

## Attachment A: Description of City of Pasadena's Proposed Measure M MSPII Projects

This attachment briefly describes the projects the City of Pasadena is proposing to include in the Measure M Multiyear Subregional Plan for FY 2022-23 – FY 2023-24 (MSP II). These projects either are in the adopted capital budget or have been previously approved by the City Council for the purpose of seeking other potential project funding.

The projects listed below are in priority order in each of the two categories of Transit and Complete Streets and were selected based on:

- Project eligibility;
- Project readiness;
- Category of the project (modal connectivity and complete street along with transit projects);
- Review of the Fiscal Year 2020 Adopted Capital Budget;
- Existing City plans, including the Mobility Element of the General Plan;
- Metro performance measures along with Arroyo Verdugo Cities project evaluation based on the project's ability to address performance measure;
- Additional project development by City staff;

Preliminary cost estimates per project and previous Measure M fund information can be found in table 1.

Before MSP II funds become available to the communities, the MSP II must be approved by Metro. As funding becomes available, Metro will enter into funding agreements with individual communities for projects included in the MSP II plan.

### TRANSIT PROJECTS

#### **Pasadena Transit Maintenance Facility – \$30,000,000<sup>1</sup>**

This project provides for the construction of a Transit Operations and Maintenance Facility (TOMF). The proposed transit facility will support operations and maintenance of the Pasadena Transit and Dial-A-Ride services fleet, including accommodating 30 compressed natural gas buses and 15 paratransit vehicles, with the capacity to accommodate a complete zero emission fleet.

The existing bus yard at 303 North Allen Avenue is leased and operated by the City's transit service contractor. This location has always served as the bus yard used by the contractors who have operated the City's transit services. Several issues with the current bus yard have made it imperative for the City to locate and construct a TOMF. Due to the growth in local transit services, the existing bus

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<sup>1</sup> This project has been awarded a total of \$3,035,612 Measure M funds during the 5-year MSP program. The total project cost has been estimated at \$33,000,000.

yard is no longer large enough to store all of the Pasadena Transit buses and Dial-A-Ride vehicles. The size constraint of the current bus yard has resulted in having to store and operate a number of buses out of facilities several miles away; additional expenses are incurred in order to lease the additional vehicle storage space. Furthermore, there is no assurance that the current bus yard site will be available in the future as a bus yard because it is privately owned. The proposed TOMF will address the existing deficiencies of the current bus yard by providing a single site that can accommodate storage, cleaning, fueling, maintenance and dispatching of all the Pasadena Transit buses and Dial-A-Ride vehicles. The proposed TOMF will eliminate over 175 miles of daily deadhead (non-revenue) miles that are required to simply fuel the vehicles. By owning the TOMF and not requiring the service contractor to provide an operations and maintenance facility, the City may also be able to secure a reduced hourly contract rate by taking the leasing cost out of a contractor's rate.

#### **Purchase Replacement and Expansion Buses for Pasadena Transit – \$12,800,000<sup>2</sup>**

This project provides for the purchase of replacement transit vehicles and expansion transit vehicles for the City of Pasadena's fixed-route transit system.

The project includes:

- Replacing 17 existing 32' transit buses exceeding useful life with 35' CNG buses
- If CARB requires EV replacement, 24 EV equivalent of CNG buses
- 24 EV power infrastructure for charging Pasadena Transit Vehicle Fleet.
- This project provides for the purchase of transit vehicles for expansion of the transit system to help address overcrowding on the higher demand routes for the City of Pasadena's fixed-route transit system.

#### **Bus Stop Improvement Program – \$1,700,000**

This project provides for bus stop upgrades citywide to ensure accessibility to, from and within bus zones as well as improved and enhanced amenities for transit users. These bus stop improvements may include the installation of concrete and sidewalk repair to improve accessibility; lighting; purchase and installation of signage and wayfinding information, including real-time arrival information and other technology; bus stop signs; purchase and installation of trash receptacles and other amenities to improve bus stop conditions for transit customers.

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<sup>2</sup> This project has been awarded a total of \$700,000 Measure M funds during the 5-year MSP program. The total project cost has been estimated at \$13,500,000.

**Purchase Transportation Service Associated with Capital Vehicle Acquisition – \$15,700,000**

Purchased transportation services that are required for service delivery associated with the capital acquisition of vehicles. This is 5 years of service based on the Pasadena SRTP. The project will result in:

- 10 min frequencies on Route 10 (Colorado Blvd) and Route 20 (Lake Ave and Fair Oaks Ave) weekdays
- 15 min frequencies on Route 10 (Colorado Blvd) and Route 20 on Saturdays (Lake Ave and Fair Oaks Ave)
- Saturday morning start Pasadena Transit at 7am instead of 11am
- Extend weekday service on Pasadena Transit until 10pm
- Extend Route 40 (Villa Ave) to South Lake with 20 min frequency

**Purchase Replacement Buses (2024) – \$15,575,000**

This project provides for the purchase of replacement transit vehicles and expansion transit vehicles for the City of Pasadena's fixed-route transit system.

**Replace Aging Bus Stop Shelters – \$4,000,000**

This project provides for the installation of new bus shelters, bus benches, bus stop amenities and concrete paving at various bus stop locations throughout the City.

**COMPLETE STREET PROJECTS**

**North Hill Avenue Complete Street Program – \$365,000<sup>3</sup>**

Hill Avenue between Villa Street and the northern city limit at Topeka Street was evaluated for potential safety enhancements through a City-sponsored program in 2016- 2017. This program began with the development of a working group that included residents and other stakeholders, and culminated with a list of potential enhancements to reduce vehicular speed and enhance pedestrian, bicyclist and motorist safety. The list of potential enhancements includes bulb outs at twelve intersections and traffic circles at the intersections of Hill Avenue with Topeka Street and Elizabeth Street. The I-210 freeway has both eastbound and westbound on-ramps and off-ramps at Hill Avenue, making it a heavily traveled

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<sup>3</sup> This project has been awarded a total of \$1,135,020 Measure M funds during the 5-year MSP program. The project cost has been estimated at \$1,500,000.

corridor. Design is currently underway for these enhancements, but construction funding has not yet been identified.

### **Pedestrian Crossing Enhancement Project – \$750,000**

This project provides for the installation of enhancements to uncontrolled marked crosswalks, including the design and installation of enhanced pedestrian signage with lights known as Rapid Rectangular Flashing Beacons (RRFB), pedestrian traffic signals, bulb outs, median islands, enhanced crosswalk markings and other pedestrian safety enhancements. This project addresses potential safety hazards for pedestrians attempting to cross at uncontrolled marked crosswalks, consistent with the City's Complete Streets vision.

### **New Traffic Signals for Pedestrian Connectivity – \$1,700,000**

This project provides for the installation of three new traffic signals along key multimodal corridors with the goal of improving pedestrian safety and connectivity. The three intersections are:

- Del Mar Boulevard at Michigan Avenue – This intersection meets the Peak Hour traffic signal warrants per the California Manual on Uniform Traffic Control Devices (CAMUTCD). This location also has a significant volume of pedestrians crossing at a currently uncontrolled location. Installation of a traffic signal at this intersection will reduce delay and enhance safety for motorists and pedestrians.
- Orange Grove Boulevard at Craig Avenue - The intersection of Orange Grove Boulevard and Craig Avenue is located near the midpoint of an almost one-mile uninterrupted segment of Orange Grove Boulevard (between Allen Avenue and Altadena Drive). This intersection meets the coordinated signal systems warrant as defined in the California Manual on Uniform Traffic Control Devices (CAMUTCD), and provides a right-of-way control point to group traffic and improve traffic flow. Craig Avenue is identified as a Bicycle Boulevard in the Mobility Element of the General Plan, and installing a traffic signal at this intersection provides a controlled crossing point for bicyclists and pedestrians.
- Orange Grove Boulevard at Sunnyslope Avenue - The installation of a traffic signal meets the traffic signal warrants under the System Warrants category. The proposed signal will provide a controlled pedestrian crossing along a half-mile uninterrupted segment of Orange Grove Boulevard between Sierra Madre Boulevard and Sierra Madre Villa Avenue. The signal will also provide traffic platooning and gaps to allow for additional crossing opportunities at the other unmarked or uncontrolled crosswalks along this stretch of roadway.



### **Citywide Continental Crosswalk Implementation – \$5,100,000**

This project provides for the systematic replacement of existing marked crosswalk striping with Continental style crosswalk at 340 signalized intersections and 70 marked uncontrolled crosswalks, citywide. The Continental crosswalk design provides greater visibility of the crosswalk markings, and reduced maintenance costs, since the design allows for the markings to be placed to avoid the wheel path of through traffic. The installation of Continental crosswalk markings at existing locations requires the removal of the two traditional parallel lines that mark the crosswalk limits. The development of an implementation plan will be completed in 2021 for this effort, utilizing Transportation Department Operating Budget.

### **Pasadena Bicycle Program – Greenway Implementation – \$8,300,000**

This project provides for the implementation of traffic calming measures along the following Greenways identified in the Bicycle Transportation Action Plan; El Molino Avenue, Wilson Avenue, Sierra Bonita Avenue and Craig Avenue. Greenways (also known as bicycle boulevards) are roadways recommended for bicycle use and often connect to bike lanes and bike paths. Greenways are designated with signs and sometimes with "sharrows" (bicycle arrows painted on the road). Greenways often incorporate traffic calming measures that minimize car speeds in order to increase cycling comfort. Traffic calming measures may include speed humps, in-road medians, bulbouts, traffic signals to provide controlled bicycle crossings and other similar physical improvements intended to encourage safe driving. In FY2020, the feasibility of Greenway enhancements were studied through the Pasadena Bicycle Program to develop a list of potential projects. Those projects are reflected in this Greenway project scope.

### **Allen Ave. Complete Street Enhancement Project – \$1,500,000**

This project includes pedestrian safety enhancements along Allen Avenue from Villa Street to Colorado Boulevard to enhance the safety and walk-ability of this vital pedestrian connection to the Metro Gold Line Allen Station. Enhancements include: widening the sidewalk on Allen Avenue, north of Walnut Street; constructing curb extensions/bulb outs at intersections; upgrading traffic signal hardware including traffic signal controllers and cabinets to provide enhanced pedestrian and bicyclist safety features; and modifying roadway signing and striping to reduce speeding and encourage non-auto travel along this corridor.

The initial phase of this project has been completed. This phase involved public outreach and the completion of a concept study including preliminary engineering and environmental review.

### **Pedestrian and Bicyclist Automated Data Collection – \$1,400,000**

As the City of Pasadena continues to pursue the complete streets policies identified in the Mobility Element of its General Plan, the ability to collect, analyze and process pedestrian and bicyclist data takes on a more important role. This project provides for the installation of multimodal count stations that would collect motorist, pedestrian and bicyclist counts at 36 locations within a half-mile of the six Gold Line stations in Pasadena. The project would create an extensive database of multimodal traveler information, and would provide the analysis tools to report out on performance measures and make informed decisions based on advanced analytics. This project has preliminary been estimated to have a capital cost of \$1.4 million.

### **Lake Avenue Gold Line Station Pedestrian Access Improvements – \$600,000**

This project provides for streetscape improvements to a 1.06 mile portion of Lake Avenue beginning at the Gold Line station at Corson Street to the southern terminus at California Boulevard. Work will include the addition of a mid-block crossing with pedestrian signal between Cordova Street and Del Mar Boulevard and new crossing signal at Granite Drive; installation of a new pedestrian-scale street lighting system with foundations; electrical, conduit and fiber-optics; widening of sidewalks; elimination of a “pork chop” island at Union Street, modification of right turn lanes at Del Mar Boulevard; ADA compliant curb ramps; and in-fill street trees..

### **Mountain Street Complete Street Project – \$1,000,000**

This project calls for traffic calming designs between Hill Ave and Allen Ave along Mountain Street. Currently installation of stop signs on Mountain Street and Sierra Bonita Avenue along with physical islands are proposed. Permanent, physical islands will increase driver awareness of the east-west stop signs and the intersection as a whole. The project calls for a roundabout on the intersection of Mountain Street and Sierra Bonita Avenue.

### **Old Pasadena and Playhouse Districts Pedestrian Improvements – \$5,700,000**

This project would enhance pedestrian accessibility and safety in two business districts, Old Pasadena and Playhouse districts, using the existing Alleyways and Streets Plans as a guideline. Through a collaborative effort with the Old Pasadena Management District, the City has identified four locations for potential mid-block crossings, controlled by pedestrian signals or other safety enhancements, and has initiated design for two locations. This project also provides for potential pedestrian enhancements in the Playhouse District.

### **Citywide Transportation Performance Monitoring Network – \$2,700,000**

This project would provide for traffic signal controller upgrades at up to 300 intersections, the upgrade of up to 100 traffic signal cabinets and the installation of fiber optic communication infrastructure to provide a redundant high bandwidth network. Upgraded controllers would collect high-resolution data, allowing for the development of improved coordination plans, reducing delay for roadway users while simultaneously providing the ability to manage traffic speeds. This would be for arterial performance monitoring and reporting.

### **The Arroyo Link – \$1,000,000**

The Arroyo Link would be a combination of Class III and Class I paths connecting the in-progress bike facilities on Union Street (a protected cycle track) to the existing Arroyo Seco Path. Upon future completion of the Arroyo Seco Path to the Los Angeles River path, the Link could provide a key connection in the regional bicycle network to Old Pasadena, Pasadena Civic Center and Pasadena City College.

This project has not yet been designed, and cost estimates have not yet been developed. However, most of the project would utilize city streets, and only about 1,000 feet of new, off-street path would be required. This segment – between Orange Grove Boulevard and the Arroyo Seco Path – presents design challenges including topography and existing infrastructural constraints (primarily the Colorado Boulevard access to the Colorado Street Bridge). New bridges and/or tunnels would likely be required. Nonetheless, we believe the project cost should not exceed \$1-2 million, including costs for an initial feasibility study.

**Table 1: PROJECT FUNDING ESTIMATES**

<b>Project</b>	<b>Preliminary Cost Estimate</b>	<b>Fund Request Measure M New MSP</b>
<b>Transit Program Projects</b>		
Pasadena Transit Maintenance Facility	\$33,000,000	\$30,000,000*
Purchase Replacement and Expansion Buses for Pasadena Transit	\$13,500,000	\$12,800,000*
Bus Stop Improvement Program	\$1,700,000	\$1,700,000
Purchased Transportation Services Associated with Capital Vehicle Acquisition	\$15,700,000	\$15,700,000
Purchase Replacement Buses	\$15,575,000	\$15,575,000
Replace Aging Bus Stop Shelters	\$4,000,000	\$4,000,000
<b>Modal Connectivity and Complete Street Projects</b>		
N. Hill Complete Street Project	\$1,500,000	\$365,000*
Pedestrian Crossing Enhancement Program	\$750,000	\$750,000
New Traffic Signals for Pedestrian Connectivity	\$1,700,000	\$1,700,000
Citywide Continental Crosswalk Implementation	\$5,100,000	\$5,100,000
Pasadena Bicycle Program – Greenway Implementation	\$8,300,000	\$8,300,000
Allen Ave. Complete Street Enhancement Project	\$1,500,000	\$1,500,000
Pedestrian and Bicyclist Automated Data Collection	\$1,400,000	\$1,400,000
Lake Avenue Gold Line Station Pedestrian Access Improvements	\$600,000	\$600,000
Mountain Street Complete Street Project	\$1,000,000	\$1,000,000
Old Pasadena and Playhouse Districts Pedestrian Improvements	\$5,700,000	\$5,700,000
Citywide Transportation Performance Monitoring Network	\$2,700,000	\$2,700,000
The Arroyo Link	\$1,000,000	\$1,000,000

\* Portion of funds have been met in previous 5 year MSP