CITY OF SOUTH PASADENA
MOBILITY AND TRANSPORTATION INFRASTRUCTURE COMMISSION
REGULAR MEETING AGENDA

TUESDAY OCTOBER 15, 2024 at 6:30 p.m.
CITY COUNCIL CHAMBERS
1424 MISSION STREET, SOUTH PASADENA, CA 91030

South Pasadena Commission Statement of Civility

As your appointed governing board, we will treat each other, members of the public, and city employees with patience, civility and courtesy as a model of the same behavior we wish to reflect in South Pasadena for the conduct of all city business and community participation. The decisions made today will be for the benefit of the South Pasadena community and not for personal gain.

NOTICE ON PUBLIC PARTICIPATION & ACCESSIBILITY

The South Pasadena Mobility and Transportation Infrastructure Commission Meeting will be conducted in-person from the Council Chambers, Amedee O. "Dick" Richards, Jr., located at 1424 Mission Street, South Pasadena.

The meeting will be available:

- In Person – City Council Chambers, 1424 Mission Street, South Pasadena, CA 91030
- Via Zoom – **Webinar ID: 837 1462 5859**

To maximize public safety while still maintaining transparency and public access, members of the public can observe the meeting via Zoom in one of the three methods below.

1. Go to the Zoom website, https://zoom.us/join and enter the Zoom Meeting information; **or**
2. Click on the following unique Zoom meeting link: https://us06web.zoom.us/j/83714625859
3. You may listen to the meeting by calling: +1-669-900-6833 and entering the Zoom Meeting ID (837-1462-5859)

CALL TO ORDER:	Chair Hughes
ROLL CALL:	Chair Hughes Commissioner Fisher Commissioner Dunlap Commissioner Hammond Commissioner Abelson
CITY COUNCIL LIAISON:	Mayor Evelyn Zneimer
STAFF PRESENT:	Ted Gerber, Public Works Director ("PWD") and, Phillip Tran, Management Analyst ("PWMA")
PLEDGE OF ALLEGIANCE:	Commissioner Abelson

PUBLIC COMMENT AND SUGGESTIONS ***(****Public Comments are limited to 3 minutes****)*** The MTIC welcomes public input. If you would like to comment on this agenda item, members of the public may participate by means of one of the following options:

Option 1: Participants will be able to "raise their hand" using the Zoom icon during the meeting, and they will have their microphone un-muted during the comment portion of the agenda to speak for up to 3 minutes; or

Option 2: Email public comment(s) to: mticpubliccomments@southpasadenaca.gov. **Public Comments received in writing will not be read aloud at the meeting but will be part of the meeting record.** Written Public Comments will be uploaded online for public viewing under Additional Documents. There is no word limit on emailed Public Comment(s). `

Please make sure to indicate:
1) your name (optional)
2) what agenda item you are submitting public comment on, and/or
3) Submit by no later than 12:00 pm., on the day of the Commission meeting.

NOTE: Pursuant to State law, the Commission may not discuss or take action on issues not on the meeting agenda, except that members of the Commission or staff may briefly respond to statements made or questions posed by persons exercising public testimony rights (Government Code Section 54954.2). Staff may be asked to follow up on such items.

PUBLIC COMMENT

1. PUBLIC COMMENT – GENERAL

ACTION/DISCUSSION

2. REVIEW OF FREMONT / HUNTINGTON PROJECT

Recommendation

It is recommended that the Commission review and provide feedback on the planning progress of the Fremont/Huntington Project.

3. APPROVAL OF MINUTES OF REGULAR MTIC MEETING ON SEPTEMBER 17, 2024

Recommendation

It is recommended that the Commission review and consider approval of the September 17, 2024 Regular MTIC Meeting Minutes.

COMMUNICATIONS

4. CITY COUNCIL LIAISON COMMUNICATIONS

5. COMMISSIONER COMMUNICATIONS

6. STAFF LIAISON COMMUNICATIONS

ADJOURNMENT

FOR YOUR INFORMATION

FUTURE MOBILITY AND TRANSPORTATION INFRASTRUCTURE COMMISSION MEETINGS

November 19, 2024	Council Chamber	6:30 P.M.
December 17, 2024	Council Chamber	6:30 P.M.
January 21, 2024	Council Chamber	6:30 P.M.

PUBLIC ACCESS TO AGENDA DOCUMENTS AND BROADCASTING OF MEETINGS

Commission Meeting agenda packets are available online at the City website: https://www.southpasadenaca.gov/government/boards-commissions/mobility-and-transportation-infrastructure-commission

ACCOMMODATIONS

The City of South Pasadena wishes to make all of its public meetings accessible to the public. If special assistance is needed to participate in this meeting, please contact the City Clerk's Division at (626) 403-7230. Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities. Notification at least 48 hours prior to the meeting will assist staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting (28 CFR 35.102-35.104 ADA Title II).

I declare under penalty of perjury that I posted this notice of agenda on the bulletin board in the courtyard of City Hall at 1414 Mission Street, South Pasadena, CA 91030, and on the City website as required by law.

10/10/2024 /s/

Date Phillip Tran, Public Works Management Analyst

ITEM 2

Review of Fremont/Huntington Project

Mobility and Transportation Infrastructure Commission Agenda Report

ITEM NO. _2_

DATE: October 15, 2024

FROM: H. Ted Gerber, Director of Public Works

SUBJECT **Review of Fremont / Huntington Project**

Recommendation
It is recommended that the Mobility and Transportation Infrastructure Commission (MTIC) review the Fremont, Fair Oaks, & Huntington Drive Conceptual Design Memorandum, discuss the concepts related to the Fremont / Huntington Project, and provide general recommendations and advisement related to staff's project direction.

Background & Discussion
The objectives of the City of South Pasadena Fremont / Huntington Project are to utilize two funding sources: the Measure R Mobility Improvement Project (MIP) funding ($10M) and Measure M Metro Active Transportation (MAT) Program funding ($6.056M), both to implement Transportation System Management (TSM) / Transportation Demand Management (TDM) improvements including traffic signal and system upgrades, intersection improvements, and Intelligent Transportation System (ITS) installations.

The Measure M MAT grant was intended to focus on improving infrastructure for pedestrian and bicycle travel, while the Measure R MIP grant was intended to focus on improving the infrastructure for vehicular travel by focusing on geometric changes to different intersections. Further opportunities for multi-modal improvements under these grant programs have come about since their initial inception.

Initially the proposed modifications under the grant funding sources included improvements such as bicycle facilities, bicycle detection systems, bicycle routes, curb ramp improvements for safer pedestrian crossings, curb extensions, high visibility crosswalks that include flashing beacons, refuge island crossings, and other pedestrian enhancements such as flashing beacons, as well as street fixtures like bus benches, trash receptables, and bus shelters.

With the broad application criteria for the grants, and the many opportunities for improvements along Fremont Avenue and Huntington Drive, the City of South Pasadena retained Toole Design Group as a consultant to provide design direction and prioritization for the Fremont and Huntington corridors through a comprehensive community charrette process. From a complete planning perspective, City staff and the design consultant included the Fair Oaks corridor in the planning process, given its relation to the Fremont and Huntington corridors. The consultant report (attached) summarizes the evaluation, community input, design development, and recommendations associated with this project, emphasizing the rationale tradeoffs, and values-based approach the community requested. The consultant's design direction and recommendations are based on the values, aspirations, and desired roles for the streets as provided by City staff, input from officials, stakeholders, and the public during the charrette and

study process. These factors were essential, in addition to considering the local context of the improvements, neighborhood equity, best practices, and the State of California's expressed goal to reduce vehicle-miles-traveled (VMT).

With the initial community outreach process complete, and the final draft design memorandum provided, the planning phase of the project is drawing to a close, and the City is preparing the next steps towards environmental approval and design. During the presentation of this item, staff will review the design memorandum (Attachment) with the Commission, discuss the subsequent design process and community involvement milestones, and gather feedback from the Commissioners.

Attachments

1. Fremont, Fair Oaks, & Huntington Drive Conceptual Design Memorandum

ITEM 2

Attachment TDG Memo

TOOLE DESIGN

Fremont, Fairoaks & Huntington Drive

City Of South Pasadena

ACKNOWLEDGEMENTS

STAFF TEAM

Andrea Ostrodka, *Complete Streets, Transit Planning and Urban Design*

Ian Lockwood, *Complete Streets, Transportation Engineering, Urban Design*

Bonnie Moser, *Urban Design and Placemaking*

Alex McKeag, *Complete Streets and Urban Design*

Eric Childs,Urban Design and the Public Realm

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Adam Vest, *Transportation Engineer and Multimodal Safety*

PREPARED BY

Toole Design Group

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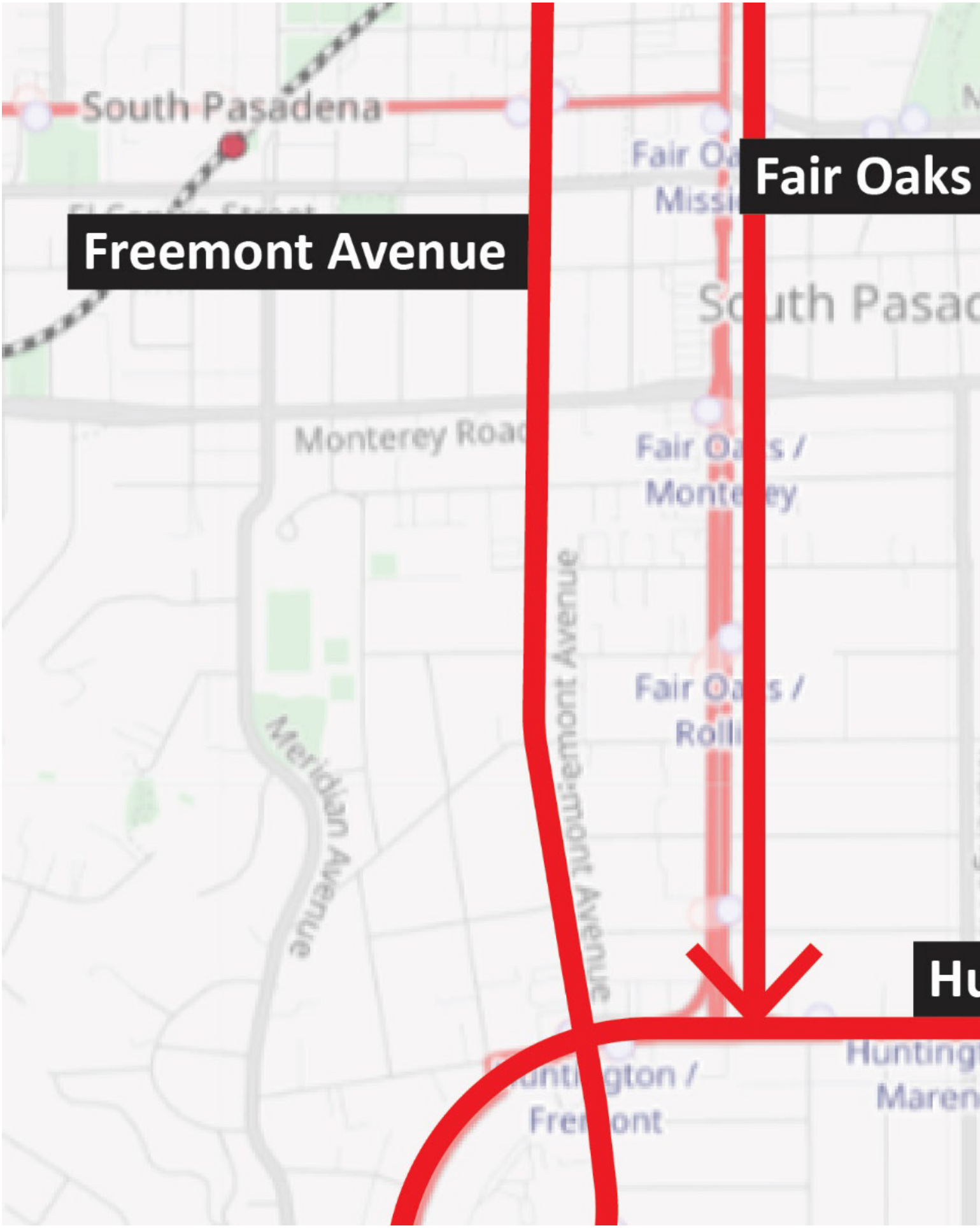
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Fair Oaks
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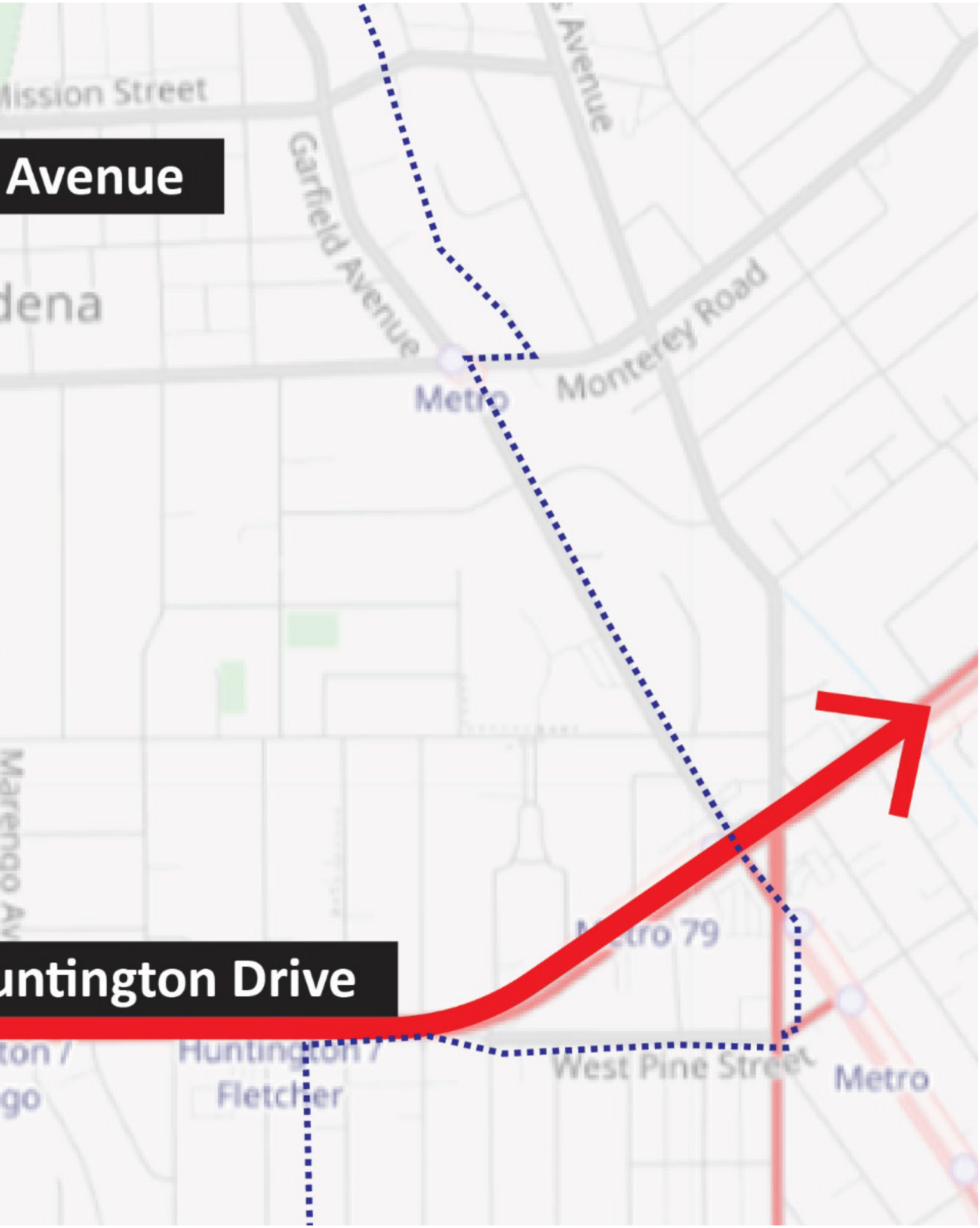
Meridian Avenue
Fremont Avenue


Avenue
Mission Street
Garfield Avenue
Monterey Road
Metro
untington Drive
West Pine Street
Metro

INTRODUCTION

01

City of South Pasadena

The City of South Pasadena (population 26,000) retained Toole Design to provide design direction for the city's three busiest arterial streets: Fair Oaks Avenue, Huntington Drive, and Fremont Avenue. This report summarizes the evaluation, community input, design development, and recommendations associated with this project, emphasizing the rationale tradeoffs, and values-based approach the community requested.

While the process, values and overall approach section in these memoranda are similar, as these aspects were generally the same for each street, each memorandum focuses on only one street as the projects related to each street follow different timelines, funding mechanisms, etc. This memorandum focused on Huntington Drive.

Design direction and recommendations are grounded in:

1. the values, aspirations, and desired roles for the streets as provided by City staff
2. Inout from officials, stakeholders, and public during the study process;
3. the local context;
4. equity;
5. best practices;
6. the State of California's expressed goal to reduce vehicle-miles-traveled (VMT).

Figure 1: Intersection at Fremont Avenue & Mission Avenue

STUDY / CHARETTE PROCESS

02

Charette Process

The City and Toole Design originally considered studying the three arterials sequentially in three separate studies. This would have resulted in duplicated public and stakeholder outreach efforts. To save time, reduce costs, and increase the overall effectiveness of the process, the three studies were combined into one. This combined process also reduced "meeting fatigue" for everyone involved.

An eight-person design team was formed to undertake the study. Six of the designers were divided into three, two-person teams, with one team dedicated to each street. The remaining two team members, the team's most senior designers, worked on all three streets. The work for the study was conducted at a temporary studio provided by the City at the South Pasadena Public Library on Oxley Street. All the needed maps, past studies, key City staff, and design team members were together in this shared space, allowing for maximum collaboration. The studio's location also allowed for easy field visits and convenient access for stakeholders and the public to participate in various meetings and open studio hours. Furthermore, there were a variety of pin-ups during which the project team and City staff members discussed the individual streets, the three streets together, and the general transportation issues facing the city and L.A. County.

A "two-phase charrette" design process was used. The first phase was the "discovery phase" that focused on:

- learning about the streets from reports, maps, stakeholders, City staff, and members of the public;
- site visits, and
- developing "starter ideas."

The second phase was the "design phase," during which the preliminary concepts were discussed, altered, and refined, and became final recommendations. The two phases were scheduled a few weeks apart. During those in-between weeks, additional stakeholder involvement occurred, and the starter ideas evolved into preliminary concepts.

A variety of means were used for stakeholder involvement, including public meetings, receiving emails, stakeholder meetings with groups and individuals, and open studios hours during which people could come in and informally discuss any topic and any street with the design team. The participatory nature of the process resulted in two-way communication and feedback loops between participants, which helped shape and reshape the designs until an informed consensus was achieved. The process creating a shared understanding of challenges and feasible changes that will help the city evolve the streets in accordance with the community's values and vision. The design concepts were completed in late 2023 and received public support. Concepts were advanced to provide as much detail as possible such that in subsequent processes they could be furthered in a manner that preserves the intent for the city and the specific direction of the streets.

Figure 2: Charette Process including site walks, open house, workshops, and stakeholder interviews

CONSENSUS FOR A HOLISTIC SOLUTION

03

Consensus for a Holistic Solution

L.A. County's traffic problems have a national reputation. For seven decades, the County, the 88 cities that comprise it, CALTRANS, FHWA and other transportation organizations have spent billions of dollars on conventional transportation strategies, attempting to solve traffic congestion, increase motor vehicle speeds, and accommodate higher volumes of motor vehicles. Yet traffic problems worsened, quality of life dropped, kids could not safely walk to school, crashes increased, neighborhoods became divided and isolated, and businesses suffered.

The design team heard story after story about overly busy streets preventing residents from getting out of their own driveway, making it uncomfortable for children to walk to school, making it infeasible to cross the street and isolating whole neighborhoods. When asked if more conventional measures (e.g., adding lanes, reducing access, etc.) were needed to increase car-carrying capacity, the response was that the streets would fill up again, the problems would return, and the challenges would involve even more traffic. After 70 years of conventional strategies delivering poor outcomes, it was concluded that a different approach was needed.

There was general community consensus on the following issues:

1. too much traffic (mostly cut-through traffic with no origin or destination in the city);
2. excessive design speeds;
3. aggressive driving;
4. lack of comfortable pedestrian and cycling facilities, and
5. the past conventional solutions that had exacerbated problems.

Residents expressed a fear that changes to improve safety, livability, and multimodal mobility on Fremont, Huntington, and Fair Oaks would inadvertantly cause negative side effects on other streets.A holistic solution that addressed arterial streets city-wide was needed.

> "We cannot solve out problems with the same thinking we used when we created them"
>
> - Albert Einstein

Figure 3: Existing Pedestrian Crossing at Huntington Drive

THE HOLISTIC SOLUTION - TRAFFIC REDUCTION

04

The Holistic Solution – Traffic Reduction

The process, discussions, ideas, feedback loop and considerations all coalesced around a consensus–a city-wide "traffic reduction" was needed. Traffic reduction is also known as a "vehicle-miles-traveled (VMT) reduction." This is achieved by making a combination of changes summarized in the "Universal Equation for Land Use and Transportation Planning," shown in Figure 1. For South Pasadena, these changes include integrated land use and transportation changes. In total, there were six city-wide recommendations that rose to the top as the right combination for South Pasadena:

1. reduce car-carrying capacity on all of the affected arterial and collector streets via road diets;
2. provide a consistent car-carrying capacity along the streets to avoid bottlenecks in the city;
3. use traffic calming/speed reduction measures to achieve maximum speeds of 25 mph;
4. use the reclaimed space in the rights-of-way for separated bike facilities, wide sidewalks, transit infrastructure, and street trees;
5. encourage land use mixes and densities such that people can find most of their daily and weekly needs nearby (i.e., in the neighborhood, in South Pasadena, or close by), to reduce average trip lengths; and
6. encourage walking and cycling for shorter trips, and transit for long trips.

While the focus of this effort was limited to South Pasadena, it was observed that similar benefits could be achieved across the region were other municipalities to adopt similar strategies.

Figure 4: Intersection at Huntington Drive & Fremont Avenue

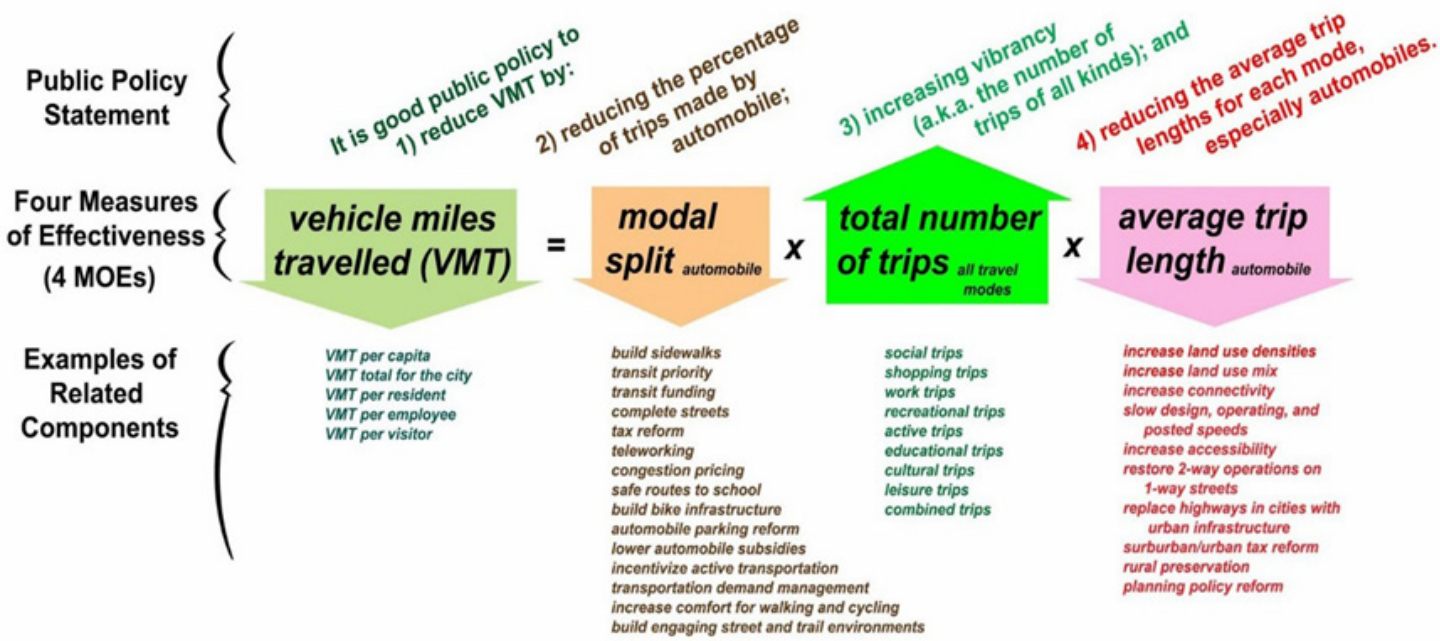


Figure 5: The Universal Equation for Reducing Vehicle Miles Traveled (VMT)

Reducing Vehicle Miles traveled, is how cities around the world successfully reduced their traffic volumes while increasing vibrancy (i.e., populations, social connectedness, and economy). Without exception, these cities first tried conventional strategies, starting after WWII, and, at some point, concluded:

1. that those strategies were harming their populations, community health, and economies; and
2. that holistic solutions were needed that reduced their traffic volumes city-wide.

Beginning in the 1970s, several cities pioneered strategies to reduce "vehicle miles traveled" by decreasing the modal split for motor vehicles and decreasing average trip lengths, while simultaneously increasing their vibrancy. Figure 5 shows several examples of changes involving land use, transportation, taxation, and policy changes, listed below the four variables.

PROOF OF CONCEPT

05

Figure 6: Before and After of a Street in Copenhagen

Figure 7: Before and After of a Plaza and Street in Copenhagen

Figure 8: Before and After of a Street in Copenhagen

Where does the traffic go?

People readily accept the idea that traffic volumes grow as car-carrying capacity is added because that is the pattern they have seen in L.A. County for 70 years. To many, it might seem odd that it is feasible for cities to reduce their traffic volumes. However, these same people readily acknowledge that lower traffic volumes would be desirable for many reasons. Fortunately, during the study process, South Pasadena residents were curious and open-minded. They wanted to see examples of traffic reduction and understand how it worked.

Traffic volumes in Cities are Adjustable

In the early 1970's, a few people in leadership positions in the City of Copenhagen, Denmark, noticed that the city had evolved to become car-dependent. Streets were dominated by motor vehicles, parking and congestion problems were the norm, and motor vehicle use had created unsafe and unhealthy places. Their car-centric transportation system was expensive, polluting, and killing too many people through collisions. At the time, the conventional transportation paradigm dominated public policy, cars were highly popular, and attitudes about the necessity of such car use were bullish. Seeking a different outcome, the city reprioritized their transportation funding, increased public awareness, changed public policy, and implemented a variety planning and design measures. Over about decade, the city emerged from car-dependency into a model city for multimodalism and sustainable planning.

Copenhagen could not afford to continue with car-dependency. Pedestrian, bike, and transit infrastructure, combined with good land use and transportation planning, was far less expensive than conventional practices. "Traditional" practices (i.e., pro vibrancy practices such as slower speeds, connected streets, transit, land use proximities, etc.) brought trip ends closer together. That, combined with multimodal transportation options, resulted in an increase in social and economic exchange, and smaller environmental footprints, as per the Universal Equation.

During this project's charrette, three sets of before and after pictures illustrating what occurred during this transformation, were featured.

Copenhagen was not alone in this paradigm shift and transformation. Many European cities, large and small, made similar changes and many more continue on more sustainable trajectories to this day. The City of Paris, for example, has undertaken many similar measures over the last few decades. In 2016, Paris removed the Pompidou Expressway along the Seine River and converted it into a pedestrian space. There was an initial uproar from motor vehicle advocates and warnings of terrible resulting congestion. The terrible congestion did not happen. The city got better, air quality improved, and the waterfront flourished.

These days, Paris has an upcoming park and trail plan that that will permanently replace the temporary changes shown in Figure 9.

Though Paris has a long-standing reputation as a world-class city, its leaders are not complacent. They are concerned that Paris' level of car-dependency and its effects on air pollution and climate change are still excessive. To advance their sustainability values further, the number of car lanes on the Champs de Elysée will be reduced from eight to four, 6,000 car parking spaces will be removed, and through-traffic will be banned in the downtown.

This is despite the facts that the eight lanes and 6,000 parking spaces are highly used by motorists, and many motorists drive through the downtown every day.

In Europe, transportation professionals are comfortable with the reality that traffic demand, traffic volumes, VMT and other surrogates for "car use" is flexible and it can be increased or decreased by altering variables such as public policy, infrastructure decisions, subsidies, street design, and parking policy. They have applied these reforms in a variety of contexts–from small towns to big cities, from flat places to hilly places, and from winter cities to Mediterranean cities. Motorists complain as their dominance is reduced through road diets, traffic calming and congestion pricing. However, every time populations adapt, cities get better, and people are generally happier, healthier, and better off. In North America, conventional traffic engineers mistakenly assume traffic volume is analogous to an incompressible fluid that must go somewhere. It is a "demand" that requires accommodation and for society to comply and adapt to it.

Figure 9: Before and After Images of the Waterfront Along the Seine River in Paris

Traffic volumes are Adjustable in North American Cities Too

In 1988, the Embarcadero Freeway in San Francisco had an Annual Daily Traffic Volume (ADT) of more than 100,000. The Freeway was destroyed in the Loma Prieta Earthquake in 1989 and a lengthy debate about whether it should be rebuilt followed. CALTRANS' traffic model predicted terrible traffic congestion without the highway. According to the model, the freeway was needed to meet the predicted "demand." However, the bump in congestion that resulted after the highway was destroyed was short-lived, as people quickly adapted. Eventually, the debate over the highway reconstruction took long enough that it became clear that the city didn't need the highway and would likely be better off without it. And it was.

Where did the traffic go? Some motorists used other streets. Some people used BART. However, about half of the traffic volumes seemed to evaporate and could not be accounted for. Over the last 30 years or so, the enormous traffic volumes never came back. A boulevard was built with a streetcar line in the center, along with wide sidewalks and increased connectivity. New housing development and jobs were attracted to the formally car-dominated area. Trip-making increased but traffic volumes did not. The key was a reduction in long-distance car trips and an increase in walking, bike, and transit trips (as per the Universal Equation).

Social and economic exchange occurred more effectively and more efficiently without the highway. CALTRANS' model was wrong.

In the mid-1990s, the arterial streets in downtown West Palm Beach were congested despite decades of widening arterials, increasing design speeds, and synchronizing the traffic signals. The city suffered from rampant disinvestment.. About half of the buildings in the downtown had been torn down or were vacant. 80% of the buildings on the main shopping street, Clematis Street, were vacant. Elsewhere downtown, entire city blocks were vacant land. The City proposed conducting road diets on the arterial streets, beautifying the city, and infilling the vacant lots with five and ten story mixed-use buildings.

Figure 10: Downtown San Fransico Before and After the Earthquake

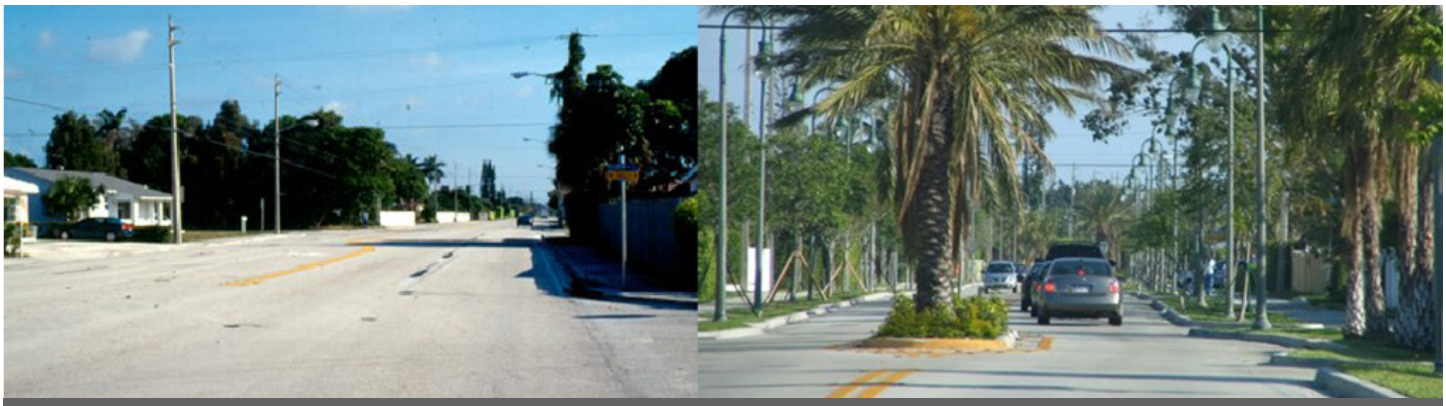


Figure 11: Before and After a Road Diet of a Five-Lane Arterial in West Palm Beach

Palm Beach County strongly objected to the proposed changes. They used the MPO's traffic model to "test" and evaluate the City's proposals. It predicted catastrophic congestion if the proposed buildings were built and catastrophic congestion if the proposed road diets were implemented. If both the additional buildings and the road diets were built and implemented, the model predicted the city would come to a standstill. The County felt that the arterial streets in the downtown needed widening to accommodate the increased traffic volumes from the proposed development.

Over the next few years, through good policy and strategic investment, the City turned itself around economically, attracted billions of dollars in private investment, built five to 10-story, mixed use, buildings on most of the vacant land, and implemented a series of road diets on the arterial streets in, and approaching, the downtown. Vacant buildings were restored and filled up with workers and residents. Congestion did not get worse–and the city became more prosperous.

The traffic model was wrong.

By the early 2010s, the City of South Bend had experienced decades of disinvestment in its downtown. Like West Palm Beach, South Bend had also widened, sped up, and one- wayed their downtown arterial streets. They had even begun building a ring highway around the downtown. The result was car-dependency, disinvestment, empty buildings, congestion, and surface parking lots. Then the City embarked on their Smart Streets Initiative. Through the initiative all the downtown's one-way streets were restored to two-way and arterial streets were dieted and turned into complete streets. Hundreds of millions of dollars of private investment flowed into the downtown. New housing was built, and employment opportunities increased

To this day, the City continues its trajectory of removing car-carrying capacity from arterial streets and redesigning them to be increasingly multimodal/complete streets. And the city continues to get better. Before the initiative began, a contingent of conventional transportation engineers predicted terrible congestion and "proved" with their traffic models that the two-way restorations and road diets would fail. They were wrong.

Figure 12: Before and After Trandformation of a Complete Street in South Bend

The measures that were taken in San Francisco, West Palm Beach, and South Bend all align with the Universal Equation. The traffic models failed because their highest value is travel time for motor vehicles They are the wrong models to follow when envisioning a transformation away from car-dependency. These transformations require planning decisions. The correct method is to choose a model city, like Copenhagen, Paris, or any other city or cities that have already achieved that paradigm shift.

To achieve the community vision, South Pasadena needs to emulate these model cities in a manner that suits the local context. The common denominator for all these cities is that they followed some version of the Universal Equation. Consequently, it is recommended that South Pasadena use the Universal Equation as a litmus test for transportation and land use policies, planning, and decisions, and encourage neighboring cities to do the same.This is the change in thinking that will result in better outcomes.

How does Traffic Reduction work for Individuals?

Cities make changes, based on the Universal Equation, to position individuals to make rational decisions that serve their self-interest, but that are also good for the city, society, and the environment. Not every individual in the aforementioned six cities changed modes or shortened their trips lengths - personal circumstances dictate that there will be a range of behavior. However, enough people made different decisions in the six cities such that each of the cities got better. There are generally eight categories of change available to individuals, shown in Figure 13.

Drivers can change routes and shift travel schedules. They can chain previously separate trips togethe. Some drivers will change modes. By making South Pasadena's arterials into complete streets, there will be significant increases in active transportation. As land use changes (i.e., new businesses, infill housing, etc.) occur, many trips will shorten as people are increasingly able to access what they need on a daily and weekly basis at closer distances.

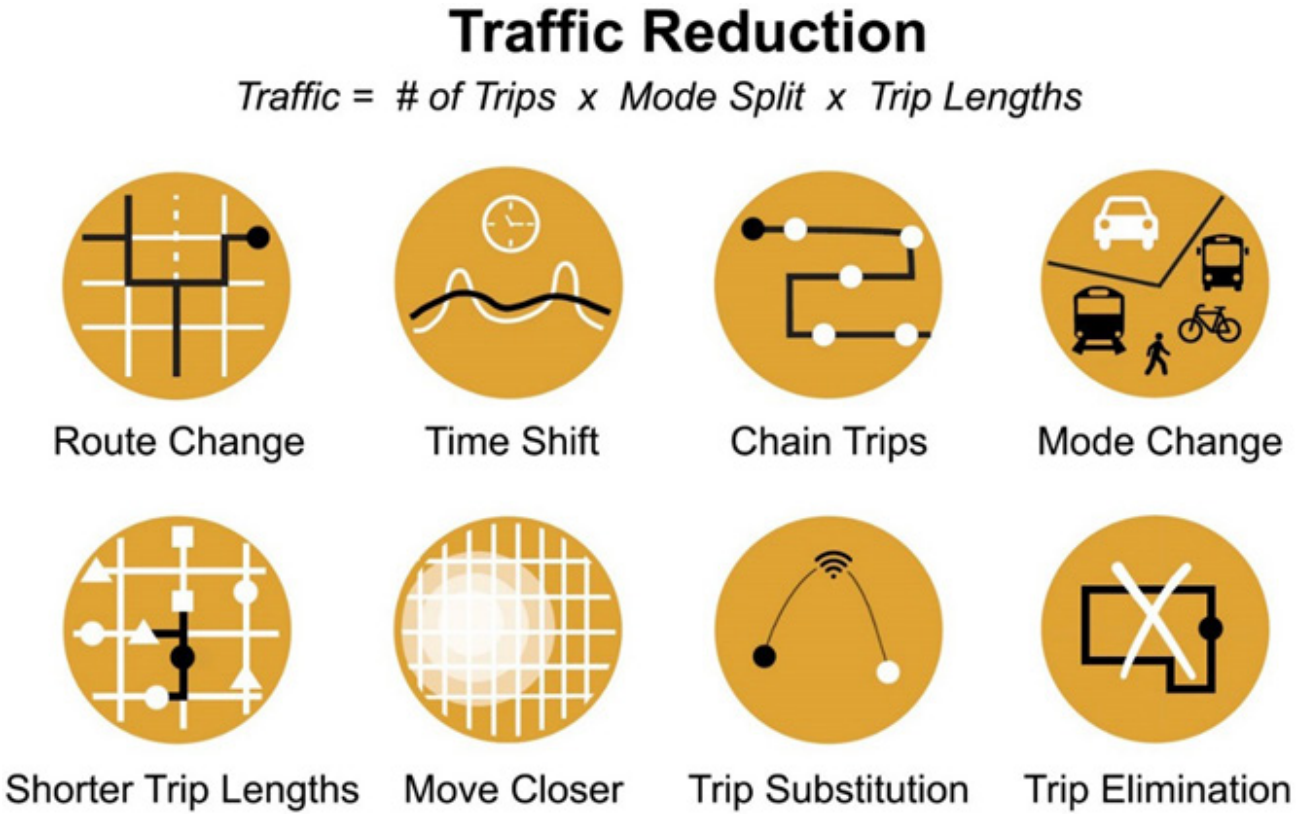


Figure 13: Categories of Changes Available to Individuals

With a change of priorities to more sustainable behaviors, "trip substitution" will grow. Instead of driving to some location to achieve a particular trip purpose, a substitute trip will occur. For example, rather than attending a meeting in person, a virtual meeting will occur using a smartphone or computer. These trip substitutions are already occurring and have increased in popularity since the pandemic. Finally, some trips will be eliminated. For example, instead of driving to a place to ride a bike or take a walk, people can begin their bike ride in their neighborhood, and enjoy walks that involve formerly hostile streets like Fair Oaks Avenue and Huntington Drive.

GENERAL RECOMMENDATIONS

06

General Recommendations

Some important best practices that had broad applicability in South Pasadena were recommended. Including:

1. Ensure that the "Purpose and Need" statements for projects align with the Universal Equation and avoid conventional (i.e., automobile-centric) language. Purpose and need statements set the trajectory for projects. If they do not align with the Universal Equation and community vision then the outcomes will be undesirable. Figure 14 shows some examples.

2. Avoid 4-lane cross sections where left turns are made form the left through lane. Use three-lane streets instead (i.e., one lane each way and a center turn lane). Three-lane streets are safer and more comfortable than four-lane streets, due to
   - less motor vehicle weaving;
   - better visibility (removes "double threat" problems);
   - more space for separated bike lanes, wider sidewalks, transit
   - infrastructure, and street trees;
   - more frequent pedestrian refuges, allowing easier and safer crossings; and
   - easier left turns into and out of driveways and perpendicular streets.

3. When full-time on-street parking is provided, place bulbouts at the ends of the parking rows and place a valley gutter between the parking row and the adjacent travel lane. For long blocks, use midblock bulbouts. Place a shade tree in every bulbout.

4. Develop a "framework street" map of the city, showing the primary fire routes. Ensure that fire equipment can turn from one framework street to another framework street without encroachment. Figure 15 shows a preliminary Framework Street Map.

	CONVENTIONAL WORDING	BETTER...
Problem Definition	Fight Congestion Increase Speed Move Traffic Improve Safety for *Vehicles*	Advance Community Priorities Make Places Increase Proximities Improve Safety for *Everyone*
Land Use Relationship	*[Missing]*	Integrated
Solution	Add lanes	Create multi-functional infrastrure Invest in Transit
Role and Capacity of Streets	To Move Traffic	Nurture Businesses Increase Exchange Function as Path *and* Place
Typical Outcomes	Lack of Identify Poor health Limited Options More Energy Use Car Dependency Less Vibrancy	Strong Identity Better health More Options + Transit Opportunities Less Energy Use and Emissions Economic Development More Vibrancy

Figure 14: Guidance on Purpose and Need Statements

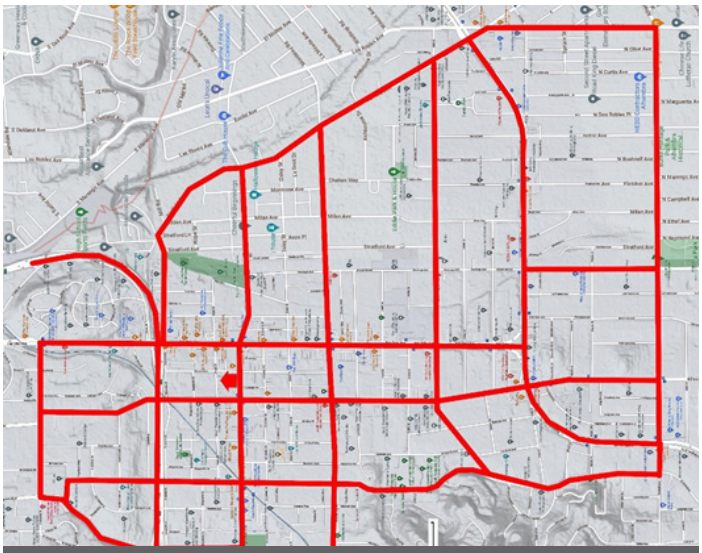


Figure 15: Framework Street/Fire Route Map

5. Use the Speed Management Matrix shown in Figure 16 to determine which traffic calming measures and which speed management measures are permissible on the framework streets and non-framework streets throughout the city. Use a combination of measures from the Traffic Calming and Speed Management Matrix to slow and self-enforce speeds to 25 mph on the framework streets and 25 mph or less on the non-framework streets.

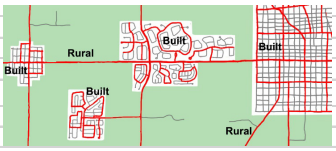
Add no new/additional car-carrying capacity to any street in the street network. The idea is to commit no additional conventional harm and focus all resources on holistic solutions. For example, there was some discussion about adding car- capacity to part of Orange Grove Avenue. That is not recommended because it is the wrong type of thinking. Like similar changes over the last 70 years, these changes give the illusion of helping but end up harming the area and contributing to the existing city-wide problem of too much traffic. Instead, it is recommended to reduce traffic, as per the holistic solution.

Self-Enforced Target Speeds & Speed Management Measures

(with due consideration for emergeny response)

Key for Column 1: Category of Speed
periodic traffic calming measure
cross-section traffic calming measure
highly accessible & slow facility types
traffic cotrol device

Key for Columns Below
generally not permissable
generally permissable



Framework Streets: cross-section traffic calming measures permitted

Non-Framework Streets: all traffic calming measures permitted

Category of Speed Management Measure	Speed Management Measures	Framework Streets (primary emergency routes)					Non-Framework Streets (not primary emergency route)	Notes
		R	Built Environments				Rural or Built	Rural/natural, Built Environment (suburban, urban, town, city...)
		≥40	40, 45	35	30	≤25	≤30 mph	Target Speed = Posted, Design, & Operating Speeds, at ≤ 45mph
	Transition Zone from/to higher speed environment[1]							
	Gateway Signs[1]							
	Entrance Features (architecture/landscaping)[1]							
	Coordinate traffic signals to discourage excessive speeds							
	Speed Limit Pavement Markings (usually in transition zones)[1]							
	Roundabouts[1]							can also be type of transition on its own
	Danish Roundabout							
	Roundel							
	Low-Speed Corner Radii							low speed corner raddi are generally R≤25'
	Lane Narrowing (a.k.a. part of "road dieting")[1]							
	Reduction in number of through lanes (a.k.a. part of "road dieting")[1]							
	remove right turn lanes[1]							
	remove left turn lanes[1]							
	Shoulder removal (a.k.a. part of "road dieting")[1]							
	Conventional Bike Lanes							FHWA: operating speed <= 20mph or ADT <= 2,000
	Buffered Bike lanes							FHWA: operating speed <= 30mph or ADT <= 6,000
	Shared Use Path, Trail							
	Seperated Bike Lanes							
	Horizontal Deflection, Splitter Island/ Lateral Shifts[1]							
	Introduce Curve[1]							
	Chicane[1]							
	Curb Extensions/Bulbouts							ends of parking rows, midblock, with chicanes & narrowings / pinch point , best with valley gutters & street trees
	Vertical Deflection / Speed Tables / Raised Crosswalks / Raised Intersections			*	*			* exceptions can be made for high pedestrian generators (e.g., schools, parks, community centers, etc.)
	Speed Feedback Sign[1]							
	Create Perception of Short Blocks, Mid-Block Crossings, Marked Crossing at Unsignalized Intersections[1]							
	RRFB/PHB							
	Median Islands at Crossings							
	Median Islands in Curve Sections							
	Long median / Continuous median							
	Street Trees, Continuous Wall Effect and Sense of Enclosure on Median Islands, Long Medians, and Medians in Curves[1]							with curb and gutter adjacent to travel or turn lane & tree diameter > 4" (measured 6" off the ground) place tree at minimum of 4' behind face of curb
	Flush Medians							
	Textured Surface/Paving							
	Terminated Vista							e.g., buildings, trees, art, natural views
	Buildings up to the Right-of-Way							
	Street Trees, Continuous Wall Effect, Sense of Enclosure on Edges[1]		*	**	**	**	**	with curb and gutter adjacent to travel lane & tree diameter > 4" (measured 6" off the ground) place tree: * 4' minimum behind face of curb, or 18" for reconstruction with existing plantings; ** 18" mimimum behind face of curb
	Curb and Gutter[1]							
	Curbless / Flush Streets							
	Shared Space							
	Two-Way Restoration							
	Pedestrian Scale Lighting[1]							
	On-Street Parking: Parrallel							
	On-Street Parking: Back-in Angled							
	On-Street Parking: Valley Gutters							used in conjunction with on-street parking and bulbouts
	On-Street Parking: Front-in Angled							
	On-Street Parking: Right Angle							operating speed < 20 mph
	Remove Lane Markings/Cues that Connote High-Speed (e.g., remove center lines on 2-lane streets)							usually with ADT <= 6,000
	Advisory Shoulders, Advisory Bike lanes							range from ADT <= 3000 (with lightly used shoulders) to ADT<= 1500 (with heavily-used shoulders)
	Yield Street							for ADT <= 1500
	Mini-Traffic Circles							
	Impeller							
	One-Lane Chicane (yield condition)							for ADT <= 3000
	Roundtop Speed Humps							
	Speed Cushions							
	Pinch Point							for ADT <= 3000

Notes:

1) Often used in transition zones (i.e., the space for to transitioning between high speed & low speed environments (e.g., between a Main Street in town & a rural highway out of town))

2) Exceptions can be made for measures, that are not currently permissable based on the colored square, if a good case can be made for the measures.

3) Measures may not be suitable in all situations as indicated as permissable, above. Consequently, good judgement is required.

4) Newly developed measures may not be in this matrix but the City/jurisdiction may experiment with them and, if suitable, be placed in this matrix.

5) A single measure is rarely effective; a combination is typically needed to achieve desired speeds, complete streets, better quality of life, & improved local economies.

6) An appropriate combination of measures requires collaboration, creativity, and judgement, and understanding of the context

Figure 16: Traffic Calming and Speed Management Table

SPECIFIC RECOMMENDATIONS

07

Specific Recommendations

The streets shown in blue in Figure 17 were in the original study scope. When the idea of a city-wide holistic solution came up midway during the charrette the streets shown in black in Figure 17 were added to the traffic reduction strategy. However, additional designers, base maps, and time were not added to the charrette. Consequently, the design team could only develop preliminary design directions for these streets, with a focus on the most important ideas, and recommend more detailed studies as next steps. The less detailed direction for these streets should in no way imply a difference in importance, compared to the original three streets. There is a consensus that addressing all the arterial streets is necessary for the holistic solution to succeed.

Note that the streets, shown in black,are the streets that:

1. needed to be part of the holistic solution; and
2. the design team had time to consider.

There are likely other streets that should be part of the holistic solution that were not identified in this effort. Garfield Avenue is a likely example. Updating this map with such streets, as they become identified, is recommended as a next step.

The streets shown in red are not arterial streets, but ones that residents identified as being highly impacted by motorists using the streets to save travel time while traveling from one arterial street to another. No specific traffic calming plans were prepared for these streets. However, addressing the cut-through traffic problems was considered a needed part of the holistic solution. As next steps, traffic calming plans for these streets need to be developed. Using the matrix in Figure 16 would assist in this endeavor. Note that these streets are non-framework streets and do not have significant emergency services roles. Consequently, a broader range of traffic calming measures are available for consideration. These measures are often less expensive than the “cross-section measures” that are needed on framework streets. More detail is available in Figure 16. There may be other non-framework streets, besides those indicated in red, that are negatively affected by excessive speeds and cut-through traffic. Updating this map with such streets as they become identified, is recommended as a next step.

Prioritization

In keeping with the traffic reduction strategy and for quality of life and safety reasons, it is likely desirable to slow motorists on every street in South Pasadena and significantly reduce the traffic volumes on the arterial streets. Unfortunately, these changes cannot all be achieved at once. As a next step, it is recommended that the City staff prioritize city-wide changes. There are a lot of considerations that effect the priorities and the timeline. Some of them include:

1. funding;
2. need;
3. logical sequencing;
4. icoordination with other projects (i.e., resurfacing, maintenance, utility projects,development, etc.);
5. interjurisdictional coordination;
6. staff time;
7. time of year; and more.

Sometimes, it makes sense to move forward with projects that result in permanent changes to a street. In other times, it makes sense to design less expensive projects that are faster to implement and are as close to the permanent project as feasible. On one hand, due to all the serious issues on the streets of South Pasadena, many people want fast relief, even if it is done with temporary measures. The downsides are:

1. temporary solutions need staff time to design;
2. they still cost money;
3. they are usually unattractive and appear as obstacles which reduces public support for change;
4. they often need to be monitored and evaluated, which takes staff time;
5. they can harm the permanent solution if the temporary solution is unable to achieve the relief as intended;
6. the temporary solutions can delay the permanent solutions due to staff time and budget being used on the temporary solution, two sets of public meetings (one for the temporary project and the other for the permanent solution), and the permanent solution getting bumped to the lowest priority due to the

temporary project being in place.

The upside is that the public on the street receives partial benefits faster.

When there is already identified funding involved and more available if applied for, the design team generally leans toward permanent solutions and away from temporary solutions. The idea is to focus the staff's time on permanent solutions. Exceptions may occur when separated bike lane connectivity is involved. Bike use is highly reliant on a good network. If key gaps can be completed quickly, then a temporary project might be a good idea.

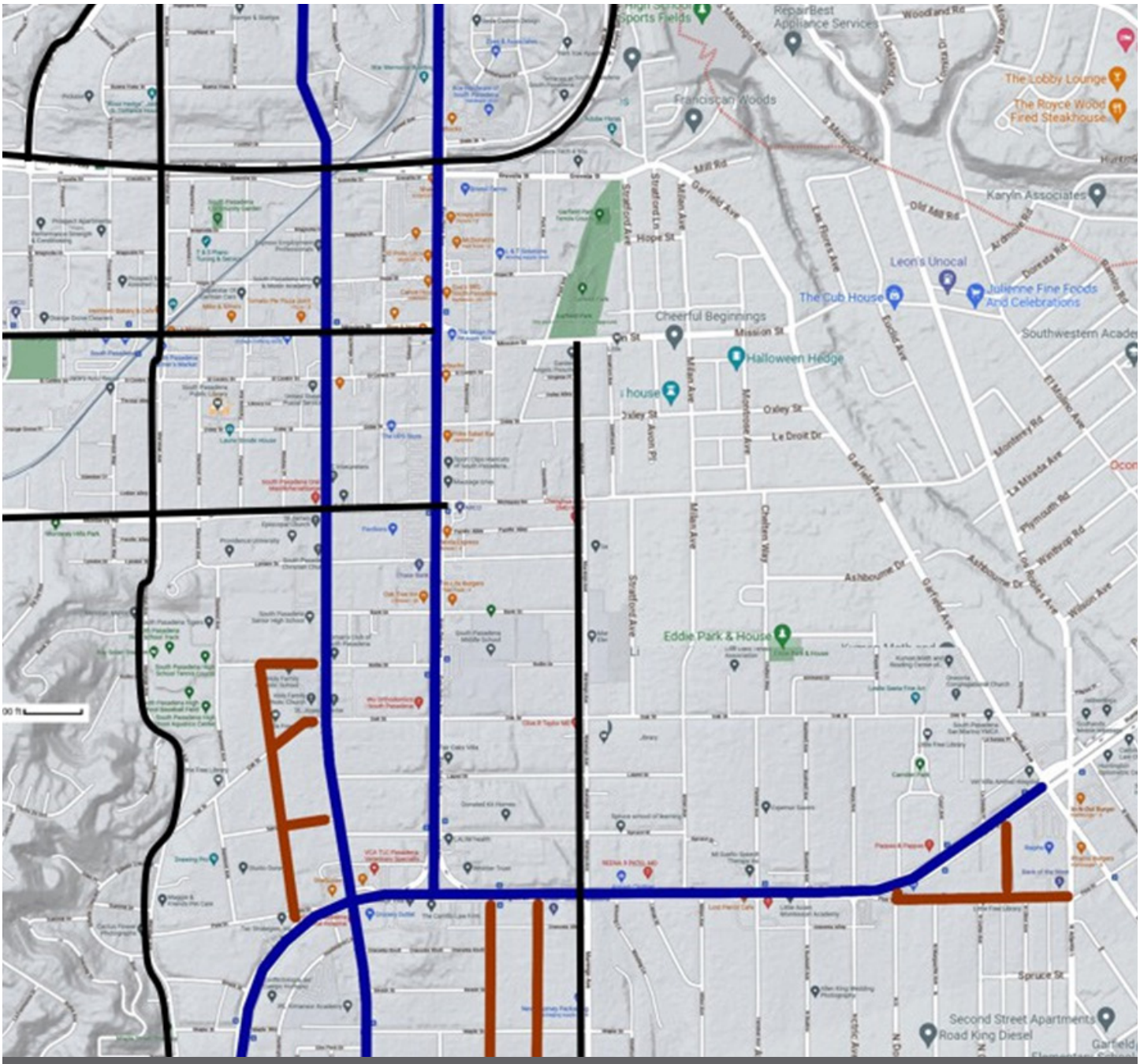


Figure 17: Map of Streets to Help with the Discussion of Recommendations

RECOMMENDATIONS FOR ADJACENT STREETS

08

Adjacent Streets

Meridian Avenue: is a long, two-lane, residential street that is has character, curves, and topography in some sections. It is on this list because there is too much through traffic and drivers drive too fast. The design team recommends removing the asphalt and repaving the street with rough bricks (not stamped asphalt or concrete). The texture is intended to be rough, so motorists slow down. The collateral benefit is the brick looks far better than asphalt. The team also recommends increasing the sense of enclosure by placing bulbouts strategically in the parking rows (i.e., to minimize any loss in on-street parking, and next to some driveways to improve sight lines for drivers leaving their driveways) and planting a shade tree in every bulbout.

Orangce Grove Avenue: is an overly wide and fast residential street. Its problems are exacerbated by the presence of the ramps onto Highway 110. The design team recommends narrowing Orange Grove from four lanes to three lanes. In the southern curvy area, align the three-lane street towards the east curb-line and use the space on the west side for a linear park with two-way separated bike lanes and wonderful pedestrian paths. In the middle lane, allow left turn access in and out of the driveways. In the middle lane, where driveway access in not needed, place medians. Use the medians to remove the "speed lines" from the curves. Plant shade trees in the medians, plant more shade trees on the sides, and over time the street will have a canopy over it. At logical locations, add pedestrian crossing to the linear park, using the median as a refuge. In that way, pedestrians could cross only one lane at a time.

Pasadena Avenue and Columbia Street: is a highly abused residential street due to the 710 stub, located to the north, that focuses unacceptable volumes of traffic through Pasadena Avenue towards South Pasadena. Though the Pasadena Avenue is in Pasadena, it significantly affects the City of South Pasadena. It is recommended that South Pasadena encourage Pasadena to:

1. narrow the street to three lanes up until the "wishbone;"
2. build a roundabout at the wishbone;
3. restore St John Avenue and Pasadena Avenue to two-way operations, between Bellefontaine Street and California Boulevard, with one lane northbound, one lane southbound, and the odd left tun lane; and
4. either eliminate the highway ramps to California Boulevard, or reduce the number of north-south through lanes across California Boulevard to/from the highway to one in each direction.

More detail about the interface between Pasadena Avenue, Columbia Street, and Fremont Avenue is in the recommendations for Fremont Avenue. The key recommended changes to the intersection of Columbia Street and Fremont Avenue are:

1. to remove the eastbound to southbound right turn lane from Columbia Street, and
2. combine the northbound left and right turn lanes into a one shared, left, right, turn lane.

The intent of these changes is to physically constrain the car-carrying capacity in the north- south direction, such that the north-south traffic volumes will be substantially lower. The idea is to build supportive, volume reduction measures between Fremont Avenue and California Boulevard, and additional supportive measures along Fremont Avenue in South Pasadena such that the lower car-carrying capacity through the intersections at Columbia Street will be consistent with the balance of the corridor. The collateral benefit of these changes is that they will help position the eventual removal of the highway stub for success.

Marengo Avenue: is a long two-lane, residential street, with conventional bike lanes, and on-street parking. Bike facilities make sense on this street, due to the street providing access to the South Pasadena Middle School and the Marengo Elementary School. However, conventional bike lanes are not suitable for elementary and middle school children. The design team recommends separated bike lanes, two narrow general-purpose lanes, on- street parking bulbouts with street trees on the corners of the intersections, and shortening crossing distances to 23 feet (curb to curb) on Marengo Avenue and the side streets. North of Huntington Drive, periodic measures could be

added like raised crossings, raised intersections, and so forth. See Figure 19. However, Marengo Avenue, south of Huntington Drive, is a "framework street." So, the periodic measures would be limited to Marengo Avenue to the north of Huntington Drive.

Highway 110 or the Arroyo Seco Parkway: is a depressed, six-lane highway that passes through South Pasadena and ends a quarter of a mile north of South Pasadena, at Glenarm Street in Pasadena. In South Pasadena, it acts like another arterial for motorists to get to places nearby and for the Fire Department to access calls, many of them being on the highway. It was one of the first highways built in the US, at a time when there were fewer cars and little understanding of ramp design. The ramps have minimal acceleration or deceleration space making the highway dangerous. The bridges over the highway are uncomfortable for pedestrians and there are no bicycle facilities. The signalized intersection at Glenarm Street, has six though lanes, just like the highway. However, highway lanes can carry about double the volume of traffic compared to a through lane at a signalized intersection. Consequently, the highway doesn't need to have six lanes. Four highway lanes could still accept and deliver more traffic than can get through the signalized intersection at Glenarm Street. So, to increase safety at the interchanges and along the highway, the design team recommended using the inside four lanes for throughput, which would still provide more than enough car-carrying capacity, and use the outer two lanes for accelerating, weaving, and decelerating as is shown in Figure 18.

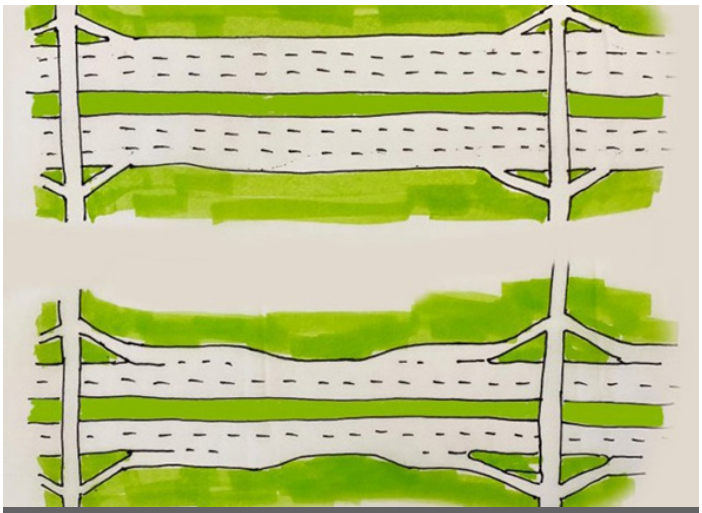


Figure 18: Existing (top) and Recommended (bottom) Configuration for Highway 110

Monterey Road : is primarily a residential street that is two lanes, east of Fair Oaks Avenue and either four or five lanes, west of Fair Oaks Avenue. The design team recommends that the street be dieted to three lanes west of Fair Oaks Avenue to the border of the city and tie in with the three-lane bridge that crosses Highway 110. The reclaimed right of way is recommended to be used for separated bike facilities, wide sidewalks, shade trees, and perhaps some on-street parking periodically. Within the third lane/center lane, access would be increased to homes and other land uses. Periodically, short medians with shade trees would be placed in the third lane, where access was not needed for beautification purposes and to create increased numbers of pedestrian crossings. Monterey Road would be one of the most beautiful streets in the city.

Mission Street: is South Pasadena's high street. However, its image, economic performance, and social significance has been stifled by being a four-lane truck route. The Gold Line Train Station, City Hall, the City Fire Station, a couple of parks, and a variety of shops are located along the street. The design team recommends removing the truck route designation and not replacing it anywhere else. Under normal circumstances, the team would recommend narrowing the street to two lanes with no left turn lanes because high streets are supposed to maximize social and economic exchange and be uncompromisingly pedestrian-oriented. However, the Fire Station is effectively located on the street and needs motorists to be able to pull to the sides of the street during emergencies. Consequently, the design team recommends a three-lane section. However, if the Fire Station could be moved to a more central location like, Monterey Road, then the team would recommend a two-lane street. East and west of the Train Station, the team recommends bulbouts, with shade trees, on all the corners, valley gutters, and parallel parking on both sides. East of the Train Station, the team also recommends brick paving in the travel way, and flush curbs (i.e., to create a barrier-free street for events).

FAIROAKS AVENUE

09

Fair Oaks Avenue

Fair Oaks Avenue, a crucial North-South connector linking City of Altadena, City of Pasadena, and City of South Pasadena. This avenue faces multiple challenges, including peak hour congestion, unsynchronized traffic signals, blocked intersections, speeding, and specific issues at the 110 and Huntington intersections. Additional complexities arise during school pick-up times, with notable concerns regarding biking at key locations, high traffic volumes, bulb outs affecting right turns, left turns onto Hope Street, and tactile bumps that impact pedestrian mobility.

At the Input & Visioning workshop, residents were encouraged to share their perspectives on the following key questions:

- What do you like and wish to see preserved?
- What do you dislike and wish to see changed?
- What is missing that you would like to see created?
- What are the key values that you feel should shape the streets?

In our conversations with Fair Oaks Avenue residents, a range of perspectives emerged from different user groups, shedding light on the varied concerns of the community. Pedestrians, particularly middle school students, expressed worries about crosswalk striping, trees in bulb outs, and the impact of local developments on pedestrian pathways, emphasizing factors like business access, lighting, and the effects of tactile bumps on pedestrian mobility devices. Bicyclist highlighted the absence of a dedicated North-South biking facility and concerns related to conflicts with turning vehicles at the 110 and Huntington intersections. Drivers, especially truck users, underscored challenges such as congestion during peak hours, unsynchronized traffic signals, blocked intersections, and speeding, with specific attention to issues at the 110 and Huntington intersections, school pick-up times, high traffic volumes, and bulb outs affecting right turns. Transit users identified shortcomings in amenities, including the lack of bus stop shelters, seats, and trash cans, and advocated for the expansion of local shuttle services. This diverse feedback calls for a comprehensive approach to address the multifaceted transportation issues on Fair Oaks Avenue.

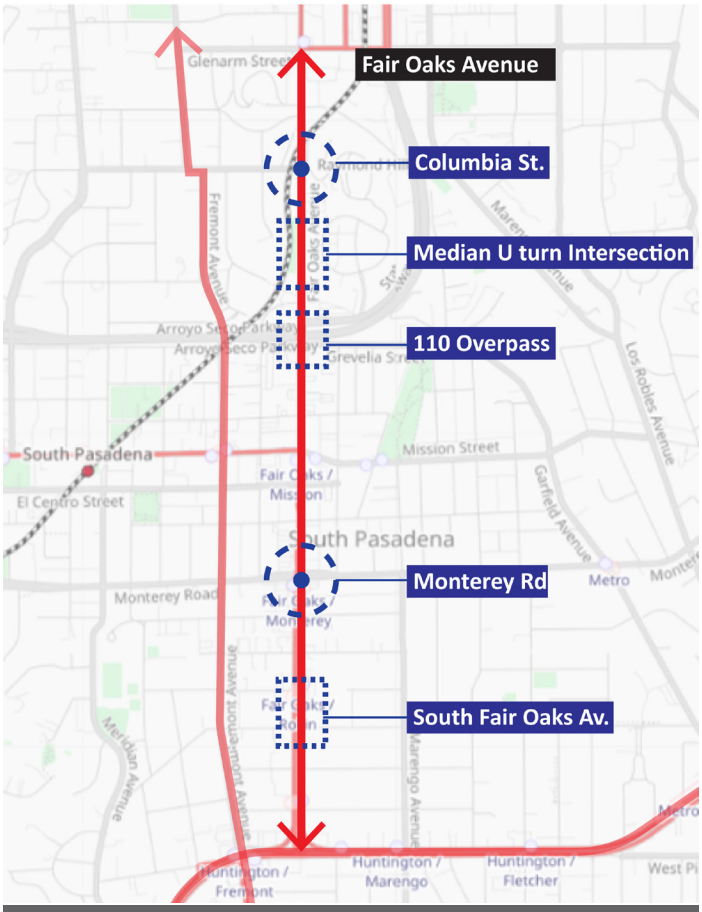


Figure 19: Key Intersection identified as key opportunities during the corridor study

Based on feedback from the residents & key stake holders, the following were identified as key intersections of opportunities (Reference Figure 19):

- Fair Oaks Avenue & Columbia Street
- Fair Oaks Avenue & Median U-turn Intersection
- Fair Oaks Avenue & 110 Overpass
- Fair Oaks Avenue & Monterey Road
- South Fair Oaks Avenue

The community expressed a collective desire to address several key priorities. These include the need to slow down speeds while ensuring the safe movement of all modes of transportation, the creation of safe crossings, facilitating easy access to businesses with secure parking options within a reasonable distance, establishing a comfortable environment for residents, and attracting more investment to the area.

The initial starter ideas encompass making businesses easily accessible and positioning for new investment, by proposing a boulevard design with a feasible future phase that includes dedicated transit lanes, right-sizing for volume and speed, creating a complete street, establishing safe crossings, mitigating barriers for pedestrians and cyclists, and crafting distinctive north and south gateways for the community.

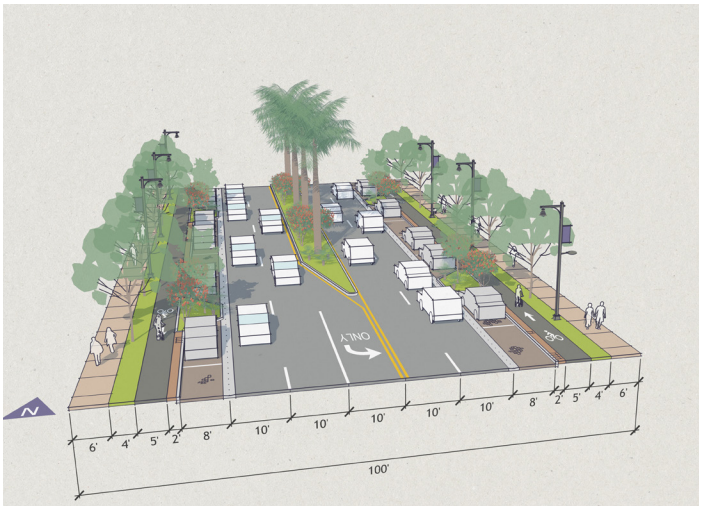


Figure 20: Proposed street section for Fair Oaks Avenue North of 110

The proposed street section for Fair Oaks Avenue north of the 110 suggests two lanes of traffic on each side, accompanied by separated bike lanes on both sides, utilizing on-street parking as a buffer. Additionally, the design incorporates ample lighting and shade for enhanced comfort and safety.

Fair Oaks Avenue & Columbia Street

The Fair Oaks and Columbia Street intersection currently has Excessive wide curbs which encourages speeding. Some of the existing pedestrian crossings are 65' feet wide making it extremely long and unsafe for pedestrians. These streets that are currently connecting to residential areas require safety measures. This intersection is also a gateway into South Pasadena with a welcoming sign that is easily missed by drivers because the design of the street makes excessive speeding easy.

The redesign of the intersection includes bike paths on Columbia street to connect with proposals for connecting bicycle facilities made at the Fremont Avenue and Columbia Street intersection. Proposed curb extensions/bulbouts will help respond to some of the safety concerns for pedestrians and bicyclists.

Figure 21: Proposed intersection plan of Fair Oaks Avenue & Columbia Street

Fair Oaks Avenue at Mid-Block U-turn Intersection

At the 110 overpass, westbound drivers face limited stacking capacity for left turns, mainly due to traffic from Fair Oaks & Grevilia St. The proposal aims to increase capacity for vehicles to line up for a U-turn, utilizing available width and freeing up two northbound lanes, which is aimed at reducing congestion at the bridge. This enhances northbound traffic flow, creating additional green space and placemaking opportunities.

Figure 22: Proposed intersection plan of Fair Oaks Avenue at Mid-block U-turn Intersection

Fair Oaks Avenue at 110 Overpass

The redesign of the Grevelia Street intersection takes a tactical approach, considering its connection to the historic overpass. The proposal includes a protected bike lane with flex posts and curb extensions/bulbouts at Grevelia intersection for added safety. Additionally, a pocket park is proposed to maximize the public realm at the intersection.

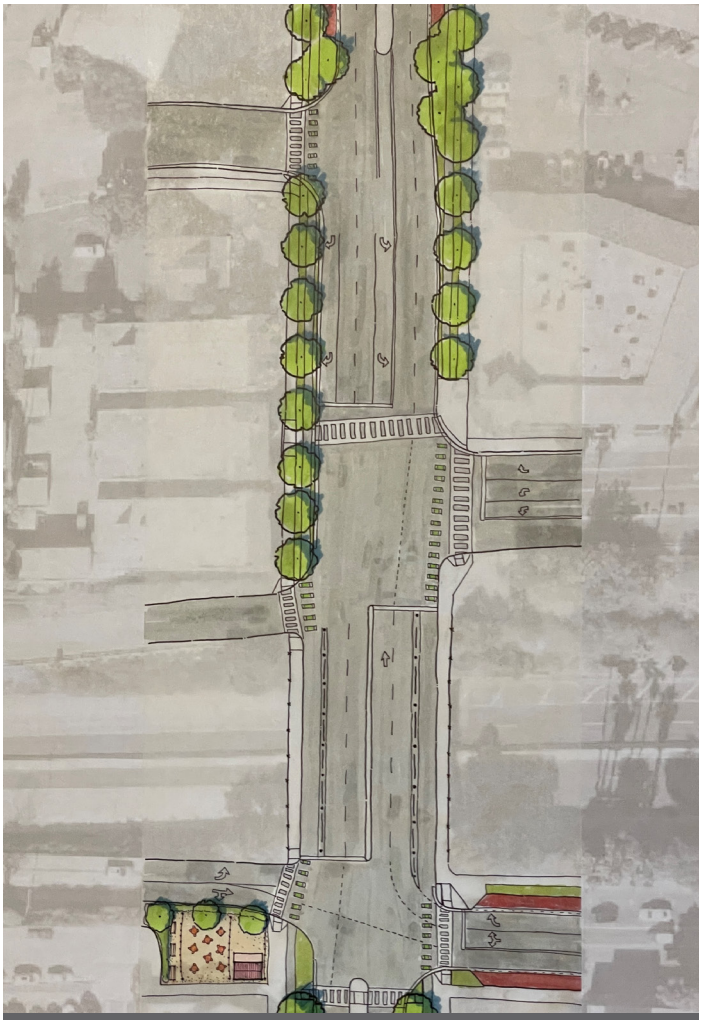


Figure 23: Proposed intersection plan of Fair Oaks Avenue at 110 Overpass

Figure 24: Proposed intersection plan of Fair Oaks Avenue and Monterey Road

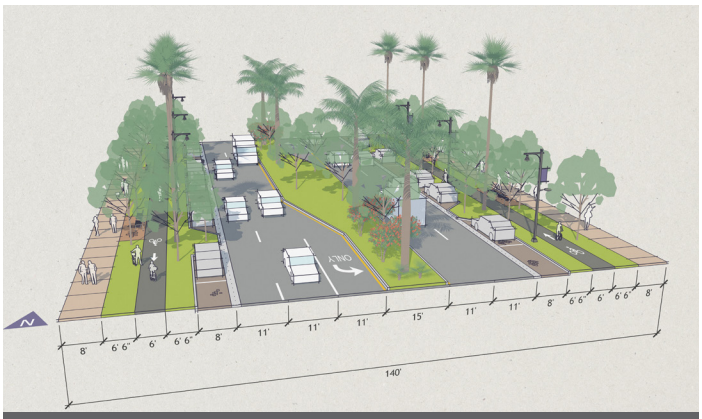


Figure 25: Proposed street section for Fair Oaks Avenue & Monterey Road

Fair Oaks Avenue & Monterey Road

The proposed section has includes modifications to introduce protected bike lanes, enhancing the overall safety for bycyclists. Additionally, dedicated sidewalk spaces have been allocated to support local businesses. Curb extensions are proposed to provide additional safety for pedestrian and cycling crossings. The inclusion of ample lighting and shading from trees will contribute to creating a more livable and secure community environment.

Fair Oaks Avenue & South of Monterey Road

Currently, Fair Oaks Avenue south of Monterey Road widens to a three-lane configuration, contributing to speeding issues leading up to the Huntington intersection. In response, a redesign concept proposes a road diet idea to reduce the lanes to two, allowing for the incorporation of additional street amenities. The envisioned redesign transforms Fair Oaks Avenue into a boulevard design,

creating a green gateway to downtown. Specific features include two lanes for vehicular traffic with turn lanes at intersections, protected bike lanes, wide buffered sidewalks, on-street parking, two through travel lanes in each direction, and strategic lighting and shade elements. This holistic approach aims to enhance both safety and the overall urban experience on Fair Oaks Avenue. As an alternative vision (Figure 27), Fair Oaks Avenue south of Monterey Road is conceptualized with a dedicated transit lane designed to accommodate buses efficiently.

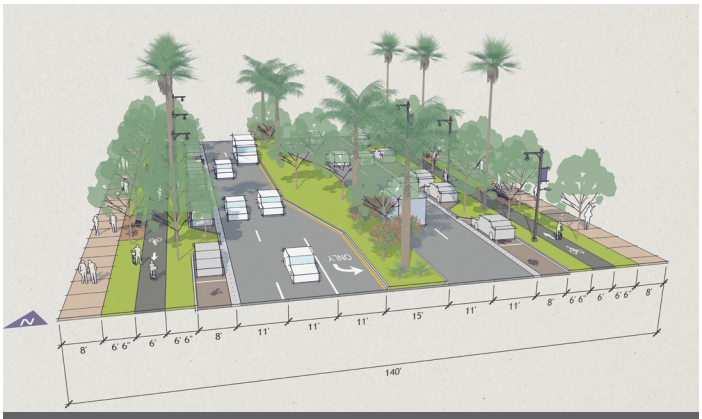


Figure 26: Proposed street section for Fair Oaks Avenue south of Monterey Road

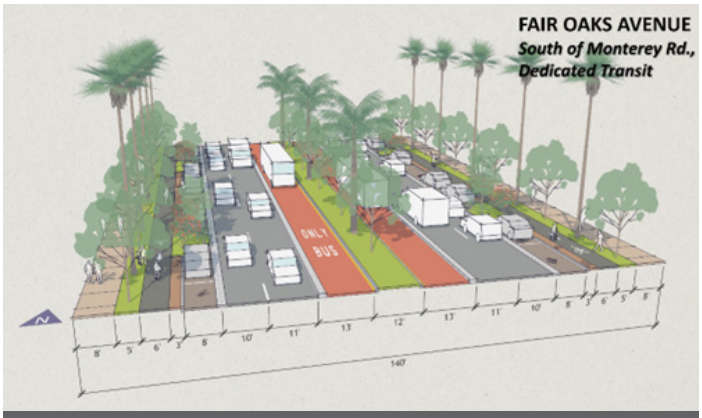


Figure 27: Proposed alternative street section for Fair Oaks Avenue south of Monterey Road

Fair Oaks Avenue – Middle School Crossing

Fair Oaks Avenue at the middle school crossing proposes additional measures to enhance pedestrian safety, specifically catering to all levels of abilities. The proposal includes a protected intersection with bulbouts and refuge islands at crossings. Furthermore, crosswalk distances are reduced at all key intersections.

In an alternative exploration, a transit intersection concept along Fair Oaks was considered, featuring three vehicle traffic lanes on each side. The proposed design allocates the lane adjacent to the central median specifically for buses and transit. This approach offers benefits such as center-running dedicated transit lanes, reducing conflicts with driveways, aligning with future Metro plans, and ultimately improving service to the A-Line.

Figure 28: Proposed intersection plan for Fair oaks Avenue at the Middle school crossing

Figure 29: Proposed intersection plan for Fair Oaks considering a transit intersection approach

FREMONT AVENUE

10

Fremont Avenue

Fremont Avenue, a pivotal North-South connector in South Pasadena, confronts a range of challenges.Fremont currently has some challenges including significant cut through traffic, daytime congestion, high traffic volumes and speed, heavy truck usage, an uncomfortable bicycling facility and insuffient night lighting. The proximity to multiple schools and churches, the tree lined and shady nature of the avenue, and presence of historic homes are wonderful assets. At the Input & Visioning workshop, residents were encouraged to share their perspectives on the following key questions:

- What do you like and wish to see preserved?
- What do you dislike and wish to see changed?
- What is missing that you would like to see created?
- What are the key values that you feel should shape the streets?

Based on site visits and discussions with residents, our observations revealed distinct characteristics in different sections. Key locations in this area include Columbia, Buena Vista, and the Grevelia/Metro Rail crossing. Between Magnolia Street and Huntington Drive, there are multiple redevelopment opportunities and note heightened pedestrian activity near the high school and Holy Family. South of Huntington Drive, there is congestion at Huntington and Grocery Outlet, and with a challenging pedestrian environment at Huntington.

From the above mentioned feedback from residents & key stake holders, the following were identified as key intersections of opportunities (Figure 30):

- Fremont Avenue & Columbia Street
- Fremont Avenue & Buena Vista
- Fremont Avenue & Grevelia Street
- Fremont Avenue & Mission Street
- Fremont Avenue at the school zone
- South Fremont Avenue
- Fremont Avenue & Alhambra Road

Figure 30: Key Intersection identified as key opportunities during the corridor study

Fremont Avenue & Columbia Street

The current intersection design at Fremont Avenue & Columbia Street features disproportionately large curb radii, facilitating easy turns for large trucks but posing a danger with fast turns that threaten pedestrians.

Figure 31: Proposed Intersection plan of Fremont Avenue & Columbia Street

Fremont Avenue South of Columbia Street

The narrowest right-of-way along Fremont Avenue, which is primarily residential, has raised concerns among neighborhoods because of fast traffic, challenging crossings, and limited ability to encourage neighborly interactions. To address these challenges, the proposed concept physically narrow the street, and features two travel lanes and a single parking lane. Additionally the design features shifted curbs to allow for additional space for trees, tree lawns and sidewalks which all will enhance the pedestrian experience. To accommodate both pedestrian and bike networks within the constrained right-of-way, the east side of Fremont's sidewalk is enlarged and marked as a shared-use path. The inclusion of shade trees on both sides adds to the visual appeal and environmental quality. Furthermore, bulbouts at midblock and corners serve multiple purposes by managing stormwater and providing space for trees, visually narrowing the street to reduce traffic speed, enhance pedestrian safety, and shortening crossing distances. These recommendations aim to transform Fremont Avenue into a safer, more inviting community space.

Figure 32: Proposed street section for Fremont Avenue, south of Columbia Avenue

Fremont Avenue & Buena Vista

The current intersection poses challenges as two local streets intersect at a steep grade, which may increase speeds and make crossings difficult and dangerous.The existing design, which includes a right turn only lane further promotes speeding while signage and vertical elements have limited impact on reducing speeds. The proposed concept aims to address these issues by significantly narrowing the intersection, incorporating bulbouts and an east-side vegetated swale, all of which are intended to calm traffic.

Figure 33: Proposed intersection plan at Fremont Avenue and Buena Vista

Travel lanes are reduced to 11.5 feet, and include pedestrian refuge islands. Removal of the right turn lane aims to discourage fast turns and prevent drivers from suing Buena Vista as a cut through street.Alternative concepts, such as a neighborhood traffic circle, were explored, but the steep grade change presents a challenge to design considerations.

Fremont Avenue & Mission Street

The existing intersection at Fremont and Mission features right turn lanes and emphasizes vehicle movements over pedestrians.Despite Mission being South Pasadena's "Main Street", the current configuration with four lanes, left turn pockets, parking, and sharrows falls short of creating a truly walkable, urban, and people-friendly environment commonly associated with a community's Main Street. The proposed design aims to remove right-turn only lanes and introduces a raised intersection, prioritizing pedestrians and bicyclists while making cars guests as they enter the city's main street district. Artistic paving materials contribute to the creation of an inviting gateway. The concept anticipates a future condition where Mission is narrowed and designed as a flush, shared space. Blocks east and west of Fremont could potentially become flush streets in this envisioned future. Additionally, the concept includes relocating bus stops to align with forthcoming changes in the bus network recommended in the LA Metro Nextgen Bus Plan.

Figure 34: Proposed Intersection plan showing Mission Street as flush street and raised intersection.

Fremont Avenue in front of South Pasadena High School

The blocks encompassing South Pasadena High School, Holy Family Catholic School, and various civic organizations generate significant pedestrian and vehicle traffic. Recognizing the potential for increased active transportation, safety improvements are proposed at the intersections of Bank Street, Rollin Street, and Oak Street. The focus is on narrowing crossing distances, slowing vehicle speeds, and fostering a comfortable environment for walking and biking. Raised crossings are suggested at all intersections, particularly at Rollin Street and Bank Street. These raised crossings will help lower traffic speeds and provide better crossings for students, faculty, and visitors at key civic facilities. All-way stops complement raised crossings, which enhances traffic control, discourages speeding, and improves safety at crossings. Additionally, the design integrates a two-way bike facility through the intersections. To promote a cohesive identity aligned with the educational and civic nature of the area, pavement design for raised crossings could involve collaboration with the school, engaging students in a co-creative process.

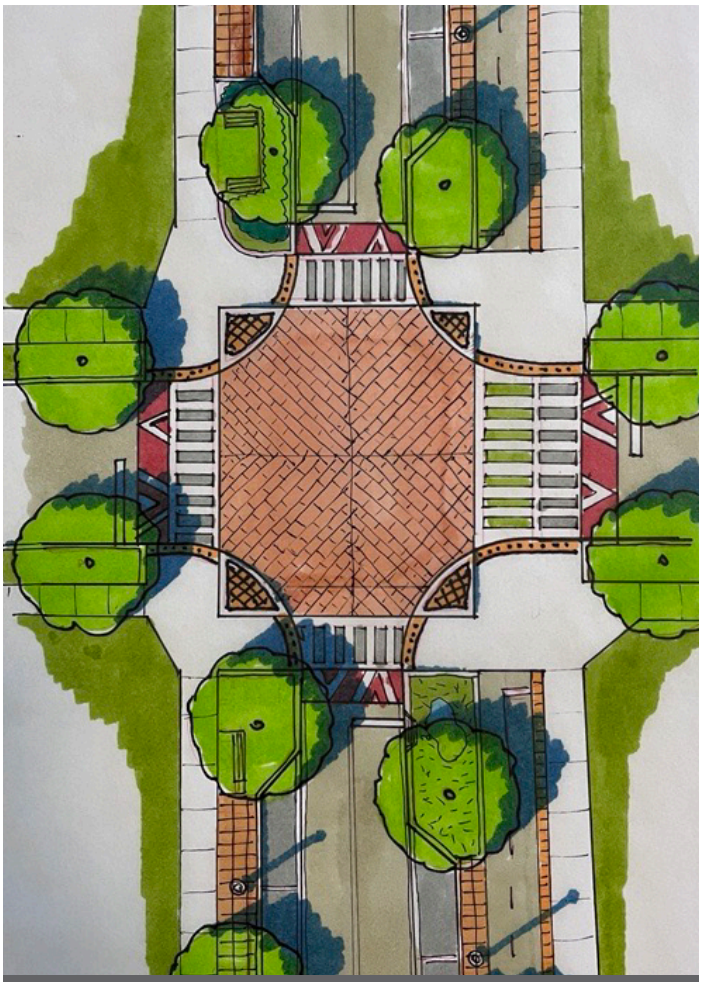


Figure 35: Proposed Intersection plan showing raised intersection at Fremont Avenue and Lyndon Street

Fremont Avenue South of Huntington Drive

Fremont Avenue south of Huntington Drive is predominantly residential in character and the proposed design is focused on narrowing the street as a way to slow traffic. Reallocation of a portion of the right-of-way is essential to incorporate is bus-only lanes and/or stops to enhance transit operations and promote bus usage. The concept emphasizes improved connectivity between bikeways and transit facilities to encourage multimodal tripsand features amenities like ample bike parking at bus stops along the corridor. The concept proposes narrowing the roadway to two lanes, eliminating center turn lanes, and integrating left turn pockets at intersections with high turn volumes. High visibility crosswalks, striped across all legs of intersections, enhances safety and pedestrian visibility within the neighborhood.

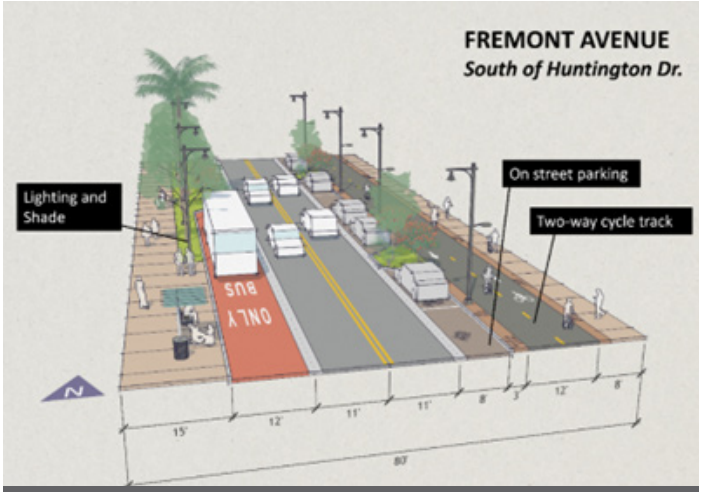


Figure 36: Proposed Intersection plan showing Mission Street as flush street and raised intersection.

Fremont Avenue and Alhambra Road

Similar the Columbia and Fremont intersection, Alhambra Road functions as a traffic "valve" for Fremont. To mitigate vehicle and truck traffic using Fremont as a high-speed arterial, the intersection is strategically narrowed. Turning radii are reduced to discourage fast turns, promoting safer traffic speeds. The introduction of a raised pedestrian crossing emphasizes a prioritization of pedestrian safety over vehicular speed. This feature not only signifies a street designed for people walking but also acts as a physical barrier to deter large vehicles from utilizing Fremont as a cut-through truck route. These measures collectively contribute to creating a safer and more pedestrian-friendly environment on Fremont Avenue.

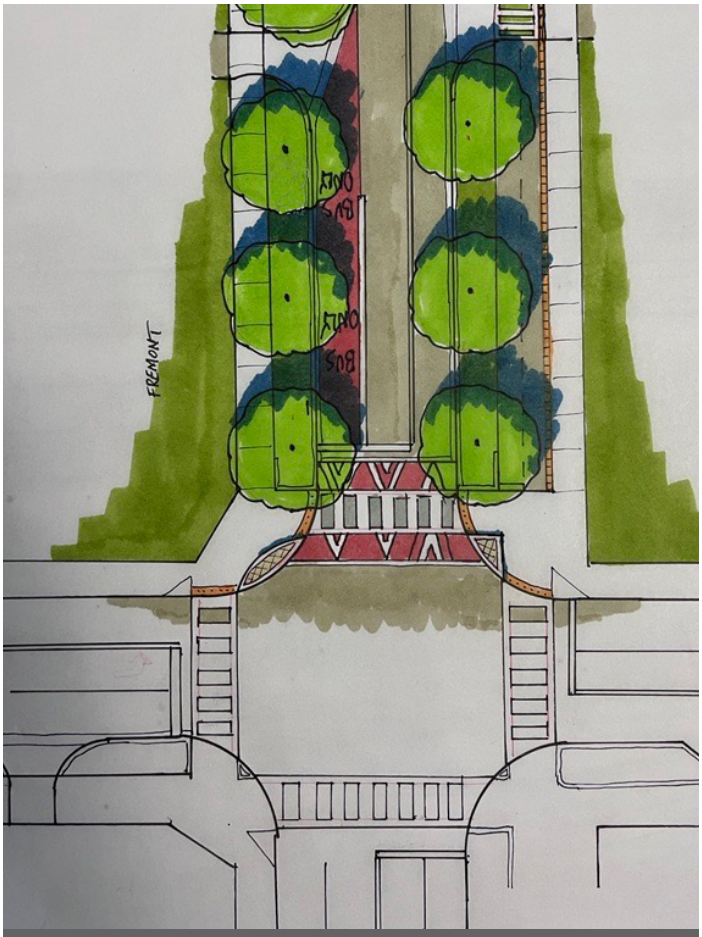


Figure 37: Proposed intersection plan for Fremont Avenue and Alhambra Road

HUNTINGTON DRIVE

1

Huntington Drive

Huntington Drive is key East-West connector linking City of South Pasadena to City of Los Angeles, City of Alhambra and City of San Marino. Today, Huntington Drive is a seven-lane street with on-street parking on both sides and excessive speeds, and traffic volumes. The right-of-way is 140 feet wide, as shown in Figure 38. High speeds are common along this street and there have been a number of severe crashes in the past.The street is a hostile and unsafe space for pedestrians and bicyclists. Crossing the street is uncomfortable in a car, on foot, or on a bicycle. Given it's current configuration we heard many parents do not allow their children to walk along or across the street. This is particularly unfortunate because schools are located north of Huntington Drive, while many families with school children live to the south.

During the public process, stakeholders and residents emphasized the importance of access to homes, businesses, and perpendicular streets along Huntington Drive. The Grocery Outlet, located on the southeast corner of Huntington Drive and Fremont Avenue, was mentioned most frequently as a desirable place to shop but a difficult place to access. There was a clear desire for a slow and safe street, traffic calming in the adjacent neighborhoods,and maintaining the on-street parking spaces along Huntington Drive. Pedestrians want street trees for shade and beauty, landscaped buffers between sidewalks and travel lanes, seating, and shorter pedestrian crossings that are safer, more comfortable, and more frequent. Transit users called for the same things as pedestrians, and also accessible transit stops and shelters, and comfortable seating. Car users focused on access, legibility, and reduced but consistent speeds in the area. There was consensus that driver behavior and overall aesthetics is poor, and that the southern arrival experience into South Pasadena is underwhelming.

Huntington Avenue is 1.5 miles long within the city, and it currently isolates the southernmost 13% of the city's land area. Four objectives of the study are to:

1. Reconnect the city across Huntington Drive;
2. Increase the quality of life of people living along or neat Huntington Drive;
3. Increase access to businesses along the Drive; and
4. Reduce the traffic volume along Huntington Drive.

Reducing traffic volume along Huntington Drive will also help reduce traffic volume on Fair Oaks. The traffic reduction strategies involve reducing the number of lanes on entering the city on the three major routes into the city (Huntington Drive at Alhambra Road, Huntington Drive at Garfield Avenue, and Fair Oaks Avenue at Alhambra Road) and via traffic calming measures on existing and potential cut-through routes (Meridian Avenue, Primrose Avenue, La France Avenue, Marengo Avenue, and perhaps others).

Based on feedback from residents and key stakeholders,

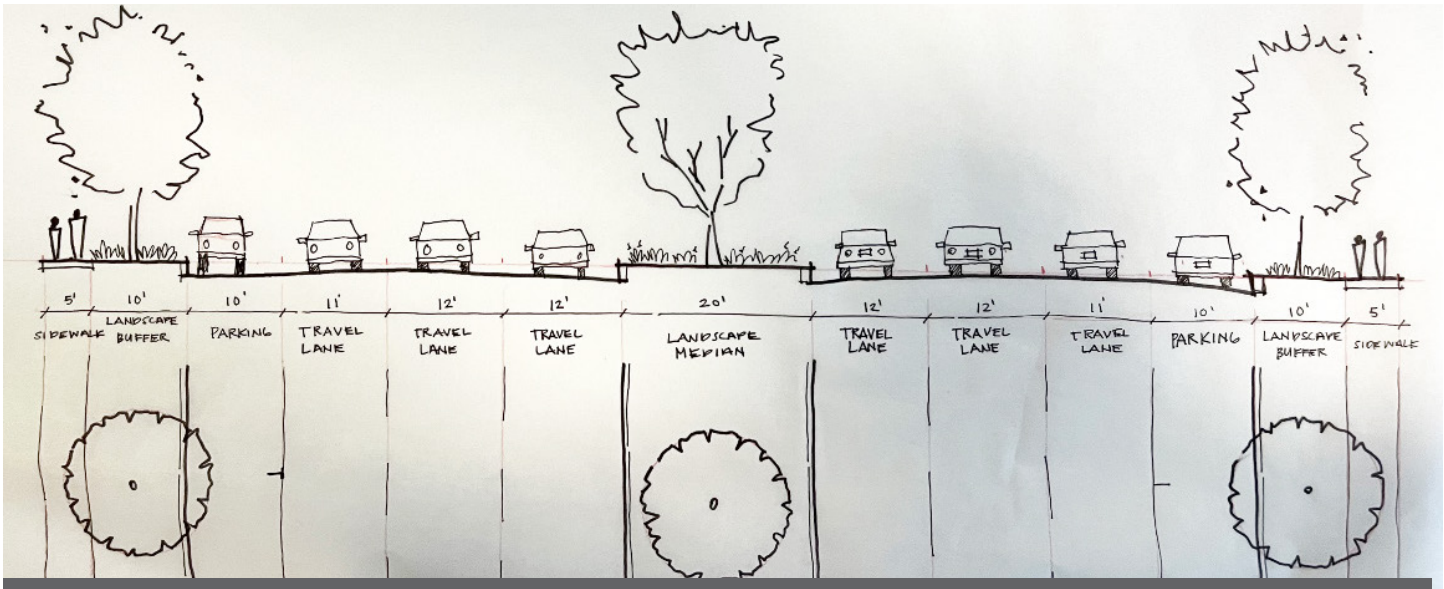


Figure 38: Existing 140-Foot Wide Right of Way

Figure 39: Intersections with the Most Potential for Improvement

the following were identified as the worst intersections with the greatest potential for improvement (see Figure 39):

- Huntington Drive, Fair Oaks Avenue and Fremont Avenue
- Huntington Drive and Marengo Avenue
- Huntington Drive and Court Street
- Huntington drive and Pine Street
- Huntington Drive and Garfield Avenue
- Huntington Drive and Maple Street

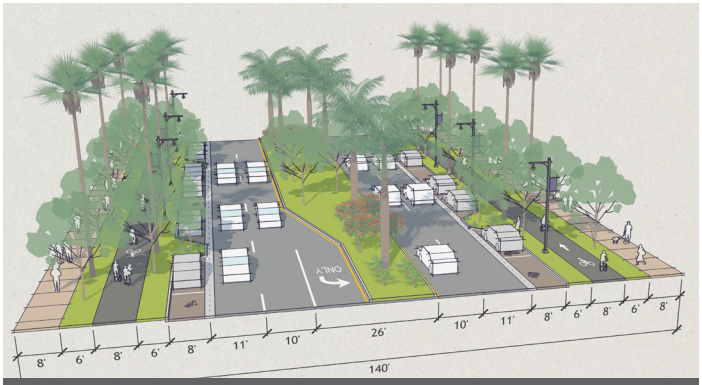


Figure 40:Proposed Typical Cross Section for Huntington Drive

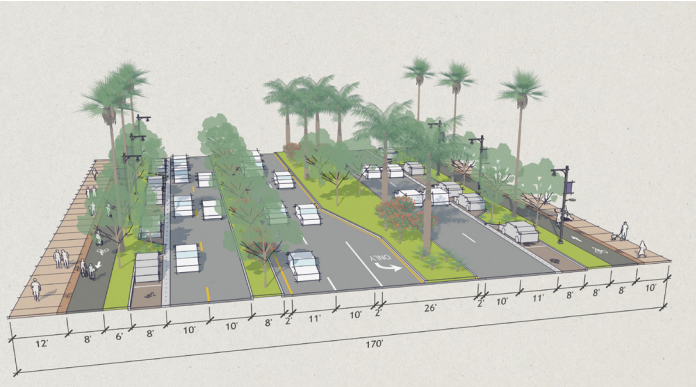
Consistently, during the stakeholder interviews, open studios, and public meetings participant emphasized the unappealing appearance of Huntington Drive. The shear width of the street was a common complaint. The proposed cross section helps address the street's problems by incorporating a road diet from seven to five lanes and introducing, separated bike lanes, shade trees, accent palm trees, valley gutters, bulbouts with shade trees, on-street parking on both sides, wide and buffered sidewalks, as well as improved lighting.

Huntington Drive between Fair Oaks & Fremont

The current design of the intersection of Huntington Drive, Fair Oaks Avenue, and Fremont, has several challenges It is difficult to access businesses on the southern side of the street, and this encourages drivers to make illegal maneuvers to access. To address this, a frontage street along the south side of Huntington Drive is proposed to facilitate access in safe and logical manner. Refer to Figure 42 for a plan view of the area and Figure 41 for a cross section of Huntington Drive and the Frontage Street. Southbound motorists, from Fair Oaks Avenue, and westbound motorists, from Huntington Dive, can enter the frontage street at east end to access the businesses. Eastbound motorists, from Huntington Drive, and southbound motorists, from Fremont Avenue, can enter the frontage street at west end.

The frontage street is a two-way street, except for its western end, which is one-way eastbound. The one-way section extends from Fremont Avenue to the first driveway for the purpose of keeping the operations of the intersection of Huntington Drive and Fremont Avenue as simple as feasible. At the eastern end of the frontage street, the

eastbound motorists are required to turn right (southbound) onto the driveway. The purpose of the right-turn-only is to prevent motorists from turning left across the driveway and blocking it. The frontage road primarily helps motorists who are driving to the businesses. Motorists who are departing from the businesses can depart as they do currently, except that they have additional options at the driveway that aligns with Fair Oaks Avenue. The motorist can turn left onto Huntington Drive or head straight onto Fair Oaks Avenue.



Proposed Cross Section of Huntington Drive and the Frontage Street

As shown on figure 42, at the intersection of Huntington Drive and Fair Oaks Avenue, the high-speed right turn channels were removed to reduce speeds, incoporate multimodal elements, and improve the aesthetics. The road diets on Huntingon Drive, Fremont Avenue and Fair Oaks Avenue reduces the size of the of the two intersections which shortens pedestrian crossings, provides space for the frontage street, increases legibility, reduces the impervious area, reduces the motor vehicle domination of the area, and help reduce traffic volumes.

The asterisks at the intersection of Huntington Drive and Fremont, shown in Figure 42, indicate places for significant gateway features. On the northern two corners, wonderful, small, public spaces are proposed.

The five-lane typical section of Huntington Drive is proposed to extend along the Huntington Drive to Alhambra Road. At the intersection of Huntington Drive and Alhambra Road, the length of the pedestrian crossing on the north approach of the intersection ought to be shortened from about 110 feet to about 75 feet (two southbound lanes, one left turn lane, a median refuge, and two northbound lanes). There would be bulbouts with shade trees at the ends of the parking rows. This presents another opportunity for a significant gateway feature into South Pasadena.

The goal of the road diets throughout the city, and in this location, is to constrain the car-carrying capacity of the street network to help reduce traffic volumes and increase active transportation options. Consequently, the transition from three northbound lanes to two northbound

Figure 42: Proposed Concept for Huntington Drive, Fremont Avenue and Fair Oaks Avenue

lanes should happen south of the intersection. Only two northbound through lanes should be permitted through the intersection. One logical location for the transition in the northbound direction from three lanes to two lanes is south of Main Street, in Alhambra, and north of Alhambra's border with Los Angeles. At that location, the northbound right lane currently splits to add a double right turn channel onto Main Street. The idea would be to drop the right lane such that it simply becomes the double right turn channel onto Main Street. This transition could be achieved by modifying the pavement markings. There are likely other options for reducing the number of northbound through lanes that would need to be explored and, as necessary, discussed with Alhambra.

Huntington Drive & Marengo Avenue

There are excessive speeds and poor pedestrian accommodation at intersection of Marengo Avenue and Huntington Drive. Consequently, several traffic calming measures are proposed for Marengo Avenue, including protected bike lanes, narrow travel lanes, street trees, and bulbouts along the street. To prioritize pedestrian safety, raised crossings are proposed in the east-west direction at the intersection. The raised crossings will calm speeds, increase accessibility for pedestrians of all abilities to cross the street, send a message to motorist to expect people walking and bicycling.

Figure 19: Proposed Concepts for Huntington Drive and Marengo Avenue

All of Huntington Drive and Marengo Avenue, to the south of Huntington Drive, are framework streets. Normally, that would discourage the used of traffic calming measures that involve a vertical shift. However, an exception should be made for the raised crossing across the south approach to this intersection for public safety reasons. Emergency vehicles turning from Huntington Drive onto Marengo will be going adequately slowly that the vertical shift should pose little difficulties for them. However, the irresponsible motorist, speeding along Marengo Drive to "make the green light" will be affected.

Huntington Drive between Fair Oaks & Court Avenue

The unsignalized intersection of Huntington Drive and Court Avenue has a pedestrian crossing over Huntington Drive on the east approach. There are bus stops on both sides of Huntington Drive. The pedestrian crossing distance is 120 feet and there is no pedestrian refuge. Pedestrian safety is a concern with this configuration. A road diet along the length of Huntington Drive would help. Additionally, the design team has created two concepts for this intersection.

The first concept is to employ the typical section. Fewer lanes due to the road diet, bulbouts, and median refuges would greatly enhance pedestrian comfort and safety. In addition, the team recommends relocating bus stops to the far side of the pedestrian crossing. This way a stopped bus will not inadvertently block the view between eastbound drivers and pedestrians using the crosswalk. Note that the design team does not recommend building pull outs for buses, except at timed stops. The tapers have a negative effect on the supply of on-street parking. Pull outs near intersections can cause longer pedestrian crossing distances and consume a lot of street side space that should be used for wider sidewalks, street trees, and the bus stop itself. Most importantly, pull outs do not benefit transit users. They were invented to prioritize motorists such that they do not have to slow down or go around buses. Also, aggressive motorists often do not yield to buses when the bus driver wishes to reenter the travel way. Interestingly, if the motorist yield rates get too low, bus drivers learn to preemptively block the travel lane with the back of the bus so that they can get back in, or they stop in the travel lane and riders walk across the pull out.

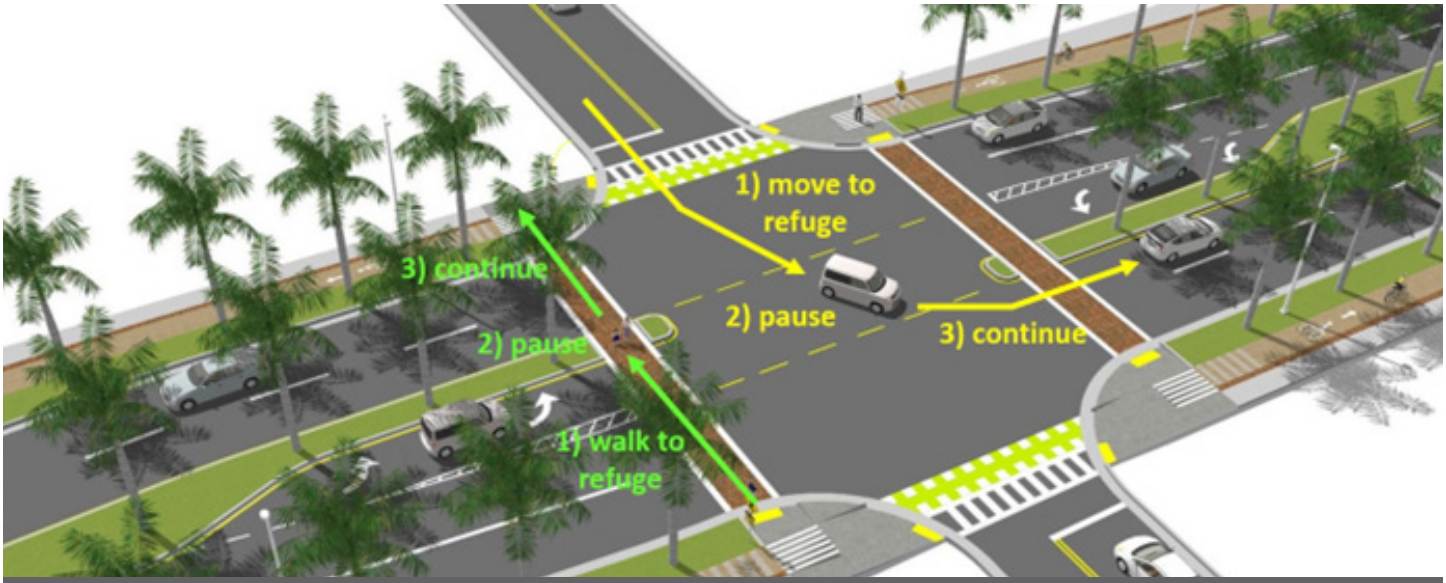


Figure 44: 2-Stage Left Turns and Crossings

Within this discussion of unsignalized intersections it is a good time to expand on the 26' median width on Huntington Drive. There are three reasons that the 26' dimension was used:

1. It increases the tree canopy. When a left turn lane is used, it consumes about 10' of the median. The remaining median, next to the left turn lane, is about 16' wide which is an ample width for street trees.

2. It facilitates easier left turns onto Huntington Drive from a perpendicular street. It does the same for through movements across Huntington Drive. The 26'- wide space is a refuge for the motorists, allowing a 2-stage left turn or a 2-stage through movement. In this way, the motorist only needs to find a gap in one direction at a time. Without a refuge, the motorist needs to find simultaneous gaps in both directions which can be rare on a busy street and hard to judge, which increases risk. See Figure 44.

3. Along a street like Huntington Drive, there are signalized and unsignalized intersections. Many motorists may have an unsignalized intersection with Huntington Drive at the end of their street, but choose to drive to a neighboring street with a signalized intersection because it is easier to turn left onto or cross Huntington Drive with the aid of a traffic signal. However, with the aid of 2-stage crossings, many of those motorists will opt to use the more convenient unsignalized intersection. This results in a more effective street network, a reduced barrier effect, more direct routing, and less traffic onto neighboring streets. With direct routing, motorists drive shorter distances, go through fewer intersections and pass fewer blocks--resulting in the same number of trips but reduced vehicle-miles traveled.

In sum, the 26' median helps to achieve many of the community's goals. While the minimum width for a refuge in which a 2-stage crossing is feasible is about 22', 26' provide more comfort.

The second concept incorporates an additional one-lane, one-way (west to east) frontage lane on the south side, from Camden Avenue to Olive Avenue, and narrower landscaped edges on both sides of the street. See Figure 45.

Figure 45: Concept for the Intersection of Huntington Drive and Court Avenue

This provides a larger buffer for the neighborhood on the south side and a slightly increased on-street parking supply. Periodically, there would be an opening for motorists to access the frontage lane.

Finally, conduit should be placed under the intersection, during the construction, that allows pedestrian signals or traffic signals to be installed should they ever be desired in the future.

Huntington Drive & Pine Street

Pine Street, a residential street, functions as a high- speed short cut for eastbound motorists on Huntington Drive who wish to turn right (southbound), onto Garfield Avenue. By shortcutting, motorists avoid the queue at the signalized intersection of Huntington Drive and Garfield Avenue, and shorten their travel distance, because Pine Street forms the hypotenuse. Pine Street.

The geometry of the intersection of Pine Street and Huntington acts like a slip lane, allowing motorists to avoid slowing down. This condition has led to several crashes and abundant concerns about safety in the neighborhood. The concept involves converting the west end of Pine Street into a public green space/ pocket park, from Huntington Drive to Dos Robles Place. The west end of the remaining Pine Street would then tee into Dos Robles Place.

See Figures 46 and 47. If motorists continue to cut through Pine Street, then additional traffic calming measures should be added along Pine Street.

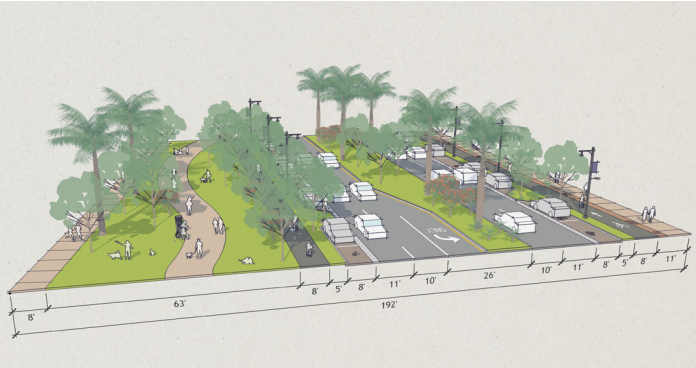


Figure 46: Proposed Section at Huntington Drive at Pine Street

Figure 47: Proposed Concept for the Intersection Huntington Drive & Pine Street

Huntington Drive & Garfield Street

In the vicinity of Huntington Drive, Garfield Avenue is the boundary between the Cites of South Pasadena and San Marino. However, north of Monterey Road, Garfield Avenue is completely within the City South Pasadena. The concept proposes bringing the typical five-lane cross section for Huntington Drive up to the intersection with Garfield, with one exception. The design team purposes that an eastbound to southbound right turn lanes would make sense due to:

1. The history of cut-through traffic on Pine Street; and
2. An exception to the no right turn lane practice can be made because it is in the outbound direction of the easternmost intersection within South Pasadena.

Along Garfield Avenue, the design team recommends a narrowing and slowing of the street, via separate bike facilities and bulbouts where on-street parking occurs. At the intersection, it is proposed that:

1. The northbound through movement to Garfield Avenue be limited to one lane; and
2. The westbound through movements to Huntington Drive be limited to two lanes.

Limiting the number of through lanes, entering the city, at the intersection with Garfield Avenue, to one lane to Garfield (northbound) and two lanes to Huntington Drive (westbound), will help reduce the traffic volume in the city.

Figure 48: Proposed intersection plan of Huntington Drive & Garfield Street Intersection

Huntington Drive & Maple Street

Maple Street, the west of Huntington Drive, is a 1-block long approximately 46' wide, two-lane, residential street. Bulbouts with shade trees, are recommended at both ends of the block to narrow the crossing distances, create a sense of enclosure, and protect the ends of the on-street parking rows. See Figure 49.

As an option, the City and community should consider changing the parallel parking on the south side of Maple Street, to 60-degree, back-in-angled parking (due to the slope). This would help calm motor vehicle speeds, create a safer parking condition, and almost double the number of on-street parking spaces on the south side of the street. The pedestrian and bicycle crossings across the west approach are proposed to be raised. This will help the crossing be highly conspicuous and send the message to motorists that this is a residential neighborhood and to drive respectfully. A crosswalk was added to the intersection on the south approach to make the whole intersection more conspicuous and make pedestrian access to the bus stops more convenient.

Note that this is currently an unsignalized intersection and the median is 26' wide. Consequently, the barrier effect of Huntington Drive will be reduced due to two-stage crossings.Conduit should be installed under the intersection so that signalization can be easily installed in the future if desired.

Figure 49: Huntington Drive & Maple Street Intersection

HOW WE ARRIVED AT RECOMMENDATIONS

2

Role of Streets

Villages, towns, and cities were invented about 10,000 years ago to bring people close together to foster effective and efficient exchange. Streets were invented at the same time. In cities, people exchanged labor, capital, education, goods, entertainment, security, culture, services, ideas, innovations, and more. Prior to cities, people were scattered far and wide, making exchange ineffective and inefficient. Through trial and error, block sizes were developed and evolved such that the block perimeters were typically about a quarter of mile, which provided a good ratio of "access to buildable area." The streets were akin to linear public spaces that operated at low speeds (i.e., 3 to 8 mph) because that is how fast people, or their horses, walked. More recently, bicycles and trolleys contributed with street life (i.e., within the last 200 to 400 years, respectively). The streets were public spaces that hosted numerous community functions such as commerce, socializing, celebration, communication, recreation, multimodal travel, access, and deliveries. The streets' designs and building facades defined the community's identity and contributed to its sense of place.

Traditionally, cities employed a connected network of streets. These networks were planned, using various patterns, in accordance with what was important to the community and context. The radial pattern emphasized important places at the "hubs." Other communities employed rectilinear patterns which empathized development efficiency and simplicity. While other communities' network patterns were organic which responded to the landscape. In all cases, the street networks made the blocks accessible, created redundancies, fostered exchange, and provided a human scale.

Following the development of trolleys and rail, cities could expand into transit-oriented suburbs. The connected street network practices continued because people still needed to walk to the trolley lines. and the trolley routes and station areas became places of concentrated social and economic exchange. They were what we now call transit-oriented development. This is how South Pasadena was first developed. The whole city was a transit-oriented development.

Following WWII, government priorities, policies, and practices changed dramatically to support an untested but

Figure 50: Imman Square

exciting set of modernist transportation values, based on the automobile and its ability to travel at high speeds. For the first time in the 10,000-year history of cities, individuals, in automobiles, were capable of speeds that had never been feasible previously in cities with walking, horse and buggies, bicycles, and trolleys. Buggies were originally pulled by horses, and with the advent of the motor engine dawned the age of the "horseless carriage".Automobiles evolved dramatically but, size wise, they stayed about the width of two horses, side by side, and still typically can carry two to six people. Between 1920 and 1940, automobiles displaced horse and buggies and the streets were repurposed and redesigned to accommodate them and their speed capabilities.

The most impactful changes to our cities and streets were due to motor vehicle speeds. Accommodating these higher speeds was foundational to the new and untested modern metrics, performance measures, and hierarchy of roads. The support for higher speeds was provided at every level of government and enjoyed industry backing by car manufacturers, oil and rubber industries, concrete and asphalt industries, and tract home builders. The naïve assumption was that everything would more-or-less stay the same, but people could get places faster. Speed was equated with efficiency and freedom. The speeds and ever-increasing traffic volumes and travel distances required a different scale of accommodation.

Between the 1950s and 1980s, the federal, state, county, and city levels of government collaborated to spend billions of dollars to accommodate the modern automobile-based ideas. In the Los Angeles area, this involved dismantling the trolley systems, constructing highways through traditional downtowns and neighborhoods, repurposing some streets into motor vehicle thoroughfares, all of which severed the communities' traditional street networks.

Unfortunately, all things did not stay the same. Markets changed. Development patterns changed. Proximity didn't matter anymore people long distances could theoretically be overcome by speed. Automobile-dependent, low density, suburban developments were enabled. New disconnected block patterns were invented like the loop-and-lollypop pattern, superblocks, and various types of development enclaves. The newly invented automobile suburbs externalized their traffic volumes on the old, sparce network of farm-to-market roads that led to the traditional cities. Those former rural roads were widened and evolved into the arterials and highways, at public expense. Theories about dendritic hierarchies of streets replaced the millennia-old practices of connected networks.

In terms of city-making, all of this happened in very quickly. In less than a century (i.e., less than 1% of the history of cities) city-making was transformed. The changes did not have the benefit of thousands of years of trial and error. And there was error. Numerous unintended, but very real, consequences occurred. First, the math of motordom did not work. No matter how much money was spent on widening the highways and arterials, the ability of motorists to consume the space was always greater. Congestion was a given. Second, the cumulative impacts of these changes were highly damaging at every scale, ranging from the quality of life in older traditional communities, to disadvantaging transit and the people who depended on transit, to loss of agricultural land and natural habitats, to the environmental health of the planet.

South Pasadena's traditional street pattern and communities were not spared. The historic roles of the arterials as multipurpose places, rich in social and economic exchange, walkable, and supported by public transit, became motor vehicle conduits. Most of the community functions of streets, previously listed, did not disappear entirely, but they were diminished. That diminishment was gradual in the lifetimes of residents but was not unnoticed. At the charrette, older residents shared stories of what the streets and place used to be like and contrasted that with what they had become. Newer residents resented that their children could do something as basic as walk to school. They could not ride their bikes comfortably, and they could not even drive their car out of their driveways. The streets had been conquered by high traffic volumes. Car-dependency and accommodation had gone too far, and the community wanted a restoration of the other purposes of their streets.

Interestingly, similar community feelings were expressed in the City of Delft in the Netherlands, in the late 1960s. However, the city ignored the concerns for years and the community revolted. They took over their streets and placed couches and other furniture in the streets, not to block motorists completely but to slow them down and regain the suppressed community roles of their streets. Contemporary traffic calming was invented. Soon thereafter, the methods were refined and became national policy. The practices spread across Europe and expanded in scope to include arterial calming, VMT-reduction, better land use and transportation planning, etc. Fortunately, the City of South Pasadena recognized the community's concerns and created a interactive design process, also known as a "charrette", to help address them. Peacefully, but passionately, people discussed the issues, learned and became informed, and collaborated with stakeholders and the City staff on a setting a direction forward for the roles and design of the streets in the city.

Existing Roles and Designed Roles of the Three Arterial Streets

Fremont Avenue

Fremont Avenue is a two-lanes street. Some segments have turn lanes and other segments do not. It is the only street in South Pasadena, that extends for the whole length of the city north to south. Freemont Avenue's northern terminus is at Columbia Street, which is also South Pasadena's boundary with the City of Pasadena. Approximately 160 feet to the west along Columbia Street is the southern terminus of Pasadena Avenue, a north-south street in Pasadena. About 1.1 miles to the north, Pasadena Avenue becomes the Long Beach Freeway/ Highway 710. Consequently, Pasadena Avenue and Fremont Avenue are the north-south receiving route for the highway traffic. So, one of Fremont Avenue's current roles to carry high volumes of through traffic and truck traffic, even though this part of Fremont Avenue is not a legal truck route.

South of the border and north of the downtown, Fremont Avenue supports a typical-looking residential street. Within the downtown, Freemont Street's role is to be part of the connected street network to provide multimodal access the mix of land uses in the downtown. South of downtown, Freemont Avenue's role is to support multimodal access to local schools, medium density homes, and various businesses. However, the above roles are severely compromised by the volume and behaviors of motorists cutting through the city.

The segment of Freemont Avenue, south of Huntington Drive and north of Alhambra Road (the border with the City of Alhambra), is a three-lane street. It primarily serves a residential neighborhood with a frontage of commercial land uses, along Huntington Drive, including a popular grocery store on the southeast corner, Grocery Outlet. Consequently, the avenue serves the normal roles of any residential street, except this segment was designated as a truck route. Within the boundaries of South Pasadena, the truck route role does not make sense, considering there is a parallel truck route 300 yards to the west. The rationale for the truck route along a residential street in South Pasadena exists south of the border within the City of Alhambra.

Within Alhambra, Freemont Avenue is also a truck route that leads to West Main Street, an industrial area, and I-10, located 400 yards, one mile, and two miles south of the border, respectively. By designating the residential street as a truck route, the distance that trucks need to travel between I-10 and Fair Oaks Avenue and Huntington Drive to the east, is shortened by 600 yards. It is basically a shortcut for trucks. Finally, this segment of Freemont Avenue is also part of a transit route.

The current thoroughfare and truck route roles of Freemont Avenue are not compatible with the residential land uses and context of Fremont Avenue. The truck and car traffic, that results, cuts off and isolates the western part of neighborhood. Fortunately, the role of Freemont Avenue, between Huntington Drive and Alhambra Road, as a truck route is optional. These problems can be and should be reduced significantly, by removing the truck route designation.

To achieve the desired roles, along the entire length of Fremont Avenue the traffic volumes need to be lowered, the illegal use of the avenue as a truck route curtailed, the motor vehicle speeds calmed, the aesthetics of the avenue improved, and the infrastructure for walking, bicycling, and transit be provided where it is missing and improved where it already exists.

Fair Oaks Avenue

The current roles of Fair Oaks are numerous. It currently is a major thoroughfare for traffic between Huntington Drive, downtown, the Arroyo Seco Parkway/Highway 110, and the City of Pasadena. It is the address of many restaurants, financial institutions, schools, jobs, homes, medical buildings, and other land uses. It is travelled by motorists, transit services, pedestrians, and bicyclists. It is a major contributor to the identity of the city, though not in a positive way. It is how many people perceive South Pasadena as they pass through. The traffic functions have eclipsed the community functions and Fair Oaks Avenue is a barrier to community life. The avenue does not express the values

of the community as a family-friendly, attractive, place that supports historic preservation, its business, and the environment. Its design and current role do the opposite.

The community recognizes that Fair Oaks Avenue will still have to accommodate a level of through traffic but not with same dominating volume, speeds, and design. The desired outcomes include creating:

1. a comfortable, slower, and multimodal avenue that provides comfortable access to the land uses along and across the avenue, the neighborhoods, and the downtown;
2. a seam that connects the community, as opposed to a barrier that divides it;
3. a place that businesses can thrive;
4. a contributor to the image of the city, highlighting the three main "character areas" of the avenue (i.e., the mixed-use area north of Highway 110, the commercial and downtown area between Highway 110 and Monterey Road, and the mixed use and institutional area between Monterey Road and Huntington Drive);
5. a comfortable connection for all modes across Highway 110; and
6. an entrance sequence, from the north, that expresses to people entering the City of the South Pasadena's community values and establishes driver expectations for slower speeds and the presence of people out walking and cycling.

Huntington Drive

The wide right-of-way and serpentine alignment of Huntington Drive is a remnant of its past roles. Prior to the construction of the Arroyo Seco Parkway, Huntington Avenue was the main transit route into Los Angeles. The median was used by the Monrovia-Glendora Line of the Pacific Electric Railway (owned by Henry Huntington). The transit service began in 1902, when cars were still experimental, to support real estate development of the valley. There were two-way streets on both sides of the tracks. When the train line ceased service in 1951, the area where the tracks were, became a median and the two-way streets on each side were made one-way. The right turn channels leading to Fair Oaks Avenue are large because they formerly were used for trains as well.

The current role of Huntington Drive in South Pasadena is an east-west arterial street in the south part of the city. It provides access to several neighborhoods, low and medium density housing, offices, restaurants, and other commercial land uses. It connects to other cities along its route, including Los Angeles, to the west, and San Marino, to the east. Currently, the main purpose is to facilitate fast, through traffic. The design attributes that reinforce this role include six through lanes, the 40mph posted speed limit, the lack of enclosure, lack of bicycle facilities, infrequent pedestrian crossings, and the median that denies left turn and through movements to 60% of the cross-streets. The latter causes circuitous routing for local trips while rewarding long trips. The median also results in the higher traffic volumes on the cross streets that do have full access, onto or across Huntington Drive, which reduces the quality of life on those cross streets. In other words, the median on Huntington Drive imposes an unwanted traffic on the streets with full access.

On the positive side, in many locations, the sidewalks are buffered by a landscaped strip and on-street parking. The on-street parking is a remnant of the era when: i) the rail service accommodated the longer trips; and ii) the two-way streets that paralleled the tracks served local access roles.

Overall, the Drive is barrier in the city. Its roles, design, and aesthetic do not reflect the values of the community. The desired roles for Huntington Drive are those that prioritize the community and place functions over the traffic functions. The community recognizes that Huntington Drive will have accommodate a level of through traffic but not with same domination in terms of volume, speeds, and design. The desired outcomes include creating:

1. a comfortable, slower, and multimodal street that provides comfortable access to the land uses along and across the Drive, and to the neighborhoods;
2. a seam that connects the community;
3. a place that businesses can thrive;
4. a contributor to the image of the city;
5. an entry sequence, from the east and west, that expresses the South Pasadena's community values and establishes driver expectations for slower speeds and the presence of people out walking and cycling; and
6. achieving greater utility of the open space that is located at the intersection with Fair Oaks Avenue.

Evolution of Ideas Over Time

The design process in a charrette is an evolution. It is not like a protracted, conventional, process, during which three complete, discrete, options are designed and evaluated at the consultant's office. Then the options and the consultant's pros and cons are distributed to stakeholders, the city, and the community for input and comments. Then a preferred options is identified. First, there are usually not three discrete option that can equally fulfill the desired roles and achieve the desired outcomes of the community. Second, the design team already knows a lot of what is desired based on its discovery process with the community, stakeholders, and City staff. Third, in a collaborative process, like a charrette, it is more efficient and effective to evolve the preferred concept collaboratively, starting with design components and outcomes that are already givens, based on the discovery process at the start of the charrette, which captured people's values, aspirations, and concerns.

Figure 51: Charette Process At the City of South Pasadena

For example, the presence of street trees and comfortable sidewalks are givens. Complete streets and slower speeds are givens. The widths of the rights-of-way are givens. A fundamental choice that has to be made is the number of through lanes. So, the design team, compares, two-lane, three lane, four-lane, and five-lane options and makes a design choice. That choice is vetted with balance of the design team, the Client team, the public, and others during the various feedback loops during the balance of the charrette. During this vetting, several considerations are made about this one component. The main considerations are: i) does it advance the desired role of the street; and ii) does it fulfill the city-wide goals about VMT-reduction, economic prosperity, image, etc. Similar choices are made about left turn lanes, right turn lanes, raised intersection, on-street parking, the type of bike facilities, crossing, etc. Some decisions are straight froward, based on principle. For example, the choice about right-turn lanes in a slow-speed, urban environment, where rewarding speed is not desired, and where street trees, comfortable walking, and comfortable cycling are desired. Consequently, no right turn lanes were recommended anywhere in the city. So, one by one, the design is composed and adjusted.

During this process, "critique" occurs to help with the composition and adjustments. Critique occurs in four ways:

- The Desk Critique is the most informal and frequent type. It takes no organization or preparation. Usually, it involves one critic and an individual designer, in an ad hoc manner, at the designer's table. The desk critique can be initiated by the designer or the critic.
- The Round Table Critique is an internal critique in which a few people gather around one or more drawings on a table. The participants address one or more design challenges/issues facing the designer(s). Round Table Critiques do not need a lot of notice and often occur spontaneously.
- The Internal Pin-Up is more formal than a Round Table Critique. It requires a small amount of preparation to set up the maps, diagrams, design concepts, lists, etc., on a wall or series of tables, needed to tell the story. Typically, there are few critics, and someone acts as the facilitator to keep things moving.
- The External Pin-Up is the same as the Internal Pin-Up but there are critics who are not from the design team. They could include the City staff, a political figure, some stakeholders, etc. Often External Pin-Ups are used near charrette milestones, like prior to public meetings, so that the critics can help with the concepts and help frame the issues and messaging and help to achieve the best input and results.

Critique is the quality assurance (QA) process for ensuring good quality design ideas. Critiques quickly get to heart of issues in real time as the design is evolving. Some of the questions that are explored are:

- How is this advancing the role of the street and the community values?
- Who are the users and what are their needs?
- How is this relieving a pain point or fulfilling an aspiration?
- Is this a best practice in this context? Is there a better way?
- What was your thought process that resulting in this?
- What and how is the context framing the design component and its composition?
- How is this responding the constraint(s)?
- How does this integrate with what is nearby and the whole street/neighborhood/district/city?

The above is not a checklist for critics. Experienced critics can usually zero in on the breadth of the design's strengths and weakness readily and help the designer evolve the design accordingly. Less experienced critics usually bring up ideas that they need clarification. This results in discussion and exploration of the applicable design principles which can add value to the design. In all its forms, critique is a constructive and ongoing activity during the design process that improves the quality of the design and saves time. It also helps create teaching moments for both the critics and the designers.

Big Ideas

At the beginning of the charrette, the design team's objectives were to find ways to:

- address the community's concerns, involving safety, to quality of life, placemaking, walkability, etc.;
- set a direction that would enhance the city in terms of equity, image, quality of life environmental stewardship, and economic development;
- avoid taking away things that some people likely value (i.e., to minimize tension and unnecessary controversy); and
- increase "mobility."

Community members told us they want to be able to comfortably ride their bikes, walk to places, and cross the street. They wanted their kids to be able to walk to school. "Mobility" in South Pasadena ought to include everyone who has mobility needs, such as the young, elderly, disabled, different genders, different income levels, walkers, pedestrians, cyclists, transit users, students, workers, truck drivers, delivery people, etc. It is a best practice to design the streets to be context-sensitive; consequently, increasing "mobility" needs to be done in context-sensitive manner as well. In and around South Pasadena, "mobility" is the populations' capabilities and strategies, to move in order to access and provide what people need to live and thrive.

Movement in South Pasadena is not done for the sake of movement. It is done for a purpose (i.e., to access something like work / work-related sites, customers/ suppliers, shopping, doctor/dentist, family/personal, church/school, social/recreational/entertainment, etc.) More movement is not good for the city. However, more trip-making is good because it is a measure economy activity and social activity. With good land use and transportation planning, South Pasadena can grow its populations and economy (i.e., grow its trip-making) and shrink its traffic (i.e., lower vehicle-miles-traveled /lower VMT) via reducing their city's modal split by automobile, and shortening the average trips lengths. The secret is to lower the automobile modal split and the average trip lengths at a greater rate than the increase in trip-making. By doing this, South Pasadena can grow its population, economic vibrancy, and social connectedness while lowering its traffic volumes. Over time, South Pasadena will evolve to join the ranks of the most sustainable and safest cities is the world. The key is to think of "mobility" in a city-friendly way. This aligned with the community values and helped inform the design direction for the three arterials.

Early in the charrette it, it became obvious that the common denominator/fundamental problem that contributed to the community's concerns and stifled their aspirations was excessive motor vehicle volumes (too much VMT) and poor driver behaviors (excessive speeds and aggressive driving), city-wide. Solving this fundamental problem is made challenging by conventional values, expectations, and practices that, for decades, have prioritized high levels of service (LOS) for motorists over most everything else.

Knowing how the problem was created helps with solving the problem. Following WWII, the automobile was new and

exciting. The prevailing vision was pro-automobile and, in a word, was "motordom." Motordom made it normal and progressive to believe that everyone should be able to drive short or long distances, during peak hours, with high levels of service, to and from anywhere to anywhere else. The idea was the common denominator linking daily activities was the automobile. Computer models and speed-oriented performance metrics were developed to enable motordom. Streets were widened and sped up accordingly, particularly the arterial streets to enable long and fast trips by car. Highway were cut through the cities. However, it was never enough. Latent demand filled up arterial streets and highways after they were widened, and the outcomes worsened. Vehicle-miles travelled (VMT) increased. Spillover effects occurred on parallel non-arterial streets. To pursue motordom at higher and higher levels, the trade-offs inflicted on communities got worse, such as the diminishment of quality of life, placemaking, walkability, equity, safety, image, environmental stewardship, air quality, and economic development. The team realized that, in South Pasadena, the community had reached the point that the trade-offs, to advance motordom, had gone too far. They had enough and they required a course correction.

To address the concerns and advance the community' vision, there would be new trade-offs, but in the other direction. In South Pasadena, it was time to reprioritize and restore many of the street functions that the community valued but had lost or were diminished, even if it meant purposefully rolling back motordom.

Along the three arterials, Fair Oaks Avenue, Huntington Drive, and Fremont Avenue, the design team developed starter ideas that reallocated space within right-of-way, from motorists, to other street users and community purposes. Design speeds the car-carrying capacities were lowered. However, community members from other streets (e.g., Orange Grove, Mission Street, Monterey Road, etc.) throughout the city, pushed back due to: i) similar problems on their streets: and ii) concerns that their problems would get worse due to "transfer effects" from redesigning and altering the roles of the three original arterials. The only feasible remedy was to apply the pro-community solutions across the whole city in a holistic manner. That idea was equitable. It was defendable, there were precedents in foreign and domestic cities. It was the right thing to do. And it achieved a community consensus. The trajectory was set to develop the ideas for the original three arterials in the study as well as other key streets in the city. The bottom line was reducing traffic, city-wide was necessary to achieve the community's aspirations.

Evolution of the Ideas for Fremont Avenue

The thought process for designing Fremont Avenue was different than those for Huntington Drive and Fair Oaks Avenue for a few reasons:

Freemont Avenue is the only two-lane, non-truck route, in the original three arterials.

- Historically, it was not a transit corridor nor a major north-south route in South Pasadena or in Pasadena. The Freemont/Pasadena Avenue route had two off-set intersections. There was one at the intersection with Columbia Street, which still exists, and another at Bellefontaine Street, where the "wishbone" was built to remove the offset. Further north, at Walnut Street, Pasadena Avenue veered to the northwest and ended, in about two thirds of mile, at a bluff, where Blake Street is today. Consequently, the original roles of Fremont Avenue, in South Pasadena, and Pasadena Avenue, in Pasadena, did not include them being a north-south throughfare.
- Before the Highway 710 sub was built, it's role in South Pasadena was a regular residential street north of the downtown and a regular downtown street in downtown.
- Residents shared how the community function had suffered due to the traffic functions (e.g., feeling trapped in their homes, not being able to access their own driveways, unable to comfortably cross the street, an inability to socialize on the street, etc.) Two women who had lived across the avenue from each other for about a decade met for the first time at the charrette. Ironically, they were describing the barrier effect of the avenue at the time.

In 2022, Caltrans relinquished the right-of-way for the 710 Stub to the City of Pasadena. It was an early step to remove the Stub and correct its negative impacts on the community. One of those negative impacts was the creation of excessive volumes of impatient cut-through traffic along Pasadena Avenue a Freemont Avenue. Someone at the charrette referred to the problem as a "car cannon." Consequently,

the design team aimed to begin the restorative process of reducing the traffic volumes and calming motorists' speeds on Freemont Avenue.

Part of the thinking was to reduce the car-carrying capacity of the intersection by removing lanes. This is consistent with the city-wide goal to reduce VMT. Consequently, the current traffic volumes simply won't be able to pass through the intersection. This would normally be considered a "bottleneck." However, the intent is to lower the car-carrying capacity along the remainder of Freemont Avenue so that excessive volumes of traffic can no longer arrive to the intersection of Columbia Street from the south. In other words, the intent is to create a consistent car-carrying capacity in the future that is less than the car-carrying capacity today. The result will be less traffic on Freemont Avenue

To reinforce driver courtesy, several traffic calming measures were combined in the design:

- A bulbout was placed on the west side of Freemont Avenue to shorten pedestrians crossing distances, provide a place for a street tree to reinforce the sense of enclosure/narrowness, and to protect the end of the on-street parking row on the west side of the street.
- A valley gutter is proposed between the parking row and the travel lane to optically narrow the avenue in the absence of parked cars and lower the camber of the crown of the avenue.
- The east-west raised crossing combined with tight corner radii helps to reinforce slow speeds for motorists and makes the pedestrian experience more comfortable.
- Street trees were planted in the furniture zones/ landscape zones to create a sense of enclosure for motorists and increase shade and comfort for pedestrians and cyclists.

From a complete street perspective, a shared use path was placed on the east side of the avenue. In-street bike lanes are not comfortable for most cyclists and separated bike lanes would require too much space. The east side of the street was chosen for the shared use path due to fewer conflicts with driveways and a safer crossing at Columbia Street by keeping pedestrians and cyclists from crossing within the "confluence: of the off-set interaction. Note that the term "confluence" means the segment of Columbia Street, between the two avenues, that is shared by both north-south traffic and east-west traffic. The bike lanes on Columbia Street were designed to connect the shared-use path with the bike facilities that the City of Pasadena is proposing for Pasadena Avenue.

The sum of the changes, at and near the intersection with Columbia Street, are intended to set driver expectations and provide an attractive entry sequence into the City of South Pasadena and the neighborhood.

The northern part of Freemont is sloped downward from north to south, resulting in faster southbound speeds. The current design of the intersection with Buena Vista Street looks like it was intended to encourage high speeds around the curve. It's wide open and the motorists turning right (i.e., southbound to westbound) are provided with a right turn lane. That allows drivers, turning right, to slow down for their turn without slowing down other drivers who are following them. The original intent was likely to reduce rear-end crashes between drivers turning right and through traffic, but the design remedy promotes faster speeds which contribute to a host of other problems. Currently, there is a single pedestrian crossing on the west approach.

The design intent of the team was to remove high speeds completely from this intersection, and on the avenue in general with the following changes:

- Tighten up the cross-section of the avenue in general.
- Create a sense of enclosure with street trees.
- Provide bulbouts on both sides Buena Vista Street at the intersection.
- Allow pedestrians to cross both streets.
- Control the intersection with all-way stops.
- Provide a bulbout on southwest corner of the intersection on Fremont Avenue.
- Note the best practice throughout this entire plan, is to place bulbouts, each with a street tree, at the ends of every dedicated on-street parking row. Also, place a valley gutter between every dedicated on-street parking row and the adjacent lane. Note that half of the valley gutter's width is included in the width of adjacent lane and the other half is

considered part of the dimension of the parking row. The intent of the bulbouts and the valley gutter is to narrow the optical with of the street.

Note that the right of way is approximately 60 feet wide. Consequently, it is impossible to fit what is provided on the avenue today and everything else that that is needed to achieve the desired outcomes for the avenue. The least important component of the cross section was the on-street parking on the east side. It was removed to make space for the other, more important components. It was removed from the east side because fewer homes face Fremont on the east side, compared to the west side.

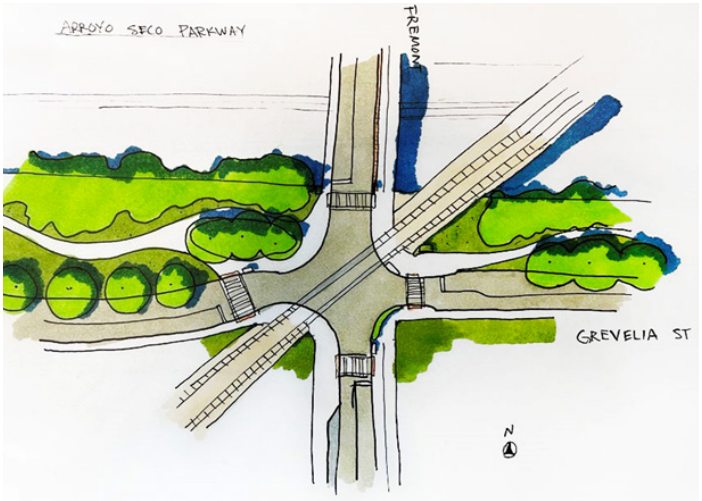


Figure 52: Proposed Intersection of Fremont Avenue and Grevelia Street

At Grevelia Street, the right-of-increases from 60 feet to 80 feet. Consequently, the cross section can include more components. The recommended cross section is two motor vehicle lanes, valley gutters, bulbouts, and a sidewalk and landscaped buffer on the west side. On the east side on there is a two-way separated bike facility, detectable strip (to help guide people, especially people with vision disabilities), and sidewalk. The reasons that the designers went from a shared use path to a sidewalk and separated bike lanes are: i) there will likely be more pedestrians and cyclists downtown, compared with further north; ii) multimodal comfort will be higher; and iii) there is enough space within the right-of-way. The two-way, separated bike lanes are proposed to extent all the way to Alhambra Road.

The signalized intersection with Grevelia Street is complicated by a set of train tracks that cross the intersection diagonally(see Figure 52). Presently, there is only two pedestrian crossings at the intersection. The intersection is located immediately south of a bridge over Highway 110. The eastern sidewalk over the bridge is closed. The sidewalk on the west side about 4.5 feet wide. There are no bike facilities over the bridge. The two motor vehicle lanes over the bridge are each 18 feet wide. Presently, the placements of rail-gates interfere with the sidewalks. Overall, the design of the bridge and intersection creates an obstacle to pedestrians and cyclists. For people who do walk or cycle through this space, it is an unpleasant and uncomfortable experience.

To address the problems, a roundabout was considered for the Grevelia Intersection. The team adjusted the shape of the roundabout several times but determined it was infeasible due to the constrained space. Consequently, the team focused on adjusting the shape of the signalized intersection, the width of the lanes on the bridge, and the other three approaches, until several objectives were reached and could be proposed:

- Bike and pedestrian facilities are proposed to cross the east side of the bridge;
- A wider sidewalk is proposed to cross the west side;
- Crosswalks are proposed on all four approaches of the intersection;
- Bicyclists can cross the tracks at about 90 degrees which is safer than at a shallow angle;
- Pedestrian and bike waiting spaces are available for when the trains pass, and the gate-arms come down;
- The gate-arm on the west approach is proposed to be altered such that it crossed the entire approach, the concrete channelization be removed, and the approach narrowed;
- The 0.5-acre, unused, open space, on the north side of west approach, should be made into an usable public space. It should be designed with consideration of what may occur on Grevelia Street to the east as part of the Fair Oaks recommendations. There is not a lot of public space in this area and a passive place to walk one's dog, sit down, or eat your take-out from a nearby restaurant would be welcome.

At the Mission Street intersection, the idea is to have as compact an intersection as feasible. It is proposed to be a raised intersection to: i) slow motorists, ii) give pedestrian and cyclists priority; iii) make the crossings easier for people who use wheelchairs or have other disabilities; iv) highlight the location of Mission Street, especially if it were paved decoratively; and v) provide the flexibility to make segments of Mission Street a "flush street/barrier-free street." The design team located the bus stops on Mission Street, on the west side of the intersection because a new bus service is proposed, and its route involves Mission Street to the west of his intersection and Freemont Avenue to the south.

Bulbouts and valley gutter were proposed on Mission Street too. This results in the previously mentioned benefits. However, for Mission Street, valley gutters provide the additional benefit of making paving the street with clay bricks more affordable. That's because only the travel lanes need to be paved with brick and a change in material can be for the parking rows 9such as permeable concrete. Clay bricks create texture which is a traffic calming measure. Plus, clay brick pavers would help beautify the street.

All the right turn lanes are proposed to be removed from Fremont Avenue, for the previously mentioned reasons.

For the intersections, near the high school and Catholic school, they were designed similarly to that of Mission Street, and for the same reasons. The big difference is that there are no turn left-turn lanes at any of the intersections near the schools to minimize crossing distances.

Presently, of the curbside activities near the schools include pick-up and drop off areas for cars, and pick-up and drop-off areas for school busses. The intent is to provide the flexibility for these activities to continue. The concept drawings show parking rows on both sides of Freemont Avenue. However, these spaces should be considered as flexible zones for curbside activities. The space could be divvied up for pick-up drop-off by car, bus, or TNC, and/or street parking. Flexibility is the key so that the space best meets community needs. The space could even change over the course of a day or a week. For example, there could be pick-up and drop-off during school days, and on-street parking during non-school days and evenings.

However, the bulbouts are important when discussion curbside activities. The bulbouts are necessary because it is not a best safety practice for any of these curbside activities to occur too close to intersections. The bulbouts self-enforce what some people call "daylit intersections" which is key to reducing fatal and serious injury crashes.

The rational for the design of Freemont Avenue, south of Huntington Drive, was covered well in the section about truck routes. However, additional rationale includes the following.

- No turn lanes are recommended to capacity-constrain this segment of Freemont Avenue, to discourage through traffic and trucks, to and from I-10 and the industrial areas to the south.
- A northbound transit queue jump lanes was provided, south of Huntington Drive. A southbound transit queue jump lanes was provided north of Alhambra Road. The reason is that this segment will be busy, and the queue jump lanes will help with the transit vehicles with their headways.
- A raised crosswalk is proposed across the north approach to the intersection with Alhambra Road. Similar to the raised crossing at the city's northern border at Columbia Street, it helps to set driver expectations, as they enter South Pasadena, that pedestrians are present and to slow down.
- Presently, two northbound lanes cross Alhambra Road and merge on Freemont Avenue. Irresponsible drivers race to get ahead of other drivers prior to the merge. This behavior will be stopped by having only one receiving lane on the north approach to the intersection. This is also consistent with the city-wide goal of reducing VMT. The avenue is also proposed to be a s constrained as feasible to discourage truck drivers from short-cutting.

Evolution of the Ideas for Fair Oaks Avenue

The population of South Pasadena is about 27,000 people with a land area of 3.44 square miles (2,200 acres). It has a transit-rich history and was developed on a traditional, connected, network of streets. If it were a stand-alone city, then an objective of the design team would be to plan and design the streets to be peaceful, walkable, bikeable, attractive, and two lanes. The team calls such cities, "two-lane towns," not counting transit lanes. If South Pasadena had a network of two-lane streets, they could easily handle the city's traffic volumes, provide modal options (as was the case historically), and result in great places. However, it is not a stand-alone city. South Pasadena a small part of the largest metropolitan region in the US (i.e., it's one of over 200 cities in the Greater Los Angeles Region with a population of 20,000,000 and an area of about 34,000 square miles). Consequently, motorists from South Pasadena routinely drive to other parts of the region and vice versa, while other motorists simply cut through South Pasadena. Thus, a two-lane town, is not feasible in the near term. However, driving from everywhere to everywhere else in the region, incurring high VMTs, is not sustainable and erodes quality of life, public safety, etc. The region is car-dependent and out-of-balance and, so is South Pasadena, which was a common thread of the charrette's public input. So, the design team recommendations are designed to put South Pasadena on a trajectory to achieve a better balance by reducing VMT and cut-through traffic, while positioning South Pasadena to better meet its own needs within its borders. Furthermore, the design team hopes that South Pasadena's example with inspire other cities in the region to do the same because then everybody will benefit. The bottom line for the design team was that, in South Pasadena, some streets and roads will need to have more than two through lanes. The design team recommends that those include Fair Oaks Avenue, Huntington Drive, and Highway 110.

Specifically, the design team recommends that Fair Oaks Avenue be a five-lane avenue (i.e., two lanes in each direction, with left turn lanes). The result is that Fair Oaks will carry traffic that has no origin or destination in South Pasadena. The cut-through drivers have a self-interest to drive quickly which is not in the interest of the community. The good news is that traffic volume and traffic speeds are separate ideas. So, the design team's recommended cross sections and intersection concepts incorporate several traffic calming measures.

From north to south the rationale for the design choices will be summarized.

The design team wanted to get the attention of travelers' attention, regardless of their mode of travel, as soon as they cross Columbia Street into South Pasadena with the cross section. As discussed previously, the recommendation cross section was five lanes. However, the narrowest feasible lanes widths, that is 10', were recommended to help reduce speeds, increase safety, and create space for other components of the cross section. Parking, to service the residences, businesses, and the museum, was recommended on both sides, with valley gutters and landscaped (with trees) bulbouts.

The team considered two-way separated bike lanes on one side and shared use paths, but one-way, separated bike lanes on both sides suited the context better. They make signal phasing and timing simpler. They align with drivers 'expectations better (i.e., cyclists ride in the same direction as motorists), which is important on Fair Oaks Avenue due to the mix of drivers including a higher percentage of people from out of town compared to a typical street in South Pasadena.

The bridge over Highway 110 is trying to serve the interchange ramps, State Street to the east, and Grevelia Street to the east and west, and north-south traffic. It is a complex place and cannot do all its functions well. It is barrier to walking and cycling. It has limited queueing space. The most problematic queue is for the northbound to westbound turns onto the highway. It backs into the through lanes. To address this, consideration is being given to a loop ramp in the northeast quadrant. However, there are space constraints, grade issues, and the highway is historic.

To address the difficult left turns at the interchange, the team developed an indirect-left-turn concept, which involves the motorists passing through the interchange and then, north of interchange, where there is plenty of queueing space, make a U-turn and then turn right onto the westbound ramps to highway. The rationale for the indirect left turn concept includes:

- it is a simple project compared to the loop ramp;
- a lot of money will be saved by not having to pay for an unnecessary environmental process;
- time and money will be saved by not have to

develop loop ramp concepts;

- a large sum of money, that was contemplated to be used for implementing the ramp, would be saved and uses for other purposes;
- indirect left turns are a proven strategy and are common at problematic intersection;
- it would also save a lot of City staff time that could be better used on other efforts that more directly help the residents of South Pasadena;
- the left turn lanes and the related channelization can be removed, freeing up space for the bike and pedestrian infrastructure to continue over the bridge; and
- green time in the traffic signal cycle, previously used by the left turns would be available for the remaining approaches.

The U-turn intersection, associated with the indirect left turns, would involve acquiring some right-of-way from narrow, vacant strip of land, located between the War Memorial and the parking lot for the Dermatology Arts building. The design team assigned two traffic calming purposes to the U-turn intersection. It would be used a lateral shift for and a gateway treatment into South Pasadena. Combined with the proposed cross section, a strong message will be sent during the arrival experience regarding the community values of South Pasadena as a place of beauty, inclusivity, and multimodalism.

Evolution of the Ideas for Huntington Drive

Huntington Drive, a seven-lane thoroughfare with on-street parking, faces significant safety challenges due to excessive speeds and traffic volumes, resulting in severe crashes and hostile conditions for pedestrians and cyclists. Residents highlight the importance of improved access to homes, businesses, and perpendicular streets, with the Grocery Outlet being particularly difficult to reach. Stakeholders emphasize the need for a slower, safer street with traffic calming measures, maintained on-street parking, and amenities such as street trees, benches, and shorter pedestrian crossings for enhanced comfort and safety. Transit users echo these sentiments, calling for accessible transit stops and shelters, while motorists seek improved access, legibility, and consistent reduced speeds. Overall, there is a consensus that driver behavior and the street's aesthetics need improvement, particularly regarding the southern arrival experience into South Pasadena.

As a team during the discovery week of the charrette for Huntington Drive in South Pasadena, it's evident that the current configuration of the street presents significant challenges, including excessive speeds, safety concerns for pedestrians and cyclists, and poor access to businesses and amenities. Community input highlighted the desire for a safer, more inviting street that addresses these issues while enhancing overall aesthetics and functionality.

To address these concerns, some of out initial big Ideas included:

- Road Diet and Complete Streets: The proposed cross-section involves reducing Huntington Drive from seven to five lanes, creating separated bike lanes, and incorporating features such as shade trees, accent palm trees, valley gutters, and bulbouts with shade trees. This transformation aims to improve safety for all road users while enhancing the visual appeal of the street.
- Frontage Street: The intersection of Huntington Drive, Fair Oaks Avenue, and Fremont poses accessibility challenges, particularly for businesses on the southern side of the street. To alleviate this, a frontage street along the south side of Huntington Drive was proposed, facilitating clearer and more direct access to businesses. This two-way street provides improved access for motorists entering from Fair Oaks Avenue, Huntington Drive, and Fremont Avenue.
- Pine Street Transformation: Pine Street serves as a high-speed shortcut for motorists, leading to safety concerns and crashes. The proposal suggests converting the west end of Pine Street into a public green space or pocket park, discouraging cut-through traffic and enhancing safety. Additional traffic calming measures may be implemented if motorists continue to use Pine Street as a shortcut.

Permanent Projects and Temporary Projects

Design and building all the recommendations permanently and expeditiously would be best for the residents, businesses, city image, tax base, and the City. However,

approvals, additional stakeholder and community involvement, design work, staging projects, staff time, contractor availability, and budgets make the perfect scenario infeasible. The reality is that it will take time. As an option, some of the challenges can be ameliorated somewhat by implementing projects or parts of projects temporarily. The idea is to approximate the permanent projects as much as feasible, using low-cost materials, such as paint, planters, portable barriers, art, flexible posts, etc. Then, when the budgets, designs, approvals, etc. are in place, then the temporary projects can be replaced with permanent projects.

The decision to build permanently or temporarily needs to be done on a case-by-case basis. Below are some factors to consider when making those decisions. Permanent projects deliver better outcomes than temporary projects. However, there can be several benefits to temporary projects, shown below in the regular font. There are also risks and disbenefits to temporary projects, shown below in italics.

i) If there is a desire to conduct a demonstration project to prove a concept to doubting stakeholders, then a temporary project can help. This is an option when case studies, testimonials, etc. aren't enough. However, sometimes the existing situation creates constraints that prevents a representative demonstration project. In other cases, the aesthetics of the demonstration project are so poor that they overshadow the positive outcomes and create opposition to a good otherwise good idea. In these cases, the demonstration project might backfire and result in more doubt or even opposition to the permanent project.

ii) Temporary projects can allow experimentation to occur for innovative designs that have uncertain outcomes. However, no recommendations, in this study, are experimental. Hypothetically, if the situation were to occur, in South Pasadena, then experimentation is a good idea. However, if the temporary project differs for the permanent project in a manner that would cause the temporary project to fall short of the expectations for the permanent project, then the remedy is to redesign the temporary project until it is close enough to the permanent solution to be a worthwhile experiment or do the permanent project with the assurance that it will be removed if it fails.

iii) Some positive change can be gained by implemented temporary projects when there is a highly pressing need that cannot wait for a permanent solution. Whether it is a safety need, connectivity need, or a political need, sometimes a temporary project is the only feasible means to address the need. Just be careful to explain to everyone involved the limitations of the temporary project to manage the expectations that the outcomes may not be same as those of a permanent project, and that the staff time and resources used to do the temporary project may delay the permanent project.

iv) Temporary projects are very helpful when there is one or more missing network connection that need to be in place to make other permanent projects perform better (e.g., closing one or more gaps in a bike lane project that is being implemented permanently in stages). Typically, there are few downsides for this kind of temporary project because the risks associated with having gaps are greater than the risks of doing the temporary projects.

v) There are insufficient funds to build the permanent project. Temporary projects cost money too. The designs of the temporary projects cost money. The monitoring and sometimes evaluating temporary projects cost money. The additional public involvement with doing two projects (i.e., a temporary project and a permanent project), instead of one, costs money. Though temporary projects are well meaning, the risk is that the combination of the costs of the temporary projects and the consumption of staff time, can slow down applying for grants and implementing permanent projects. If the lack of funds is a real problem, then consideration should be given to using some of the funds, that would have used on temporary projects, to apply for grants to pay for the permanent projects. This allows the staff and financial resources to focus on permanent projects.

vi) The biggest benefit of temporary projects is that portions of the desired outcomes of the permanent project can occur faster than they would otherwise. However, when City staff time is limited, using it for designing, implementing, and monitoring temporary project may delay greater benefits if that staff time were used to pursue funding and implement permanent projects.

BULBOUT

13

Anatomy of the Bulbout

Designing a street with bulbouts is a best practice when there is a parking row along the street. Note that the parking row is usually use for on-street parking, but it can be used for loading areas, TNC pick-up and drop-off purposes, school pick-up and drop off, etc. Think of the parking row as a flexible zone for curb-side functions. The benefits include:

- shortening the crossing distances for pedestrians and cyclists;
- self-enforcing the parking regulations (i.e., drivers cannot park too close to the intersection);
- creating better visibility between pedestrians and cyclists and motorists;
- creating room for a street-tree to be planted which produces shades and comfort for pedestrians and cyclists, and a sense of enclosure for traffic calming purposes; and
- it prevents aggressive drivers from overtaking in the vicinity of intersections when other motorists are turning.

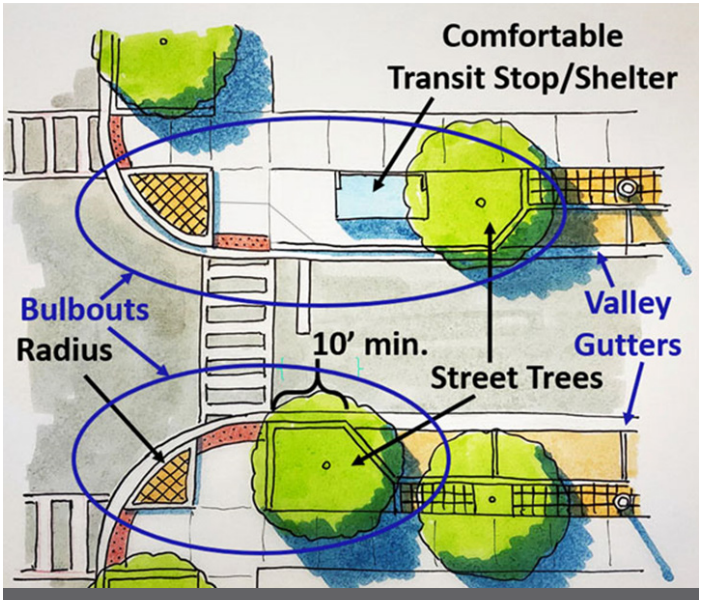


Figure 53: Typical Bulbout Design

Notice the corner detail in Figure 53 and the placement of the ADA ramps. The ramps align as close a feasible to 90 degrees to the street being crossed, and such that the crossing distance is minimized. Between the two ramps, there is a pie shaped corner island. It has orange pavers in the figure. It is surrounded by a curb. The curb has a 6" reveal along the side of the ramp for a minimum of 48", measured from the back of the warning surface. There is a similar curb on the opposite side of the ramp, next to the landscaped strip.

There are three purposes for these vertical curbs next to the ramps:

1. to provide a vertical surface to help guide people with vision disabilities to the crossings (this is aided by paving the pie-shaped triangle with pavers that contract with the ramps in color and shade);
2. to discourage motorists from driving over the corner, where pedestrians may be waiting;
3. avoid the need to use any bollards; and
4. maximize the landscaped space.

Note that in the example that there is a flare between the ramp and the bus stop. It is normal practice to place a flare next to a ramp in locations where a person might cross the ramp perpendicularly. Because someone might walk or roll between the ramp and the bus stop, there is a flare. On all the other sides of the ramps, there is either the pie-spaced triangle or a landscaped area. Consequently, nobody will be crossing the ramp perpendicularly in those locations. So, a vertical curb is used.

Note that, regular curb and gutters, along the edges of the travel lanes, are 24 inches wide (i.e., six inches for the top of the curb and 18 inches for the gutter). When a regular curb and gutter at a bulbout transitions to a valley gutter, it is best practice to align the valley gutter and the curb and gutter (i.e., align the back of the curb with the edge of the valley gutter closest to the parking row, and align the outer edge of the gutter with the edge of the valley gutter closest to the adjacent lane. See Figure 54.

Also, shown on Figure 54 is the curb detail where the valley gutter and curb and gutter meet. It is difficult to compact the base for bricks in a 45-degree angled corner. So, the corner is filled in with an extension of the valley gutter.

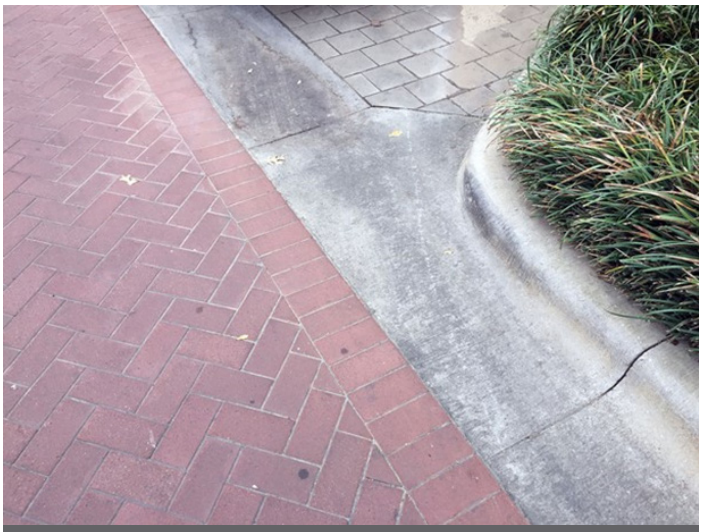


Figure 54: Detail for the Transition between a Valley Gutter and Curb and Gutter

Assume for a moment that the street in Figure 53 has 11' travel lanes and 8' parking rows. So, the curb-to-curb width of the street is 38 feet. The dimension between the centers of the valley gutters is 22 feet. At the intersection, where the curb and gutter is around the bulbouts, the vertical curbs are 6 inches farther from the travel lanes than the center of the valley gutter. So, at the bulbouts the curb-to-curb dimension is 23 feet wide. With this curb-to-curb dimension, an normal corner radius is 23 feet. This accommodates a WB40 design vehicle to turn the corner with full encroachment. This ensures that school busses and fire trucks can turn the corner. Note that, on fire routes, bus routes, and other locations where full encroachment is not desirable, then changes to the intersection design would be needed such as a larger turn radius, a greater throat width, etc.

At the end of the turn radii, a curb needs to be built along the tangent for a minimum length of ten feet parallel to the street. See Figure 53. After that, the curb can turn 45 degrees and form the end of the first parking stall. Obviously, the tangent can be longer that ten feet to accommodate an adequate area for a street tree, for bus stops, or for other reasons. The tangent section is necessary so that the bulbout is noticeable to drivers. If there is no tangent, then the bulbout will be too short, drivers will not notice it, and they will hit the bulbout.

Other advantages of valley gutters include:

- Midblock bulbouts can be placed in the parking row for a variety of reasons (i.e., to reinforce the sense of enclosure with street trees, to keep motorists from parking too close to a driveway, to create places for outdoor dining, etc.)
- Bulbouts can be lengthened to make space for a bus stop, without changing the location of the catch basins.
- Midblock bulbouts can typically be lengthened, shortened, or removed without affecting the drainage. Exceptions exist when the midblock bulbouts are used for a rain garden or catch basin.
- In narrow rights-of-way, choices must be made regarding the elements that can and cannot fit within the available space. Without bulbouts and valley gutters, sometimes a choice must be made between a row of on-street parking or a landscaped strip with street trees. However, with bulbouts and valley gutters, it is feasible to place street trees and on-street parking in the same row. See Figure 53, which shows a regular spacing of two parking spaces, then a street tree, the two more parking spaces, and so on. The pattern can be one tree then one parking space, or it can be variable.
- The valley gutter can lead the storm water to a flume which directs the water into a rain garden in a bulbout.
- Sand, grit, trash, etc. tends to migrate to the valley gutter where it can get swept up easily. With a conventionally crowed street, the sand, grit, and trash migrates to the back of the parking row where it is harder to maintain.
- For winter cities, the valley gutters require the catch basins to be placed next to a driving lane. Thus, after plowing snow, it is easier to keep the catch basins open, compared to conventionally crowned streets where the catch basins are at the back of the parking lanes.

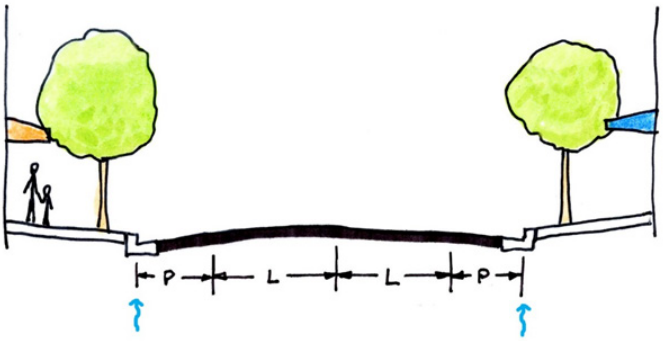


Figure 55: Conventional Curb and Gutter

Figure 56: Valley Gutters

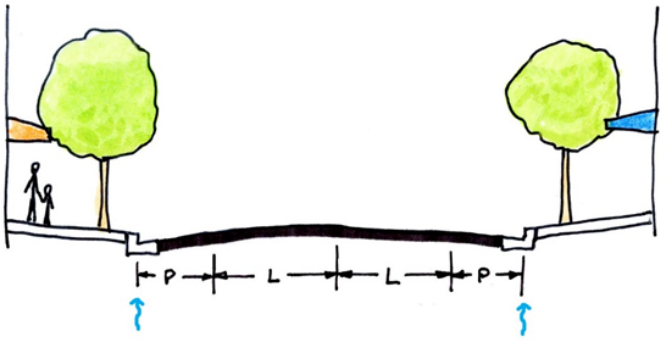


Figure 57: Wide Optical Width

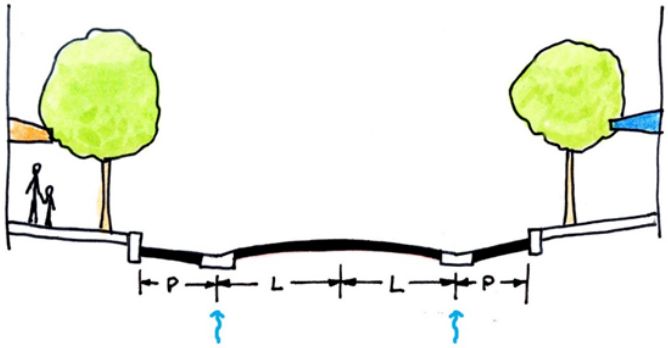


Figure 58: Narrow Optical Width

Valley Gutters

It is a best practice to use valley gutters in conjunction with bulbouts. One purpose of valley gutters is to move the lowest part of the cross section from the edges of the furniture zone to between the parking row and the adjacent lane. Stormwater runs from the parking row and the travel lanes to the valley gutter and then along the street to a catch basin, flume into a rain garden, a French drain, or other type of drain. See Figures 55 and 56.

Wide Valley Gutters

Valley gutters are usually 24 inches wide. 12 inches is considered part of the parking row and the other 12 inches is considered part of the adjacent lane. The valley gutters optically narrow the street which is a traffic calming measure. This effect exists with and without the presence of parked cars. See Figure 57 and 58.

Crown of Travel Lanes

Because the parking rows slope down towards the valley gutter, the crown of the travel lanes is lower than it would be with a conventional crown. See Figure 59 and 60. Note the arrow in both figures is at the same elevation. The change in profile with the valley gutter has several advantages over conventional profiles, including:

- In extreme rain events, a higher volume of stormwater can be held before the level of the water rises above the top of the curb.
- The sidewalks are higher than the crown which improves aesthetics.
- It is easier to design and build raised crossings and raised intersections.

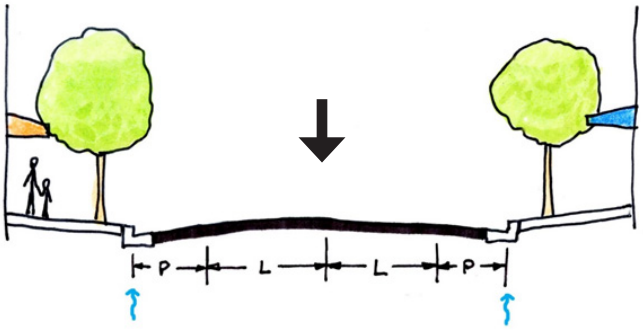


Figure 59: High Crown with Conventional Drainage

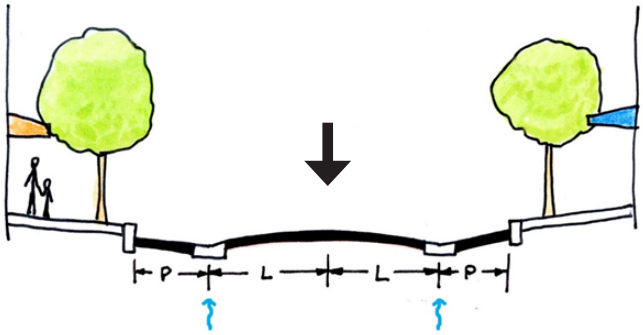


Figure 60: Lower Crown with Valley Gutters

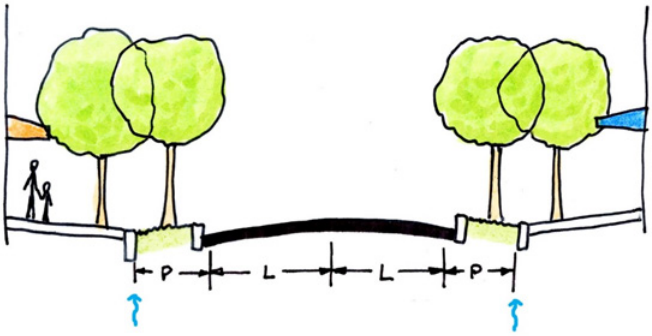


Figure 61: Bulbouts Slope Up with a Conventional Crown, Creates Ponding Problems

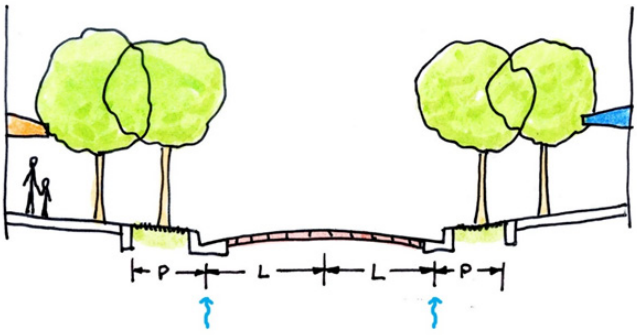


Figure 62: Bulbouts Slope Down with Valley Gutters, Resolves Drainage Problems

Valley Gutters

The valley gutters create the ability to use different paving material materials in the parking row and for the travel lanes. For example, brick pavers can be used for the travel lanes which creates texture (a traffic calming measure) and improve aesthetics. This contrast in materials enhances the optical narrowing of the street. Similarly, permeable bricks, bricks of a different color, concrete, permeable asphalt can be used in the parking row. There are plenty of other options for material changes. See Figure 61.

Bulbout at Intersections

It is best practice to place street trees in bulbout at intersections and at mid-block bulbouts, to reduce the optical width. With conventional drainage the bulbouts either: i) slope towards the sidewalks which creates drainage challenges like ponding; or ii) the reveal on the curb around the bulbout is made to small to be adequately visible and effective. See Figure 62. With valley gutters, the bulbouts slope towards the valley gutter and there is a full reveal on the curb.

Flush Streets

Flush streets are barrier-free for people with mobility disabilities. This is beneficial during a normal day. However, during special events, when the street is closed to motorists, the street is effectively a plaza from face-of-building to face-of-building, where everyone can move around without curbs to block there way or to trip over. Furthermore. it allows for more flexibility for setting up events.

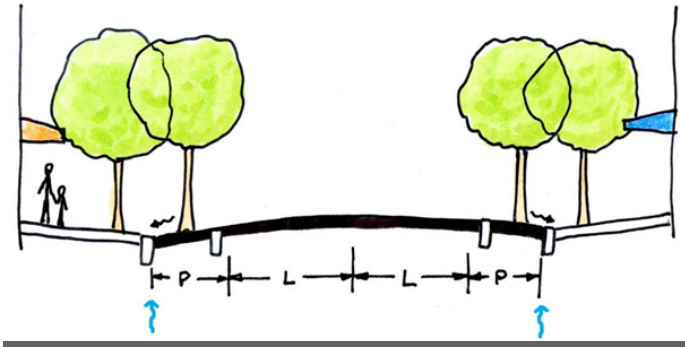


Figure 63: A Conventionally Crowned Street is not Conducive to being a Flush Street due to the Drainage Line being Next close to the Sidewalk

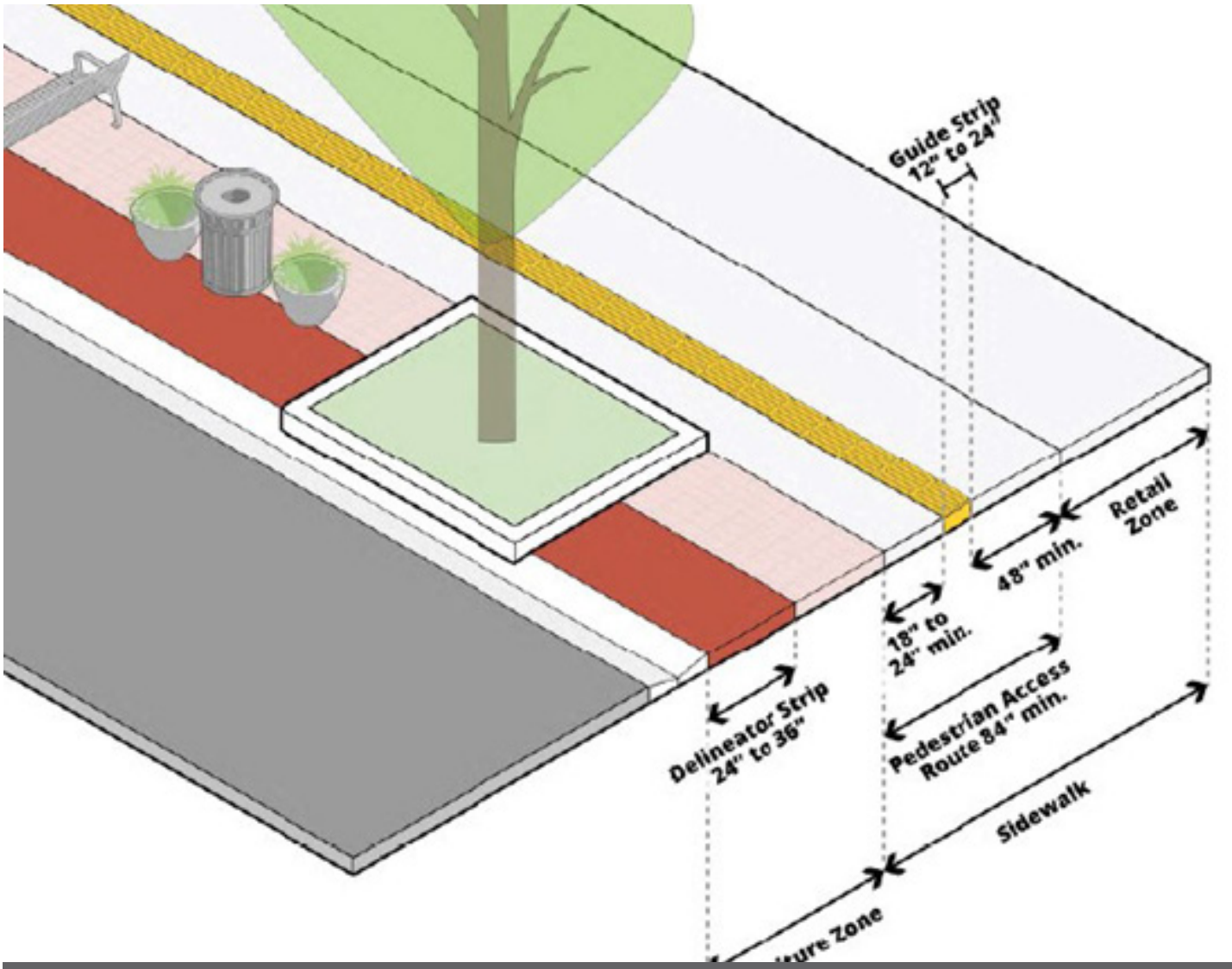


Figure 65: Typical Layout of Guide Strips and Delineator Strips on the Edge of a Flush Street.

Flush streets lack curbs that people with vision impairments use for guidance. Following a curb line can be difficult too, due to signs, street trees, etc. However, there are tactile guide systems that can be added to sidewalks, plazas, and even large buildings, like train stations, that are more effective and more predictable than curbs for people with vision disabilities to follow. See Figure 64 for a typical layout of the edge of a flush street. Figure 65 shows an example of a guide strip. The example is from an international airport, where the guide strip leads people from the arrivals curb to the check-in counters, gates, and other important destinations at the airport. For passenger leaving the airport, the guide strips help guide people to the baggage claim areas and the transit platforms.

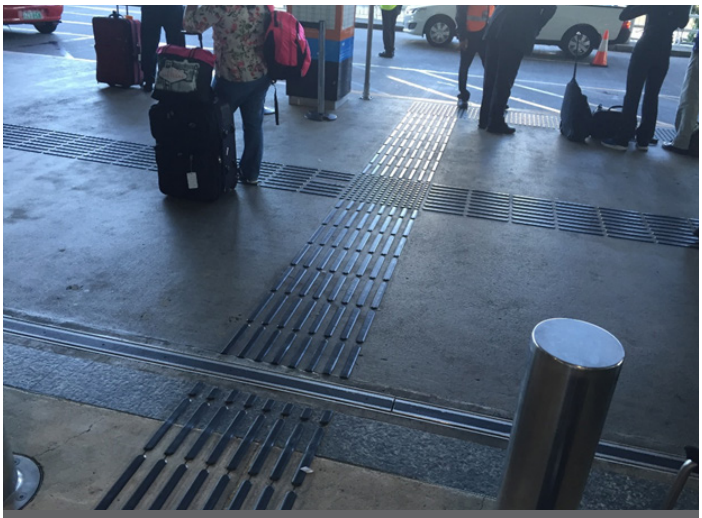


Figure 66: Example of Guide Strips

NEXT STEPS

14

Next Steps

Next steps should include:

- Review the list of other streets that need the similar attention as the three original arterials because there may be such streets that were not brought to the design team's attention during the charrette.
- Advance the concepts for the other streets, that did not receive the same design attention as the three original arterials.
- Conduct planning level cost estimates for the design and implement of the concepts for the three original arterials.
- Prepare traffic calming concepts for Marengo Avenue, Ramona Avenue, La France Avenue, and other streets that are used for shortcutting. Note that most of these streets are not primary fire routes and their problems can be successfully solved relatively inexpensively with "periodic traffic calming measures" such speed humps, mini-traffic circles, chicanes, etc.
- Mission Street is currently an important emergency services route. To fulfill that role, the design team recommended a three-lane section. If it were not an emergency route, then the recommendation would have been a typical cross section of two lanes. Mission Street would better serve it roles as the city's high street/main street if a substitute emergency services strategy or route could be identified that meets the needs of the emergency services departments of the City.
- Collaborate with the City of Pasadena on ways to reduce traffic volumes on Pasadena Avenue and Fremont Avenue. It is in both City's interests to reduce the north-south cut-through traffic along those avenues.
- Establish a position or hire a consultant to position the City for grants, and to apply for grants to help pay for the study's recommendations.

Considered but Rejected Options

As was explained in the section on evolving the concepts, there were no other discrete options developed. At the beginning of the project, the design team was open to all options but, as explained, the options were informed by the community values and aspirations and iteratively built up and evolved in a collaborative process. A range of options were considered for the components of each concept but were not typically drawn. So, for example, if a four-lane to three-lane road diet was recommended, then, options were considered that involved two-lane sections and five-lane sections and keeping the four-lane section.

Priorities

1. Stop any travel lane-related project that will increase car-carrying capacity in the city. Do not plan to add any through lanes, auxiliary lanes, or turn lanes anywhere in the city.

2. Remove the truck route designations from Mission Street and Fremont Avenue.

3. Close Pine Street, west of Dos Robles Place. Alter the north end of Dos Robles Place to allow eastbound to southbound right turns.

4. Collaborate with Pasadena on a permanently design to reduce the north-south car-carrying capacity of the intersection of Pasadena Avenue, Columbia Street, and Fremont Avenue

5. Build the U-turn facility on Fair Oaks Avenue to ameliorate the interchange problems at Highway 110. Design the projects as an early implementation step of the recommendations for Oaks Avenue. Restripe the interchange's bridge, temporarily, to connect the conventional bike lanes on the north and south sides of the bridge, until such time as the other Fair Oaks recommendations are implemented.

6. Collaborate with Pasadena on a permanently design to reduce the north-south car-carrying capacity of the intersection of Pasadena Avenue, Columbia Street, and Fremont Avenue.

7. Plan, design, and implement the traffic calming projects on the non-emergency routes. These position the three original arterials for change.

8. Collaborate with emergence service departments on a study to remove the emergency services role from Mission Street between Fair Oaks Avenue and Meridian Avenue.

Thoughts on Truck Routes

Truck drivers are required to stay on truck routes unless their destination is not on a truck route. At those times, they must use the shortest reasonable route between the nearest truck route and the destination, respect areas that have truck restrictions, or use the route stipulated by the jurisdiction. The City of South Pasadena has the authority to determine the truck routes within its boundaries, provided they comply with State regulations. Two changes to the truck routes in South Pasadena are recommended.

i) Remove the truck route along Mission Street. This street's roles in the city should primarily be about maximizing social and economic exchange, place-making, pedestrian comfort, celebration, events, and civic identity. Its roles are diminished substantially by incompatible roles such as providing high levels of service for motorists and routinely accommodating freight and goods movement. Its role as an emergency services route also detracts from its high street/main street roles, but that role is necessary until an acceptable alternative is determined.

ii) Remove the truck route from the south portion of Fremont Avenue, between Huntington Drive and Alhambra Road. It is primarily a residential street within a traditional neighborhood. Shortening the truck drivers' route to and from I-10 by 600 yards is not sufficient justification to keep this truck route. The City of Alhambra ought to consider removing the truck route designation on the residential segment of Freemont Avenue between Alhambra Road and West Main Street. Truck routes should be on streets that have designs and land use compositions that are suitable for truck routes. Specifically, the westbound to southbound trucks should stay on Huntington Drive, and then use West Main Street to access Freemont Avenue, along which they would head south towards I-10. The same route would apply for the northbound to eastbound trucks, but in reverse order.

Lastly, informal/illegal truck routes should be discouraged through various means including design. Based on community input, City staff input, and field visits, Freemont Avenue is currently an informal/illegal and inappropriate truck route role. The avenue ought to be designed to accommodate South Pasadena's and Pasadena's fire trucks and school busses but not designed for routing use by large trucks such as tractor trailers. Those vehicles ought to be rare and should be considered a "control vehicle" such that, when turning, they are required to encroach into opposing lanes and onto reinforced curb returns when signal poles and signs, etc. are not present. The idea is to physically discourage drivers of such trucks from using Freemont Avenue. The smaller trucks are difficult to discourage through geometric design. However, slower speeds, outreach to local businesses that routinely use trucks, and periodic enforcement can help.

ITEM 3

Approval of Minutes of the Regular Mobility and Transportation Infrastructure Commission Meeting on September 17, 2024

CITY OF SOUTH PASADENA
MOBILITY AND TRANSPORTATION INFRASTRUCTURE COMMISSION

MINUTES
REGULAR MEETING
Tuesday, September 17, 2024, AT 6:33 P.M.

CALL TO ORDER:

Chair Hughes called the Meeting of the South Pasadena Mobility and Transportation Infrastructure Commission to order on Tuesday, September 17, 2024 at 6:47 P.M. in the City Council Chambers, 1424 Mission Street, South Pasadena, California.

ROLL CALL:

PRESENT	Chair	Kimberley Hughes
	Commissioner	Eric Dunlap
	Commissioner	John Fisher
	Commissioner	Larry Abelson
COUNCIL LIAISON	Mayor	Evelyn Zneimer
ABSENT		
	Commissioner	Michelle Hammond

Phillip Tran, Management Analyst, announced a quorum.

CITY STAFF PRESENT:

Ted Gerber Public Works Director (PWD); Daniel Garcia, Management Analyst (MA) were present at Roll Call

PLEDGE OF ALLEGIANCE

The Flag Salute was led by Commissioner Abelson.

PUBLIC COMMENT

1. PUBLIC COMMENT – GENERAL (NON-AGENDA ITEMS)

In-person Public Comments
No comments.

PRESENTATION

2. MARENGO AVENUE SAFETY ASSESSMENT PRESENTATION

Michael Siegel from the Marengo PTA presents the Active Transportation Program, emphasizing its benefits for children, including improved attention, test scores, and mental health. He explained details about the program's initiatives, including a "bike bus", bike clinics, and walk-to-school Fridays. Michael highlighted the community's support and the program's success in reducing morning congestion and air pollution.

Discussion ensued and Michael and staff responded to questions raised by the Commission. The commissioners suggested different avenues to explore as funding sources for the program.

In-person Public Comments

Walter Okitsu commented about funding for active transportation programs such as clinics and so forth.

3. PROJECT STATUS UPDATE

Recommendation
It is recommended that the Commission receive and file an update on the status of projects related to the City's mobility and transportation Infrastructure.

PWD Gerber gave a brief project update.

Staff responded to questions raised by the Commission.

ACTION/DISCUSSION

4. REVIEW OF NORTH - SOUTH CORRIDOR (FAIR OAKS) ITS DEPLOYMENT PROJECT

Recommendation
It is recommended that the Commission review and provide feedback on the design progress of the North-South Corridor (Fair Oaks) ITS Deployment Project.

PWD Gerber presented on this project and outlined the priorities and what this project entails. Walter Okitsu, a consultant with KOA was present and provided information and clarification as needed during the discussion with commissioners. These are 30% plans regarding traffic signal improvements throughout the city on Fair Oaks. Discussion continued and PWD Gerber and KOA consultant, Walter Okitsu, provided answers and feedback to the commissioner questions and comments.

Commissioner Dunlap excused himself at 9:57pm due to an early commitment the next morning at the end of the discussion regarding item 4.

5. APPROVAL OF MINUTES OF REGULAR MTIC MEETING ON AUGUST 20, 2024

Recommendation

It is recommended that the Commission review and consider approval of the August 20, 2024 Regular MTIC Meeting Minutes.

Chair Hughes requested an amendment to the second page of the minutes from the August MTIC Meeting.

COMMISSION ACTION AND MOTION

A motion was made by Chair Hughes, seconded by Commissioner Fisher to approve the minutes as amended. The motion carried 3-0

AYES: Hughes, Fisher, Dunlap
NOES: None.
ABSENT: Dunlap, Hammond.
ABSTAINED: None.

COMMUNICATIONS

6. **CITY COUNCIL LIAISON COMMUNICATIONS**

Mayor Zneimer made an announcement regarding the city's multicultural event happening on September 28. This event is called Around the World and signifies diversity and inclusion. It is taking place next Saturday from 11am to 3pm on Mission Street and the main stage will be located at the community building at the South Pasadena

7. **COMMISSIONER COMMUNICATIONS**

Commissioner Fisher made a comment about tall bushes block the City of South Pasadena sign and suggested trimming them back so drivers can read the name of the city there are entering. He also observed that along with more bicyclists using the bike lanes on Grand Avenue, he has noticed more pedestrians and runners using them and is concerned about their safety. He suggested that future implementations should include an educational component to reminder joggers and walkers that they are supposed to use the sidewalk and not the bike lanes for their safety.

Commissioner Abelson noted that the first national roundabout week is this week. He mentioned a very interesting article about the safety benefits from roundabouts that he would share to everyone. He expressed that he is happy to be back and lastly, he raised a concern about yellow center line striping visibility throughout the city.

Chair Hughes asked about updates regarding the Toole Design concepts and lastly wanted to acknowledge a city treasure. Ellen Daigle was a beloved member of the community and was recognized as an outstanding businesswoman and a pillar of the community.

8. **STAFF LIAISON COMMUNICATIONS**

ADJOURNMENT

There being no further matters, Chair Hughes adjourned the meeting of the Mobility and Transportation Infrastructure Commission at 10:07 p.m. to the next Regular Mobility and Transportation Infrastructure Commission meeting scheduled for October 15, 2024.

Respectfully submitted:

_____
_____
_____

APPROVED:

_____
_____
Chair

Approved at Mobility and Transportation Infrastructure Commission: _____