

This attachment briefly describes the projects the City of Pasadena Department of Transportation is proposing to include in the Measure M Multiyear Subregional Plan for FY25 and FY26. The projects in each category have been listed by their priority.

**TRANSIT PROJECTS**

**1. Purchase Replacement and Expansion Buses for Pasadena Transit – \$28,375,000\***

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

The project includes:

- Replacing the existing 32' transit buses exceeding useful life with 32' and/or 35' RNG buses
- If CARB requires EV replacement, EV equivalent of RNG buses
- 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.

This project has been awarded a total of \$5,370,015 (\$700,000 Measure M, MSP I and \$4,670,015 in MSP II) funds in the MSP program. The total project cost has been estimated at \$29,075,000.

**2. Pasadena Transit Maintenance Facility – \$33,000,000**

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 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.

### **3. 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.

### **4. 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.

## **MODAL CONNECTIVITY AND COMPLETE STREET PROJECTS**

### **1. Installation of Crosswalk at Washington Boulevard and Hudson Avenue - \$500,000**

This project provides for the installation of a crosswalk with High-Intensity Activated crosswalk (HAWK) traffic signal at East Washington Boulevard and North Hudson Avenue. This project will enhance pedestrian safety for frequent users of nearby bus stops, Washington Community Center, senior housing, and shopping plaza as the nearest crosswalk is over 500 feet away. This project is located in Northwest Pasadena which is an area that has been targeted for revitalization.

### **2. New Traffic Signals for Pedestrian Connectivity – \$3,131,000**

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:

a. Installation of Traffic Signal and Curb Extensions at Sierra Bonita Avenue and Orange Grove Boulevard - \$970,000

This project includes the installation of a traffic signal at the intersection of Sierra Bonita Avenue and Orange Grove Boulevard.

b. Orange Grove Boulevard at Sunnyslope Avenue - \$481,000

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.

c. Del Mar Boulevard at Kinneloa Ave - \$770,000

This project provides for installation of a new traffic signal at Kinneloa Avenue and Del Mar Boulevard. The project also provides for new sidewalk and curb ramps along the east side of Kinneloa Avenue between Colorado Boulevard and Del Mar Boulevard. Street lighting upgrades, including new street light poles and design, will also be completed as part of this project. The proposed traffic signal at this location will also enhance the safety of the existing uncontrolled marked crosswalk at Kinneloa Street, connecting the Pasadena Community Urgent Care facility on the south side of Del Mar Boulevard to the neighborhood north of Del Mar Boulevard. Additional concrete enhancements including sidewalk and curb ramps along the segment of Kinneloa Street from Del Mar Boulevard to Colorado Boulevard will also provide increased pedestrian connectivity and safety along this corridor. Street lighting upgrades along the corridor will assist in safety and connectivity.

d. Sierra Madre Villa Ave at Electronic Drive - \$860,000

This project provides for the installation of a new traffic signal and associated communication equipment at Electronic Drive and Sierra Madre Villa Boulevard. The proposed traffic signalized intersection will provide a safe pedestrian crossing point along a half-mile uninterrupted segment of Sierra Madre Villa Boulevard and Foothill Boulevard and will provide better traffic platooning and gaps that will further improve safe crossing opportunities for pedestrians and cyclists.

e. Traffic Signal at Del Mar Boulevard and Michigan Avenue - \$50,000\*

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.

\*This project has been awarded a total of \$683,000 Measure M funds for Fiscal Year 23-24 of MSP program. The project cost has been estimated at \$733,000.

**3. North Fair Oaks Roadway Reconfiguration and Multimodal Enhancement - \$2,300,000**

This project provides for the reconfiguration and multimodal enhancement on North Fair Oaks Avenue from Washington Boulevard to the North City limit from the current four-lane undivided configuration to a three-lane (two lanes with continuous two-way left-turn lane) corridor with pedestrian amenities and traffic calming features. This project seeks to revitalize the North Fair Avenue corridor to a street that serves adjacent Pasadena residents and institutions such as the Pasadena Public Health Department, various churches, and senior care and assisted living facilities.

**4. Pedestrian Crossing Enhancement Program – \$1,163,852\***

This project addresses potential safety hazards for pedestrians attempting to cross at uncontrolled marked crosswalks, consistent with the City's Complete Streets vision. 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. Existing uncontrolled marked crosswalks will also be evaluated to determine if warrants for enhanced crosswalk warning devices are met.

Intersections that have been identified as meeting warrants for RRFB are Madre Street between Del Mar Boulevard and Thorndale Road, Los Robles Avenue at Jackson Street, El Molino Avenue at Playhouse Alley, Breese Avenue at Washington Boulevard, Atchison Street at Lake Avenue, Elizabeth Street at Lake Avenue, Halstead Street between Rosemead Boulevard and Foothill Boulevard, Lincoln Avenue at Toolen Place, Paloma Street between Altadena Drive and Sierra Madre Boulevard. Other intersections might be identified in the future.

\*This project has been awarded a total of \$236,148 Measure M funds for Fiscal Year 23-24 of MSP program. The project cost has been estimated at \$ 1,400,000.

**5. 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.

**6. 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, 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.

**7. Pedestrian and Bicyclist Automated Data Collection and Safety Analytics – \$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. This project also provides for the installation of cameras to identify potential risk at intersections through advanced data analytics, providing a tool to address potential systemic safety issues associated with risky behavior. 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.

**8. 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.

**9. Playhouse Districts Pedestrian Improvements – \$650,000**

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.

**a. Playhouse Village – Colorado Boulevard Enhancements from Madison Avenue to Oak Knoll Avenue - Concept Study - \$200,000**

This project provides for a concept study and preliminary design for streetscape enhancements along Colorado Boulevard from Madison Avenue to Oak Knoll Avenue. Improved features include new and additional tree plantings, sidewalk extensions and dining areas, permeable stormwater runoff treatments, streamlined loading and pickup zones, and new and/or enhanced sidewalks.

**b. Two-Way Traffic Conversion - Mentor Avenue from Walnut Street to Colorado Boulevard - Concept Study - \$200,000**

This project provides for a concept study to convert Mentor Avenue from a one-way street to a two-way street between Walnut Street and Colorado Boulevard. Improvements will include: striping changes, signage changes and signal modifications at four or more locations. On-street parking availability will also need to be studied.

The conversion of Mentor Avenue between Walnut and Colorado to two-way traffic will increase vehicular access to important entertainment destinations in Playhouse Village. Re-establishing two-way traffic is the first phase of a longer-term vision to define the area as an entertainment-focused destination created by transforming the street with future enhancements including a raised speed table/ event space, shade canopy and enhanced tree plantings and lighting.

c. Playhouse Village – North Lake Avenue between East Colorado Boulevard and Corson Street - \$250,000

As a primary gateway into Pasadena from the 210 Freeway and Metro L Line, Lake Avenue would be enhanced with streetscape improvements consistent with those found south of Green Street such as a tree-lined median, on-street parking, additional street trees and mid-block crossings. The design of a unified corridor will help signal better arrival into Playhouse Village and downtown Pasadena, while enhancing the public realm for business recruitment and new development, pedestrian comfort and safety, and parking and transit efficiency.

**10. Complete Streets Safety Enhancements at Sunnyslope Ave and Estado Street - \$500,000**

This project provides for the installation of bulb-outs, a median islands and new curb ramps at the intersection of Sunnyslope Avenue and Estado Street, a gateway intersection to the Daisy Avenue/Villa Street Residential neighborhood.

**11. 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.

**12. Pasadena Pedestrian Plan Outreach and Conceptual Design – \$2,200,000**

This project includes the implementation of the Pasadena Pedestrian Plan. The plan has identified ten opportunity corridors with suggestions on pedestrian safety enhancements throughout the City.

**13. 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