ATTACHMENT A

Measure M Multiyear Subreqional Plan (MSP)

City of Pasadena List of Potential Projects – FY27 and FY28

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 FY27 and FY28. The projects in each category have been listed by their priority.

SUBREGIONAL EQUITY PROGRAM

1. **Bus Stop Improvement Program – $ 597,016***

This project will provide for the installation of new bus benches, bus stop amenities, and concrete paving at various bus stop locations throughout the city. The project also includes the replacement of outdated bus stop signs and the purchase of new information components and wayfinding signage; the purchase and installation of bus benches and trash receptacles; and the installation and/or repair of sidewalks and parkways at and/or adjacent to bus stops to improve pedestrian access. Other amenities include bus stop signage to clearly identify stop locations and other customer experience enhancements.

* The total project cost has been estimated at $4,332,093

2. **Citywide Neighborhood Traffic Management Program - Mountain Street (Los Robles Avenue to Fair Oaks Avenue) – $500,000**

The Citywide Neighborhood Traffic Management Program is a comprehensive process for managing traffic volume, travel speeds, and traffic-related noise in the City's residential neighborhoods. The program relies heavily on community input to determine traffic management measures best suited for a particular neighborhood. Specific measures include reconfiguring or installing roadway striping, altering signal timing, installing regulatory or warning signs, and installing traffic calming devices.

This specific project provides for the installation of traffic calming elements, including the reconfiguration of the intersection at Mountain Street and Raymond Avenue.

TRANSIT PROJECT

3. **Purchase Replacement and Expansion Buses for Pasadena Transit – $2,778,557***

This project provides for the purchase of replacement, expansion, and zero-emission transit vehicles for the City of Pasadena's fixed route transit system. In addition to vehicle purchases, this project provides fleet system upgrades to provide enhanced customer experience.

These fixed-route transit vehicle purchases include replacing aging vehicles and adding vehicles into the existing fleet to help address overcrowding on the higher demand routes. In addition, zero -emission vehicles are purchased to transition the transit fleet to meet city, regional and state zero emission mandates.

*This project has been awarded a total of $7,072,886 ($700,000 Measure M, MSP I, $4,670,015 in MSP II and $1,702,871 in MSP III) funds in the MSP program. The total project cost has been estimated at $42,445,364.

MODAL CONNECTIVITY AND COMPLETE STREET PROJECTS

4. **New Traffic Signals for Pedestrian Connectivity – Installation of Traffic Signal and Curb Extensions at Sierra Bonita Avenue and Orange Grove Boulevard – $132,077**

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

*This project has been awarded a total of $837,923 Measure M MSP funds for Fiscal Year (FY) 24-25. The project cost has been estimated at $ 970,000.

5. **Citywide Continental Crosswalk Implementation – $1,204,389***

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 project cost has been estimated at $ 18,300,000.

6. **Installation of Pedestrian Hybrid Beacons (HAWKs) at Various Locations – $1,200,000**

This project provides for the installation of High-Intensity Activated Crosswalks (HAWKs) at 2 locations in the city. The 2 locations include: Lake Avenue and Elizabeth Street; Lincoln Avenue and Toolen Place.

The Federal Highway Administration recommends that uncontrolled crosswalks be enhanced through the use of signage, striping, and flashing beacons. For crosswalks across multiple lanes of traffic with higher speed limits, the guidance suggests installation of a HAWK.

7. **Citywide Leading Pedestrian Interval/Accessible Pedestrian Signal (LPI/APS) Implementation Program – $1,000,000***

LPIs give pedestrians a head start by displaying the "WALK" signal 3-5 seconds before adjacent vehicles receive a green light. During this brief interval, pedestrians can confidently step into the crosswalk before any vehicles start moving. Many jurisdictions use this traffic signal enhancement to improve pedestrian safety, especially in areas with higher vehicle-pedestrian conflict. However, it's important to note that due to signal phasing constraints, some traffic signals with left-turn arrows may not be suitable for this treatment.

Pairing LPIs with Accessible Pedestrian Signals (APS) ensures that visually-impaired pedestrians are aware of the walking indication. APS, activated by pedestrian push buttons, provide audible or tactile cues, allowing everyone to cross safely. This project aims to design and construct LPIs paired with APS at all eligible traffic signals in the City, with the possibility of seeking grant funding for these improvements.

*The project cost has been estimated at $5,500,000

8. **Pasadena Bicycle Program – $ 963,481**

This project provides for the implementation of the Bicycle Transportation Action Plan, additional on-street bike parking, the retrofit of existing bikeway facilities to meet current Caltrans standards, and the implementation of a bicycle safety and outreach program. This project will also look at closing gaps in bike lanes and improving existing facilities to improve connectivity, usability and safety. Projects under consideration include a Marengo Avenue gap closure, assessment of Maple Street/Corson Street bike plans and consideration of improvements on Sierra Madre Boulevard. This project funds conceptual design and community outreach for projects identified in the City Plans. This project will promote bicycle safety and travel throughout the City.

9. **Citywide Neighborhood Traffic Management Program - Mountain Street between Allen Avenue and Hill Avenue – $4,500,000**

This project provides for final design and construction of a raised median island at Mountain St. and Sierra Bonita Ave., and a traffic circle at Mountain St. and Sinaloa Ave.

The Complete Streets Working Group evaluated Mountain St. between Hill Ave. and Allen Ave. for potential safety enhancements. Residents approved the concept of installing a raised median on the east and west approach of Mountain St. to the Sierra Bonita Ave. intersection, along with the installation of a traffic circle at Mountain St. and Sinaloa Ave. These enhancements are intended to reduce speed and enhance safety.

10. **Citywide Neighborhood Traffic Management Program - Hill Roundabout Project (Second Phase) – $1,000,000**

This project provides for the installation of traffic calming elements, including mini-roundabout's, at the intersections of Hill Avenue at Topeka Street and Hill Avenue at Elizabeth Street. The first phase provided for the construction of the Hill Avenue and Topeka Street mini-roundabout and funding for the second phase will provide for the construction of a mini-roundabout at Hill Avenue at Elizabeth Street.

Hill Avenue north of Washington Boulevard is a residential street lined with single-family homes. Although the posted speed is 30 mph, the 85th speed percentile reaches 40 mph. Hill Avenue on average about 9,000 car trips per day, has one lane of traffic in each direction and does not have a two-way left turn median, making it very difficult for residents to enter and exit their driveways. The installation of the traffic calming elements will help to change driver behavior and calm traffic on the roadway.

11. **Pedestrian Crossing Enhancement Program – $719,730***

This project provides for the installation of enhancements to uncontrolled marked crosswalks, including the design and installation of enhanced pedestrian signage with lights, 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 identified as meeting warrants for Rectangular Rapid Flashing Beacons include Marengo Ave. at Wallis St., Raymond Ave. and Grandview St., Euclid Ave. and Glenarm St., and El Molino Ave. and Buckeye St, Green St and Chester Ave, Green St and Michigan Ave. Howard St and Hill Ave, Villa St and Oakland Ave.

This project addresses potential safety hazards for pedestrians attempting to cross at non-signalized or non-stop-controlled crosswalk locations. The project also reduces potential safety risks for pedestrians attempting to cross at uncontrolled marked crosswalks, consistent with the City's Complete Streets vision.

*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 $ 1,977,959.

12. Pedestrian Transportation Action Plan - Outreach and Conceptual Design – $2,200,000

This project provides for public outreach and conceptual design for corridors identified in the Pedestrian Transportation Action Plan (PTAP). The Plan identifies priority corridors with suggestions on pedestrian safety enhancements throughout the City. After conceptual design for each corridor is completed, a capital improvement project will be created to fund the final design and construction of that particular corridor. In 2024, the Pedestrian Transportation Action Plan identified barriers to walking and options for improving them. Over the course of the project, the project team conducted a review of citywide pedestrian collision data; collected public input and feedback via a survey, focus groups, and outreach; conducted presentations to update stakeholders and the public on the project's progress; and collected counts of pedestrians currently walking on City streets. The outcome of the study was a set of priority corridors that present opportunities for pedestrian enhancements

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. New Traffic Signals for Pedestrian Connectivity

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

a. Del Mar Boulevard at Kinneloa Ave - $4,000,000

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.

b. Sierra Madre Villa Ave at Electronic Drive - $950,000

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.

14. Playhouse Districts Pedestrian Improvements – $603,000

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. Two-Way Traffic Conversion - Mentor Avenue from Walnut Street to Colorado Boulevard - Concept Study - $103,000

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.

b. Playhouse Village – Colorado Boulevard Enhancements from Madison Avenue to Oak Knoll Avenue - Feasibility Study - $250,000

This project provides for a feasibility study and preliminary concept for streetscape enhancements along Colorado Blvd. from Madison Ave. to Oak Knoll Ave. Improved features may include enhancements to sidewalks and parkway to accommodate outdoor dining areas, streamlined loading and pick-up zones, and increased tree shade canopy.

The proposed improvements reflect the recommendations of the Pasadena Playhouse Village Association to make Colorado Blvd. in Playhouse Village a principal locale for retail and pedestrian activity.

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

This project provides for a feasibility study for traffic and streetscape-related improvements along Lake Avenue from Colorado Boulevard to Corson Street.

As a primary gateway into Pasadena from the 210 Freeway and Metro A 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.

15. 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 Metro A 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.

16. Citywide Transportation Performance Monitoring Network – $ 3,182,428

This project provides for the implementation of a citywide transportation performance monitoring network that will continuously monitor minor arterials, collectors and other gateways by linking them to the City's Traffic Management Center (TMC). The automated system will be designed to perform accurately with low maintenance costs, which is far superior to costly manual data collection. The project will have two phases: the pilot phase located on Orange Grove Boulevard and a citywide implementation phase based on the results of the pilot program. The project will include the following: installation of multimodal count stations to collect motorist, pedestrian and bicyclist counts at 36 locations within a half mile of the six Metro A Line stations in Pasadena; traffic signal controller upgrades at up to 280 intersections; and upgrades of up to 110 traffic signal cabinets. In addition, this project provides for the use of cost-effective network communication hardware to allow for IP communication over existing copper infrastructure where the cost to install fiber optic communication cable would be prohibitive.

17. Arroyo Link Walking and Biking Path – $45,000,000

This project provides for a feasibility study for a multi-modal path connecting from the intersection of Arroyo Blvd. and Arroyo Dr. to the intersection of Orange Grove Blvd. and Colorado Blvd. The project also includes a missing pedestrian link between the residential neighborhood on South Arroyo Blvd to the Rose Bowl and other destinations within the Arroyo, including Brookside Park, Kidspace Children's Museum, and the Rose Bowl Aquatics Center. While most of the project would utilize city streets, a 1,000-ft section of new, off-street path would be required for a zig-zag path between Orange Grove Blvd and the Arroyo Seco path. Phase I would consist of the zig-zag path and connection to Orange Grove Blvd. at Colorado Blvd. Phase II would consist of the multi-modal connection to the Rose Bowl.

The proposed improvements provide a much-needed pedestrian connection from Arroyo Blvd south of the SR 134 Freeway to the Rose Bowl, Brookside Park, Kidspace Children's Museum, and the Rose Bowl Aquatic Center.

18. North Fair Oaks Roadway Reconfiguration and Multimodal Enhancement - $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 Oaks 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.

19. Complete Streets Safety Enhancements at Sunnyslope Ave and Estado Street - $425,000

This project provides for the installation of bulb-outs, median island and new curb ramps at the intersection of Sunnlyslope Avenue and Estado Street.

The intersection of Sunnyslope Avenue and Estado Street is a gateway intersection to the Daisy Avenue/ Villa Street residential neighborhood. This project was identified as a result of public concerns that vehicle traffic from Sunnyslope Avenue is causing cut-through traffic and speeding concerns within the Daisy Avenue/Villa Street neighborhood.