

# Urban Cooling + First/Last Mile Strategies

SHERMAN WAY STATION | CANOGA PARK, CA

# Acknowledgments

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This Study is dedicated to Victor Chanorathaikul. Without his leadership, this Study would not have been possible.









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# Introduction

# **Project Background**

Extreme heat and transit access are two critical issues impacting the health and quality of life of communities across Southern California.

This project focused on a study area within a 10-minute walk (half-mile) from the Sherman Way Station Orange Line Station, exploring conceptual designs to simultaneously mitigate extreme heat ("Urban Cooling") and improve transit access ("First/Last Mile"). This Study and seeks to:

- Create a toolkit of design solutions that reduce heat and help people more comfortably and safely access transit, ultimately encouraging mode shift towards more sustainable modes of transportation;
- Gather community and stakeholder feedback on these design concepts; and
- Position the City to secure grant funding to bring these concepts to life in Canoga Park and elsewhere in Los Angeles.

# **KEY STUDY OBJECTIVES**



This report documents the proposed concepts, community response, and lessons learned during the Study. This effort is a model for other communities seeking to address extreme heat and cool temperatures, encourage active transportation and transit access, and improve overall quality of life for all.

# Timeline

StreetsLA identified Canoga Park, a community in Los Angeles's San Fernando Valley in which the effects of extreme heat is a pressing health and safety issue, as the neighborhood in which to explore design concepts related to cooling and improving access to transit. After receiving an Adaptation Planning Grant from Caltrans to conduct this Study, StreetsLA launched this study in December 2018 with support from a consultant team led by Alta Planning + Design. In 2019, the project team evaluated existing conditions and conducted traffic counts; identified potential urban cooling and first/last mile strategies; and collaborated with more than 650 community members to understand key needs and refine proposed strategies. Staff presented final design concepts in February 2020 and will begin applying for funding to implement these concepts in Canoga Park and beyond.

Community and stakeholder participation played a central role in shaping the project, from workshops and pop-up events to community surveys, presentations to the business improvement district, and events with local youth. Engagement efforts from the Study are summarized in Chapter 2: Canoga Park and are detailed in the Appendix. StreetsLA is committed to encouraging broad and meaningful



Top: The project team utilized community events such as the Canoga Park Farmers' Market to gather community feedback throughout the Study.

Bottom: Project workshops included snacks and activities for children to help ensure families could participate.

community participation and ensuring that neighbors' feedback informs decisions related to urban cooling in Canoga Park and other neighborhoods in which these concepts may be implemented. StreetsLA will continue to engage residents throughout future planning and implementation phases in Canoga Park and other communities in which urban cooling strategies are applied.

# Why Urban Cooling?

The Urban Heat Island Effect causes urban areas-with impermeable, darkcolored surfaces like parking lots, roads, and roofs-to experience higher surface temperatures throughout the day, and to retain heat into the night, increasing electricity usage and posing added health risks.<sup>1</sup> While it may not receive as much news coverage as other dangerous weather phenomenon like floods, fires, hurricanes, or tornadoes, extreme heat kills more Americans every year than any other weather-related disaster.<sup>2</sup> Communities in Southern California already experience multiple days in which temperatures exceed 90 to 95 degrees Fahrenheit-the threshold for "extreme heat"—and poor air quality. These effects are acutely felt in Canoga Park and throughout the San Fernando Valley because the lack of cool winds from the Pacific Ocean intensifies the heat island effect in the valleys of the Los Angeles region.

Trees, on the other hand, help reduce extreme heat and improve air quality. Mature trees can cool surface temperatures by as much as 45 degrees Fahrenheit.<sup>3</sup> These valuable assets are unequally distributed throughout the region, with many wealthier neighborhoods enjoying higher concentrations of trees than lowerincome communities. Tree canopy



Extreme heat kills more Americans every year than any other weather-related disaster.<sup>2</sup>

density is also incredibly dependent on landowners: 90% of the urban forest in the City of Los Angeles is on private land—leaving only 10% within public control.<sup>4</sup> Furthermore, the U.S. Forest Service estimates 129 million trees have died in California since 2010 due to conditions caused by climate change, drought, and pests.<sup>5</sup>



In July of 2018, Canoga Park was frequently 15 to 20 degrees Fahrenheit warmer than Santa Monica, although the communities are just 15 miles apart.<sup>6</sup> That summer, Southern California experienced one of the worst heat waves in history, setting all-time temperature highs in multiple communities across the region. Due to overheated and overburdened electrical equipment, tens of thousands of Los Angeles residents lost power. Nearly 27,000 were still without electricity two days after the "heat storm," and were forced to combat triple-digit temperatures without air conditioning, fans, or refrigerators.<sup>7</sup> Monitoring equipment in Woodland Hills, a neighborhood immediately south of Canoga Park, recorded 118 degrees Fahrenheit on July 6, 2018.8

Such temperatures can be fatal, particularly for individuals under 18 and over 65 years of age, and especially in areas where shade coverage is lacking. In a stark reminder of the potential health threats presented by extreme heat, U.S. Postal Service employee, Peggy Frank, died from hyperthermia while working her route in Woodland Hills that same day.<sup>9</sup>

The heat wave of July 2018, scientists predict, is the "new normal." A study published in 2015 forecasted that the number of days of extreme heat will continue to increase. While downtown Los Angeles is predicted to experience 22 days of extreme heat by 2050, and 54 days by 2100, the San Fernando Valley is predicted to have 100 to 150 extreme heat days each year by 2100.<sup>10</sup> This equates to onethird of a year spent in temperatures over 95 degrees Fahrenheit. The same study highlights reducing carbon emissions as a way to curtail these estimates by as much as half.



One of the most effective measures for reducing emissions is to drive less. Making it easier for people to walk, bike, and utilize transit helps to encourage a shift towards more environmentallyfriendly travel options and therefore mitigates climate impacts. However, when temperatures reach "extreme" levels, outdoor activities become dangerous. Waiting for the Orange Line, biking to Quimby Park, or walking down Sherman Way in 110-degree weather is not only uncomfortableit could be deadly. Pollution-caused heat may even push residents to drive even more, further escalating the problem and necessitating additional adaptation strategies.

The Urban Cooling Strategies highlighted in this Study aim to break this cycle.



## SHADE TREES

- Increase comfort and lowers temperatures
- Filter air and water, improving the quality of both

### **2** EXTENDED PLANTING AREAS

- Create expanded space for roots so trees can grow faster; share nutrients; better resist disease, pests, and drought; and live longer.
- Reduce risk of pavement damage by root systems
- Stormwater capture,\* recharge, and potential storage opportunity.

# **3** FIRST/LAST MILE FACILITIES

- Complete sidewalk networks, enhanced bike facilities, improved crossings, and streetscape amenities encourage people to walk and bike more to local destinations and transit
- Improves safety
- Increases mode shift towards sustainable transportation options
- Expand ways to reach jobs, housing, recreation, and services for all residents, especially those who do not have access to a vehicle

### **4** SEPARATED BIKEWAY BUFFERS

- Reduce collisions, improves safety for all roadway users
- When planted, capture rain runoff\* and manage stormwater, creating opportunity for aquifer recharge and to pre-treat runoff by filtering debris and sediment before it enters our rivers and oceans.

## **5** COOL PAVING AREAS

 Increase reflectivity of pavement, thereby lowering temperatures and providing immediate cooling benefits

\*These types of stormwater capture systems are modular and can easily work around utilities or design constraints.

# WHAT ARE THE BENEFITS OF THIS KIND OF DESIGN?



of physical activity a day, such as walking or biking to the bus, can **reduce risk of heart disease, diabetes** 

Walking and biking generate **no greenhouse gas emissions** or air pollutants ရာရာရာ

Visitors to tree-lined business districts will spend

MORE for products, boosting the local economy

**)**%

# 

CA's street trees **remove 567,748 T CO2** annually, equivalent to taking **120,000 cars** off the road

cool paving reflects sunlight instead of absorbing it, which can **cool surfaces by as much as** 



trees and shade structures can cool surfaces by as much as 45

567,748 т С

making it more comfortable for people to walk and bike



in collisions on major roads after landscape improvements were installed

Walking, biking, and riding transit can help households save over

# \$9,700 A YEAR

Sources: www.naturewithin.info/Roadside/ArbNews\_TreeSafety.pdf; www.fs.fed.us/psw/publications/mcpherson/ psw\_2016\_mcpherson004.pdf; www.cityoflompoc.com/home/showdocument?id=960; www.cityoflompoc.com/ home/showdocument?id=960; www.bls.gov/news.release/pdf/cesan.pdf

# **City Commitments to Change**

This Study aligns with multiple other planning efforts in the City and helps advance the following goals:

# GREEN NEW DEAL: SUSTAINABLE CITY PLAN (2019)

- Increase the percentage of all trips made by walking, biking, micromobility / matched rides or transit to at least 35% by 2025; 50% by 2035; and maintain at least 50% by 2050
- Reduce VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050
- Increase tree canopy in areas of greatest need by at least 50% by 2028
- Install cool pavement material on 250 lane miles of City streets, prioritizing neighborhoods with the most severe heat island effect

# **RESILIENT LOS ANGELES (2018)**

• Prepare and protect those most vulnerable to increasing extreme heat

# MOBILITY PLAN 2035 (2016)

- Protected bike lane on Sherman Way
- Pedestrian enhancements on Sherman Way and Canoga Ave

# CITY OF LOS ANGELES SUSTAINABILITY PLAN (2015)

 Reduce the urban-rural temperature differential by 3 degrees Celsius by 2035









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# Canoga Park

# High Heat, High Vulnerability

Canoga Park, a neighborhood of the City of Los Angeles, is located in the western portion of the San Fernando Valley. The community has been served by the Los Angeles County Metropolitan Transportation Authority's (Metro) Orange Line Bus Rapid Transit (BRT) busway since 2005. The local Orange Line station, Sherman Way, sees more than 2,000 passengers boarding or alighting each day and connects the Valley to downtown via Metro's Red Line (transfer required at North Hollywood).

Approximately 28,000 residents live within a half-mile of the Sherman Way Station. These residents generally have lower incomes; are more likely to be renters, non-White, Spanish speaking, and within a vulnerable age group (below 18 years or over 65); and are less likely to have access to a vehicle than their counterparts in other areas of the City and County. These demographic factors point to a high reliance on walking, biking, and transit. Coupled with projections for increased days with extreme heat, these factors suggest that residents in the study area are highly vulnerable to the effects of climate change.



These demographic factors point to a high reliance on walking, biking, and transit.

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# **Existing Conditions**

# WALKING AND BICYCLING

Current conditions around the Sherman Way Station are challenging for walking and biking due to large, busy roadways and a discontinuous network of sidewalks and bikeways. Most of the larger streets in the study area have sidewalks. However, many streets in the industrial and residential areas (particularly between Saticoy and Valerio Streets) lack sidewalks and curb ramps. The main corridor, Sherman Way, is a wide arterial street with Class II bike lanes, shade trees, and pedestrian-oriented businesses west of Canoga Avenue; however, east of Canoga Avenue, there are no bicycle facilities and the sidewalks have few shade trees and are primarily adjacent to large asphalt parking lots.

A Class I separated bike and pedestrian trail runs parallel to the Orange Line route, marking the most significant existing low-stress active transportation facility in the area. An unpaved shareduse path runs along both shores of the Los Angeles River to the south. However, this path does not directly connect to the existing Orange Line Pedestrian and Bike Path. Other than the Class II bike lanes on Sherman Way, no other bike facilities exist in the study area, although many were proposed in the City's Mobility Plan 2035 (adopted in 2016).

### Walking and Bicycling Counts

To understand existing usage, the project conducted counts of people walking and biking along some of the corridors in the area and reviewed existing historical data when available. The active transportation counts were conducted on a weekday (Thursday June 6, 2019) when public school was in session to simulate the majority of days in the calendar year, as well as a Saturday (June 1, 2019) to capture recreational use of the pathway and other facilities (see Table 1).

### **Key Findings**

Counts were conducted at two locations on Sherman Way: west of the station at Alabama Avenue, and east of the station at Independence Avenue. The counts show that both sides of Sherman Way are used by people on bike and on foot, despite the lack of bike lanes and autooriented land uses on the eastern side.

# **TABLE 1.** Bicyclist & Pedestrian Countsin the Project Area (Weekday 7-9 AM& 4-6 PM, Saturday 11 AM - 1 PM)

COUNT STREET	CROSS STREET	ACTIVE TRANSPORTATION FACILITIES	BICYCLISTS WEEKDAY AM	<b>BICYCLISTS</b> WEEKEND	PEDESTRIANS WEEKDAY AM	PEDESTRIANS WEEKEND	TOTAL
Sherman Way	Alabama Avenue	Class II Bike Lane, Sidewalks	92	55	311	261	719
Sherman Way	Independence Avenue	Sidewalks	81	54	308	200	643
Owensmouth Avenue	Valerio Street	Intermittent Sidewalks	12	7	51	60	130
Orange Line Bike Path	Valerio Street (north of Sherman Way Station)	Class I Shared- Use Path	31	21	62	28	142
Orange Line Bike Path	Hart Street (south of Sherman Way Station)	Class I Shared- Use Path	17	39	105	23	184

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Owensmouth Avenue at Valerio Street is a residential area, where the road narrows from 60 feet to 40 feet north of the intersection. There are sidewalks south of the intersection, but none north of the intersection. Of the total 111 pedestrians, more than half (58) were traveling north/ south, walking in the portion of the corridor without sidewalks. The project team also conducted simultaneous counts along the Orange Line Bike Path, both north of the Sherman Way Station (at Valerio Street) and south (at Hart Street). Overall, the number of cyclists was similar between the two locations (52 and 56 respectively), while there were significantly more pedestrians south of the station (90 and 128 respectively). That difference in count data from the two locations along the path suggest that a large number of people are exiting the path at Sherman Way.

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### Walking and Bicycling Collisions

Between 2012 and 2016, 104 collisions involved people walking or biking within a half-mile of the Sherman Way Station (one collision involved both a pedestrian and a bicyclist). In the City of Los Angeles, pedestrian-involved collisions tend to be nearly twice as frequent as those involving bicyclists. However, the proportion of collisions in the study area involving bicyclists (56 collisions) was greater than those involving pedestrians (49 collisions), even though counts conducted for this Study showed pedestrians significantly outnumbered people on bikes.

Of the 104 collisions, 12 resulted in severe injuries, 51 in visible injuries, and one in fatality. Collisions more frequently occurred along Sherman Way, a higher speed, wide arterial road. However, none of the collisions resulting in severe injuries occurred on Sherman Way, and instead occurred primarily on residential streets.

# TRANSIT

Although the Sherman Way Station has the highest ridership of all transit stops in the study area, there are 16 additional bus stops on Sherman Way between Topanga Canyon Boulevard and De Soto Avenue (see Map 1). Most stops have benches and a few have shelters. However, there is no shelter or bench at the bus stop immediately adjacent to the Sherman Way Station.

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# 104 🚴 🏎

people walking or biking were injured or killed within the study area from 2012 to 2016

nationally, the fatality rate is **30% higher** for Black bicyclists, and

23<sup>%</sup> higher for Hispanic bicyclists



MAP 1. Sherman Way Station Area

### LEGEND

### **Existing Bikeways**



- Bike Lane
- Bike Route

- Bus Stop
  - Metro Orange Line
  - & Sherman Way Station
- School Park Los Angeles River Commercial Half-Mile from Station



Sherman Way east of Canoga Avenue (looking east towards Milwood Avenue)



Owensmouth Avenue looking north towards Cohasset Street

# **MOTOR VEHICLE TRAFFIC**

### **Motor Vehicle Counts**

To understand existing traffic patterns, the project conducted vehicle counts along some of the corridors in the area. The vehicle counts were conducted on a weekday when public school was in session to simulate the majority of days in the calendar year.

On Sherman Way east of Canoga Avenue, the counts showed 13,833 in the eastbound direction and 14,719 in the westbound direction, for an annual average daily traffic (AADT) of 28,552. On streets with this high volume of vehicles and speed limits of 35 MPH or higher, it is recommended that bikes be physically separated from vehicle traffic. Vehicle Counts collected on Owensmouth Avenue just south of Valerio Street found an AADT of 8,406 with a relatively even number of vehicles in each direction. Owensmouth Avenue has significantly lower traffic volumes than parallel arterial streets such as Topanga Canyon Boulevard and Canoga Avenue. However, during the commute hours, there were significant peaks of traffic symmetrically dispersed by time of day with traffic flowing south in the morning and north in the evening. Counts found more than 600 southbound vehicles between 6:00 AM - 7:00 AM and nearly 500 northbound vehicles between 5:00 PM - 6:00 PM.



Sherman Way west of Canoga Avenue (looking west towards Jordan Avenue)

### **Motor Vehicle Parking**

A 2019 Parking Utilization Study,<sup>11</sup> commissioned by Councilmember Bob Blumenfield, analyzed the number and utilization of publicly-available parking spots in the neighborhood. The parking study assessed the volume, utilization, turnover, and duration of parking for both on and off-street inventory on typical weekdays and Saturdays from February 15th to March 17th, 2018. The study found that both on- and off-street utilization on weekdays and weekends peaks at midday, and does not exceed 60%. This is significantly lower than 85%, the utilization rate parking management strategy suggests is optimal for commercial districts.<sup>12</sup> Most importantly, parking is relatively easy to find at utilization rates of 85% and below.

Overall, these findings demonstrate that the existing parking supply in the area is underutilized, and that roadway space currently used for parking could be reallocated for other modes without significantly impacting parking demand. Nevertheless, some community members and stakeholders voiced concerns during this Study about reducing the existing parking supply. As the City moves into implementation, additional outreach efforts should further explore the community's concerns related to parking.





## SHADE

The City's data on street trees indicates almost 1,700 trees exist in the study area. Of the 1,200 trees identified by species and planting location, approximately 22% are a type of palm. In fact, the most frequent species of all trees in the study area is Mexican Fan Palm (Washingtonia robusta). While this iconic Southern California tree is known for growing between 70 to 100 feet. Mexican Fan Palms offer little shade coverage due to its tall and small canopy. Overall, six of the nine most prevalent tree species in the study area offer low to medium shade; thus, only 52% of trees accounted for in StreetsLA's dataset are known to substantially contribute to the tree canopy in the study area.

The National Land Cover Database's (NLCD) imaging data from 2011 suggests that existing tree canopy covers only 5% of the study area (see Map 2). For comparison, parts of nearby neighborhoods such as West Hills and Woodland Hills boast 8% and 15% coverage, respectively. Much of Canoga Park's existing tree canopy is concentrated away from Sherman Way and the Orange Line station, and instead is more frequently located on residential streets. The lack of shade on Sherman Way-where pedestrian volumes are highest—further intensifies unpleasant and potentially dangerous walking and biking conditions during days of high temperatures.



### MAP 2. Existing Tree Canopy



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Delfino and his family have found that following the installation of cool pavement on Jordan Avenue, they "can actually take the dogs out any time of the day."

# **COOL PAVEMENT**

Other heat-reducing measures also exist in the community, including two installations of cool pavements. Because darker materials in general absorb and radiate more heat than lighter surfaces, "cool pavements" involve treating roadways to have lighter, more reflective surfaces. In May of 2017, the City applied a reflective ("highalbedo") cool pavement seal on a half block of Jordan Avenue, just north of Hart Street and less than a halfmile southwest of the Sherman Way Station. Installed the morning of the first heat wave of 2017, the light gray pavement read 23 degrees Fahrenheit cooler than nearby black asphalt within minutes of being installed.<sup>13</sup>

Resident Delfino Esparza has lived on Jordan Avenue since 2011. During an interview with the project team, he shared that residents started noticing the impacts of the cool paving once the summer heat came. Air conditioning units took less time to cool down his and neighbors' apartments, and the street no longer reached temperatures too unbearable for walking his dogs. Delfino and his family have found that now, they "can actually take the dogs out any time of the day."

Inspired by the installation on Jordan Avenue, the Emerson Unitarian Universalist Church five blocks north of the Sherman Way station decided to reseal their surface parking lot with cool pavement less than three months later.



all outreach materials and events were conducted in Spanish and English





more than 000 people participated in shaping this Study

# **Community Voice**

In order to identify urban cooling strategies that respond to the needs, interests, and concerns of existing community members, the project team engaged with residents and other stakeholders throughout the duration of the Study. Project staff and volunteers spent more than 400 hours in direct community outreach including talking to business owners, transit riders, and community members. Community engagement efforts followed three general phases and included a community survey, presentations to community groups, and public workshops at or adjacent to the Farmer's Market. All outreach materials and events were conducted in Spanish and English; additionally, all three public workshops included snacks and activities for children.



The project team also worked with 13 Bridge to the Future (B2F) scholars to help with engagement efforts; eleven (11) students volunteered their time to help with intercept surveys and workshops, and two (2) joined the project team as paid interns. The B2F Scholars Program awards up to 25 Canoga Park High School graduating seniors with four-year, tuition-free education and supporting services at California State University at Northridge. From their local knowledge of growing up in Canoga Park, the scholars also provided invaluable insights and connections for this Study. These scholars supported engagement efforts and helped shape the recommendations throughout the project.

Overall, more than 650 people participated in shaping this Study. This section highlights the various strategies utilized during each phase; a detailed account of community engagement is available in the Appendix.

## PHASE 1:

# Canoga Today, Vision for Tomorrow

Phase 1 aimed to understand community members' perceptions about existing conditions; challenges to walking, biking, and accessing transit; and hotspots for heat-related issues. Phase 1 also measured reactions to various tools for managing heat and water, enhancing livability, and improving transportation. The project team used the following methods to capture this feedback:

### **MARCH THROUGH MAY 2019**

**Presentations at Schools:** 14 presentations; 356 attendees

- » CSUN Bridge to the Future Scholars Program
- » Canoga Park High School
- Alliance for Community Engagement

### APRIL 13, 2019

Workshop 1: 75 attendees, Canoga Park Community Center

**Community Survey:** 462 respondents, reached via in-person intercept surveys at transit centers, along the corridors, and at community meetings, presentations, and targeted online advertising

# **KEY TAKEAWAYS FROM PHASE 1**



Support for crossing improvements, separated bikeways, and street lighting



Support for street trees, water fountains, shade structures, and cool paving

Key takeaways from Phase 1 included support for crossing improvements, separated bikeways, and street lighting, as well as support for street trees, water fountains, shade structures, and cool paving.









# PHASE 2:

# Exploring Preliminary Strategies

Using feedback from Phase 1, the project team developed preliminary strategies to improve transit access and reducing heat in Canoga Park. The team shared photosimulations of what these could look like when applied to three corridors in the study area at the following events:

### APRIL 27, 2019

Presentation to the Canoga Park Neighborhood Council: 1 presentation, 25 attendees

### JUNE 2, 2019

Presentation to Emerson Unitarian Church: 1 presentation; 20 attendees

### AUGUST 15, 2019

Booth at the Third Thursday August ArtWalk: Interacted with approximately 40 people

### **SEPTEMBER 21, 2019**

Workshop 2: 40 attendees, Emerson Unitarian Church

### OCTOBER 28, 2019

Presentation to the Business Improvement District: 20 attendees

# **KEY TAKEAWAYS FROM PHASE 2**



## Driver support for protected bikeways



Desire for more traffic calming, including speed bumps and highvisibility crossings



Questions regarding traffic flow patterns and vehicle access

Key takeaways from Phase 2 included:

- Driver support for protected bikeways. Drivers in particular felt the protected bikeways would create a more comfortable environment not just for people on bikes, but also for people driving.
- Desire for more traffic calming, including speed bumps and high-visibility crossings.
- Questions regarding traffic flow patterns and vehicle access that could be impacted by the preliminary design strategies.



![](_page_28_Picture_1.jpeg)

# PHASE 3:

# Ground-Truthing Design Concepts

After completing Phase 2 of engagement efforts, the project team had buy-in from community members about the urban cooling strategies they want to see come to life in their neighborhoods. The team then developed video renderings of each corridor to help portray how these design concepts would look and feel. The videos (which can be viewed at altaplanning.com/urbancooling) were promoted online via social media and various partner websites, and were presented to community members at the following events:

### **JANUARY 11, 2020**

Workshop 3: 80 attendees, Canoga Park Farmers Market Booth

### **JANUARY 27, 2020**

Presentation to the Business Improvement District: 12 attendees

Community members expressed overwhelming support for the three concepts presented. They voiced excitement about the pedestrian plaza, protected bikeways, planted buffers and bioswales, and trees. They were happy to visualize a future in which Canoga Park looks more like the videos and asked when they would be able to see the changes on their streets.

# **KEY TAKEAWAYS FROM PHASE 3**

![](_page_29_Picture_9.jpeg)

Support for pedestrian plaza, protected bikeways, planted buffers and bioswales, and trees

![](_page_29_Picture_11.jpeg)

Questions and concerns about funding, maintenance, and parking

Concerns, when voiced, centered around:

- Funding: How would the City pay for this? Would funding the project increase taxes for residents or reduce opportunities to address homelessness?
- Maintenance: Will these facilities be maintained regularly and kept in a presentable, operable state? Will shade and water fountains along the Orange Line Path attract encampments?
- **Parking:** People perceive parking as limited, regardless of what the Canoga Park Parking Utilization Study (2019) found. Will we be able to accommodate our visitors and residents if we reduce parking supply?

![](_page_30_Picture_0.jpeg)

Community members were able to immerse themselves in animations that visualize a cooler, more active Canoga Park

# **Continuing Engagement Through Implementation**

Once the City secures funding for detailed design and implementation of these or similar projects, additional public outreach will continue to ensure specific project context and community needs are fully considered before design is finalized. Given that this project was primarily a feasibility study at the Planninglevel, additional design details will need to be vetted by community members and stakeholders.

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# *Corridors + Design Concepts*

# **Corridor Selection Process**

This Study focuses on three corridor typologies found in Canoga Park and throughout the region: a major arterial, a neighborhood street, and a multi-use trail. In order to explore what urban cooling and first/last mile design solutions are feasible to implement in each typology, specific corridors were selected based upon:

![](_page_32_Picture_2.jpeg)

# Findings from the existing conditions assessment

- What corridors have high volumes of people walking and biking vs. driving today?
- Where are the collision hot spots?
- Where are there critical first/ last mile network gaps?
- Where are shade and other urban cooling strategies most needed?

![](_page_32_Picture_8.jpeg)

### Feedback from community members

- What types of urban cooling and first/ last mile improvements are preferred?
- Where are those improvement types most requested, and feasible?
- Where do people want safety enhancements?
- Where do people want to see more shade and other cooling strategies?

![](_page_32_Picture_14.jpeg)

### Applicability to other neighborhoods

 Which corridors in the study area represent similar street conditions in other communities in the City, so that solutions developed under this study have the broadest potential application and opportunity for mitigating and adapting to climate change?

![](_page_33_Picture_0.jpeg)

Based upon this criteria, the project team selected three Study Corridors:

**1** Sherman Way, east of Canoga Avenue (a major arterial),

**2 Owensmouth Avenue,** north of Sherman Way (a neighborhood street), and

**3** The Orange Line Trail, north of Sherman Way (a multi-use trail).

# **Design Approach**

The design approach for each of these study corridors were driven by:

- Best practices in active transportation and first/last mile planning and design
- Findings from the Adaptation Concept report (available in the Appendix): What cooling strategies have the greatest co-benefits?
- Opportunities to integrate multibenefit solutions: How can we maximize and amplify benefits by using multiple adaptation strategies in one study area?
- Shade phasing: Trees and green infrastructure have the greatest number of co-benefits (see Table 2). However, the quality and quantity of those benefits increases as plants mature. For example, a young tree has a smaller canopy than a mature tree, and therefore provides less shade and sequesters less carbon. How can human-made solutions like cool paving and shade structures be integrated into early phases of a project to realize immediate cooling benefits while plantings mature?

<b>TABLE 2.</b> Summary of urban cooling adaptation strategy co-benefits from the Adaptation Concept Report	IMPROVED HUMAN HEALTH	IMPROVED WATER QUALITY	ENHANCED STORMWATER MANAGEMENT	ENHANCED SAFETY & IMPROVED QUALITY OF LIFE	REDUCED ENERGY USE	IMPROVED AIR QUALITY	INCREASED PAVEMENT LIFE	INCREASED HABITAT	
Street Trees	٠	٠	٠	٠	٠	٠	٠	٠	
Green Infrastructure	•	•	•	•	•	•		•	
Cool Paving	•	•		•	•	٠	•	٠	
Hydration Stations	•	•		•	•				
Shade Structures	•			•			•		

![](_page_35_Picture_0.jpeg)

# **Major Arterial: Sherman Way**

CANOGA AVE

She

man Wav Sta

Sherman Way is a wide arterial that is similar to many found throughout the San Fernando Valley.

Sherman Way is a commercial corridor and in many ways the heart of the community, home to many businesses, grocery stores, restaurants, and shopping destinations. Yet, the design of the roadway prioritizes the movement of vehicle traffic through the community, rather than facilitating local trips on foot to support the local economy.

This street was designed with the private vehicle in mind. It is wide with multiple lanes and traffic signals timed to move cars and trucks quickly, but less welcoming for those walking and biking. A few of the reasons include:

**It is wide,** ranging between 95' and 100' from one sidewalk edge to the other. With six lanes of traffic or more on the street, people walking and bicycling are exposed to uncomfortable levels of vehicle traffic when crossing. This issue is exacerbated because there are few marked crossings or signals for pedestrian crossings.

![](_page_36_Picture_2.jpeg)

There are high traffic volumes and it is often fast. Although the existing speed limit is 35 miles per hour, community members report drivers often speed. Traffic counts for this project showed more than 28,500 vehicles using the street on an average weekday. This makes people feel unsafe crossing the street and hesitant to use the existing Class II bike lane as it currently provides bicyclists with no physical separation from vehicles.

![](_page_36_Picture_4.jpeg)

It has limited bike and pedestrian facilities. A Class II bikeway exists west of Canoga Avenue, but there are no bicycle facilities on Sherman Way east of Canoga Avenue. There are large distances between signalized intersections with crosswalks, especially east of Canoga Avenue.

![](_page_36_Picture_6.jpeg)

**It is hot.** Two major factors contribute to the heat:

- There is little shade, with few street trees adjacent to the sidewalk, and few bus shelters to shade riders while waiting for transit.
- There is a lot of asphalt, both in the roadway and covering the surface parking lots that occur frequently along the corridor. On-street weekday parking is underutilized with as much as 50-75% of the parking unoccupied.<sup>14</sup> This translates to additional exposed asphalt amplifying the heat.

The design solution for Sherman Way (shown in Figure 2) addresses these issues by:

Maximizing greenery: Trees are added in a planted center median, and to a bikeway buffer that provides shade for both those walking and biking. Street trees are planted more closely together (suggested minimum 30' on center) along sidewalks.

**Enhancing transit facilities:** Shade structures are added at all bus stops and, where space permits, floating bus boarding islands can be added to give transit riders a dedicated, cool space to wait for the bus. Additional amenities such as benches, bike racks, lighting, wi-fi hotspots, USB charging, and realtime arrival information can further enhance the transit rider's experience.

**Incorporating cool paving:** Cool paving is most effective on streets with lower volumes of traffic to reduce wear. While it is not feasible to apply to all of Sherman Way, the bikeway represents an ideal space for cool paving as newly-planted trees mature. This use of shade phasing helps realize immediate cooling benefits and incentivize active transportation.

### **Enhanced pedestrian facilities:**

Pedestrian enhancements, such as curb extensions that shorten crossing distances and high-visibility crosswalks, are added. New crossings with pedestrian-activated flashing beacons make it easier to cross the street at unsignalized intersections.

Enhanced bike facilities: In this scenario, street parking is removed on one side of the street, as parking is underutilized and the abundant parking in surface lots make the on-street parking redundant. This creates space to add a separated bikeway (Class IV) which makes biking more attractive and safer by creating dedicated space for both drivers and cyclists, and reducing the potential for conflicts and collisions. Protected intersections are added at signalized intersections, which further separate those biking from those driving, reducing the risk of collisions.

The project team created an animated fly-through of a re-imagined Sherman Way as a cool, active, and connected corridor for all users. To view the animation of what the corridor could look like in the future, see: altaplanning.com/urbancooling

![](_page_37_Picture_8.jpeg)

![](_page_38_Picture_0.jpeg)

**FIGURE 2.** Proposed design for Sherman Way east of Canoga Avenue

### **DESIGN BENEFITS**

![](_page_38_Figure_3.jpeg)

Manage Heat & Water

![](_page_38_Picture_5.jpeg)

Connections & Safety

![](_page_38_Picture_7.jpeg)

ShadeImage: Sector of the sector

![](_page_39_Picture_0.jpeg)

a neighborhood museum, a community theater, and a child care center.

It also hosts the popular weekly Canoga Park Farmers Market, which takes place every Saturday and serves as a central locus for the community. During engagement efforts, community members expressed frustration that the street was used as a cut-through for commuters seeking to avoid congestion on the parallel arterials of Canoga Avenue and Topanga Canyon Boulevard during rush hour.

Some of the challenges along this corridor include:

# **Neighborhood Street: Owensmouth Avenue**

Owensmouth Avenue just north of Sherman Way is home to a variety of businesses and cultural institutions

![](_page_40_Picture_0.jpeg)

Lack of sidewalks and other pedestrian

**amenities.** Blocks north of Valerio Street lack sidewalks; many intersections lack ADA-compliant curb ramps. The urban tree canopy is inconsistent and largely comprised of palm trees, which provide little shade. There is sparse street lighting, and no pedestrian-scale lighting.

![](_page_40_Picture_3.jpeg)

**Lack of bike facilities.** Despite connecting many community destinations, there are no bike facilities on this street.

![](_page_40_Picture_5.jpeg)

### Over-abundance of street parking:

On-street parking on Owensmouth Avenue between Sherman Way and Wyandotte Street does not exceed 50% utilization on weekdays, and is only slightly higher on the weekends. This space allocated for cars and paving contributes to higher temperatures.

![](_page_40_Picture_8.jpeg)

### It is used as a "cut through" street.

Community members report this street experiences high volumes of vehicular traffic during rush hour because drivers use it to bypass congestion on Canoga Avenue and Topanga Canyon Boulevard. Because the corridor has few stop signs, segments with two south-bound lanes, and signals at both Saticoy Street and Sherman Way, this shortcut entices drivers hoping to reduce travel time.

![](_page_41_Picture_0.jpeg)

Owensmouth Avenue looking north towards Valerio Street

The design solution for Owensmouth Avenue addresses these issues by:

### Dedicating more space to people,

**bikes, and plants:** Converting a portion of Owensmouth between Wyandotte Street and Sherman Way into a flexible plaza space amplifies the role the street plays as a community hub (Figure 3). This space can host not only the weekly farmer's market, but also additional community programming, such as play spaces, outdoor dining, and art or performances. For parts of the corridor, removing parking on one side of the street creates space to add a separated bike lane with a planted buffer - making choosing active modes safer, more appealing and comfortable.

**Closing network gaps:** New sidewalks are added, while preserving existing trees.

Maximizing greenery: Shade trees can be planted between palms to maximize shade and provide a continuous shaded pedestrian experience without reducing the urban tree canopy.

# Encouraging local traffic and minimizing congestion and conflicts:

One of the two existing south-bound travel lanes is removed to discourage cut-through traffic and encourage drivers to use major roadways instead. Mini-roundabouts can replace stopcontrolled intersections, calming traffic and enhancing safety. This design treatment has been demonstrated to reduce the types of crashes where people are seriously hurt or killed by as much as 82%.<sup>15</sup> Although traffic counts for Owensmouth and Valerio Street exceeded the maximum threshold often used when determining the feasibility of a traffic circle (10,220 AADT and 10,000 AADT, respectively), the number of north/southbound vehicles would likely be dramatically reduced if the plaza were to be constructed, thus presenting ideal conditions for a roundabout (see Figure 4).

**Incorporating cool paving:** Because Owensmouth Avenue has lower volumes of traffic than major streets like Sherman Way, cool paving is appropriate to apply to the entire roadway surface, which will provide immediate cooling benefits.

![](_page_42_Picture_4.jpeg)

The project team created an animated fly-through of a re-imagined Owensmouth Avenue as a shade-rich resident-focused corridor. To view the animation of what the corridor could look like in the future, see: altaplanning.com/urbancooling

![](_page_43_Picture_0.jpeg)

FIGURE 3. Proposed design for Owensmouth Plaza between Wyandotte Street and Sherman Way

### **DESIGN BENEFITS**

- - Manage Heat & Water
  - **Connections & Safety**
  - Livability

![](_page_43_Figure_7.jpeg)

![](_page_44_Picture_0.jpeg)

**FIGURE 4.** Proposed design for Owensmouth Avenue at Valerio Street

### **DESIGN BENEFITS**

![](_page_44_Figure_3.jpeg)

Manage Heat & Water

![](_page_44_Picture_5.jpeg)

Livability

![](_page_44_Figure_7.jpeg)

![](_page_45_Picture_0.jpeg)

# Multi-Use Trail: Orange Line Bike Path

SHERMAN WY

ALABAMA AV

CANOGA AVE

REMMET AV

**DWENSMOUTH AV** 

JORDAN AV

The Orange Line Bike Path is an off-street (Class I) trail for people walking and biking that parallels the Orange Line BRT route.

11LWOOD AV

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nan Wav Sta

This trail is an important regional connector that intersects the LA River Trail, numerous bikeways, and other community destinations.

An entrance to the Orange Line Bike Path near Canoga Park

Some of the conditions that impact the comfort of using the trail include:

**Minimal shade** along the route and at crossings with limited commercial activities.

**Few amenities,** with no hydration stations, bathrooms, shade structures, or wayfinding.

**Minimal lighting** which residents expressed concerns of personal safety when using the trail before sunrise or after sunset, and which reduces the visibility of pavement defects.

**Busy crossings,** particularly along major arterials.

![](_page_45_Picture_10.jpeg)

![](_page_45_Figure_11.jpeg)

![](_page_45_Picture_12.jpeg)

![](_page_45_Picture_13.jpeg)

![](_page_46_Picture_0.jpeg)

**FIGURE 5.** Proposed design for the Orange Line Bike Path

### **DESIGN BENEFITS**

![](_page_46_Figure_3.jpeg)

Manage Heat & Water

![](_page_46_Picture_5.jpeg)

Livability

![](_page_46_Picture_7.jpeg)

ShadeImage: Constraint of the sector of the sec

![](_page_47_Picture_0.jpeg)

Orange Line Bike Path at Sherman Way (looking north)

The design solution for the Orange Line Trail depicted in Figure 5 addresses these issues by:

Adding "cool zones": These are places along the corridor where amenities are clustered, such as benches, exercise equipment, bike racks, hydration stations, shade structures, artistic cool paving elements, and enhanced planting areas.

**Enhanced crossings:** Community members reported that it can be uncomfortable to wait to cross the

street at traffic signals. Adding shade structures, cool paving, and hydration stations near street crossings helps make the wait more comfortable and creates a greater sense of place.

Art and wayfinding: Artistic elements, such as murals, paving patterns, and sculptures can be integrated along the trail to reflect the communities through which it passes. Wayfinding can be enhanced, including trail maps and signs denoting distances to major destinations via intersecting bike routes.

The project team created an animated fly-through of a re-imagined Orange Line Trail as a cool connector with regular "cool zones" with shade, seating, and hydration stations. To view the animation of what the corridor could look like in the future, see: altaplanning.com/urbancooling

![](_page_47_Picture_8.jpeg)

![](_page_48_Picture_0.jpeg)

**FIGURE 6.** Proposed design for the Orange Line Bike Path at Sherman Way (looking north)

### **DESIGN BENEFITS**

![](_page_48_Figure_3.jpeg)

Manage Heat & Water

![](_page_48_Figure_5.jpeg)

Livability

![](_page_48_Figure_7.jpeg)

# Implementation

# **Secure Funding**

The urban cooling strategies presented in this Study call for improvements related to transportation, landscape, water management, and more, and may require multiple funding sources to ensure each recommended type of improvement can be built and maintained. Throughout this Study, community members expressed support for the designs presented, but a desire that the City commit to regular maintenance. Therefore, any funding requests should include a commitment to maintain the facilities. The "best fit" funding sources the City will explore are listed in this section; a full list of additional funding sources can be found in the Appendix. The descriptions are intended to provide an overview of available options and do not represent a comprehensive list. This section reflects the funding available at the time of writing. The funding amounts, fund cycles, and even the programs themselves are susceptible to change without notice.

# SAFE AND CLEAN WATER PROGRAM: MEASURE W

Approved by Los Angeles County voters in 2018, The Safe and Clean Water Program generates up to \$285 million per year from a special parcel tax of 2.5 cents a square foot of "impermeable space" will help cities around the county meet their obligations under the federal Clean Water Act. This program funds projects and programs that focus on stormwater and water quality benefits. The City of LA will receive an annual allocation of funds, and is also eligible to apply for additional competitive funding. Eligible project types that can be supported through this funding stream include feasibility studies, pilot projects, detailed design and construction, and ongoing operations and maintenance costs.

# LADOT PEOPLE ST PROGRAM

The Los Angeles Department of Transportation provides an applicationbased program that builds partnerships with community groups and the City to transform LA streets into active and accessible places for community members. Types of projects could include: parklets, plazas, bicycle corrals, intersection murals, and decorative crosswalks. The application window for plazas opens annually in the Spring.

Business Improvement Districts (BIDs), Community Benefit Districts (CBDs), non-profits and community organizations, and other organizations may apply to become People St Community Partners. Community Partners are required to be active players in order to build neighborhood support for a project, identify an appropriate site, conduct outreach, raise funds required for materials and furnishings, install project elements, and provide and fund longterm management, maintenance, and operations of the project.

# CALTRANS' ACTIVE TRANSPORTATION PROGRAM

The California State Legislature created the Active Transportation Program to encourage active modes of transportation. Senate Bill 1 (SB 1) stipulates that \$100,000,000 of revenues from the Road Maintenance and Rehabilitation Account will be available annually to the ATP. The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program with a focus to make California a national leader in active transportation. Applications are to be submitted typically in July.

# CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)

CMAQ provides funding to state and local agencies for transportation projects that help meet Clean Air Act objectives. Funded projects must work to reduce congestion and improve area quality in nonattainment or maintenance zones for ozone, carbon monoxide or particulate matter. CMAQ funds can be used for bicycle and pedestrian projects that are included in the metropolitan planning organization (MPO) current transportation plan and transportation improvement program (TIP). Projects can include bicycle and pedestrian facilities that are not exclusively recreational and for outreach related to safe bicycle use. Studies that are part of the project development pipeline (e.g., preliminary engineering) are also eligible for funding. Approximately \$138.5 million is available in Los Angeles County for fiscal years 2016 to 2020. LA Metro offers CMAQ funding to other agencies through the Metro Call for Projects or other Metro Board action.

# Continued Community Involvement

The design concepts presented in this Study involve substantial changes to existing conditions including closing streets to vehicular traffic, altering the design of neighborhood roadways, and planting new trees and vegetation. Transformative projects of this scale require thorough, sustained community involvement in the planning process. If the City secures funding for detailed design and implementation of these or similar concepts, additional public outreach will be conducted to ensure the community has opportunities to review and further refine specific project elements, and to ensure that the project addresses the needs and desires of the community.

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# Appendices

Appendix A: Existing Conditions Report Appendix B: Policies & Standards Memorandum Appendix C: Potential Funding Source Report Appendix D: Adaptation Concept Report Appendix E: Maintenance Plan Appendix F: Community Outreach Documentation Appendix G: Cost Estimates

To see all appendix documents, please visit: altaplanning.com/urbancooling

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