

Open Gateway

A Linear Park for West Los Angeles

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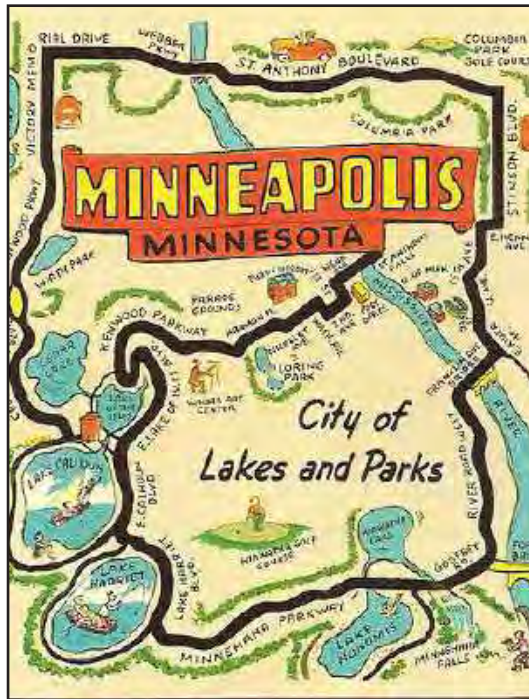
Personal Statement

One of the best parts about growing up in the Twin Cities is access to the Grand Rounds, a system of parkways that encircle and traverse the city of Minneapolis. These green corridors comprise of paths, footbridges, woodlands, lakeshores and riverbanks. While each stretch has its own name and identity, one can walk or bike the parkways of Minneapolis uninterrupted for some 51 miles.

It wasn't until I began the UCLAx program that I discovered that the Grand Rounds were designed by a single landscape architect named Horace W.S. Cleveland, one hundred and thirty years ago. Cleveland was a pioneer of landscape architecture, and incredibly forward thinking in his designs. Even in the 1880's, he prioritized preserving natural landscapes in these parkways as much as possible. His ecological approach is a crucial reason that many of the riverbanks, creeks and waterfalls around Minneapolis remain in their natural state. Cleveland incorporated bicycle paths into the plan, reflecting an emerging bicycle craze at the time. Those paths remain an essential part of the park system—and a principal reason why Minneapolis is known as one of the most bikeable major cities.

I have been a resident of Los Angeles for twenty years now, and feel fortunate for the world class parks we do have. But the Minnesotan in me has always wished that LA had parkway system that would allow people to move from place to place without the need for cars. The city would benefit from tree-lined corridors that puncture the urban morass and allow the city to breathe. In 1930, the renowned Olmsted Brothers collaborated with Landscape Architect Harland Bartholomew on a commission to draw up conceptual plans for such a parkway system, one that replicated the success of Boston's "Emerald Necklace". That plan, entitled *Parks, Playgrounds, and Beaches for the Los Angeles Region* was regrettably never brought to fruition.

My daydreams of a scenic byway in Los Angeles is what motivated me to undertake this design. My Capstone Project envisions how we might convert a single street into a park. That may sound quaint in comparison, but then again, it must begin with a single street.



The Grand Rounds, Minneapolis' interconnected Parkway System (far left)

The Olmsted / Bartholomew Associates conceptual plan for parkways across Los Angeles County (left)

Acknowledgements

I want to express my sincere gratitude to our Capstone supervisor, Meg Rushing Coffee. Her wisdom and guidance made this project attainable, and I have learned so much from her in the last seven months.

Profound thanks to all of my instructors throughout the program for sharing their experience and expertise. I walk through the world more aware because of you.

Thank you to Stephanie Landregan for helming this remarkable, multidisciplinary Landscape Architecture program and for embodying everything it is strives to teach. You have left artists and stewards in your wake.

I also want to recognize the neverending support I received from my wonderful family—my parents, my siblings, my wife and her family. You are the reason I was able to open up this new chapter. I love you.

Finally, thank you to my classmates. Your kindness, brilliance and talent has been a source of inspiration and delight.

Project Statement

Los Angeles faces a shortage of public park space, ranking 90th among the largest 100 U.S. cities, according to studies conducted by the Trust for Public Land. Only half of Angelenos live within a 10-minute walk of a park.¹ While there is an ongoing effort to expand access to green space, limited land availability is perhaps the most formidable obstacle.²

This project seeks to create a new public green space in a park-deprived area of West Los Angeles by transforming Gateway Boulevard, a high traffic street, into a linear public park.

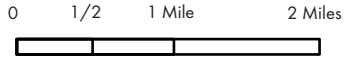
Converting Gateway Boulevard into a linear park will encourage **community** connection, enhance neighborhood **health**, and contribute critical **green infrastructure** to a city on the front lines of a changing climate.

By trading a street for a park, and demonstrating the positive impact, this project could serve as a model for future park development in Los Angeles.



Project Location

Los Angeles' West Side

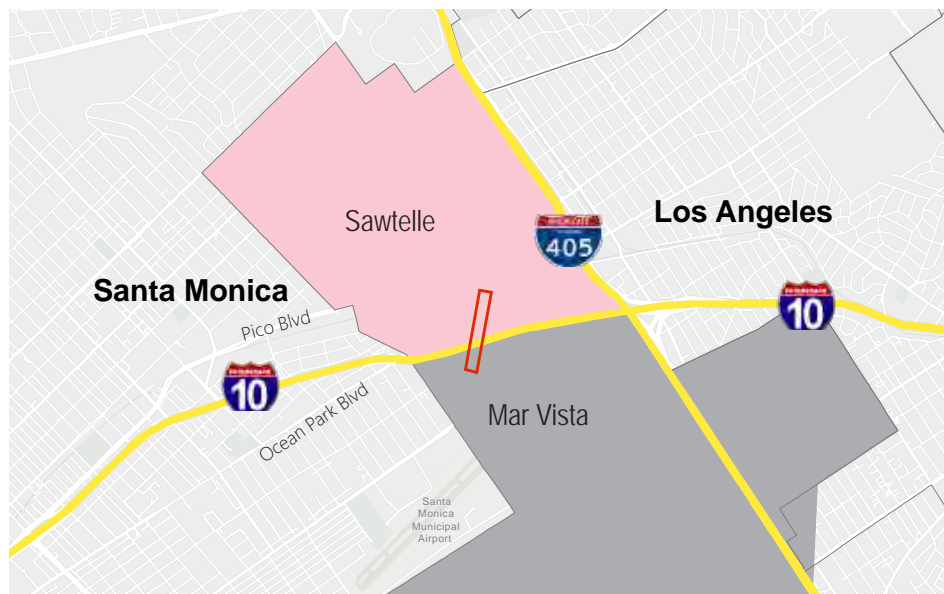


Project Location

The project site is located in Los Angeles, California, just west of I-405, and bisected by I-10. The site limits are located both in the Sawtelle neighborhoods and Mar Vista neighborhoods.

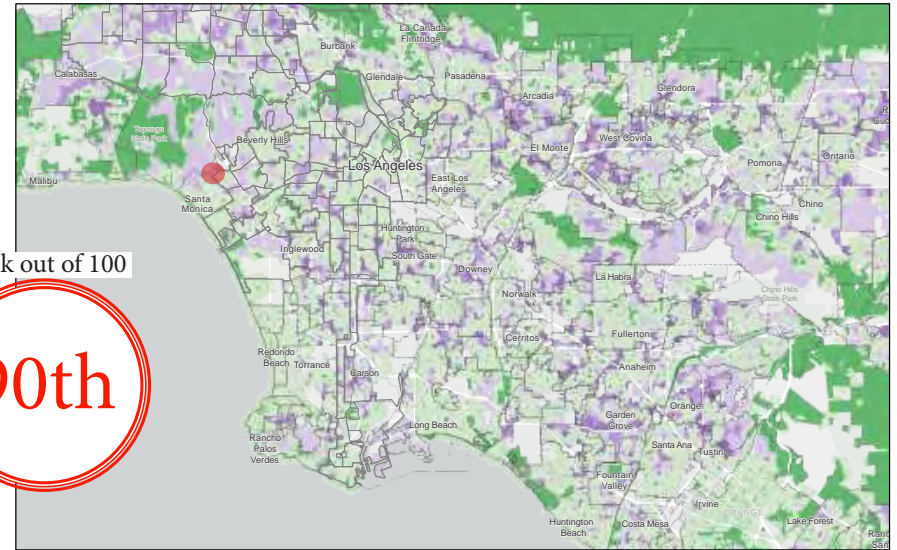
Gateway Boulevard is a diagonally running street that connects Pico Boulevard on the North to Ocean Park Boulevard on the South.

Since 1964, Gateway has been bisected by the 10 Freeway via an overpass.¹⁸



Why Here?

- The Trust for Public Land recently ranked the city of Los Angeles 90th in its annual Park Score ratings of the largest 100 metropolitan areas, attributing it to “decades long trend of divestment in city’s green spaces”.¹
- The TPL reports that 1.5 million Angelenos reside more than 10 minutes walking distance from a green open space.¹
- A TPL study identifies a number of high priority areas for new parks based on health, equity and climate metrics.¹
- One such high priority area is located in the southeast corner of the Sawtelle neighborhood in West Los Angeles.¹

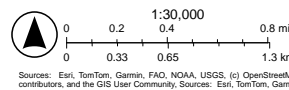


Priority Area for New Parks



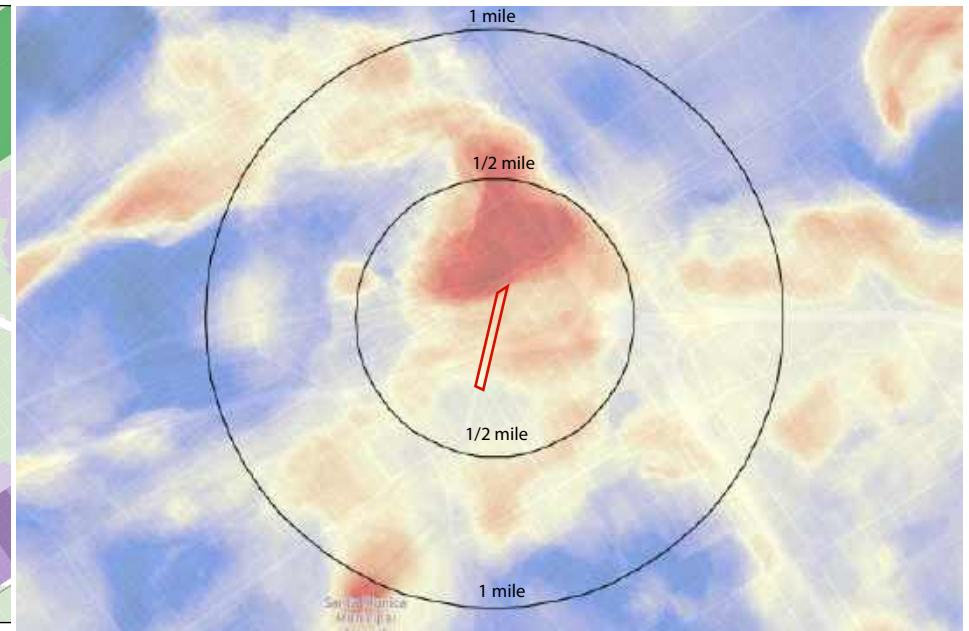
Priority Areas for New Parks

- Very high priority
- High priority
- 10-minute walk service area
- Park with public access

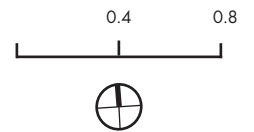


Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetM contributors, and the GIS User Community, Sources: Esri, TomTom, Garr

Urban Heat Islands



Areas of very high heat
Areas of high heat
Areas of moderate heat index
Areas of low heat



Project Justification

If this linear park were built, an additional 19,000 residents would be within walking distance of an open green space²

Social Connection

- Studies show that time spent in outdoor common spaces is related to stronger social cohesion. The presence of a new park will draw residents out of their homes and contribute to tighter bonds, which lead to safer, healthier and happier communities.^{9 11}

Public Health

- There is robust research linking access to public parks to positive health outcomes. Park space offers opportunities for exercise and physical activity, which affects cardiovascular health. More time spent in parks and green spaces can prevent or alleviate mental health issues like depression, anxiety and feelings of loneliness.^{4 5 9 10 11}
- This area of West LA is transected by two freeways—the I-10 and the I-405—and two major thoroughfares in Pico and Olympic Blvds. According to the California Office of Health Hazard Assessment, and the area's Pollution Burden rates in the 89th percentile. Pollution Burden is an index that measures a combination of factors including ozone, diesel particulate matter, and PM2.5 particles, all of which are linked to heart and lung diseases, along with other adverse health factors.¹²

Environmental Sustainability

- Replacing concrete with trees, plants, and permeable surfaces will address the heat island effect by providing increased shade and heat absorption.⁷
- Park space allows the increased opportunity for stormwater management practices, such as bioswales and rain gardens that infiltrate water back into the water table.⁶
- Stormwater capture is a priority for the city of Los Angeles, as water scarcity increasingly becomes an issue. This project site offers an opportunity to integrate a stormwater capture facility.⁶

Economic Development

- The presence of a park could boost property values by 5%, according to estimates by the Trust for Public Land.^{11 13}
- Proximity to park will also encourage new housing development, which is vitally needed in Los Angeles. The park's location near public transit and commercial zones make it the ideal place for new housing projects.⁸
- A new park will attract park visitors from other neighborhoods that wouldn't otherwise visit, and increased foot traffic will allow for business opportunities and increased revenue along the corridor.^{13 14}
- A local park can host festivals, markets and events, bringing additional boosts to the local economy.¹³



Site History

Pacific Gateway

Gateway Boulevard was built in 1924 as the first phase of a plan by Hugh Pomeroy, the county planning commissioner, to create a shortcut between two key Westside neighborhoods: Sawtelle and Venice. ¹⁶

The street was originally named **Pacific Gateway Boulevard** for this reason, because it would connect West LA residents to the nearby beaches. ¹⁶

The plan envisioned that the Gateway connection to take place via a Rose Avenue extension, but that failed to happen. In 1938, extension was finally completed, instead connecting to Ocean Park Boulevard. ¹⁶

Interstate 10 was completed in 1965, bisecting Gateway Boulevard with a freeway overpass. The construction of that overpass is visible in the picture at right (1962). ^{18 22}

Sawtelle was annexed by Los Angeles in 1922, with bordering Mar Vista following in 1927. ^{20 21}



1927



1934



1941



1962

Lima Bean Farmland



Prior to 1924, the majority of Mar Vista, including the land surrounding Gateway Boulevard, was farmland. The main crop was lima beans, which thrived on the rich soils and foggy summers. The Lima Bean was brought to the US from Peru in the late 19th century, and quickly became a profitable crop that helped feed the nation during World War I. The end of the Lima Bean era came as residential development rapidly changed the character of LA's west side, and farmers shifted focus to other crops, such as strawberries.¹⁹

Sawtelle Japantown



The Sawtelle neighborhood became an enclave for Japanese immigrants beginning in the 1920's. Many were farmers, but a significant portion worked as landscape gardeners in nearby neighborhoods like Beverly Hills. Japanese owned plant nurseries sprang up, some of which remain in business. Japanese residents of Sawtelle were interned at Manzanar during World War II, but many returned after the war and continued to build the neighborhood. Today, Sawtelle retains a vibrant Japantown, teeming with restaurants and shops.^{20,21}

Mar Vista Gregory Ain Tract



Originally a farming community, Mar Vista saw rapid growth after World War II. In 1948, architect Gregory Ain designed a groundbreaking development of 52 modernist homes known as the Mar Vista Tract. The homes were meant to be simple, affordable, flexible, and forward looking. Lush and communal outdoor areas were designed by the legendary Landscape Architect, Garrett Eckbo. The Mar Vista Tract was designated as the city's first designated historic district, recognized for its innovative design. It remains largely intact in 2025.^{15,17}

Site Context



Citizens Charter School is spread over several buildings.



St. Joan of Arc Church

Multi-Unit Residential



The 10 Freeway Underpass is part of the project site



Shopping Center at Gateway and Barrington.

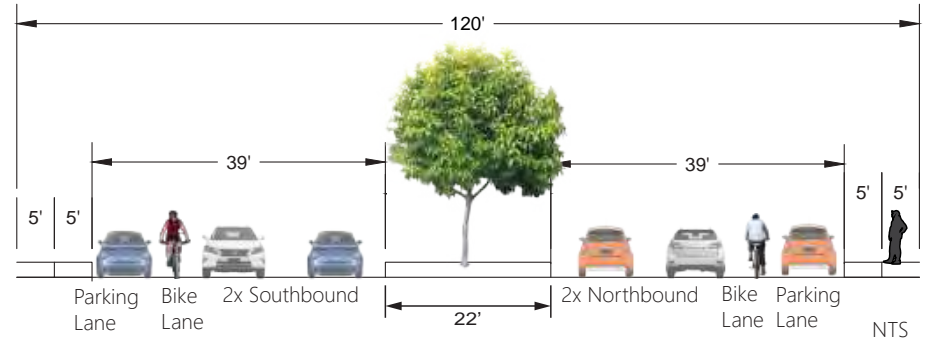


Site Context

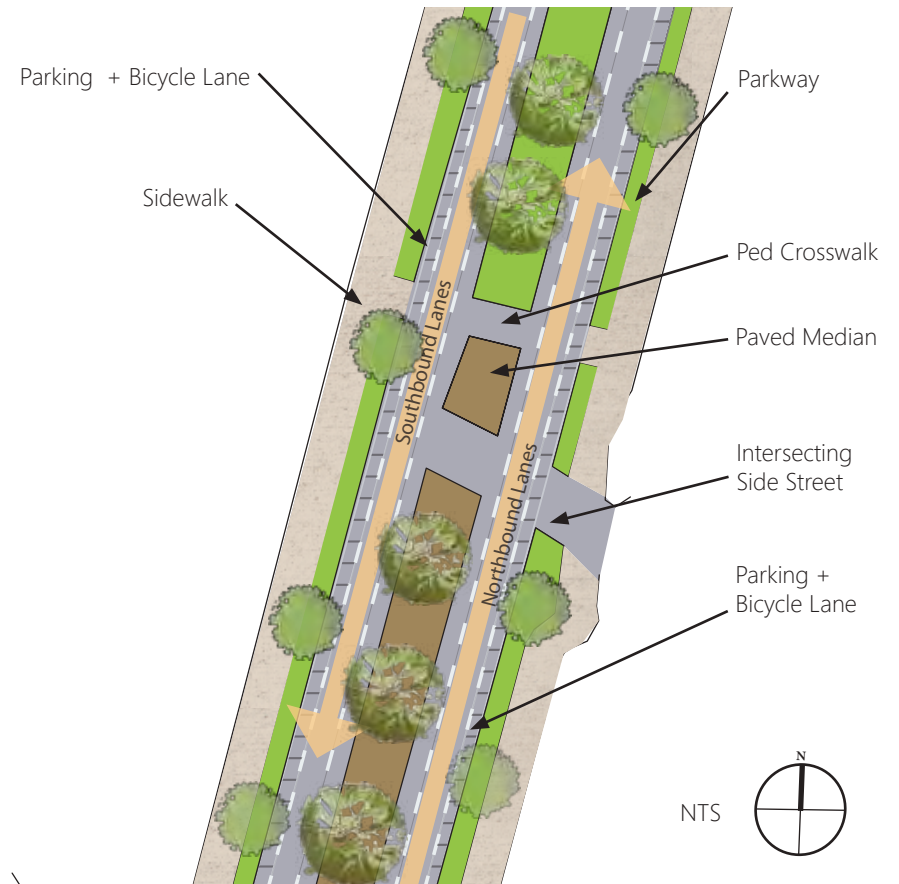
Gateway Blvd is one mile long in its entirety. This project will focus on the segment between Pico Blvd and Barrington Avenue, which is 1/3 mile long.

Square Feet	Total Width (incl. sidewalks)
169,250	120'
Acres	Total Length
3.89	1/3 mile

Boulevard Section



Typical Stretch of Boulevard



Primary Users



Given area demographics, the typical user of this park is a renter 30-50 years old, primarily white, but often hispanic or asian. Up to 25% of locals are immigrants. The users are college educated, and generally upper middle class. While that is the main demographic of the neighborhood, a new park in West Los Angeles would benefit a wide array of people in the community ²³:

Local Residents



For the 19,000 residents in this area, the nearest park is a 20 minute walk. ¹

Kids of All Ages



There are 11 schools within a mile of this project site, including one school directly on Gateway Boulevard.

Bikers and Runners



A linear park would draw bikers and runners from the Expo Bike Path, allowing connection and exploration.

Senior Citizens



An estimated 4500 senior citizens would be in walking distance of a welcoming place to exercise and socialize. ²³

Goals and Objectives

Goals

Community Connection



Neighborhood Health



Green Infrastructure



Objectives

- Create a destination that can host events and **gathering**
- Design spaces for lounging, seating, and interaction
- Incorporate a children's play area for neighborhood families
- Integrate areas for food trucks
- Include a **small dog park**

- Introduce walking **paths** and **bicycle lanes** that encourage **movement**
- Add **shade trees** and plantings to ameliorate the heat island effect.
- Include **exercise equipment** stations to encourage physical fitness for local residents
- Include **community gardens**, shown to improve diet and mental health

- Take advantage of city storm drain system for **large scale stormwater capture and management**
- Install **curbs cuts, permeable pavers, and raingardens** to divert and infiltrate stormwater
- Install green barriers along overpass to reduce air pollution
- Integrate **clean energy** infrastructure to mitigate costs of operation

Potential Programming

Community Connection



1

Event Lawn
5000 square feet
Flexible space for playing and Gathering



2

Picnic / Food Vendor Area
1500 sq ft
Feeding neighbors and relationships



3

Small Dog Park
2500 sq ft
A place for friends and companions



4

Splash Pad
1500 square feet
Fun and cool in the LA heat

Neighborhood Health



1

Class I Bicycle Path
1/3 mile
Connecting to the Expo Bike Path



2

Pollinator Garden
5000 sq ft
Gardens provide a myriad of health benefits



3

Children's Playground
1500 sq ft
Getting parents and children outdoors



4

Community Exercise Equipment
700 sq ft
Fitness with no annual contract

Green Infrastructure



1

Underground Stormwater Cistern
80,000 cubic feet
Subterranean Cistern



2

Rain Gardens
10,000 sq ft
Diverting water and creating natural irrigation systems



3

Permeable Plazas
5000 sq ft
A place for friends and companions



4

Planted Barriers
500 Linear Feet
Placed Along Freeway Overpass

Design Methodology

Potential Influences

Trust for Public Land / ParkScore Since 1972, the TPL has been one of the most authoritative voices regarding public park policy. It has developed a data driven approach to measuring the effectiveness of parks—a scoring system that considers area, investment, amenities, access, and equity. This project will seek to design a park that meets exceeds the TPL's measures that make for a successful park.^{28 30}

A selection of location and design measures that are scored by the TPL:

- Population within 10 minute walk radius
- Space must encourage informal public use (e.g., the public is encouraged to walk through and stay awhile)
- Space must encourage at least one 'park-like' activity such as socializing, enjoying nature, or play/exercise
- Park design must address safety from crime and physical hazards
- Benefits for the city beyond the boundaries of the parks
- Park Amenities prioritized, measured, and scored by the TPL: playgrounds, restrooms, recreation / senior centers, splashpads, sportsfields, basketball courts
- Equity: The park is scored based on the percentage of people of color and low income households within a 10 minute radius.

City of LA Urban Design Principles This handbook used by LA's department of city planning focuses on 3 primary goals for any urban design project: mobility, health, and resilience with ten guidelines to achieve this. Any design will seek to address these principles to align with the objectives of the city. The ten guidelines²⁹:

1. Promote a safe, comfortable and accessible pedestrian experience for all.
2. Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.
3. Design projects to actively engage with streets and public space and maintain human scale.
4. Organize and shape projects to recognize and respect surrounding context.
5. Express a clear and coherent architectural idea.
6. Provide amenities that support community building and provide an inviting, comfortable user experience.
7. Carefully arrange design elements and uses to protect site users
8. Protect the site's natural resources and features.
9. Configure the site layout, building massing and orientation to lower energy demand and increase the comfort and well-being of users
10. Enhance green features to increase opportunities to capture stormwater and promote habitat



Design Precedents

Monon Boulevard & Midtown Plaza



LOCATION
Carmel, Indiana

CLIENT
City of Carmel

YEAR COMPLETED
2019

PROJECT TYPE
Linear Park, Neighborhood renewal

SIZE
7.4 acres, 6 blocks

KEY TAKEAWAYS ²⁶

- Transforms a former industrial area into a vibrant urban center.
- Park includes pedestrian and bicycle paths, gathering spaces, benches and landscapes.
- Includes parking and slow lane for local traffic.
- Stormwater collection system that services entire midtown area, and which satisfies the park's irrigation needs.
- Park has resulted in \$175 million in private investment in the area

BUDGET
\$32 million

AMENITIES
Lounge Areas, Bicycle path, City Plaza, Connects to Greenway, game courts

DESIGN TEAM
Rundell Ernstberger Associates
Crossroad Engineering, LHB Engineering, RLR Associates, White Construction

Design Precedents

New Orleans Convention Center



LOCATION
New Orleans, LA

BUDGET
\$65 million

CLIENT
Ernest N. Morial Exhibition Hall
Authority

AMENITIES
Event lawns, walking paths, road diet, shuttle
stops, public art

YEAR COMPLETED
2020

DESIGN TEAM
SMM, MAEDR

PROJECT TYPE
Road Diet, Public Plaza, Public Park

SIZE
7.5 acres (1 mile in length)

KEY TAKEAWAYS ²⁴

- A similarly sized site (120' wide).
- 2 lanes of traffic eliminated to create a public linear park at the edge of a convention center.
- Flexible spaces that accommodate a wide range of programmatic activities for both the convention center and New Orleans.
- All stormwater will be collected and cleaned on-site through the use of green infrastructure
- Bus, taxi and rideshare terminals assist visitor access.
- 200 additional trees planted

Design Precedents



Before



After

East Campbell Avenue Underpass

LOCATION

Campbell, California

SIZE

11,000 square feet

CLIENT

City of Campbell

BUDGET

\$4.85 million

YEAR COMPLETED

2016

AMENITIES

Pedestrian Path, Lighting / Art work / Native Plantings

PROJECT TYPE

Freeway Underpass Renovation

DESIGN TEAM

Biggs Cardosa Associates

KEY TAKEAWAYS ²⁷

- Project renovated an existing Highway underpass. Existing sidewalk was quite narrow: 4' across. W
- Design retained existing structural framework, but carved out more space for pedestrians.
- This was achieved by excavating 4,700 cubic yards of dirt from the side embankments and installing a retaining wall.
- The sidewalk was widened to 26 feet on each side of the underpass, for 11,000 square feet of space of additional space.
- Artistic lighting installations that depicts locally grown produce was installed, along with wayfinding and signage.
- An array of stepped planters and stormwater drainage were included in the final design.
- LED lighting and camera surveillance are installed for safety precautions.

Design Precedents



Culver Steps

LOCATION
Culver City, Los Angeles

CLIENT
Hackman Capital Partners, City of Culver City

YEAR COMPLETED
2020

PROJECT TYPE
City Plaza, Mixed Use Site

SIZE
2.5 Acres

BUDGET
\$35 Million

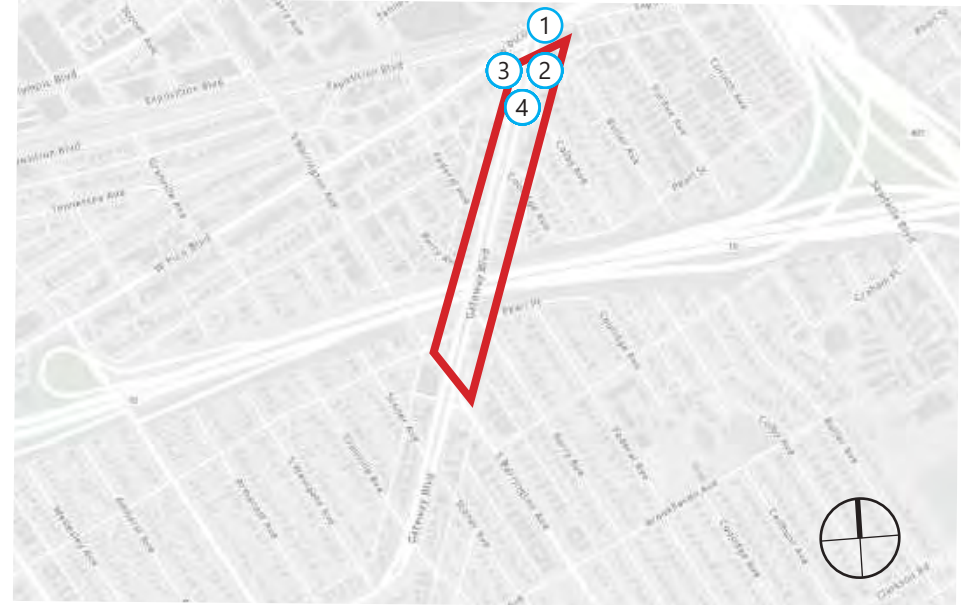
AMENITIES
Lounge areas, shade structures, transit access, creative hardscaping, underground parking

DESIGN TEAM
SWA, Ehrlich Yanai Rhee Chaney Architects

KEY TAKEAWAYS ²⁵

- Project includes 350 parking stalls in an underground structure.
- Formerly a street, this small park encourages socializing, gatherings and events
- Shade, seating, lawns, and new trees were all included in the new design.
- By 2023, the economic impact was an estimated \$150 million

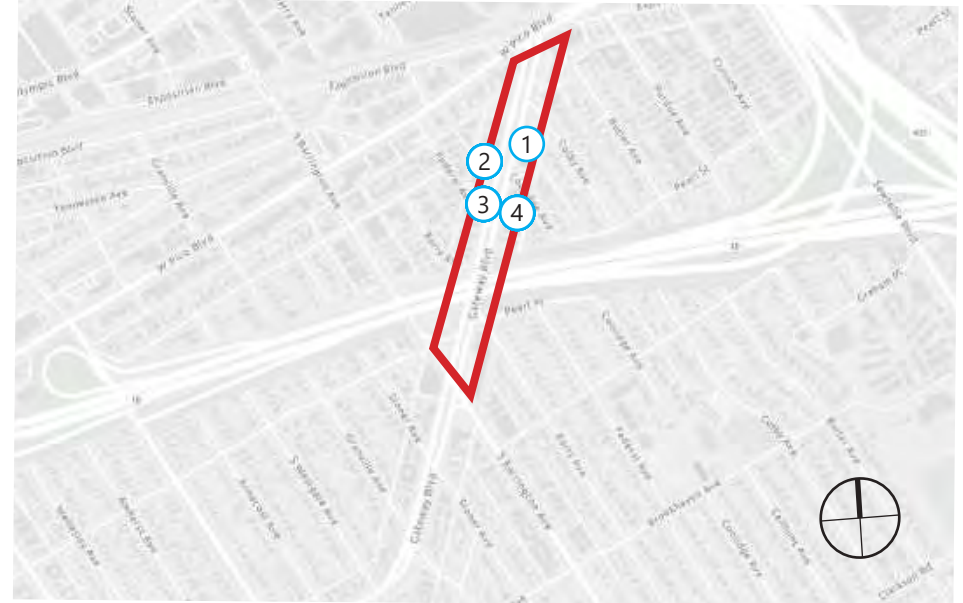
Existing Conditions: Gateway Blvd / Pico Blvd



Notes

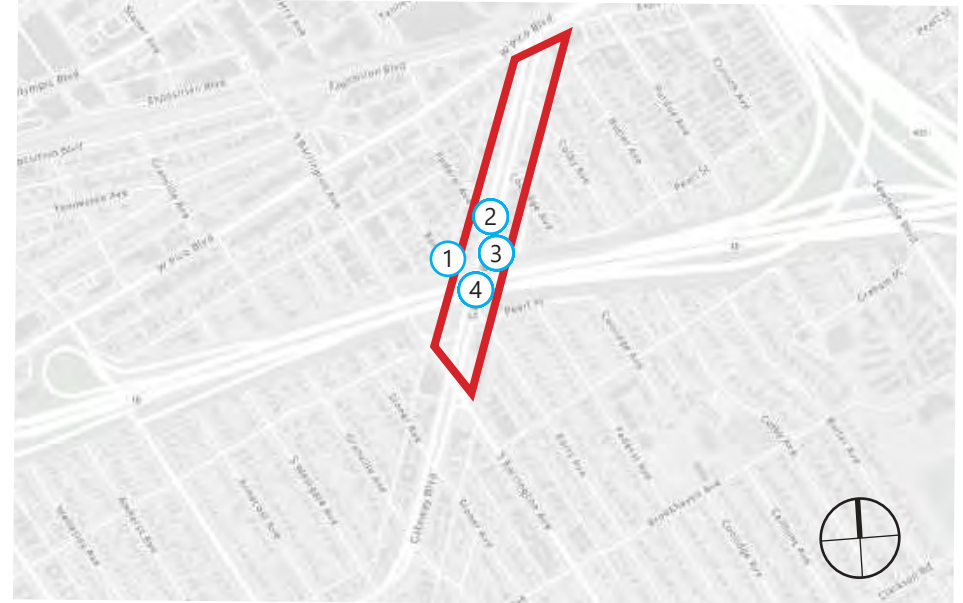
- ① Intersection of Gateway and Pico, looking northbound. View of Expo Line.
- ② Car mechanic businesses in strip mall on Gateway, just south of Pico.
- ③ Citizens of the World Charter School Building on Gateway
- ④ Typical view of Parkway trees on Gateway Boulevard, all of which are New Zealand Christmas trees.

Existing Conditions: Gateway Blvd / Coolidge Ave



- 1 Joan of Arc Church
- 2 Citizens Charter School, Second Building and School Yard
- 3 Southbound Sidewalk along Gateway, looking towards 10 Freeway
- 4 Typical multi-unit residential complex, and center median, at Coolidge and Gateway.

Existing Conditions: Gateway Blvd / Coolidge Ave

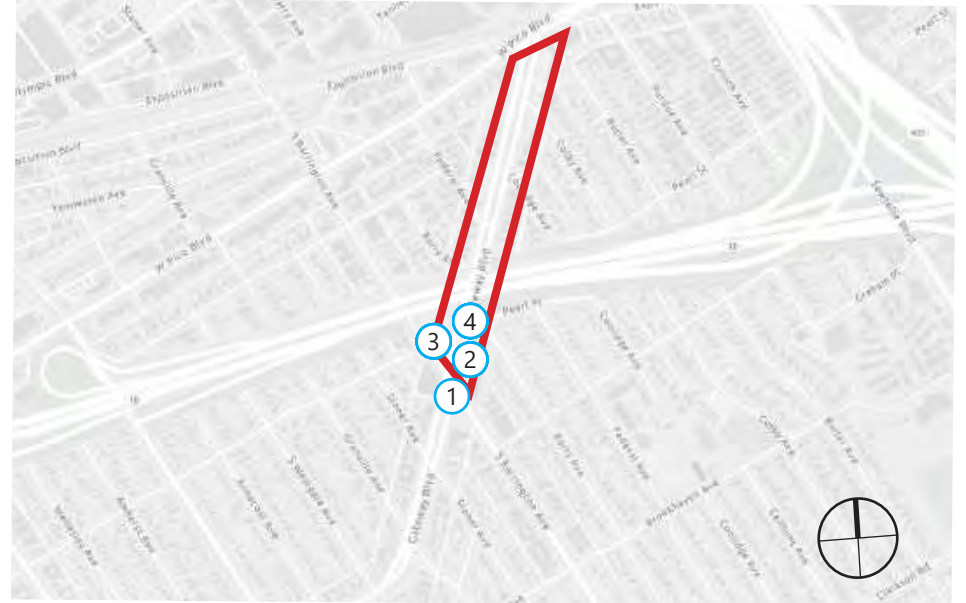


Notes

- ① Freeway ROW at Gateway and Barry Ave
- ② Concrete divider looking southbound at 10 Freeway
- ③ Sidewalk / parkway conditions looking northbound just north of 10
- ④ Looking southbound under 10 Freeway underpass. The right of way narrows by 20' under freeway, eliminating parkways.



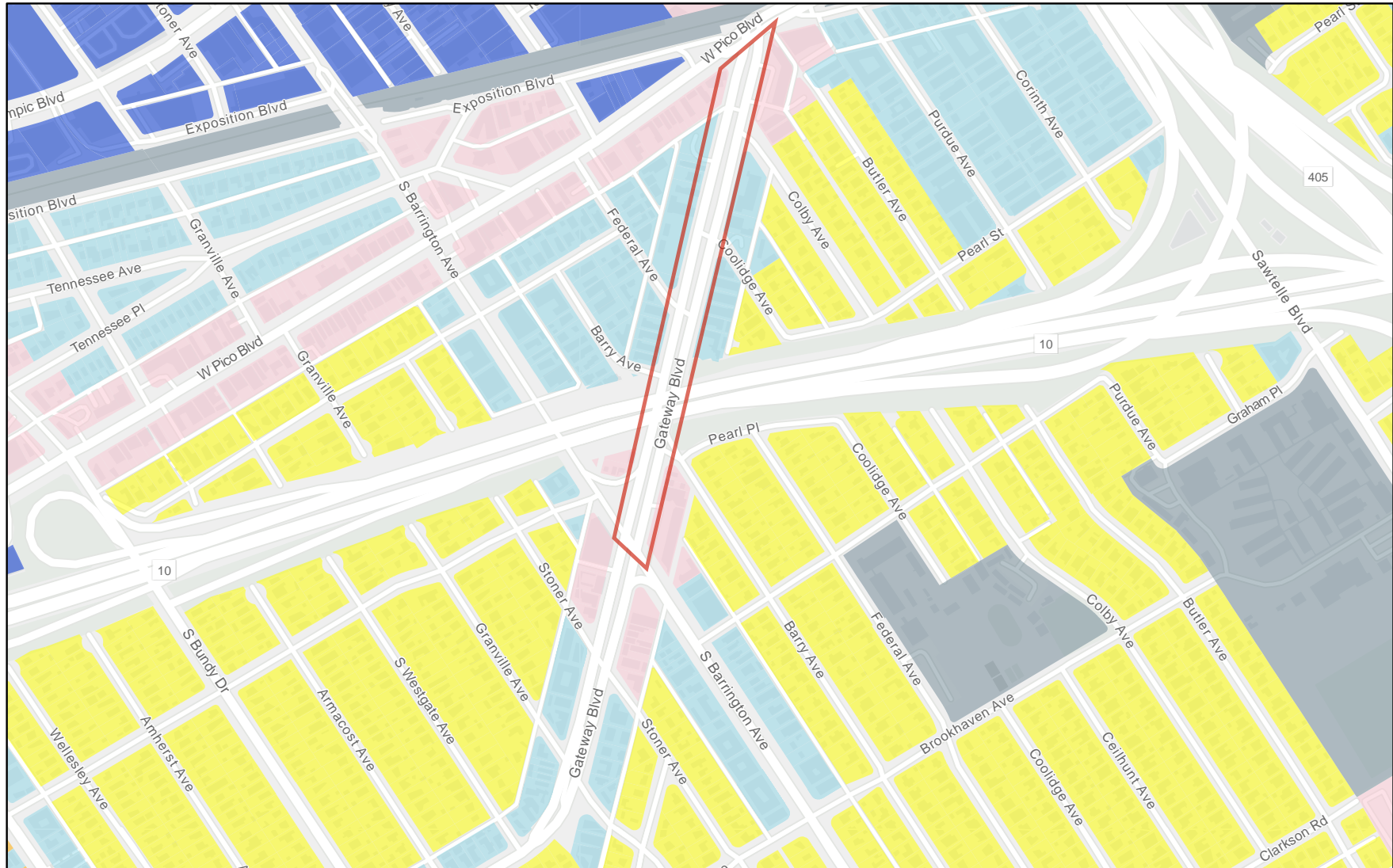
Existing Conditions: Gateway Blvd / Coolidge Ave



Notes

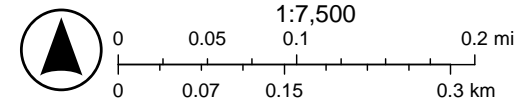
- ① Intersection Gateway Blvd and Barrington Avenue, commercial & residential
- ② Shopping Center on east side of Gateway and Barrington Avenue
- ③ Triangular median on West Side of Gateway and Barrington.
- ④ Gateway Boulevard, looking north at 10 freeway overpass.

Area Zoning



LEGEND

- | | |
|---|---|
| Single Family Residential | Schools |
| Multi-Family Residential | Industrial |
| Commercial | |



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Sources: Esri, TomTom, Garmin,

Area Demographics



Population

27,553 Total Residents
39.8 Years Median Age



Race:

White: 57%

Hispanic: 16%

Black / AA: 3%

Asian: 18%

Native: 0.5%

Other: 6%

Age:

0-19: 19%

20-39: 33%

40-59: 25%

60-79: 19%

80+: 5%



Income and Housing

\$129,703 Median Income
7% At or below poverty line
50% Renters
30% work from home
24 minute average commute to work



Stakeholders

- LA City / County
- Sawtelle Neighborhood
- Mar Vista Neighborhood
- Caltrans / State
- Local Residents
- Local Businesses



Foreign Born Population

25% Foreign Born Persons

Europe: 20%

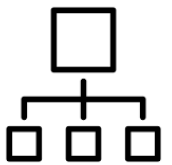
Asia: 45%

Latin America: 21%

Africa: 8%

Oceania: 1%

Other: 6%



Jurisdictions

Neighborhood Councils:
Sawtelle, Mar Vista Westside

City Council Districts:
CD11

Community Plan Area: Sawtelle, Palms-Mar
Vista-Del Rey

Area Planning Commission:
West Los Angeles APC

Freeway ROW:
State of California



Education

70.6% Bachelor's Degree or Higher

33.6% Graduate Degree

*All data from
2020 Census Data Maps ⁴
ZIMAS ⁴⁰

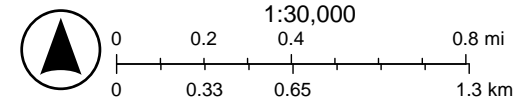
Site Analysis

Priority Area for New Parks



Priority Areas for New Parks

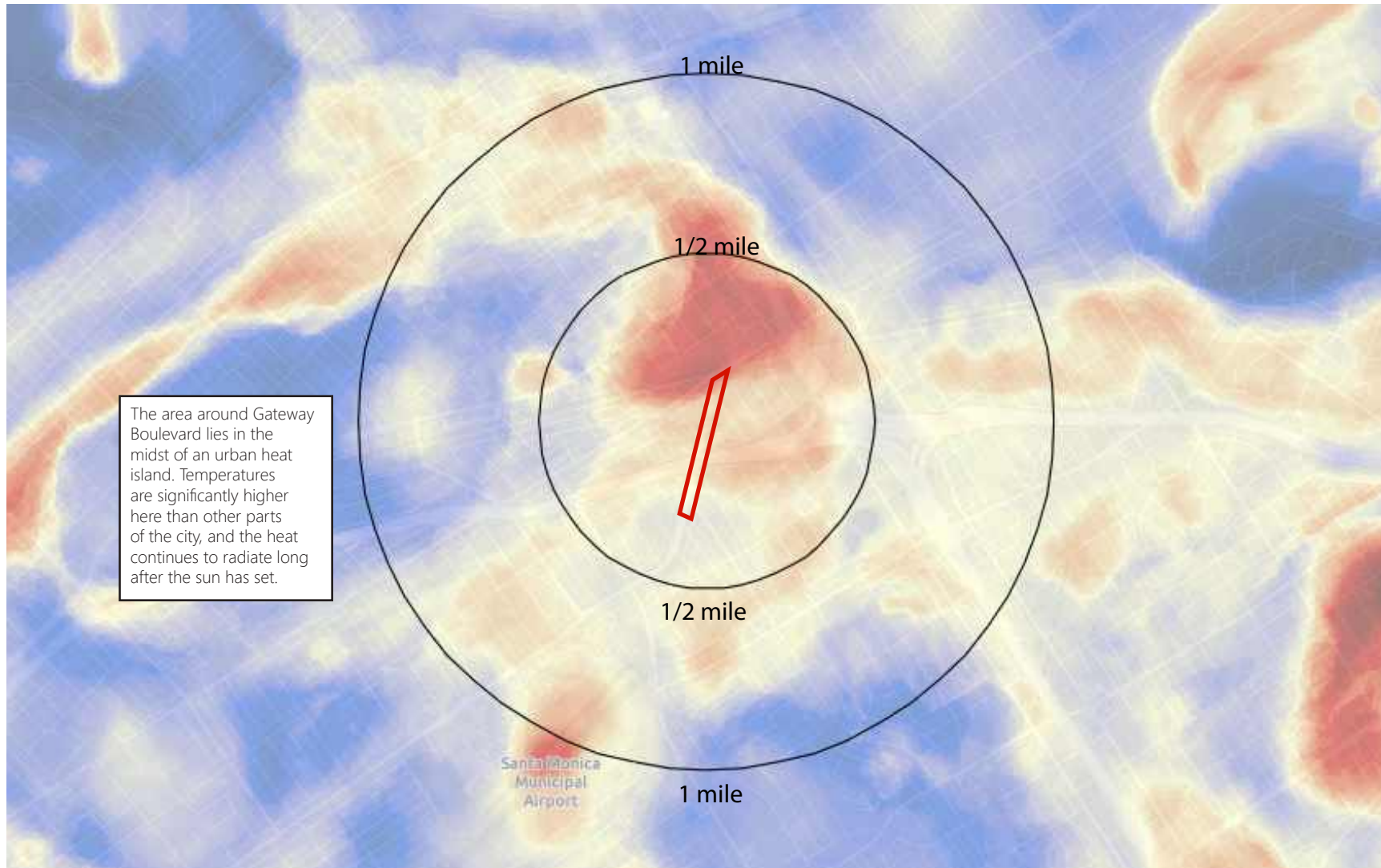
- Very high priority
- High priority
- 10-minute walk service area
- Park with public access




Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Sources: Esri, TomTom, Garmin,

Site Analysis

Urban Heat Islands



LEGEND

- | | | | |
|---|-------------------------------|---|------------------------------|
|  | Areas of very high heat index |  | Areas of moderate heat index |
|  | Areas of high heat index |  | Areas of low heat index |



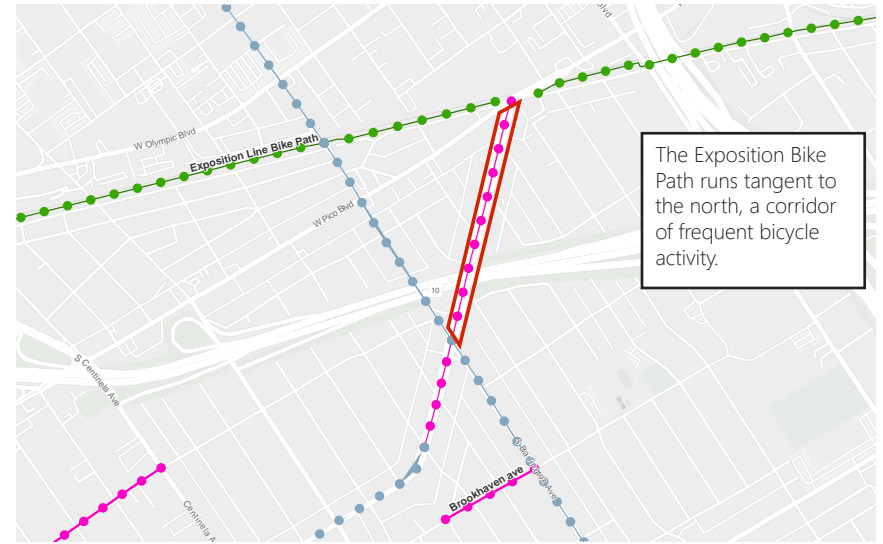
Site Analysis: Community Connection

Nearby Schools

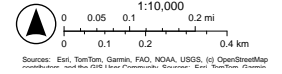


- Public High School
- Public Elementary School
- Special Curriculum
- Public Middle School
- Private or Charter School

Bicycle Paths



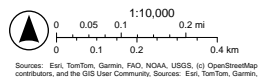
- LEGEND**
- Bike Path (Class 1)
 - Bike Lane (Class 2)
 - Bike Route (Class 3)



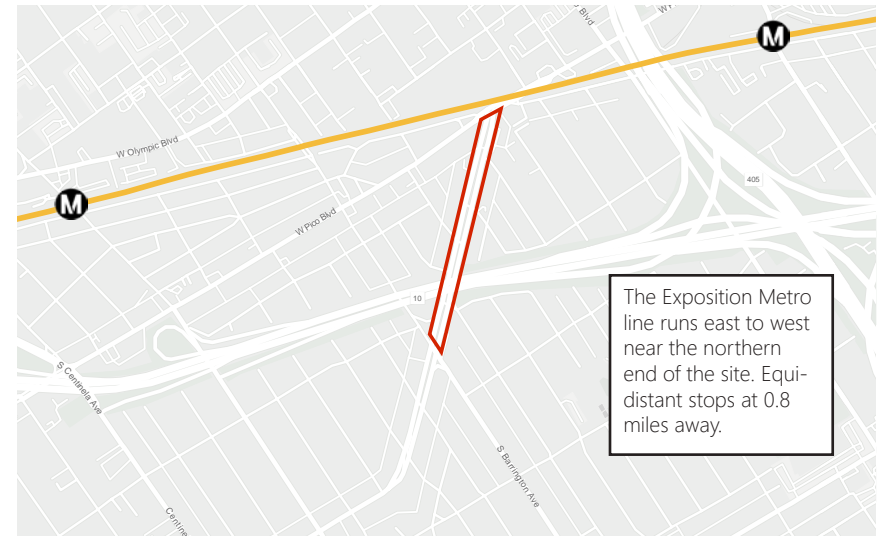
Bus Lines



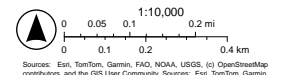
- Big Blue Bus Stops
- Culver City Bus Stops
- Long Beach Transit Routes
- Big Blue Bus Routes
- Culver City Bus Routes
- MetroBus Routes



Rail Lines

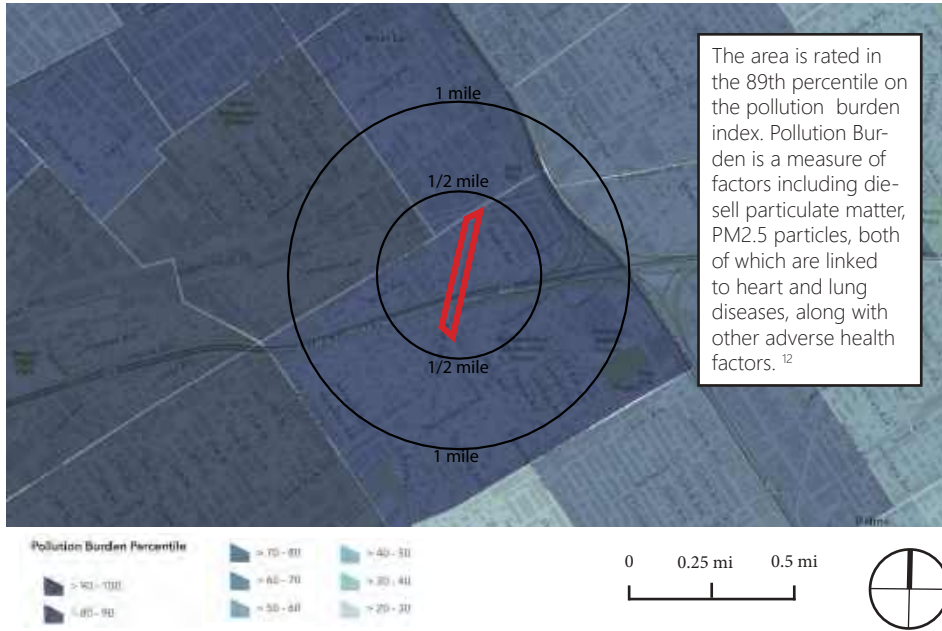


- M MTA Metro Stops
- MTA Metro Routes

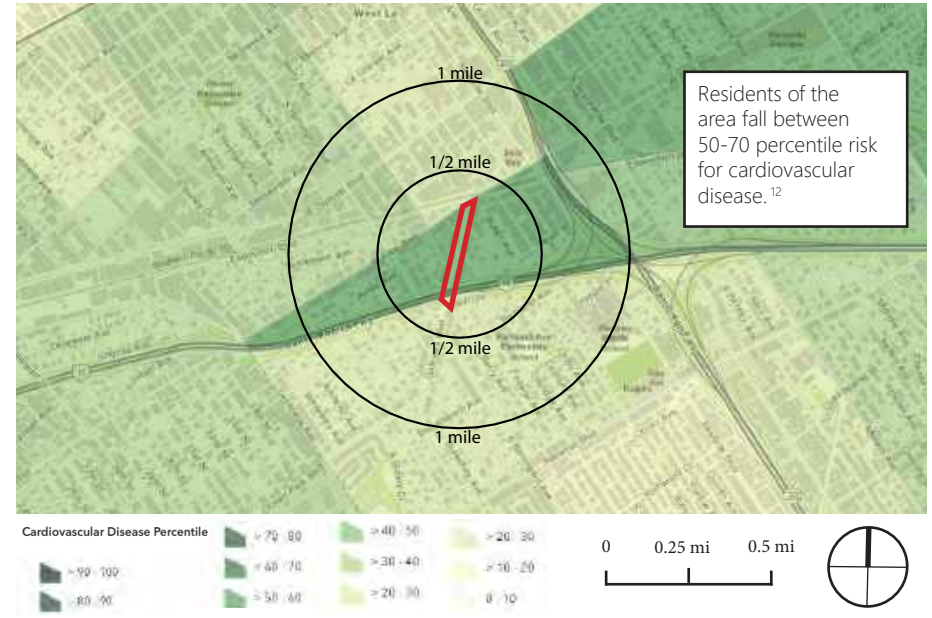


Site Analysis: Neighborhood Health

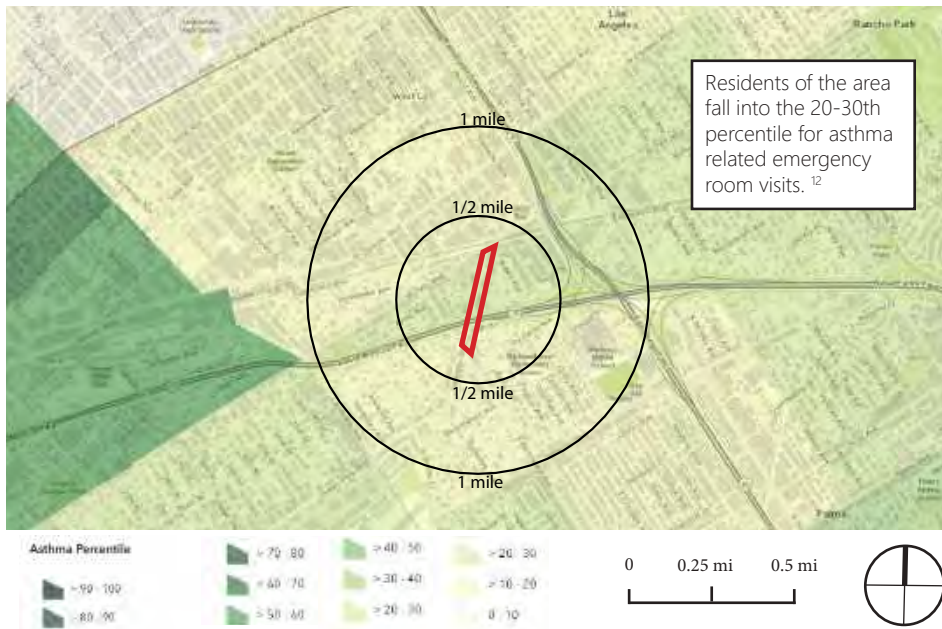
Pollution Burden



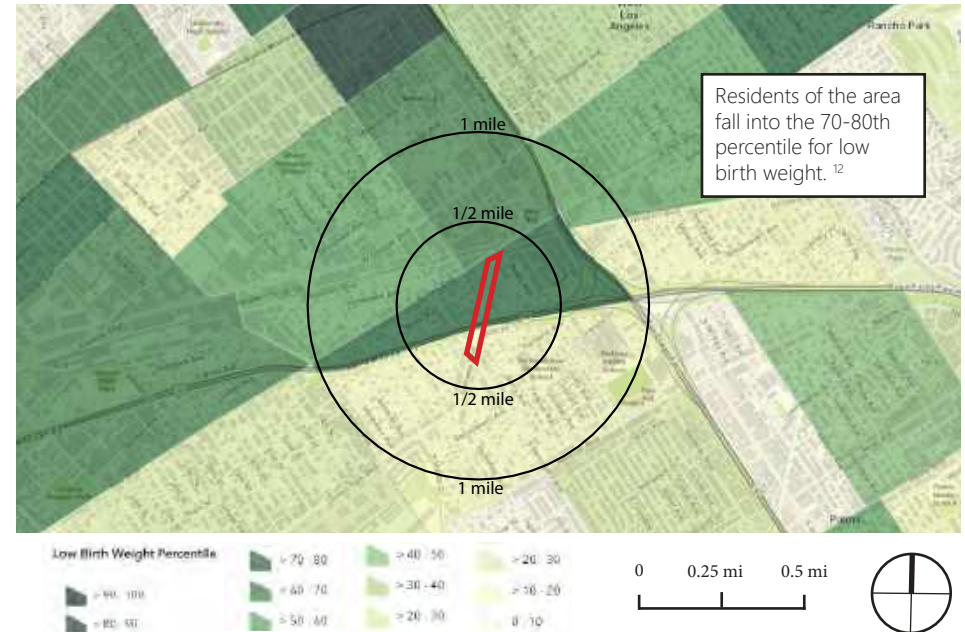
Cardiovascular Disease



Asthma

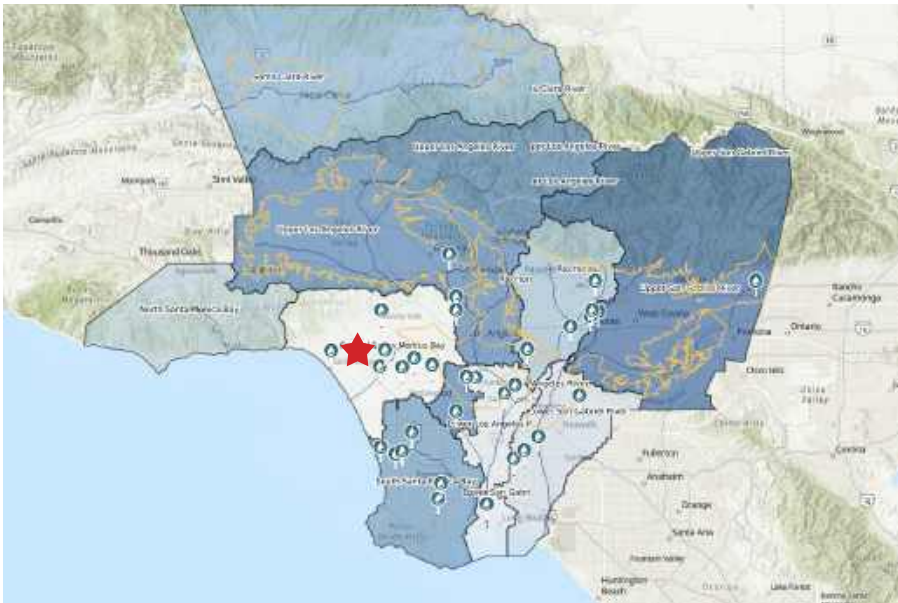



Low Birth Weight



Site Analysis: Stormwater Infrastructure

Regional Stormwater Infrastructure Sites

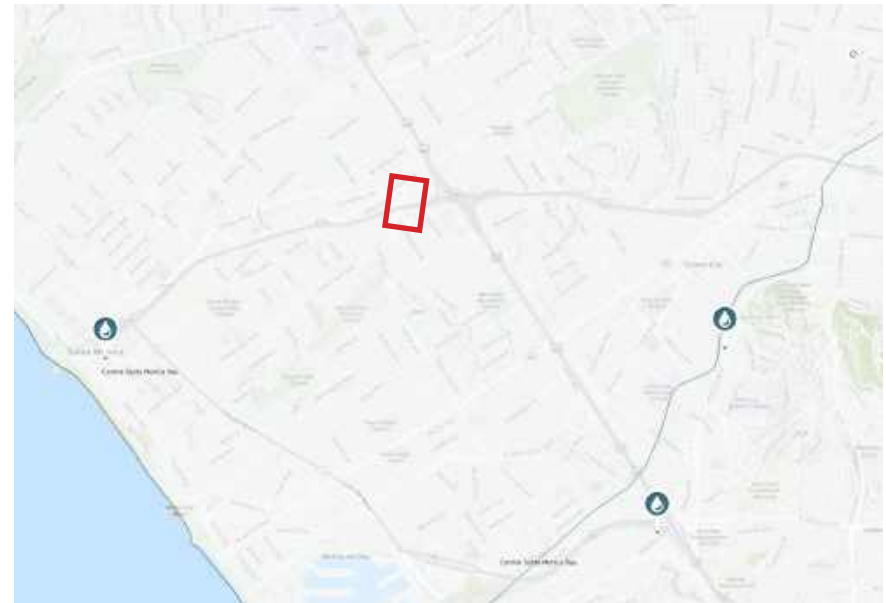


 Stormwater Infrastructure Site

Los Angeles County is working to reduce reliance on imported water through a variety of methods, including stormwater capture, water conservation, recycled water, and groundwater remediation. A number of large scale stormwater capture sites, shown above, are operational, under construction, or recently approved. ^{32 33}

Large-scale stormwater capture typically takes the form of spreading grounds, often engineered as reservoirs, controlled green spaces, and wetlands. These efforts can alleviate local flooding, improve water quality, improve local parks, provide social and economic benefits, and reduce urban heating. ^{32 33}

West LA Stormwater Infrastructure Sites



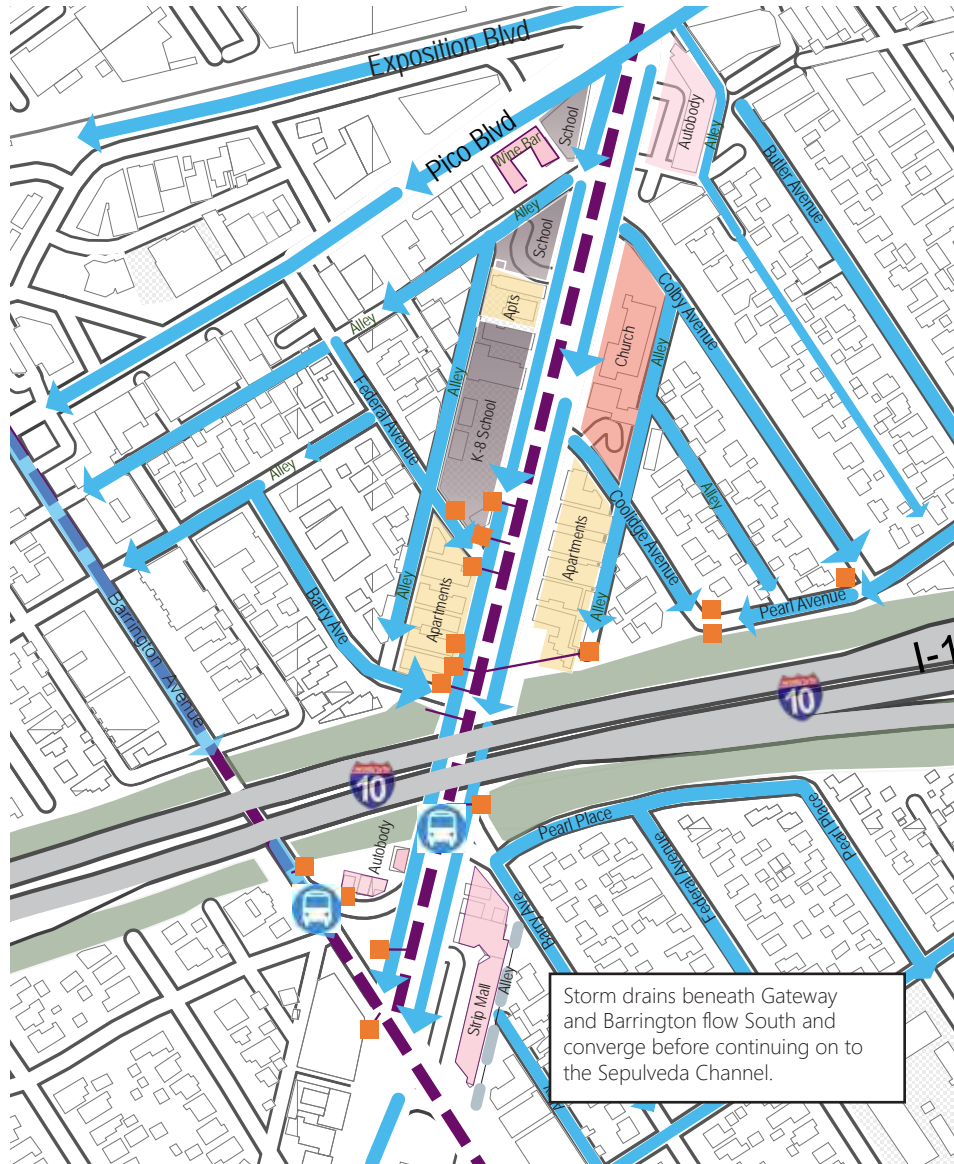
 Stormwater Infrastructure Site

There are four stormwater infrastructure sites in West LA, and only one--in Santa Monica--is for collection. The rest are for diversion or infiltration. ³²

The Santa Monica Sustainable Water Infrastructure Project (SWIP) consists of a 1.5 Million gallon cistern, constructed underneath's a City Hall parking lot. It collects water from an 88 acre area, which would otherwise funnel to the ocean. The facility has the ability to treat half a million gallons a day for reuse or replenishment back to the water table. That equates to 20% of Santa Monica's total water use. ^{31 36}

Site Analysis: Stormwater Management

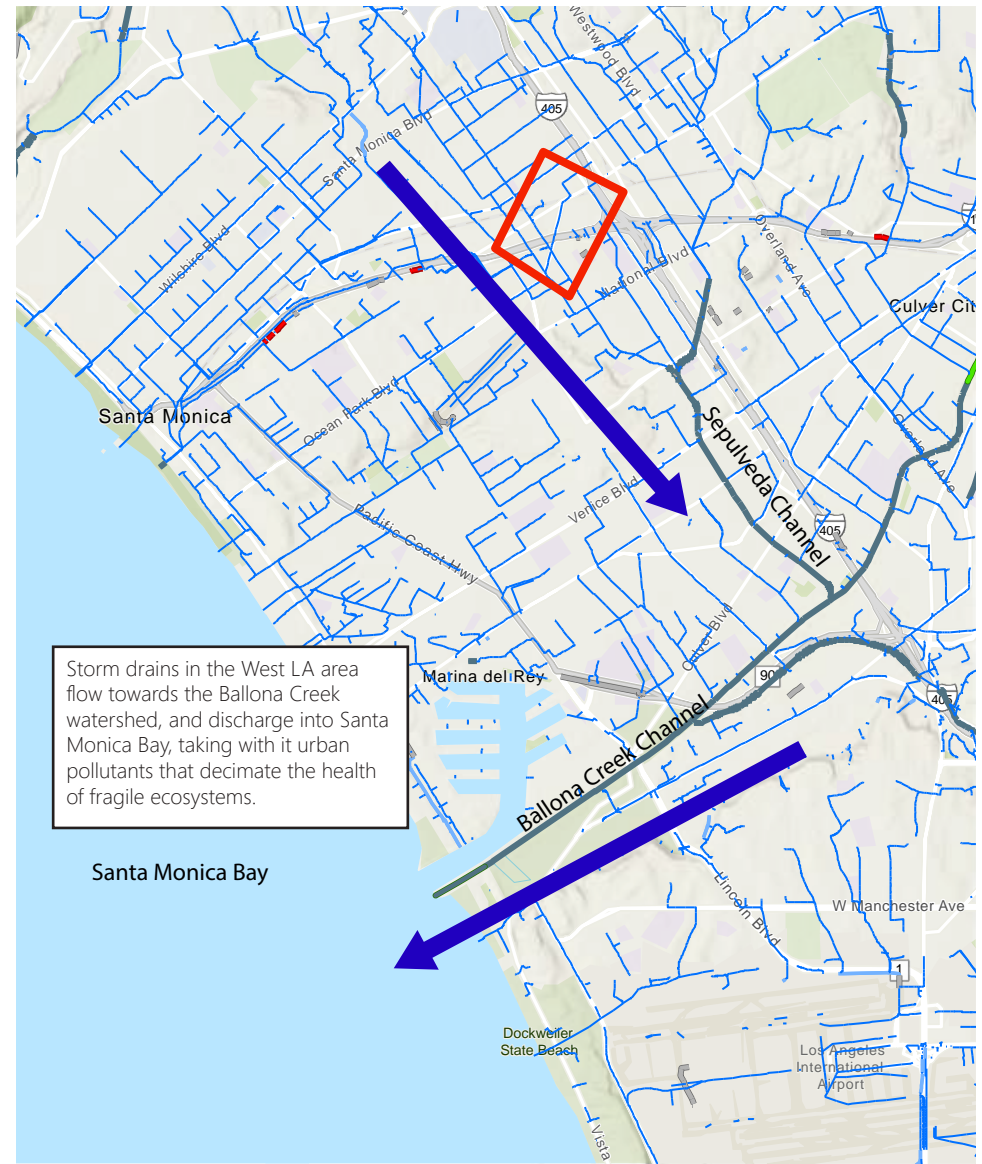
Site Stormwater Flow



LEGEND



Area Stormwater Flow



Storm drains in the West LA area flow towards the Ballona Creek watershed, and discharge into Santa Monica Bay, taking with it urban pollutants that decimate the health of fragile ecosystems.

LEGEND



Site Analysis: Air Pollutant Mitigation



There are a number of exciting technologies in development that aim to remove dangerous particulate matter from the air, including microalgal facades photocatalytic paint, and Co² sequestering concrete. ^{34 37 41}

However, this project seeks to implement a version of green infrastructure that, for now, shows the most robust evidence of efficacy: Green Barriers, which utilize a dense configuration of plants to mitigate air pollutants.

Plants remove air pollutants via three methods: ³⁵

- Absorption. Co², No² and volatile organic compounds are absorbed through the leaf stomata
- Deposition: Particulate matter, such as PM 2.5, becomes attached surface of leaf. This effectively takes the the particle out of circulation and washing away with the next rain.
- Dispersal. Whatever pollutants are not absorbed or trapped may be dispersed and made less concentrated by a green barrier.

Types of Green Barriers ³⁴

Plant Facade



Vines or climbing plants adhere to a mesh or trellis framework, creating a barrier. Some maintenance.

Living Wall



Made up of panels, textiles, or modules that house and nourish the plants. High maintenance, intensive.

Standard Hedge



Rows of trees or hedges planted along the roadway. Low Maintenance.

Pollution Fighting Plants ³⁵

Below is a selection of plants shown to be effective at removing particulate matter from air, largely due to leaf characteristics like roughness, hair-like structures, and presence of wax. It is also crucial to select low-water, climate-appropriate species that do not release high levels of volatile organic compounds (VOCs), which can contribute to smog formation.

Shrubs / Vines ^{35 38}



Hedera helix
English Ivy



Thuja occidentalis
Arborvitae



Cotoneaster franchetii
Gray Cottonaster



Sambucus nigra
Black Elderberry



Thymus vulgaris
Thyme

Trees ^{35 38}



Celtis reticulata
Neatleaf Hackberry



Platanus racemosa
Western Sycamore



Pinus Coulteri
Coulter Pine

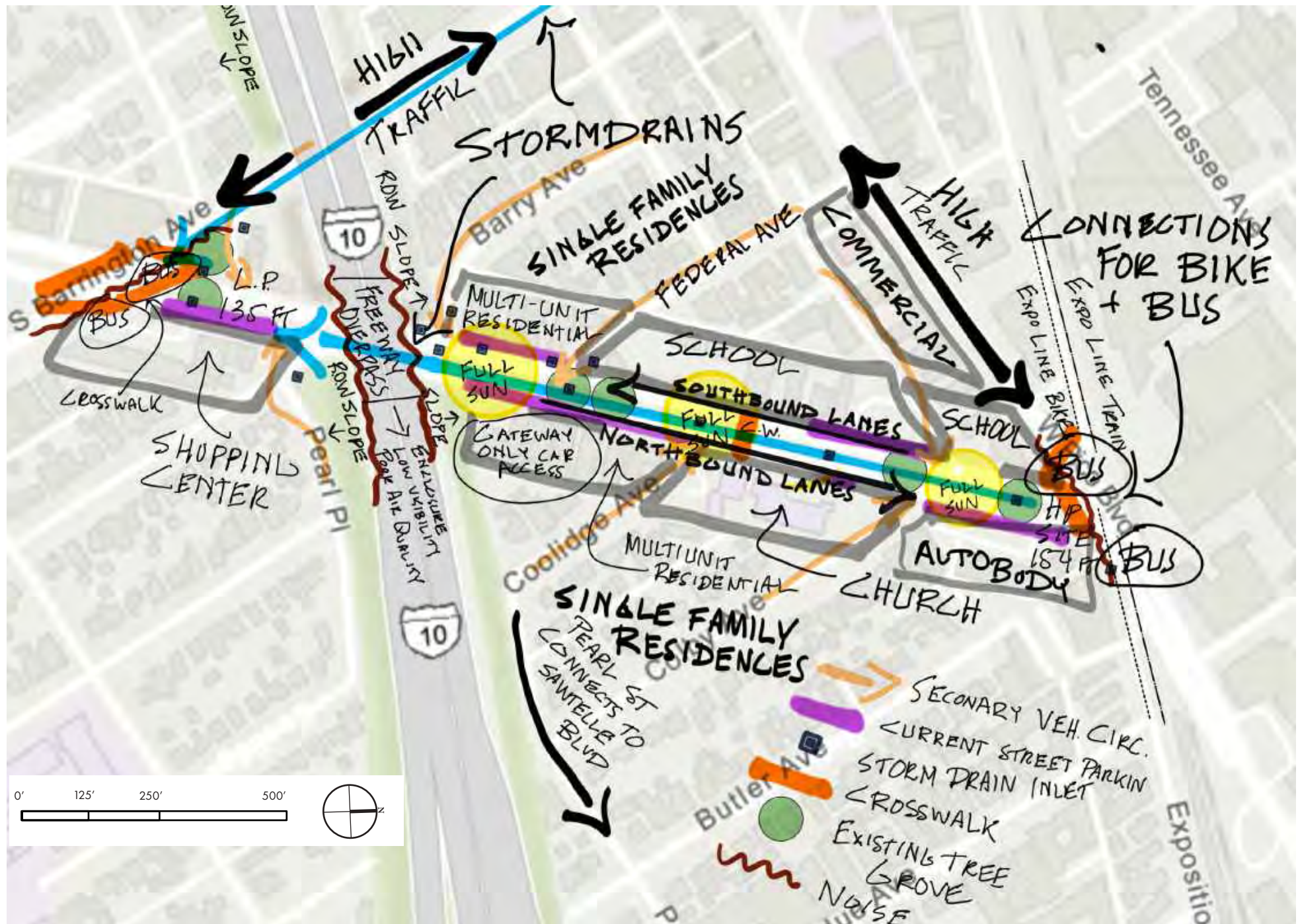


Quercus agrifolia
Coast Live Oak

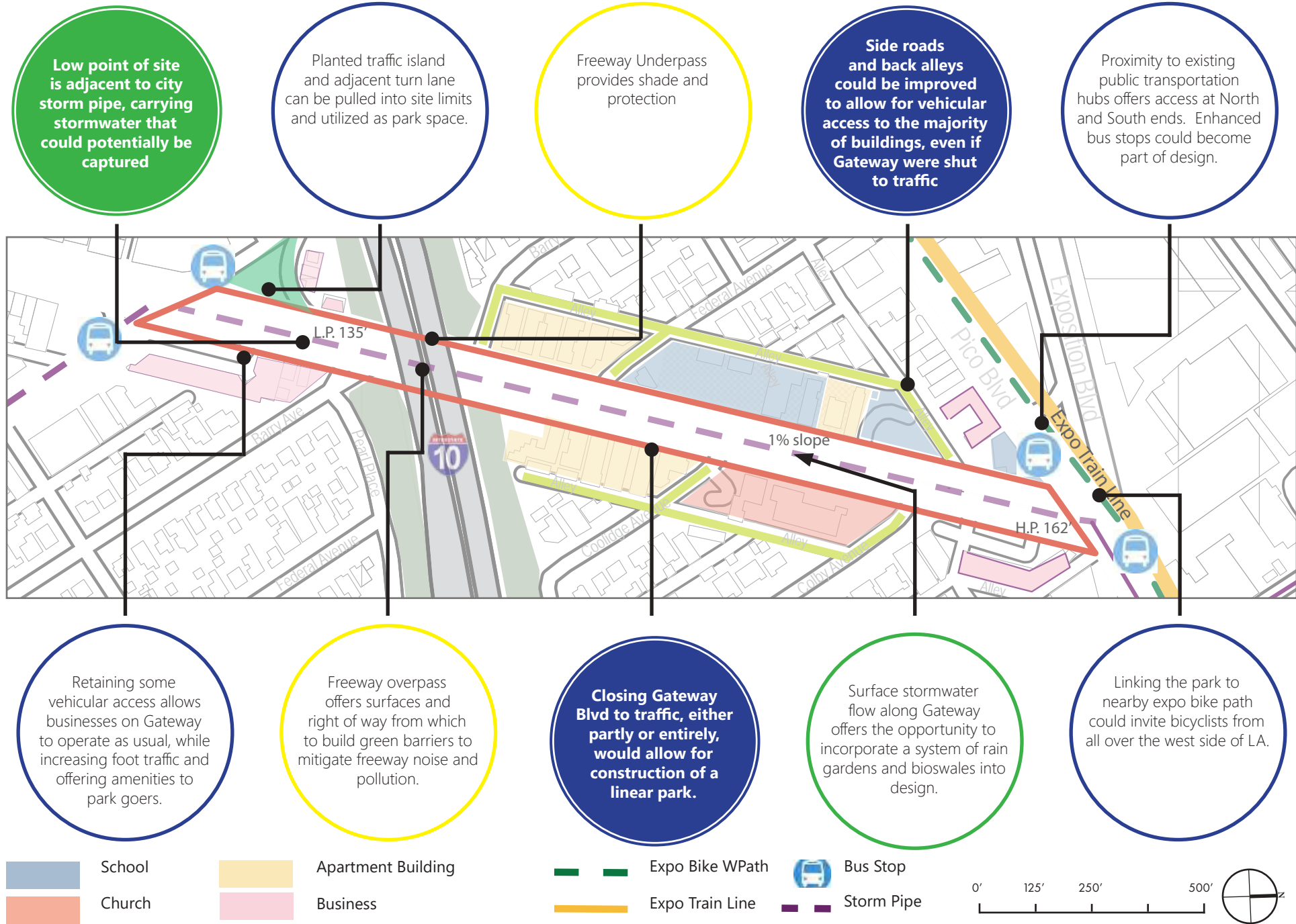


Geijera parviflora
Australian Willow

Site Analysis



Opportunities



Constraints

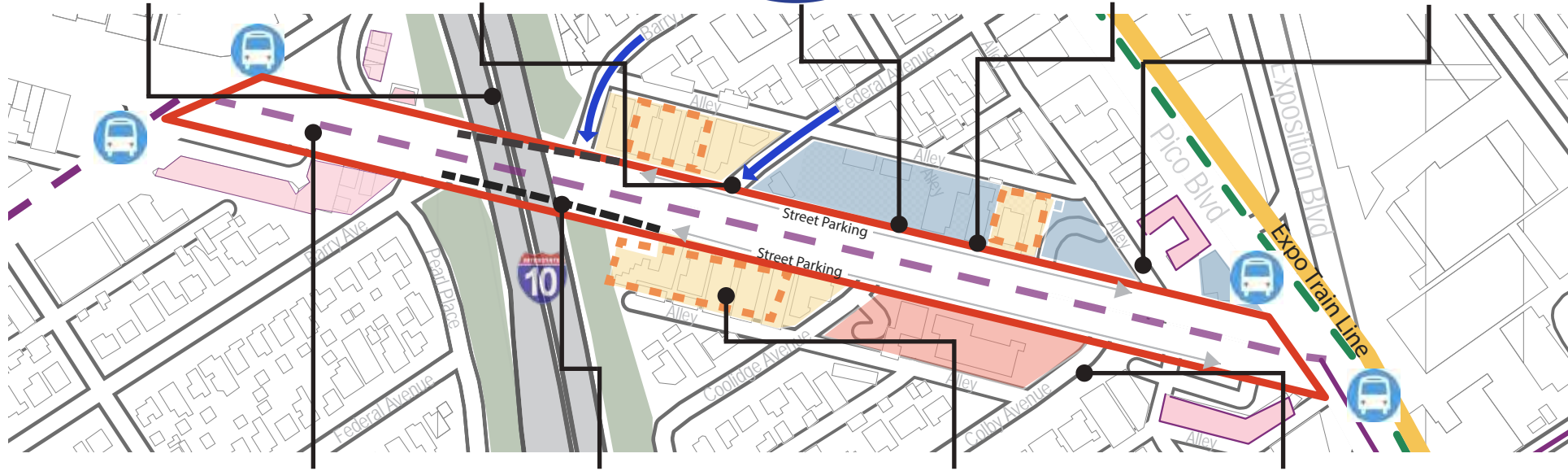
Presence of freeway overpass presents a variety of challenges such as noise, pollution, visibility, enclosure—all of which complicate health and safety.

Surface stormwater flows onto site from adjacent side streets. Design must incorporate solutions.

Visitors and residents regularly park along Gateway. Approximately 80 street parking spots.

Narrow extents of the Boulevard limit the scope of programming and pedestrian circulation. be considered.

Necessary to maintain vehicular access to school. Design should account for dropoffs, pickups, and parking lot access.



Given existing stormdrain system, water collection must take place beneath site

Bldv Right-Of-Way narrows under bridge by 20 feet, limiting space for sidewalks and constraining space for park

Some buildings only have direct street access from Gateway, which would be lost if all vehicular traffic is eliminated. Denoted by:



Adjacent neighborhood roads funnel onto Gateway. Careful consideration required for new vehicular circulation

 School	 Apartment Building	 Expo Bike Path	 Bus Stop
 Church	 Business	 Expo Train Line	 Storm Drain

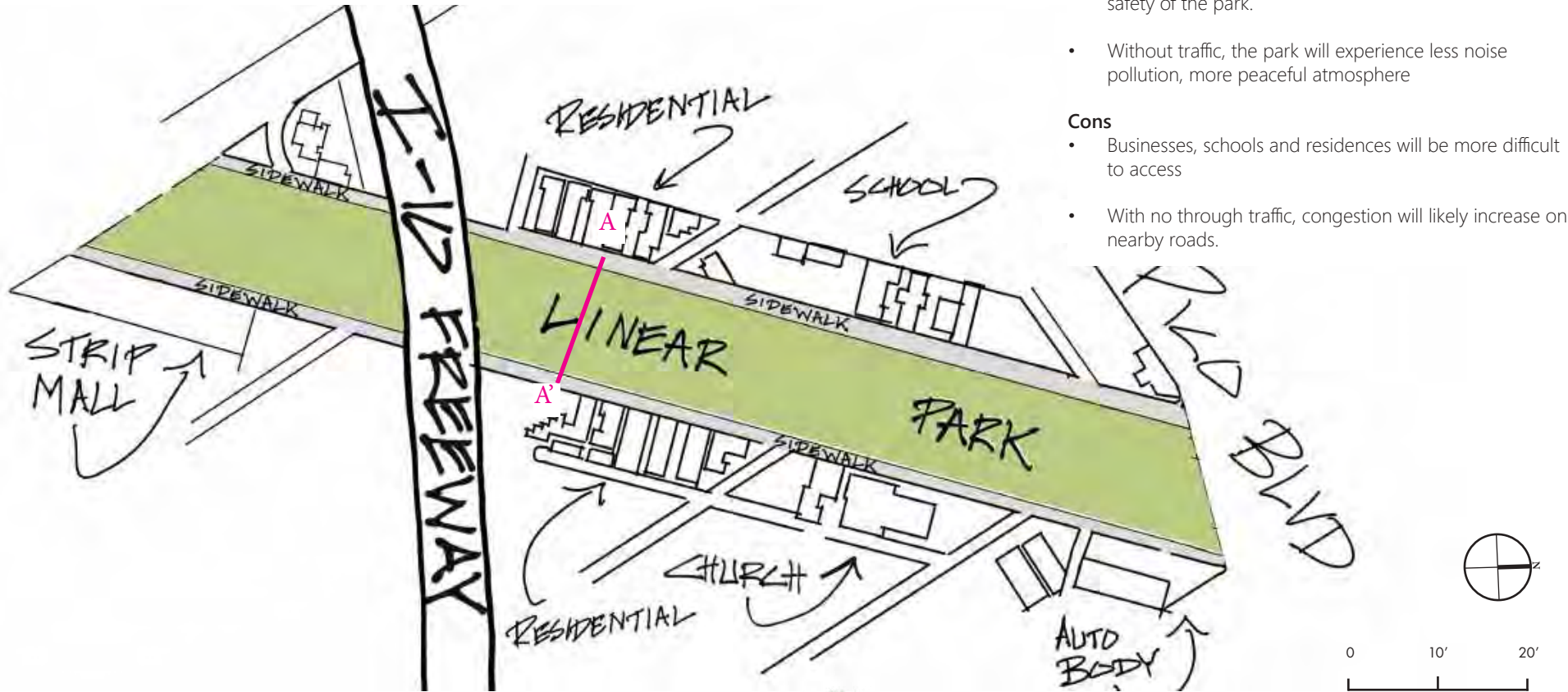
0' 125' 250' 500'



Design Concept One

“No Traffic / Park Only”

Entire width of Gateway is turned into a linear park

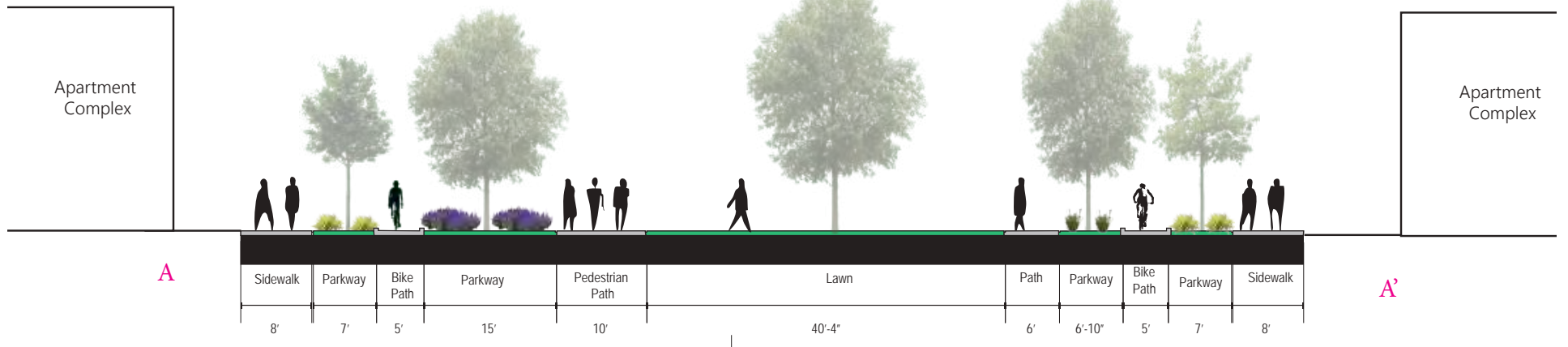
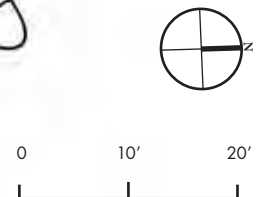


Pros

- Cars are eliminated entirely, which frees up more space for park programming, and enhances the health and safety of the park.
- Without traffic, the park will experience less noise pollution, more peaceful atmosphere

Cons

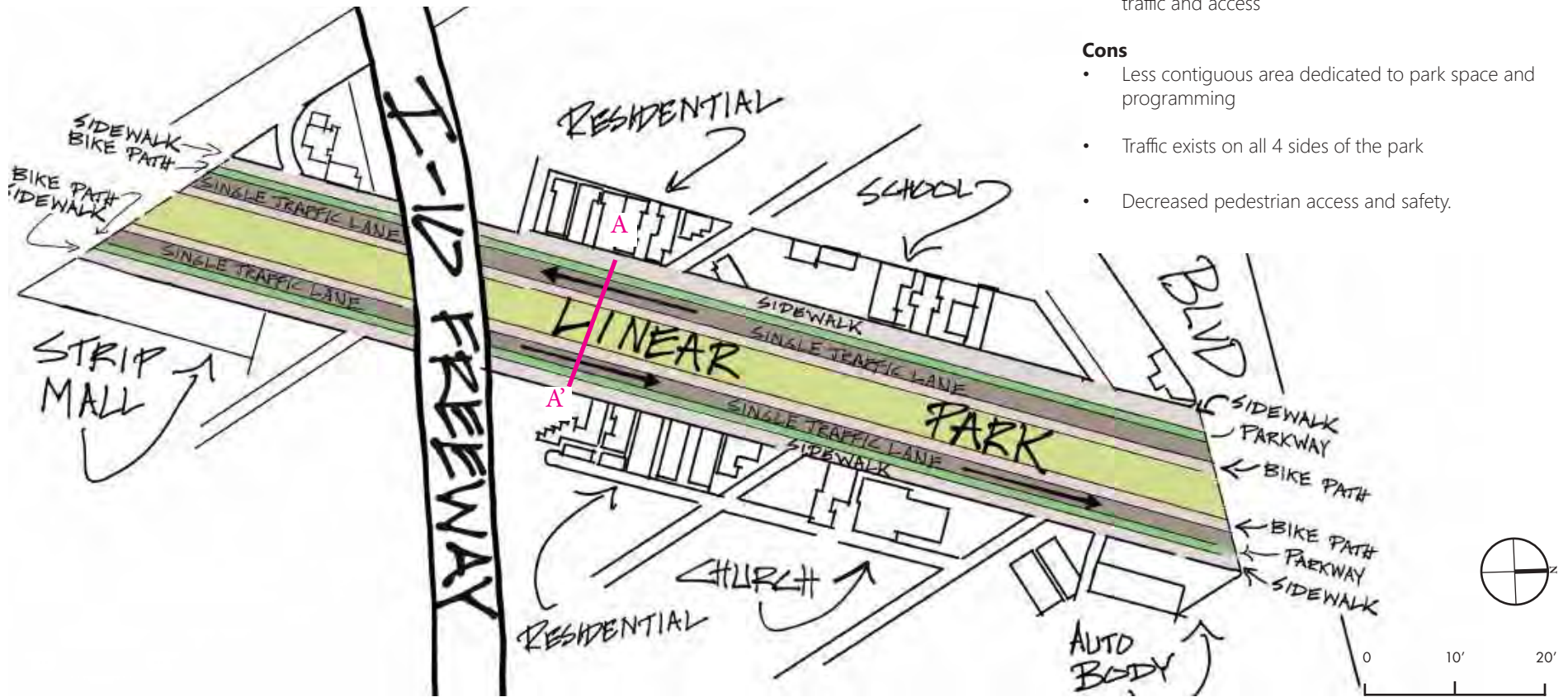
- Businesses, schools and residences will be more difficult to access
- With no through traffic, congestion will likely increase on nearby roads.



Design Concept Two

“Bi-Lateral Traffic”

One lane of traffic on each side of linear park

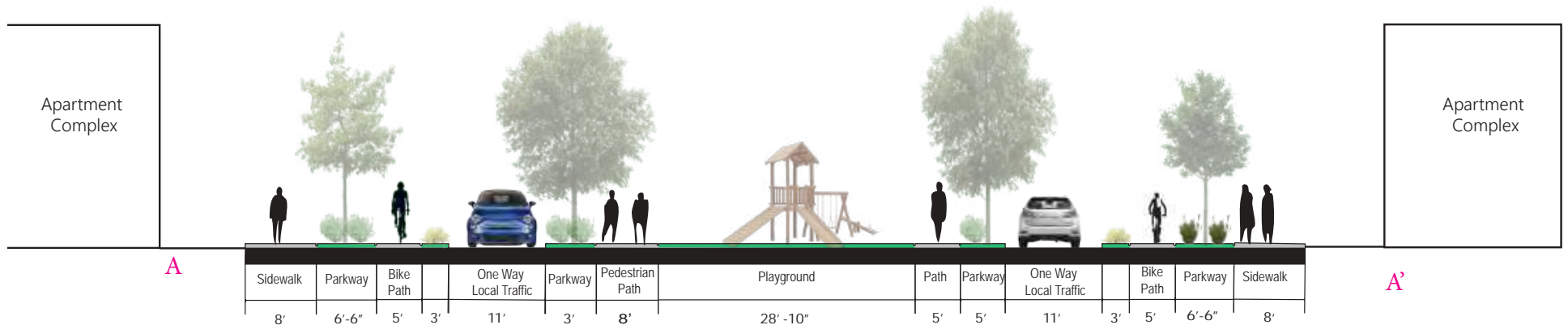


Pros

- Allows reduced--but complete--vehicular access to local residents and businesses, minimizing adverse effects to traffic and access

Cons

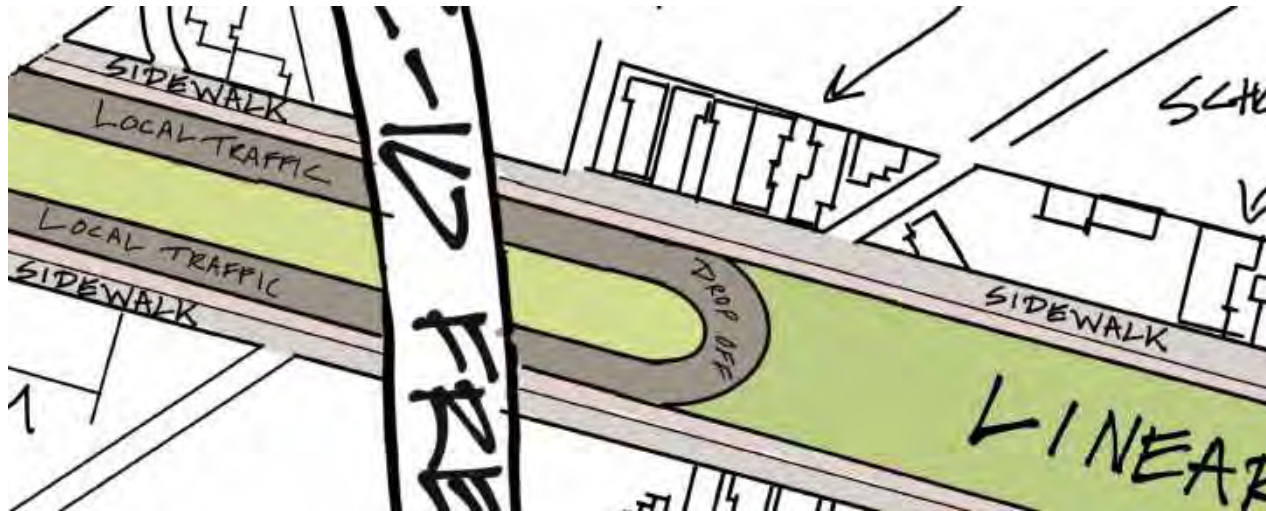
- Less contiguous area dedicated to park space and programming
- Traffic exists on all 4 sides of the park
- Decreased pedestrian access and safety.



Design Concepts Three & Four

“Roundabout”

2 Lanes of traffic on East side of Park



Pros

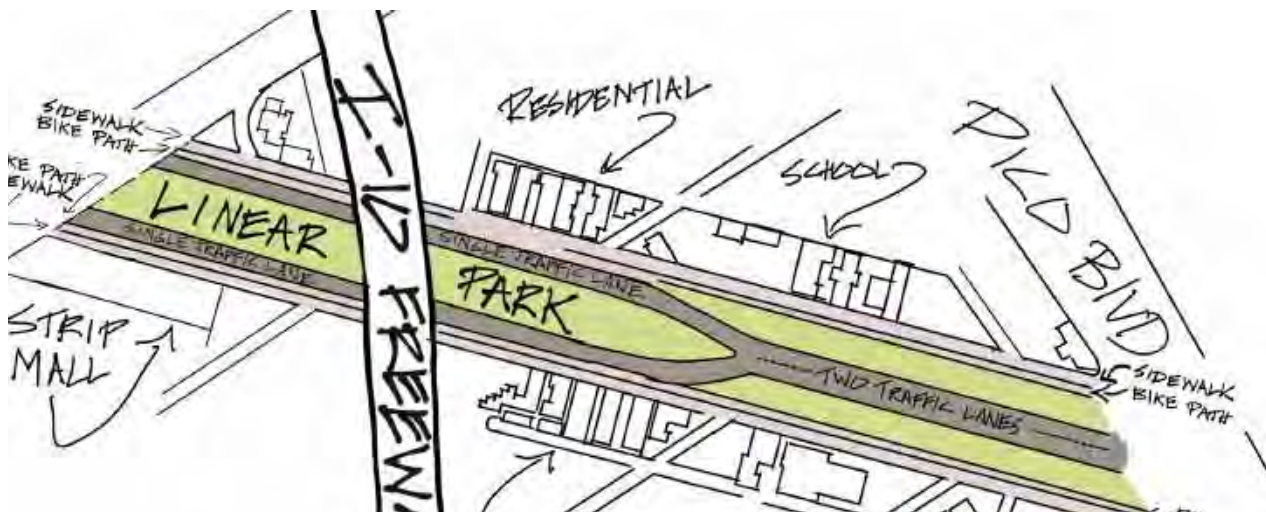
- Keeps most of park free from vehicular traffic
- Provides Gateway access to buildings with limited alternative street access
- Allows for easy dropoffs / pickups

Cons

- Roundabout divides the park, creates an undesirable street crossing
- Roundabout monopolizes one of the park's sunniest areas

“Traffic Fork”

Traffic forks halfway through the linear park



Pros

- Maintains through traffic for residents and businesses concerned about vehicular disruption
- Maintains Gateway access for buildings with limited alternative street access

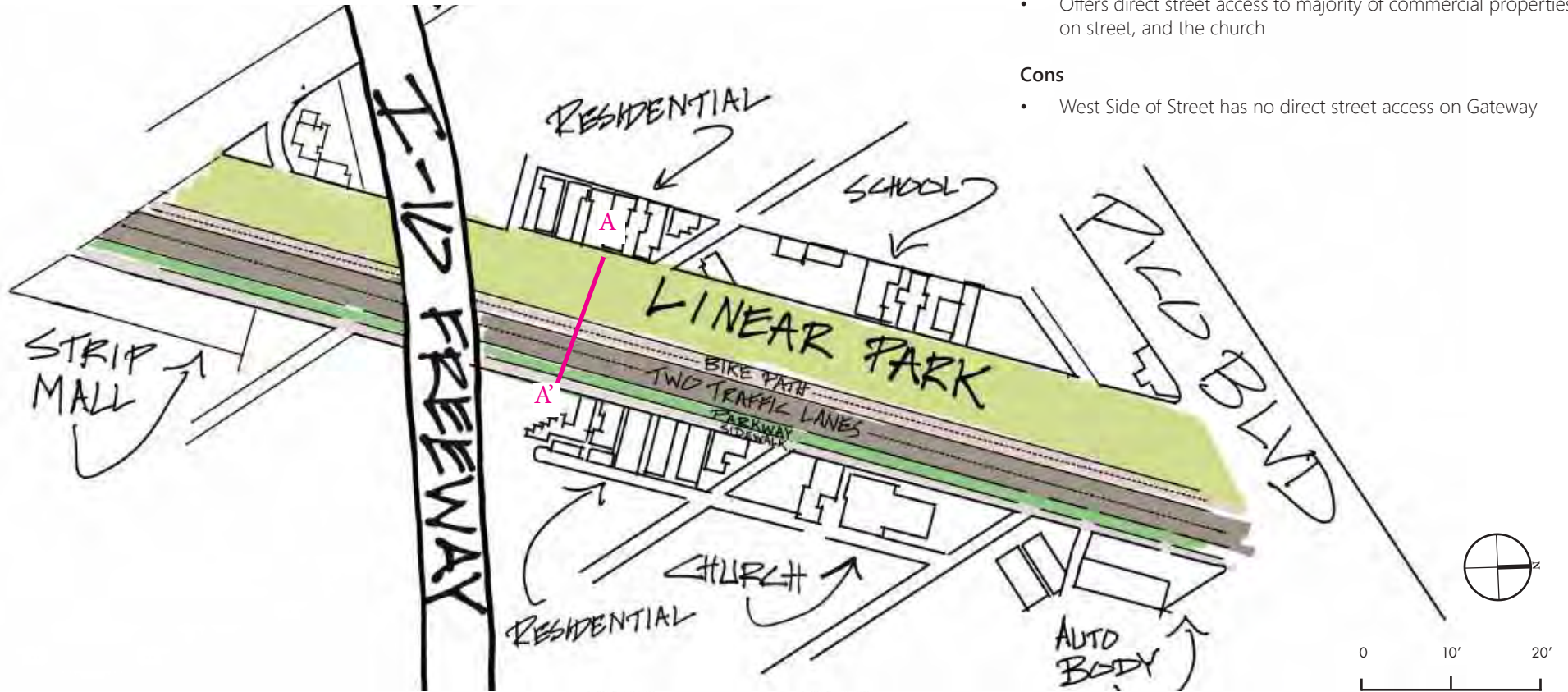
Cons

- Streets split park into thirds, reducing potential park space
- Creates several street crossings within park

Selected Design Concept

“Lateral Traffic”

2 Lanes of traffic on East side of Park

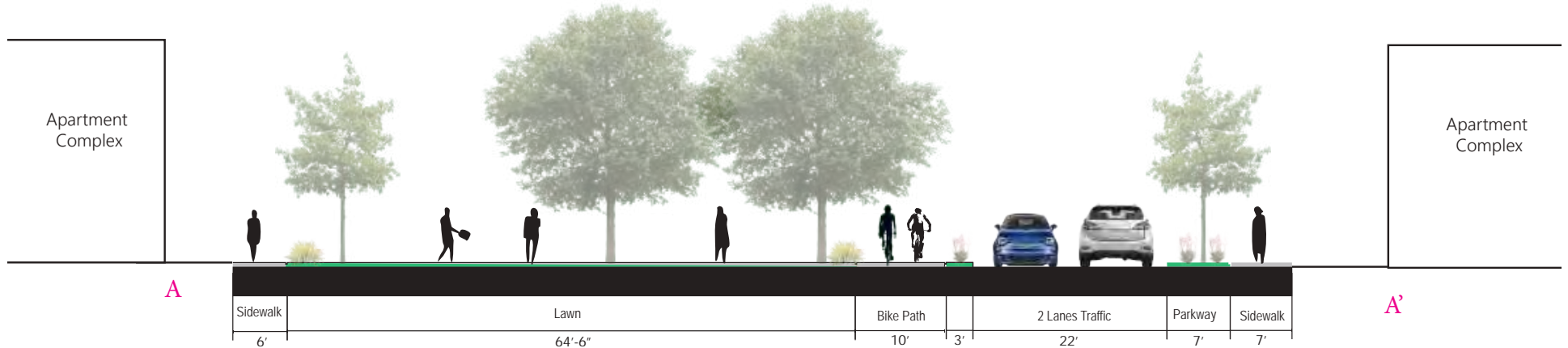


Pros

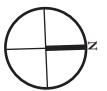
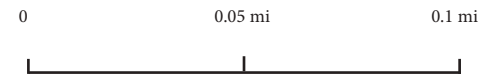
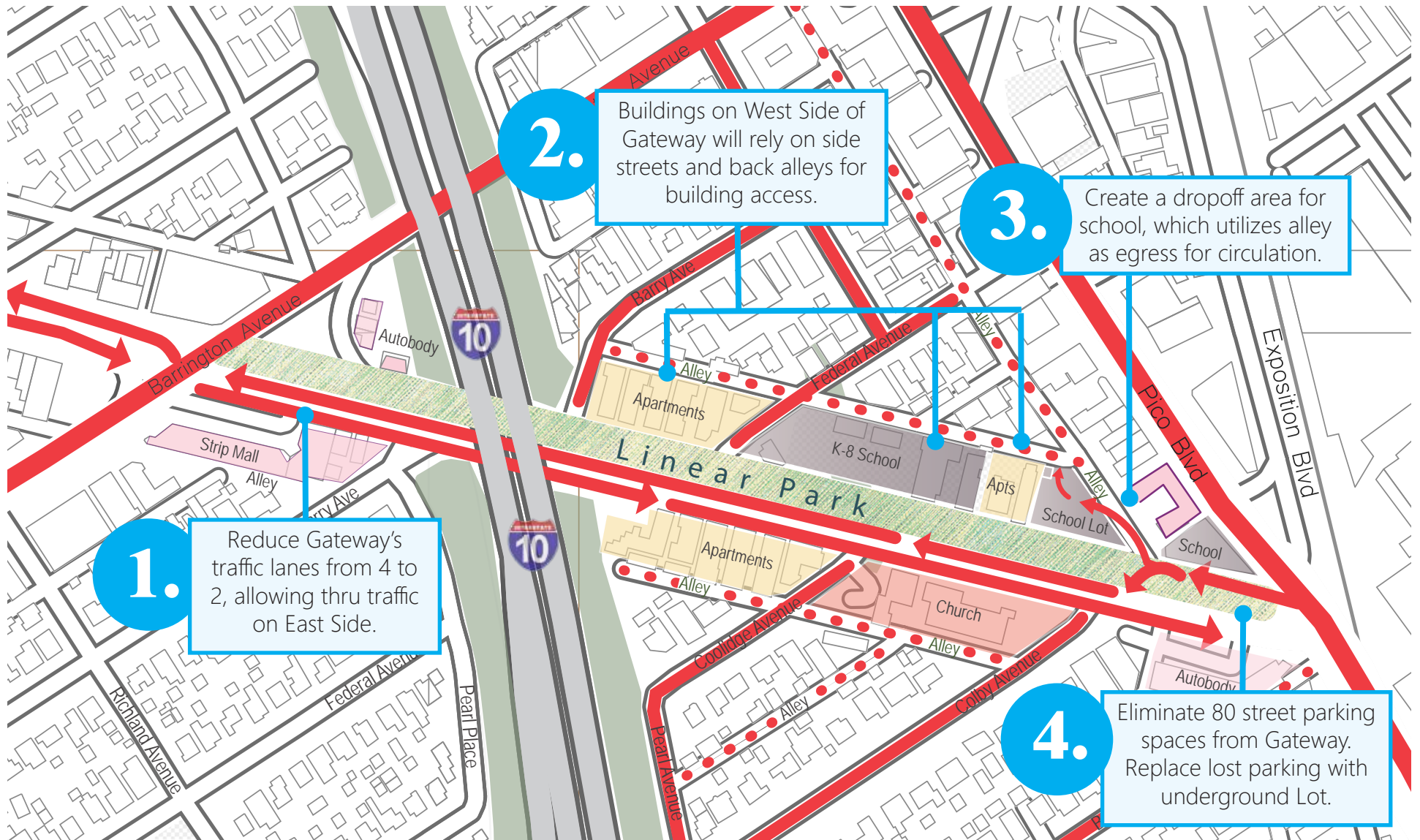
- Isolates vehicular traffic to only one side of the park--keeps parkgoers further from cars and enhances safety
- Offers direct street access to majority of commercial properties on street, and the church

Cons

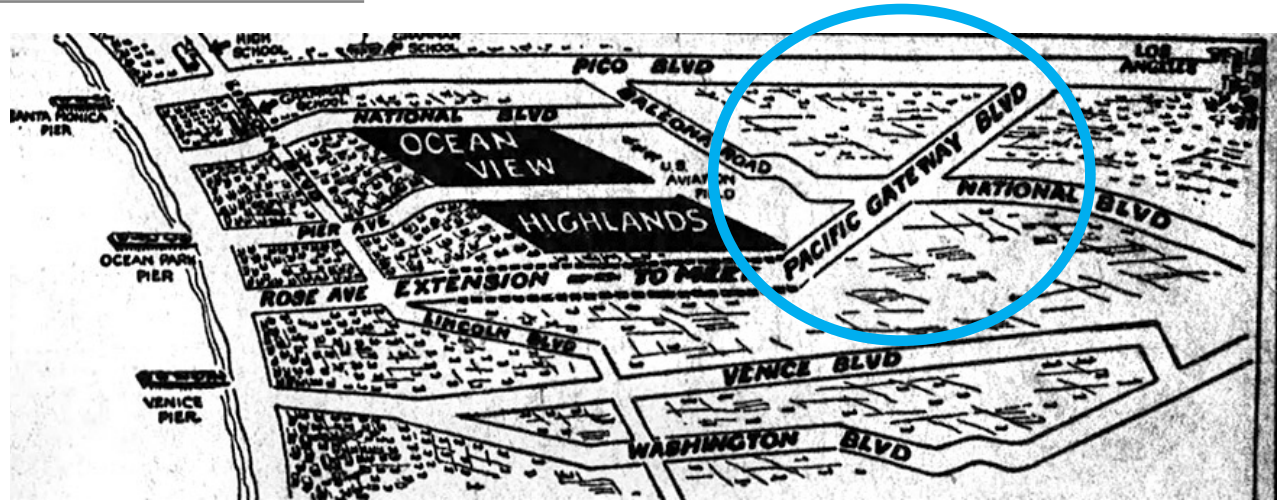
- West Side of Street has no direct street access on Gateway



New Vehicular Circulation



Pacific Gateway



The Design Metaphor, "Pacific Gateway", roots the design in the original conception of the street, which was envisioned as a gateway to the Pacific Ocean.

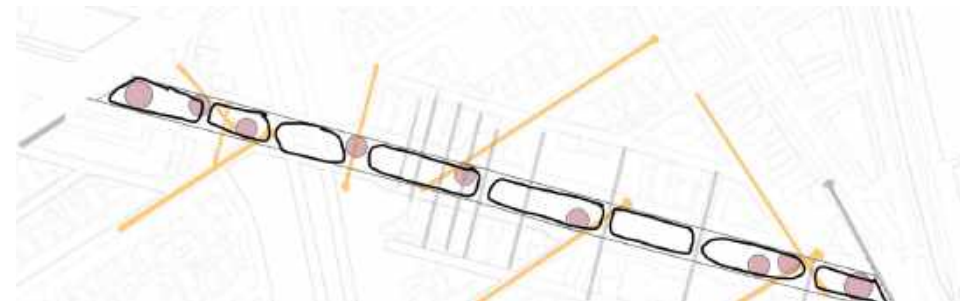
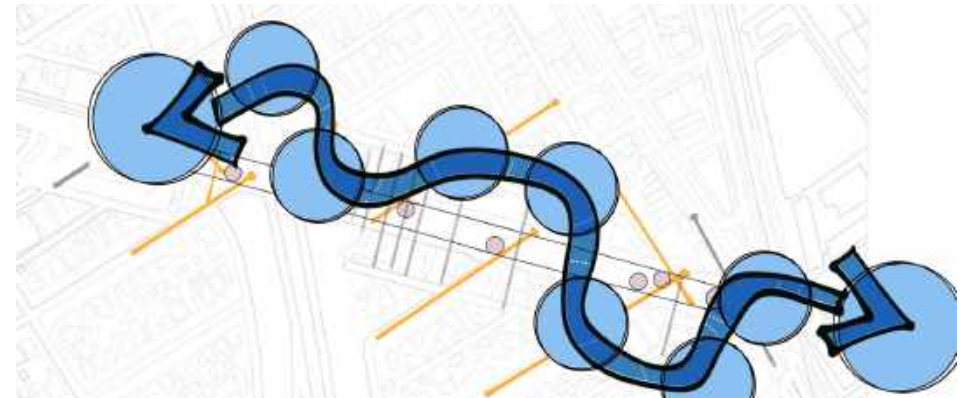
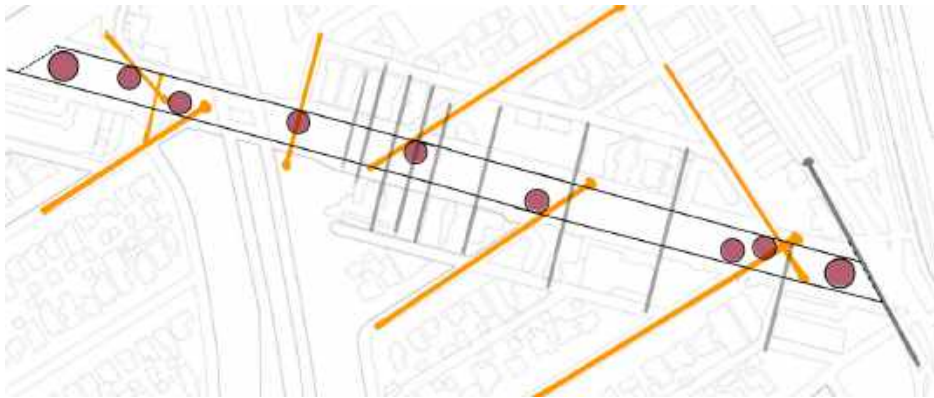


Design Metaphor

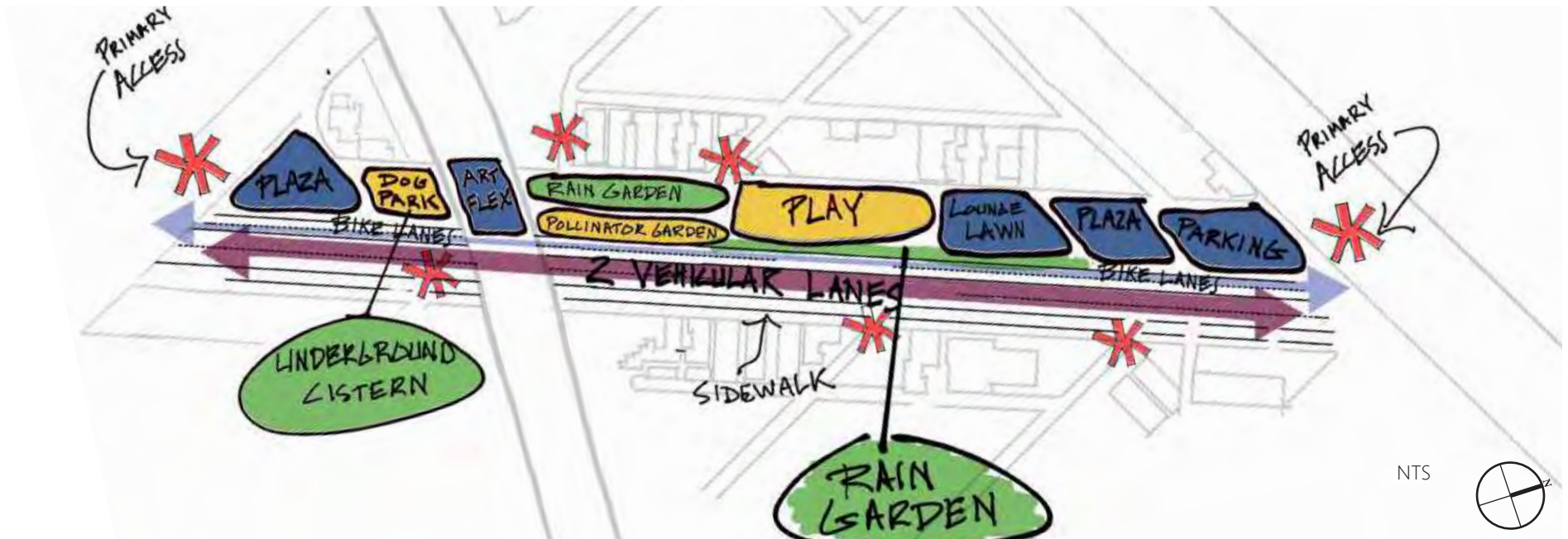
Each space in this park has, at heart, its own oceanic parti. Metaphors such as Anchors, Currents, Tidal Pools and Marinas provides a grounding for design choices. While each area is thematically unique, they work in tandem to create an end-to-end parkgoing experience.



Concept Development



A dynamic design process considers the major access points, the form and mass of surrounding buildings, and potential nodes of activity. As individual spaces take shape, bubble diagrams display how programming may inhabit them.



Building Materials

The park will be designed with these materials in mind, which are sustainable, permeable, heat mitigating, and recycled where appropriate.



Permeable Paver
Plazas



White Cement /
limestone aggregate
Plazas



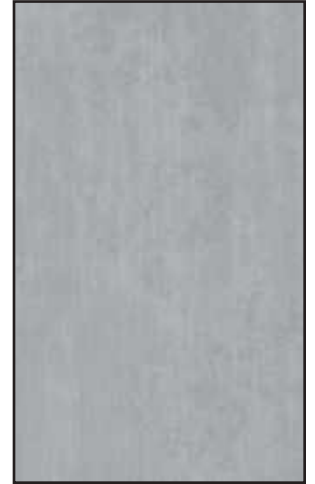
Porous Asphalt
Bike Paths



Ipe Wood Decking
Seating Areas



Decomposed Granite
Garden Paths



Soft Concrete
Benches



River Rocks
Bioswales



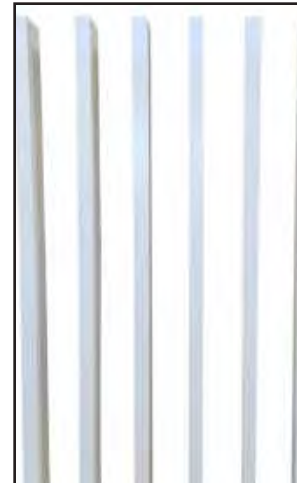
Pour In Place Rubber
Playground



Grasspave
Maintenance Access



Stone
Retaining Walls



Aluminum Batten
Fencing



Integral Concrete
Path

Plant Selection

Below is a sample of what the plant palette might look like. It consists of native and climate adapted species, trees that provide a shade canopy, pollutant mitigating plants, low water or drought tolerant, pollinator attraction, and plants that are raingarden appropriate for corresponding areas.



Leymus condensatus
Canyon Prince



Platanus recemosa
Western Sycamore



Pinus eldarica
Mondell Pine



Quercus agrifolia
Coast Live Oak



Berberis aquifolium
Oregon Grape



Muhlenbergia rigens
Deer Grass



Arctostaphylos
'Howard McMinn'
Manzanita



Achillea millefolium
Common Yarrow



Lavandula pedunculata
Spanish Lavender



Artemisia californica
California Sagebrush



Salvia leucophylla
'Amethyst Bluff' Sage



Chitalpa tashkentasis
'Pink Dawn' Chitalpa

Site Plan | Pacific Gateway Park

Food Truck Plaza



Pollinator Garden



Picnic Area



Lawn / Shaded Seating



Community Center



Bus Hub & Dropoff



0' 125' 250'



Dog Park



Underpass Art Space



Exercise Stations



Playground



Splash Pad



Underground Parking

Anchor Plaza | Barrington Entry

The southern plaza anchors the park with gardens, shaded seating, and maritime themed sculptures. An improved bus stop invites public access. A sail inspired shade structure, with café seating, acts as the center of activity—all atop a hardscape of permeable pavers. The plaza is designed for food trucks and markets, giving people a reason to come and congregate.



Reduced Vehicular Access

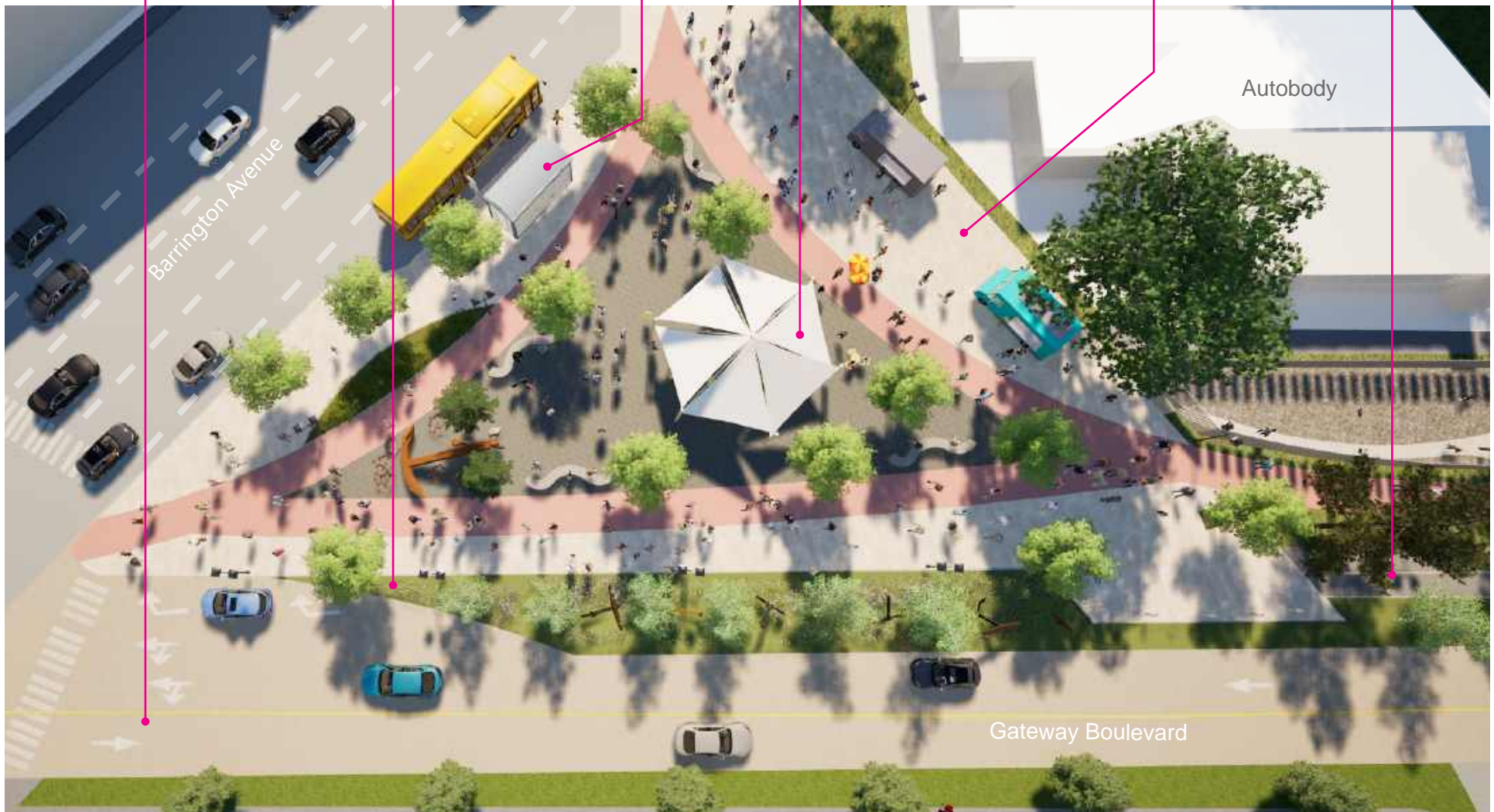
Anchor Rain Garden

Improved Bus Stop

Sail Inspired Shade Structure

Food Truck / Market Area

Bike Path



Autobody

Gateway Boulevard

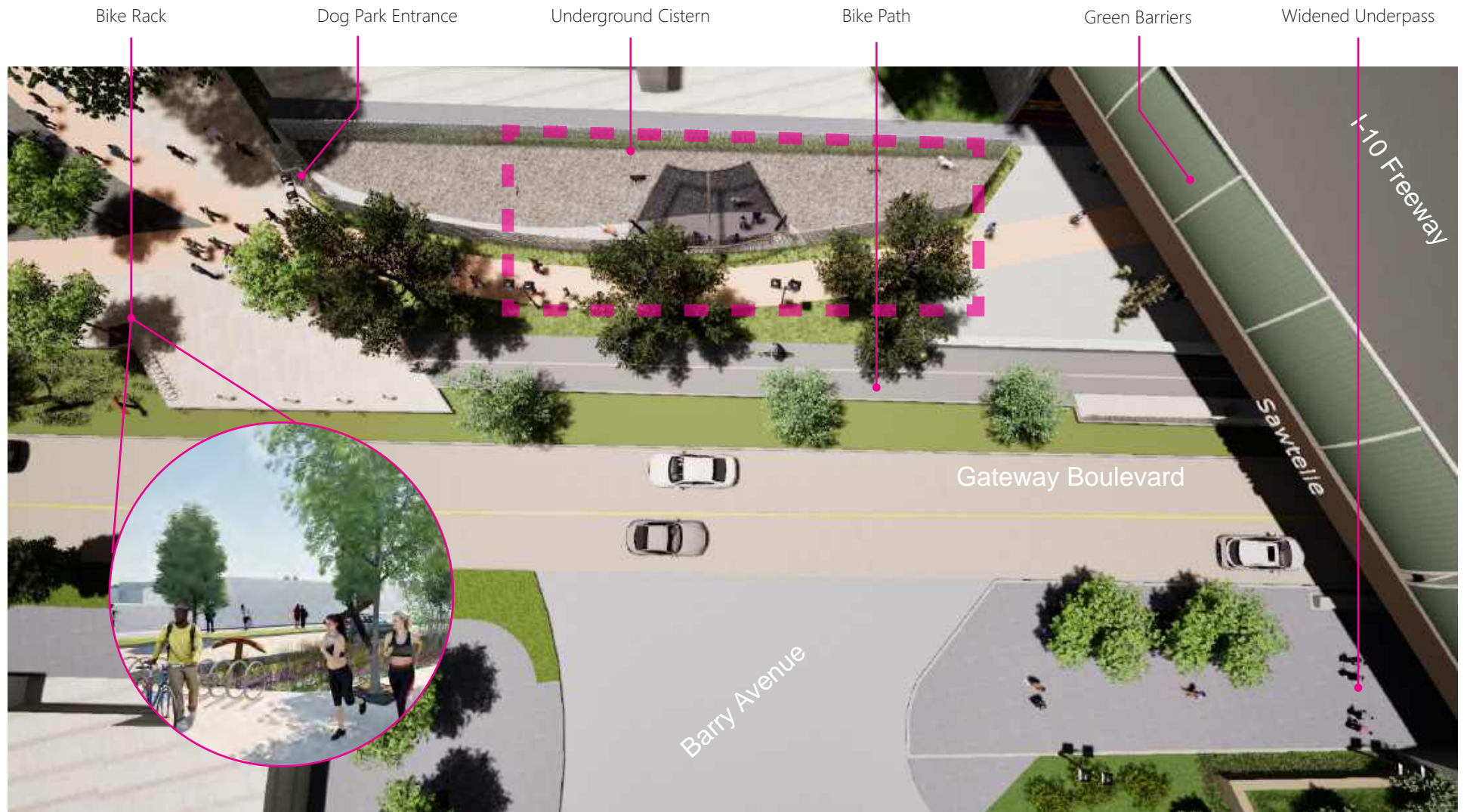


Anchor Plaza | Perspectives



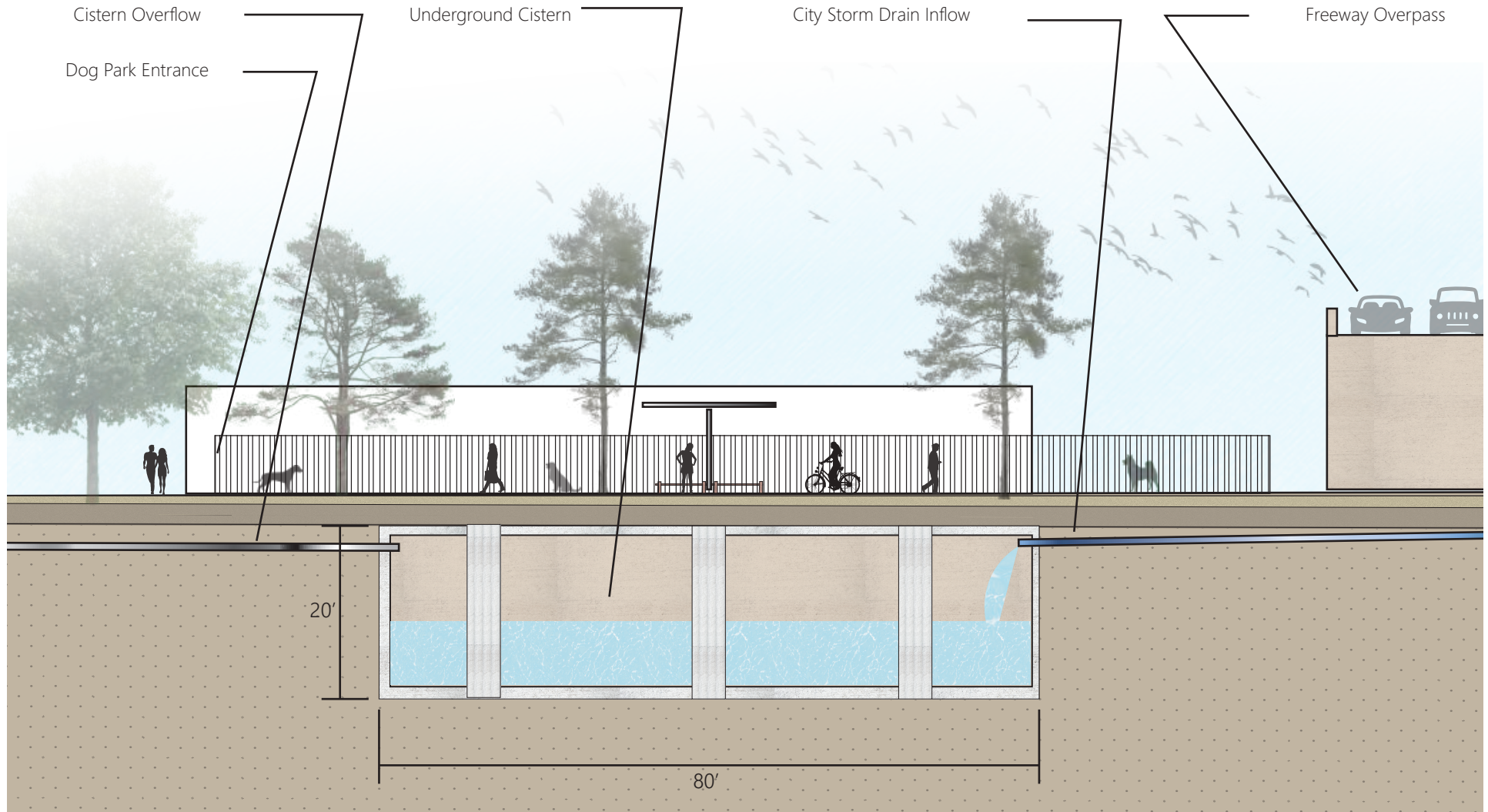
Seabed | Dog Park and Bike Path

A class I bike path launches from the northern end of the plaza. A small dog park provides neighbors a place to let their companions off leash, underneath Eldarica pine trees. Green barriers line the freeway overpass, intended to reduce airborne pollutants. The boundaries of an underground cistern are indicated by the dashed line.



Seabed | Cistern Section

Beneath the dog park lies an 80,000 ft³ cistern that captures water directly from the city storm drain that runs underneath Gateway Boulevard. The cistern has a capacity to hold 600,000 gallons of stormwater for treatment and re-use.



Seabed | Underpass Renovation

In order to address the narrow sidewalks, the underpass was excavated and widened, resulting in a safer and brighter pedestrian experience. The right-of-way has been re-graded with retaining walls. Along the top edge of the overpass, note the planted green barriers, mitigating freeway pollution and noise.



Neighborhood Boundary Sign

Green Barriers

Widened Sidewalks

Planted Retaining Walls

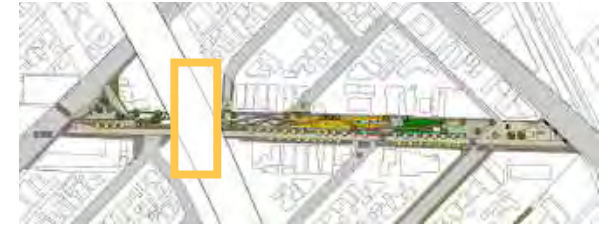


Before



Kelp Forest | Underpass Art Space

The I-10 underpass is re-envisioned as both an artistic space and an educational tribute to the kelp forests of Santa Monica Bay. It features interactive sculptures, sea urchin inspired lighting, and a nautical mural. The space offers respite from the California heat, and can double as a space for markets on a rainy day.



Kelp Sculptures

Bike Path

Interpretive Signage

Pathway To Barrington

Sea Urchin Inspired Lighting

Undersea Mural



Local Currents | Yamaguchi Garden

A native pollinator garden, located in one of the park's sunnier spots, features undulating paths, bench seating, and exercise stations. The garden will be community focused, perhaps adopted by the local school and named in honor of Japantown's famous plant nursery.



Exercise Stations

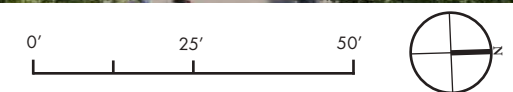
Barry Avenue Entrance

Swale / Rain Garden

Pollinator Meadow

Decomposed Granite Paths

Federal Avenue Entrance



Local Currents | Yamaguchi Garden



Tidal Pools | Play Area

A children's playground, picnic area, and a splash pad sit outside the K-8 school, offering kids and families an easy transition to the park after the final bell. The ability to move between these spaces is inspired by tidal pools. They are distinct areas, but spill into one another.



Tidal Pools | Play Area

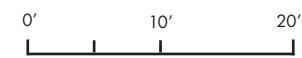


Marina | Lawn

The central plaza connects via stairs to a raised lawn area with finger-dock inspired seating areas, offering safe harbor from the urban grind.

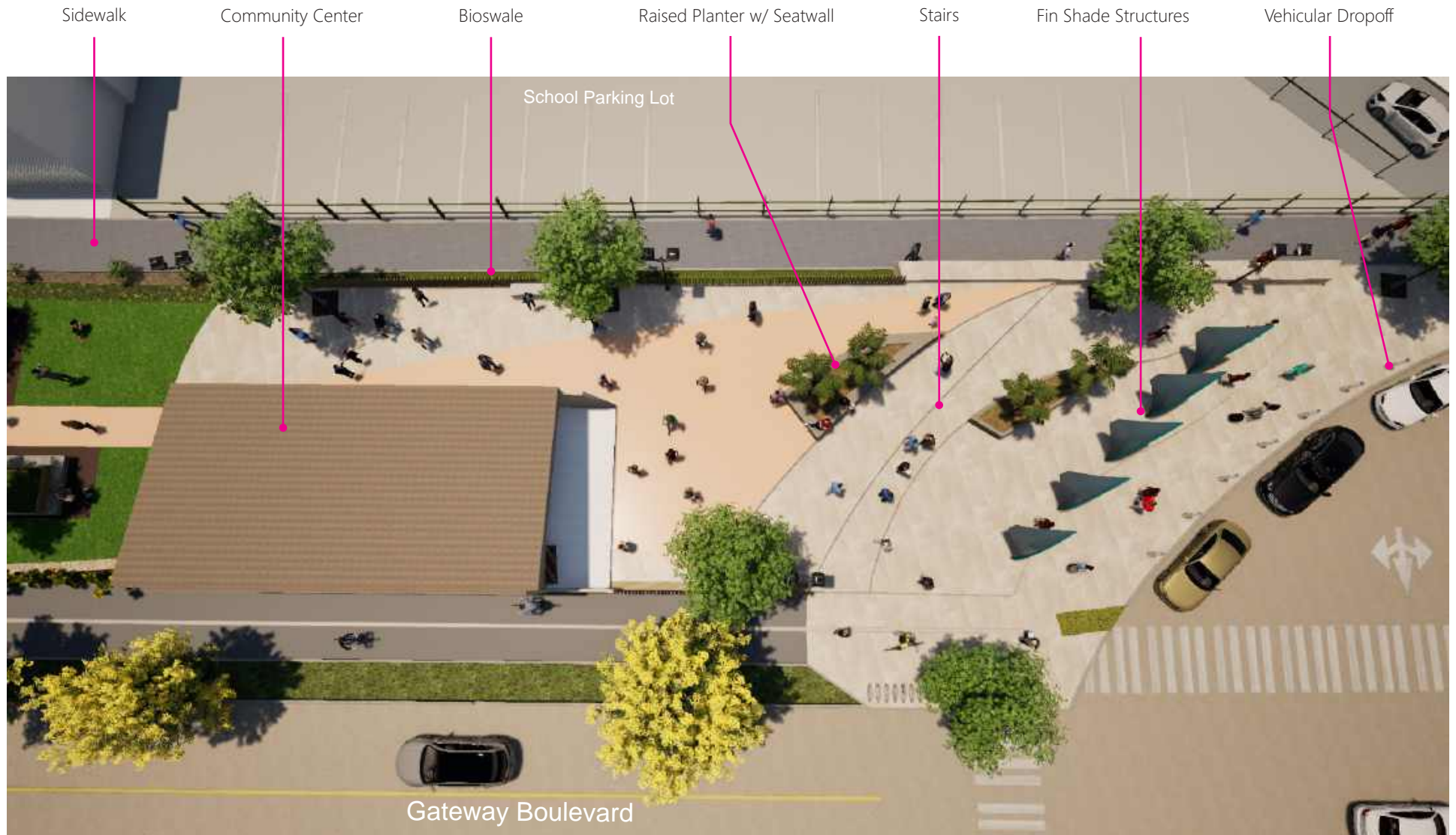


Marina | Perspectives and Section



Beach | Visitor Arrival

The northern plaza resembles a sandy shoreline, beckoning visitors into the park with fin-like shade structures, palm tree planters, and a cascade of steps. Meanwhile, the community center evokes the area's midcentury modern style.



Beach | Perspectives

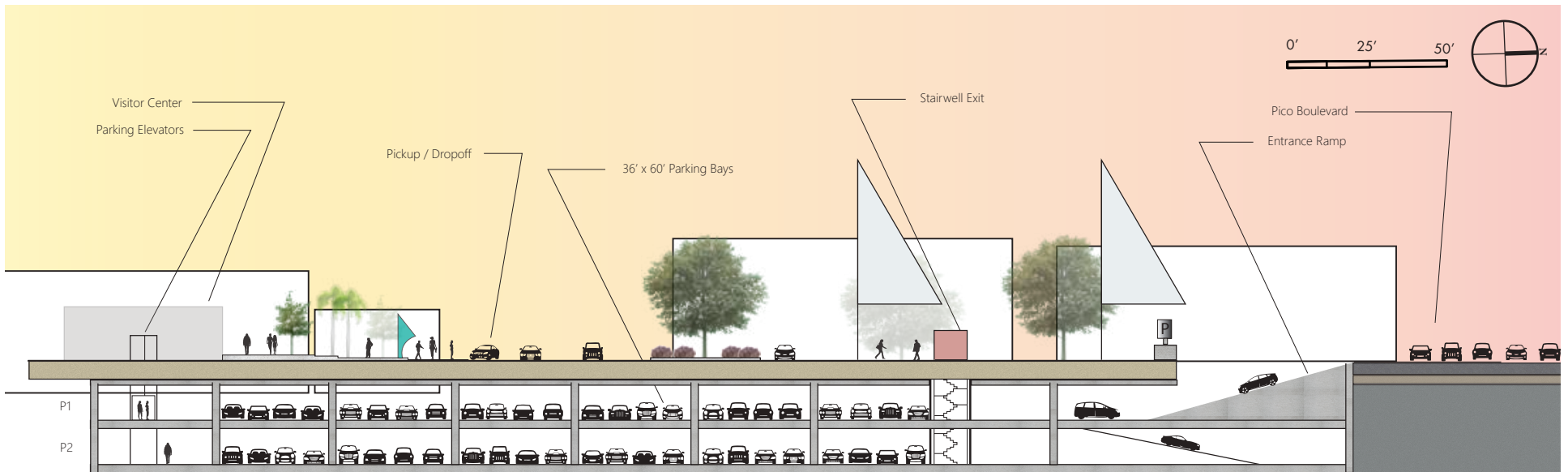


Terminal | Pico Entry

Terminals are typically designed around unloading, and this is no exception. There are designated dropoff areas for students, parkgoers, and city buses. An underground parking structure addresses the 80 lost parking spots on the street, and provides vehicular access to visitors. Traffic is designed to move slowly through this zone, but can go in either direction beyond.



Terminal | Perspectives & Section



Terminal | Perspectives



Pacific Gateway Park

Park View Looking South



Park View Looking North



Conclusion: Community Connection



Access

19,000 residents within a 10 minute walk to Pacific Gateway Park.³



Amenities

Dog Park, Playground, Splash Pad, Exercise Equipment²⁸



Social Engagement

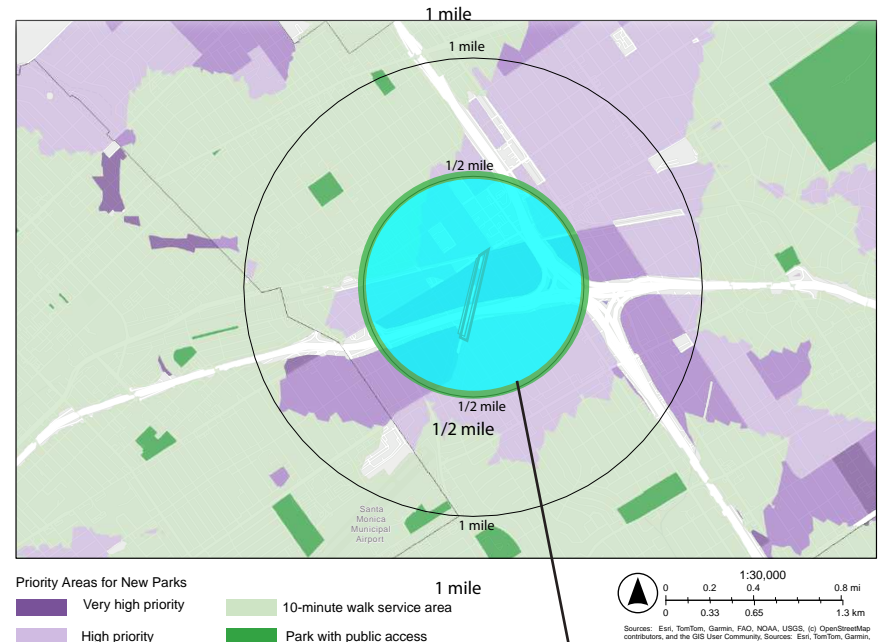
Community Center, Event Spaces, Volunteer Opportunities, Recreation⁹



Economic Growth

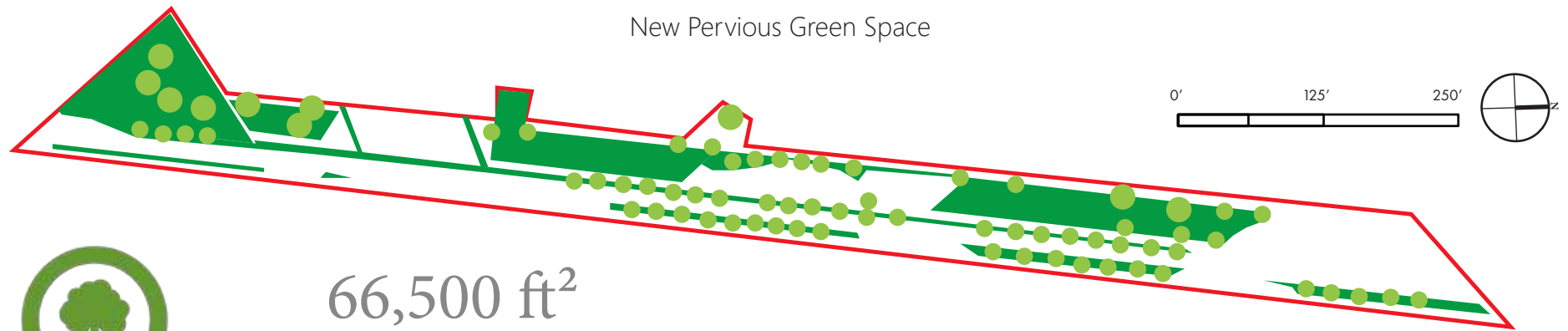
Property values around parks increase by an average of 5%, More foot traffic and boosted revenue for nearby businesses^{13 14}

Priority Areas For New Parks



New 10 Minute Walk Radius

Conclusion: Neighborhood Health



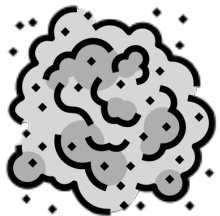
66,500 ft²

Green Space Added



Over 150

Trees Added



50% Reduction

Estimated reduction in Airborne Particulate Matter in immediate area

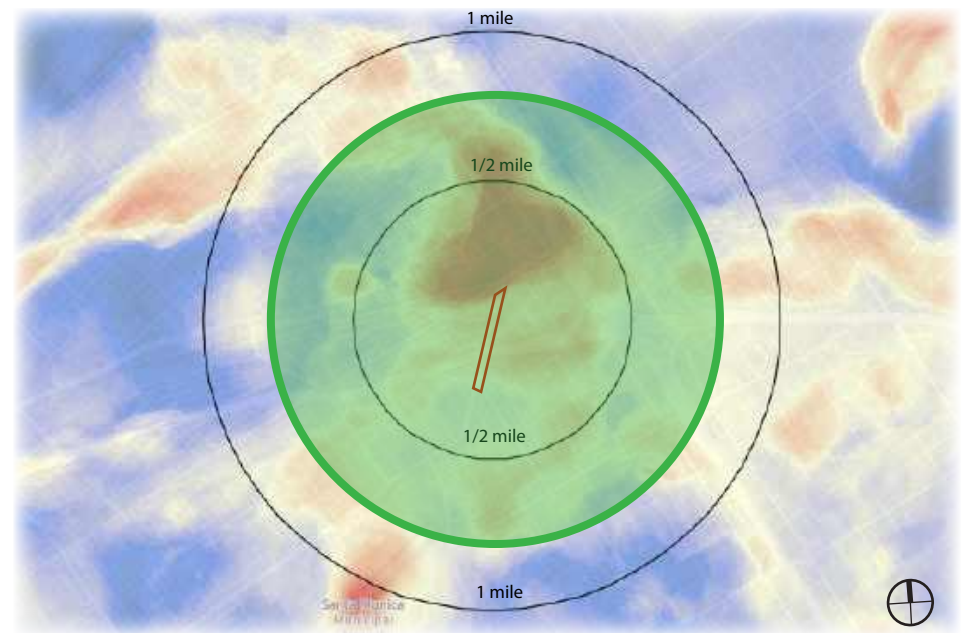
42 43 44



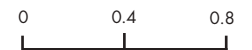
1.7° Reduction

Estimated Temperature Reduction (within a 3/4 mile radius) 45 46 47

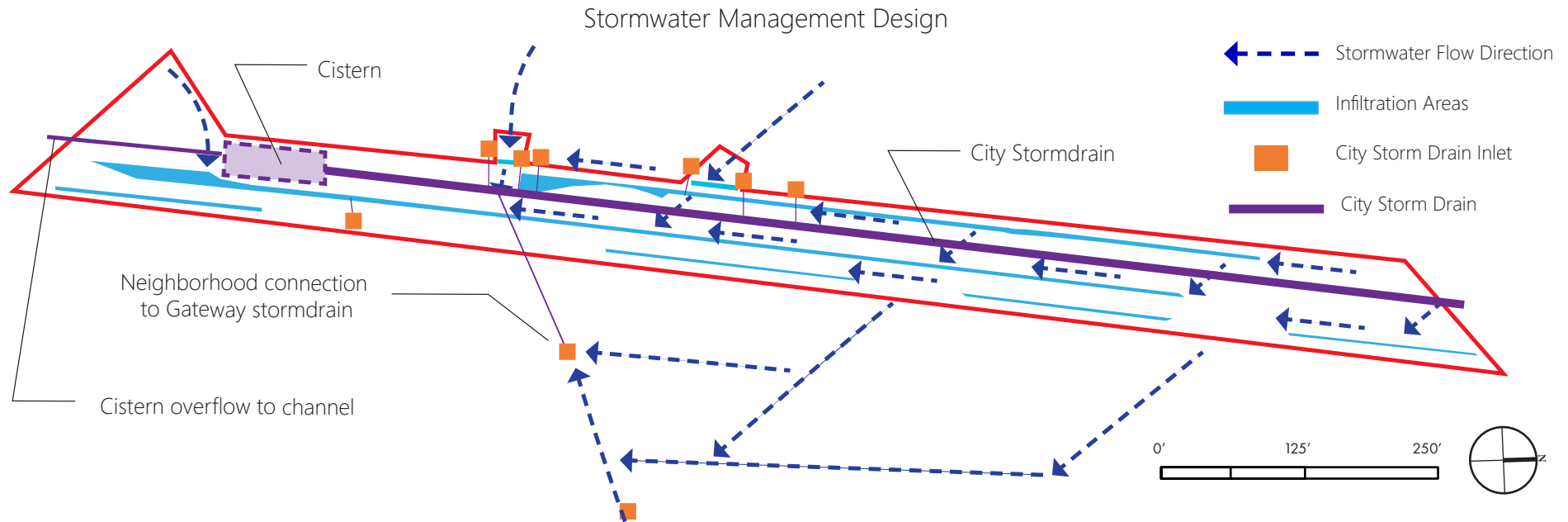
Heat Island Mitigation



- Area of Temperature Reduction
- Areas of very high heat
- Areas of moderate heat index
- Areas of high heat
- Areas of low heat



Conclusion: Green Infrastructure



14,000 ft²

Dedicated Infiltration Areas
Bioswales and Rain Gardens



300,000 Gallons

Amount infiltrated on site each year



4.2 Million Gallons

Total Stormwater Collected Annually
(16 acre watershed area)



2.5 Million Gallons

Park Irrigation Requirements Annually

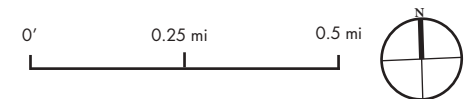
Future Connection



The Santa Monica Airport is slated to close at the end of 2028. The city of Santa Monica is beginning to hold community meetings on potential uses of the land, which will likely include new housing developments and open park space.

A linear park on Gateway could be the beginning of a west side parkway system, blazing a green belt from Pico Boulevard to the Airport Site a mile away, and perhaps beyond.

 Potential Green Belt



About Me

Hello! My name is Justin Lillehei. With this book, I will complete UCLA Extension's Landscape Architecture program. I am entering the field as a second career. Or as they say in show business—my second act!

My previous life was film and television, I produced over 50 episodes of scripted TV, and developed a wide-ranging slate of projects at major studios and networks. While making my way through the UCLAx program, I have continued to produce, and remain an active member of the Producers Guild of America.

But I am looking to make an impact in the real world, a lasting one, at a crucial moment for our children.

I am optimistic about landscape architecture's role in sustainable building, ecological restoration, and social equity, but know that real change happens slowly, and only when a foundation is in place.

I spent my prior career working to achieve a creative vision, while balancing the shifting demands of budget and physical production. I look forward to continuing that work in Landscape Architecture.

I am originally from St. Paul, Minnesota and graduated from the University of Miami with a bachelor's degree in Communications. I am a father to a toddler, Miss Elodie, who is as old as my time in this program.



Citations / Bibliography

Project Statement

1. "ParkScore® 2025 Scoring Metrics." Trust for Public Land, n.d. Accessed September 25, 2025. <https://www.tpl.org/parkscore/rankings>.
2. Kiriya, George. "LA County Is Getting Greener. Where You Will Find New Parks and Green Space in the Future." LAist, February 25, 2025. <https://laist.com/news/climate-environment/la-county-parks-green-space>.

Project Justification

3. "2020 Census Demographic Data Map Viewer." Accessed September 17, 2025. <https://maps.geo.census.gov/ddmv/map.html>.
4. Barton, Jo, and Mike Rogerson. "The Importance of Greenspace for Mental Health." *BJPsych International* 14, no. 4 (2017): 79–81. <https://doi.org/10.1192/s2056474000002051>.
5. Beyer, Kirsten M. M., Aniko Szabo, and Kelly Hoormann. "Time Spent Outdoors, Activity Levels, and Chronic Disease among American Adults." *Journal of Behavioral Medicine* 41, no. 4 (2018): 494–503. <https://doi.org/10.1007/s10865-018-9911-1>.
6. Consultants, Geosyntec, and Cordoba Corp. Prepared for the Los Angeles Department of Water and Power in Partnership with TreePeople. n.d.
7. Ferrini, Francesco, Alessio Fini, Jacopo Mori, and Antonella Gori. "Role of Vegetation as a Mitigating Factor in the Urban Context." *Sustainability* 12, no. 10 (2020): 4247. <https://doi.org/10.3390/su12104247>.
8. "Increasing Access to Green Space and Affordable Housing in Los Angeles through Joint Development Projects | UCLA Law." Accessed September 16, 2025. <https://law.ucla.edu/news/increasing-access-green-space-and-affordable-housing-los-angeles-through-joint-development-projects>.
9. Jennings, Viniece, and Omoshalewa Bamkole. "The Relationship between Social Cohesion and Urban Green Space: An Avenue for Health Promotion." *International Journal of Environmental Research and Public Health* 16, no. 3 (2019): 452. <https://doi.org/10.3390/ijerph16030452>.
10. Liu, Ziquan, Xuemei Chen, Huanhuan Cui, et al. "Green Space Exposure on Depression and Anxiety Outcomes: A Meta-Analysis." *Environmental Research* 231 (August 2023): 116303. <https://doi.org/10.1016/j.envres.2023.116303>.
11. "Making the Case for Designing Active Cities | Active Living Research." Accessed May 24, 2025. <https://activelivingresearch.org/making-case-designing-active-cities>.
12. OEHHA. "Maps & Data." Text. January 26, 2015. <https://oehha.ca.gov/calenviroscreen/maps-data>.
13. "Park Investment and Economic Vitality." Trust for Public Land, n.d. Accessed September 16, 2025. <https://www.tpl.org/parks-and-economic-vitality-report>.
14. Wilson, Jeffrey, and Xiao Xiao. "The Economic Value of Health Benefits Associated with Urban Park Investment." *International Journal of Environmental Research and Public Health* 20, no. 6 (2023): 4815. <https://doi.org/10.3390/ijerph20064815>.

Citations / Bibliography

History

15. "Ain / Mar Vista." Ain / Mar Vista, n.d. Accessed July 17, 2025. <https://esotericsurvey.blogspot.com/2014/01/ain-mar-vista.html>.
16. Kines, Mark Tapio. Gateway Boulevard. March 26, 2022. <https://lastreetnames.com/street/gateway-boulevard/>.
17. "Mar Vista Tract." LA Conservancy, n.d. Accessed April 19, 2025. <https://www.laconservancy.org/learn/historic-places/mar-vista-tract/>.
18. PBS SoCal. "Creating the Santa Monica Freeway." September 10, 2012. <https://www.pbssocal.org/shows/departures/creating-the-santa-monica-freeway>.
19. "San Diego Floral Association - Growing Grounds-Beam Men." Accessed September 17, 2025. <https://sandiegofloral.org/GG-Lima-Bean>.
20. "Sawtelle California 1897 to 1950." Accessed April 15, 2025. <https://sawtelle1897to1950.wordpress.com/>.
21. "Sawtelle/West Los Angeles, California | Densho Encyclopedia." Accessed September 17, 2025. <https://encyclopedia.densho.org/Sawtelle/West%20Los%20Angeles,%20California>.
22. "UCSB Library Aerial Photo Frame Finder." Accessed May 25, 2025. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

Users / Demographics

23. "2020 Census Demographic Data Map Viewer." Accessed April 9, 2025. <https://maps.geo.census.gov/ddmv/map.html>.

Design Precedents

24. "Convention Center Linear Park | SMM." Accessed June 1, 2025. <https://smm.studio/en-us/work/linear-park/>.
25. "Culver Steps and Main Plaza - SWA Group." Accessed June 14, 2025. <https://www.swagroup.com/projects/the-culver-steps/>.
26. "REA." Accessed May 23, 2025. <https://www.reasite.com/projects/monon-blvd-midtown-plaza>.
27. Walker, Alissa. "Now This Is How You Design a Freeway Underpass." Curbed, August 11, 2016. <https://archive.curbed.com/2016/8/11/12441906/freeway-underpass-california-walking>.

Design Methodology

28. "Understanding A City's Parkscore: Trust for Public Land." Accessed June 14, 2025. <https://www.tpl.org/parkscore/about>.
29. "Urban Design Principles | Urban Design Studio | City of Los Angeles." Accessed September 17, 2025. <https://urbandesignla.com/resources/UrbanDesign-Principles.php>.
30. Wikipedia. "Trust for Public Land." April 5, 2025. https://en.wikipedia.org/w/index.php?title=Trust_for_Public_Land&oldid=1284033275.

Citations / Bibliography

Site Analysis

31. City of Santa Monica Sustainable Water Infrastructure Project – Institute for Sustainable Infrastructure. n.d. Accessed September 18, 2025. <https://sustainableinfrastructure.org/project-awards/city-of-santa-monica-sustainable-water-infrastructure-project/>.
32. Consultants, Geosyntec, and Cordoba Corp. Prepared for the Los Angeles Department of Water and Power in Partnership with TreePeople. n.d. creative, efelle. "Air Pollution Can Be Mitigated Using Green Infrastructure." Tournesol Siteworks. Accessed September 23, 2025. <https://tournesol.com/blog/air-pollution-can-be-mitigated-using-green-infrastructure>.
33. "LADWP Stormwater Capture Plan". Prepared for the Los Angeles Department of Water and Power in partnership with TreePeople. Accessed 6/6/2025. https://www.ladwp.com/sites/default/files/2023-08/LADWPStormwaterCaptureMasterPlan_MainReport_101615.pdf
34. Manzueta, Robiel, Prashant Kumar, Arturo H. Ariño, and César Martín-Gómez. "Strategies to Reduce Air Pollution Emissions from Urban Residential Buildings." *Science of The Total Environment* 951 (November 2024): 175809. <https://doi.org/10.1016/j.scitotenv.2024.175809>.
35. Redondo-Bermúdez, María del Carmen, Idris Tugrul Gulenc, Ross W. Cameron, and Beverley J. Inkson. "'Green Barriers' for Air Pollutant Capture: Leaf Micromorphology as a Mechanism to Explain Plants Capacity to Capture Particulate Matter." *Environmental Pollution* 288 (November 2021): 117809. <https://doi.org/10.1016/j.envpol.2021.117809>.
36. "Sustainable Water Infrastructure Project (SWIP)." Santamonica.Gov. Accessed April 8, 2025. <https://www.santamonica.gov/sustainable-water-infrastructure-project-swip>.
37. Tomson, Mamatha, Prashant Kumar, Yendle Barwise, et al. "Green Infrastructure for Air Quality Improvement in Street Canyons." *Environment International* 146 (January 2021): 106288. <https://doi.org/10.1016/j.envint.2020.106288>.
38. World Economic Forum. "Scientists Say This 'super Plant' Could Help Soak up Pollution on Busy Roads." March 2, 2021. <https://www.weforum.org/stories/2021/03/super-plant-cleans-city-air-pollution/>.
40. "ZIMAS." Accessed September 25, 2025. <https://zimas.lacity.org/>.
41. "Air Pollution Can Be Mitigated Using Green Infrastructure." Tournesol Siteworks. Accessed September 23, 2025. <https://tournesol.com/blog/air-pollution-can-be-mitigated-using-green-infrastructure>.

Conclusions

42. Diener, Arnt, and Pierpaolo Mudu. "How Can Vegetation Protect Us from Air Pollution? A Critical Review on Green Spaces' Mitigation Abilities for Air-Borne Particles from a Public Health Perspective - with Implications for Urban Planning." *Science of The Total Environment* 796 (November 2021): 148605. <https://doi.org/10.1016/j.scitotenv.2021.148605>.
43. "Greening Project Transforms Road Barriers to Reduce Car Pollution." Accessed September 18, 2025. <https://www.rmit.edu.au/news/all-news/2020/jun/greening-project-transforms-road-barriers>.
44. Greenwald, Roby, Jeremy A. Sarnat, and Christina H. Fuller. "The Impact of Vegetative and Solid Roadway Barriers on Particulate Matter Concentration in Urban Settings." *PLOS ONE* 19, no. 1 (2024): e0296885. <https://doi.org/10.1371/journal.pone.0296885>.

Citations / Bibliography

Conclusions (continued)

45. Nowak, David J, and Gordon M Heisler. Air Quality Effects of Urban Trees and Parks. 2010.
46. Calc Peak | Urban Heat Island Effect Calculator. June 2, 2025. <https://www.calcpeak.com/urban-heat-island-effect-calculator/>.
47. "Understanding the Urban Heat Island Index | CalEPA." Accessed August 8, 2025. <https://calepa.ca.gov/climate/urban-heat-island-index-for-california/understanding-the-urban-heat-island-index/>.

Additional Bibliography

48. Bertoni, Vincent P, Kevin Keller, Shana Bonstin, Tricia Keane, Arthi Varma, Lisa Webber, Ken Bernstein, et al. "DEPARTMENT OF CITY PLANNING," n.d.
49. "Broadway Linear Park - Case Study: 31-32 Streets." Accessed May 23, 2025. <https://www.theblip.nyc/case-study-31-32-streets>.
50. Consultants, Geosyntec, and Cordoba Corp. "Prepared for the Los Angeles Department of Water and Power in Partnership with TreePeople," n.d.
51. "Ishihara Park by Studio-MLA — Landscape Architecture Platform | Landezine."
52. "Klyde Warren Park - Bridging the Gap in Downtown Dallas | 2017 ASLA Professional Awards." Accessed May 23, 2025. <https://www.asla.org/2017awards/327692.html>.
53. Landscape Architecture Foundation, Claire Latane, Jose Guadalupe Gutierrez, and Jose Reynoso. "Ricardo Lara Linear Park." Landscape Architecture Foundation, 2021. <https://doi.org/10.31353/cs1790>.
54. "Linear Parks; a Linear Path to Greener Cities - Urban DesignUrban Design." Accessed June 1, 2025. <https://nclurbandesign.org/linear-parks-a-linear-path-to-greener-cities/>.
55. "Making the Case for Designing Active Cities | Active Living Research." Accessed May 24, 2025. <https://activelivingresearch.org/making-case-designing-active-cities>.
56. "Metrosideros Excelsa (New Zealand Christmas Tree)." Accessed June 2, 2025. <https://www.gardenia.net/plant/metrosideros-excelsa>.
57. "Mission Boulevard Linear Park — Surfacedesign, Inc." Accessed May 23, 2025. <https://www.sdisf.com/mission-boulevard-linear-park>.
58. "Park Instead of Parking. The White Flowers Boulevard. « Landezine International Landscape Award LILA." Accessed May 23, 2025. <https://landezine-award.com/park-instead-of-parking-the-white-flowers-boulevard/>.
59. Pastucha, Simon, Adrian Suzuki, Jeffery Wilson, Joe Marci, Matthew Correia, Monique MacIntosh, Rafaela Kirloss, et al. "Department of City Planning / Urban Design Studio," n.d.
60. "Transforming Two Lanes Of Roadway Into a Park | 2020-05-19 | Engineering News-Record." Accessed June 1, 2025. <https://www.enr.com/articles/49396-transforming-two-lanes-of-roadway-into-a-park>.
61. Esri. ArcGIS Pro. Version 2.8. Redlands, CA: Environmental Systems Research Institute, 2022.

Image Sources

Personal Statement

<https://www.pinterest.com/pin/61572719894208941/>
<https://www.flickr.com/photos/cityprojectca/967190241>

Title/ Project Statement/Site Location/Site Context

earth.google.com/web/

Project Justification

<https://www.nbcnews.com/business/consumer/lower-gas-prices-labor-day-weekend-where-rcna46043>

Goals and Objectives

<https://archello.com/es/project/lakeside-garden>
<https://runnerslab.com/morning-run-benefits/>
<https://nbkpark.org/manhattan-ave-street-end-park/>

Programming

<https://www.bluepineenterprises.com/projects/willingdon-linear-park/>
<https://www.velvetmag.co.uk/food-and-drink/opening-new-concept-outdoor-dining-comes-to-ely-9265576/>
https://petfriendlytravel.com/pft_dog_parks/poinsettia-dog-park-carlsbad-california/
<https://abmparking.com/facilities/the-culver-steps-garage/>
<https://www.gardeningknowhow.com/special/urban/community-garden-types.htm>
<https://www.kalamunda.wa.gov.au/facility-details/wattle-grove-nature-playspace>
<https://www.ausleisure.com.au/news/fitness-stations-and-art-trails-among-offerings-of-planned-suburban-linear-park-in-perth/>
<https://spectrumnews1.com/ca/southern-california/environment/2023/03/14/santa-monica-has-captured-almost-all-of-its-rain-this-winter>
<https://greenerideal.com/news/phillys-21st-century-green-initiative-to-solve-its-aging-stormwater-puzzle/>
<https://greenerideal.com/news/phillys-21st-century-green-initiative-to-solve-its-aging-stormwater-puzzle/>
<https://www.apexlightingsolutions.com/products/?category=Exterior%3A%20Solar>

<https://freerangestock.com/photos/142504/woman-standing-outside-of-the-house--looking-away.html>
<https://www.gettyimages.no/detail/photo/handsome-man-riding-bike-in-city-royalty-free-image/1389713401>
<https://www.myadvantagept.com/blog/safer-living-101-preventing-falls-and-staying-independent>
<https://www.istockphoto.com/photo/happy-children-forming-huddle-at-park-gm474966950-65033859>

History

<https://lastreetnames.com/street/gateway-boulevard/>
<https://esotericsurvey.blogspot.com/2014/01/ain-mar-vista.html>
https://www.coastalview.com/news/lima-beans-were-here/article_0169b562-5b76-11eb-95f4-db286338081c.html
<https://www.dwell.com/home/gregory-ain-1948-mar-vista-tract-157b4cd6>
<https://10best.usatoday.com/awards/santa-monica-state-beach-santa-monica-california/>
<https://newsroom.ucla.edu/file?fid=552ee56e299b504055002d26>
Aerial Photographs
https://mil.library.ucsb.edu/ap_indexes/FrameFinder/

Design Precedents

East Campell
<https://archive.curbed.com/2016/8/11/12441906/freeway-underpass-california-walking>

Monon Blvd
All Images: <https://www.reasite.com/projects/monon-blvd-midtown-plaza>

New Orleans Convention Center:
All Images: <https://smm.studio/en-us/work/linear-park/>

Culver Steps
All Images: <https://www.swagroup.com/projects/the-culver-steps/>

Users

Image Sources

Green Barriers

<https://www.thesun.co.uk/motors/5574229/living-green-walls-could-be-installed-alongside-busy-roads-to-cut-pollution/>
<https://land8.com/5-amazing-facts-about-green-walls-that-you-didnt-know/>
<https://climatewall.com/en-us/noise-barriers/>
<https://www.gardensonline.com.au/global/gallery/Default.aspx?ItemId=978&ItemType=Plant>
<https://treesofsantacruzcounty.blogspot.com/2013/08/geijera-parviflora-australian-willow.html>
<https://cnpsmarin.org/tag/pollinator-garden/>
https://greenthingsaz.com/plant_database/celtis-reticulata-netleaf-hackberry/
<https://smmtc.org/plantofthemoth/Sycamore.php>
https://www.calflora.org/entry/occdetail.html?seq_num=mg103557&comment=t
<https://www.sandysplants.com/index.cfm/fuseaction/plants.main/typeID/5/index.htm>
<https://www.alex-kunz.com/plant/sambucus-cerulea/big-blue-elderberry/>

Plant Materials

<https://sfba.social/@artemesia>
<https://www.nativerivival.com/arctostaphylos-densiflorus-vine-hill-manzanita>
<https://www.latimes.com/travel/story/2020-02-29/southern-california-wildflowers-guide>
<https://www.boethingtreeland.com/plants/elymus-condensatus-canyon-prince-leymus/>
<https://waterwisegardenplanner.org/plants/quercus-agrifolia/>
<https://www.thenaturalgarden.net/tng-native-plant-shop/p/achillea-millefolium-common-yarrow>
https://calphotos.berkeley.edu/cgi/img_query?enlarge=0000+0000+0315+2346
<https://www.walmart.ca/en/ip/100-FRENCH-LAVENDER-aka-Butterfly-Lavender-Spanish-Topped-Lavandula-Stoechas-Fragrant-Blue-Purple-Flower-Herb-Seeds/1FCVK-GNZ1PVL>
<https://waterwisegardenplanner.org/plants/x-chitalpa-tashkentensis/>
<https://www.nativerivival.com/arctostaphylos-howardmcminn>
"SelecTree. UFEI. "x Chitalpa tashkentensis Tree Record." 1995-2025. Cal Poly State University, San Luis Obispo. Accessed on Sep 19, 2025."
"SelecTree. UFEI. "Pinus eldarica Tree Record." 1995-2025. Cal Poly State University, San Luis Obispo. Accessed on Sep 19, 2025."

Building Materials

<https://www.mkbcompany.com/stormwater-management-and-pollutant-removal/>
<https://conservancy.org/wp-content/uploads/2021/03/Explore-Activity-Habitat-Assessment-Guides.pdf>
https://www.wikiwand.com/en/articles/Permeable_paving
<https://teamworkfencing.com.au/product-category/batten-frame-less-range/>
<https://www.novausawood.com/products?FilterstoAdd=20>
<https://basalite.ca/product/permeable-pavers/>
<https://creativeplayscapesllc.com/rubber-playground-surfacing/>

<https://re-nj.com/american-asphalt-expands-foot-print-with-union-county-acquisition/>
<https://www.publicdomainpictures.net/en/view-image.php?image=226584&picture=stone-wall>
<https://usa.sika.com/en/construction/concrete/decorative-concrete/integral-colors/project-gallery.html>
https://www.123rf.com/photo_141523433_white-concrete-wall-for-interiors-or-outdoor-exposed-surface-polished-concrete-cement-have-sand.html