS A represents free flow conditions while LOS F represents highly congested conditions. At the link segment level, LOS D, E and F are typically considered to represent congested conditions. LOS definitions are:

- A: Free flow
- B: Reasonably free flow
- C: Stable flow
- D: Approaching capacity
- E: At capacity
- F: Over capacity

Figure 13 shows total VMT and congested VMT (VMT for surface street roadway segments operating at LOS D, E and F) within a one and a half-mile radius of the project for all of the roadways coded into the City’ traffic model. This includes principal and secondary arterials as well as some collectors. Note that no freeway segments are included in the analysis. In addition, the percentage/share of congested VMT compared to the total VMT is shown.

Figure 13 - Total and Congested VMT (within one and a half mile radius of the project)



Overall, VMT is anticipated to increase with the addition of the project. The Boulevards and Paseos alternative forecast generates slightly less total VMT and less congested VMT compared to the Gardens and Terraces alternative. The “Disconnect” alternative forecasts higher total VMT and congested VMT compared to 2035 No Build since the removal of existing roadways means traffic reroutes to longer, less direct paths due to accessibility to the stub area being reduced.

5.3 Hotspot – V/C ratios

Figure 14 shows the AM and PM peak hour peak direction V/C ratios derived from the traffic model for two known existing congestion hotspots on Orange Grove Boulevard and Fair Oaks Avenue. The AM peak is forecast to be more congested than the PM peak hour.

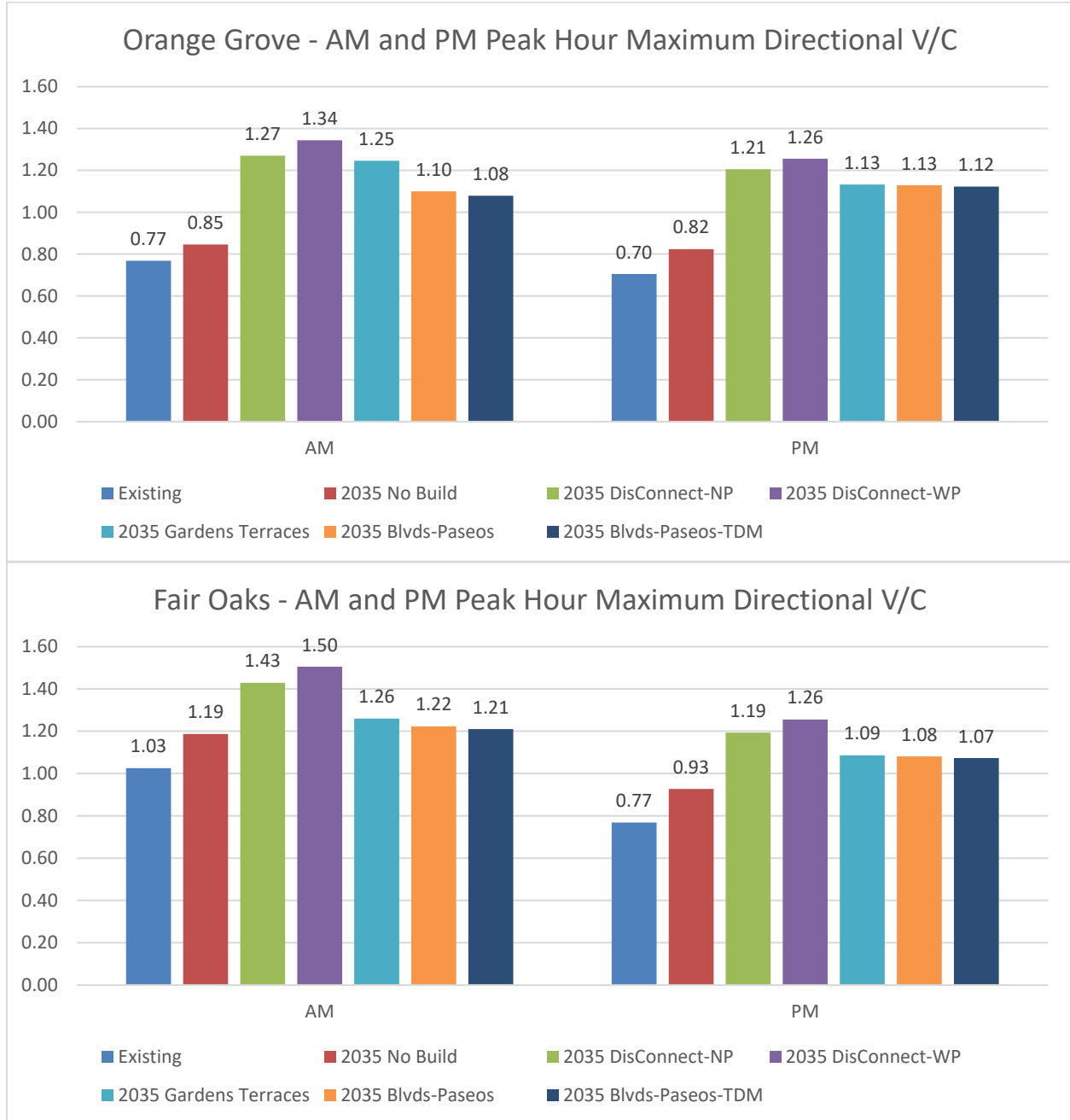
The peak hour V/C ratio represents vehicle demand. In practice, a 1.2 V/C ratio or higher is not physically possible but it illustrates that in the peak hour, 20% more traffic wants to use a particular roadway segment than its available capacity. In reality, the outcome is that the peak hour spreads out to the peak shoulders. The V/C should therefore be considered as a means of comparing relative vehicle demand between scenarios.

At both locations, in both the AM and PM peak, the most congested traffic conditions at these two locations were forecast to be in the two Disconnect alternatives since traffic is no longer able to use St John Avenue or Pasadena Avenue directly from the freeway and therefore diverts to parallel streets. In the two project

alternatives which both include disconnecting the freeway ramps the V/C ratios decrease compared to the disconnect only scenarios.

The congestion in the Boulevards and Paseos alternative shows slightly lower V/C ratios compared to the Gardens and Terraces alternative (in both AM and PM peak hours). However, both of the With Project alternatives perform worse than the 2035 No Build scenarios indicating that potential capacity enhancements at these locations will need to be studied in subsequent study phases. As mentioned, these results are based on raw volume outputs from the travel demand model and are provided only to compare network alternatives.

Figure 14 - AM and PM Peak hour V/C ratios at Two Existing Congested Locations



6 SUMMARY

Iteris evaluated multiple project scenarios, using the City's Traffic Model. The scenarios were developed through coordination with the Perkins Eastman team and the City of Pasadena. While not explicitly included in the traffic model, multimodal design elements to encourage walking, biking and transit use across the scenarios would play a role to reduce dependence on the single use/auto traffic. On top of this, TDM measures then build upon land use and other multimodal incentives on top of the transportation network design features, incorporated into the build scenarios, to further reduce automobile demand. A summary of the evaluation results is as follows:

- At the screenline level, the traffic modeling results show a modest increase in east-west traffic volumes but lower north-south traffic and through traffic to South Pasadena in the With Project scenarios compared to 2035 No Build.
- A modest increase in total and congested VMT in the With Project scenario compared to No Build scenario is anticipated.
- Two existing congestion hotspots are forecast to be most congested in the Disconnect scenario due to traffic diversion from the demolished ramps. Both locations, in both the Gardens-Terraces and Boulevards-Paseos alternatives, are forecast to operate at higher V/C ratios compared to Existing and 2035 No Build scenarios. Localized capacity enhancements will need to be studied at these and other locations in subsequent study phases.
- The Boulevards and Paseos alternative shows generally better and more balanced overall performance than the Gardens and Terraces alternative. For example, north-south peak hour volumes for "Boulevards" Option with a roundabout local interchange and Central Boulevard are lower than both Existing and "Gardens" option by 4% and reduces impacts on other key city streets (Orange Grove, Colorado, Fair Oaks, Marengo) and could potentially regulate the impacts of the pass-through traffic in the project area. In addition, east-west volumes on the "Boulevards" Option with a roundabout local interchange are 5% lower than the "Gardens" option further east from the project and could potentially reduce impacts on other key City streets.
- In the Gardens and Terraces alternative, the north-south traffic volumes are fairly evenly balanced. Between Pasadena Avenue and St John Avenue, however, in the Boulevards and Paseos alternative, due to assuming that St John and the Central Boulevard are two lane streets, Pasadena Avenue is projected to carry higher volumes than St John Avenue or the Central Boulevard.
- No critical **systemwide network capacity** issues were identified at this level of analysis in that the future demand due to the project would not overwhelm the assumed roadway capacity. However, it is still expected that certain individual roadways such as Orange Grove Boulevard may experience capacity shortfalls which will be addressed by identifying appropriate capacity enhancements in more detailed analyses in future phases of the project.
- TDM measures can reduce overall traffic within the area of the project by approximately 1-2%. While TDM can provide valuable trip reductions around the project, there is significant amount of background traffic in the stub area and any additional roadway capacity provided will be extensively utilized by non-project traffic. Thus, the overall effect of TDM is limited.

7 NEXT STEPS

The analysis documented in this memorandum is a largely high-level comparative analysis that was used to help refine the project alternatives (which included variations of land use and circulation network assumptions). As the project proceeds and the alternatives become more refined, more detailed analysis will be needed, including CEQA and more detailed operational analysis. The next steps of traffic analysis will likely include:

- Further refinement to land use assumptions
- Identification of project driveways
- Project trip generation refinement
- More detailed transit assumptions
- More detailed TDM measures
- Refinement of project and surrounding roadway lane and capacity assumptions
- Possible microsimulation analysis
- Possible use of SCAG Regional Transportation Model to identify regional diversion
- Intersection level of service analysis
- Identification of deficient locations
- Identification of mitigation measures for congested locations.
- VMT analysis for CEQA

MEMORANDUM

To: Wendy Macias, Senior Project Manager
City of Pasadena-City Manager's Office

From: David Martin, P.E.

Date: October 15, 2025

Subject: Pasadena 710 Master Plan-Conceptual Caltrans Stormwater Basin Sizing

Psomas was sub-contracted by Perkins Eastman to provide conceptual/planning level analyses related to the existing retention basin located between Del Mar Boulevard and California Boulevard at the southern 710 freeway terminus. The project area is located within the City of Pasadena, Los Angeles County, California. The scope of work included review of existing as-built plans, review of proposed improvements to the interchange and planned land use within the basin area, and feasibility analyses for splitting the basin into multiple basins with the possibility of providing outflow to the existing City outfall Stormdrain system consistent with existing conditions. The analyses required an understanding of existing outfall elevations, planned roadway geometry, current pump station characteristics, and preliminary hydrologic and hydraulic analyses. The purpose of this memorandum is to summarize the preliminary hydrologic and hydraulic analyses performed, assumptions used to simplify the study, and results of the study. The results presented are intended to provide a general idea of the infrastructure necessary for stormwater storage to meet various design storm requirements as part of an ongoing conversation between the City of Pasadena and Caltrans.

Existing Drainage Conditions

Under existing conditions, stormwater reaches the existing basin from all sides of the interchange, primarily through existing culvert and stormdrain infrastructure owned and operated by both the City of Pasadena and Caltrans. Similarly, stormwater runoff is generated within both jurisdictional areas. Historically, Caltrans owned and operated the stormwater basin but has turned over the land to the City for its future development. The existing basin has a bottom area of approximately 1.5 acres at an elevation of 180, and top of approximately 5 acres at an elevation of 196, yielding roughly 50 acre-feet of existing storage capacity at a 16-foot depth. Its only outflow is through infiltration and an existing sump pump to an existing City stormdrain system located on the east side of the Basin within S. Pasadena Avenue. The outfall pipe is a 48" pipe which also collects runoff from other areas within the City.

Psomas reviewed the as-built plans from Caltrans and obtained a pump spec sheet for the existing pump from the manufacturer. From this information it was determined that the existing shared use basin pump had a max discharge of 14cfs. For the purpose of this study, the 14cfs

allowable capacity into the stormdrain system to match existing conditions will be evenly divided between Caltrans and the City of Pasadena at 7cfs each.

Hydrologic Calculations

Psomas delineated the overall drainage area contributing runoff the existing basin north of Del Mar Boulevard using available USGS LiDAR data and existing City and Caltrans stormdrain GIS mapping. The overall watershed was then divided into five distinct areas, one from each quadrant of the interchange and one within the future Caltrans right of way. As a conservative initial hydrology study for planning purposes, hydrologic calculations were performed using the LA County modified rational method assuming all runoff reaches the basin, and is not routed through any potential existing storage or limited by existing stormdrain capacities which may cause ponding or delayed and reduced peak flows into the basin. Peak flows and volumes were established for the 1-, 2-, 5-, 10-, 50- and 100-year storm events. Results from the hydrologic calculations are summarized in Table 1.

Hydraulic Analysis Approach

Hydraulic analyses were performed in order to estimate the future detention/retention basin sizing necessary for the proposed future development which is planned within the existing basin footprint. One basin was sized for Caltrans and one sized for the City of Pasadena.

Under existing conditions, all runoff from north of the Ventura Freeway is conveyed through Caltrans Right of Way on its way to the existing basin. To determine a logical approach to splitting the runoff into areas that will continue to drain into a future Caltrans basin and areas that will drain into a future City basin, Psomas reviewed as build roadway and stormdrain plans, and considered future developments and improvements currently proposed as part of the Pasadena 710 Masterplan. Existing stormdrain elevations and other potential conflicts were used to set an approximate location for a new Caltrans basin which results in the NW, NE and Caltrans drainage areas going into it, as is shown on the attached exhibit with connections to those existing stormdrain systems. The remaining runoff from South of the interchange, SW and SE contributes runoff to the future City basin analyses.

Positive outflow elevations were set at an elevation of 815 for each basin and basin bottom set 10 feet below that to provide storage and infiltration as a desired goal for the basins while also providing for water quality treatment. An infiltration rate of 0.50 in/hr was assumed for the analysis and converted to cfs based on the proposed basin bottom area. Soils in the area likely provide a much higher infiltration rate, which can be fine tuned during final design and may reduce overall basin sizing needs, though its not expected to be a significant reduction when compared to the peak inflow volumes and flow rates. Above the positive outflow elevation, a peak discharge of 7cfs was added to the infiltration rate to be discharged into the City stormdrain system for each basin. Analysis was performed for each storm event up to the 100-year design storm event, using a bottom area of eight feet for the Caltrans Basin and five acres for the City Basin.

Table 1: Hydrologic Analysis Results

1-year Storm Event				2-year Storm Event			
Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)	Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume (ac-ft)
CalTrans	87.04	34.3	11	CalTrans	87.04	46.9	15.3
NE	128.13	50.4	16.5	NE	128.13	69	22.6
NW	58.59	23.1	7.4	NW	58.59	31.5	10.3
Total Caltrans Drainage Area	273.76	Total Caltrans Volume	34.9	Total Caltrans Drainage Area	273.76	Total Caltrans Volume	48.2
SE	62.38	24.6	7.9	SE	62.38	33.6	11
SW	65.54	25.8	8.29	SW	65.54	35.2	11.3
Total City Drainage Area	127.92	Total Volume	16.19	Total City Drainage Area	127.92	Total Volume	22.3
5-year Storm Event				10-year Storm Event			
Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)	Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume (ac-ft)
CalTrans	87.04	93	23	CalTrans	87.04	131.2	28.4
NE	128.13	116.9	34.4	NE	128.13	153.8	41.7
NW	58.59	66.2	15.5	NW	58.59	93.8	19.1
Total Caltrans Drainage Area	273.76	Total Caltrans Volume	72.9	Total Caltrans Drainage Area	273.76	Total Caltrans Volume	89.2
SE	62.38	56.9	16.8	SE	62.38	73.5	20.6
SW	65.54	61	17.3	SW	65.54	87	21.4
Total City Drainage Area	127.92	Total Volume	34.1	Total City Drainage Area	127.92	Total Volume	42
50-year Storm Event				100-year Storm Event			
Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)	Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)
CalTrans	87.04	216	40.2	CalTrans	87.04	253.8	45.3
NE	128.13	261.2	59.2	NE	128.13	311	66.7
NW	58.59	156.3	27.1	NW	58.59	184.6	30.5
Total Caltrans Drainage Area	273.76	Total Caltrans Volume	126.5	Total City Drainage Area	186.72	Total Caltrans Volume	142.5
SE	62.38	118.9	28.8	SE	62.38	141	32.5
SW	65.54	144	30.3	SW	65.54	172.9	34.12
Total City Drainage Area	127.92	Total Volume	59.1	Total City Drainage Area	127.92	Total Volume	66.62

Hydraulic Analysis Results

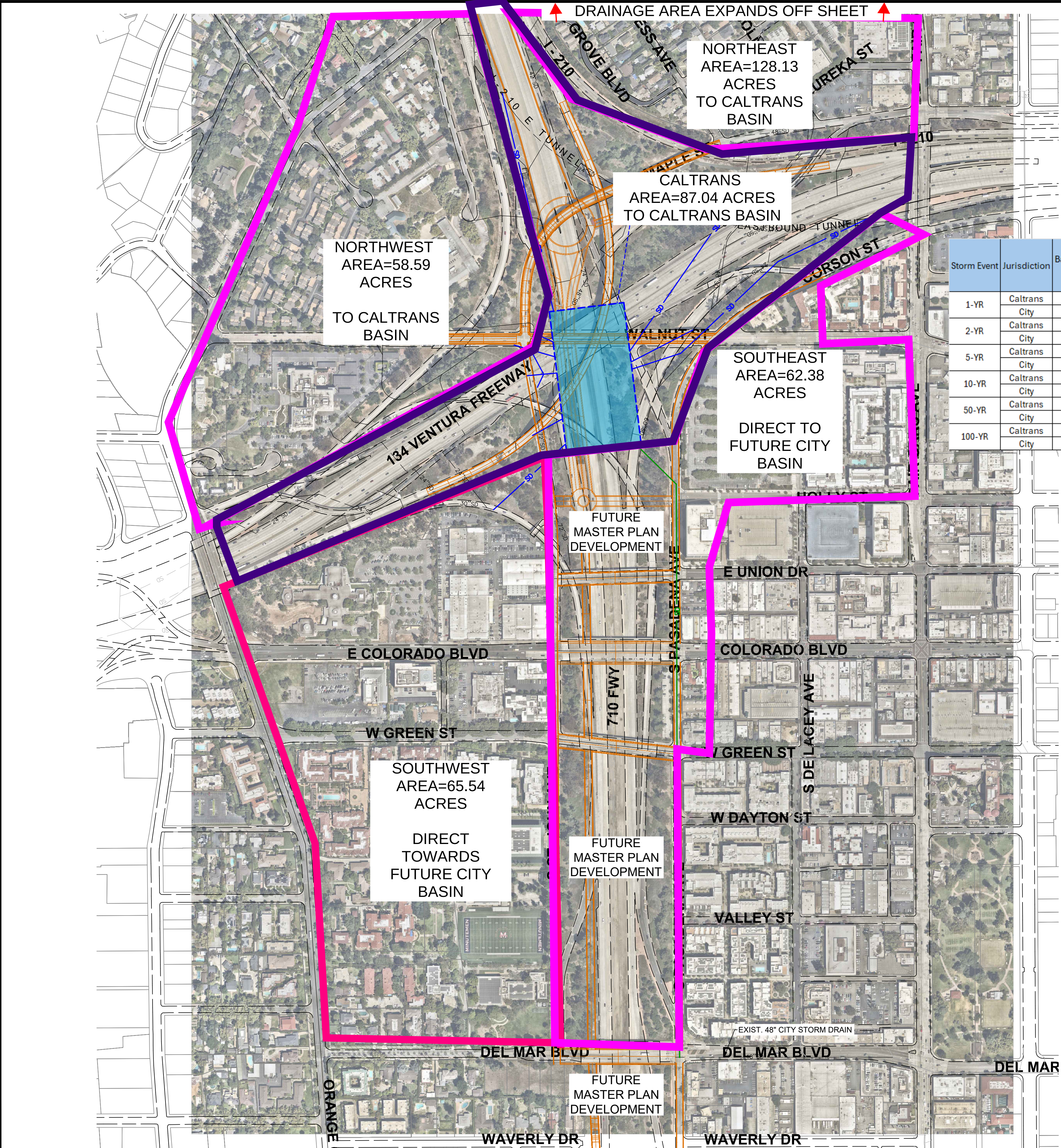
Results from the analyses are summarized in Table 2 and provide required basin depths/volumes based on the basin bottom areas, assumed infiltration rate and allowable discharge above 10 feet in depth. Comparison of the total storage volume required to the total runoff volume from Table 1 indicates that the majority of runoff will be required to be retained/detained, which is logical considering the total peak inflow rates when compared to the allowable discharge rate. It also shows that 100 percent retention of up to the 10-year storm event is feasible at depths of less than 10 feet based on the assumed basin area and depths less than 17 feet for the 100-year storm event. Given the overall depth necessary below the positive outfall elevation, pumps will continue to be a necessary feature, at a minimum as a backup feature should the basins not drain adequately or need to be drained more efficiently. Pumping may also be provided to future reduce basin sizing, though at 7cfs max, will not be a large percentage of the overall storage volume. Alternative outfall locations, such as infiltration ponds outside of the master planning area may also be considered and may alleviate the need for pumping from the City basin.

Table 2: Hydraulic Analysis Results

Storm Event	Jurisdiction	Basin Area (acres)	Minimum Basin Depth w/o Freeboard	Assumed Infiltration Rate (cfs)	Allowable Discharge to City Stormdrain System (cfs)	Actual Discharge to City Stormdrain System (cfs)	Total Storage Volume (ac-ft)
1-YR	Caltrans	8	3.6	4.0	7.0	0.0	28.5
	City	5	2.5	2.5	7.0	0.0	12.7
2-YR	Caltrans	8	5.1	4.0	7.0	0.0	40.7
	City	5	3.6	2.5	7.0	0.0	18.2
5-YR	Caltrans	8	6.7	4.0	7.0	0.0	53.8
	City	5	5.9	2.5	7.0	0.0	29.5
10-YR	Caltrans	8	10.2	4.0	7.0	1.6	81.8
	City	5	7.5	2.5	7.0	0.0	37.3
50-YR	Caltrans	8	14.5	4.0	7.0	7.0	116
	City	5	10.7	2.5	7.0	5.1	53.7
100-YR	Caltrans	8	16.5	4.0	7.0	7.0	131.7
	City	5	11.9	2.5	7.0	7.0	59.4

Conclusions

The results presented in this memorandum are intended to be used to kick off the conversation between Caltrans and the City of Pasadena regarding division of stormwater runoff detention/retention and treatment and to be used for planning purposes for basin siting, project funding and as a base from which further studies required can be identified.

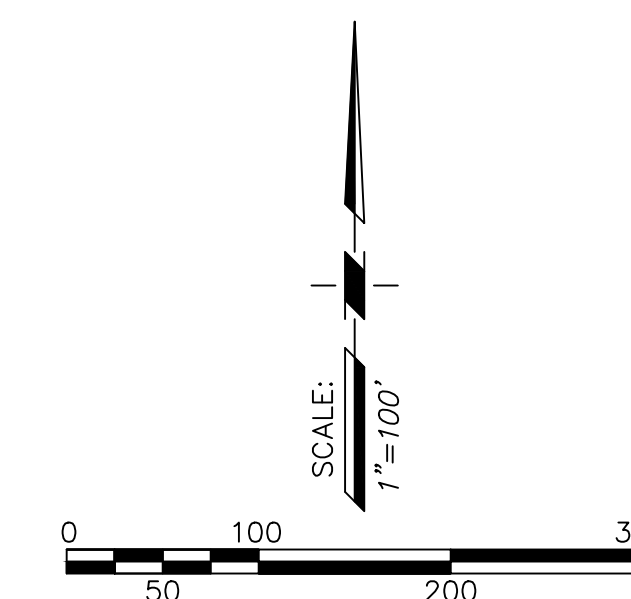


Storm Event	Jurisdiction	Basin Area (acres)	Minimum Basin Depth w/o Freeboard	Assumed Infiltration Rate (cfs)	Allowable Discharge To City Stormdrain System (cfs)	Actual Discharge To City Stormdrain System (cfs)	Total Storage Volume (ac-ft)
1-YR	Caltrans	8	3.6	4.0	7.0	0.0	28.5
	City	5	2.5	2.5	7.0	0.0	12.7
2-YR	Caltrans	8	5.1	4.0	7.0	0.0	40.7
	City	5	3.6	2.5	7.0	0.0	18.2
5-YR	Caltrans	8	6.7	4.0	7.0	0.0	53.8
	City	5	5.9	2.5	7.0	0.0	29.5
10-YR	Caltrans	8	10.2	4.0	7.0	1.6	81.8
	City	5	7.5	2.5	7.0	0.0	37.3
50-YR	Caltrans	8	14.5	4.0	7.0	7.0	116
	City	5	10.7	2.5	7.0	5.1	53.7
100-YR	Caltrans	8	16.5	4.0	7.0	7.0	131.7
	City	5	11.9	2.5	7.0	7.0	59.4

1-year Storm Event				2-year Storm Event			
Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)	Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)
CalTrans	87.04	34.3	11	CalTrans	87.04	46.9	15.3
NE	128.13	50.4	16.5	NE	128.13	69	22.6
NW	58.59	23.1	7.4	NW	58.59	31.5	10.3
Total Caltrans Drainage Area	273.76	Total Caltrans Volume	34.9	Total Caltrans Drainage Area	273.76	Total Caltrans Volume	48.2
SE	62.38	24.6	7.9	SE	62.38	33.6	11
SW	65.54	25.8	8.29	SW	65.54	35.2	11.3
Total City Drainage Area	127.92	Total Volume	16.19	Total City Drainage Area	127.92	Total Volume	22.3
5-year Storm Event				10-year Storm Event			
Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)	Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)
CalTrans	87.04	93	23	CalTrans	87.04	131.2	28.4
NE	128.13	116.9	34.4	NE	128.13	153.8	41.7
NW	58.59	66.2	15.5	NW	58.59	93.8	19.1
Total Caltrans Drainage Area	273.76	Total Caltrans Volume	72.9	Total Caltrans Drainage Area	273.76	Total Caltrans Volume	89.2
SE	62.38	56.9	16.8	SE	62.38	73.5	20.6
SW	65.54	61	17.3	SW	65.54	87	21.4
Total City Drainage Area	127.92	Total Volume	34.1	Total City Drainage Area	127.92	Total Volume	42
50-year Storm Event				100-year Storm Event			
Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)	Drainage Area	Area (ac)	Peak Flow (cfs)	Runoff Volume(ac-ft)
CalTrans	87.04	216	40.2	CalTrans	87.04	253.8	45.3
NE	128.13	261.2	59.2	NE	128.13	311	66.7
NW	58.59	156.3	27.1	NW	58.59	184.6	30.5
Total Caltrans Drainage Area	273.76	Total Caltrans Volume	126.5	Total City Drainage Area	186.72	Total Caltrans Volume	142.5
SE	62.38	118.9	28.8	SE	62.38	141	32.5
SW	65.54	144	30.3	SW	65.54	172.9	34.12
Total City Drainage Area	127.92	Total Volume	59.1	Total City Drainage Area	127.92	Total Volume	66.62

City of Pasadena

Conceptual Plan
Caltrans Stormwater Diversion
710-134-210 Freeway Interchange
PSOMAS



Conceptual Plan SW Diversion to Detention & Infiltration Basin

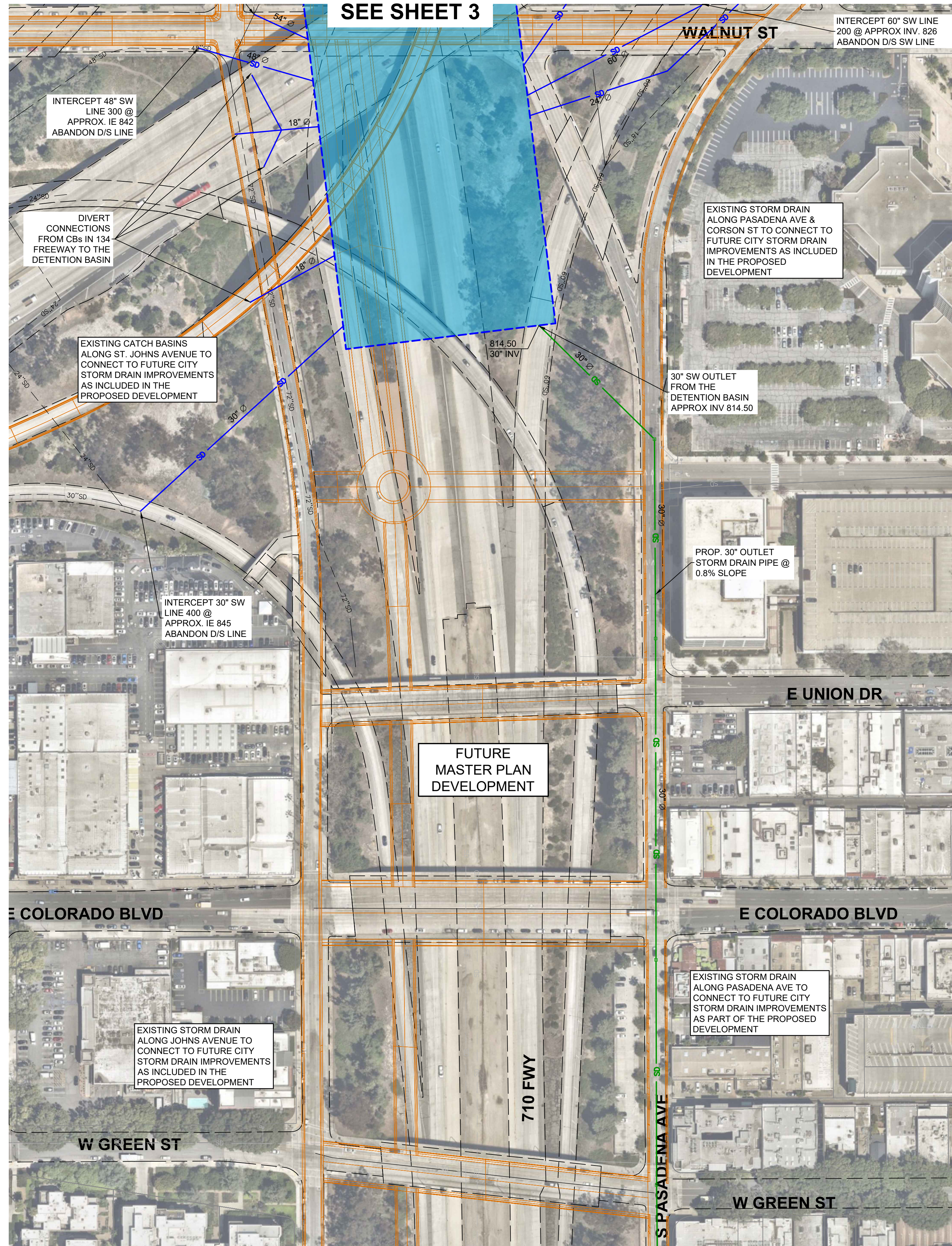
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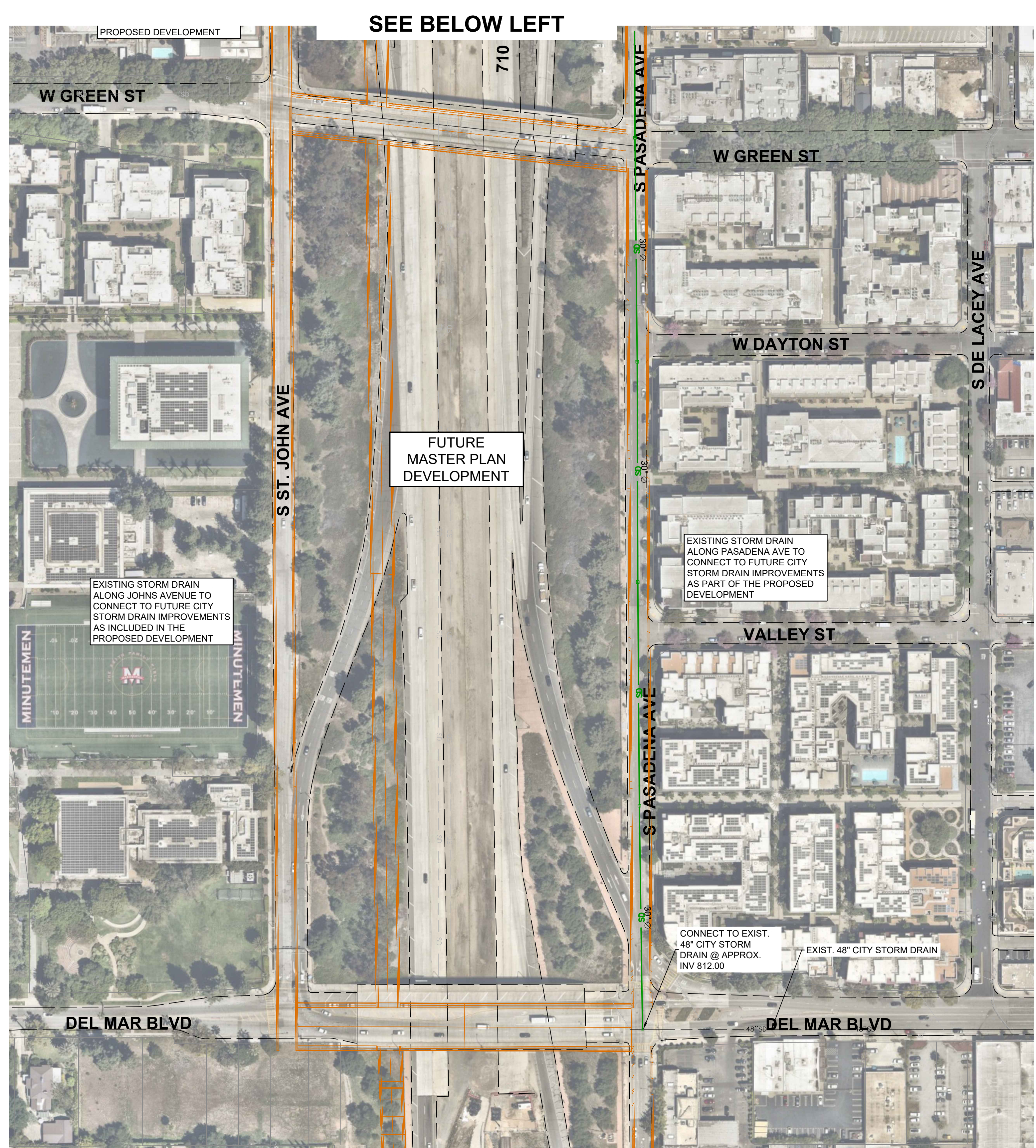
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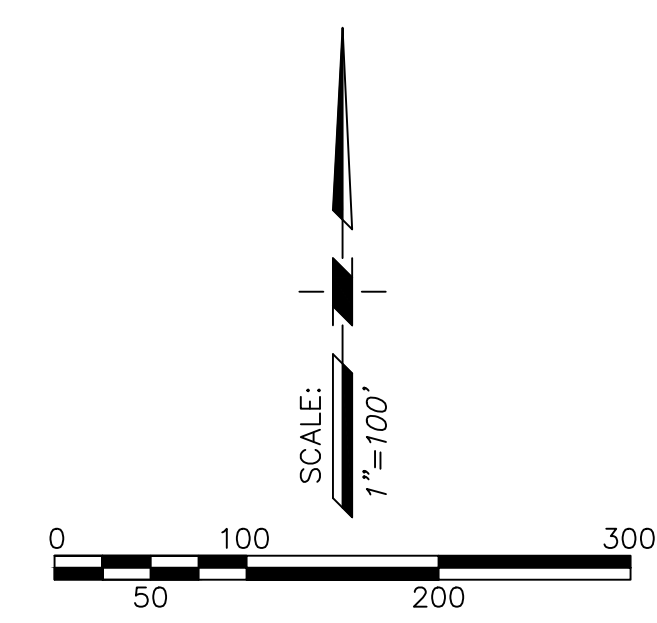
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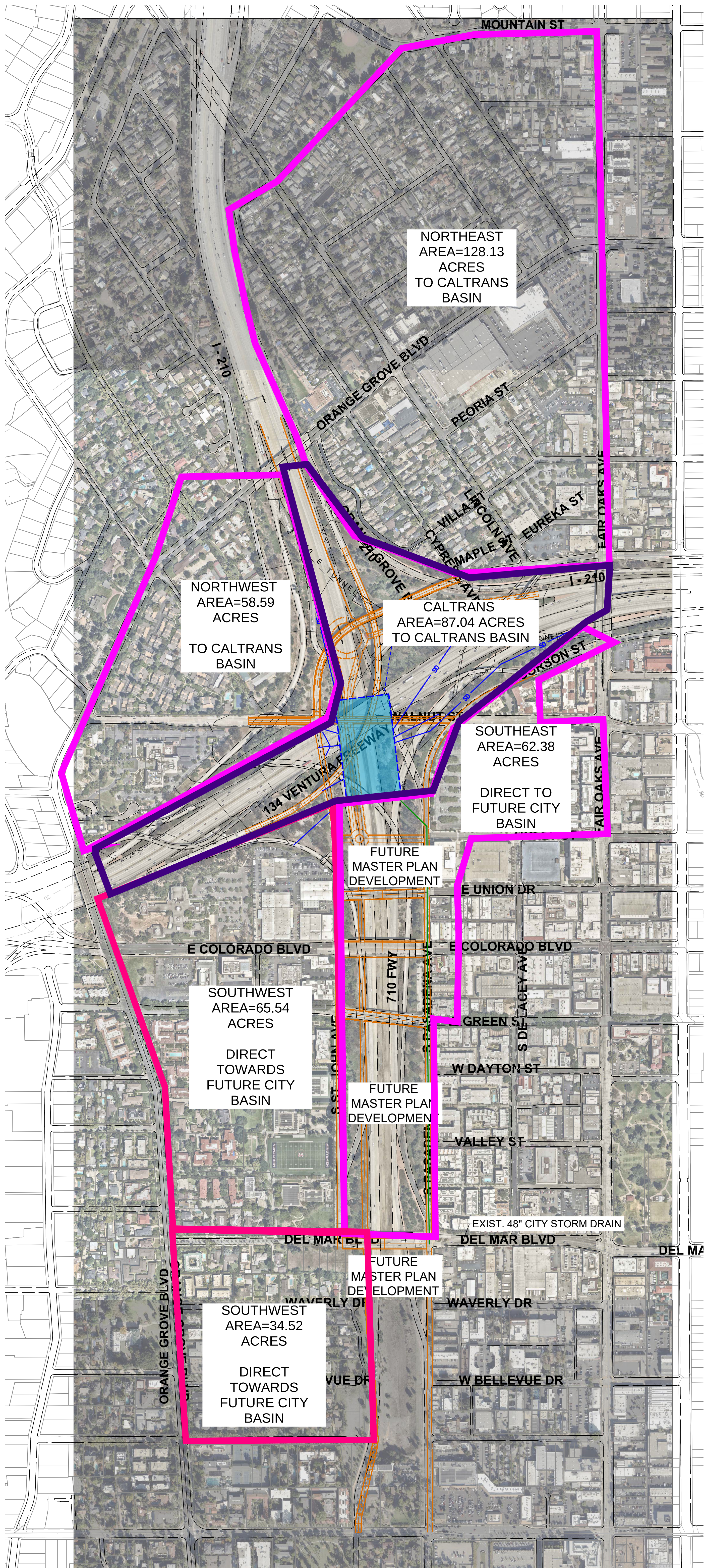


Conceptual Plan SW Diversion to Detention & Infiltration Basin

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Appendix E

Net Zero Feasibility – Reconnecting Pasadena

The *Reconnecting Pasadena* Vision Plan offers the opportunity to transform the former I-710 corridor into a healthy, resilient, and economically strong 21st-century district. By integrating Pasadena's Climate Action Plan (CAP) from the outset, the project establishes sustainability and resilience as core requirements, ensuring long-term performance and financial stability.

This memo summarizes methods, case studies, comparable projects and potential actions for Project Area to achieve Net Zero energy.

To be considered “net zero” the Project's renewable generation must balance its future annual energy use. This directly supports Pasadena Water and Power's Resolution 9977 to achieve 100% carbon-free electricity by 2030 and protects the project from future carbon-related costs.

Climate projections for the area predict heat stress days tripling by 2080. This will strain on the electrical grid and elevate public-health risks during outages. Buildings and public spaces must therefore maintain safe conditions even during extreme heat and power interruptions.

We recommend the project follow the following energy hierarchy:

AVOID energy use through passive design and all-electric buildings;
REDUCE loads with high-efficiency systems and district-scale infrastructure;
RECOVER energy with on-site renewable generation and integrated water-energy strategies;
MITIGATE remaining emissions only as a last resort.

Focusing on the first three steps, the district to rely on clean, local resources while minimizing long-term operating costs. Given these findings, we recommend that the *Reconnecting Pasadena* plan prioritize “district-scale” or solutions that can cover multiple building sites, these would combine on-site energy generation, storage, and high-efficiency electric systems. There are several viable pathways to achieving this; the following memo summarizes the top strategies that can help the City deliver a net-zero-feasible, heat-resilient, and future-ready district.

STRATEGY 1: FACILITATE ONSITE ENERGY GENERATION

District micro-grids are **localized energy networks** integrating multiple buildings with on-site power generation (e.g. solar, Photo Voltaic (PV), Combined Heat and Power CHP), energy storage, and advanced controls. They can operate connected to or independent from the main grid, optimizing energy use and reliability across the district.

Pasadena has been exploring microgrids for critical facilities. A feasibility study for Pasadena Water & Power identified a microgrid solution combining energy efficiency, 4 MW of solar PV, batteries, and controls to provide continuous power for emergency shelters[24][25]. Likewise, Santa Monica City Yards is implementing an advanced microgrid to power municipal facilities with 49% on-site solar generation[12], targeting significant GHG reductions. These



examples, alongside Caltech's planned microgrid (Pasadena), show local momentum. Overall, district microgrids in the LA region promise lower energy use and carbon footprints while enhancing resiliency, albeit with careful financial structuring to manage upfront costs. Other notable examples in California include the **UC Irvine campus microgrid** and the **Stone Edge Farm microgrid** in Sonoma.

Below we summarize key performance metrics (A–E) for district micro-grids, based on literature and case studies:

A. Site Energy Use Reduction: District micro-grids typically enable **5–15% reductions in site energy use** through load optimization and diverse energy sources[1][2]. In practice, microgrid projects that incorporate efficiency and load management have achieved even larger savings – for example, UC Irvine's campus microgrid (with deep efficiency measures) cut campus energy loads by over **50% relative to business-as-usual** growth[3]. Typical energy savings of **2–5%** can occur simply from coordinated controls and user behavior changes under a smart microgrid[4]. Additional savings come from CHP units in microgrids, which use waste heat to reach total system efficiencies of 60–80% (versus ~35–50% for separate grid power and boilers)[5], translating to significantly lower fuel use.

B. Operational Carbon Reduction: By integrating renewable energy and efficient generation, micro-grids can dramatically cut carbon emissions. Studies and projects report 20–50% reductions in CO₂ for microgrids that replace or supplement grid power with clean resources[6]. For instance, the Stone Edge Farm solar microgrid in California achieved a 50% cut in carbon emissions within one year of operation, and is now targeting net-zero emissions[7][8]. Campus microgrids with CHP also prevent substantial emissions – e.g. a university microgrid's CHP plant (75% efficient) was estimated to avoid ~43,000 tons CO₂ per year compared to grid sourcing[9]. Overall, 30–50% carbon reductions at the district level are common when diesel generators are minimized and renewables and storage are maximized[7].

C. Cost Comparison (Initial & Life Cycle): Initial costs for a district microgrid are higher than a standard utility hookup – roughly \$2–4 million per MW of capacity, depending on complexity[10]. This equates to an upfront cost premium on the order of 5–10% of construction cost (approximately \$15–\$30 per ft² for a commercial development, depending on load intensity). For example, a planned municipal microgrid in Santa Monica was estimated at \$3.6 million upfront for ~1.4 MW solar + battery + controls[11][12]. Life-cycle cost (LCC) analyses, however, show microgrids can pay back over time via energy savings and demand charge reductions. Typical payback periods for commercial microgrids (with solar and storage) are around 10–15 years[13], which has improved with incentives. The Internal Rate of Return (IRR) on well-designed microgrids can range from ~8% up to 12%, especially when leveraging tax credits[14]. Performance contracting models are emerging to make microgrids cost-neutral: in California case studies, hosts pursued energy savings performance contracts (ESPC) and shared-savings agreements so that long-term bill savings offset the ~10–20% capital premium[15]. In summary, while initial capital costs are higher, microgrids often achieve positive 20–30

year NPVs and 10-year paybacks through avoided energy costs and improved resiliency[16].

D. Life Cycle Costs Operations and Maintenance (O&M): Key O&M cost drivers for microgrids include maintenance and replacement of distributed energy assets and control systems. Routine maintenance is required for generators/CHP units (fuel, filters, etc.) and for keeping solar PV panels clean and inverters functional (inverter replacement ~15 years).

Battery storage is a significant life-cycle cost – lithium-ion batteries typically need replacement every 10–15 years, so these costs must be factored into LCC analyses. Controls and switchgear require software updates and periodic testing. On the other hand, microgrids reduce some costs by peak shaving (lower utility demand charges) and improved power quality/reliability (avoiding outage-related losses)[17][18]. In essence, long-term costs involve component replacement cycles (e.g. battery augments, inverter upgrades) and operator management. Many projects plan for battery replacements and inverter overhauls in year 10–15 of operation and allocate O&M budgets accordingly. Experience from campus microgrids shows that if designed correctly, O&M is manageable: for example, UC Irvine’s microgrid has been operated by the campus facilities department as part of their normal plant maintenance, with major assets like the central CHP plant on standard service schedules. Modern microgrid controllers can also minimize wear on equipment by balancing run-times. Overall, O&M costs are lower than for equivalent stand-alone backup generators, but higher than a simple grid connection – thus, careful life-cycle planning (including warranty/service contracts for batteries and controls) is essential[16][19].

E. Financing & Return on Investment (ROI): District microgrids are often financed through **innovative mechanisms** that spread upfront costs and monetize long-term savings. Financing packages often stack multiple tools: a project might use an ESA with a third-party microgrid developer (who claims tax credits), combined with PACE or a Green Bank loan, and backed by the energy savings guarantee. This allows the district to achieve sustainability goals with minimal upfront cost to the district.

Common approaches include:

- **Property Assessed Clean Energy (PACE)** financing, which allows repayment via property tax assessments over 20+ years[20], and
- **Energy-as-a-Service (EaaS) or Energy Service Agreements (ESA)** wherein a third party owns/operates the microgrid and the host pays a fixed rate (converting capital expense to operating expense).
- **Public-private partnerships** for example, the Blue Lake Rancheria microgrid combined grants with private investment and achieved a ~7-year payback even without grants[21].
- Utility incentive programs like California’s Self-Generation Incentive Program (SGIP) provide capital rebates for storage, improving ROI.
- **Green bonds** or climate bonds have been issued by municipalities (e.g. for community microgrids) to access low-interest capital. According to a



financing study by NREL, many California microgrids deployed since 2018 relied on less than 50% public funding, with the remainder via private capital leveraging the project's future energy cost savings[22][15].

Return on Investment (ROI) examples: Lincoln, NE schools saw ~10% ROI as geothermal microgrid savings paid back a 20–30% cost premium in ~10 years[16]; and one small city microgrid reported an ROI of ~15% with an annual energy cost reduction of \ \$250k on a \ \$1.7M investment (payback ~7 years)[21]. In general, ROI for microgrids falls in the 6–12% range, depending on rate structures and incentive capture. New incentives (e.g. IRA tax credits, direct-pay for tax-exempt entities) are further improving economics – tax-exempt hosts can now receive a 30% investment tax credit as a refund, greatly enhancing project ROI[23].

STRATEGY 2: EXPLORE SUSTAINABLE MECHANICAL SYSTEMS

2.1 All Electric Building Systems

This strategy mandates the use of highly efficient mechanical systems, centered on the requirement that all buildings be all-electric. This eliminates the use of natural gas, a critical step for decarbonization and alignment with PWP's goals.

All electric buildings may be mandated by the time of construction. For Pasadena it makes sense - since there is no existing infrastructure on site, going all electric will be cost effective – allowing the development to avoid new gas lines infrastructure and labor cost, connection fees and future infrastructure upgrades costs. Avoided gas also reduces fire hazards, gas leaks due to seismic events, and combustion ventilation requirements in buildings

Avoided emissions from day 1 with CA clean grid and a path to NZ emissions: as the grid moves toward 100% clean energy by 2045, electric systems trend toward zero carbon—while gas locks in ongoing emissions

Heat pumps deliver 2 to 4 times the efficiency of gas, reducing heating energy by 30 to 60 percent and cutting carbon emissions by 40 to 90 percent. From a cost standpoint, new all-electric buildings are often cost-neutral or cheaper, since avoiding gas piping offsets equipment costs. Many California developers report little to no premium in multifamily projects, especially with incentives. So electrifying mechanical systems delivers resilience, efficiency, and long-term savings—while aligning Pasadena with a clean energy future.

2.2 APPLY DISTRICT ENERGY SYSTEMS FOR URBAN EFFICIENCY AND RESILIENCE

The study area can leverage district-level solutions, which achieve efficiencies impossible in single-building designs. These "game-changer" technologies include Ground Source Heat Exchange, Municipal Waste Heat Recovery, Thermal Storage Tanks, and a Central Utility Plant.



Sharing Power for Maximum Efficiency - District Energy Systems (DES) supply heating and cooling centrally to multiple buildings, significantly increasing efficiency. This strategy capitalizes on mixed-use load diversity; because different buildings have different heating and cooling needs throughout the day, the district system can recover waste heat from one building (e.g., an office cooling down) and instantly reuse it to warm another building (e.g., a residential structure requiring hot water). This energy sharing maximizes resource use, supports centralized maintenance, and minimizes the equipment footprint required within individual buildings.

A network of connected buildings can balance energy across time and uses. Mixed-use clusters like offices, schools, and housing are especially well-suited, since their peak loads occur at different times. Another key benefit is future-proofing. In short, district systems deliver efficiency, flexibility, and resilience, while providing Pasadena with a clear pathway toward zero-carbon operations at scale.

The city can identify an Integrated Energy Services Provider (IESP) who will be responsible for creating a business model that allows for phasing of energy infrastructure in alignment with the development.

Shallow geothermal district systems – often implemented as **ground-source heat pump (GSHP) networks** – tap the stable underground temperature (~15°C/59°F in SoCal) to provide heating and cooling for multiple buildings. In a district configuration, a common closed-loop ground heat exchanger (horizontal trenches or vertical boreholes) serves a network of buildings via water pipes, with heat pumps in each building extracting or rejecting heat to the ground loop.

This fifth-generation district heating/cooling approach (5GDHC) is highly efficient and well-suited to Pasadena's climate.

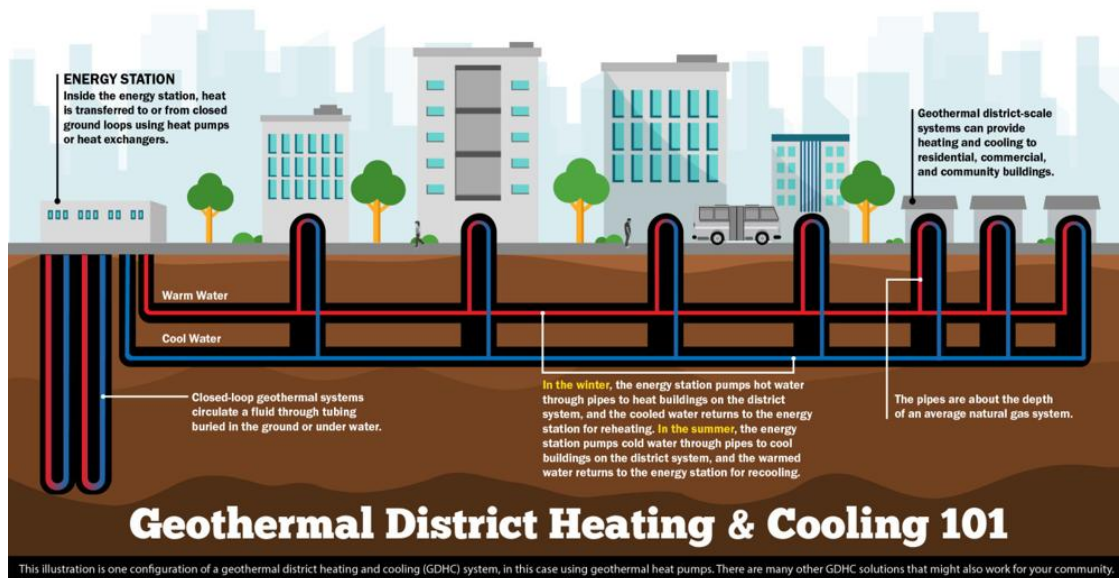


Illustration of a geothermal district heating and cooling system using shared shallow ground loops and heat pumps to serve multiple buildings.

While Pasadena/LA area has few large-scale geothermal districts yet, *comparable climate projects* offer guidance. In Stockton, CA, a Delta Electronics facility installed a shallow geothermal system under its campus parking, integrating it with 1.6 MW of solar and battery storage^{[47][48]}. This project demonstrates synergy between geothermal and microgrid technologies: solar PV supplies the heat pumps, and the battery shifts peak loads, resulting in 70% energy reduction and minimal carbon output^[28]. At the community scale, the National Western Center in Denver (climate similar to inland SoCal) is implementing a 5GDHC network that will use sewer heat exchange and geo loops to achieve net-zero carbon for a multi-building district^[49]. Though not in California, it showcases the viability of district geothermal even in warm summers (with adequate loop design). These case studies underscore that shallow geothermal can be adapted to urban settings (vertical boreholes under city lots or even beneath buildings) and scaled to both residential neighborhoods and commercial districts.

Key performance findings from studies and case projects are summarized below:

A. Site Energy Use Reduction: District GSHP systems *drastically* cut HVAC energy use. Typical site energy savings range from ~30% up to 70% for heating/cooling loads compared to conventional HVAC^{[26][27]}. The U.S. DOE reports that geothermal heat pumps use 30–70% less energy for heating and 20–50% less for cooling versus furnaces and standard AC^[26]. In a showcase project at Delta Electronics (Fremont, CA), a shallow-ground-loop GSHP system now provides ~80% of the 175,000 ft² facility’s HVAC needs and helped cut total building energy use to 15,500 Btu/ft² – 70% lower than the average LEED office building^[28]. Likewise, schools in Lincoln, NE with geothermal heat pump systems had 50% lower HVAC energy costs than identical schools with boiler/chiller systems^{[29][30]} (translating to similar energy use reduction).

Overall, multiple studies confirm one-third to two-thirds reduction in site energy for heating/cooling when switching to well-designed GSHP networks[26][31]. The exact savings depend on baseline efficiency and climate: colder climates see the largest absolute energy drops, while in Pasadena's mild climate, GSHPs eliminate nearly all gas heating use with only a small increase in efficient electric use (one ORNL study found adding GSHPs to California homes raised annual electricity <10% while eliminating propane/gas use entirely[32][33]).

B. Operational Carbon Reduction: Shallow geothermal can slash operational carbon emissions by ~50–80%, especially as the electric grid gets cleaner. Replacing gas-fired heating with electric heat pumps cuts direct on-site CO₂ to zero. Modeling by LBNL for 5GDHC systems in three U.S. climates found 72–81% lower CO₂ emissions for GSHP-based district systems versus conventional HVAC (gas heat + grid AC)[34][35]. This dramatic reduction is because geothermal heat pumps have 300–500% efficiency (COP 3–5), using much less energy per unit of heating/cooling delivered. In practice, Lincoln's geothermal schools cut carbon ~60–70% per square foot relative to the gas baseline[36][29]. Pasadena's climate (heating-dominated) offers big CO₂ savings by displacing natural gas furnaces – every kWh of heat pump use (if powered by Pasadena's increasingly renewable electricity mix) avoids emissions from burning ~0.02 therms of gas. RMI notes that geothermal heat pumps produce zero on-site GHG emissions and, when paired with renewable electricity, can render building operations carbon-neutral[27]. Even in grids not yet fully green, GSHPs reduce emissions via efficiency: e.g. a study in Massachusetts found a 55% carbon reduction for a GSHP retrofit of a multifamily building, due to the high COP of geothermal (despite the grid mix)[37]. Thus, a typical range of 50–80% operational CO₂ reduction is observed, with higher end achievable as California's grid approaches 100% clean power[35].

C. Cost Comparison (Initial & LCC): Initial costs for district geothermal systems are higher than standard HVAC. Borehole drilling and loop installation contribute to a capital premium of roughly 20–30% over conventional systems[16]. For example, the upfront cost for Lincoln Public Schools' GSHP systems was ~20–30% higher than equivalent gas boiler/chiller installations[16].

In commercial terms, GSHP installations often range \$50–\$70 per ft² (vs \$30–\$50/ft² for conventional HVAC) – a premium that can be on the order of \$10–\$20 per ft² of building served. However, life-cycle cost (LCC) analysis typically shows this premium is recouped through energy savings and lower utility bills. In Lincoln's case, the 10-year utility savings offset the higher capital cost, yielding a payback period ~10 years[16]. Similarly, a California office retrofit to GSHP reported a 12-year simple payback with net-positive savings thereafter[38]. Over a 30-year horizon, GSHP networks often come out ahead: an NBI study found net present cost parity or better for net-zero districts using geothermal vs. business-as-usual[39][40]. Key LCC advantages include long system life (ground loops 50+ years) and protection from fuel price volatility. Many analyses incorporate maintenance saving for GSHPs (no combustion,

fewer moving parts than boilers). That said, the LCC depends on financing and incentives: with the 30% federal tax credit (or direct-pay for municipalities), upfront costs are effectively lowered, improving NPV and making paybacks of 5–10 years increasingly common[41]. For instance, a multifamily project in the Southwest using IRA incentives saw an estimated 7-year payback for its geo system, compared to ~15 years pre-incentive. Cost metric: Initial cost premiums can also be expressed per ton of capacity – typically \\$3,000–\\$5,000/ton for geothermal versus \\$1,500–\\$2,000/ton for a standard system, roughly a 50–100% premium. But over lifecycle, GSHPs often save \\$10–\\$20 per square foot *per year* in energy costs (as seen in Delta’s case: 15,500 Btu/ft² vs 50,000 Btu/ft² average)[28], making them economically attractive long-term.

D. Life Cycle Costs (O&M): Shallow geothermal systems are known for low O&M requirements. There are no fuel deliveries or combustion tune-ups – the primary O&M items are circulation pumps, heat pumps, and fluid monitoring. The underground loops themselves typically last 50+ years with minimal maintenance (closed-loop pipes just need leak monitoring). Heat pump units (compressors) have lifespans of 20–25 years and may require replacement once or twice in a 30-year span. Key long-term costs include pump electricity (which is accounted for in energy use), periodic checks of fluid chemistry (to ensure no corrosion or biofouling in loops), and mechanical maintenance of the heat pumps similar to conventional HVAC (e.g. compressor servicing).

Lincoln Schools’ experience showed the ground loop portion was “bulletproof,” with issues only arising from improper design/operation in one case[42]. In Boulder, CO, schools have had some heat pump unit failures after ~15 years, but the ground field performed flawlessly. Thus, major O&M costs boil down to HVAC component replacements (planned like any other HVAC system) and pumping energy. The latter can be optimized by variable-speed pumps and seasonal control. Unlike cooling towers or boilers, GSHPs have no cooling water treatment or stack cleaning costs, and no direct emissions requiring permits. Some additional minor costs: maintaining any supplemental backup (if used) and periodic loop flushing if needed. Overall, studies indicate annual O&M costs for GSHP systems are 10–30% lower than for conventional HVAC[43]. When implemented at district scale, economies of scale can further reduce per-building maintenance costs (e.g. one central “energy station” to monitor the whole loop).

Bottom line: Long-term costs are dominated by electrical consumption (already accounted in energy savings) and **capital replacement of heat pumps** on ~20-year cycles. Proper design (sizing the bore field correctly, as emphasized in case studies[44]) is crucial to avoid any unexpected performance issues that could raise O&M costs (like adding auxiliary coolers if loops overheat).

E. Financing & ROI: District-scale geothermal projects often leverage **creative financing** to manage the high upfront cost. However, the long lifespan and energy price stability of geothermal make it attractive to financiers as a long-term asset, especially in an era of carbon mandates.

ROI for geothermal networks also tend to be solid when incentives are included: for Lincoln Schools, the ROI was calculated such that **the 20–30% cost premium was recovered in 10 years**, implying an **annual ROI on that investment of ~10%**^[16]. Many campus and developer-led projects target **5–15% IRR** on geothermal investments, often achievable with utility demand charge savings and avoided gas infrastructure costs.

- **Property Assessed Clean Energy (PACE)** financing is a popular tool – for example, Greenworks Lending has financed GSHP installations via C-PACE, allowing building owners to repay over 20–30 years through property tax assessments^[45].
- **Utility incentive programs** and rebates play a role: in California, the **CEC EPIC grants** have funded pilot district geothermal systems (e.g. the DOE GTO’s Community Geothermal program is funding 5 pilot communities for district GSHP^[46]). Utilities like Southern California Edison also offer custom rebates for electrification projects that reduce peak demand.
- **Federal incentives:** The **Investment Tax Credit (ITC)** now provides **30% credit for geothermal heat pump systems**, and importantly, non-taxable entities (cities, schools) can get this as a direct cash payment (IRA 2022)^[23]. This dramatically improves ROI – essentially a 30% grant. Some projects also use
- **New Market Tax Credits** or **green bonds** to attract low-cost capital. **Third-party ownership models** are emerging: ESCOs or energy service providers install the geo system and charge a service fee (like a heating/cooling subscription). This is akin to a **thermal Purchase Power Agreement (thermal PPA)** or Energy Service Agreement – the provider finances the loop and equipment, and the district pays over time from the energy savings.
- Another financing mechanism used is **bond financing** for public districts – for instance, a city might issue a **municipal bond or green bond** to cover loop installation, then recoup costs via slightly higher utility rates or assessments on participants.
- **State-level Green Banks** (like the California CLEEN program) can provide low-interest loans for district energy systems, improving NPV. In summary, **multiple financing avenues** (PACE, tax credits, bonds, ESCO agreements) have been successfully used to fund shallow geothermal systems, making projects viable with **typical ROI in the high single digits to low double digits** and **paybacks ~10 years or less** in many cases^[16].

Conclusions

Both district microgrids and shallow geothermal networks offer significant energy and carbon reduction potential at the district scale. Microgrids can typically reduce overall site energy use by 5–15% (by optimizing distributed resources) and cut operational carbon by 20–50% or more when renewables are prioritized^{[6][3]}.



Shallow geothermal systems can yield even greater HVAC-specific savings – often 30–70% energy reduction for heating/cooling and up to 70–80% emissions reduction by eliminating on-site fossil fuels[34][28].

Both strategies entail higher upfront costs (~20–30% premiums), but through innovative financing (PACE, ESCOs, tax incentives) and energy savings, they achieve strong life-cycle economics (paybacks on the order of a decade, and long-term ROI in the 8–12% range)[16][13]. O&M considerations are manageable: microgrids require battery and inverter replacements and careful asset management, while geothermal loops have minimal maintenance beyond heat pump upkeep[16].

Importantly, these two measures can complement each other in a district. A microgrid provides clean electricity and control that can power geothermal heat pumps with solar or other local generation – effectively decarbonizing heating/cooling. In turn, the geothermal system reduces the electrical peak loads in summer (by providing efficient cooling) and winter (via efficient heating), which right-sizes the microgrid’s generation/storage needs. This synergy leads to a more stable, balanced energy profile: for example, excess solar PV in midday can charge batteries and also drive heat pumps to “store” cooling or heating in the ground (thermal storage), improving overall system efficiency. District planning guides note that integrated thermal and electric strategies unlock load diversity benefits – exchanging waste heat between buildings and using microgrid controls to dispatch resources optimally[50][51].

In a Pasadena context, this could mean office buildings rejecting heat to the ground loop during the day, while residences pull that heat out at night – all coordinated by a microgrid energy management system. Both measures also share financing and implementation structures (e.g. a combined energy service company could install the microgrid and geothermal loop together, leveraging economies of scale). **By coupling a renewable-powered microgrid with a geothermal district system, a community can approach net-zero energy and carbon much more readily than with either measure alone.**

In summary, district microgrids and shallow geothermal systems are proven, complementary strategies for deep energy and carbon reductions at the community scale. Research and case studies – including those relevant to the Pasadena/LA region – demonstrate that when implemented thoughtfully, these measures deliver quantifiable savings (30%+ energy, 50%+ carbon)[35][7], with affordable life-cycle costs and multiple co-benefits (resilience, air quality, and local green jobs). Communities in Southern California can look to these solutions as synergistic building blocks of a sustainable, low-carbon district energy future.

Sources: National Renewable Energy Laboratory (NREL, 2018–2025); Lawrence Berkeley National Lab; Rocky Mountain Institute (RMI); California Energy Commission (CEC) EPIC case studies; New Buildings Institute; *Energy and Buildings* journal; and industry reports (Facilities Dive, Microgrid

Knowledge). All data presented are drawn from peer-reviewed studies or validated pilot projects[3][34][16][7].

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DRAFT - Scenario Feasibility Analysis

City of Pasadena

February, 2026

Delivering a better world



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Executive Summary

Through a collaborative, multi-year effort with Caltrans, the relinquishment of the SR-710 Northern Stub transportation network (the Site) was approved by the California Transportation Commission on June 29, 2022, and transferred to the City of Pasadena on August 15, 2022. This Site occupies a transition area between the higher intensity mixed-use areas of Downtown Pasadena to the east and the lower intensity residential and commercial areas along Orange Grove Boulevard to the west, bounded by I-210 to the north and California Boulevard to the south.

The SR-710 Northern Stub was constructed in phases during the early 1970s and resulted in the displacement of at least 4,000 residents and the demolition of approximately 1,500 homes. Today, the Site presents a significant opportunity for the City to advance a catalytic redevelopment that repairs historic harms, reconnects Pasadena's urban fabric, and supports existing residents, visitors, and local industries, while positioning the City to respond to evolving real estate, demographic, and economic trends.

In 2024, AECOM prepared a Market Opportunity Analysis, benchmarked to the 2024 markets, to identify supportable development types for the approximately 60-acre Site. The findings of that analysis informed the selection of two development programs that were shortlisted for further evaluation.

This Scenario Analysis represents the next phase of that effort. AECOM evaluated the development economics of the two shortlisted programs to assess their relative feasibility, estimate potential land values, and analyze associated fiscal impacts. The results, which are a snapshot of market conditions as of 2025, provide insight into each scenario's capacity to generate property tax revenue and support potential funding sources for site infrastructure and public realm improvements. This memorandum summarizes the comparative feasibility, land value, and property tax generation of the two shortlisted development scenarios. It also describes the analytical methodology and key assumptions and includes a technical appendix with supporting data.

The Scenario Analysis reflects market conditions and costs modelled in late 2024, with targeted adjustments made in 2025 to reflect evolving market conditions. As such, certain inputs, such as interest rates, market rents, and construction costs, will continue to shift over time and impact the feasibility of a given project. The intent of the analysis is to provide a high-level assessment of the development conditions that impact feasibility and the potential for development at the Site. The analysis can be used to facilitate discussions about the strengths and weaknesses of the two shortlisted programs and their potential capacity to fund infrastructure and/or community benefits.

Key Findings

- All four scenarios are potentially feasible, but none support full market feasibility under baseline assumptions without public funding, phasing, or other development incentives. Feasibility was assessed using several financial thresholds detailed below.
- Scenario B.2 (60% residential, Boulevards and Paseos) performs best overall, showing the strongest net profit, equity multiple, levered internal rate of return (IRR), and resilience to affordability and timing sensitivities.
- Higher commercial shares modestly improve feasibility, reflecting current demand dynamics and revenue performance. Residential land uses assume 20% Affordable Housing in accordance with the requirements of the City's Inclusionary Housing Ordinance. Potential phasing strategies involve phasing and clustering the development of market-rate and affordable housing to increase overall feasibility.

- Affordability requirements meaningfully affect feasibility, particularly at lower AMI levels and higher affordable housing shares. Scenarios vary in their sensitivity, with Scenario B.2 showing the greatest capacity to absorb affordability without becoming infeasible.
- Horizontal infrastructure costs are unlikely to be fully reimbursed by private development under current conditions, indicating a need for public-sector funding mechanisms such as Enhanced Infrastructure Financing Districts (EIFDs), Community Facility Districts (CFDs), grants, or long-term financing.
- The primary value capture opportunity is long-term property tax generation, not near-term land payments. Cumulative City property tax revenues could exceed \$2 billion over 100 years.
- Phased development and longer hold periods materially improve feasibility, supporting strategies that prioritize flexibility, incremental delivery, and long-term ownership or public-private partnership structures.
- Additional funding streams and approaches will likely be needed to support the type of high-quality, sustainable, resilient, and equitable development the City seeks to reach its policy goals.
- The analytical framework is intentionally adaptable, allowing the City to revisit assumptions and update feasibility as market conditions, policy priorities, and project design evolve.

Study Area Overview

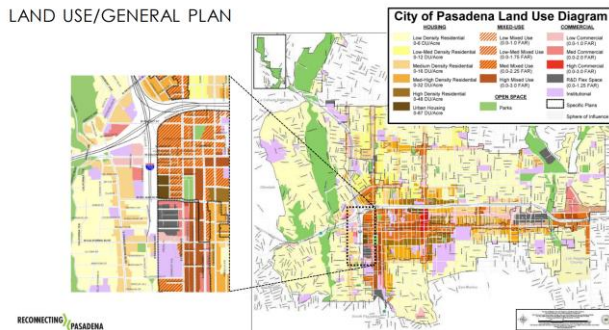
The City of Pasadena is a vibrant urban center in the San Gabriel Valley, characterized by a diverse economic base, strong educational and cultural institutions, and a high quality of life. With the largest workforce and commercial inventory in the subregion, Pasadena functions as a leading regional economic hub, particularly for knowledge-based and institutional employment.

As of 2022, Pasadena's population was 134,214. Following a sharp reduction in employment during the early pandemic period, when total jobs declined by approximately 5.5% between 2019 and 2020, overall job counts have since rebounded and now exceed pre-pandemic levels. Post-pandemic job growth in Pasadena has been driven primarily by the public and institutional sectors.

The Reconnecting Pasadena site encompasses approximately 60 acres along the existing SR-710 stub. The site occupies a transitional area between the higher intensity mixed-use areas of Downtown Pasadena to the east and the lower intensity residential and commercial areas along Orange Grove Boulevard to the west, bounded by I-210 to the north and California Boulevard to the south.

Surrounding land uses reflect a mix of residential, retail, institutional, and employment-serving uses (Figure 1). The site's proximity to universities, research institutions, and major employment centers creates strong potential for life sciences, research-oriented office, and other innovation-driven uses. Pasadena's high educational attainment and entrepreneurial activity further support its attractiveness for business investment and employer expansion. The site has no General Plan designation nor any existing zoning designations.

Figure 1. City of Pasadena Land Use



Source: [Reconnecting Pasadena Advisory Group Presentation](#)

The site also presents an opportunity to explore creative housing solutions that respond to remote and hybrid work trends, diversify housing types, and support workforce retention. Strategically pairing residential growth with job creation is critical to improving jobs–housing balance and strengthening local economic resilience.

Redevelopment of the SR-710 stub occurs within a challenging real estate and construction environment. The current market of high construction material costs, elevated labor costs, and sustained high interest rates have significantly constrained development feasibility. These conditions are evidenced by a marked slowdown in the new construction pipeline across the region in recent years.

Financial feasibility is a particular concern for high-density and high-rise development typologies in current market conditions, especially given conservative financing environments and limited appetite



among lenders for taller or more complex projects. In addition, retail viability remains uncertain at this time, with ongoing challenges related to tenant demand, changing consumer behavior, and the cost of maintaining and modernizing commercial space.

Together, these constraints suggest that redevelopment scenarios must carefully balance ambition with market realism, phasing strategies, and flexible land use assumptions to ensure long-term feasibility. It is also important to note that groundbreaking remains several years away. While this narrative reflects a rear-view-mirror assessment of recent market conditions, future conditions may differ, and uses that are considered challenging today may become more or less feasible by the time development begins.

Pro Forma Modeling Development

AECOM developed a high-level, static financial pro forma to compare the development economics of the four shortlisted program scenarios for the Pasadena 710 Stub site. The pro forma is structured to support planning-level decision-making and incorporates a level of detail appropriate for early-stage scenario evaluation, including rough-order-of-magnitude (ROM) estimates for development costs and revenues.

The pro forma analyzes the feasibility of the current land use assumptions under each scenario from a real estate developer's perspective. Inputs reflect prevailing market conditions and standard development assumptions at the time of analysis. Given the long-term nature of the site and the evolving market context, the model is intended as a comparative tool rather than a definitive forecast of financial outcomes. The pro forma tool is designed to allow the City and consultant team to adjust these assumptions and re-evaluate feasibility as market conditions evolve or as additional project details become available.

The baseline assumptions include \$0 land value payment from the developer to the City and \$0 direct reimbursement for horizontal infrastructure costs from the developer to the City. These assumptions allow the analysis to isolate underlying project feasibility and sensitivity to programmatic and density choices before introducing additional financial obligations. Potential land value payments, infrastructure cost sharing, or other public-benefit contributions can be layered into the model in subsequent phases as feasibility allows.

Development Scenarios

In collaboration with the City of Pasadena, the Consultant team developed four potential program scenarios to explore the capacity, impact, and feasibility of different development options for the Pasadena 710 site.

The four options explore the relative feasibility of two key parameters. The first is their layout and total area dedicated to public open space, and the second is their mix of land uses. Option A (1 and 2) utilizes the design typology, "Gardens and Terraces," with open space running through the middle of the development, while Option B (1 and 2) utilizes the design typology, "Paseos and Boulevards," with the open space concentrated on the periphery of the development area. While the latter allows for more total open space, the former improves overall access to open space because of its central location. The other key differentiating factor is the percentage of total land use dedicated to residential uses. Options A.1 and B.1 both dedicate 75% of the total development program to residential land uses, while Options A.2 and B.2 dedicate 60% of the total development program to residential land uses. The pro forma model incorporates these assumptions for key development program variables, including land use mix, affordable housing unit provision, and parking ratios (Table 1).

Table 1. Development Program

	Scenario A.1 Gardens & Terraces 75% Residential	Scenario A.2 Gardens & Terraces 60% Residential	Scenario B.1 Boulevard & Paseos 75% Residential	Scenario B.2 Boulevard & Paseos 60% Residential
Residential Square Feet (SF)	2.6 million	2.1 million	2.4 million	1.9 million
Total Residential Units	2,380	1,907	2,176	1,757

Affordable Units (%)	20%	20%	20%	20%
Commercial SF	874,000	1.4 million	800,000	1.3 million
Retail	45,000	120,000	17,000	41,000
Restaurant	45,000	110,000	24,000	41,000
Office	67,000	447,000	0	45,000
Life Science / Medical	717,000	717,000	759,000	1.1 million
Parking SF	1.3 million	1.3 million	1.2 million	1.2 million
Total SF	4.8 million	4.8 million	4.4 million	4.4 million

Source: Perkins Eastman, AECOM

Vertical Cost Assumptions

Vertical development cost assumptions are informed by multiple data sources. AECOM drew upon RSMMeans cost data, pro formas from comparable and recent development projects, and input from internal AECOM cost estimators. Key vertical cost assumptions are summarized in Table 2 and Table 3.

These vertical cost estimates reflect early-stage planning assumptions and are intended to provide a preliminary understanding of potential building construction costs. All figures should be considered approximate and subject to change based on future architectural and engineering design development, building code requirements, sustainability and resiliency standards, permitting processes, and prevailing market conditions, including labor and material costs.

Table 2. Hard Cost Assumptions

Land Use Type	Construction Cost
Life Science / Medical	\$600 per SF
Office	\$400 per SF
Retail	\$350 per SF
Restaurant	\$375 per SF
Residential	\$425 per SF
Open / Green Spaces	\$25 per SF
Structured Parking	\$50,000 per space

Source: RSMMeans, AECOM

Table 3. Soft Cost Assumptions

Fee Type	Construction Cost
Project Management & Construction Administration	7% of Hard Costs
Professional Fees	7% of Hard Costs
Permits, Inspection, & Other Fees	3% of Hard Costs
Contingency	Included in Hard Costs

Source: AECOM

Horizontal Cost Estimates

For purposes of preliminary feasibility testing, AECOM prepared a ROM estimate for select “horizontal” roadway infrastructure elements to inform planning-level analysis, summarized in Table 4. The

horizontal cost estimates include roadway infrastructure within the public right-of-way (ROW), such as streets, sidewalks, curbs, landscaping, and street lighting. Major water, sewer, and utility infrastructure costs are excluded, as sufficient information is not available at this stage to reliably estimate those elements.

Preliminary modeling indicates that under current market conditions, a significant portion of horizontal infrastructure costs would likely need to be funded by the City, potentially through an EIFD or a similar mechanism, for vertical development scenarios to achieve baseline financial feasibility.

These estimates reflect early-stage assumptions and are intended to provide a preliminary understanding of potential infrastructure costs. All figures should be considered approximate and subject to change based on future design development, permitting requirements, utility coordination, and market conditions.

Table 4. Horizontal Roadway Infrastructure Cost Estimates

Cost Estimates	Scenarios A.1 & A.2	Scenarios B.1 & B.2	
		<i>Filled</i>	<i>Slab</i>
Low Range	\$127 million	\$235 million	\$339 million
Estimated Probable Cost	\$132 million	\$247 million	\$355 million
High Range	\$147 million	\$272 million	\$392 million

Source: AECOM

Revenue Estimates

Revenue estimates are informed by market data obtained from CoStar for comparable properties, including recent sales, leasing activity, and transaction trends. These data are used to establish planning-level assumptions for rents, sales values, and absorption across the modeled land uses (Table 5, Table 6, and Table 7).

All figures should be considered approximate and subject to change based on future market conditions, project design and unit mix, absorption and leasing performance, affordability requirements, subsidy availability, and broader economic factors.

Table 5. Residential Revenue Estimates

Unit Type	Monthly Revenue
Market Rate Studio	\$2,700 per unit
Market Rate 1-Bedroom	\$3,100 per unit
Market Rate 2-Bedroom	\$4,100 per unit
Market Rate 3-Bedroom	\$5,300 per unit
Affordable Studio (90% AMI)	\$2,385 per unit
Affordable 1-Bedroom (90% AMI)	\$2,556 per unit
Affordable 2-Bedroom (90% AMI)	\$3,066 per unit
Affordable 3-Bedroom (90% AMI)	\$3,544 per unit

Source: CoStar, AECOM

Table 6. Commercial Revenue Assumptions

Space Type	Monthly Revenue
Retail & Restaurant Rental Rate	\$40 per SF
Office Rental Rate	\$45 per SF

Medical Office Rental Rate	\$50 per SF
Commercial Lease Type	Triple Net (NNN)

Source: CoStar, AECOM

Table 7. Parking Revenue Assumptions

Parking Revenue	Monthly Revenue
Parking Rental Rate	\$150 per spot
Parking Spaces per Residential Unit	1.25
Parking Spaces per 1,000 SF of Commercial Space	1.0

Source: Perkins Eastman, AECOM

Financing & Development Assumptions

Financing and development assumptions are based on prevailing market data and standard industry rules of thumb commonly used in early-stage real estate feasibility analysis. These assumptions reflect typical capital structures, financing terms, and development timelines appropriate for planning-level scenario modeling. Key financing and development assumptions are summarized in Table 8 and Table 9.

All figures should be considered approximate and subject to change based on evolving market conditions, interest rate environments, lender and investor requirements, public-sector participation, and project-specific design and phasing decisions.

Table 8. Financing Assumptions

Financing Variable	Assumption
Construction Loan Interest Rate	6%
Permanent Loan Interest Rate	5%
Equity Contribution	35%
Loan-to-Cost (LTC) Ratio	65%

Source: AECOM

Table 9. Development Assumptions

Development Variable	Assumption
Construction Period	16 months
Absorption Period	6-12 months
Holding Period	15 years
Exit Capitalization Rate	5.0%

Source: AECOM

Feasibility Analysis

AECOM used the pro forma models to evaluate the current relative financial feasibility of the four shortlisted development program scenarios. Feasibility was evaluated using a range of return metrics, including levered and unlevered IRR, equity multiple, net present value (NPV), and nominal stabilized yield-on-project-cost (YoPC). These metrics are intended to be considered collectively rather than in isolation, as each captures a different dimension of project performance and risk.

The feasibility analysis relies on a set of financial thresholds that reflect generally accepted industry benchmarks for large-scale, mixed-use development under current market conditions. These thresholds are used to evaluate the likelihood that a project would attract private development interest without significant public intervention. Positive results for multiple parameters would be a strong indication of development feasibility, while mixed or marginal results suggest that additional incentives, cost reductions, or phasing strategies may be required (Table 10). The key thresholds for this analysis are outlined in **Error! Reference source not found.**

Table 10. Feasibility Assessment Descriptions & Implications

Feasibility Assessment	Description	Implications
Highly Feasible	Project <i>exceeds</i> feasibility thresholds among <i>all</i> return metrics	Project <i>can</i> support horizontal cost sharing and/or ground lease payments
Feasible	Project <i>meets</i> feasibility thresholds among <i>most</i> return metrics	Project is <i>likely</i> to be able to support horizontal cost sharing and/or ground lease payments
Potentially Feasible	Project <i>meets</i> feasibility thresholds among <i>some</i> return metrics	Project is <i>unlikely</i> to be able to support horizontal cost sharing and/or ground lease payments
Not Feasible	Project <i>does not meet</i> feasibility thresholds	Project <i>cannot</i> support horizontal cost sharing and/or ground lease payments

Source: AECOM

Table 11. Feasibility Thresholds

	Not Feasible	Potentially Feasible	Feasible	Highly Feasible
Unlevered IRR	Less than 6%	$6\% \geq x < 8\%$	$8\% \geq x < 10\%$	$\geq 10\%$
Levered IRR	Less than 7%	$7\% \geq x < 10\%$	$10\% \geq x < 15\%$	$\geq 15\%$
Equity Multiple	Less than 1.5x	$1.5x \geq x < 2.0x$	$2.0x \geq x < 2.5x$	$\geq 2.5x$
Stabilized YoPC	Less than 4.5%	$4.5\% \geq x < 6\%$	$6\% \geq x < 8.5\%$	$\geq 8.5\%$

Source: AECOM

Under the current set of assumptions, preliminary results indicate that all four program scenarios fall within the “potentially feasible” range (Table 12). None of the scenarios consistently exceed feasibility thresholds across all return metrics, suggesting that, under baseline assumptions, strategic phasing, infrastructure cost sharing, and potential public funding or policy interventions may be required to advance redevelopment of the Site.

Across both Option A and Option B, scenarios with a higher commercial share generally perform modestly better than those with a greater emphasis on residential uses. Among the four scenarios, Option B.2 (60% residential) demonstrates the strongest overall performance, with the highest net profit, equity multiple, and levered IRR, indicating comparatively stronger upside potential for equity investors. Option A.2 (60% residential) also performs well, particularly on stabilized net operating income (NOI), levered IRR, and stabilized YoPC.

Commented [NS1]: Need to explain thresholds of feasibility and results

Table 12. Feasibility Metrics by Scenario

Feasibility Metric	Scenario A.1	Scenario A.2	Scenario B.1	Scenario B.2
Stabilized NOI (12-month)	\$109M	\$119M	\$103M	\$110M
Net Profit (Levered Cash Flow)	\$1.8B	\$1.8B	\$1.8B	\$2.0B
Unlevered IRR	6.7%	7.4%	6.8%	7.1%
Levered IRR	8.2%	7.7%	8.4%	9.0%
Equity Multiple	2.24x	2.23x	2.32x	2.42x
Stabilized YoPC	5.2%	5.7%	5.3%	5.5%

Source: AECOM

Sensitivity Testing

To evaluate the development's sensitivity to key assumptions, AECOM conducted a series of sensitivity tests examining the relationships among the following variables:

- Area Median Income (AMI) level, share of affordable housing units, and net profit (levered cash flow)
- AMI level, the share of affordable housing units, and YoPC
- AMI level, the share of affordable housing units, and levered IRR
- Exit capitalization rate, hold period, and levered IRR

The full inventory of sensitivity testing results is provided in Appendix C.

Sensitivity Test: Impact of Affordability Assumptions on Net Profit (Levered Cash Flow)

This sensitivity test highlights the trade-offs associated with affordability requirements. Figure 2 illustrates the financial trade-offs associated with affordability requirements. Across all scenarios, increases in the share of affordable housing units generally reduce net profit and increase the required financing gap. For example, under Scenario A.1, increasing the affordable housing share from 20% to 30% at 90% AMI rent restrictions reduces net profit by approximately \$39 million.

However, the magnitude of this impact diminishes as the AMI level increases. At higher AMI thresholds, the negative effect of additional affordable units on net profit is reduced and becomes positive at the 120% AMI level.

Figure 2 illustrates the impact of affordability assumptions on net profit for Scenario B.2 (60% residential), which demonstrates comparatively greater resilience to affordability requirements than other scenarios.

Figure 2. Scenario B.2 60% Resi - Sensitivity Test: Net Profit (Levered Cash Flow)

Share of Affordable Housing Units	\$	AMI Level						
		30%	60%	70%	80%	90%	100%	120%
5%	\$ 1,971,000,000	\$ 1,997,000,000	\$ 2,028,000,000	\$ 2,038,000,000	\$ 2,048,000,000	\$ 2,058,000,000	\$ 2,068,000,000	\$ 2,089,000,000
10%		\$ 1,907,000,000	\$ 1,968,000,000	\$ 1,989,000,000	\$ 2,009,000,000	\$ 2,029,000,000	\$ 2,050,000,000	\$ 2,090,000,000
15%		\$ 1,817,000,000	\$ 1,909,000,000	\$ 1,939,000,000	\$ 1,970,000,000	\$ 2,000,000,000	\$ 2,031,000,000	\$ 2,092,000,000
20%		\$ 1,728,000,000	\$ 1,849,000,000	\$ 1,890,000,000	\$ 1,931,000,000	\$ 1,971,000,000	\$ 2,012,000,000	\$ 2,093,000,000
25%		\$ 1,638,000,000	\$ 1,790,000,000	\$ 1,841,000,000	\$ 1,892,000,000	\$ 1,942,000,000	\$ 1,993,000,000	\$ 2,095,000,000
30%		\$ 1,548,000,000	\$ 1,731,000,000	\$ 1,791,000,000	\$ 1,852,000,000	\$ 1,913,000,000	\$ 1,974,000,000	\$ 2,096,000,000
35%		\$ 1,458,000,000	\$ 1,671,000,000	\$ 1,742,000,000	\$ 1,813,000,000	\$ 1,884,000,000	\$ 1,955,000,000	\$ 2,098,000,000

Lower Net Profit Higher Net Profit

Source: AECOM

Sensitivity Test: Impact of Affordability Assumptions on Yield-on-Project Cost

Across all scenarios, stabilized YoPC remains constrained but generally falls within the “potentially feasible” range across affordability assumptions. While lower affordability requirements modestly improve YoPC, the variation across AMI levels and affordable housing shares is relatively limited. As a result, YoPC should be interpreted in conjunction with other feasibility metrics rather than as a standalone indicator.

Given that a 20% affordable housing requirement is consistent with the City of Pasadena’s inclusionary housing policies, this level represents a reasonable baseline assumption for balancing affordability objectives with development feasibility.

Figure 3 illustrates the impact of affordability requirements on YoPC for Scenario A.2 (60% residential).

Figure 3. Scenario A.2 60% Resi - Sensitivity Test: Yield-on-Project Cost

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
5.7%							
5%	5.7%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
10%	5.6%	5.7%	5.7%	5.7%	5.8%	5.8%	5.8%
15%	5.5%	5.6%	5.7%	5.7%	5.7%	5.8%	5.8%
20%	5.4%	5.6%	5.6%	5.7%	5.7%	5.7%	5.8%
25%	5.3%	5.5%	5.6%	5.6%	5.7%	5.7%	5.8%
30%	5.2%	5.4%	5.5%	5.6%	5.6%	5.7%	5.8%
35%	5.1%	5.4%	5.4%	5.5%	5.6%	5.7%	5.8%

Not Feasible
Potentially Feasible
Feasible
Highly Feasible

Source: AECOM

Sensitivity Test: Impact of Affordability Assumptions on Levered IRR

Levered IRR exhibits greater sensitivity to affordability assumptions than YoPC. For several scenarios, levered IRR falls below the “potentially feasible” threshold at lower AMI levels and higher affordable housing shares. For example, under Scenario A.2 (60% residential), the project becomes not feasible at:

- 20% affordable housing units at 30% AMI
- 30% affordable housing units at 60% AMI
- 35% affordable housing units at 70% AMI (Figure 4)

These results indicate that Scenario A.2 is more sensitive to affordability constraints and may require additional subsidy or policy support to remain feasible under deeper affordability requirements.

Figure 4. Scenario A.2: 60% Resi - Sensitivity Test: Levered IRR

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
7.7%							
5%	7.9%	8.0%	8.0%	8.1%	8.1%	8.1%	8.2%
10%	7.5%	7.8%	7.8%	7.9%	8.0%	8.0%	8.2%
15%	7.2%	7.5%	7.6%	7.8%	7.9%	8.0%	8.2%
20%	6.8%	7.3%	7.5%	7.6%	7.7%	7.9%	8.2%
25%	6.5%	7.1%	7.3%	7.4%	7.6%	7.8%	8.2%
30%	6.1%	6.8%	7.1%	7.3%	7.5%	7.7%	8.2%
35%	5.7%	6.6%	6.9%	7.1%	7.4%	7.7%	8.2%

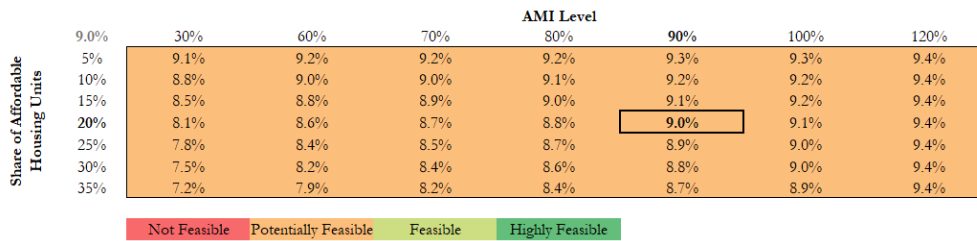
Not Feasible
Potentially Feasible
Feasible
Highly Feasible

Source: AECOM

In contrast, Scenario B.2 (60% residential) demonstrates greater resilience. Levered IRR for this scenario remains within the “potentially feasible” range across all tested AMI levels and affordable

housing shares, indicating a stronger capacity to accommodate affordability objectives while maintaining market-supported returns (Figure 5).

Figure 5. Scenario B.2: 60% Resi - Sensitivity Test: Levered IRR



Source: AECOM

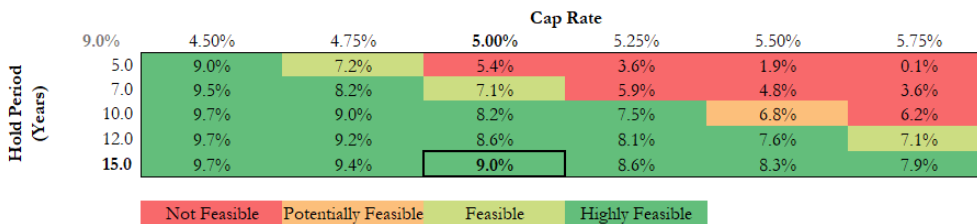
Sensitivity Test: Impact of Timing Assumptions on Levered IRR

Sensitivity testing indicates that levered IRR is most strongly influenced by timing assumptions such as exit capitalization rates and hold periods. Lower exit capitalization rates and longer hold periods consistently result in higher levered IRRs across all scenarios.

While exit capitalization rates are difficult to predict and subject to market conditions at stabilization, the analysis shows that extending the period improves project feasibility in all scenarios. This finding supports consideration of phased development approaches, longer-term ownership strategies, or public-sector participation structures that enable extended hold periods to enhance financial performance.

Figure 6 illustrates the impact of timing assumptions on levered IRR for Scenario B.2 (60% residential), which again demonstrates the strongest performance under a range of tested conditions.

Figure 6. Scenario B.2: 60% Resi - Sensitivity Test: Levered IRR



Source: AECOM

Value Capture Opportunities

Preliminary pro forma modeling indicates that, under current market conditions and baseline assumptions, the proposed vertical real estate development is unlikely to support land acquisition or lease payments to the City, or direct reimbursement of horizontal infrastructure costs, while maintaining financial feasibility. As a result, traditional upfront value-capture mechanisms tied directly to the development pro forma appear constrained at this stage.

Instead, the primary value capture opportunity associated with redevelopment of the site is the incremental property tax revenue generated by new development over time. As part of this analysis, AECOM quantified the potential increase in property tax revenues associated with full build-out of the

proposed development programs, including estimates of how those revenues would be distributed among the City of Pasadena, Los Angeles County, and other taxing entities in a typical stabilized year.

Preliminary analysis indicates that cumulative 100-year property tax revenues could exceed \$10 billion in total, with approximately \$2 billion accruing to the City of Pasadena (Table 13). These long-term revenues represent a significant public-sector return associated with redevelopment, even in the absence of near-term land payments.

Table 13. Property Tax Proceeds

	Scenario A.1 75% Residential	Scenario A.2 60% Residential	Scenario B.1 75% Residential	Scenario B.2 60% Residential
100-Year Property Tax Proceeds	\$12.1 billion	\$11.4 billion	\$11.0 billion	\$10.3 billion
Estimated City Share (20%)	\$2.4 billion	\$2.3 billion	\$2.2 billion	\$2.1 billion
Land Acquisition / Lease Revenue	\$0	\$0	\$0	\$0
Horizontal Cost Reimbursement	\$0	\$0	\$0	\$0

Source: AECOM

In addition to property taxes, the project is expected to generate substantial other public revenues over its lifecycle, including sales tax, income tax, hotel occupancy tax (where applicable at nearby sites), and other transaction-based taxes at the local, state, and federal levels. Fee revenues, such as permit fees, impact fees, and planning fees, are also anticipated and are embedded within the construction cost assumptions used in the pro forma analysis.

As with all planning-level analyses, these value capture estimates reflect current market conditions and baseline assumptions and will evolve over time as project design, phasing, policy frameworks, and economic conditions change.

Funding & Financing Opportunities

The 710 Stub site is well positioned to leverage a layered funding and financing strategy that combines development-based contributions, local value capture tools, as well as regional, state, and federal programs.

At the project level, development-based funding sources such as impact fees, development agreement provisions, exactions, and direct developer equity and conventional debt represent the most immediately available and controllable tools. These mechanisms are directly tied to project phasing and entitlement and can support a wide range of on-site infrastructure, including streets, utilities, open space, and vertical development.

Land-secured and municipal financing mechanisms provide opportunities to supplement development-based funding and support larger-scale horizontal improvements. CFDs and EIFDs are particularly strong fits for the site, as they allow the City to capture future value created by redevelopment through parcel-based assessments or tax increment to fund infrastructure, public facilities, and transit-oriented improvements. Climate Resilience Districts (CRDs) could provide an additional tool to finance resilience-focused infrastructure, such as stormwater management, cooling, and other climate adaptation investments. While General Obligation (GO) bonds and parcel taxes offer broader funding capacity, their reliance on voter approval and citywide priorities make them less reliable as primary sources.

Regional, state, and federal programs represent a critical source of catalytic capital, particularly for affordable housing, transportation, green infrastructure, and climate resilience improvements. Affordable housing development can be supported through a combination of Low-Income Housing Tax Credits (LIHTC) and tax-exempt Private Activity Bonds (PAB). Non-residential and community-serving components of the project may leverage New Markets Tax Credits (NMTC) to support job-generating commercial and mixed-use development.

Transportation, stormwater, and public realm investments are especially well aligned with regional, state, and federal grant programs, including Measure M, Measure W, Active Transportation Program, Prop 1 Stormwater Grant Program, Urban Greening, and CalFire Urban Forestry. These programs support complete streets, multimodal access, green infrastructure, heat mitigation, and nature-based solutions, all of which are central to reconnecting the site to surrounding neighborhoods. Larger-scale transportation and infrastructure improvements may also be eligible for federal credit assistance through Transportation Infrastructure Finance and Innovation Act (TIFIA) or long-term financing through Community Development Block Grant (CDBG) Section 108. Collectively, these sources can significantly reduce the local funding burden while advancing equity, climate resilience, and economic development goals.

Overall, the strongest funding strategy for the 710 Stub site will rely on a coordinated approach that aligns development-based contributions and value capture tools with targeted state and federal grants and financing programs. This approach allows the City to maximize leverage, phase infrastructure investment alongside development, and align funding sources with specific project components.

A list of funding and financing mechanisms applicable to the 710 Stub site is provided in Appendix D.

Conclusion

The scenario analysis for the SR-710 Northern Stub site demonstrates both the scale of opportunity and the complexity of delivering catalytic redevelopment under current market conditions. While all four development scenarios are found to be potentially feasible at a planning level, none achieve full market feasibility under baseline assumptions without some combination of strategic phasing, public-sector participation, and targeted funding and financing tools. These findings reflect broader real estate and capital market constraints, including elevated construction costs, higher interest rates, and conservative lending environments.

Among the scenarios tested, programs with a higher share of commercial uses and more flexible open-space configurations perform modestly better from a financial perspective. Scenario B.2 (60% residential) demonstrates the strongest overall performance across key feasibility metrics and the greatest resilience to affordability and timing sensitivities.

As a result, the primary public-sector return associated with redevelopment of the site is expected to accrue over time through long-term property tax generation rather than upfront value capture. Preliminary analysis indicates that full build-out of the site could generate more than \$10 billion in cumulative property tax revenues over a 100-year period, with approximately \$2 billion accruing to the City of Pasadena.

Overall, the analysis underscores the importance of a flexible, phased implementation strategy that balances market realities with long-term public objectives. As market conditions evolve and project details are refined, the analytical framework developed through this effort can be updated to inform future decisions related to land value, infrastructure funding, and public-private partnership structures.

Appendix A – Acronyms

Acronym / Abbreviation	Expanded Form
AMI	Area Median Income
CDBG	Community Development Block Grant
CFD	Community Facility District
CRD	Climate Resilience District
EIFD	Enhanced Infrastructure Financing District
GO	General Obligation
IRR	Internal Rate of Return
LIHTC	Low-Income Housing Tax Credits
LTC	Loan-to-Cost
NMTC	New Markets Tax Credits
NNN	Triple Net
NOI	Net Operating Income
NPV	Net Present Value
PAB	Private Activity Bonds
ROM	Rough-Order-of-Magnitude
ROW	Right-of-Way
SF	Square Feet
SIB	State Infrastructure Bank
TIFIA	Transportation Infrastructure Finance and Innovation Act
YoPC	Yield-on-Project Cost

Appendix B – Development Programs

OpA.1: 75% Resi

Timing Assumptions		Residential Assumptions	
Available Start Date	1/1/2026	Max Unit Count	2,380 units
Start Date	1/1/2026	Average Unit Size	1,100 sf
Land Acquisition	1/1/2026	Monthly Market Studio Rental Rate / Unit	\$2,700 per unit
Horizontal Duration	3 months	Monthly Market 1-Bed Rental Rate / Unit	\$3,100 per unit
Horizontal Construction End Date	3/31/2026	Monthly Market 2-Bed Rental Rate / Unit	\$4,100 per unit
Vertical Construction Start Date	4/1/2026	Monthly Market 3-Bed Rental Rate / Unit	\$5,300 per unit
End of Vertical Construction Start Month	4/30/2026	AMI Level	90% AMI
Vertical Duration	12 months	Monthly Affordable Studio Rental Rate / Unit	\$2,385 per unit
Vertical Construction End Date	3/31/2027	Monthly Affordable 1-Bed Rental Rate / Unit	\$2,556 per unit
Absorption Start Date	4/1/2027	Monthly Affordable 2-Bed Rental Rate / Unit	\$3,066 per unit
Residential Absorption Duration	6 months	Monthly Affordable 3-Bed Rental Rate / Unit	\$3,544 per unit
Residential Absorption End Date	9/30/2027	Residential Parking Revenue (\$/Spot/Unit)	\$150.00 per spot
Commercial Absorption Duration	12 months	Other Residential Revenue	5.0%
Commercial Absorption End Date	3/31/2028	Annual Revenue Appreciation	3.0%
Holding Period (Years)	15 years	Residential Vacancy Rate	4.5%
Holding Period (Months)	180 months	Residential Operating Expenses	25.0%
Model End Date	9/30/2042	Pre-leased Residential Share	10%
Project Duration	16.00 years	Pre-leased Residential Units	238 units
		Full Residential Occupancy Timing	6 months
Development Program		Commercial Assumptions	
Site Acreage	38.02 acres	Commercial Lease Type	NNN
Site SF	1,656,287 sf	Annual Retail Rental Rate	\$40.00 per sf
Residential RBA	2,617,577 sf	Annual Restaurant Rental Rate	\$40.00 per sf
Commercial RBA	874,021 sf	Annual Office Rental Rate	\$45.00 per sf
Retail RBA	44,976 sf	Annual Medical Office Rental Rate	\$50.00 per sf
Restaurant RBA	44,976 sf	Pre-leased Commercial SF	597,047 sf
Office RBA	67,092 sf	Pre-leased Retail Share	10%
Medical Office RBA	716,977 sf	Pre-leased Retail SF	4,498 sf
Total Residential Units	2,380	Pre-leased Restaurant Share	10%
Total Market Rate Residential Units	1,904	Pre-leased Restaurant SF	4,498 sf
Market Studio Units	381	Pre-leased Office Share	75%
Market 1-Bedroom Units	761	Pre-leased Office SF	50,319 sf
Market 2-Bedroom Units	571	Pre-leased Medical Office Share	75%
Market 3-Bedroom Units	190	Pre-leased Medical Office SF	537,733 sf
Share Affordable Residential Units	20%	Other Commercial Revenue	2.0%
Total Affordable Residential Units	476	Annual Revenue Appreciation	3.0%
Affordable Studio Units	95	Retail Vacancy Rate	8.0%
Affordable 1-Bedroom Units	190	Restaurant Vacancy Rate	8.0%
Affordable 2-Bedroom Units	143	Office Vacancy Rate	8.0%
Affordable 3-Bedroom Units	48	Medical Office Vacancy Rate	8.0%
Total RBA	3,491,598 sf	Commercial Operating Expenses	15.0%
Parking Spaces Per Residential Unit	1.25	Commercial Insurance	\$0.35 per sf
Residential Parking Spaces	2,975	Full Commercial Occupancy Timing	12 months
Parking Spaces Per 1k Commercial SF	1.00		
Parking Spaces by Commercial SF	874		
Total Parking Spaces	3,849		
SF/Parking Space	350 sf		
Share Below Grade Parking	100%		
Share Below Grade Parking	0%		
Below Grade Parking SF	1,346,989 sf		
Total Parking Area SF	1,346,989 sf		
Total Building + Parking Area SF	4,838,588 sf		
Construction Assumptions		Purchase & Sale Information	
Construction Cost Escalation	0.00%	Land Price (\$/SF)	\$0.00 per sf
Demolition Costs	\$0	Total Land	1,656,287 sf
		Land Acquisition Price	\$0
		Land Acquisition Fees (as % of Purchase Price)	6.0%
		Land Acquisition Fee	\$0
		Going Out Cap Rate	5.0%
		Residential Going Out Cap Rate	5.0%
		Retail & Restaurant Going Out Cap Rate	5.0%
		Office & Medical Office Going Out Cap Rate	5.0%
		Disposition Fee (as % of Sale Price)	2.0%
		Discount Rate	5.0%
		Cost of Sale (as % of Sale Price)	4.0%
Property Tax Information			
Bottom-Line Rate	1.189%		

OpA.2: 60% Resi			
Timing Assumptions		Residential Assumptions	
Available Start Date	1/1/2026	Max Unit Count	1,907 units
Start Date	1/1/2026	Average Unit Size	1,100 sf
Land Acquisition	1/1/2026	Monthly Market Studio Rental Rate / Unit	\$2,700 per unit
Horizontal Duration	3 months	Monthly Market 1-Bed Rental Rate / Unit	\$3,100 per unit
Horizontal Construction End Date	3/31/2026	Monthly Market 2-Bed Rental Rate / Unit	\$4,100 per unit
Vertical Construction Start Date	4/1/2026	Monthly Market 3-Bed Rental Rate / Unit	\$5,300 per unit
End of Vertical Construction Start Month	4/30/2026	AMI Level	90% AMI
Vertical Duration	12 months	Monthly Affordable Studio Rental Rate / Unit	\$2,385 per unit
Vertical Construction End Date	3/31/2027	Monthly Affordable 1-Bed Rental Rate / Unit	\$2,556 per unit
Absorption Start Date	4/1/2027	Monthly Affordable 2-Bed Rental Rate / Unit	\$3,066 per unit
Residential Absorption Duration	6 months	Monthly Affordable 3-Bed Rental Rate / Unit	\$3,544 per unit
Residential Absorption End Date	9/30/2027	Residential Parking Revenue (\$/Spot/Unit)	\$150.00 per spot
Commercial Absorption Duration	12 months	Other Residential Revenue	5.0%
Commercial Absorption End Date	3/31/2028	Annual Revenue Appreciation	3.0%
Holding Period (Years)	15 years	Residential Vacancy Rate	4.5%
Holding Period (Months)	180 months	Residential Operating Expenses	25.0%
Model End Date	9/30/2042	Pre-leased Residential Share	10%
Project Duration	16.00 years	Pre-leased Residential Units	191 units
		Full Residential Occupancy Timing	6 months
Development Program		Commercial Assumptions	
Site Acreage	38.02 acres	Commercial Lease Type	NNN
Site SF	1,656,287 sf	Annual Retail Rental Rate	\$40.00 per sf
Residential RBA	2,097,499 sf	Annual Restaurant Rental Rate	\$40.00 per sf
Commercial RBA	1,394,099 sf	Annual Office Rental Rate	\$45.00 per sf
Retail RBA	119,683 sf	Annual Medical Office Rental Rate	\$50.00 per sf
Restaurant RBA	110,159 sf	Pre-leased Commercial SF	896,177 sf
Office RBA	447,280 sf	Pre-leased Retail Share	10%
Medical Office RBA	716,977 sf	Pre-leased Retail SF	11,968 sf
Total Residential Units	1,907	Pre-leased Restaurant Share	10%
Total Market Rate Residential Units	1,525	Pre-leased Restaurant SF	11,016 sf
Market Studio Units	229	Pre-leased Office Share	75%
Market 1-Bedroom Units	610	Pre-leased Office SF	335,460 sf
Market 2-Bedroom Units	458	Pre-leased Medical Office Share	75%
Market 3-Bedroom Units	229	Pre-leased Medical Office SF	537,733 sf
Share Affordable Residential Units	20%	Other Commercial Revenue	2.0%
Total Affordable Residential Units	381	Annual Revenue Appreciation	3.0%
Affordable Studio Units	57	Retail Vacancy Rate	8.0%
Affordable 1-Bedroom Units	153	Restaurant Vacancy Rate	8.0%
Affordable 2-Bedroom Units	114	Office Vacancy Rate	8.0%
Affordable 3-Bedroom Units	57	Medical Office Vacancy Rate	8.0%
Total RBA	3,491,598 sf	Commercial Operating Expenses	15.0%
Parking Spaces Per Residential Unit	1.25	Commercial Insurance	\$0.35 per sf
Residential Parking Spaces	2,384	Full Commercial Occupancy Timing	12 months
Parking Spaces Per 1k Commercial SF	1.00		
Parking Spaces by Commercial SF	1,394		
Total Parking Spaces	3,778		
SF/Parking Space	350 sf		
Share Below Grade Parking	100%		
Share Below Grade Parking	0%		
Below Grade Parking SF	1,322,167 sf		
Total Parking Area SF	1,322,167 sf		
Total Building + Parking Area SF	4,813,766 sf		
Construction Assumptions		Purchase & Sale Information	
Construction Cost Escalation	0.00%	Land Price (\$/SF)	\$0.00 per sf
Demolition Costs	\$0	Total Land	1,656,287 sf
		Land Acquisition Price	\$0
		Land Acquisition Fees (as % of Purchase Price)	6.0%
		Land Acquisition Fee	\$0
		Going Out Cap Rate	5.0%
		Residential Going Out Cap Rate	5.0%
		Retail & Restaurant Going Out Cap Rate	5.0%
		Office & Medical Office Going Out Cap Rate	5.0%
		Disposition Fee (as % of Sale Price)	2.0%
		Discount Rate	5.0%
		Cost of Sale (as % of Sale Price)	4.0%
Property Tax Information			
Bottom-Line Rate	1.189%		

OpB.1: 75% Resi			
Timing Assumptions		Residential Assumptions	
Available Start Date	1/1/2026	Max Unit Count	2,176 units
Start Date	1/1/2026	Average Unit Size	1,100 sf
Land Acquisition	1/1/2026	Monthly Market Studio Rental Rate / Unit	\$2,700 per unit
Horizontal Duration	3 months	Monthly Market 1-Bed Rental Rate / Unit	\$3,100 per unit
Horizontal Construction End Date	3/31/2026	Monthly Market 2-Bed Rental Rate / Unit	\$4,100 per unit
Vertical Construction Start Date	4/1/2026	Monthly Market 3-Bed Rental Rate / Unit	\$5,300 per unit
End of Vertical Construction Start Month	4/30/2026	AMI Level	90% AMI
Vertical Duration	12 months	Monthly Affordable Studio Rental Rate / Unit	\$2,385 per unit
Vertical Construction End Date	3/31/2027	Monthly Affordable 1-Bed Rental Rate / Unit	\$2,556 per unit
Absorption Start Date	4/1/2027	Monthly Affordable 2-Bed Rental Rate / Unit	\$3,066 per unit
Residential Absorption Duration	6 months	Monthly Affordable 3-Bed Rental Rate / Unit	\$3,544 per unit
Residential Absorption End Date	9/30/2027	Residential Parking Revenue (\$/Spot/Unit)	\$150.00 per spot
Commercial Absorption Duration	12 months	Other Residential Revenue	5.0%
Commercial Absorption End Date	3/31/2028	Annual Revenue Appreciation	3.0%
Holding Period (Years)	15 years	Residential Vacancy Rate	4.5%
Holding Period (Months)	180 months	Residential Operating Expenses	25.0%
Model End Date	9/30/2042	Pre-leased Residential Share	10%
Project Duration	16.00 years	Pre-leased Residential Units	218 units
		Full Residential Occupancy Timing	6 months
Development Program		Commercial Assumptions	
Site Acreage	38.02 acres	Commercial Lease Type	NNN
Site SF	1,656,287 sf	Annual Retail Rental Rate	\$40.00 per sf
Residential RBA	2,394,045 sf	Annual Restaurant Rental Rate	\$40.00 per sf
Commercial RBA	800,387 sf	Annual Office Rental Rate	\$45.00 per sf
Retail RBA	17,107 sf	Annual Medical Office Rental Rate	\$50.00 per sf
Restaurant RBA	24,079 sf	Pre-leased Commercial SF	573,519 sf
Office RBA	0 sf	Pre-leased Retail Share	10%
Medical Office RBA	759,200 sf	Pre-leased Retail SF	1,711 sf
Total Residential Units	2,176	Pre-leased Restaurant Share	10%
Total Market Rate Residential Units	1,741	Pre-leased Restaurant SF	2,408 sf
Market Studio Units	261	Pre-leased Office Share	75%
Market 1-Bedroom Units	696	Pre-leased Office SF	0 sf
Market 2-Bedroom Units	522	Pre-leased Medical Office Share	75%
Market 3-Bedroom Units	261	Pre-leased Medical Office SF	569,400 sf
Share Affordable Residential Units	20%	Other Commercial Revenue	2.0%
Total Affordable Residential Units	435	Annual Revenue Appreciation	3.0%
Affordable Studio Units	65	Retail Vacancy Rate	8.0%
Affordable 1-Bedroom Units	174	Restaurant Vacancy Rate	8.0%
Affordable 2-Bedroom Units	131	Office Vacancy Rate	8.0%
Affordable 3-Bedroom Units	65	Medical Office Vacancy Rate	8.0%
Total RBA	3,194,431 sf	Commercial Operating Expenses	15.0%
Parking Spaces Per Residential Unit	1.25	Commercial Insurance	\$0.35 per sf
Residential Parking Spaces	2,721	Full Commercial Occupancy Timing	12 months
Parking Spaces Per 1k Commercial SF	1.00		
Parking Spaces by Commercial SF	800		
Total Parking Spaces	3,521		
SF/Parking Space	350 sf		
Share Below Grade Parking	100%		
Share Below Grade Parking	0%		
Below Grade Parking SF	1,232,312 sf		
Total Parking Area SF	1,232,312 sf		
Total Building + Parking Area SF	4,426,744 sf		
Construction Assumptions		Purchase & Sale Information	
Construction Cost Escalation	0.00%	Land Price (\$/SF)	\$0.00 per sf
Demolition Costs	\$0	Total Land	1,656,287 sf
		Land Acquisition Price	\$0
		Land Acquisition Fees (as % of Purchase Price)	6.0%
		Land Acquisition Fee	\$0
		Going Out Cap Rate	5.0%
		Residential Going Out Cap Rate	5.0%
		Retail & Restaurant Going Out Cap Rate	5.0%
		Office & Medical Office Going Out Cap Rate	5.0%
		Disposition Fee (as % of Sale Price)	2.0%
		Discount Rate	5.0%
		Cost of Sale (as % of Sale Price)	4.0%
Property Tax Information			
Bottom-Line Rate	1.189%		

OpB.2: 60% Resi			
Timing Assumptions		Residential Assumptions	
Available Start Date	1/1/2026	Max Unit Count	1,757 units
Start Date	1/1/2026	Average Unit Size	1,100 sf
Land Acquisition	1/1/2026	Monthly Market Studio Rental Rate / Unit	\$2,700 per unit
Horizontal Duration	3 months	Monthly Market 1-Bed Rental Rate / Unit	\$3,100 per unit
Horizontal Construction End Date	3/31/2026	Monthly Market 2-Bed Rental Rate / Unit	\$4,100 per unit
Vertical Construction Start Date	4/1/2026	Monthly Market 3-Bed Rental Rate / Unit	\$5,300 per unit
End of Vertical Construction Start Month	4/30/2026	AMI Level	90% AMI
Vertical Duration	12 months	Monthly Affordable Studio Rental Rate / Unit	\$2,385 per unit
Vertical Construction End Date	3/31/2027	Monthly Affordable 1-Bed Rental Rate / Unit	\$2,556 per unit
Absorption Start Date	4/1/2027	Monthly Affordable 2-Bed Rental Rate / Unit	\$3,066 per unit
Residential Absorption Duration	6 months	Monthly Affordable 3-Bed Rental Rate / Unit	\$3,544 per unit
Residential Absorption End Date	9/30/2027	Residential Parking Revenue (\$/Spot/Unit)	\$150.00 per spot
Commercial Absorption Duration	12 months	Other Residential Revenue	5.0%
Commercial Absorption End Date	3/31/2028	Annual Revenue Appreciation	3.0%
Holding Period (Years)	15 years	Residential Vacancy Rate	4.5%
Holding Period (Months)	180 months	Residential Operating Expenses	25.0%
Model End Date	9/30/2042	Pre-leased Residential Share	10%
Project Duration	16.00 years	Pre-leased Residential Units	176 units
		Full Residential Occupancy Timing	6 months
Development Program		Commercial Assumptions	
Site Acreage	38.02 acres	Commercial Lease Type	NNN
Site SF	1,656,287 sf	Annual Retail Rental Rate	\$40.00 per sf
Residential RBA	1,932,164 sf	Annual Restaurant Rental Rate	\$40.00 per sf
Commercial RBA	1,262,268 sf	Annual Office Rental Rate	\$45.00 per sf
Retail RBA	41,173 sf	Annual Medical Office Rental Rate	\$50.00 per sf
Restaurant RBA	41,173 sf	Pre-leased Commercial SF	893,176 sf
Office RBA	44,810 sf	Pre-leased Retail Share	10%
Medical Office RBA	1,135,111 sf	Pre-leased Retail SF	4,117 sf
Total Residential Units	1,757	Pre-leased Restaurant Share	10%
Total Market Rate Residential Units	1,405	Pre-leased Restaurant SF	4,117 sf
Market Studio Units	281	Pre-leased Office Share	75%
Market 1-Bedroom Units	562	Pre-leased Office SF	33,607 sf
Market 2-Bedroom Units	422	Pre-leased Medical Office Share	75%
Market 3-Bedroom Units	141	Pre-leased Medical Office SF	851,334 sf
Share Affordable Residential Units	20%	Other Commercial Revenue	2.0%
Total Affordable Residential Units	351	Annual Revenue Appreciation	3.0%
Affordable Studio Units	70	Retail Vacancy Rate	8.0%
Affordable 1-Bedroom Units	141	Restaurant Vacancy Rate	8.0%
Affordable 2-Bedroom Units	105	Office Vacancy Rate	8.0%
Affordable 3-Bedroom Units	35	Medical Office Vacancy Rate	8.0%
Total RBA	3,194,431 sf	Commercial Operating Expenses	15.0%
Parking Spaces Per Residential Unit	1.25	Commercial Insurance	\$0.35 per sf
Residential Parking Spaces	2,196	Full Commercial Occupancy Timing	12 months
Parking Spaces Per 1k Commercial SF	1.00		
Parking Spaces by Commercial SF	1,262		
Total Parking Spaces	3,458		
SF/Parking Space	350 sf		
Share Below Grade Parking	100%		
Share Below Grade Parking	0%		
Below Grade Parking SF	1,210,268 sf		
Total Parking Area SF	1,210,268 sf		
Total Building + Parking Area SF	4,404,699 sf		
Construction Assumptions		Purchase & Sale Information	
Construction Cost Escalation	0.00%	Land Price (\$/SF)	\$0.00 per sf
Demolition Costs	\$0	Total Land	1,656,287 sf
		Land Acquisition Price	\$0
		Land Acquisition Fees (as % of Purchase Price)	6.0%
		Land Acquisition Fee	\$0
		Going Out Cap Rate	5.0%
		Residential Going Out Cap Rate	5.0%
		Retail & Restaurant Going Out Cap Rate	5.0%
		Office & Medical Office Going Out Cap Rate	5.0%
		Disposition Fee (as % of Sale Price)	2.0%
		Discount Rate	5.0%
		Cost of Sale (as % of Sale Price)	4.0%
Property Tax Information			
Bottom-Line Rate	1.189%		

Appendix C – Sensitivity Testing

Share of Affordable Housing Units	\$	AMI Level						
		30%	60%	70%	80%	90%	100%	120%
5%	1,825,000,000	\$ 1,860,000,000	\$ 1,902,000,000	\$ 1,915,000,000	\$ 1,929,000,000	\$ 1,943,000,000	\$ 1,957,000,000	\$ 1,984,000,000
10%		\$ 1,738,000,000	\$ 1,821,000,000	\$ 1,849,000,000	\$ 1,876,000,000	\$ 1,904,000,000	\$ 1,931,000,000	\$ 1,986,000,000
15%		\$ 1,617,000,000	\$ 1,740,000,000	\$ 1,782,000,000	\$ 1,823,000,000	\$ 1,864,000,000	\$ 1,906,000,000	\$ 1,988,000,000
20%		\$ 1,495,000,000	\$ 1,660,000,000	\$ 1,715,000,000	\$ 1,770,000,000	\$ 1,825,000,000	\$ 1,880,000,000	\$ 1,990,000,000
25%		\$ 1,373,000,000	\$ 1,579,000,000	\$ 1,648,000,000	\$ 1,717,000,000	\$ 1,786,000,000	\$ 1,855,000,000	\$ 1,992,000,000
30%		\$ 1,251,000,000	\$ 1,499,000,000	\$ 1,581,000,000	\$ 1,664,000,000	\$ 1,746,000,000	\$ 1,829,000,000	\$ 1,994,000,000
35%		\$ 1,130,000,000	\$ 1,418,000,000	\$ 1,515,000,000	\$ 1,611,000,000	\$ 1,707,000,000	\$ 1,804,000,000	\$ 1,996,000,000

Lower Net Profit Higher Net Profit

OpA.2 60% Resi - Sensitivity Test: Net Profit (Levered Cash Flow)

Share of Affordable Housing Units	\$	AMI Level						
		30%	60%	70%	80%	90%	100%	120%
5%	1,813,000,000	\$ 1,851,000,000	\$ 1,885,000,000	\$ 1,896,000,000	\$ 1,908,000,000	\$ 1,919,000,000	\$ 1,930,000,000	\$ 1,953,000,000
10%		\$ 1,748,000,000	\$ 1,816,000,000	\$ 1,839,000,000	\$ 1,861,000,000	\$ 1,883,000,000	\$ 1,906,000,000	\$ 1,951,000,000
15%		\$ 1,646,000,000	\$ 1,747,000,000	\$ 1,781,000,000	\$ 1,814,000,000	\$ 1,848,000,000	\$ 1,882,000,000	\$ 1,949,000,000
20%		\$ 1,543,000,000	\$ 1,678,000,000	\$ 1,723,000,000	\$ 1,768,000,000	\$ 1,813,000,000	\$ 1,858,000,000	\$ 1,948,000,000
25%		\$ 1,440,000,000	\$ 1,609,000,000	\$ 1,665,000,000	\$ 1,721,000,000	\$ 1,777,000,000	\$ 1,834,000,000	\$ 1,946,000,000
30%		\$ 1,337,000,000	\$ 1,539,000,000	\$ 1,607,000,000	\$ 1,675,000,000	\$ 1,742,000,000	\$ 1,810,000,000	\$ 1,945,000,000
35%		\$ 1,234,000,000	\$ 1,470,000,000	\$ 1,549,000,000	\$ 1,628,000,000	\$ 1,707,000,000	\$ 1,785,000,000	\$ 1,943,000,000

Lower Net Profit Higher Net Profit

OpB.1 75% Resi - Sensitivity Test: Net Profit (Levered Cash Flow)

Share of Affordable Housing Units	\$	AMI Level						
		30%	60%	70%	80%	90%	100%	120%
5%	1,764,000,000	\$ 1,808,000,000	\$ 1,846,000,000	\$ 1,859,000,000	\$ 1,872,000,000	\$ 1,885,000,000	\$ 1,898,000,000	\$ 1,923,000,000
10%		\$ 1,690,000,000	\$ 1,767,000,000	\$ 1,793,000,000	\$ 1,819,000,000	\$ 1,844,000,000	\$ 1,870,000,000	\$ 1,921,000,000
15%		\$ 1,573,000,000	\$ 1,688,000,000	\$ 1,727,000,000	\$ 1,765,000,000	\$ 1,804,000,000	\$ 1,843,000,000	\$ 1,920,000,000
20%		\$ 1,455,000,000	\$ 1,609,000,000	\$ 1,661,000,000	\$ 1,712,000,000	\$ 1,764,000,000	\$ 1,815,000,000	\$ 1,918,000,000
25%		\$ 1,338,000,000	\$ 1,531,000,000	\$ 1,595,000,000	\$ 1,659,000,000	\$ 1,723,000,000	\$ 1,787,000,000	\$ 1,916,000,000
30%		\$ 1,221,000,000	\$ 1,452,000,000	\$ 1,529,000,000	\$ 1,606,000,000	\$ 1,683,000,000	\$ 1,760,000,000	\$ 1,914,000,000
35%		\$ 1,103,000,000	\$ 1,373,000,000	\$ 1,463,000,000	\$ 1,553,000,000	\$ 1,642,000,000	\$ 1,732,000,000	\$ 1,912,000,000

Lower Net Profit Higher Net Profit

OpB.2 60% Resi - Sensitivity Test: Net Profit (Levered Cash Flow)

Share of Affordable Housing Units	\$	AMI Level						
		30%	60%	70%	80%	90%	100%	120%
5%	1,971,000,000	\$ 1,997,000,000	\$ 2,028,000,000	\$ 2,038,000,000	\$ 2,048,000,000	\$ 2,058,000,000	\$ 2,068,000,000	\$ 2,089,000,000
10%		\$ 1,907,000,000	\$ 1,968,000,000	\$ 1,989,000,000	\$ 2,009,000,000	\$ 2,029,000,000	\$ 2,050,000,000	\$ 2,090,000,000
15%		\$ 1,817,000,000	\$ 1,909,000,000	\$ 1,939,000,000	\$ 1,970,000,000	\$ 2,000,000,000	\$ 2,031,000,000	\$ 2,092,000,000
20%		\$ 1,728,000,000	\$ 1,849,000,000	\$ 1,890,000,000	\$ 1,931,000,000	\$ 1,971,000,000	\$ 2,012,000,000	\$ 2,093,000,000
25%		\$ 1,638,000,000	\$ 1,790,000,000	\$ 1,841,000,000	\$ 1,892,000,000	\$ 1,942,000,000	\$ 1,993,000,000	\$ 2,095,000,000
30%		\$ 1,548,000,000	\$ 1,731,000,000	\$ 1,791,000,000	\$ 1,852,000,000	\$ 1,913,000,000	\$ 1,974,000,000	\$ 2,096,000,000
35%		\$ 1,458,000,000	\$ 1,671,000,000	\$ 1,742,000,000	\$ 1,813,000,000	\$ 1,884,000,000	\$ 1,955,000,000	\$ 2,098,000,000

Lower Net Profit Higher Net Profit

OpA.1: 75% Resi - Sensitivity Test: Yield-on-Project Cost

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
5.2%							
5%	5.3%	5.3%	5.3%	5.3%	5.3%	5.4%	5.4%
10%	5.1%	5.2%	5.2%	5.3%	5.3%	5.3%	5.4%
15%	5.0%	5.1%	5.2%	5.2%	5.3%	5.3%	5.4%
20%	4.9%	5.1%	5.1%	5.2%	5.2%	5.3%	5.4%
25%	4.8%	5.0%	5.1%	5.1%	5.2%	5.3%	5.4%
30%	4.7%	4.9%	5.0%	5.1%	5.1%	5.2%	5.4%
35%	4.5%	4.8%	4.9%	5.0%	5.1%	5.2%	5.4%
Not Feasible Potentially Feasible Feasible Highly Feasible							

OpA.2 60% Resi - Sensitivity Test: Yield-on-Project Cost

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
5.7%							
5%	5.7%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
10%	5.6%	5.7%	5.7%	5.7%	5.8%	5.8%	5.8%
15%	5.5%	5.6%	5.7%	5.7%	5.7%	5.8%	5.8%
20%	5.4%	5.6%	5.6%	5.7%	5.7%	5.7%	5.8%
25%	5.3%	5.5%	5.6%	5.6%	5.7%	5.7%	5.8%
30%	5.2%	5.4%	5.5%	5.6%	5.6%	5.7%	5.8%
35%	5.1%	5.4%	5.4%	5.5%	5.6%	5.7%	5.8%
Not Feasible Potentially Feasible Feasible Highly Feasible							

OpB.1 75% Resi - Sensitivity Test: Yield-on-Project Cost

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
5.3%							
5%	5.3%	5.4%	5.4%	5.4%	5.4%	5.4%	5.5%
10%	5.2%	5.3%	5.3%	5.3%	5.4%	5.4%	5.5%
15%	5.1%	5.2%	5.3%	5.3%	5.3%	5.4%	5.5%
20%	5.0%	5.1%	5.2%	5.2%	5.3%	5.3%	5.5%
25%	4.8%	5.0%	5.1%	5.2%	5.2%	5.3%	5.4%
30%	4.7%	5.0%	5.0%	5.1%	5.2%	5.3%	5.4%
35%	4.6%	4.9%	5.0%	5.1%	5.2%	5.3%	5.4%
Not Feasible Potentially Feasible Feasible Highly Feasible							

OpB.2 60% Resi - Sensitivity Test: Yield-on-Project Cost

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
5.5%							
5%	5.5%	5.5%	5.6%	5.6%	5.6%	5.6%	5.6%
10%	5.4%	5.5%	5.5%	5.5%	5.5%	5.6%	5.6%
15%	5.3%	5.4%	5.4%	5.5%	5.5%	5.5%	5.6%
20%	5.2%	5.4%	5.4%	5.4%	5.5%	5.5%	5.6%
25%	5.1%	5.3%	5.3%	5.4%	5.5%	5.5%	5.6%
30%	5.0%	5.2%	5.3%	5.4%	5.4%	5.5%	5.6%
35%	5.0%	5.2%	5.2%	5.3%	5.4%	5.5%	5.6%
Not Feasible Potentially Feasible Feasible Highly Feasible							

OpA.1: 75% Resi - Sensitivity Test: Levered IRR

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
8.2%							
5%	8.3%	8.5%	8.5%	8.5%	8.6%	8.6%	8.7%
10%	7.9%	8.2%	8.3%	8.4%	8.5%	8.5%	8.7%
15%	7.5%	7.9%	8.1%	8.2%	8.3%	8.5%	8.7%
20%	7.1%	7.6%	7.8%	8.0%	8.2%	8.4%	8.7%
25%	6.6%	7.4%	7.6%	7.8%	8.1%	8.3%	8.7%
30%	6.2%	7.1%	7.4%	7.7%	7.9%	8.2%	8.8%
35%	5.7%	6.8%	7.1%	7.5%	7.8%	8.1%	8.8%
Not Feasible Potentially Feasible Feasible Highly Feasible							

OpA.2: 60% Resi - Sensitivity Test: Levered IRR

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
7.7%							
5%	7.9%	8.0%	8.0%	8.1%	8.1%	8.1%	8.2%
10%	7.5%	7.8%	7.8%	7.9%	8.0%	8.0%	8.2%
15%	7.2%	7.5%	7.6%	7.8%	7.9%	8.0%	8.2%
20%	6.8%	7.3%	7.5%	7.6%	7.7%	7.9%	8.2%
25%	6.5%	7.1%	7.3%	7.4%	7.6%	7.8%	8.2%
30%	6.1%	6.8%	7.1%	7.3%	7.5%	7.7%	8.2%
35%	5.7%	6.6%	6.9%	7.1%	7.4%	7.7%	8.2%
Not Feasible Potentially Feasible Feasible Highly Feasible							

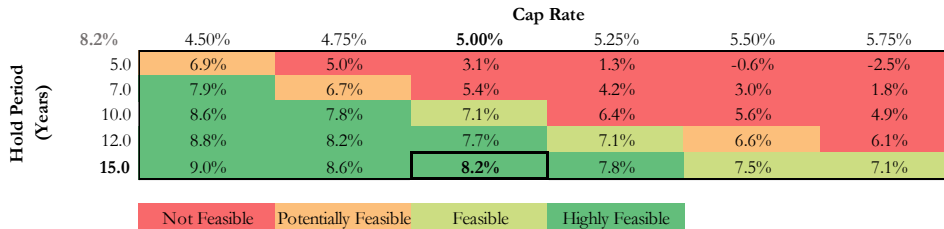
OpB.1: 75% Resi - Sensitivity Test: Levered IRR

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
8.4%							
5%	8.6%	8.7%	8.8%	8.8%	8.8%	8.9%	9.0%
10%	8.2%	8.4%	8.5%	8.6%	8.7%	8.8%	9.0%
15%	7.7%	8.2%	8.3%	8.4%	8.6%	8.7%	9.0%
20%	7.3%	7.9%	8.1%	8.2%	8.4%	8.6%	9.0%
25%	6.8%	7.6%	7.8%	8.0%	8.3%	8.5%	8.9%
30%	6.4%	7.3%	7.6%	7.9%	8.1%	8.4%	8.9%
35%	5.9%	7.0%	7.3%	7.7%	8.0%	8.3%	8.9%
Not Feasible Potentially Feasible Feasible Highly Feasible							

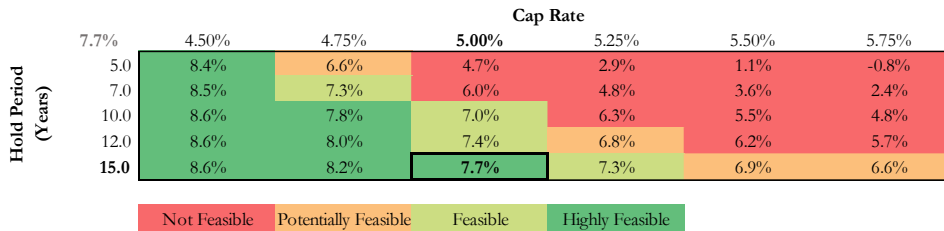
OpB.2: 60% Resi - Sensitivity Test: Levered IRR

Share of Affordable Housing Units	AMI Level						
	30%	60%	70%	80%	90%	100%	120%
9.0%							
5%	9.1%	9.2%	9.2%	9.2%	9.3%	9.3%	9.4%
10%	8.8%	9.0%	9.0%	9.1%	9.2%	9.2%	9.4%
15%	8.5%	8.8%	8.9%	9.0%	9.1%	9.2%	9.4%
20%	8.1%	8.6%	8.7%	8.8%	9.0%	9.1%	9.4%
25%	7.8%	8.4%	8.5%	8.7%	8.9%	9.0%	9.4%
30%	7.5%	8.2%	8.4%	8.6%	8.8%	9.0%	9.4%
35%	7.2%	7.9%	8.2%	8.4%	8.7%	8.9%	9.4%
Not Feasible Potentially Feasible Feasible Highly Feasible							

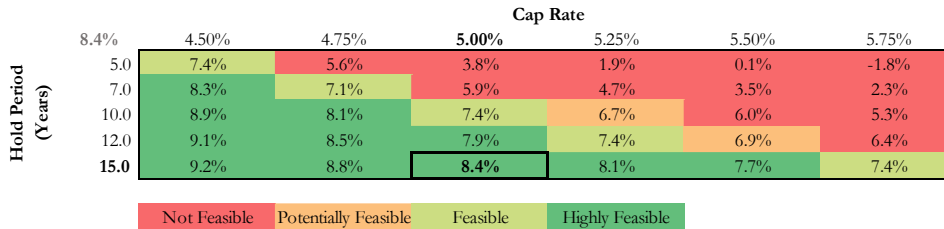
OpA.1: 75% Resi - Sensitivity Test: Levered IRR



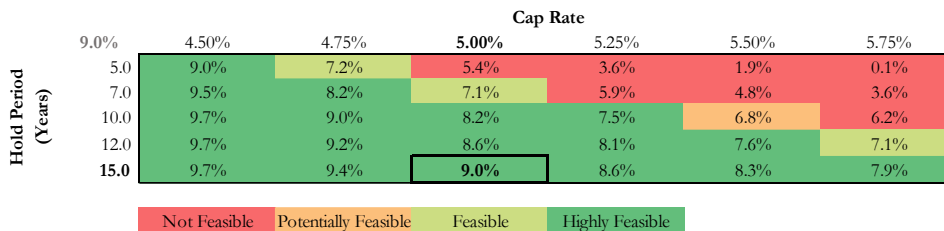
OpA.2: 60% Resi - Sensitivity Test: Levered IRR



OpB.1: 75% Resi - Sensitivity Test: Levered IRR



OpB.2: 60% Resi - Sensitivity Test: Levered IRR



Appendix D – Funding & Financing Strategy

Table 14. Funding & Financing Tools

Funding Source	Summary	Eligible Uses
Development-Based Funding		
Impact Fees	One-time charges on new development to fund infrastructure directly necessitated by growth	Roads, water/sewer, parks, public safety
Provisions of Development Agreements	Customized agreements with developer contributions for infrastructure, amenities, or land dedications	Site-specific: utilities, streetscapes, open space
Exactions	Conditions of approval requiring land dedications, off-site improvements, or in-lieu fees	Streets, sidewalks, parkland dedications
Developer Equity / Conventional Debt	Direct developer investment and financing to fund project infrastructure and verticals	All development costs
Land-Secured Sources		
Special Assessment Districts	Assess property owners for benefiting improvements	Lighting, sidewalks, drainage
Community Facility Districts (CFDs)	Bonds backed by parcel tax to fund infrastructure and public facilities	Broad public facilities (schools, parks, roads, fire/police)
Climate Resilience Districts (CRDs)	Assess property owners to fund climate resilience and sustainability infrastructure	Stormwater systems, flood protection, urban cooling, green infrastructure
Municipal & Regional Sources		
General Obligation (GO) Bonds	Citywide voter-approved bonds for infrastructure	Public infrastructure (parks, libraries, roads, utilities)
Revenue Bonds	Issued against project revenues (parking, utilities)	Revenue-generating infrastructure (parking, utilities, toll roads)
Parcel Taxes	Annual parcel tax for infrastructure, public services	Public services, schools, transit, public safety, green infrastructure
City of Pasadena Capital Budget / Capital Improvement Plan (CIP)	City allocation of budgeted capital projects.	Streetscape, utilities, parks
Enhanced Infrastructure Financing District (EIFD)	Captures tax increment for infrastructure	Roads, utilities, open space, TOD improvements
Proposition C	LA County voter-approved half-cent sales tax for transit and transportation improvements	Transit capital projects, rail expansion, bus system improvements, transit stations, and related transportation infrastructure
Measure H	Homeless services and supportive housing funding; some capital gap/operations for PSH	PSH operations, services, and select capital costs tied to supportive housing units
Measure W (Safe, Clean Water Program)	Regional and municipal funding for multi-benefit stormwater capture/quality projects	Green streets, infiltration, detention, treatment facilities, nature-based stormwater solutions

Measure M	Funds multimodal capital (via subregional programs)	Complete streets, first/last-mile, transit access, active transportation, roadway upgrades
Measure R	Legacy transportation capital categories and subregional allocations	Transit capital, roadway capacity/safety, active transportation where eligible
Measure A	Funds park acquisition/development, urban greening, habitat, and trails	New/expanded parks, recreation facilities, greenways, habitat restoration, urban canopy
Affordable Housing Trust Fund	Capital for affordable/supportive housing in LA County jurisdictions	Affordable housing hard/soft costs; select off-site improvements tied to housing
State & Federal Programs		
LIHTC (9% and 4%)	Federal equity tool for affordable housing	Affordable housing development
California HCD Infill Infrastructure Grant (IIG)	Grants for housing-supporting site prep and infrastructure	On-site infrastructure for housing (streets, utilities, green space)
Affordable Housing and Sustainable Communities (AHSC)	Affordable housing with transit/sustainable transport	Affordable housing + sustainable transportation improvements (bike/pedestrian and TOD)
New Markets Tax Credits (NMTC)	Equity tool for community/commercial facilities	Community facilities, commercial, job-creating retail or mixed-use
Transportation Infrastructure Finance and Innovation Act (TIFIA)	Federal low-interest credit for transportation/TOD	Transportation infrastructure, transit-oriented development
Tax-Exempt Bonds (Private Activity Bonds (PAB))	Tax-exempt bonds issued for qualified private activities (e.g., multifamily housing, infrastructure) with below-market interest rates	Backbone utilities, structured parking tied to housing, qualified public infrastructure supporting 4% LIHTC projects
TOD Housing Program	Supports affordable housing near transit; cycles occur when appropriated	Affordable housing costs; associated active transportation/TOD-supportive improvements
Prop 1 Stormwater Grant Program (SWGPP)	Multi-benefit stormwater projects for quality/supply; implementation and planning	Green streets, infiltration basins, detention, treatment, LID retrofits
Urban Greening	Funds urban greening, reducing GHGs and delivering community benefits	Greenways, shade trees, permeable surfaces, bioswales, multi-use trails
CalFire Urban Forestry	Tree planting and urban forestry planning for heat mitigation and air quality	Street trees, urban forests, nursery stock, stewardship plans
Statewide Park Program (SPP)	Creates/expands parks in underserved areas with recreation facilities and acquisition	New parks, recreation buildings, amenities, acquisition
Active Transportation Program (ATP)	Funds bike/ped and Safe Routes projects with safety/equity benefits	Trails, protected lanes, crossings, traffic calming, streetscapes
Public Works Program	Provides funding for infrastructure projects that support long-term regional economic competitiveness and job creation	Roads, utilities, site preparation, business/industrial parks, and technology infrastructure



Community Development Block Grant (CDBG)	Flexible community development funding supporting public facilities/infrastructure	Complete streets, utilities, public facilities, planning; LMI benefit required
Section 108	Leverages future CDBG for low-cost, long-term infrastructure financing	Major infrastructure, site prep, economic development tied to CDBG eligibility
HOME Investment Partnerships Program	Affordable housing production/preservation funding	Gap financing for affordable units; eligible site work tied to housing
Reconnecting Communities and Neighborhoods (RCN)	Planning and capital to remove or mitigate divisive infrastructure barriers	Caps, boulevards, multimodal retrofits reconnecting neighborhoods
Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	Promotes transportation system resilience to climate impacts	Resilient complete streets, bridges, drainage, heat/flood hardening
Transit-Oriented Development (TOD) Planning	Planning grants for station-area/TOD planning around existing/planned transit	Station-area plans, zoning, design guidelines, market/feasibility studies
State Infrastructure Bank (SIB)	State revolving loan fund providing low-interest financing for infrastructure projects	Roads, bridges, transit facilities, utilities, freight infrastructure, and other transportation or economic development-supporting infrastructure

Source: AECOM, January 2026

Appendix E – General Limiting Conditions

Deliverables and portions thereof shall be subject to the following General Limiting Conditions:

AECOM devoted the level of effort consistent with (i) the level of diligence ordinarily exercised by competent professionals practicing in the area under the same or similar circumstances, and (ii) consistent with the time and budget available for the Services to develop the Deliverables. The Deliverables are based on estimates, assumptions, information developed by AECOM from its independent research effort, general knowledge of the industry, and information provided by and consultations with Client and Client's representatives. No responsibility is assumed for inaccuracies in data provided by the Client, the Client's representatives, or any third-party data source used in preparing or presenting the Deliverables. AECOM assumes no duty to update the information contained in the Deliverables unless such additional services are separately retained pursuant to a written agreement signed by AECOM and Client.

AECOM's findings represent its professional judgment. Neither AECOM nor its parent corporations, nor their respective affiliates or subsidiaries ("AECOM Entities") make any warranty or guarantee, expressed or implied, with respect to any information or methods contained in or used to produce the Deliverables.

The Deliverables shall not be used in conjunction with any public or private offering of securities, debt, equity, or other similar purpose where it may be relied upon to any degree by any person other than the Client. The Deliverables shall not be used for purposes other than those for which they were prepared or for which prior written consent has been obtained from AECOM.

Possession of the Deliverables does not carry with it any right of publication or the right to use the name of "AECOM" in any manner without the prior express written consent of AECOM. No party may reference AECOM with regard to any abstract, excerpt or summarization of the Deliverables without the prior written consent of AECOM. AECOM has served solely in the capacity of consultant and has not rendered any expert opinions in connection with the subject matter hereof. Any changes made to the Deliverables, or any use of the Deliverables not specifically identified in the Agreement between the Client and AECOM or otherwise expressly approved in writing by AECOM, shall be at the sole risk of the party making such changes or use.

The Deliverables were prepared solely for the use by the Client. No third party may rely on the Deliverables unless expressly authorized by AECOM in writing (including, without limitation, in the form of a formal reliance letter. Any third party expressly authorized by AECOM in writing to rely on the Deliverables may do so only on the Deliverable in its entirety and not on any abstract, excerpt or summary. Entitlement to rely upon the Deliverables is conditioned upon the entitled party accepting full responsibility for such use, strict compliance with this Agreement and not holding AECOM liable in any way for any impacts on the forecasts or the earnings resulting from changes in "external" factors such as changes in government policy, in the pricing of commodities and materials, changes in market conditions, price levels generally, competitive alternatives to the project, the behavior of consumers or competitors and changes in the Client's policies affecting the operation of their projects.

The Deliverables may include "forward-looking statements". These statements relate to AECOM's expectations, beliefs, intentions or strategies regarding the future. These statements may be identified by the use of words like "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "project," "will," "should," "seek," and similar expressions. The forward-looking statements reflect AECOM's views and assumptions with respect to future events as of the date of the Deliverables and are subject to future economic conditions, and other risks and uncertainties. Actual and future results and trends could differ materially from those set forth in such statements due to various factors, including, without limitation, those discussed in the Deliverables. These factors are beyond AECOM's ability to control or predict. Accordingly, AECOM makes no warranty or representation that any of the projected values or results contained in the Deliverables will actually occur or be achieved. The Deliverables are qualified in their entirety by, and should be considered in light of, these limitations, conditions and considerations.