

WASHINGTON & CULVER BOULEVARD TACTICAL MOBILITY LANE

POST-PILOT REPORT
APRIL 2023



MOVE *Culver* CITY

It's how we get there.



Acknowledgments

MOVE Culver City is an effort by the City of Culver City and approved by City Council to develop and implement holistic transportation solutions that balance the needs of pedestrians, bicyclists, motorists, and transit riders. This pilot project is made possible by the leadership of the City Council and is partially funded by the Los Angeles County Metropolitan Transportation Authority (LA Metro) and the United States Department of Transportation (USDOT).

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Executive Summary

On November 20, 2021, the City completed the installation of new street treatments on 1.3 miles of Culver and Washington Boulevards in Downtown Culver City and the Arts District. These treatments used low-cost, temporary materials to test the impacts of this corridor transformation to prioritize efficient, safe, and sustainable modes of travel while minimizing the impact to vehicular traffic. The goal of the project is to offer the community equitable, convenient, and sustainable mobility options (walking, biking, and transit) through street treatments and expanded mobility services.

The project team continually observed the impacts through a robust transparent project monitoring program for a pilot period of one year.

Throughout the pilot period, the project team collected quantitative data to measure impacts to all modes (walking, biking, transit, and driving) and its effects on the surrounding community. Results were published in the form of monthly reports and a six-month summary report.

This report summarizes the collected data and explains the methods used in its analysis. Ultimately, the data reveal that the project is achieving its goals of increasing use of alternative modes while minimizing vehicular traffic.



MOVE Culver City Corridor

Key Findings

- The protected bike lanes and shared bus/bike lanes have led to more people riding bikes on the corridor. The downtown area, which did not previously have bike lanes, experienced the greatest increase in bicycle trips along the corridor. The Metro E Line station area, which had unprotected bike lanes before the project's implementation, and Arts District also experienced growth.

Cycling data can be found on the [Data Overview](#) and [Cycling Activity](#) pages.

- Bus ridership is increasing on the downtown corridor. Ridership has grown throughout the Culver CityBus system as the pandemic's impacts on travel subside, but the increase in ridership on the mobility lane corridor has significantly outpaced the system as a whole
- Bus ridership on the downtown corridor is close to 2019 levels and is outpacing both Culver City Bus and LA Metro in growth.

Bus ridership data can be found on the [Data Overview](#), [Transit in Culver City](#), [CityBus Ridership](#), and the [CityBus Travel Times](#) pages.

- The bus stops which saw the most growth in ridership were located around the E Line station, suggesting that many people are using the MOVE Culver City mobility lanes to connect to regional transit.

Bus stop data can be found on the [Stop Level Boarding and Alighting](#) page.

- More people are walking around the project area compared to pre-implementation.

Pedestrian data can be found on the [Data Overview](#) and [Pedestrian Activity](#) pages.

- MOVE Culver City has not had a significant impact on peak vehicular traffic compared to the pre-pandemic condition. In the morning peak hours, traffic moves faster through

the corridor than it did in 2019, while in the afternoon peak, average travel times have increased by up to 2 minutes.

- Traffic in the PM peak has “flattened” – peak congestion begins earlier and ends later than in 2019.

Vehicular traffic data can be found on the [Data Overview](#) and [Vehicular Travel Time](#) pages.

- The mobility lanes have not impacted emergency response times at Fire Station 1, which is located on the project corridor. Firefighters report that using the mobility lane helps them avoid traffic during peak hours.

Fire Station 1 data can be found on the [Emergency Response Time](#) page.

- When adjusted for inflation, revenue of businesses located on the MOVE Culver City Corridor (measured via sales tax receipts) has grown since 2019, while citywide business revenues are unchanged.

Sales tax revenue data can be found on the [Business Analysis](#) pages.

- The city conducted a scientific survey of City residents' attitudes towards MOVE Culver City. The survey revealed that most residents are opposed to the project overall. Despite their opposition, most residents support how MOVE Culver City improved safety for walking and biking and increased transportation alternatives. Six in ten support continuing MOVE Culver City, with a plurality favoring making changes to the project to address their concerns.
- Most of the residents who say they are opposed to the project cite a perceived increase in traffic congestion as their main concern.

Survey results data can be found on the [Post-Implementation Outreach](#) pages.

1 | PROJECT OVERVIEW

Project Background

MOVE CULVER CITY

MOVE Culver City is a City-led effort that reimagines streets as public spaces and prioritizes sustainability and safety through multi-modal street design. Building on the City's Transit Oriented Development (TOD) Visioning Plan adopted in 2017 and the City's Bicycle and Pedestrian Action Plan adopted in 2020, this pilot project promotes and encourage individuals to use buses, bikes, and trains to move around Culver City.

MOVE Culver City aims to:

- Accommodate growth identified in the General Plan 2045 update
- Increase mobility options per SCAG's regional transportation plan, Connect SoCal
- Support the goals of SB375 to lower greenhouse gas emissions (GHG)

THE DOWNTOWN CORRIDOR

The pilot project introduces a mobility lane for buses and bikes along Culver and Washington Boulevard between Duquesne Avenue to the west and La Cienega Avenue to the east. It is designed to offer safe and reliable infrastructure for cyclists, pedestrians, motorists, first responders, and transit users, and connects Downtown Culver City and the Arts District with Culver CityBus, Big Blue Bus, LA Metro, and LADOT bus lines.

In parallel, the following were also implemented:

- A high-frequency circulator service in the downtown mobility lane corridor
- Improvements to the Culver City E Line station and Gateway Mobility Stops at this location and at the termini of the downtown mobility lane corridor
- The deployment of new micromobility options in partnership with Wheels and Bird



The corridor connects Downtown Culver City with the E Line Culver City Station and the Arts District, supporting local businesses, major commercial centers, and job centers.

WHY MOVE CULVER CITY?

MOVE Culver City responds to emerging mobility challenges such as increased traffic congestion due to economic growth, a growing demand to mitigate climate change by reducing emissions, and the opportunity to rethink streets and public spaces during the COVID-19 pandemic.

Population Growth

As Culver City's population continues to grow, accommodating new residents and visitors more efficiently is critical to the city's economic success. The city is growing at a rate of 0.46% annually, and its population has increased by 1.40% since the most recent census, which recorded a population of 40,779 in 2020¹. Culver City has a population density of 8,090 people per square mile – well above the level needed for transit-supportive densities.

Jobs:²

1. From 2002 to 2017, 20,000 jobs were added, representing a total growth of 44%
2. The City's General Plan forecasts the city will add between 22,300 and 32,400 jobs by 2045

Regional Growth:³

1. The current metro area population of Los Angeles in 2023 is 12,534,000, a 0.37% increase from 2022
2. The City of Los Angeles saw about 40 million visitors in 2021, and is expected to receive 51 million in 2023
3. LA is expecting a large wave of visitors for the 2028 Olympics. The Los Angeles County Metropolitan Transportation Authority is working on its Twenty-Eight by '28 Initiative to accelerate transit infrastructure and facilitate car-free travel

With the projected growth, traffic congestion will likely increase. In the Los Angeles transit system, this means that buses will travel at slower speeds as congestion worsens. Transit options with dedicated rights-of-way, such as rail and bus lanes, improve transit reliability, helping to meet the travel needs of the County's growing population.

Sustainability

Transportation, and driving in particular, is one of the largest sources of greenhouse gas emissions (GHG) in California.⁴ The California Air Resources Board has determined that in addition to other measures such as electrification, a 30% reduction in overall vehicle miles traveled will be required by 2045 to meet statewide GHG emissions reduction targets.⁵ MOVE Culver City is one of many comparable efforts throughout LA County seeking to address the causes of GHG.

Transit Network:

The pilot is a part of an emerging regional transit network. Within the next decade, the LA Metro Purple Line will reach Miracle Mile (by 2024), Beverly Hills and Century City (2025), and UCLA (2027). In addition, the Regional Connector Project—slated to open in Downtown LA in 2023—will more seamlessly link LA's rail lines and reduce the number of transfers required to cross the region, allowing for direct trips between Culver City and East LA and single-transfer journeys from Culver City to Union Station and the San Gabriel Valley.

Tying into this regional network is important because research not only shows that regions with growing transit use have been more successful in attracting economic growth, but that increasing service coverage and frequency result in increased ridership numbers.⁶ Further, transit use combined with walking or biking compared to driving alone reduces GHG emissions per trip by up to 95%.⁷

Bicycle Network:

Research shows that providing high-comfort bike infrastructure such as protected dedicated lanes is key to making cycling a more feasible transportation option for people of varying ages and abilities.⁸

Since 2020, the Los Angeles Department of Transportation has added 118 miles of bike lanes and upgraded over 30 miles of existing bike facilities. In 2023, LADOT upgraded existing unprotected bike lanes along Venice Boulevard to protected

bike lanes and added a new bus-only lane between Lincoln Boulevard and National Boulevard. The improvements resulted in 5.1 miles of continuous protected bike lanes, the longest protected bike facility in LA County. However, more work for Los Angeles is needed to achieve its 2035 Mobility Plan goal to “create and maintain an interconnected bicycle network of 150 miles of bicycle paths and 300 miles of protected bicycle lanes to provide a regional low stress bicycle system.”

Culver City is also engaging in a rapid expansion of its bike lane network via the Bike and Pedestrian Action Plan, which calls for protected bike lanes along the length of Washington Boulevard, connecting to protected bike lanes on Jefferson Boulevard, Sepulveda Boulevard, and Overland Avenue and enhanced neighborhood networks on local streets.

A recent study by the International Federation of Automobiles Foundation found that prioritizing a connected network of protected bicycle lanes is an extremely cost-effective way of reducing emissions, providing quantifiable economic benefits.⁹ The study estimates that for every \$200 spent on highways, one ton of GHG emissions per year will be created, while the same spent on protected bicycle lanes mitigates around the same level of emissions. It points out that these types of networks create more economic value annually than they cost to build, given the transportation cost savings and the public health benefits of increased exercise.

Safety

Traffic safety is a major concern regionwide. The City of Los Angeles, for instance, launched its “Vision Zero” program in 2015, with the stated goal of eliminating all traffic deaths on city streets. However, in the following seven years, traffic deaths increased by 68%.

According to Los Angeles Police Department data, 312 people were killed in traffic collisions in 2022 — the highest number in at least two decades.

Of those killed in crashes, about half — 159 people — were pedestrians struck by car drivers.

In the Los Angeles region — as in much of the United States — streets have historically been built to move as many cars as possible, as fast as possible. MOVE Culver City aims to reduce traffic fatalities and injuries through new bicycle and pedestrian infrastructure that prioritize safety over speed.

Mobility

In the last 20 years, Los Angeles County has spent billions of dollars to transform mobility in the region. Backed by large voter mandates in 2008 and 2016, policymakers from across the County are advancing a vision for a Los Angeles that is less reliant on private automobiles and in which public transportation, walking, and cycling are prioritized.

Traditionally, increased travel demand was addressed by adding lane capacity to move cars. Studies demonstrate that adding capacity for single occupancy vehicles does not alleviate congestion.¹⁰ It is a problem of simple geometry; cars are significantly larger than people, and they require storage at their origin and destination.

Accommodating growth in car traffic requires adding capacity both on the roadways and for parking. There is no opportunity to expand the public right-of-way in Downtown Culver City (or Central LA, or most urbanized areas), so the best option is for the city to diversify the mobility options to allow more people to travel efficiently to and through Culver City.

PREVIOUS EFFORTS

MOVE Culver City builds on previous efforts to plan and implement holistic transportation options for pedestrians, bicyclists, and transit riders.

2010

Strategic Plan and Bicycle and Pedestrian Master Plan Adopted

The plan serves as an official City Council-adopted guideline for developing policies, programs, and facilities needed to support walking and biking in the city. The document proposes 37 miles of bikeways and pedestrian zones and extensive streetscape improvements.

2012

Culver City Safe Routes to School Program

The Culver City Safe Routes to School program develops community-based campaigns on and off campuses that create awareness and teach kids and parents how to safely and responsibly use active transportation to and from school.

2015

CicLAvia hosted on Washington Boulevard

CicLAvia temporarily transforms streets to open streets to catalyze public spaces, active transportation, and health through car-free streets. Washington Boulevard hosted CicLAvia in 2015, 2017, and 2019.

2017

TOD Visioning Plan and Expo-Downtown Bicycle Connector Feasibility Study

The TOD Visioning Study created a mobility vision for the transit-oriented development (TOD) area centered on the Metro E Line Culver City Station that prioritizes a pedestrian-first environment, advances transit for first/last mile connections, and provides a safe and protected bicycle network.

2020

Culver City's Bicycle and Pedestrian Action Plan Adopted

The Plan sets the vision and actions that aim to establish walking and cycling as viable modes of travel for all trip types. Continued City efforts will ensure building a high quality, citywide active transportation network that is safe, convenient, and accessible to users of all ages and abilities.



Top: The Culver City (TOD) Visioning Study and Recommendations Report seeks to increase the viability of alternative mobility modes for residents and other users.

Middle: The 2020 Bicycle and Pedestrian Action Plan builds upon a long-standing effort to expand the bicycle and pedestrian networks.

Bottom: CicLAvia open streets in Culver City. Streetsblog.

PROJECT TIMELINE



Design and Outreach

DESIGN GUIDELINES

With guidance from the Mobility Subcommittee, Community Project Advisory Committee (CPAC), the Transportation Department, and the Public Works Department, the following set of design guidelines were developed to ensure that goals and key considerations were being met. The guidelines incorporated comments received through the public engagement process and were approved by the City Council in February 2021.

1. Utilize Quick-Build Approach

MOVE Culver City will utilize the quick-build approach, which consists of a condensed schedule, low-cost materials, and a robust community engagement approach.

The quick-build pilot implementation process was adopted because it allows for a nimble approach. Designs can be piloted and monitored prior to a permanent reconstruction of the street in order to test the improvements and the impacts on mobility throughout the Downtown Corridor and adjacent neighborhoods. As a quick-build project, MOVE Culver City was constructed using shorter-term, temporary materials to allow for adjustments.

2. Stay Within Existing Right-of-Way

Major construction, such as moving curblines and relocating stormwater inlets, is outside of the quick-build approach. Instead, improvements such as striping, installation of vertical barriers, pavement paint, bus/bike platforms, and selective signal upgrades are the focus of this approach.

3. Maintain Existing Automobile Access

The pilot project will maintain all current turning movements and access for general purpose traffic. As such, the pilot will maintain one general purpose lane throughout the project corridor.

4. Utilize Context-Sensitive Design Solutions

The pilot will implement dedicated bus lanes and protected bicycle lanes where possible. In segments where there are constraints or other factors to

consider, the pilot will implement a shared lane for buses and bikes.

The design will be sensitive to surrounding conditions to enhance the travel benefits, safety features, and multimodal improvements included in the pilot project. Incorporating local settings into the design will reduce impacts, especially at parking and loading zones where off-street parking supply is limited.

5. Improve Bus Stops

The pilot will also fast-track bus stop improvements for all bus stops in the project corridor to correspond with the launch date for the Downtown Corridor mobility lanes.

MOVE Culver City will also include establishing and improving three Gateway Mobility Stops at the mobility lane termini (City Hall and Arts District at Washington/La Cienega Ave) and at the E Line Culver City Station.

6. Implement Artistic Street Treatments

The pilot project will implement community-inspired asphalt art at curb extensions, crosswalks, and the Gateway Mobility Stops. The asphalt art aims to beautify the streets with symbols emblematic of Culver City and to create pedestrian-friendly spaces throughout Downtown and the Arts District.

7. Establish a Continuity of Bus and Bike Lanes

The mobility benefits for buses and cyclists rely on the continuity of the mobility lane throughout the 1.3-mile corridor. Except for conflict zones and mixing zones at driveways and other conflict areas, the pilot will create a continuous mobility lane.

8. Implement New Circulator Service

The pilot project will also implement a new circulator service that runs through the entirety of the project corridor. This service will enhance the flow of current transit and expand safe and efficient mobility options in the corridor while complementing the physical improvements implemented as part of MOVE Culver City.

ENGAGEMENT AND OUTREACH

MOVE Culver City progressed on a condensed timeline. To engage as many community members as possible, the project team took an “open-door” approach to community engagement.

Pre-Implementation Outreach

Continuous community input was vital to the design and development of the pilot project. As such, the project team established the following engagement channels:

Project Website

A website (moveculvercity.com) was developed to inform the community about upcoming meetings and provide ongoing updates about the pilot such as design approval details, past event videos and meeting notes, and monthly key performance indicators.

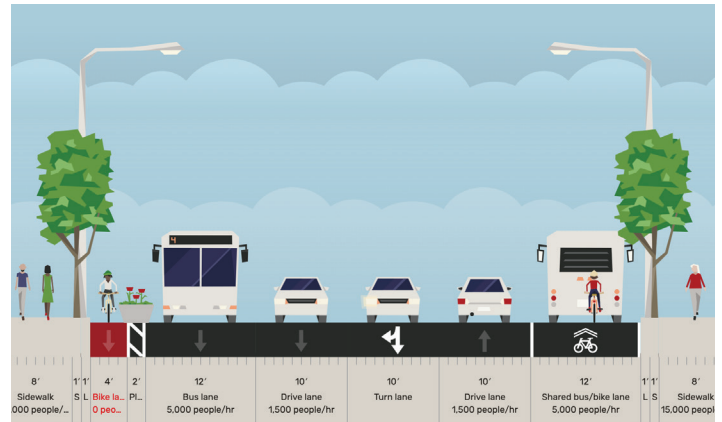
Community Workshops

The project team hosted multiple engagement events throughout the design process which included design studio hours for the community to review the corridor designs and provide real-time feedback, Jamboard sessions where the community could annotate the drawings and provide comments, online surveys, and one-on-one meetings with any group or individual who requested to review the project’s progress.

Over the 70-day design phase, the MOVE Culver City team hosted 33 unique engagement events and received more than 325 public comments.

Pre-Implementation Survey

The project team launched a pre-implementation survey in October 2021 asking respondents to provide information about their experience as users of the project corridor. The survey provided baseline data that shows how people move around the city, and the results were used to inform the design of MOVE Culver City.



Sectional alternative produced by Denice, community member.

Business Roundtable

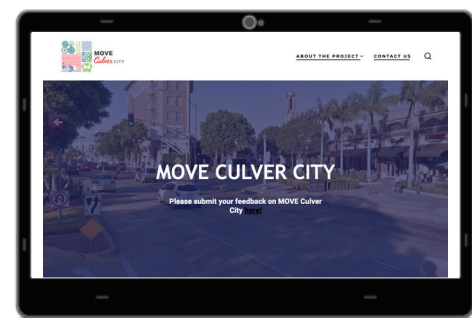
The Business Roundtable was formed by the Downtown Business Association (DBA), the Chamber of Commerce, the Arts District BID, and other property and business owners along the corridor. The team hosted 4 meetings to review design concepts and discuss any concerns or suggestions from the roundtable members.

Community Project Advisory Committee (CPAC)

The CPAC was created to further solicit input from various public bodies. The CPAC includes special interest groups, city committees, business associations, and neighborhood associations. The CPAC met regularly throughout the design and implementation phase of the pilot project to provide feedback to the project team.

Mobility, Traffic and Parking Subcommittee

The project team provided regular updates to and received feedback from the City Council’s Mobility Subcommittee throughout the project’s design and implementation.



Pilot project website

Post-Implementation Outreach

CPAC Meetings

After MOVE Culver City was implemented, the project team continued to have quarterly meetings with CPAC members about the project’s monitoring and post-construction design modifications. The team also hosted on-site walk-throughs of the corridor with CPAC members to talk about the future of MOVE Culver City.

Intercept Survey

An intercept survey of cyclists and pedestrians was conducted from August 27 to September 9, 2022 for the publication of the [Mid-Pilot Report](#).

An intercept survey is a research method that involves asking questions to a target audience on-site or online while they are engaged in an activity or experience. The Intercept Survey complemented the quantitative data collected for the report and aimed to achieve a deeper understanding of how cyclists and pedestrians perceive and utilize the corridor.

The intercept survey received 109 responses which included 60 pedestrians and 49 cyclists. Nearly 70% of the respondents said that the changes implemented on the corridor have led to a reduction in speeding vehicles, better bicycle and transit infrastructure, improved connectivity to the E Line, and a safer experience while traveling along the corridor.

Business Analysis

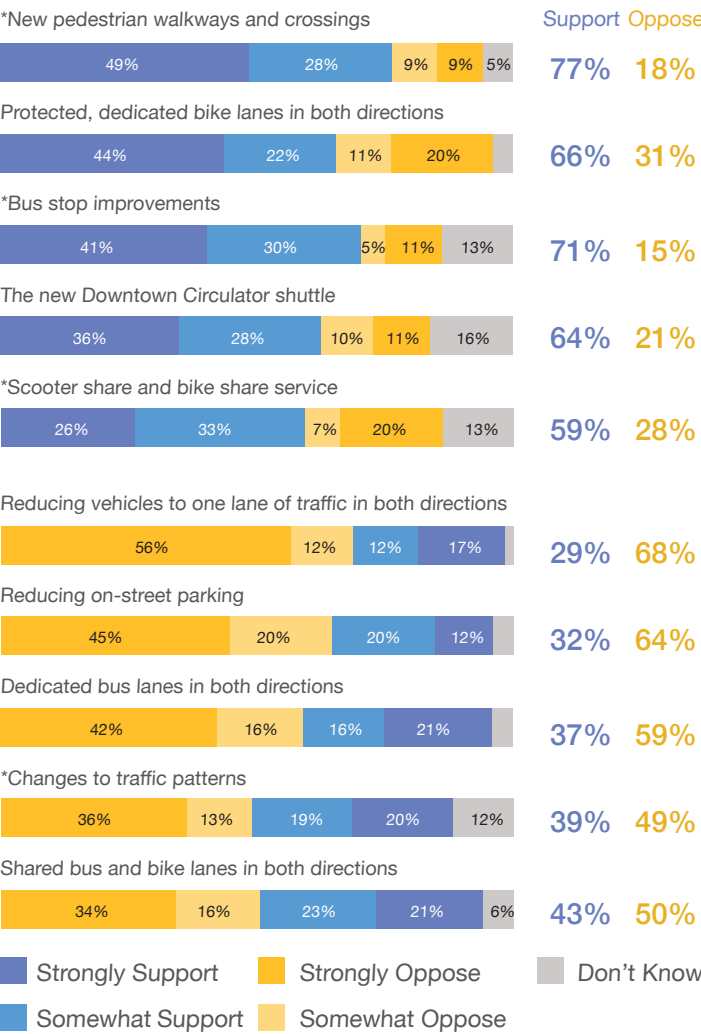
In February 2023, the project team conducted an analysis of businesses on or adjacent to the MOVE Culver City Corridor. The analysis collected information for over 350 businesses and looked at metrics such as sales tax data and remote work policy impacts on businesses. The team also held a series of focus group meetings with several businesses to talk about the pilot project’s impact and discuss strategies for the future of the corridor.

The results of this analysis and outreach are detailed in Chapter 2 of this report.

Post-Implementation Survey

In order to better understand residents’ view of MOVE Culver City, the City commissioned a scientific survey. 413 residents were surveyed by phone, email, and text message. This response rate was enough to guarantee 95% confidence in the survey results with a 4.9% margin of error. The following pages show some of the key findings of that survey. For more detailed results, see here: [MOVE Culver City Assessment Issues Survey](#).

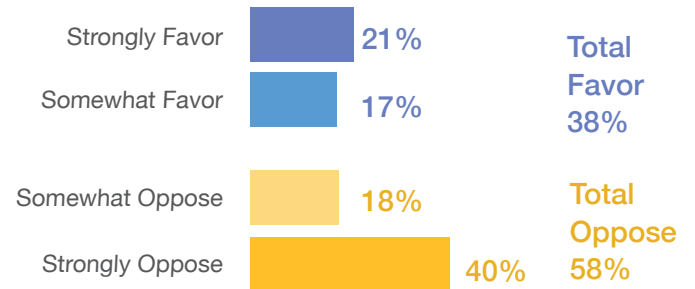
Most residents like the sustainable transportation elements of the pilot. However, they are sharply opposed to the perceived impact on traffic.



*For more information on the traffic data collected by the project team, see the [Vehicular Data section](#).

About six in ten residents say they are opposed to the project. One in five residents have ridden a bus that serves the corridor, while almost 50% have replaced at least one car trip with a sustainable mode since the project opened. Despite opposition, a clear majority of residents want the project to continue, with most calling for changes that address community concerns.

Based on what you have seen, heard, read, or from just my mentioning it, do you favor or oppose the MOVE Culver city Project?



MOVE Culver City is working well, and the City Council should continue the project as is with **no** changes



MOVE Culver City should continue, but with some changes to address concerns raised by residents and local businesses along the corridor



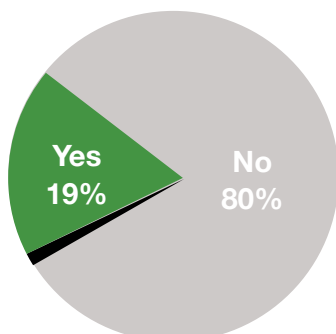
MOVE Culver City is **not** working, and the City Council should end the project



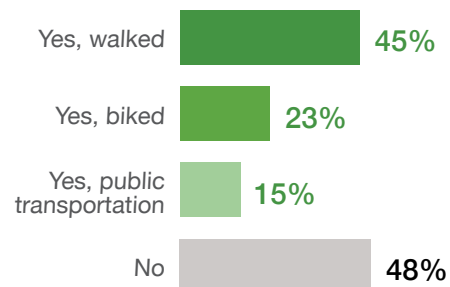
None of these or Don't Know



Have you used either the Culver City Downtown Circulator minibus, a regular green City bus or any bus service along the MOVE Culver City Corridor?



Since MOVE Culver City was implemented in November 2021, have you traveled along the MOVE Culver City project corridor by walking, biking, or public transportation instead of driving?



DESIGN PROCESS AND KEY ELEMENTS

Design Phases

The pilot project was developed in four phases:

Phase 1: Project Initiation

During this phase, the project team established the overall framework for the pilot and held inaugural meetings for the major engagement channels.

Phase 2: Design Alternatives

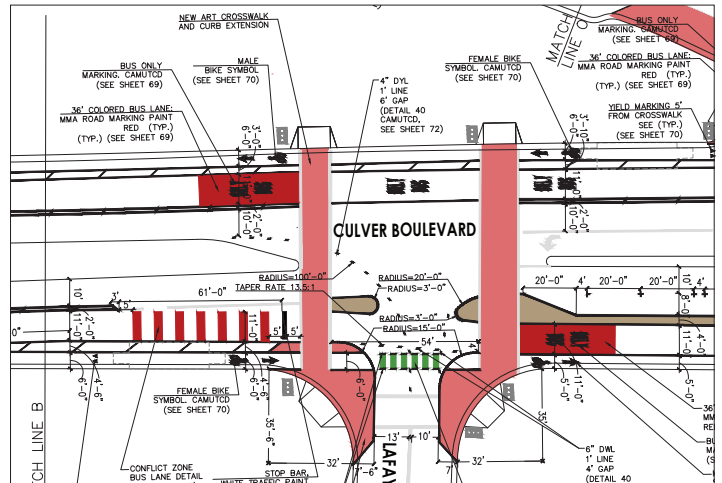
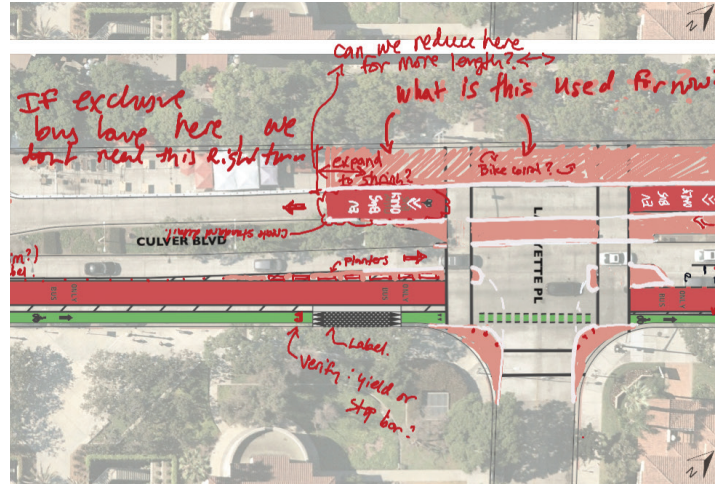
After the initial public meetings, the team carried out a field audit and developed sectional alternatives to illustrate the various ways they might reallocate street space along Culver and Washington Boulevards. This phase included the calculation of high-level costs and implementation factors.

Phase 3: Design Development

Once the design alternatives were chosen, the project team translated those sections to every part of the corridor with continued community and stakeholder input. While the ideal structure for the corridor included mobility lanes that serve buses and bikes separately, some areas could not accommodate separate lanes given the width of the street.

Based on these criteria, the consultant team developed two typical designs to be applied based on the existing roadway dimensions. The primary design includes a dedicated bus lane and a protected bike lane, while the secondary design for constrained roadway locations consists of a shared bus and bike lane.

Throughout this phase the team met with all engagement channels to request feedback on each element of the pilot, such as using green and red paint to delineate the bus and bike lanes, extending left turn bays at intersections, and adding mixing zones in right hand turn situations. A loading zone was included in Downtown to address concerns from local businesses. The guidance provided informed the final design and the team produced final illustrative plans to be approved by the City Council.



Top: Annotated plan from a Jamboard session with community members.

Bottom: Final permit plan drawing.

Phase 4: Implementation Planning

The final phase included the production of permit drawings based on the approved illustrative plans, project bidding for the physical installation, materials procurement, and construction sequencing and preparation.

Design Elements

The corridor design was unanimously approved by City Council on February 1, 2021 with the following design elements.

Bus and Bike Lanes

The corridor introduced 1.4 miles of protected bike lanes and 2.6 miles of dedicated bus lanes along Culver and Washington Boulevard. The new dedicated bus and bike lanes form the basis of the city's connection to the E Line Station, allowing for enhanced access for residents, employees, and visitors. New bus-only and bicycle traffic signals were installed to protect cyclists from traffic and to improve transit service reliability.

Bicycle and Pedestrian Safety

Vertical delineators were installed around the painted curb extensions to protect pedestrians crossing the street. These raised elements also discourage turning vehicles from cutting across the bikeway when turning right.

Leading Pedestrian Intervals (LPI) were added at 7 signalized intersections to give pedestrians the opportunity to enter the crosswalk at an intersection a few seconds before vehicles are given a green indication.

Mobility Hubs

The new mobility stops introduced signage and furniture, as well as artistic sidewalk treatments. It also included 'micromobility drop zones' for scooter share and bike share riders to drop their vehicles off without impeding pedestrian traffic.

Circulator Service

The pilot also launched a new circulator system, offering free rides for all passengers and connecting Downtown Culver City, Culver City E Line Station, and Arts District. The circulator vehicles are low-floor, battery-electric minibuses.



Top: Vertical delineators were placed on curb extensions to protect pedestrians crossing the street

Middle: Bus and bike lanes installed on Washington Boulevard and Helms Avenue

Bottom: Installed micromobility drop zones

Bus Platforms

During the design development phase, the project team identified that need for bus boarding platforms to allow for level bus boarding while also allowing for the continuity of the bike lane.

The platform materials and final design were chosen with input from community members to ensure they would match the aesthetics on the street and provide new street furniture on the corridor.



Circulator vehicle on the corridor utilizing the wooden platforms



These platforms were designed to balance the needs of people with disabilities and general users with the desire to maintain an uninterrupted protected bike lane.

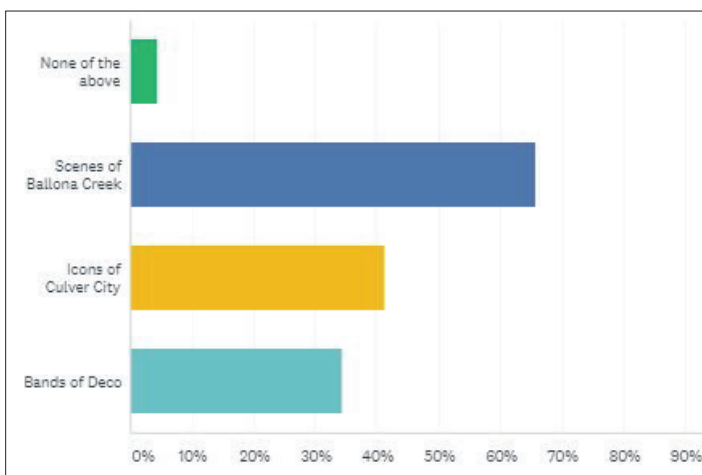
Asphalt Art

As part of the MOVE Culver City design, asphalt art was installed at selected locations along the corridor.

The MOVE Culver City asphalt art is called *Scenes from Ballona Creek*. The murals depict various species of fauna and flora that reflect the ecosystems around Culver City, from the flowers of the jacaranda trees that line downtown Culver City to the various flower species found in the Ballona Creek wetlands.

The project team started the asphalt art development process with a public survey in February 2021 to get feedback from the community on themes for asphalt art. The community selected *Scenes of Ballona Creek* as its preferred theme. In May 2021, the project team conducted another public survey to obtain feedback from the community on the initial sketches.

The project team considered feedback from the community and CPAC to determine the final designs and locations. Community volunteers and CPAC members joined the project team during the installation to prepare and paint the mural for the pilot launch.



The team launched an Asphalt Art Themes survey and asked the community to provide vote for their preferred design theme.



Top: Vertical delineators separate the dedicated bus and protected bike lanes on the eastbound lane in Downtown Culver City

Middle: Asphalt art projected on corridor locations.

Bottom: Volunteers installing asphalt art designs.

Pilot Implementation

The construction of the quick-build mobility lane pilot was originally scheduled for Spring 2021 but was delayed because of several challenges:

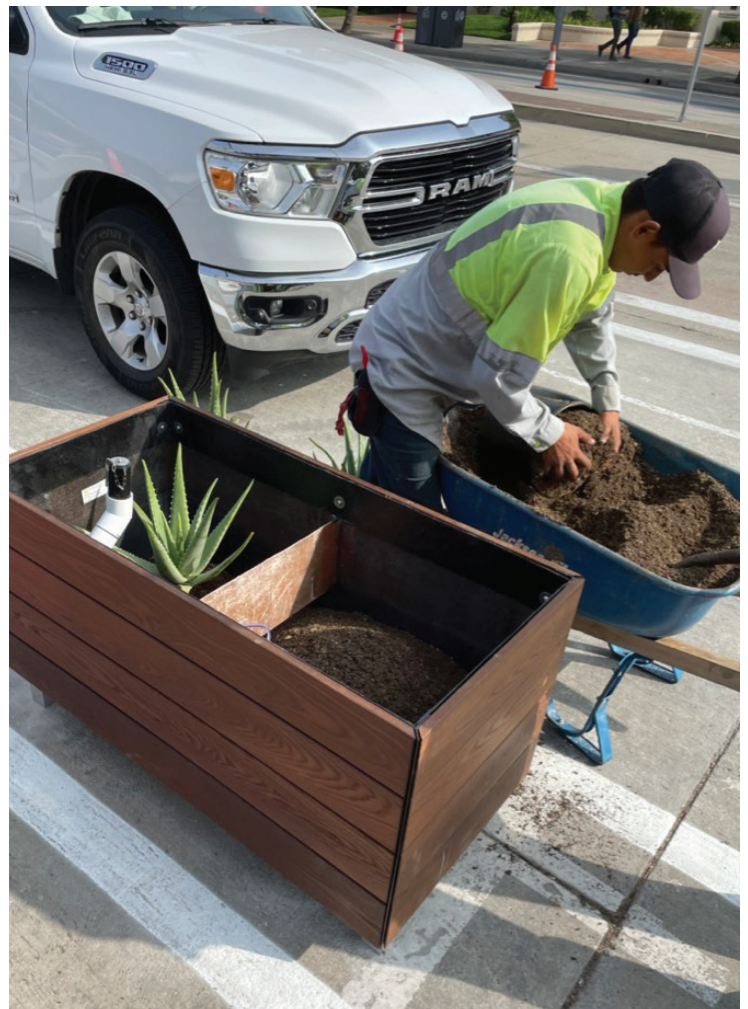
1. Procurement of key construction materials took longer than expected due to worldwide supply chain delays
2. The addition of the custom bus boarding platforms as a new scope item
3. The outdoor dining pilot on Culver Boulevard created to mitigate the effects of COVID-19 pandemic on food and beverage establishments was extended through Summer 2021

Construction officially began in October 2021. Professional contractors implemented the mobility lane, while community volunteers installed asphalt murals along crosswalks and pedestrian refuge areas.

Culver City hosted a launch party on Saturday, November 20, 2021 where local officials spoke about the need to prioritize sustainable modes, a community group rode the bike lanes for the first time, and the City provided free rides on Culver CityBus and the newly-launched Downtown Circulator.



Community volunteer installing the asphalt art designs developed by Street Plans



City contractors installing new planters on the bus platforms.



14 new bus
and bike
platforms

2.6 miles of
dedicated bus
lanes

1.4 miles
of protected
bike lanes

30,000
square feet
of Asphalt
Art

Project Monitoring

MONITORING STRATEGIES

Project monitoring is a primary component of MOVE Culver City. Once the bike and bus lanes were opened, the project team closely monitored traffic conditions in the corridor and incoming public feedback to identify any adjustments that needed to be made. Monitoring strategies included:

- Conducting regular field audits throughout the pilot duration including daily audits during the first month, weekly audits during the second and third months, and ongoing biweekly audits
- Opening a community concerns portal through the City's Contact Culver City webpage, phone calls, and emails
- Monitoring social media response
- Hosting a walking and biking tour with CPAC on December 11, 2021

COMMUNITY FEEDBACK

At the beginning of project construction, the City launched a community response portal to keep track of community feedback. The project team has continued public education about the project through flyers, social media, direct responses, website updates, and police enforcement.

The project team received a total of 408 messages over the life of the project. Messages included project feedback, general comments, and clarifying questions. Many of the issues raised by community members were later addressed by the project team.

The majority of the feedback was received in the initial three months of the pilot, between November 2021 and January 2022. As issues were addressed, the number of messages received dropped off and settled at an average of 8 messages per month for 2022.

People who reported that they rode bikes on the corridor were typically in strong support of the project. Many said that the bike lanes encouraged them to visit Downtown Culver City and the Arts District and patronize local businesses.

Some reported issues with the bike signals and separate bike signal phases. Bike signals were modified midway through the pilot, partially in response to this feedback.

Some who reported that they primarily drove on the corridor indicated that they traveled to destinations on the corridor less frequently after the opening of MOVE Culver City. During the first few weeks of the project opening in November 2021, the project team received several complaints regarding the intersection at Washington/Ince. This information was used to inform a redesign of the intersection in December 2021, which later saw over 98% of drivers using the intersection correctly.

Transit riders reported that the buses using the bus lanes had become faster and more reliable. Some said that they now rode the bus for trips they had previously made by car. Many appreciated that the circulator service was free, but there were initial concerns about its reliability and lack of consistency with the published in-app schedules. Those issues have now been resolved.

A total of 408 responses were received through the portal that later informed post-construction design modifications.

DESIGN MODIFICATIONS

To address issues identified through project monitoring, the following adjustments were made in the months following the corridor's installation:

- Ince Redesign**
 In response to public feedback from motorists, the design team redesigned a segment of the project corridor near the Washington Boulevard and Ince Boulevard intersection by providing an additional left turn lane for vehicles and removing a novel leading bus/bike signal phase.
- Replacing low profile lane separators**
 The City replaced low profile lane separators with high profile lane separators.
- Removing pedestrian recall on all signals**
 Pedestrian recall was in place during the pandemic to relieve pedestrians from activating the pedestrian crossing phase via the push button. Removing recall increases the amount of time during a signal phase where vehicular movements can happen if there are no pedestrians waiting to cross.
- Installing additional loading zones**
 The City added 280 linear feet of loading zones (denoted by a painted yellow curb) to support business and passenger loading activities, as well as delivery trucks and food deliveries, specifically in the Downtown area.
- Improving signing to parking garages**
 The City added new wayfinding signs and modified existing signs to better align with new traffic patterns and direct motorists to public parking garages in the Downtown area.
- Improving visibility for cyclists**
 Flexible delineator posts and new regulatory signs were installed at bus boarding platforms to better highlight the bike ramps and boarding platforms for cyclists.



Top: The team redesigned the intersection at Washington Boulevard and Ince Boulevard

Bottom: The team improved wayfinding signage on the corridor

- Removing bike signals**
 Bike signals were removed following feedback from cyclists about issues with detection and visibility.
- Extending the circulator route**
 In July 2022, the Circulator was extended to also service Culver City Senior Center and Veterans Memorial Park.

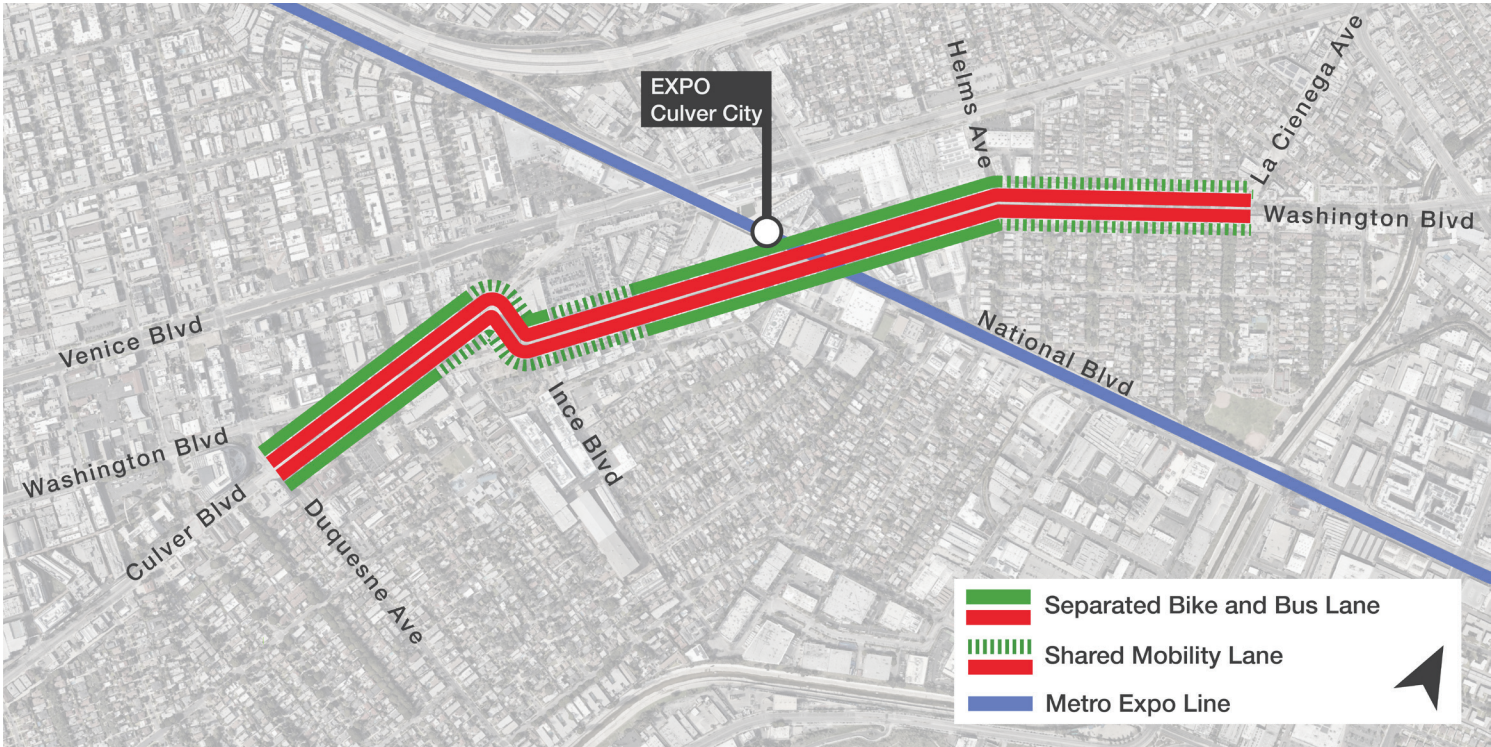
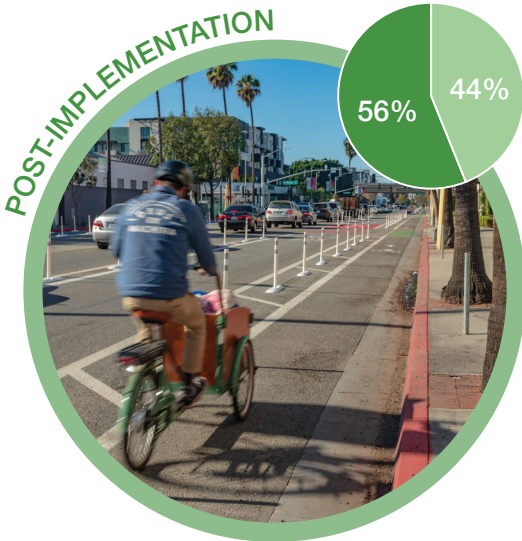
Typical Post-Pilot Infrastructure

SPATIAL ALLOCATION

MOVE Culver City transformed the corridor by converting 56% of roadway space for general-purpose traffic into space for sustainable transportation modes.

Allocation of Roadway Space (curb to curb)

- General-purpose traffic
- Sustainable Transportation
(Cycling, walking, and taking transit)



MOVE Culver City Downtown Corridor Lane Allocation Diagram. Sam Schwartz.

FROM QUICK-BUILD TO LONG-TERM

Quick-build transportation improvements are based on leveraging temporary, inexpensive materials to implement short-term projects that help plan for long-term improvements. Additionally, quick-build projects can be implemented on a much faster timeline than typical capital projects.

In using this approach, the mobility lane and accompanying design features remain flexible. The MOVE Culver City pilot allows the City to test which corridor alternatives work or don't work in real time by analyzing public input and traffic data. More extensive and potentially long-term improvements can be added over time as the project evolves.

Quick-Build Infrastructure

Quick-build projects are temporary enough to be completed on a smaller budget using interim flexible materials, but durable enough to provide the time, political capital, and budget to evaluate and iterate upon the initial project design



Post-Pilot Infrastructure

Once quick-build projects are evaluated, more permanent materials and treatments can be applied to improve the project's design



2 | Data and Analysis

Data Overview

This section summarizes a variety of data analyses to quantify the impacts of MOVE Culver City. The analyses are based on sources including cell-phone data, vehicle and pedestrian detection cameras, manual traffic counts, and transit ridership data. The project team expanded the analyses developed for the Mid-Pilot Report to a 12-month time period, showing trends over the span of the entire pilot from January 2022 through December 2022. Parking utilization, vehicle capacity at the Culver/Canfield intersection, vehicle speeds, and others were also analyzed. The analyses were completed using industry standard methodologies consistent with similar projects across the United States.

Due to changes the COVID-19 pandemic has had on travel patterns, project performance data was compared to a pre-implementation baseline from 2021 and pre-pandemic baseline from 2019 when available. Baselines vary across different transportation modes due to data availability and are detailed throughout this report. The trends detailed in this report can be attributed to changes as a result of MOVE Culver City, as well as other local and regional changes to travel demand.

A detailed explanation of data sources, analysis methodology, and additional technical details are included in the appendix to this report.

Sustainable Transportation Along Corridor Today



+38%

Increase in CityBus Ridership



-4 min.

Decrease in CityBus Travel Time



+57%

Increase in Cycling Activity



+8%

Increase in Pedestrian Activity



+68%

Increase in Micromobility Trips

Sustainable Transportation at Culver Blvd & Main St



+115%

Increase in Cycling Activity



+36%

Increase in Pedestrian Activity

The Culver/Main intersection has seen the greatest increase in pedestrian and bicycle activity compared to October 2021 and November 2019, respectively.

Vehicular Transportation Along Corridor

+2 min.

In the westbound direction, weekday peak hour travel times were approximately two minutes longer compared to 2019.

±0 min.

In the eastbound direction, weekday travel times during AM and PM peak hours remained similar to 2019.

+10%

The average daily vehicular traffic in 2022 increased by 10% as compared to the September 2021 average baseline.

Sources: See Appendix C for details

Sustainable Transportation Data

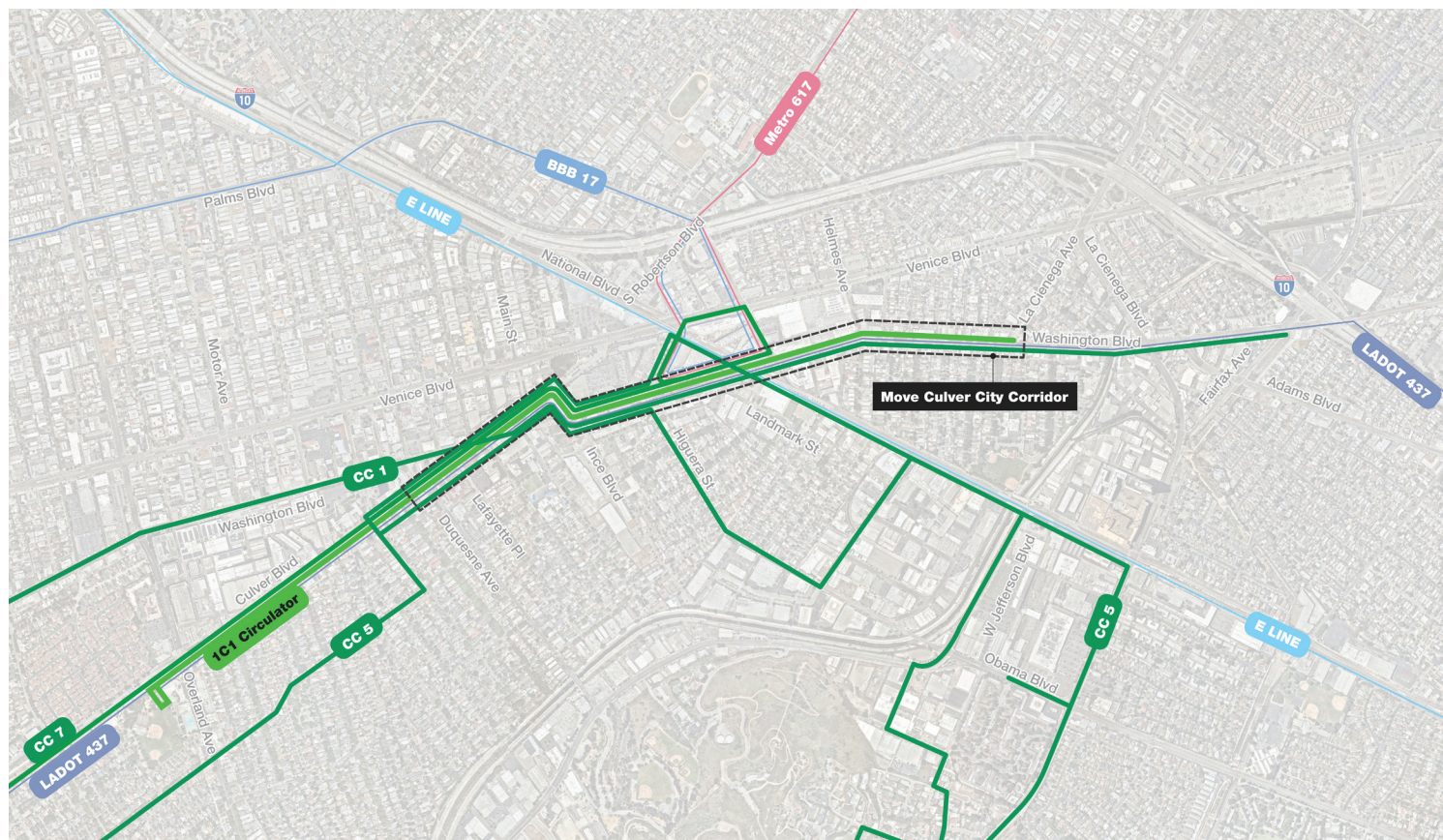
The following pages provide a summary of the data collected for sustainable transportation modes on the project corridor. Sustainable transportation refers to low- and zero-emission, energy-efficient, affordable modes of transport.¹¹ In this report, this includes public transit (bus and rail), bicycles, pedestrians, and scooters.

The Culver City Bus routes that utilize the MOVE Culver City mobility lane are Line 1, Line 5, Line 7, and Line 1C1 Culver City Downtown Circulator.

TRANSIT IN CULVER CITY

Improving transit access to Downtown Culver City, Arts District, and the E Line Station is a primary goal of the MOVE Culver City project. By providing a protected bus lane, transit riders can expect more reliable service with trips between destinations on the corridor that are not interrupted by vehicular congestion.

The project team evaluated several elements of transit operations for these routes, including ridership volumes on the project corridor, bus travel times, and the most popular stops along the corridor.



MOVE Culver City Corridor Transit Service Map. This map only shows transit services that serve the MOVE Culver City Corridor. Others, such as Line 33 on Venice Boulevard, are excluded

CITYBUS RIDERSHIP

Ridership is an important performance metric for Culver CityBus and the MOVE Culver City project. Consistent with trends in transit ridership across the county, the COVID-19 pandemic has had lasting impacts on Culver CityBus ridership. However, monthly ridership on the corridor has already recovered to 87% of September 2019 ridership.

CityBus ridership on the MOVE Culver City Corridor increased by +36% while systemwide ridership increased by +21% in 2022 compared to pre-implementation ridership in 2021.

FAQ

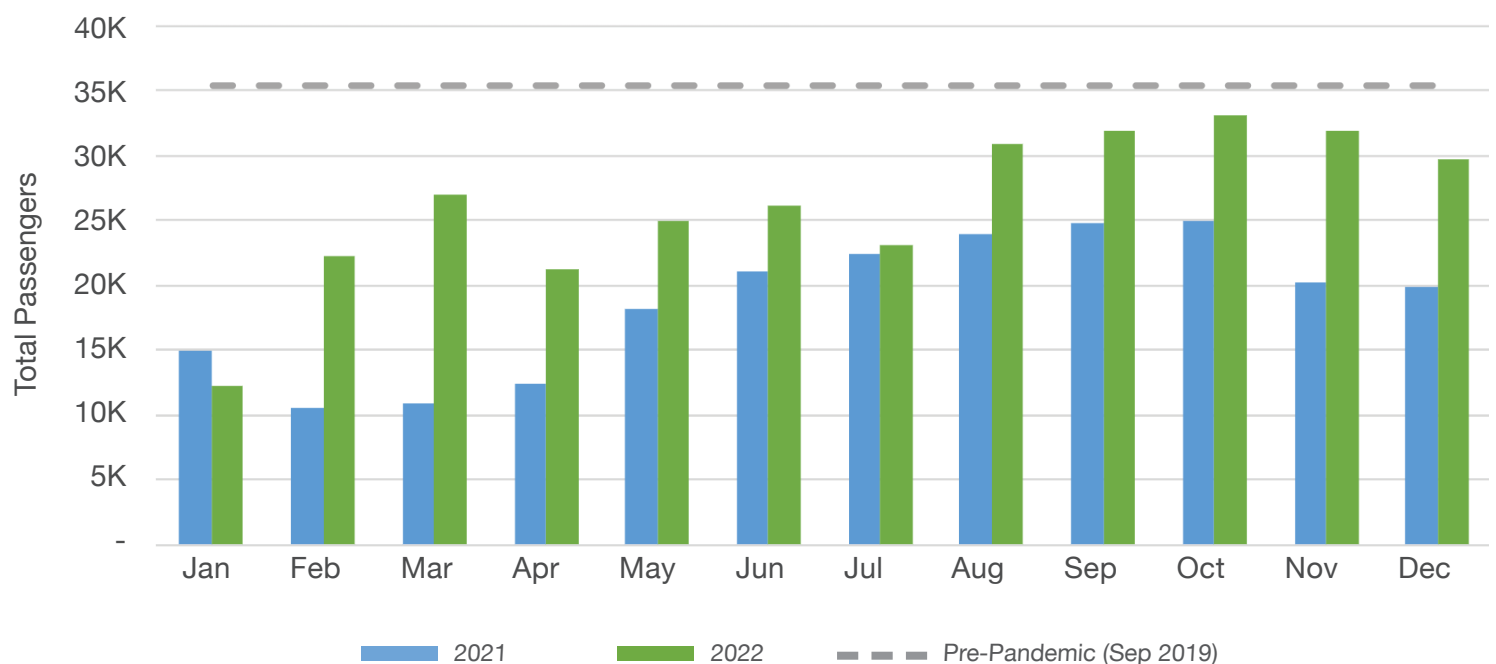
1. How was ridership data collected?

Most buses in Culver City are equipped with automatic passenger counters (APCs). Their accuracy is certified by the Federal Transit Administration on a regular basis. For buses without APCs, operators conduct manual counts of passengers boarding and alighting at each stop.

2. Why is the ridership lower than in 2019?

Transit ridership nationwide remains below its pre-pandemic levels as commute patterns continue to change in response to the rise of remote work and other factors. For this reason, the best way to analyze the performance of the mobility lanes specifically is by comparing the difference in ridership growth between buses on the downtown corridor and the Culver CityBus system as a whole.

MOVE Culver City Corridor Ridership by Month



Sources: Culver CityBus APCs

CITYBUS TRAVEL TIMES

Improving CityBus travel time (run time) is a primary goal of the MOVE Culver City project. In separating buses from vehicle traffic, Line 1, Line 5, and Line 7 are expected to experience faster service. Providing fast and reliable transit service is one of the most effective ways to make transit more useful for current and potential riders.

Culver CityBus travel time on the corridor has improved as a result of MOVE Culver City. When comparing average bus travel time on the corridor from January 2 to March 14, 2020, to the same period in 2023, it was found that bus travel times decreased the most during the heavier traffic periods of the AM peak moving westbound and the PM peak moving eastbound.

By providing an exclusive bus lane, Culver CityBus Line 1 travel time is now **9% faster** in the AM peak going westbound for a time savings of 1 minute and **28% faster** in the PM peak going eastbound for a time savings of 4 minutes.

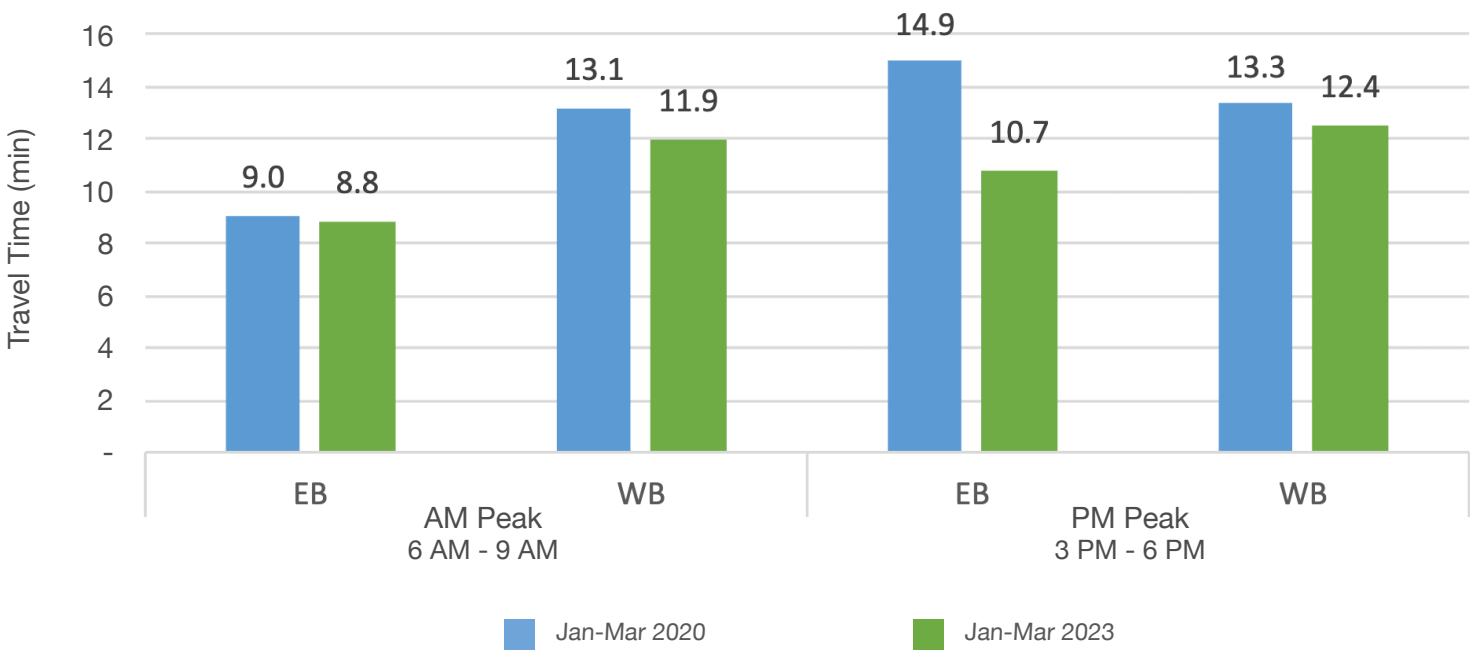
FAQ

3. Why are travel times different on each line?

Each line has a slightly different route. Line 1 runs primarily along Washington Boulevard, from the West LA Transit Center to Venice. Line 7 runs on Culver Boulevard, from the Robertson Transit Hub at the Culver City Metro Station to Marina Del Rey.

Line 1 travel time is 28% faster in the eastbound PM peak hour for a time savings of 4 minutes compared to pre-pandemic travel times.

Line 1 Average Weekday Travel Times



Sources: Culver CityBus CAD/AVL

Bus lane violations impact CityBus travel times; these are tracked and reported by bus operators and members of the public. Overall, bus lane violations have decreased compared to January 2022 when the project first launched.

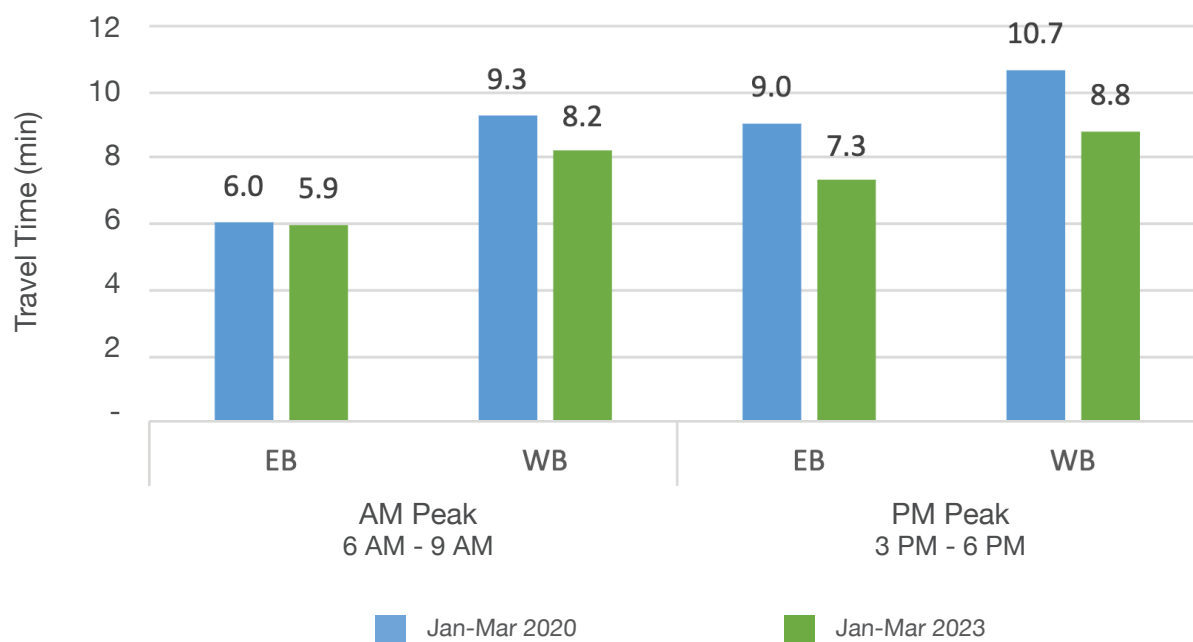
Line 7 is now 12% faster in the AM peak going westbound for a time savings of 1 minute and 23% faster in the PM peak going eastbound for a time savings of 2 minutes.

FAQ

4. Why is on-time performance not included in his report?

On-time performance is not a useful metric for comparing change over time. The Transportation Department adjusts the bus schedules three times per year. This process involves lengthening scheduled trips that are taking longer than expected and vice versa. Thus, it is difficult to compare on-time performance because the definition of “on time” changes over time. Run times are the preferred measure for performance of a particular route or route segment.

Line 7 Average Weekday Travel Times



Sources: Culver CityBus CAD/AVL

STOP-LEVEL BOARDING AND ALIGHTING

To understand where transit activity is concentrated on the project corridor, the project team compared average monthly stop-level boardings and alightings at the 10 most popular stops between 2021 (pre-implementation) and 2022. Stops adjacent to the E Line Station are popular with transit riders, as these provide access to destinations in Santa Monica and in Downtown Los Angeles.

The stop with the highest monthly ridership, E Line Culver City Station, saw an average increase of +65% compared to pre-implementation ridership.

The table and map on this page show the locations of the highest ridership stops along the corridor and percent change in ridership compared to pre-implementation ridership, listed in descending order by 2022 ridership.



MOVE Culver City Corridor Popular Stop Locations

	Stop Location	CityBus Line	Average Monthly Ridership (Jan – Dec 2021)	Average Monthly Ridership (Jan – Dec 2022)	% Change
1	Expo E Line Culver City Station (WB)	1, 7, 1C1	2,449	4,045	65%
2	Washington Blvd/Landmark St (EB)	1, 1C1	1,544	2,733	77%
3	Culver Blvd/Main St (EB)	1, 5, 7, 1C1	836	1,318	58%
4	Robertson Transit Hub	7	1,018	1,268	25%
5	Culver Blvd/Main St (WB)	1, 5, 7, 1C1	824	1,262	53%
6	Culver Blvd/Lafayette Pl (EB)	1, 5, 7	614	785	28%
7	Washington Blvd/Robertson Blvd (WB)	1, 5, 7, 1C1	490	688	40%
8	Washington Blvd/Higuera St (EB)	1	501	592	18%
9	Washington Blvd/Cattaraugus Ave (WB)	1	349	568	63%
10	Washington Blvd/Duquesne Ave (EB)	1	352	422	20%

Sources: Culver CityBus APCs; Culver CityBus CAD/AV

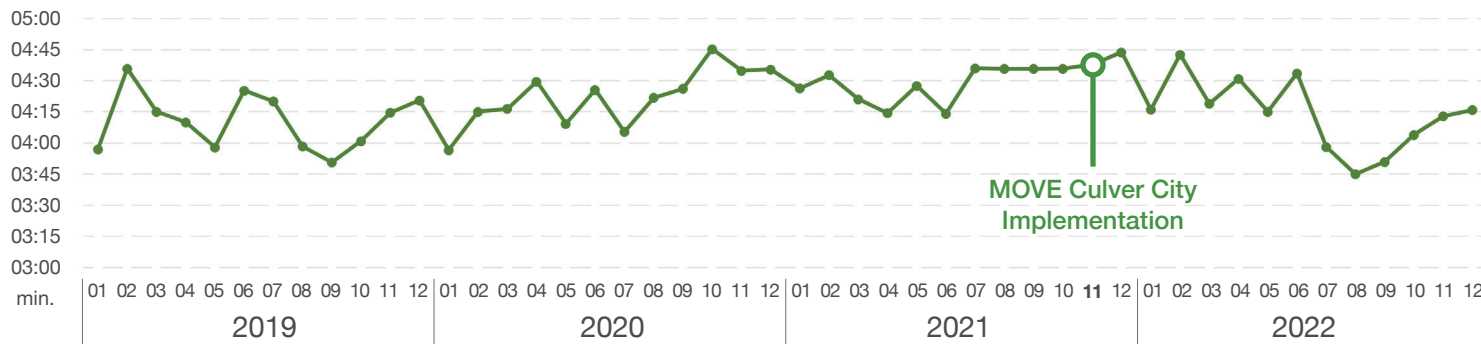
EMERGENCY RESPONSE TIME

MOVE Culver City's mobility lanes also serve as emergency vehicle lanes separate from vehicular traffic when needed. To understand if the pilot had any impacts to emergency response times, the project team evaluated the average response time by month from 2019 to 2022 for Fire Station 1, located on the MOVE Culver City Corridor on Culver Boulevard in Downtown Culver City.

Average response time has remained at around 4 minutes with the 90th percentile response time remaining at approximately 7 minutes, in other words, for 9 out of 10 emergency calls, Fire Station 1's response time is 7 minutes or less.

Since the start of the pilot, Fire Station 1 has reported little to no change in their response times compared to the pre-implementation period.

Emergency Response: Fire Station 1 Average Travel Time | 2019 - 2022



Emergency Response Time: Fire Station 1 (minutes:seconds)				
	Average	90 th Percentile	AM	PM
Pre-Pandemic (2019)	04:11	06:58	04:09	04:17
Pre-Implementation (2021)	04:30	07:03	04:30	04:21
Post-Implementation (2022)	04:14	06:58	04:06	04:18
Change in min:sec (2019 to 2022)	+00:03	00:00	-00:03	+00:01

Sources: Culver City Fire Station 1

CIRCULATOR RIDERSHIP

As part of MOVE Culver City, the Transportation Department launched a new service: Line 1C1, branded as the Downtown Circulator. This route offers free rides throughout the duration of the pilot and utilizes a zero-emission, low-floor electric minibus that connects Downtown Culver City to the Arts District, with service running every 10 to 15 minutes. In July 2022, the Circulator was extended to also serve the Culver City Senior Center and Veterans Memorial Park.

Line 1C1 Circulator ridership saw a steady increase in monthly riders since the service launched on November 21, 2021. Weekend and weekday ridership remained relatively similar at the beginning of the pilot. However, weekday ridership began to surpass weekend ridership in the last quarter of 2022, likely due to the extension of service and general gains in transit ridership.

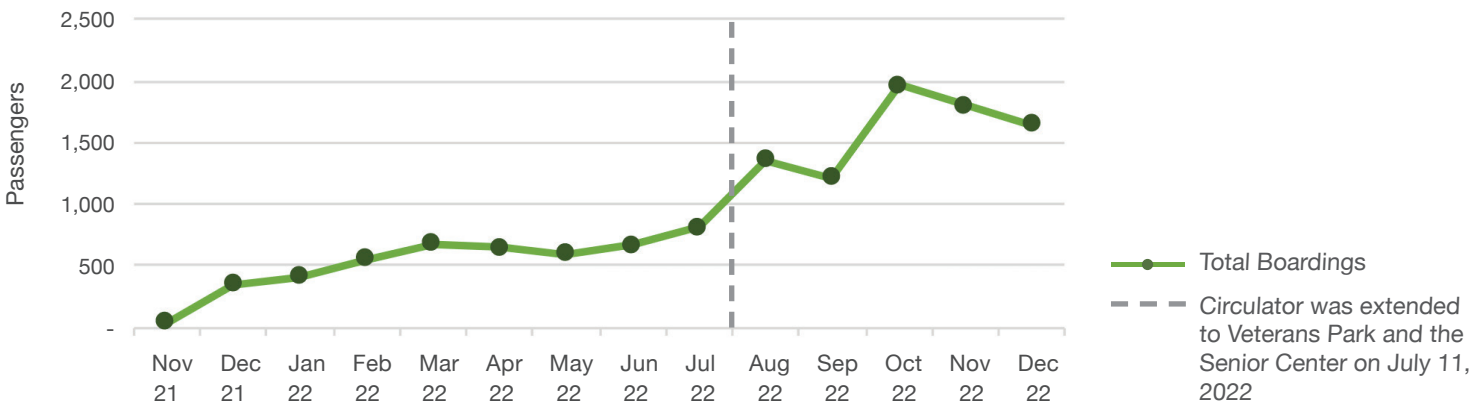
FAQ

5. Why is the circulator counted separately?

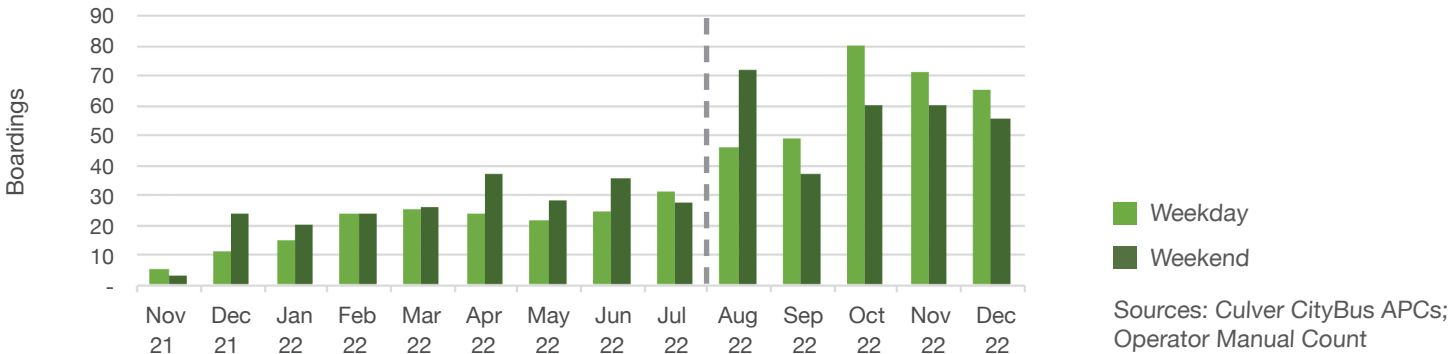
Circulator ridership is included in the overall data on previous pages. It is also analyzed separately here because the service was launched alongside the mobility lane pilot to provide more service along the corridor.

Line 1C1 Circulator saw its highest monthly ridership in October 2022 with 1,969 passengers.

Circulator Boardings by Month



Circulator Average Weekday and Weekend Boardings



REGIONAL TRANSIT DATA

Culver City exists within a larger network of transit providers that run bus and rail services available for residents, employees, and visitors through Metro, Los Angeles Department of Transportation (LADOT), and City of Santa Monica Big Blue Bus (BBB). The exclusive bus lane provided by MOVE Culver City is available to other public buses and connects to the E Line Culver City Station.

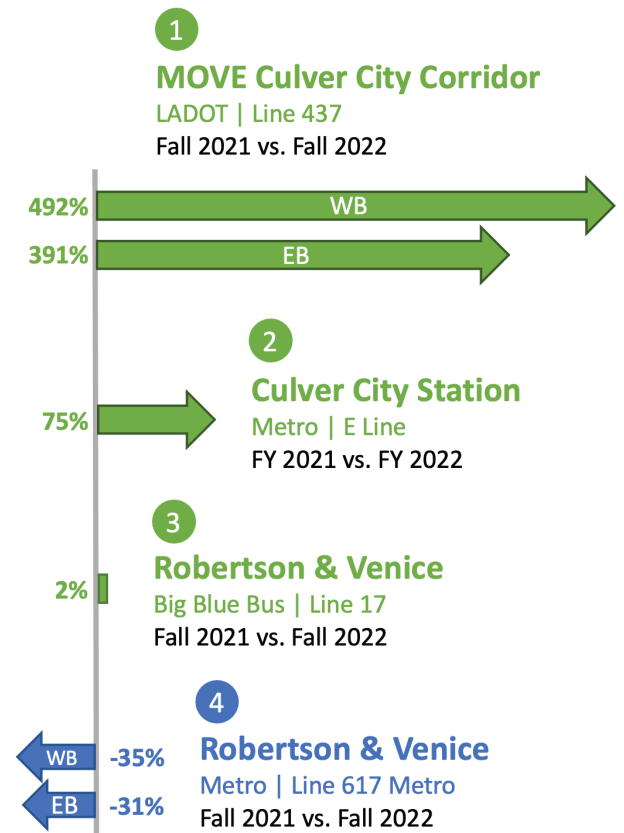
To understand how regional transit is using the MOVE Culver City Corridor, the project team looked at 2019, 2021, and 2022 stop-level ridership on bus routes with stops on or near the corridor: LADOT (Commuter Express Line 437); Metro (Line 617); and BBB (Line 17). LADOT Commuter Express Line 437 is the only route that runs the entire length of the MOVE Culver City Corridor and provides service between Downtown Los Angeles and Culver City, Marina Del Rey, Venice, and Playa Vista. LA Metro Line 617 provides service between Pico-Robertson and Culver City, while BBB Line 17 provides service between the University of California, Los Angeles (UCLA) campus

and Culver City with the terminus of both routes being adjacent to the E Line station. In addition to the bus routes, the project team compared ridership levels for Fiscal Year 2021 and 2022 at the E Line Culver City Station.

Across the region, the COVID-19 pandemic has had lasting impacts on transit ridership. In many cases, average weekday boardings and alightings are lower than pre-pandemic levels. Some agencies, however, are seeing a growth in ridership compared to 2021 as transit steadily rebounds: both LADOT (Line 437) and BBB (Line 17) have seen increases in average ridership at stops near the study area. Culver City E Line station has also seen growth in passengers compared to Fiscal Year 2021 levels. Only Metro Line 617 has seen a decrease in average ridership as compared to 2021. Note that this route is a coverage route and provides infrequent service.



Sources: Los Angeles County Metropolitan Transportation Authority, Los Angeles Department of Transportation, and City of Santa Monica



CYCLING ACTIVITY

Building on the goals outlined in Culver City’s 2020 Bicycle and Pedestrian Action Plan, MOVE Culver City provides a Class IV separated bikeway on Culver and Washington Boulevards. This provides a low-stress eastbound/westbound route and expands the contiguous network of protected bicycle lanes in Culver City and to neighboring communities as far as Mar Vista.

The project team collected bicycle volume data at three intersections: Culver Boulevard at Main Street, Washington Boulevard at National Boulevard, and Washington Boulevard at Cattaraugus Avenue. Pre-pandemic bicycle volumes from November 2019 were available at Culver/Main and at Washington/National.

The corridor saw the highest bicycle activity during the summer months of July and August 2022. More than other modes, bicycle ridership is highly sensitive to weather conditions, which explains the drop in ridership in November and December 2022. Culver/Main experienced the greatest increase in bike volumes. This is likely because, in contrast to

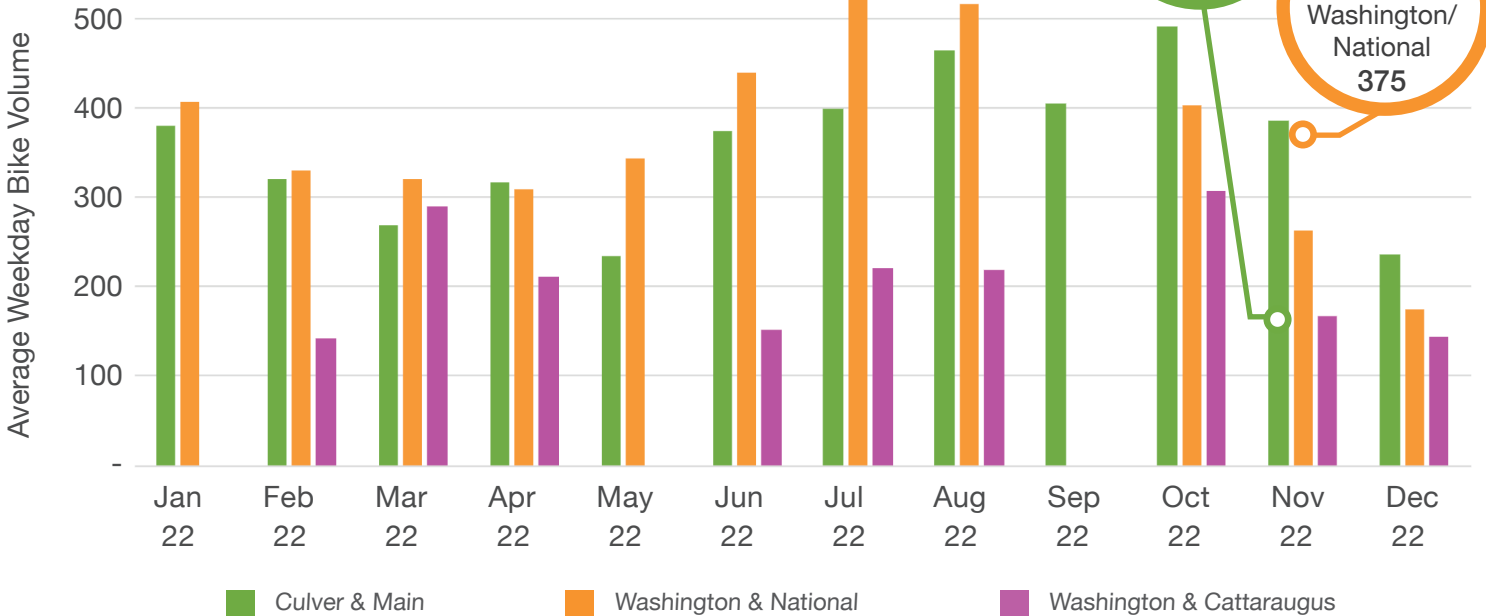
Washington/National which supported a bike lane link connecting Venice Boulevard to the Ballona Creek Bike Path, there was no bicycle infrastructure on Culver Boulevard in 2019. Once a safe bike facility was provided, more cyclists chose to take Culver Boulevard.

FAQ

6. How were bike volumes determined?
Data was collected via manual review of video footage collected by cameras located at intersections.
7. Why are some months excluded from the report?
Data is excluded due to technical issues that prevented retrieval of video footage for some months.

Daily bicycle volumes at Culver/Main and Washington/National increased by +57% compared to pre-pandemic conditions.

Average Weekday Bicycle Volumes | 2022



Source: Manual Peak Hour Counts from GRIDSMART cameras

PEDESTRIAN ACTIVITY

MOVE Culver City implemented new pedestrian infrastructure to improve the pedestrian experience on the project corridor. These included painted curb extensions which reduce crossing distances at crosswalks and vehicle turning speeds, making the corridor safer for people walking and rolling.

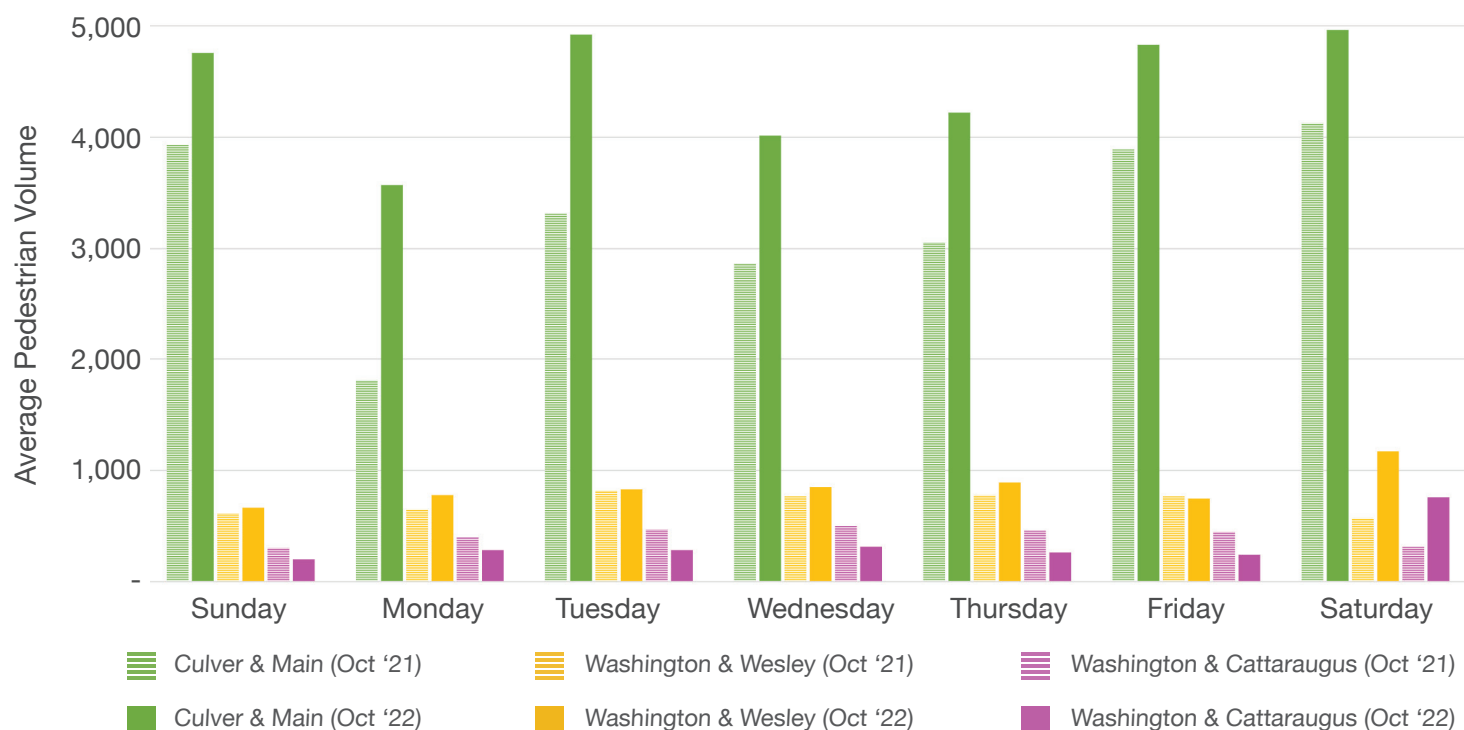
To understand changes in pedestrian activity, the project team collected daily pedestrian volumes at six intersections along the project corridor and compared that to the pre-implementation baseline data of October 2021, available at four intersections. Pedestrians are counted automatically by detection cameras as they cross the street in the crosswalks. While this does not measure all pedestrian activity in a particular area and can lead to double-counting, the measurements serve as consistent points of comparison to track change over time. Overall, pedestrian volumes increased on the project corridor since the start of MOVE Culver City with expected seasonal variations, i.e., higher pedestrian volumes in summer months.

Different intersections experienced different changes due to varieties in land use, parking availability, and corridor treatments. To control for seasonal factors, the project team also compared weekday patterns in October 2021 to October 2022 at three intersections.

One intersection on the corridor, Washington/Cattaraugus, saw a 19% decrease in October 2022 compared to October 2021. This may be due to several factors, including active construction in the Arts District in October 2021 that may have artificially inflated the baseline pedestrian volumes.

Daily pedestrian volumes increased by +36% at Culver/Main and by +19% at Washington/Wesley in October 2022 compared to October 2021.

Average Weekday Pedestrian Volumes | October 2021 to October 2022

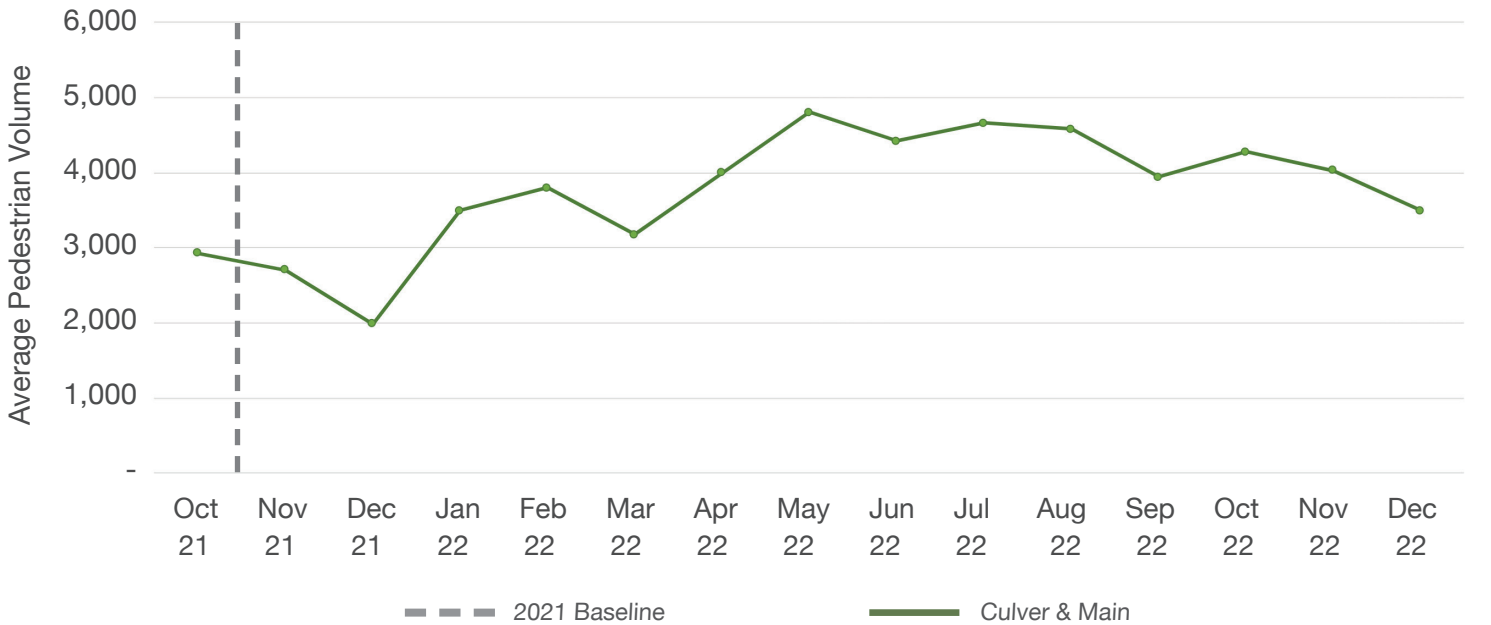


Source: GRIDSMArt cameras

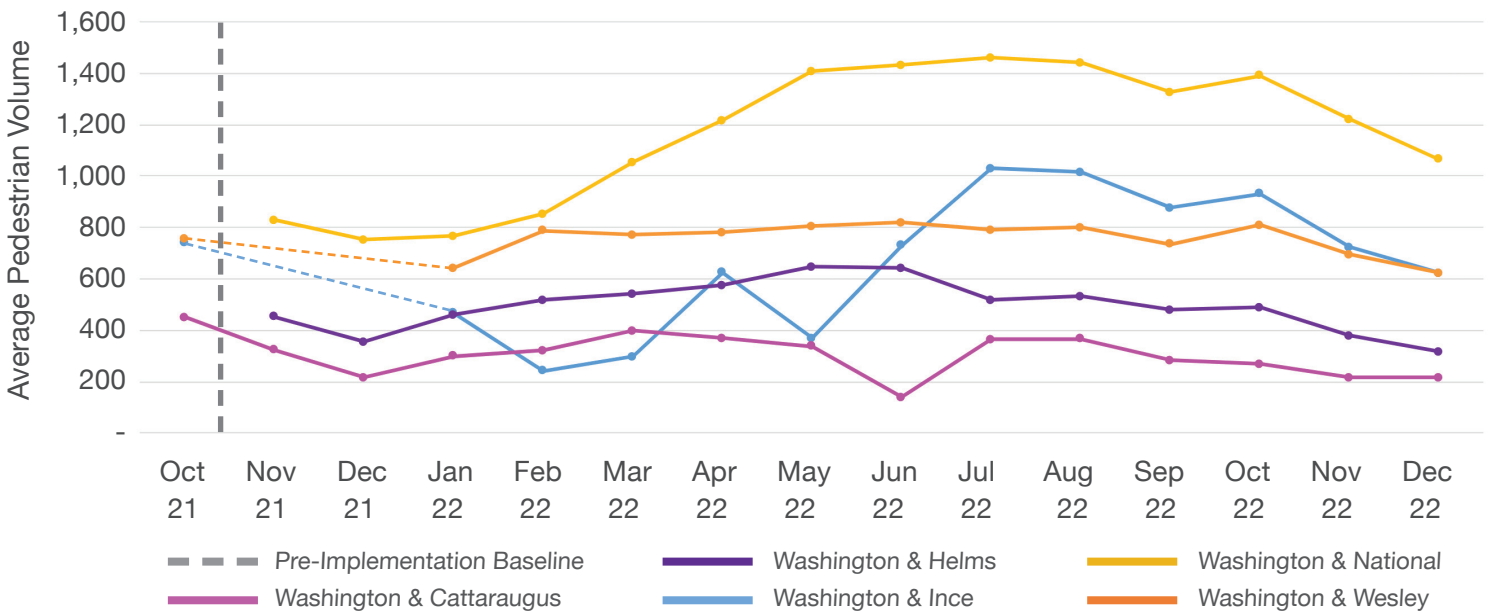
The Culver/Main intersection is separated due to the high volume of pedestrian activity compared to other intersections on the MOVE Culver City Corridor. Culver/Main sees almost 3 times as many daily

pedestrians. Culver/Main connects several pedestrian destinations such as the Culver Steps, the Tuesday Farmer’s Market, and the Culver Hotel.

Average Weekday Pedestrian Volumes on Culver Boulevard & Main Street



Average Weekday Pedestrian Volumes



Source: GRIDSMART cameras

MICROMOBILITY TRIPS

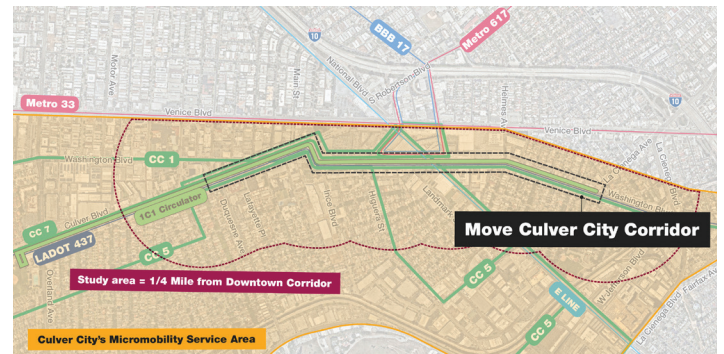
Micromobility is an important and convenient transportation option for residents and visitors to Culver City, providing first/last mile connections that can reduce demand for vehicle trips. In November 2021, concurrent with the launch of MOVE Culver City, Culver City invited a second e-scooter operator to begin operating within the city limits, providing two options for riders: Bird and Wheels scooters.

The project team looked at e-scooter trips within ¼ mile of the MOVE Culver City Corridor and within Culver City limits over the course of the 12-month pilot. Overall, the use in micromobility has risen dramatically, with September 2022 seeing close to a 300% increase in daily trips in the MOVE Culver City study area compared to January 2022. Moreover, the MOVE Culver City study area contains a large portion of citywide trips, accounting for 55% of daily citywide e-scooter trips in September 2022.

After August 2022, Wheels scooters ended their permit to operate in Culver City, so trip counts begin to decrease in the final quarter of 2022.

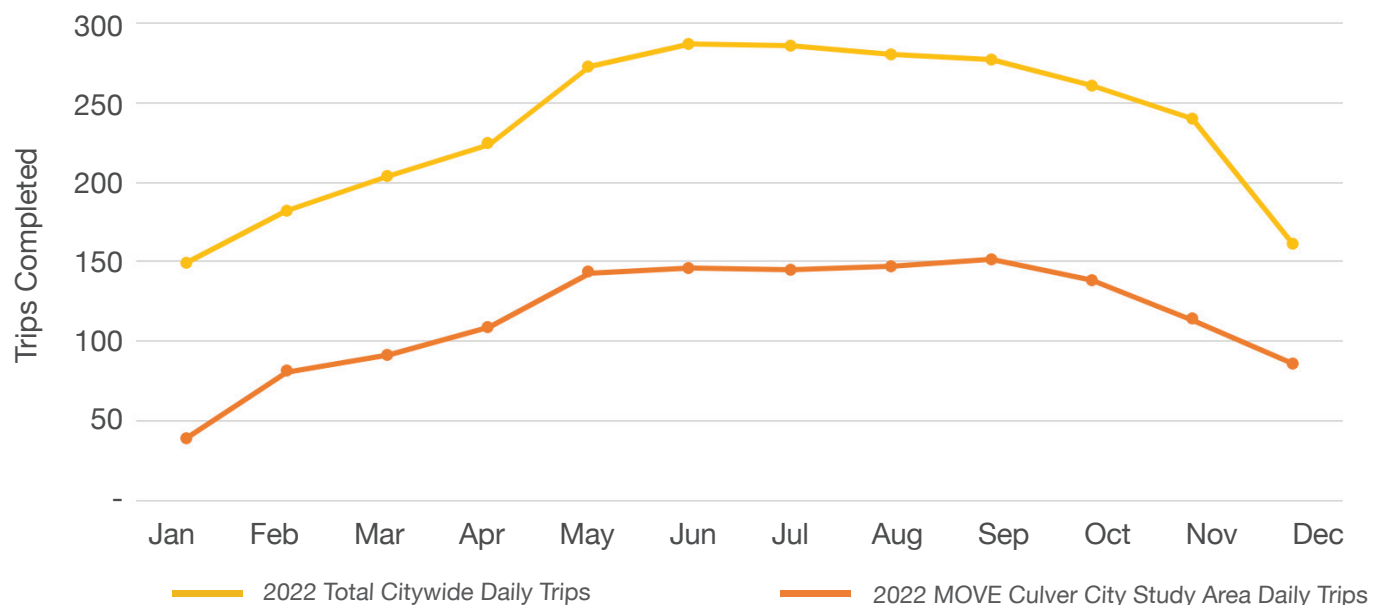
Additionally, micromobility ridership is sensitive to seasonal factors, which explains the drop in trips in November and December 2022.

Daily micromobility trips in the MOVE Culver City study area increased by an average of +68% compared to January 2022.



MOVE Culver City Micromobility Study Area

Micromobility Daily Trips in MOVE Culver City Study Area vs. Culver City



Source: Populus

Vehicular Data

Understanding MOVE Culver City's impacts to vehicles is a critical component of the data monitoring and analysis plan. The project team analyzed vehicular activity on the corridor and adjacent streets through several different lenses to provide a holistic summary of the driver experience. Every available source on vehicular activity was considered.

Analyses include vehicle travel times, volumes, speeds, intersection capacity and operations, and change in quantity of “pass-through” traffic (defined as traffic not destined for the project area). The study intersections and extents of the five vehicular analyses conducted are shown in the map below.

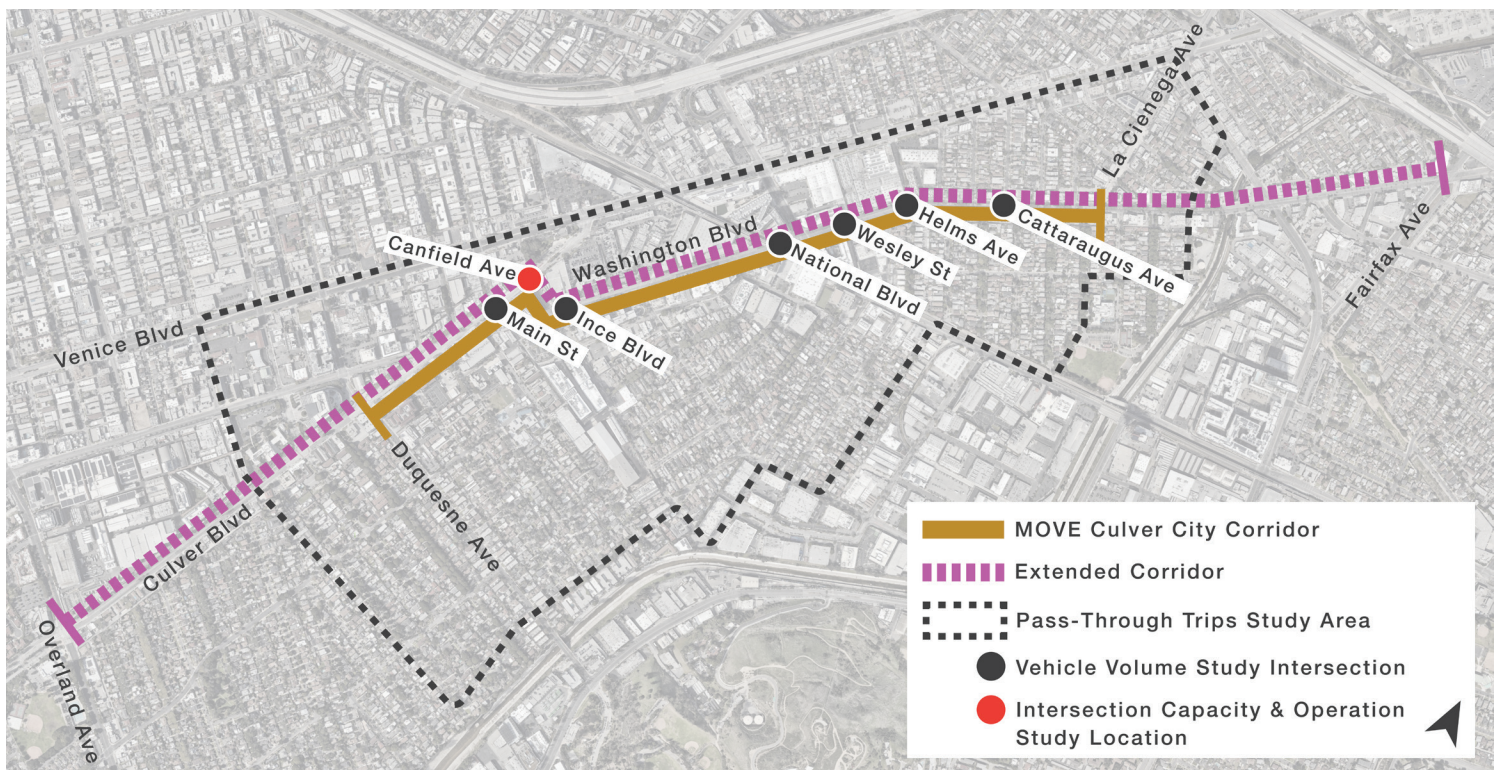
VEHICLE TRAVEL TIME

Vehicle travel time is often used to understand fluctuations in vehicle congestion and the motorist experience on a defined route. It is a key metric for

the evaluation of this project, so it is analyzed in four different ways: average travel times, 95th percentile travel times, 95th percentile frequency (i.e. during what time of day the 95th percentile travel times occur), and vehicle speeds. The data sources and methodology for analyzing vehicle travel times are described on the following page.

This analysis focuses on two key travel time routes: the **MOVE Culver City Corridor** from Culver Boulevard at Duquesne Avenue to Washington Boulevard at La Cienega Avenue (1.3 miles);

and an **Extended Corridor** from Culver Boulevard at Overland Avenue to Washington Boulevard at Fairfax Avenue (2.5 miles). The Extended Corridor was chosen to understand the impact of the project on downstream and upstream traffic conditions as vehicles approach the Downtown and Arts District areas.



Vehicular Analyses Study Intersections and Extents

Data Sources and Methodology

The project team sourced vehicle travel time data from INRIX and Waze to provide pre-pandemic (2019) and post-implementation (2022) data. Comparing pre-pandemic to post-implementation vehicle conditions minimizes the influence that unusual COVID-19 travel patterns have on the comparison.

INRIX is an international provider of real-time vehicular traffic information used commonly among transportation agencies, consultants, and academic institutions.¹² INRIX vehicle travel times are primarily collected through data from GPS-equipped vehicles, mobile devices, cameras, and sensors on roadways. The data from multiple devices is aggregated to produce estimated travel times in 2-minute increments on certain road segments, or blocks. Adjacent blocks are then selected to identify the vehicle travel time on a defined route. The project team analyzed the data in 15-minute increments.

Waze is a community-driven navigation map application that collects travel time data from its users. Culver City is part of the Waze for Cities program, a two-way data sharing program used by over 450 governments, departments of transportation, and municipalities for traffic analysis.¹³ Waze vehicle travel times are collected through the Waze app on mobile devices. As motorists navigate the street network, Waze collects data about their GPS location to determine the average travel time among devices between two defined nodes in 2-minute increments.

The project team examined average hourly travel times to understand the typical driver experience in both eastbound and westbound directions. Vehicle traffic typically experiences reciprocal peaks during the morning (AM) and evening (PM) peak hours, consistent with commuting travel patterns.

In West Los Angeles, the AM peak hour typically experiences the heaviest traffic going westbound and the PM peak hour typically sees the heaviest traffic going eastbound.

The project team then examined the 95th percentile weekday travel time to understand travel time on the heaviest travel days. The 95th percentile represents the worst travel times experienced; in other words, 95% of the time, drivers experience travel times less than shown in the following graphs. The U.S. Department of Transportation Federal Highway Administration (FHWA) recommends using 95th percentile travel time as a metric to plan for trip variability since commuters plan trips based on the worst days, not the average days.¹⁴ The 95th percentile travel time typically reveals more variation in travel time patterns than the average travel time.

The final analysis in this section looks at the 95th percentile travel time frequency, which identifies which days of the week typically see the highest travel times. Graphs showing the frequency of when 95th percentile travel times are exceeded are included in the Appendix for the MOVE Culver City Corridor and Extended Corridor.

MOVE Culver City Corridor

Average Travel Time

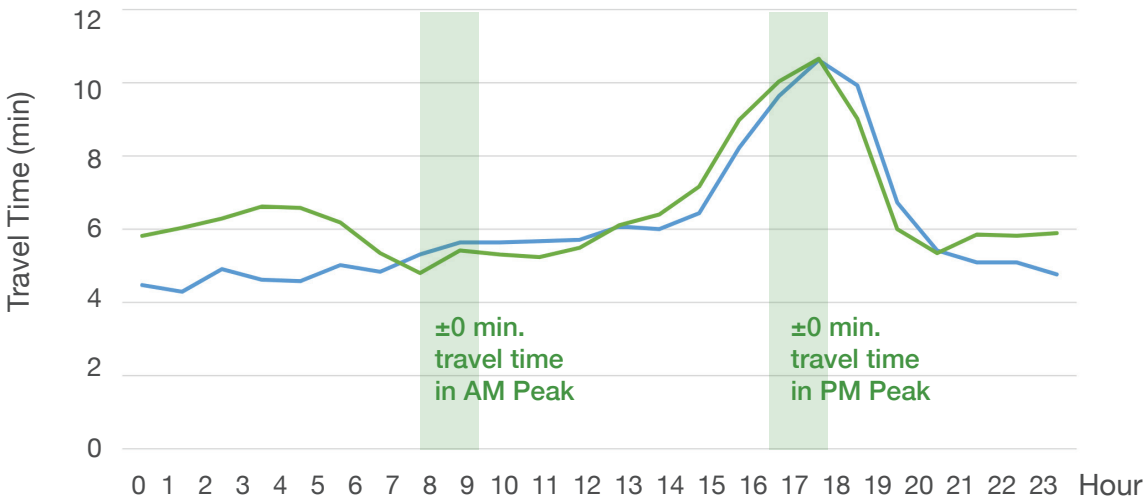
During the 12-month pilot, the average weekday vehicle travel times on the project corridor saw minimal changes compared to 2019. In the westbound direction, weekday peak hour travel times were approximately one minute shorter in the morning and approximately two minutes longer in the afternoon compared to 2019. In the eastbound direction, weekday travel times during AM and PM peak hours remained similar to 2019.

During 2022, the PM peak hour saw the highest average travel times in both the westbound and eastbound directions. Interestingly, the early morning and late evening travel times have increased by 1 to 2

minutes in both directions compared to 2019. This is likely due to the traffic calming elements of the pilot such as reducing vehicle capacity, adding vertical delineators, and increasing curb radii to slow vehicles speeds.

MOVE Culver City Corridor: Average Vehicle Travel Time (2022)		
Direction	AM Peak (8:00am - 9:00am)	PM Peak (4:30pm - 5:30pm)
Eastbound	5.4 min.	10.5 min.
Westbound	7.0 min.	7.6 min.

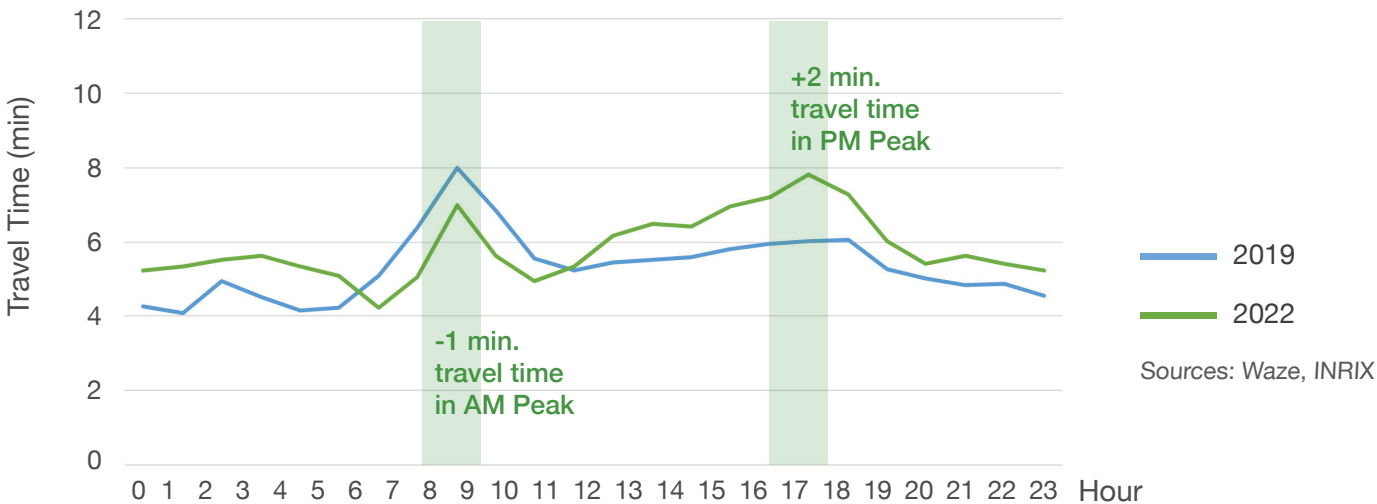
Average Hourly Weekday Vehicle Travel Times (Eastbound)



MOVE Culver City Corridor

Culver/Duquesne
to
Washington/La Cienega

Average Hourly Weekday Vehicle Travel Times (Westbound)



2019
2022

Sources: Waze, INRIX

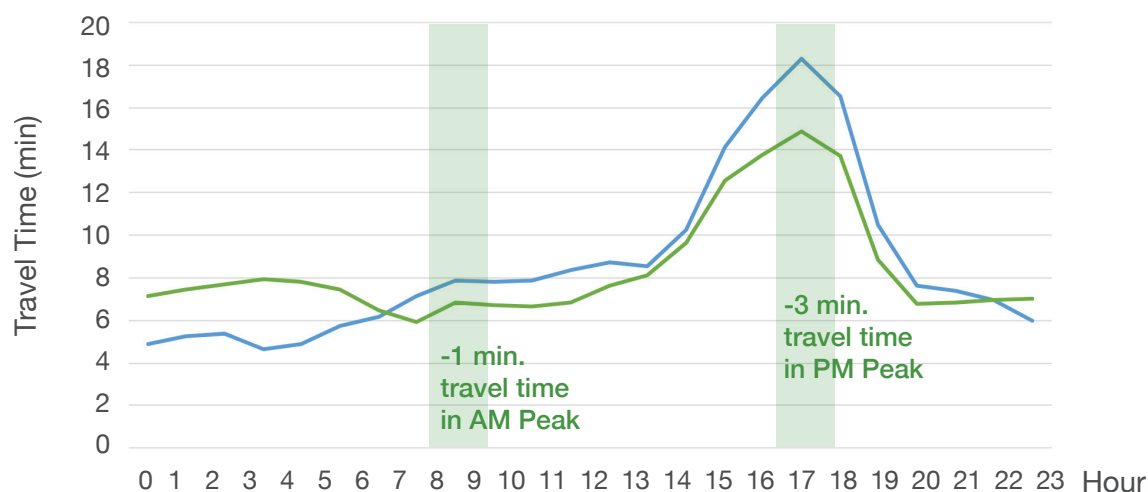
95th Percentile Travel Time

Looking at the 95th percentile travel time in the AM peak hour, motorists in 2019 experienced similar travel times in the eastbound and westbound directions, indicating that commute trends appear to be similar in the morning. Looking at the 95th percentile travel times in the PM peak hour, motorists in 2019 experienced more delay (+3 minutes) in the eastbound direction while motorists in 2022 experienced more delay (+4 minutes) in the westbound direction. Vehicle activity in 2022 has increased in the PM peak period in the westbound direction which historically only experienced a peak during the morning. The project team also analyzed which days of the week the 95th percentile travel

times typically occur and determined that the peak period for eastbound traffic typically occurred on Thursdays between 3:45pm to 6:45pm while the peak period for westbound traffic typically occurred on Fridays from 3:00pm to 6:00pm.

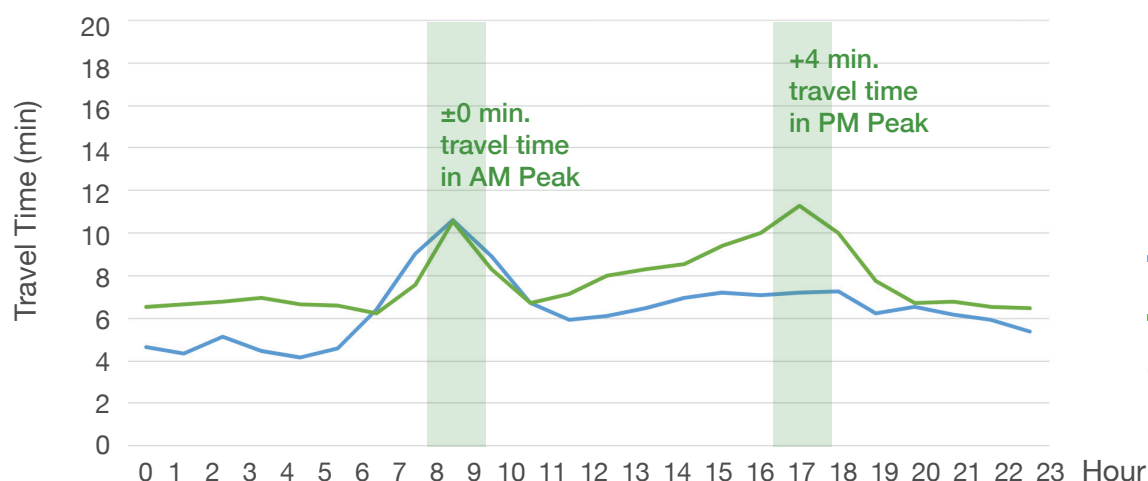
MOVE Culver City Corridor: 95th Percentile Vehicle Travel Time (2022)		
Direction	AM Peak (8:00am - 9:00am)	PM Peak (4:30pm - 5:30pm)
Eastbound	6.8 min.	14.6 min.
Westbound	10.4 min.	10.6 min.

95th Percentile Hourly Weekday Vehicle Travel Times (Eastbound)



MOVE Culver City Corridor
Culver/Duquesne to Washington/La Cienega

95th Percentile Hourly Weekday Vehicle Travel Times (Westbound)



— 2019
— 2022

Sources: Waze, INRIX

Extended Corridor

Average Travel Time

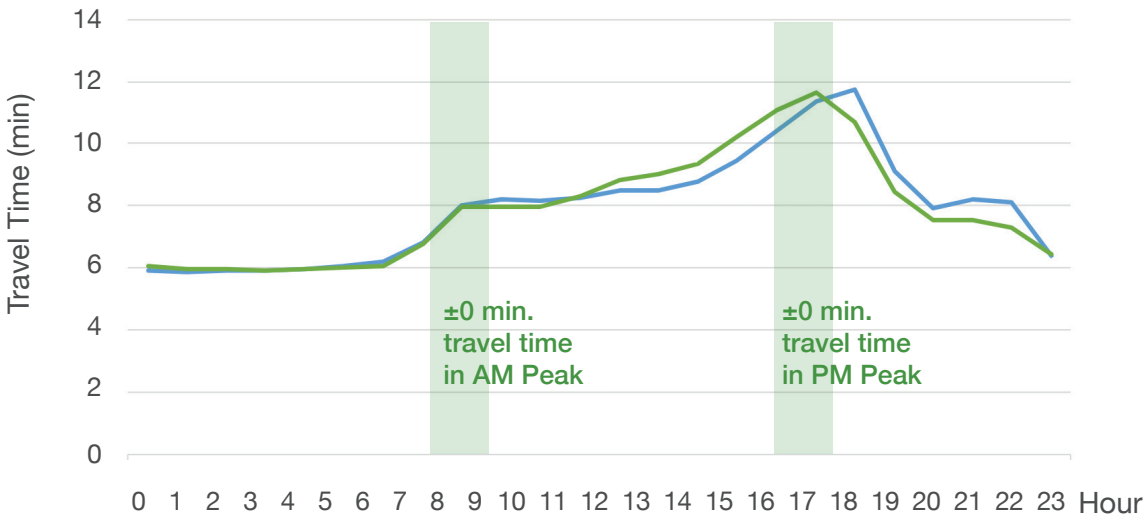
An Extended Corridor from Culver/Overland to Washington/Fairfax was analyzed to understand impacts the project has on downstream and upstream traffic.

Average vehicle travel time on the Extended Corridor saw minimal changes compared to 2019. In the eastbound direction, weekday travel times remained similar to 2019 throughout the entire day. In the westbound direction, weekday travel times were one minute shorter in the AM peak hour and one minute longer in the PM peak hour compared to 2019.

In 2022, the westbound direction travel time hovered around 9 minutes for most of the afternoon, starting around 12:00pm to 6:00pm.

Extended Corridor: Average Vehicle Travel Time (2022)		
Direction	AM Peak (8:00am - 9:00am)	PM Peak (4:30pm - 5:30pm)
Eastbound	9.0 min.	14.8 min.
Westbound	11.2 min.	11.1 min.

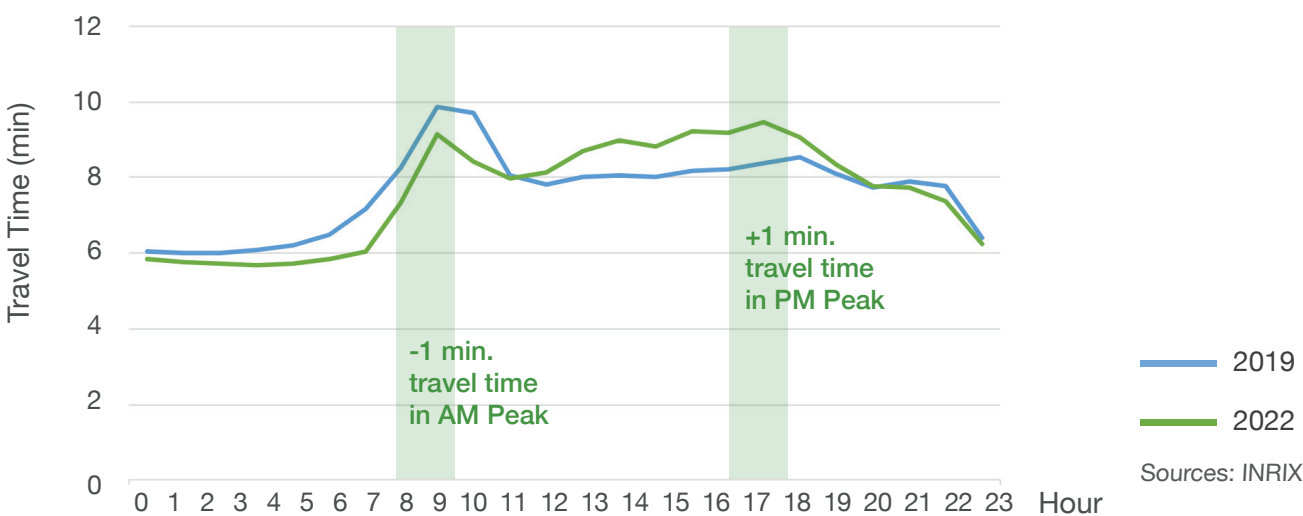
Extended Corridor Average Hourly Weekday Vehicle Travel Times (Eastbound)



Extended Corridor

Culver/Overland
to
Washington/Fairfax

Extended Corridor Average Hourly Weekday Vehicle Travel Times (Westbound)



Sources: INRIX

95th Percentile Travel Time

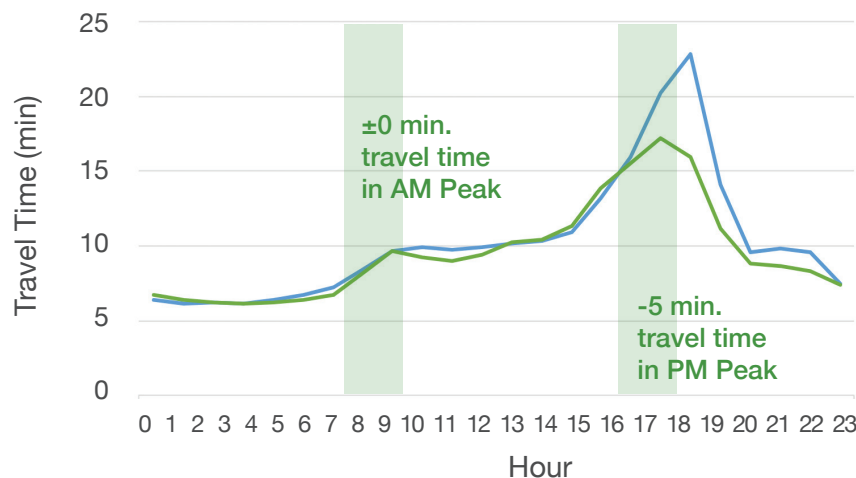
Looking at the 95th percentile travel time on the Extended Corridor in the AM peak hour, motorists in 2019 experienced similar travel times in the eastbound direction and more delay (+3 minutes) in the westbound direction. Looking at 95th percentile travel times in the PM peak hour, motorists in 2019 experienced more delay (+5 minutes) in the eastbound direction, while motorists in 2022 experienced more delay (+1 minute) in the westbound direction.

This is consistent with what the other travel time analyses have shown: travel times have increased during the evening in the westbound direction. The project team also identified which days of the week the worst travel times typically occur.

Similar to the MOVE Culver City Corridor, eastbound drivers experienced highest travel times on Thursdays between 4:00pm and 6:30pm while westbound drivers experienced highest travel times on Thursdays between 8:15am to 9:00am and 4:45pm to 6:15pm.

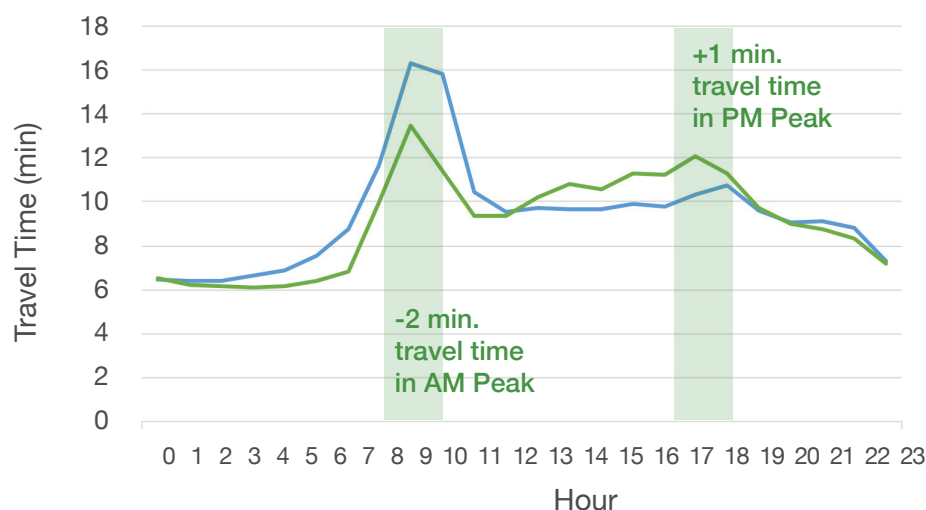
Extended Corridor: 95th Percentile Vehicle Travel Time (2022)		
Direction	AM Peak (8:00am - 9:00am)	PM Peak (4:30pm - 5:30pm)
Eastbound	9.7 min.	17.2 min.
Westbound	13.4 min.	12.1 min.

95th Percentile Extended Corridor Average Hourly Weekday Vehicle Travel Times (Eastbound)



Extended Corridor
Culver/Overland
to
Washington/Fairfax

95th Percentile Extended Corridor Average Hourly Weekday Vehicle Travel Times (Westbound)



— 2019
— 2022

Sources: INRIX

VEHICLE VOLUMES

Vehicle volumes were collected using traffic detection cameras at six intersections on the corridor to understand impacts on local traffic before and after the implementation of MOVE Culver City. This information is summarized and represented as the Average Daily Traffic (ADT) which is the total eastbound and westbound vehicle volumes, averaged across the six intersections.

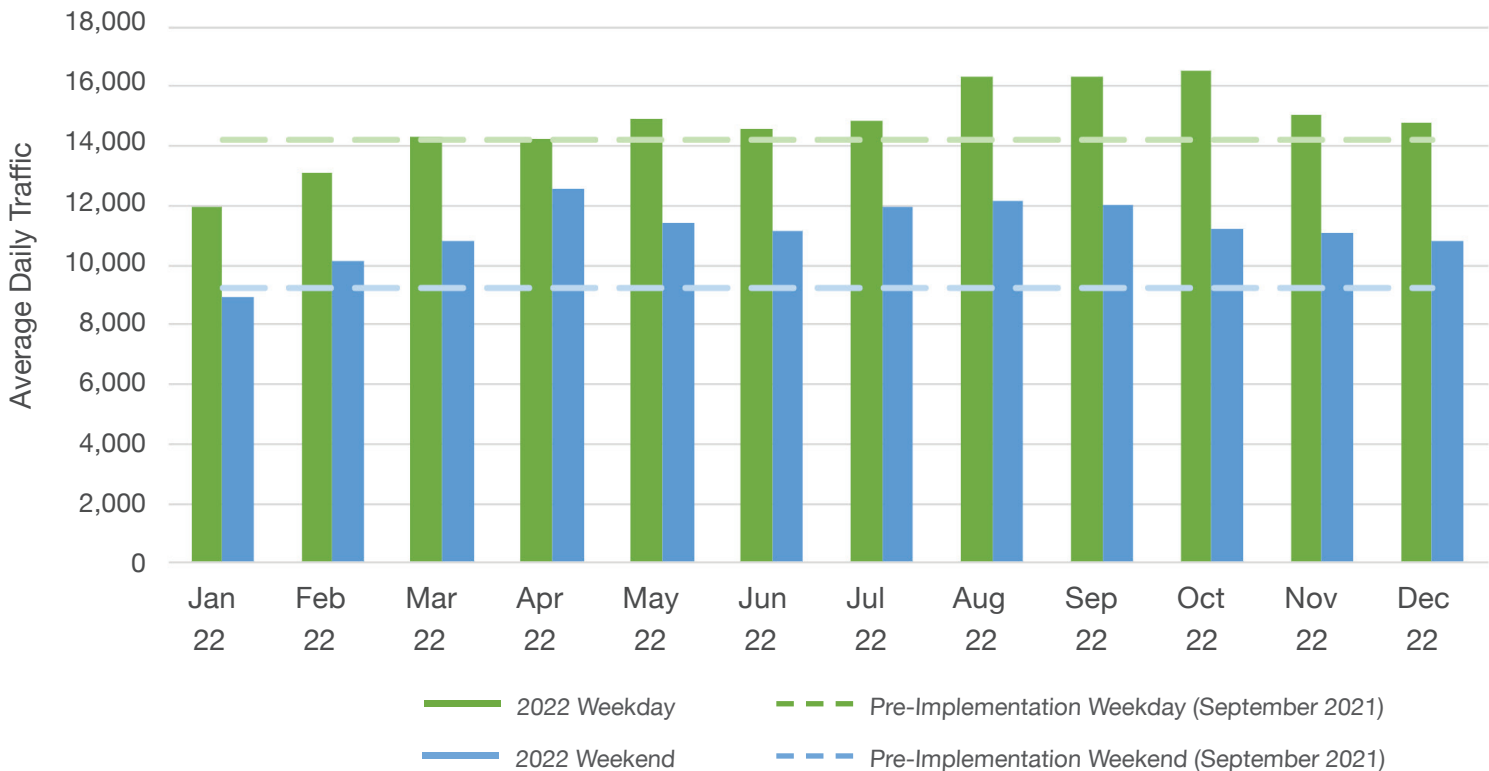
Vehicle volumes continued to increase throughout 2022 as people resumed spending time in public spaces as the threat of the pandemic subsided. The peak average daily traffic for weekdays occurred in October 2022, an increase of 16% from the September 2021 average baseline. The peak average daily traffic for weekends occurred in April 2022, an increase of 35% from the September 2021 average baseline.

It should be noted that changes in vehicle volumes do not always translate to changes in congestion. The operation of a roadway is affected by multiple factors in addition to the number of vehicles, including signal timing, pedestrian crossings, and lane designations.

Average daily traffic per intersection is included in the Appendix.

Average daily traffic increased by +10% in 2022 compared to September 2021.

Average Daily Traffic (ADT) on the Project Corridor



Sources: GRIDSMART detection cameras

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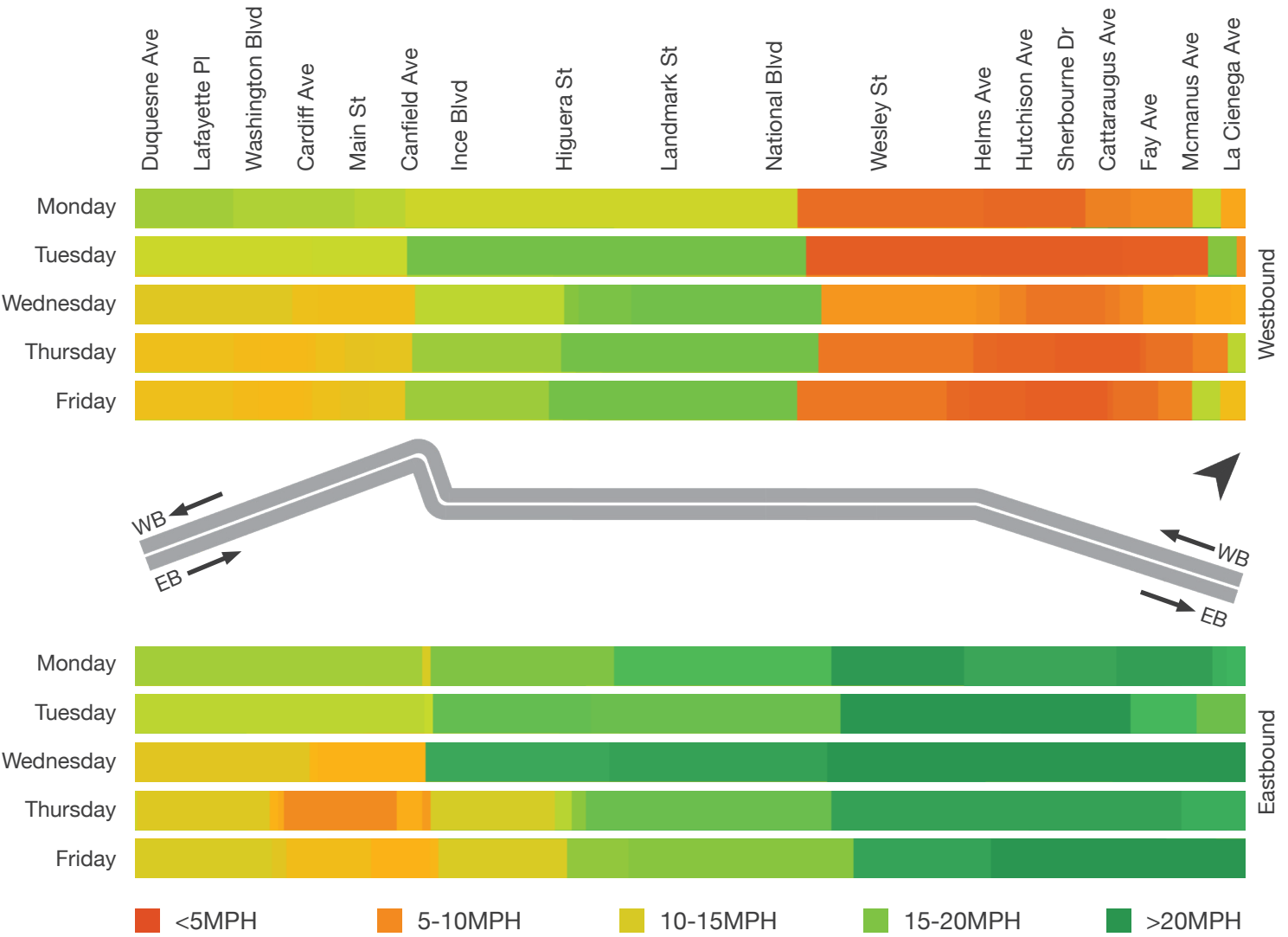
VEHICLE SPEEDS

As another way to gauge conditions on the project corridor, the team also analyzed vehicle speeds. Vehicle speeds are often considered an approachable metric to understand the motorist experience.

Speed data was sourced and analyzed using LA Metro’s ClearMobility online tool which provides real-time continuous speed data every minute at signalized intersections. LA Metro’s ClearMobility tool utilizes INRIX travel time data.

The project team compared vehicle speeds during the weekday AM peak hour (8:00am to 9:00am) and PM peak hour (4:30pm to 5:30pm) in September 2019 (pre-implementation) and 2022 (post-implementation).

Weekday AM Peak Period (8:00am - 9:00am) Travel Speeds | September 16 to 20, 2019



Sources: INRIX (LA Metro ClearMobility)

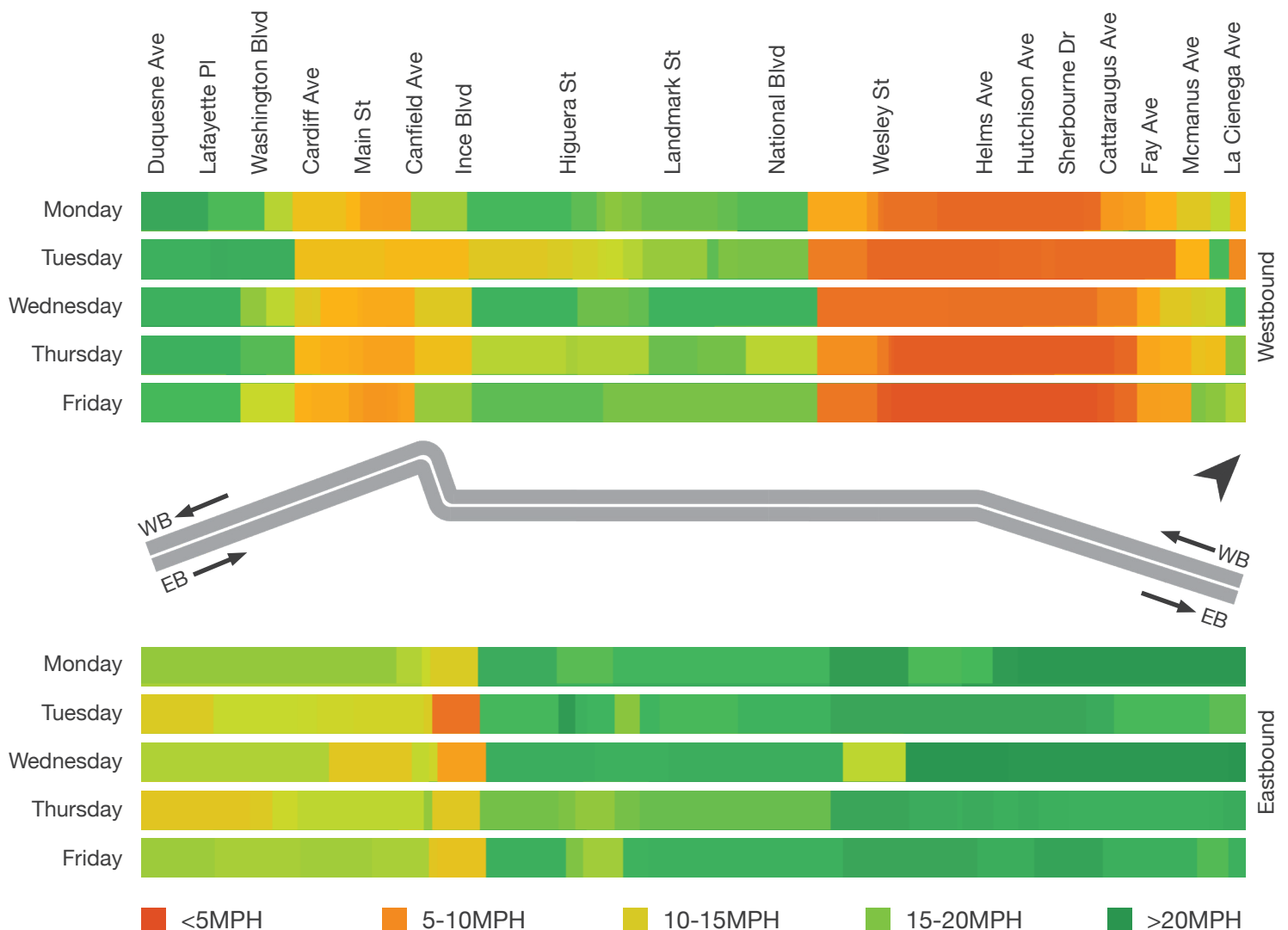
AM Peak Period | 8:00am - 9:00am

Looking at the eastbound direction in the AM peak period, motorists in 2019 and 2022 traveled at similar speeds of 20 mph or greater between National Boulevard and La Cienega Ave and 10 to 20 mph between Duquesne Avenue and Landmark Street.

In the westbound direction, motorists in 2022 experienced overall faster speeds (15 mph or greater) except between Ince Boulevard and Cardiff Avenue where speeds decreased by 5 mph on average compared to 2019. Speeds on the segment between La Cienega Avenue and National Boulevard remained the same.

This indicates that motorists experienced faster speeds in the western portion of the corridor in 2022 compared to 2019.

Weekday AM Peak Period (8:00am - 9:00am) Travel Speeds | September 19 to 23, 2022



Sources: INRIX (LA Metro ClearMobility)

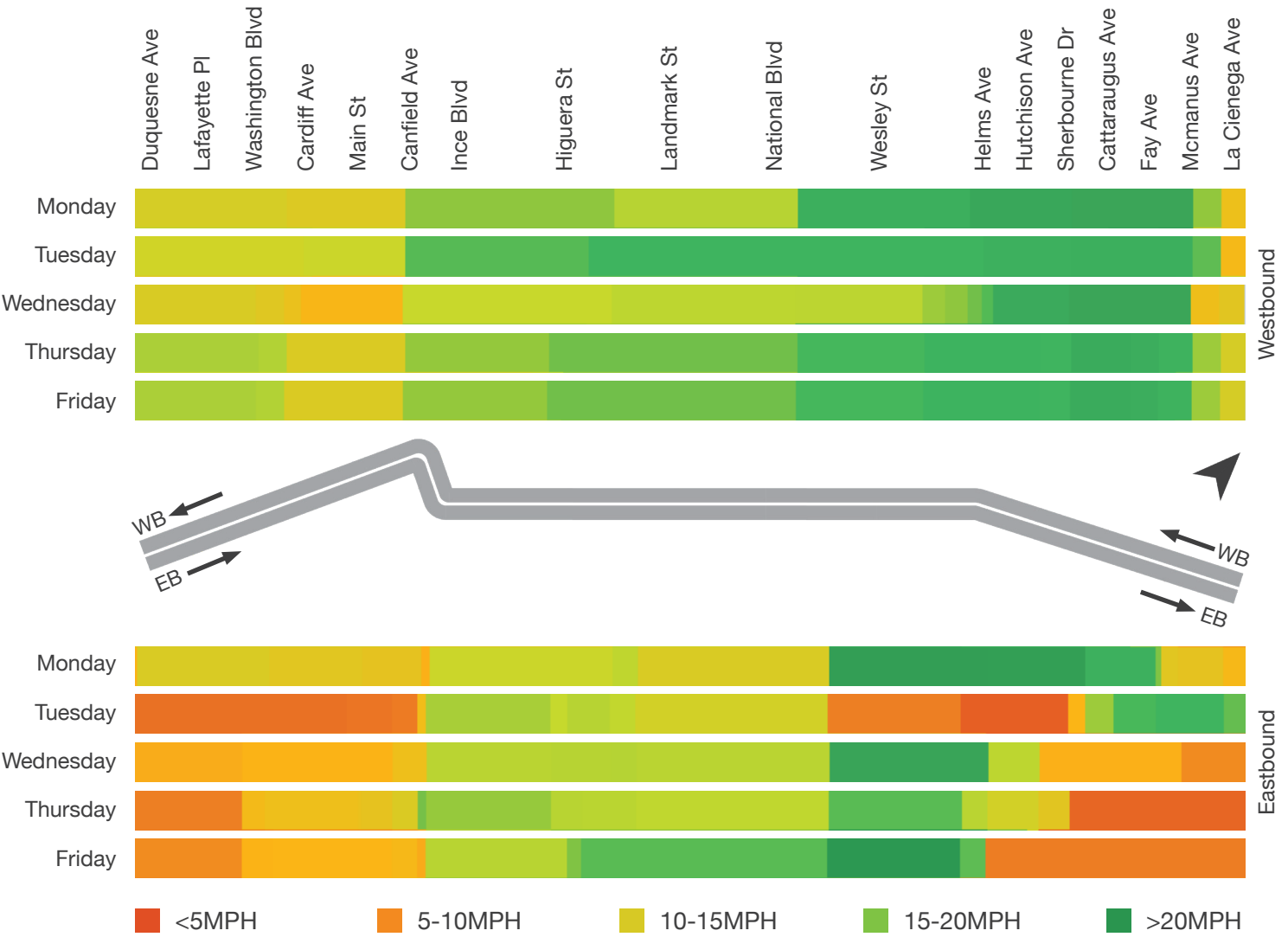
PM Peak Period | 4:30pm - 5:30pm

Looking at the eastbound direction in the PM peak period, motorists in 2022 experienced slower peak period travel speeds between Duquesne Avenue and Lafayette Place (5 mph or less) compared to speeds in 2019 (5 to 15 mph).

Motorists in 2022 also experienced slower travel speeds between Higuera Street and National Boulevard (5 to 10 mph) compared to 2019 (10 to 15 mph).

However, travel speeds east of National Boulevard were faster in 2022 (15 mph or greater) compared to speeds in 2019 (5 to 20 mph).

Weekday PM Peak Period (4:30pm - 5:30pm) Travel Speeds | September 16 to 20, 2019



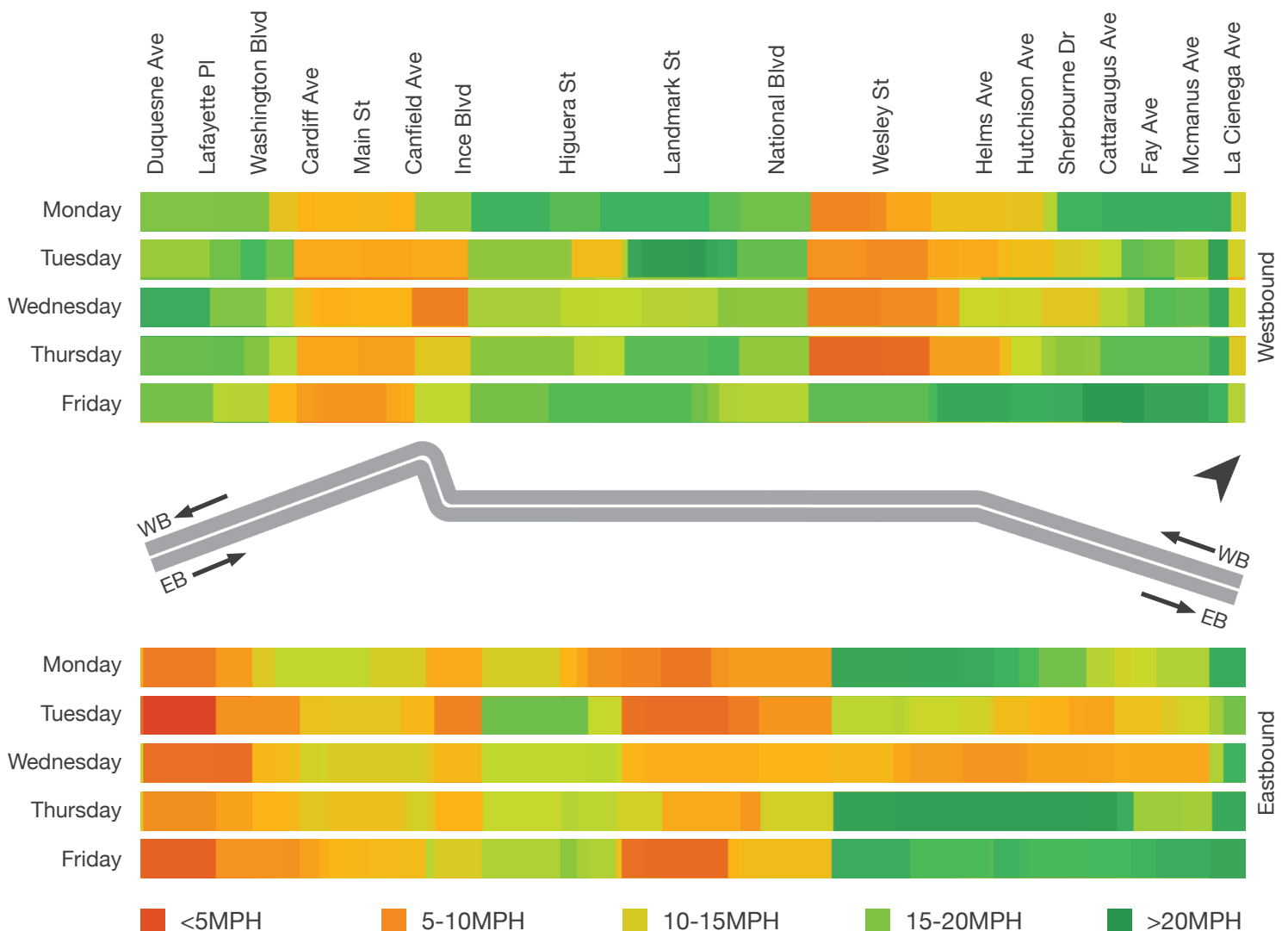
Sources: INRIX (LA Metro ClearMobility)

In the westbound direction, motorists in 2022 experienced faster speeds between Cardiff Avenue and Duquesne Avenue (15 mph or greater) compared to speeds in 2019 (10 to 15 mph).

Speeds between National Boulevard and Ince Boulevard remained the same.

Motorists in 2022 did experience decreased travel speeds between Sherbourne Dr and National Boulevard (5 to 10 mph) compared to faster travel speeds in 2019 (15 mph or greater).

Weekday PM Peak Period (4:30pm - 5:30pm) Travel Speeds | September 19 to 23, 2022



Sources: INRIX (LA Metro ClearMobility)

INTERSECTION PERFORMANCE

To evaluate the impact of MOVE Culver City on intersection performance, the project team selected one intersection, Culver/Canfield, as a representative location on the project corridor to compare pre-pandemic (2019) and post-implementation conditions (2022). This intersection was chosen because of its proximity to Downtown Culver City and availability of pre-pandemic traffic data. The team analyzed the change in the intersection’s Level of Service (LOS) and average vehicular delay in the AM and PM peak hours.

LOS is a traffic engineering term used to qualitatively describe the operating conditions of an intersection based on factors such as speed, travel time, maneuverability, delay, and safety. Average vehicle delay accounts for control delay (due to the signals), queue delay (due to congestion), and other parameters such as crossing pedestrians, bus blockages, parking maneuvers, and others. However, the results are designed to be used for comparison purposes and are not an exact representation of real-world delays that may be experienced by drivers.

The project team sourced pre-pandemic weekday peak hour vehicle, pedestrian, and bicycle volumes from another project that conducted manual traffic counts at this location in November 2019. Since this intersection did not have a detection camera available in 2022, post-implementation vehicle volumes were estimated based on the adjacent Washington/Ince intersection. Post-implementation pedestrian and bicycle volumes were estimated by applying a growth factor to November 2019 volumes

to reflect conditions at the adjacent intersection of Culver/Main.

A review of vehicle, pedestrian, and bicycle volumes showed that the weekday AM peak hour occurred between 8:00am and 9:00am and the weekday PM peak hour occurred between 4:15pm and 5:15pm at this intersection. Post-implementation vehicle volumes entering the Culver/Canfield intersection decreased significantly in the peak hours compared to 2019: from 3,000 to 1,600 vehicles (-48%) in the AM peak hour and from 3,100 to 1,400 vehicles (-55%) in the PM peak hour. Post-implementation pedestrian volumes increased by approximately 32% between 2019 and 2022. Post-implementation bicycle volumes increased by approximately 125%.

The intersection performance evaluation was conducted using Synchro traffic analysis software, consistent with industry best practices.

The project team found that the LOS remained relatively consistent between 2019 and 2022 during both the AM and PM peak hours. Despite a reduction in traffic volumes in the post-implementation condition, the overall effect on intersection LOS is negligible given the reduction in roadway capacity. This is common in street transformation projects which reduce vehicle capacity.

Additional details about the methodology and results are presented in the Appendix.

Intersection Level of Service (LOS)*					*Level of Service LOS A < 0-10 seconds B < 10-20 seconds C < 20-35 seconds D < 35-55 seconds E < 55-80 seconds F > 80 seconds
Study Intersection	Culver Boulevard (EB/WB) & Washington Boulevard (NB) & S. Canfield Avenue (SB)				
	2019		2022		
	Delay (sec)	LOS	Delay (sec)	LOS	
Weekday AM Peak Hour (8:00am-9:00am)	21.5	C	21.4	C	Source: Manual Peak Hour traffic counts (November 2019), Gridsmart cameras (November 2022)
Weekday PM Peak Hour (4:15pm-5:15pm)	21.6	C	19.1	B	

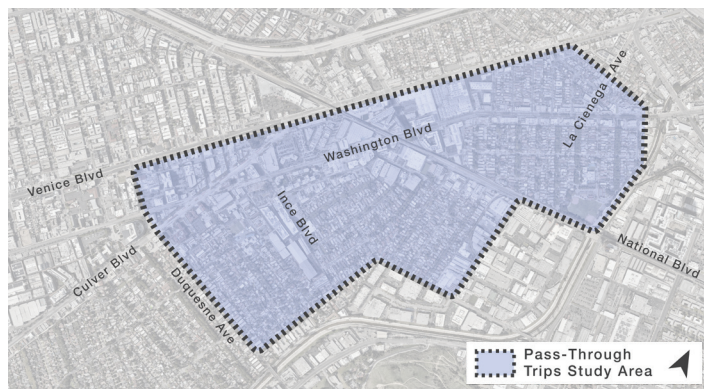
PASS-THROUGH TRIPS

To address community concerns about traffic impacting the MOVE Culver City Corridor or neighborhood streets near the corridor without destinations in Culver City, the amount of pass-through traffic in the study area was analyzed.

Pass-through traffic is defined as any vehicle trip that passes through the study area but does not start or end within the study area. The study area for this analysis is defined as south of Venice Boulevard (not including Venice Boulevard), east of Duquesne Avenue, north of Jefferson Boulevard, and west of La Cienega Boulevard, shown on the map.

The study area was chosen to include nearby neighborhoods that may experience pass-through traffic from vehicles avoiding Culver and Washington Boulevards. Weekend and weekday pass-through traffic data from October 2019 was compared to October 2022 for all trips, trips in the AM peak hour (8:00am to 9:00am), and trips in PM peak hour (4:30pm to 5:30pm). The purpose of this analysis is to understand changes that may have resulted from the implementation of MOVE Culver City or changing travel patterns due to the pandemic.

Based on trip patterns in October 2019, it was observed that 70% of all weekday and weekend trips were pass-through trips. In October 2022, the percentage of pass-through trips had decreased to 65% on weekdays and 67% on weekends. This implies that more motorists were destined to the study area in 2022 than in 2019.



Pass-Through Trips Study Area Map

Based on trip patterns during the weekday AM Peak Hour in October, pass-through trips decreased from 81% in 2019 to 73% in 2022.

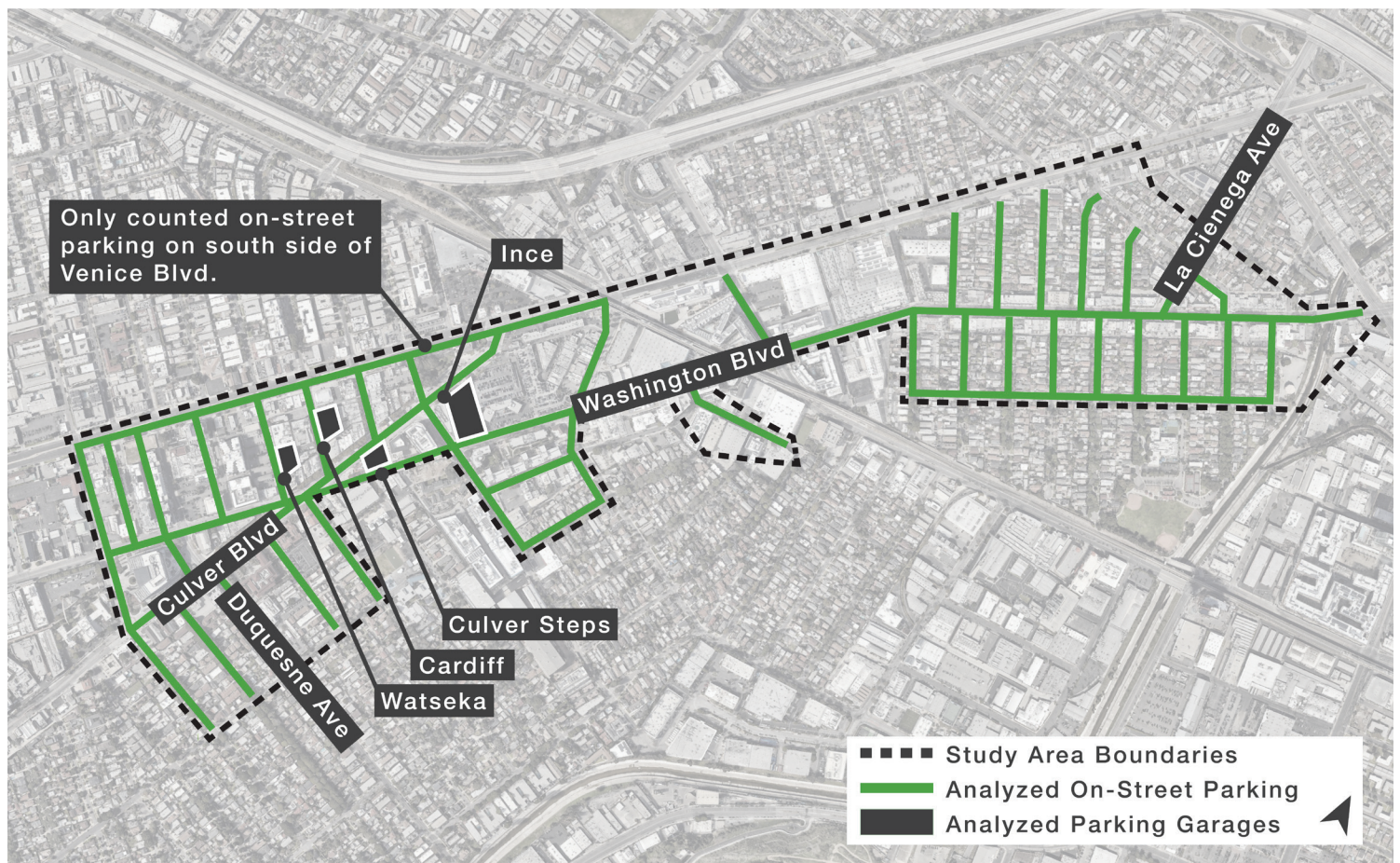
Percentage of Pass-Through Trips						
	AM Peak Hour Trips (8:00am - 9:00am)		PM Peak Hour Trips (4:30pm - 5:30pm)		All Trips	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
October 2019	81%	83%	73%	75%	70%	70%
October 2022	73%	76%	65%	67%	65%	67%

Parking Analysis

MOVE Culver City converted on-street parking spaces along Culver Boulevard and in some locations along Washington Boulevard into protected bus and bike lanes. The project team assessed the changes in on-street and off-street parking within one block of the Downtown Corridor as a result of the project. Prior to project implementation, 1,032 on-street spaces were available within one block of the MOVE Culver City Corridor, including 171 on-street spaces located on the corridor itself. The project removed 54 on-street parking spaces primarily near the Metro station. There are 2,996 off-street parking spaces available to the public within one block of the MOVE Culver City Corridor.

To understand the change in availability and use of on-street parking, the project team performed a parking utilization study of all blocks within one block of the corridor. For changes in use of off-street parking, the project team reviewed garage entries at four garages from 2019 through 2022: Ince Garage, Watseka Garage, Cardiff Garage, and Culver Steps Garage, representing 1,825 off-street parking spaces.

The map below shows which streets were analyzed for the on-street parking analysis and the four garages that were analyzed in the off-street parking analysis.



On- and Off-Street Parking in Study Area

ON-STREET PARKING

On-street parking capacity and utilization was measured in October 2020 to represent pre-implementation conditions and February 2023 to represent post-implementation conditions. Note that this comparison does not reflect pre-pandemic parking demand as on-street parking data was not collected. Parking utilization was observed during four time periods to account for demand during peak traffic periods and during lunch and dinner times:

- Morning (7:30am to 9:30am)
- Mid-Day (11:30am to 1:30pm)
- Afternoon (4:30pm to 6:30pm)
- Evening (7:30pm to 9:30pm)

Generally, the study area offers a combination of metered parking and non-metered parking with various time limits. Any parking spaces that are permit-only (found often in the Arts District) are excluded from the capacity calculation.

The parking capacity and utilization survey results can be seen below. The February 2023 counts show that on-street parking capacity increased by five parking spaces to 1,037 spaces. This is due to a couple of factors: the outdoor dining parklets in 2020 which increased dining capacity during the pandemic by repurposing on-street parking were removed, and construction near the corridor along Ince Boulevard, Delmas Terrace, and Washington Boulevard was completed.

During the 2023 count, the maximum utilization occurred during the evening period (69% utilization) while the minimum utilization occurred in the morning (59% utilization). Comparing 2023 to 2020 parking demand, utilization increased during the four study periods; this is expected as the October 2020 data was collected during Los Angeles County's Safer at Home directive when people were traveling less.

On-Street Parking Utilization				
	Morning (7:30am – 9:30am)	Mid-Day (11:30am – 1:30pm)	Afternoon (4:30pm – 6:30pm)	Evening (7:30pm – 9:30pm)
Capacity	1,037	1,037	1,037	1,037
Demand	610	696	673	717
Total Utilization (Oct. 2020)	47%	58%	54%	58%
Total Utilization (Feb. 2023)	59%	67%	65%	69%

Source: Manual Counts

When comparing February 2023 utilization rates in Downtown Culver City with the Arts District, there were significant differences in parking utilization rates. For the purposes of this analysis, Downtown was defined as all on-street parking west of National Boulevard and the Arts District was defined as all on-street parking east of National Boulevard.

For mid-day to evening, Downtown Culver City on-street parking utilization is around 80% while the Arts District utilization rates is around 56%.

On-Street Parking Utilization in Downtown and Arts District					
		Morning (7:30am – 9:30am)	Mid-Day (11:30am – 1:30pm)	Afternoon (4:30pm – 6:30pm)	Evening (7:30pm – 9:30pm)
Downtown	Capacity	494	494	494	494
	Demand	322	394	379	405
	Utilization	65%	80%	77%	82%
Arts District	Capacity	543	543	543	543
	Demand	288	302	294	312
	Utilization	53%	56%	54%	57%

Source: Manual Counts

OFF-STREET PARKING

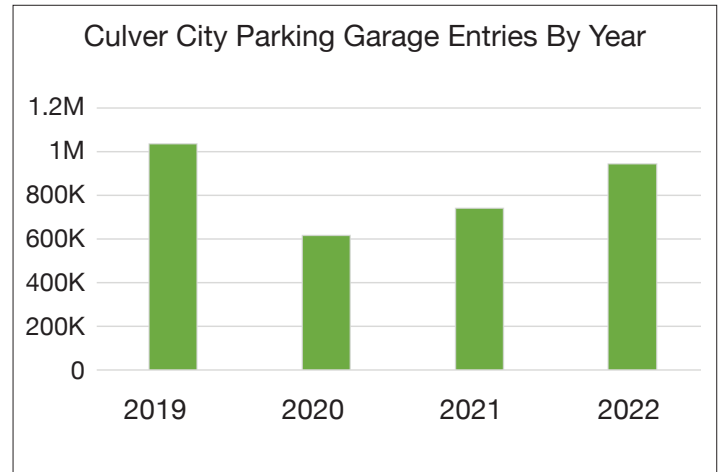
Off-street parking was analyzed from 2019 to 2022 by looking at vehicle entries into four garages in Downtown Culver City: Ince Garage, Watseka Garage, Cardiff Garage, and Culver Steps Garage. Due to the COVID-19 pandemic, there was a significant dip in parking entries at garages in the study area during 2020 and 2021 as fewer employees went into the office and as community members spent less time in public spaces. At least three of the four parking garages provide monthly parking pass options, indicating that the garage caters to employees and residents in Culver City. The entry counts in the past 3 years indicate a gradual recovery to pre-pandemic levels:

Percent of pre-pandemic (2019) entry count

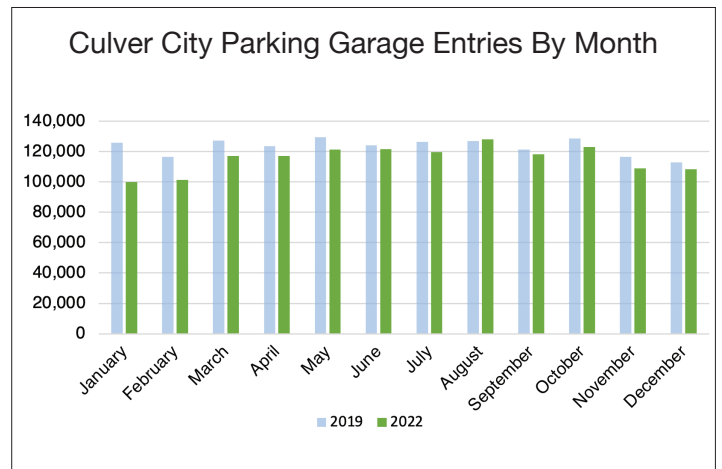
- 2020: 60%
- 2021: 71%
- 2022: 91%

Looking at 2022 garage entries by month, there is consistent growth in entry volumes through August, likely due to subsiding concerns about the pandemic. Monthly garage entries in 2019 Q3 were only slightly greater than 2022 Q3 garage entries. Furthermore, 2019 and 2022 entry counts follow similar trends throughout the year. This shows that during the summer months, demand for off-street parking in the downtown area had returned to pre-pandemic conditions.

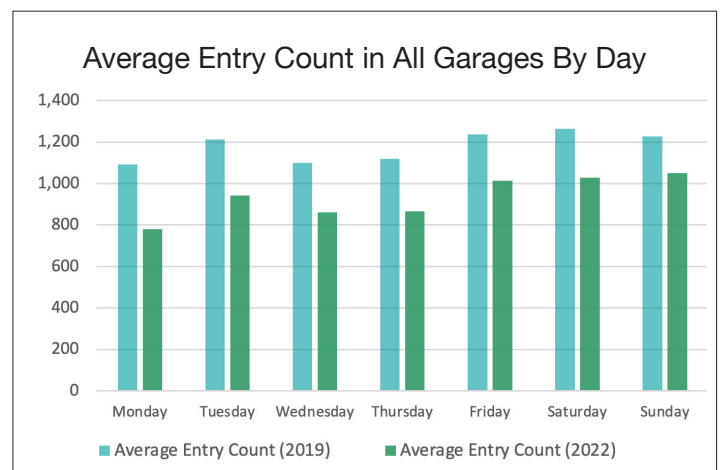
Looking at all four garage entries in 2022 by day, the average daily entry count was approximately 1,050. As may be expected, the average entry counts by day of week were highest on Fridays, Saturdays, and Sundays, coinciding with when many community members have more leisure time. Tuesdays saw significantly (10-17%) more parking garage entries than Mondays, Wednesdays, or Thursdays, likely a result of the Culver City Farmers Market on Main Street that happens every Tuesday.



Culver City Parking Garage Entries By Year



Culver City Parking Garage Entries By Month



Average Entry Count in All Garages By Day

Business Analysis

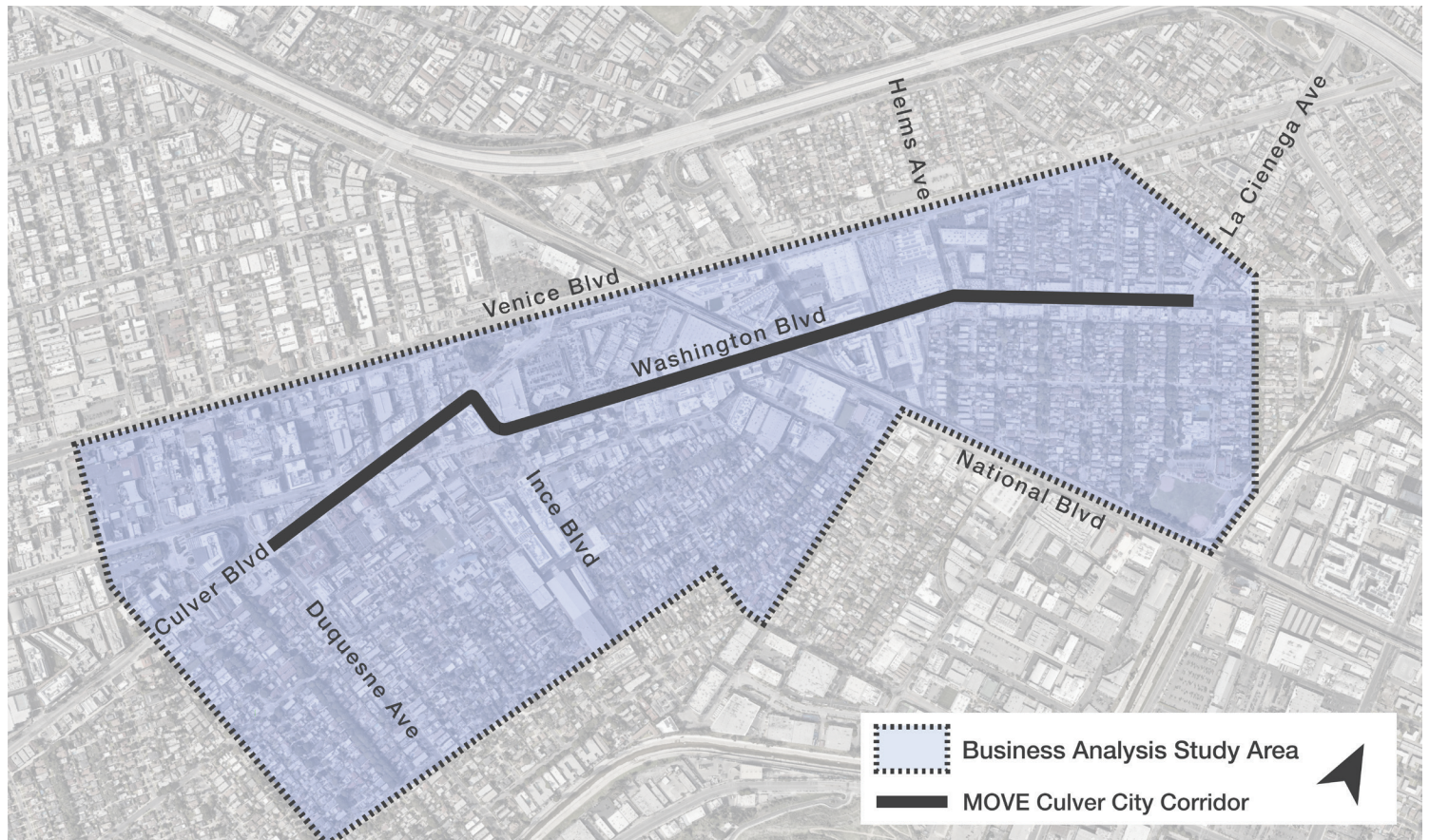
EVALUATION METHODOLOGY

The project team conducted a business analysis to better understand the impact that MOVE Culver City has had on businesses on the project corridor. The analysis included creating a database of over 330 businesses within the study area, which is bounded one city block in each direction from the project corridor.

The database contained information on each business such as its size, year opened, business capacity, and industry type. The team also hosted in-

person focus group meetings with several business to discuss their views on the pilot and for the future of the corridor.

The analysis also looked at quantitative metrics such as sales tax revenue for businesses within the study area and citywide, and at the changes in the number of remote workers after the COVID-19 pandemic.



MOVE Culver City Downtown Corridor Business Analysis Study Area

SALES TAX REVENUE

In response to community concerns about business activity in Downtown Culver City, the project team analyzed quarterly sales tax revenue trends over the last six years at the following locations:

- Citywide
- Downtown
- Main Street
- MOVE Culver City Corridor

Note that this analysis does not speak to individual business activity, but looks at overall trends in spending and sales tax revenue from 2016 through the third quarter of 2022. All values in this analysis have been converted to September 2022 dollars based on the Consumer Price Index (CPI) to account for inflation. This analysis focuses on comparing 2019 to 2022 data since the overall spending and revenue trends in 2020 and 2021 are not reflective of a stable economic environment or typical spending habits due to the COVID-19 pandemic and long-term impacts of Los Angeles County’s “Safer at Home” directive. Comparing 2019 to 2022 adjusted sales tax revenues by quarter, the MOVE Culver City Corridor saw the largest increases in sales tax revenue when compared to Downtown, Main Street, and citywide.

Overall, the percent change in sales tax revenue from January through September (Q1-Q3) was +17% along the MOVE Culver City Corridor while it was only +12% in Downtown, +4% along Main Street, and 0% citywide. Q4 was excluded from this analysis as 2022 data is unavailable.

FAQ

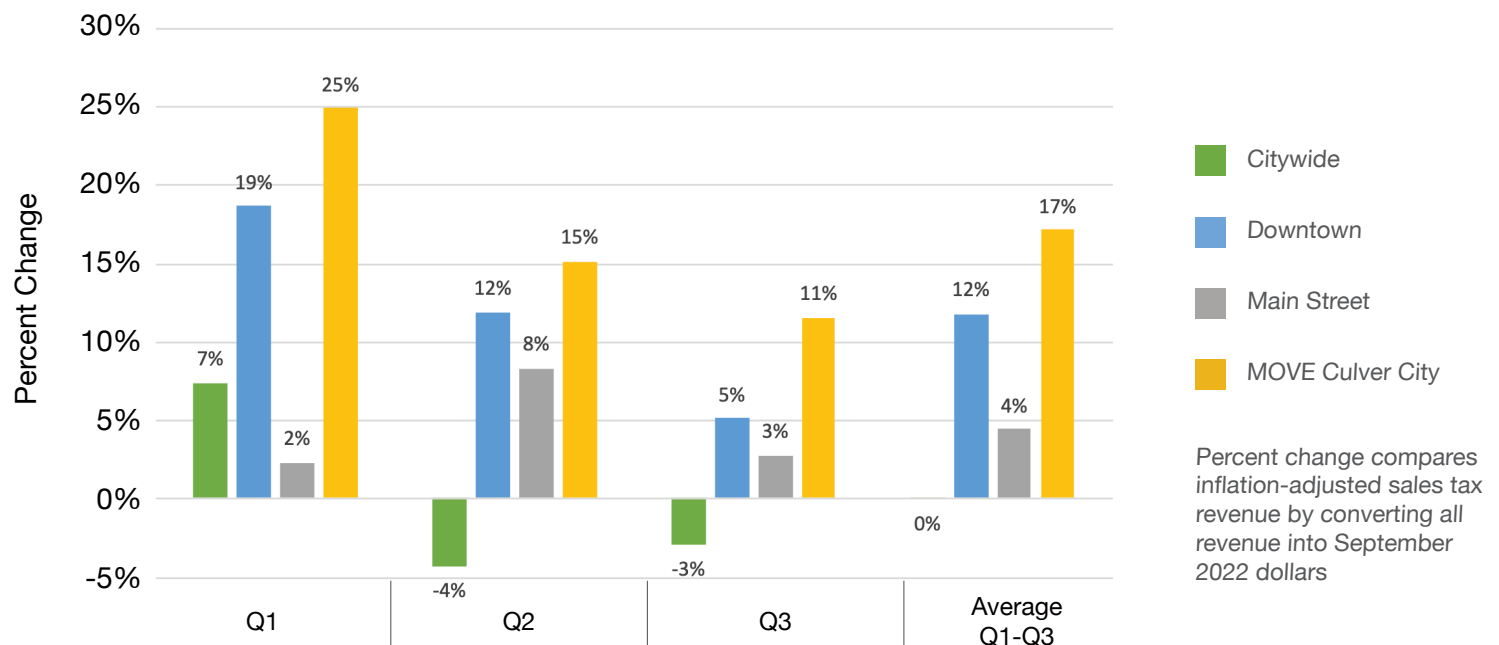
8. Were there any tax increases during the analysis period?

To ensure consistency, the project team analyzed the Bradley-Burns sales tax, which is a flat 1% sales tax allocated to every municipality. Thus, the numbers used in this analysis are used to show trends in business activity. Changes in receipts can reflect changes in business revenues, businesses opening or closing, or both.

9. Why is the data adjusted for inflation?

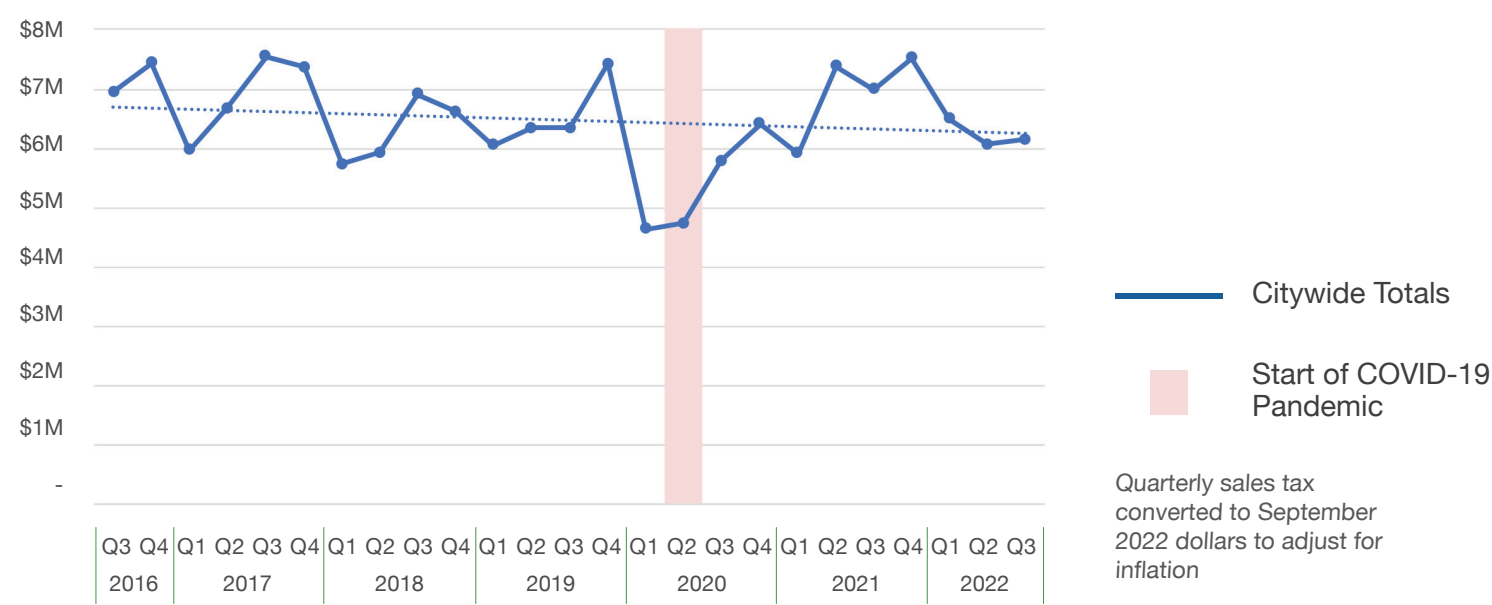
Adjusting for inflation allows for accurate comparisons between different periods of time. The data here have been adjusted using the Consumer Price Index (CPI), which is published by the Bureau of Labor Statistics and is the most widely used measure of inflation in the United States.

Percent Change in Sales Tax Revenue Between 2019 and 2022

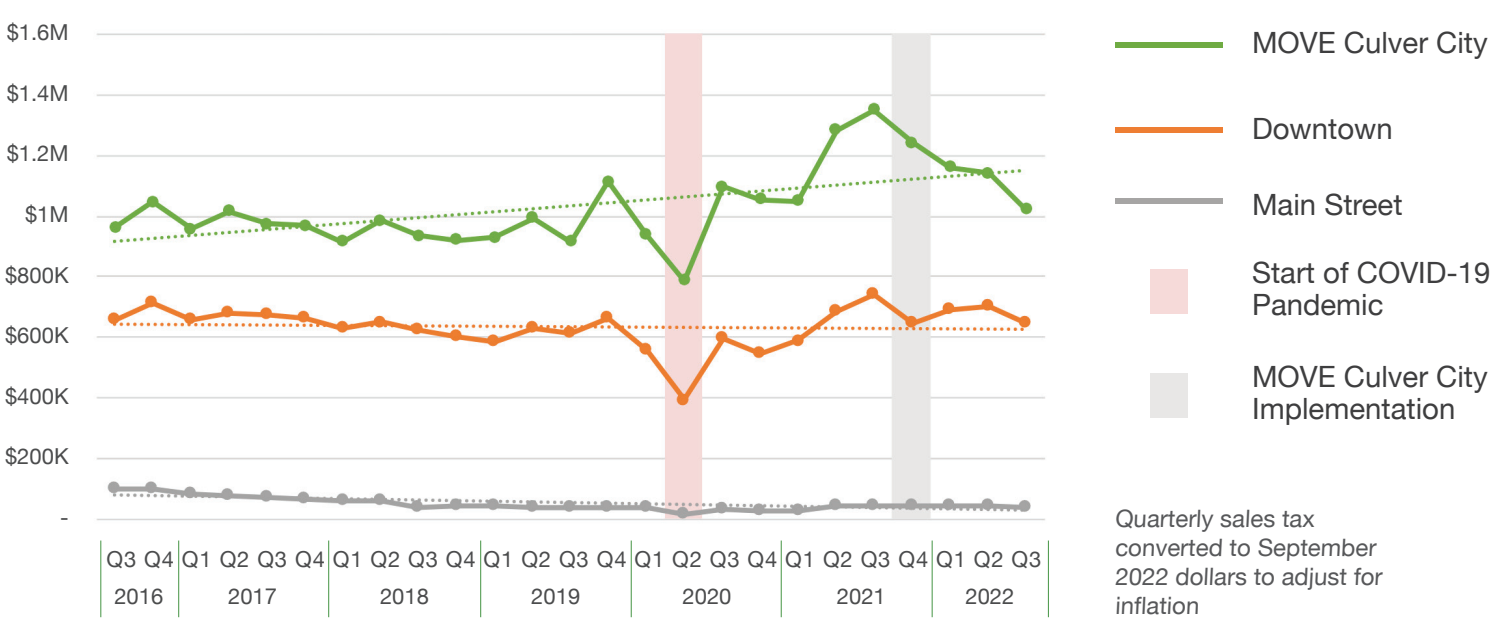


Source: Culver City Finance Department

Culver City Quarterly Sales Tax | 2016 to 2022



MOVE Culver City, Downtown, and Main Street Quarterly Sales Tax | 2016 to 2022



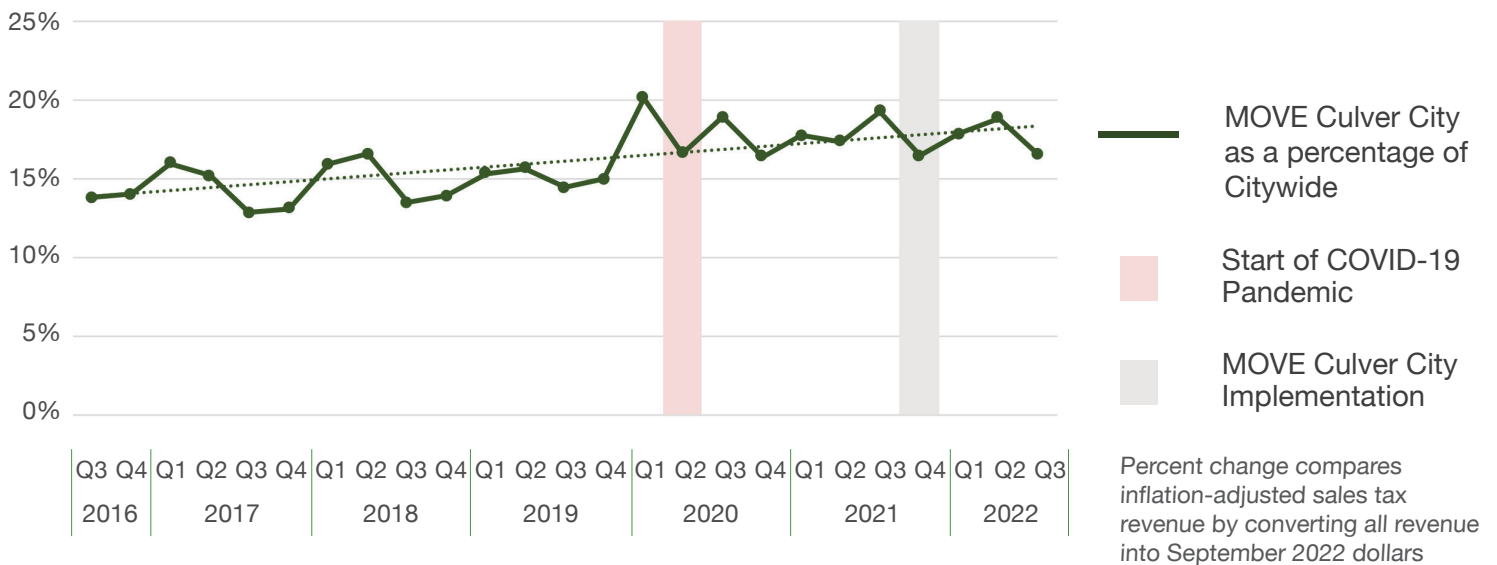
Sales tax revenue has grown slightly more rapidly along the MOVE Culver City Corridor since 2016 compared to Downtown and Main Street, which remained relatively flat. Sales tax revenues have dropped along the MOVE Culver City Corridor in the 2nd and 3rd quarters of 2022, likely due to the closure of two restaurants, Vamonos Tacos and Novecento Pasta.

MOVE Culver City saw its highest sales tax revenue volumes during the 3rd quarter of 2021. This spike can likely be attributed to the opening of shops at the Culver Steps, including Sephora, Salt & Straw,

and Mendo Farms, and an increase in spending as pandemic concerns subsided due to the more widespread availability of COVID-19 vaccines. The slight downward trend seen in 2022 is similar to the overall sales tax revenue trend seen citywide.

During the six-year study period, revenues along the corridor have made up an increasingly larger share of the citywide tax revenues. For example, sales tax revenues collected along the MOVE Culver City Corridor represented 17% of the total sales tax revenue collected citywide in the 3rd quarter of 2022, compared to 15% in the 3rd quarter of 2019.

MOVE Culver City Sales Tax Revenue as a Percentage of Citywide Revenue



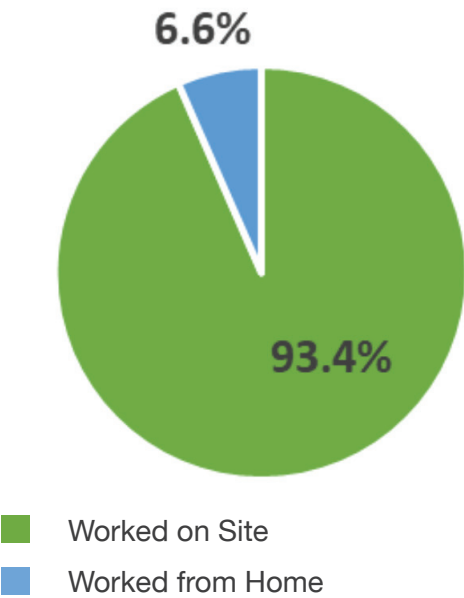
REMOTE WORK POLICIES

As a result of the COVID-19 pandemic, employers across the country and in Culver City have embraced remote work policies allowing employees flexibility to choose to work from home or to work from the office on multiple days per week. Data from the most recent US Census American Community Survey shows that 20% of Culver City workers work from home, a 13-percentage point increase as compared to pre-pandemic (2019). This is consistent with nationwide trends: January 2023 has had the lowest percentage of people working from home since before the COVID-19 pandemic.¹⁵ With the rise in remote work, people may be traveling at different times or even moving further away from their office. This is identified in the vehicle travel time analysis on the

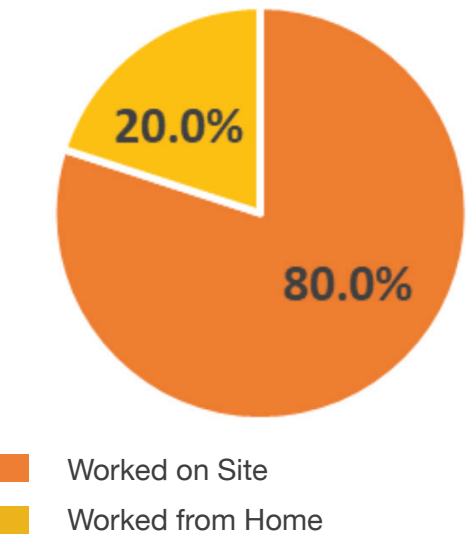
project corridor, which shows an extended PM peak period in the westbound direction, a travel direction that typically experienced only a AM peak period before the pandemic.

As concerns due to the COVID-19 pandemic have subsided, employers are considering strategies to reduce the number of remote workdays to two days per week. This is comparable to recent information received from major employers in Culver City where workers are expected to be in the office three days per week. Based on feedback from employers in Culver City, work from home policies are continuing to evolve as of this publication and it is not clear when or if there will be a new normal for travel patterns.

Percent of Workers Working from Home | 2019



Percent of Workers Working from Home | 2021



Sources: US Census American Community Survey, 5-Year Estimates.

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3 | Appendix

End Notes

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Project Monitoring and Analysis Methodology

INTRODUCTION

Project monitoring is a primary component of the MOVE Culver City project. The project team tracks the impacts of different modes of travel utilizing industry standards for the mobility lanes installed on the Downtown Corridor. The impacts are analyzed in several ways:

1. In monthly increments and published as Monthly Reports on the moveculvercity.com website
2. Through the [Mid-Pilot Report](#) that tracks trends over a seven-month period
3. The Post-Pilot report that tracks trends over a 12-month period

The project measures changes for pedestrians, bicycles, micromobility, and transit use and operations; it also analyzes vehicle travel times and volumes on and adjacent to the corridor.

The analysis methodology was developed by the consultant team in collaboration with the Culver City staff and the Community Project Advisory Committee (CPAC) during the project planning phase in 2021. Each transportation mode that uses the corridor (transit, bicycles, pedestrians, micromobility, and vehicles) has a unique data source, data collection approach, and analysis methodology. To provide details of these unique features, the following appendices have been prepared:

- A. Methodology Approach, Data Storage, and Quality Control
- B. Data Sources
- C. Post-Pilot Report Calculations Methodology
- D. Post-Pilot Data Tables

To verify the analysis methodology, Culver City hired an independent firm, Kimley-Horn and Associates, Inc. (KHA), to review the first four months of the MOVE Culver City Monthly Key Performance Indicator (KPI) Reports. In summary, their analysis shows that the data presented in the reports is appropriate, and the methodology used to construct the reports is sound and standard. The audit report can be found on the project website.

A: METHODOLOGY APPROACH, DATA STORAGE, AND QUALITY CONTROL

The methodology for each transportation mode varies based on industry standards and national best practices. The primary sources for data collection and analysis methodology are Caltrans' Guide for the Preparation of Traffic Impact Studies, Culver City's Transportation Assessment Guidelines, LADOT's Transportation Assessment Guidelines, the California Environmental Quality Act (CEQA), Institute of Traffic Engineers (ITE) Trip Generation Manual, Highway Capacity Manual (HCM), and National Association of City Transportation Officials (NACTO).

Each report utilizes available and relevant historical data and compares it to current conditions for each transportation mode, as listed below. Due to changes the COVID-19 pandemic has had on travel patterns, when available, each report looks at two historical data sources: data collected before March 2020 is considered Pre-Pandemic conditions; data collected during 2021 is considered Pre-Implementation conditions. Post-Implementation conditions look at all data collected starting January 16, 2022, when the corridor reopened after design changes were made after the project launched in November 2021. Data sources for each mode are listed in the following section.

Before each report is published, the data is collected, scrubbed for inconsistencies, and stored in a database. Data for each mode is reviewed for any missing information or outliers that are uncharacteristic. Missing days of data are excluded from daily averages and peak hour calculations. Any outliers are investigated to determine if an event occurred during that time or if there was any equipment or software malfunction. Uncharacteristic data that does not have an explanation is excluded from daily averages and peak hour calculations. Once the data is prepared, all analysis calculations are performed in Excel and Tableau.

B: DATA SOURCES

Culver CityBus Ridership on the Project Corridor:

The traditional fixed route 40-foot buses within the Culver CityBus fleet are equipped with Automatic Passenger Counters (APCs) that track passenger boardings and alighting at each bus stop. The APCs and the reporting method used to process APC data is certified by the Federal Transit Agency (FTA). The total monthly stop level ridership on CCB1, CCB5, and CCB7 is generated from RideCheck Plus software, which processes and reports APC data into standard Excel spreadsheets. The consultant team takes the monthly stop level ridership and calculates the daily ridership based on the number of days within the month and multiplies the daily value by seven to get the weekly ridership. The 1C1 Circulator was run with only a portion of vehicles equipped with APCs; therefore, circulator ridership is recorded manually by operators. The manual records are then transferred by the Transportation Department staff to a master tracking spreadsheet.

Data Source: City of Culver City (APCs)

Culver CityBus On-Time Performance (OTP) and Travel Time:

Culver CityBus fleet utilizes Computer-Aided Dispatch / Automatic Vehicle Location system (CAD/AVL system) to track real-time bus location and identifies whether buses are running early, late, or on time. CAD/AVL information feeds into CleverReports software where standard reports can be generated to get a summary of the occurrence of buses arriving at timepoints early, late, or on time. Buses arriving between 1 minute before and 5 minutes after their scheduled arrival time are considered on time, in keeping with industry standards.

Data Source: City of Culver City (CAD/AVL)

Regional Transit Ridership:

The project team coordinated with LA Metro, LADOT, and City of Santa Monica to retrieve stop-level transit ridership in 2019, 2021, and 2022 on transit lines that utilize the MOVE Culver City corridor: LA Metro Line 617, LADOT Line 437, and Big Blue Bus Line 17. The project team also retrieved average boardings and alightings at Metro E Line Culver City Station between Fiscal Year 2021 (July 2020 – June 2021) and Fiscal Year 2022 (July 2021 – June 2022).

Data Source: LA Metro, LADOT, City of Santa Monica

Bicycle Volumes:

Bicycle volumes are manually counted from the GRIDSMART cameras video feed. The average bicycle volumes are extrapolated from sample weekday and weekend peak hour bicycle volumes counted at intersections for each reporting month; the peak hour volumes are assumed to be 10% of daily volumes. All bicycles approaching the intersection are considered in this sample count. This is a standard approach in traffic engineering for estimating daily bicycle activity and supported by bike share use in Los Angeles and New York City:

- Metro bike share use in Los Angeles in Q2/Q3 2021 showed that peak hour volumes were 11% of daily volumes
- Citibike share use in NYC consistently shows that peak hour volumes are 10% of daily volumes

Data Source: City of Culver City (Manual Peak Hour Counts vis GRIDSMART Video Recording)

Pedestrian Volumes:

GRIDSMART video camera feeds count bi-directional pedestrian movements within all four crosswalks at the intersection, which are received as daily totals in the pedestrian crosswalk reports generated by GRIDSMART software. GRIDSMART cameras are installed at six intersections on the corridor: Culver Boulevard & Main Street, Washington Boulevard & Cattaraugus Avenue, Washington Boulevard & Ince Boulevard, Washington Boulevard & Wesley Street, Washington Boulevard & National Boulevard, and Washington Boulevard & Helms Avenue.

Data Source: GRIDSMART cameras

Micromobility:

Micromobility data is provided by the permitted micromobility operators using data in compliance with the industry standard format, Mobility Data Specification (MDS). The operator MDS data feeds directly to Populus, which is a digital platform that allows cities to manage and monitor micromobility services and digitally communicate policies to operators. The micromobility study area is a ¼-mile radius around the MOVE Culver City Downtown Corridor and within the Culver City limits. Data on daily trips originating in the study area and within Culver City city limits are retrieved from Populus.

Data Source: Populus

Vehicle Travel Time:

The Waze Developers application programming interface (API) is used to collect vehicle travel time data in 15-minute intervals and is averaged hourly. Waze vehicle travel times are collected through the Waze app on mobile devices. As motorists navigate the street network, Waze collects data about GPS location to determine the average travel time among devices between two defined nodes in 2-minute increments. Culver City has access to the Waze Developers API tool through participation in the Waze for Cities program. The MOVE Culver City Downtown Corridor study area routes were manually created by the project team in the Waze Developers API tool. Routes were chosen by the consultant team in collaboration with the City Project Team.

Additional vehicle travel time data from 2019 was purchased through INRIX to supplement the Waze data. INRIX vehicle travel times are primarily collected through data from GPS-equipped vehicles, mobile devices, cameras, and sensors on roadways. The data from multiple devices is aggregated to produce estimated travel times in 2-minute increments on certain road segments (or blocks). Adjacent blocks are then selected to identify vehicle travel time on a defined route. The project team analyzed the data in 15-minute increments. Vehicle travel time data on the Extended Corridor was accessed by the City Project Team through LA Metro's ClearMobility software, which allows users to download travel time routes on defined routes in Los Angeles. ClearMobility uses INRIX travel time data.

Data Source: INRIX, Waze

Vehicle Speeds:

Vehicle speed data was accessed by the City Project Team through LA Metro's ClearMobility software, which allows users to download daily and weekly speed profiles for selected road segments. ClearMobility uses INRIX speed data.

Data Source: INRIX (ClearMobility)

Vehicle Volumes:

GRIDSMART video camera feeds installed at intersections along the MOVE Culver City Downtown Corridor collect vehicle volume data including vehicle speeds, turning movement counts, and vehicle length. Motorbikes and cyclists are removed from the vehicle volume calculation by filtering the data for vehicles that are between 9 ft and 45 ft in length. Vehicle volumes and average daily traffic (ADT) look specifically at vehicles traveling on the Downtown Corridor: Washington and Culver Boulevards, not the cross-streets. ADT is a common traffic engineering metric to understand the daily vehicle use on a given street. GRIDSMART cameras are installed at six intersections on the corridor: Culver Boulevard/Main Street, Washington Boulevard/Cattaraugus Avenue, Washington Boulevard/Ince Boulevard, Washington Boulevard/Wesley Street, Washington Boulevard/National Boulevard, and Washington Boulevard/Helms Avenue.

Data Source: GRIDSMART cameras

Vehicle Pass-Through Traffic:

The pass-through traffic data, sourced from INRIX, is derived by calculating the proportion of trips that enter and exit the Culver City study area. The study area was defined in collaboration with Transportation Department staff, the project team, and INRIX. To facilitate this analysis, each trip is assigned a geographical origin and destination code, enabling the project team to discern trips beginning and ending beyond the boundaries of the Culver City study area.

Data Source: INRIX

On-Street and Off-Street Parking:

Off-street parking data comprised of vehicle entries into 4 public garages near the MOVE Culver City corridor and was provided by Culver City Transportation Department: Ince Garage, Watseka Garage, Cardiff Garage, and Culver Steps Garage. Entries are collected through the revenue control system (RCS) by which vehicles must provide a parking pass or take a parking ticket upon entry to garage. On-street parking capacity and utilization was collected on the MOVE Culver City corridor and within 1 block of the corridor by the project team at four different time intervals during a typical weekday through manual counts.

Data Source: Culver City and Manual Data Collection

Remote Work:

Data from the U.S. Census Bureau 2017-2021, American Community Survey (ACS) 5-Year Estimates, and 2015-2019 American Community Survey 5-Year Estimates, Commuting Characteristics by Sex tables were used to determine the percent of residents in Culver City that work from home. The 2021 dataset is the most recent dataset available from the U.S. Census on commuting characteristics. The American Community Survey is an annual demographics survey conducted by the U.S. Census Bureau that is aggregated to different geographic summary levels to maintain statistical significance and retain personal privacy. The ACS asks questions around frequently asked social, economic, housing, and demographic information.

Data Source: 2017-2021 American Community Survey (ACS)

Summary Table of Data Sources

Summary Table of Data Sources			
	Pre-Pandemic	Pre-Implementation	Post-Implementation
Culver CityBus Ridership	Culver CityBus (APCs)	Culver CityBus (APCs)	Culver CityBus (APCs)
Culver CityBus OTP and Travel Time	Culver CityBus (CAD/AVL)	Culver CityBus (CAD/AVL)	Culver CityBus (CAD/AVL)
Regional Transit Ridership	LADOT, BBB, LA Metro	LADOT, BBB, LA Metro	LADOT, BBB, LA Metro
Bicycle Volumes	Culver City (Manual Counts)	<i>Not Available</i>	Culver City (Manual Counts)
Pedestrian Volumes	<i>Not Available</i>	GRIDSMART cameras (4 locations)	GRIDSMART cameras (6 locations)
Micromobility	Populus	Populus	Populus
Vehicle Travel Times	INRIX	INRIX/Waze	INRIX/Waze
Vehicle Speeds	INRIX (LA Metro ClearMobility)	Not Available	INRIX (LA Metro ClearMobility)
Vehicle Volumes	<i>Not Available</i>	GRIDSMART cameras (4 locations)	GRIDSMART cameras (6 locations)
Vehicle Pass-Through Traffic	INRIX	<i>Not Available</i>	INRIX
On-Street and Off-Street Parking	Culver City	Culver City and Manual Counts	Culver City and Manual Counts
Sales Tax Revenue	Culver City Finance Department	Culver City Finance Department	Culver City Finance Department
Remote Work	U.S. Census Bureau	U.S. Census Bureau	U.S. Census Bureau

C: POST-PILOT REPORT CALCULATIONS METHODOLOGY

Data Overview

Culver CityBus CCB1/5/7/1C1 Ridership (% Change):

This calculation measures the average daily (weekday and weekend) CCB1, CCB5, CCB7, and CCB1C1 bus ridership percent change from January – December 2021 compared to January – December 2022. Ridership is considered the sum of all passengers who are on the bus when the bus enters the corridor and all passengers who board the bus at stops along the corridor.

Data Source: City of Culver City (APCs)

Culver CityBus Line CCB1 PM Peak Period Travel Time (Minute Change):

This calculation measures the change in travel time of Line CCB1 in January – March 2020 compared to January – March 2023 in the PM peak period (6:00pm – 9:00pm) in the eastbound direction.

Data Source: City of Culver City (CAD/AVL)

Average Daily Cycling Volumes (% Change):

This calculation measures the average percent change in weekday bicycle volume from November 2019 compared to January – December 2022 at two intersections: Culver Boulevard/Main Street and Washington Boulevard/National Boulevard.

Data Source: Manual Peak Hour Counts from GRIDSMART Video Recording

Average Daily Pedestrian Volumes (% Change):

This calculation measures the average percent change in weekday pedestrian volume from October 2021 to January – December 2022 at four intersections: Culver Boulevard/Main Street, Washington Boulevard/Cattaraugus Avenue, Washington Boulevard/Ince Boulevard, and Washington Boulevard/Wesley Street.

Data Source: GRIDSMART cameras

Average Daily Micromobility Activity (% Change):

This calculation measures the percent change in average daily micromobility trips that originate in MOVE Culver City study area from January – December 2022 compared to January 2022, the first month of the pilot. The micromobility study area is a ¼-mile radius around the MOVE Culver City Downtown Corridor but within the Culver City limits. Micromobility service provided by Wheels and Bird.

Data Source: Populus

Culver Boulevard & Main Street Average Daily Pedestrian and Bicycle Volumes (% Change):

This calculation measures the percent change in average daily (weekday and weekend) pedestrian volume at Culver Boulevard/Main Street from October 2021 compared to January – December 2022. The calculation excludes pedestrian volume data from July 2, 2022 – July 20, 2022, due to a camera malfunction.

Data Source: GRIDSMART cameras

Vehicle Travel Time (Minute Change):

This calculation is the difference in minutes between weekday peak hour travel time on the MOVE Culver City corridor from January – December 2022 in both the eastbound and westbound directions compared to corridor travel times from September 2019.

Data Source: Waze, INRIX

Vehicle Volume (% Change):

This calculation measures the percent change in average daily (weekday and weekend) vehicle volumes for Culver Boulevard & Main Street, Washington Boulevard & Cattaraugus Avenue, Washington Boulevard & Ince Boulevard, and Washington Boulevard & Wesley Street from September 2021 compared to January – December 2022.

Data Source: GRIDSMART cameras

Sustainable Transportation Data**Culver CityBus Total Ridership Volume by Month:**

This calculation is the combined monthly corridor ridership on lines CCB1, CCB5, CCB7, and CCB1C1 for 2021 and 2022. Corridor ridership is considered the sum of all passengers who are on the bus when the bus enters the MOVE Culver City corridor and all passengers who board the bus at stops along the corridor. The pre-pandemic baseline is the total monthly ridership on the corridor in September 2019.

Data Source: City of Culver City (APCs)

Culver CityBus Travel Time:

This calculation is the percent change of the average CityBus travel time from January – March 2019 compared to January – March 2023 for both eastbound and westbound routes for the AM peak period (6:00am – 9:00am) and PM peak period (3:00pm – 6:00pm) for Line CCB1 and CCB7.

Data Source: City of Culver City (CAD/AVL)

Culver CityBus Boardings and Alightings:

This calculation is the average monthly stop-level boardings and alightings for ten stops along the MOVE Culver City Corridor with the highest monthly ridership. The percent change calculation is the average January – December 2021 value compared to the average January – December 2022 value.

Data Source: City of Culver City (APCs)

Downtown Circulator Ridership:

This calculation is the average weekday and weekend boardings on Line CCB1C1 for each month since the Circulator service launched in November 2021.

Data Source: City of Culver City (APCs)

Regional Transit Ridership (% Change):

This calculation is the percent change in average boardings and alightings between Fall 2021 (September, October, November) and Fall 2022 (September, October, November) for LA Metro Line 617, LADOT Line 437, and City of Santa Monica Big Blue Bus Line 17 in eastbound and westbound directions, where applicable. The E Line Culver City Station calculation is the percent change in average boardings and alightings between Fiscal Year 2021 (July 2020 – June 2021) to Fiscal Year 2022 (July 2021 – June 2022).

Data Source: LA Metro, LADOT, City of Santa Monica

Emergency Response Times (Seconds):

This calculation measures the difference between the average and 90th percentile travel times in January – December 2019 compared to January – December 2022 for emergency vehicles dispatched from Culver City Fire Department Station 1. Station 1 is located on the MOVE Culver City Downtown Corridor, and the data does not discern the routes taken by the emergency response team.

Data Source: Culver City Fire Department Station 1

Average Weekday Bicycle Volumes by Month:

This calculation is the average weekday bicycle volume by month for Culver Boulevard/Main Street, Washington Boulevard/National Boulevard, and Washington Blvd/Cattaraugus Avenue. The average weekday bicycle volumes are extrapolated from peak hour bicycle volumes; as explained above, peak hour volumes are considered 10% of daily volumes.

Data Source: City of Culver City (Manual Peak Hour Counts via GRIDSMART video recording)

Average Weekday Pedestrian Volumes by Month:

This calculation is the average weekday pedestrian volume by month at six intersections on the corridor: Culver Boulevard/Main Street, Washington Boulevard/Ince Boulevard, Washington Boulevard/National Boulevard, Washington Boulevard/Wesley Street, Washington Boulevard/Helms Avenue, Washington/Cattaraugus Avenue. Pedestrian volumes in October 2022 are compared to pedestrian volumes in October 2021 at three intersections; those intersections were chosen due to availability of pre-implementation data.

Data Source: GRIDSMART cameras

Micromobility Daily Trips in Culver City vs Study Area:

This calculation is the percent of daily micromobility trips beginning or ending within the MOVE Culver City Downtown Corridor from January – December 2022 compared to January 2022, the first month of the 12-month pilot. This calculation also looks at the percentage of daily micromobility trips beginning or ending within the MOVE Culver City Downtown Corridor to micromobility trips citywide.

Data Source: Populus

Vehicular Data

MOVE Culver City and Extended Corridor Average and 95th Percentile Hourly Vehicle Travel Time:

This calculation is the 24-hour profile of eastbound and westbound average and 95th percentile hourly weekday vehicle travel time from September 2019 compared to January – December 2022. To identify frequency of travel times that exceed the 95th percentile, the weekday travel times were averaged and the hours in which these times surpassed the 95th percentile threshold were identified. See 95th percentile frequency graphs in Appendix D.

Data Source: Inrix, Waze

Vehicle Speeds:

Vehicle speeds on the corridor were generated over a typical week in 2019 and 2022 using the LA Metro ClearMobility online tool: September 16, 2019 – September 20, 2019, and September 19, 2022 – September 23, 2022. Conclusions were drawn based on summaries provided by the ClearMobility tool.

Data Source: Inrix (LA Metro ClearMobility)

Average Daily Traffic by Month:

This calculation is the average of weekday and weekend eastbound and westbound vehicle volumes collected by GRIDSMART cameras located at six intersections on the corridor: Culver/Main, Washington/Ince, Washington/National, Washington/Wesley, Washington/Helms, and Washington/Cattaraugus. The pre-implementation baseline (September 2021) is the average of weekday and weekend eastbound and westbound vehicle volumes at four intersections, excluding Washington/Helms and Washington/National due to camera availability. The following data is excluded from the calculations due to data inconsistencies:

- Culver/Main: 1/16, 1/31, 6/15-6/16, 6/18-6/29, 7/2-7/20
- Washington/National: 2/19 - 2/21
- Washington/Cattaraugus Ave: June 2022
- Washington/Ince: August - December 2022

Data Source: GRIDSMART cameras

Average Daily Peak Hour Traffic by Month:

This calculation is the average of the weekday eastbound and westbound vehicle volumes during the peak hours collected by GRIDSMART cameras located at six intersections on the corridor: Culver/Main Washington/Ince, Washington/National, Washington/Wesley, Washington/Helms, and Washington/Cattaraugus. The pre-implementation baseline (September 2021) is the average weekday eastbound and westbound peak hour volumes at four intersections, excluding Washington/Helms and Washington/National due to camera availability. The following data is excluded from the calculations due to data inconsistencies:

- Culver Boulevard/Main Street: September 2021 westbound AM and PM peak hour data, January 16, 2022; January 31, 2022; June 15 – June 16, 2022; June 18 – June 29, 2022; July 2 – July 20, 2022
- Washington Boulevard/National Avenue: February 19 – February 21, 2022
- Washington Boulevard/Cattaraugus Avenue: June 2022 westbound AM and PM peak hour data Washington Boulevard/Ince Boulevard: August - December 2022.

Data Source: GRIDSMART cameras

Vehicle Pass-Through Trips:

This calculation compares the percentage change of trips starting and ending beyond the boundaries of the Culver City study area in 2019 to those same trip types in 2022. Trips are separated by weekday and weekend.

Data Source: INRIX

Intersection Performance Evaluation – Methodology and Results

Synchro analysis software (version 11) was used for the intersection performance evaluation to determine volume-to-capacity (v/c) ratios, average vehicle delays, and levels of service (LOS). The LOS of a signalized intersection is defined in terms of delay per vehicle (seconds per vehicle). In Synchro, the total delay per vehicle is composed of control delay (the portion of total delay experienced by a driver that is attributed to the traffic signal) and queue delay (the portion of total delay that is attributed to congestion and spillback). For signalized intersections, LOS A describes operations with minimal delays of up to 10 seconds per vehicle, while LOS F describes operations when volume exceeds capacity and delays are over 80 seconds per vehicle.

The tables below show the intersection capacity analysis results at the intersection of Culver Boulevard/ Washington Boulevard at Canfield Avenue for 2019 pre-implementation and 2022 post-implementation periods. The intersection continued to operate at an overall LOS C or better during both the AM and PM peak hours. Individual movements continued to operate at LOS E or better during the AM and PM peak hours.

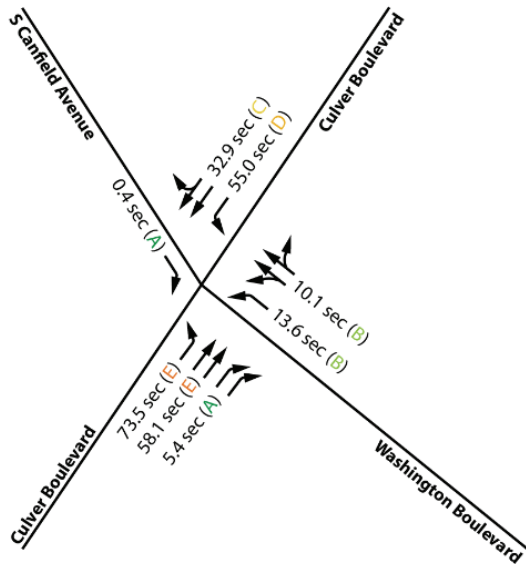
Culver Boulevard/Washington Boulevard at Canfield Ave LOS Tables

Intersection	Lane Group		2019 Weekday AM Peak Hour			2022 Weekday AM Peak Hour		
			v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS
Culver Blvd (EB/WB) & Washington Blvd (NB) & S Canfield Ave (SB)	Eastbound	L	0.15	73.5	E	0.16	70.9	E
		T	0.78	58.1	E	0.68	48.1	D
		R	0.54	5.4	A	0.42	14.9	B
	Westbound	L	0.25	55.0	D	0.14	52.6	D
		TR	0.25	32.9	C			
		T				0.45	49.8	D
		R				0.02	0.2	A
	Northbound	L	0.60	13.6	B	0.49	7.1	A
		TR	0.43	10.1	B	0.12	3.1	A
	Southbound	R	0.05	0.4	A			
	Intersection			--	21.5	C	--	21.4
Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.								

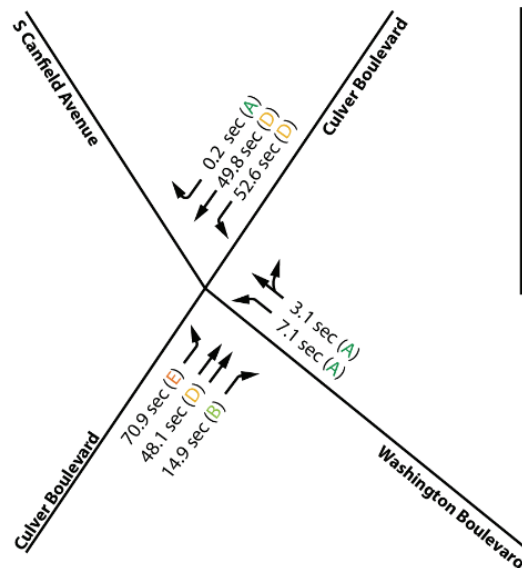
Intersection	Lane Group		2019 Weekday PM Peak Hour			2022 Weekday PM Peak Hour		
			v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS
Culver Blvd (EB/WB) & Washington Blvd (NB) & S Canfield Ave (SB)	Eastbound	L	0.27	71.0	E	0.28	58.1	E
		T	0.77	55.4	E	0.51	58.8	E
		R	0.78	10.8	B	0.50	5.3	A
	Westbound	L	0.35	56.8	E	0.15	52.9	D
		TR	0.33	38.2	D			
		T				0.56	56.4	E
		R				0.03	0.2	A
	Northbound	L	0.45	14.0	B	0.39	3.9	A
		TR	0.30	8.1	A	0.08	0.4	A
	Southbound	R	0.20	1.7	A			
	Intersection		--	21.6	C	--	19.1	B
Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.								

Intersection LOS and Delay | 2019 Pre-Implementation 2019 to Post-Implementation 2022

2019 Weekday Morning Peak Hour



2022 Weekday Morning Peak Hour



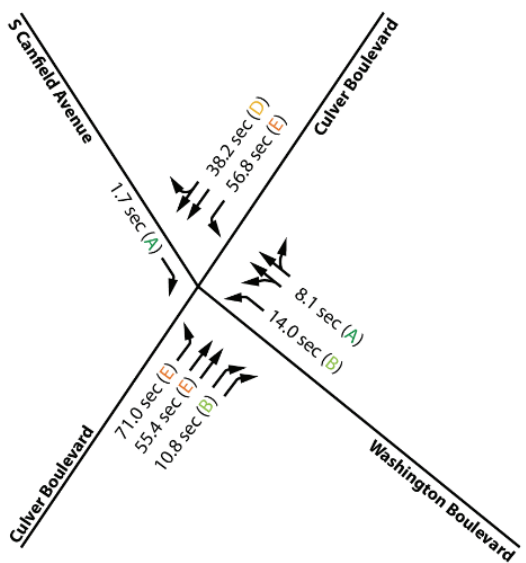
Not To Scale

Level Of Service (LOS)

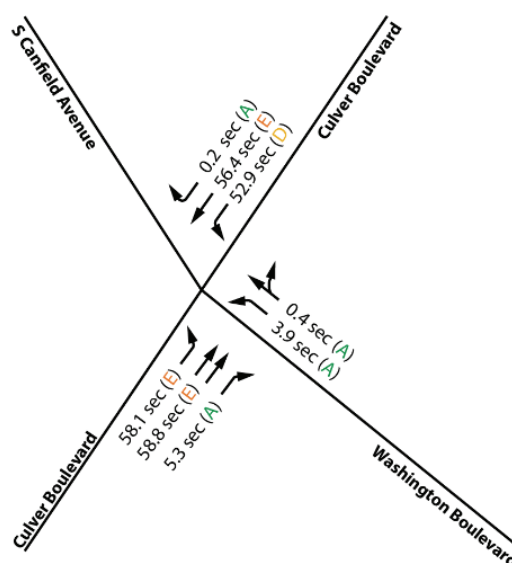
- A < 0-10 seconds
- B < 10-20 seconds
- C < 20-35 seconds
- D < 35-55 seconds
- E < 55-80 seconds
- F > 80 seconds

xx (x) = Delay (LOS)

2019 Weekday Evening Peak Hour



2022 Weekday Evening Peak Hour



Not To Scale

Level Of Service (LOS)

- A < 0-10 seconds
- B < 10-20 seconds
- C < 20-35 seconds
- D < 35-55 seconds
- E < 55-80 seconds
- F > 80 seconds

xx (x) = Delay (LOS)

Parking Analysis

On-Street Parking Analysis:

On-street parking utilization is calculated by dividing the number of occupied curb spaces by the total number of curb spaces on a single block face. This calculation was performed during four time periods and compared between October 2020 and February 2023. The data was also calculated to determine the parking utilization rates for the Arts District and Downtown Culver City.

Data Source: Manual Counts

Off-Street Parking Analysis:

Off-street parking garage entries were analyzed by total entries per year for 2019 through 2022, average entries per month, and average entries per day of week. The average entries per month and average entries per day of the week were compared between 2019 and 2022.

Data Source: City of Culver City

Business Evaluation

Sales Tax Analysis:

Quarterly sales tax revenue data, provided by Culver City's Finance Department, was utilized to conduct a thorough analysis of business metrics across four regions of Culver City: citywide, Downtown, MOVE Culver City Corridor (MCC), and Main Street. The quarterly sales tax revenue data was made available from 2016 through the third quarter of 2022, with all values being converted to September 2022 dollars based on the Consumer Price index (CPI) to account for inflation and facilitate a more comprehensive analysis of revenue changes over time. It is important to note that this analysis primarily focuses on the comparison between 2019 and 2022 sales tax revenue data, given that overall spending and revenue trends in 2020 and 2021 do not accurately reflect a stable economic environment or typical spending habits due to the COVID-19 pandemic and the long-term impacts of Los Angeles County's "Safer at Home" directive.

Data Source: Culver City's Economic Department

Remote Work Analysis:

Data from the U.S. Census Bureau 2017-2021 American Community Survey 5-Year Estimates, and 2015-2019 American Community Survey 5-Year Estimates, Commuting Characteristics by Sex tables were used to determine the percent of residents in Culver City that work from home. The 2021 dataset is the most recent dataset available from the U.S. Census on commuting characteristics.

Data Source: U.S. Census Bureau

D: POST-PILOT DATA TABLES

MOVE Culver City Corridor and Culver CityBus Systemwide Average Weekday Ridership | 2017 to 2022

Year	Average Weekday Ridership in Fall		Average Weekday Ridership in Fall (compared to 2019)	
	MOVE Corridor	Culver CityBus	MOVE Corridor	Culver CityBus
2017	1,747	16,974	106%	104%
2018	1,541	15,716	94%	97%
2019	1,645	16,248	Baseline	Baseline
2020*	800	5,128	49%	32%
2021	909	8,528	55%	52%
2022	1,326	10,104	81%	62%

The table above shows the average weekday ridership in fall for the MOVE Culver City corridor and the Culver CityBus system for 2017 through 2022. Additionally, the table also shows the ridership data expressed as a percentage of 2019 ridership in order to compare the rate of post-pandemic ridership recovery between the project corridor and the system as a whole.

Due to data availability, ridership is shown here as an average for weekdays in fall. MOVE Culver City corridor ridership is calculated by counting (using the automatic counters on bus) the passengers on board when the bus enters the corridor plus the passengers that board at stops along the corridor. Corridor segment ridership requires a more granular dataset, and for years prior to 2020, this data is only available as an average by day type (i.e., weekday, Saturday, or Sunday/Holiday) for the fall service schedule. The fall service schedule typically takes effect on the second Monday in September and ends on the first Monday in January. The data is shown as a daily average to account for differences in the length of each schedule period. This is an industry standard practice that allows for comparison of ridership trends across different years.

To compare MOVE Culver City corridor ridership to the Culver CityBus systemwide ridership, it is necessary to use data from the same service schedule and day type. As such, the above table shows average weekday ridership for the September service period for each year shown for the Culver CityBus system. Systemwide ridership is inclusive of ridership along the MOVE Culver City corridor.

* Beginning of COVID-19 pandemic-related ridership decrease nationwide.

Data Source: City of Culver City (APCs)

Culver City Line 1C1 Downtown Circulator Ridership | 2021 to 2022

Line CCB1C1 Downtown Circulator Ridership					
Month	Total Boarding	Average Daily	Weekdays	Saturday	Sunday
November 21	34	4	5	1	2
December 21	344	11	11	9	15
January 22	405	13	15	13	7
February 22	555	20	23	14	10
March 22	672	22	25	10	16
April 22	647	22	23	13	24
May 22	599	19	22	12	16
June 22	669	22	24	22	14
July 22	814	26	31	13	14
August 22	1,359	44	46	39	33
September 22	1,217	41	49	17	20
October 22	1,969	64	80	37	22
November 22	1,795	60	71	34	26
December 22	1,647	53	65	30	26

Data Source: City of Culver City (APCs)

Bicycle Volumes

Average Daily Bicycle Volumes													
Intersections	Nov 19	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22
Culver/Main	165	378	319	268	315	233	373	398	463	403	489	385*	234*
Washington/National	375	405	328	318	308	343	439	548	515	n/a	402	262*	173*
Washington/Cattaraugus	n/a	n/a	142	288	210	n/a	150	220	218	n/a	305	167*	143*

Data Excluded: For Washington Blvd/National Blvd, all data except for September 2022 is included. For Washington Blvd/Cattaraugus Ave, data from November 2019, January 2022, May 2022, and September 2022 has been excluded.

*Bicycle volumes were collected on November 4th, 5th, and 10th, 2022 and on December 22nd and 24th, 2022. Due to rainy weather conditions on November 10th and days close to or on the December holiday, November and December 2022 bicycle volumes may not be reflective of typical weekday and weekend bicycle activity.

Data Source: City of Culver City (Manual Peak Hour Counts via GRIDSMART Video Recording)

Pedestrian Volumes

Average Pedestrian Volumes by Month															
Intersection	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22
Culver/Main	2,931	2,709	1,991	3,502	3,801	3,183	4,002	4,810	4,419	4,664	4,603	3,946	4,274	4,032	3,502
Washington/Cattaraugus	451	324	217	301	321	398	372	339	-	365	366	284	269	215	217
Washington/Ince	743	-	-	469	244	300	626	369	731	1,031	1,011	878	932	725	623
Washington/Wesley	758	-	-	644	789	772	783	804	821	791	804	737	809	694	622
Washington/Helms	-	454	357	460	519	544	575	646	643	520	535	482	490	381	319
Washington/National	-	829	753	766	854	1,054	1,218	1,408	1,434	1,462	1,446	1,329	1,392	1,223	1,067

Average Pedestrian Volumes by Day (2022)							
Intersection	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Culver/Main	4,758	3,567	4,919	4,010	4,220	4,829	4,958
Washington/Cattaraugus	195	277	271	308	251	235	749
Washington/Ince	792	830	1,060	962	990	844	860
Washington/Wesley	658	767	818	839	887	744	1,165
Washington/Helms	446	471	498	491	503	491	955
Washington/National	1,082	1,084	1,561	1,482	1,604	1,306	1,470

Data excluded: All intersections have data excluded on 8/10/2022, due to the Walk n Roll community event, as well as for 12/24/2022 and 12/25/2022, in observance of Christmas Eve and Christmas Day. In addition, Culver Boulevard/Main Street will have missing data for the following periods: 6/19/2022 - 6/28/2022, 7/2/2022 - 7/20/2022, 11/7/2022 - 11/8/2022, and 11/24/2022. Washington Boulevard/Cattaraugus Avenue will have missing data for the month of June 2022. Washington Boulevard/National Boulevard excludes 2/19/2022 - 2/21/2022.

Data Source: GRIDSMART cameras

Vehicle Volumes:

Average Weekday AM & PM Peak Hour Traffic Volumes (EB/WB) by Month

AM Peak Hour Traffic Volumes (EB/WB) (8:00 am – 9:00 am)													
Intersection	Sep 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22
Culver/Main	734	735	786	782	955	965	565	926	1,044	1,185	1,080	801	673
Washington/Ince	1,141	592	659	767	797	829	761	701	-	-	-	-	-
Washington/National	-	1,013	994	1,242	1,104	1,129	1,155	1,133	1,135	1,131	1,205	1,360	1,230
Washington/Wesley	1,423	952	1,023	1,076	1,066	1,090	991	938	960	1,008	1,045	955	823
Washington/Helms	-	927	1,126	994	889	892	910	900	955	980	1,000	1,080	882
Washington/Cattaraugus	1,299	954	1,035	1,161	1,072	1,119	299	958	1,071	1,038	1,112	1,009	912

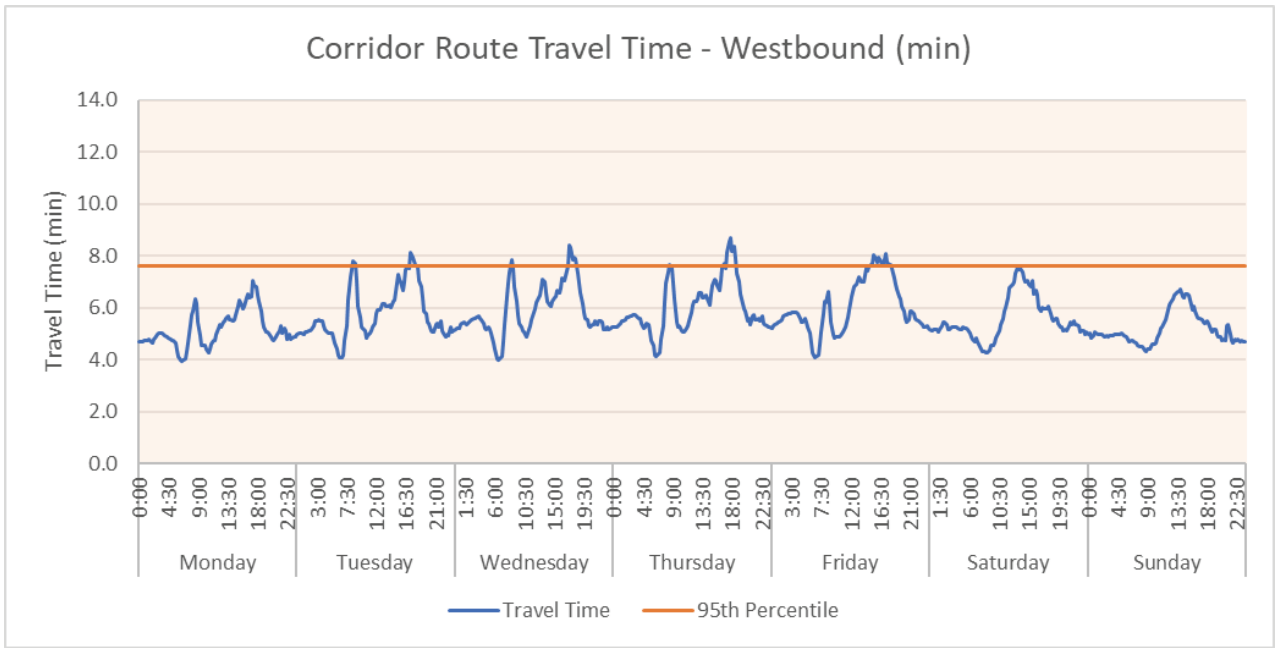
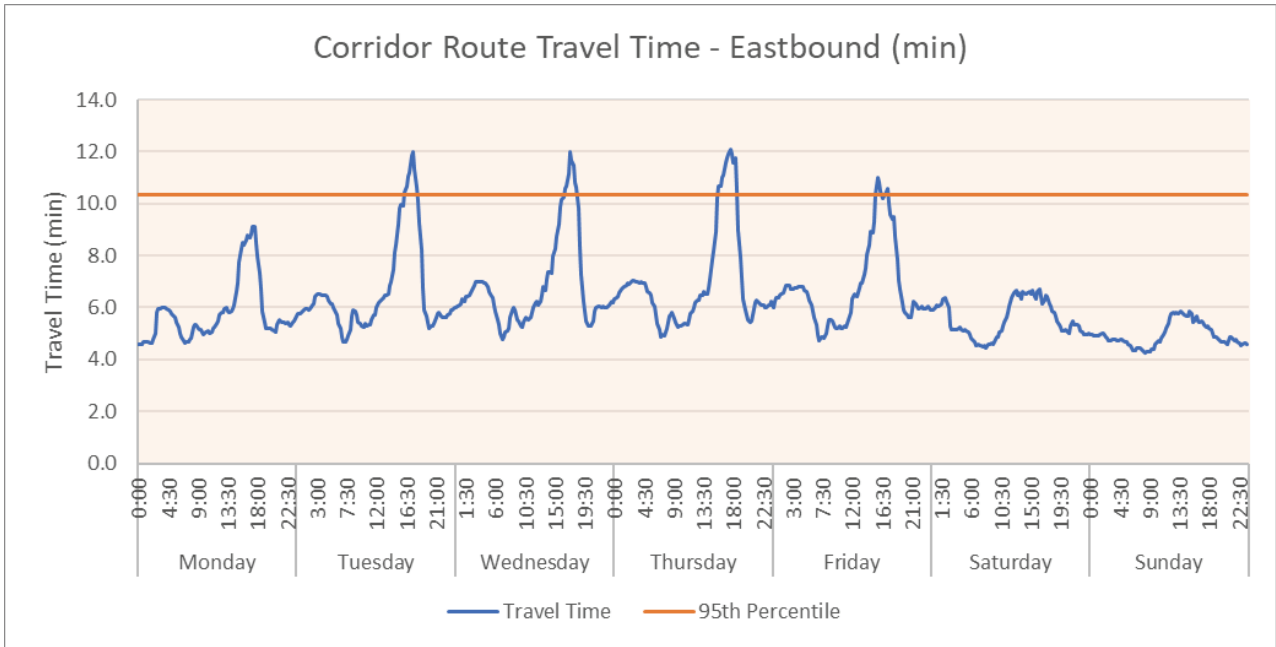
PM Peak Hour Traffic Volumes (EB/WB) (4:30 pm – 5:30 pm)													
Intersection	Sep 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22
Culver/Main	1,157	891	990	1,037	1,178	1,139	667	1,131	1,131	1,112	1,128	969	1,011
Washington/Ince	669	737	744	827	879	922	948	909	-	-	-	-	-
Washington/National	-	1,171	1,093	1,493	1,400	1,390	1,406	1,384	1,475	1,470	1,504	1,385	1,389
Washington/Wesley	1,457	1,119	1,109	1,145	1,186	1,242	1,263	1,243	1,302	1,213	1,253	1,099	1,096
Washington/Helms	-	1,127	1,128	1,198	1,233	1,275	1,319	1,225	1,358	1,231	1,233	1,128	1,132
Washington/Cattaraugus	1,446	1,081	982	1,151	1,097	889	697	1,158	1,223	1,145	1,166	1,067	1,089

The tables above show the average weekday AM and PM peak hour traffic volumes for each month in 2022 at six intersections with detection cameras installed. The average eastbound and westbound traffic volumes are combined so the values represent the total vehicles on the MOVE Culver City corridor.

Data excluded: September 2019 excludes Culver Boulevard & Main St. Westbound AM and PM Peak Hour data. Culver Boulevard & Main Street: 1/16, 1/31, 6/15-6/16, 6/18-6/29, 7/2-7/20. Washington Boulevard & National Boulevard: 2/19 - 2/21. Washington Boulevard & Cattaraugus Avenue: June 2022 Westbound Data. Washington Boulevard & Ince Boulevard: August - December 2022.

Data Source: GRIDSMART cameras

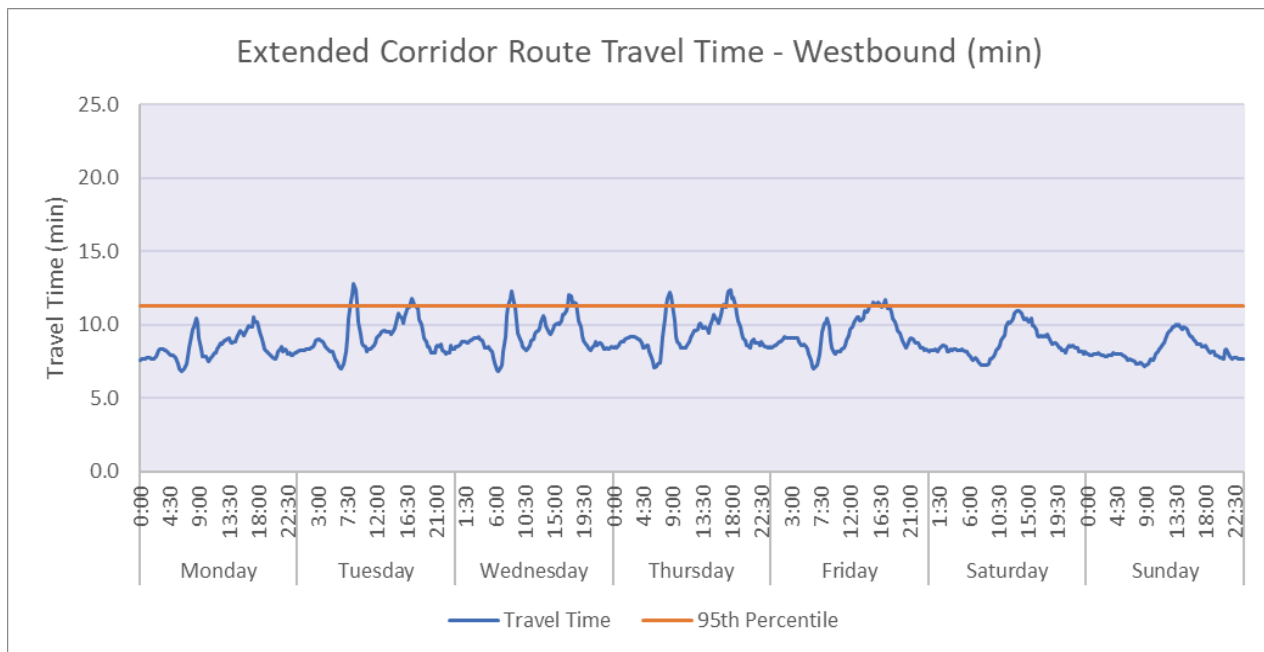
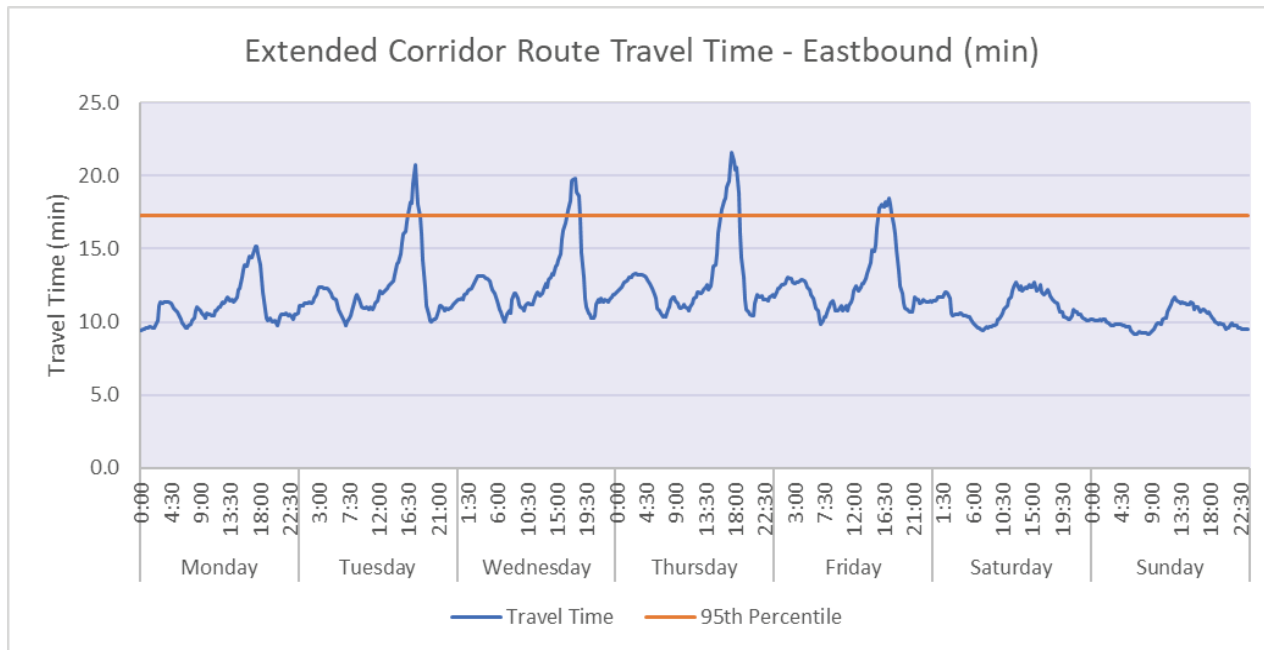
Vehicle Travel Time – 95th Percentile Frequency:
MOVE Culver City Corridor: Culver Blvd/Duquesne Ave to Washington Blvd/La Cienega Ave



The graphs above show during which days of the week and which hours of the day vehicle travel times on the MOVE Culver City Corridor exceeded the 95th percentile travel time in 2022. All data from 2022 was averaged by hour to produce a typical week in the eastbound and westbound directions.

Data Source: Inrix, Waze

**Vehicle Travel Time – 95th Percentile Frequency:
Extended Corridor: Culver Blvd/Overland Ave to Washington Blvd/Fairfax Blvd**



The graphs above show during which days of the week and which hours of the day vehicle travel times on the Extended Corridor exceed the 95th percentile travel time in 2022. All data from 2022 was averaged by hour to produce a typical week in the eastbound and westbound directions.

Data Source: Inrix, Waze

MOVE *Culver* **CITY**