

Description of City of Pasadena's Proposed Measure M MSP Projects

Attachment A

This attachment briefly describes the projects the City of Pasadena is proposing to include in the Measure M Multiyear Subregional Plan (MSP). These projects are either 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 2019 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;
- Discussion with the Transportation Advisory Commission in its September 27, 2018 meeting;
- Public participation element and feedback from the public.

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

Transit Projects

Pasadena Transit Operations and Maintenance Facility (\$33,000,000)

This project provides for the construction of a Transit Operations and Maintenance Facility (TOMF) in the city. The proposed transit facility will support operations and maintenance of the Pasadena Transit and Dial-A-Ride services fleet, including accommodating at least 30 transit buses and 15 paratransit vehicles.

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. 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. Furthermore, the existing bus yard is not large enough to store all of the Pasadena Transit buses and Dial-A-Ride vehicles. The size

Description of City of Pasadena's Proposed Measure M MSP Projects

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. 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 Buses (FY 2018-2022) (\$11,000,000)*

(* if Zero Emission Vehicles (ZEV) are required, cost of ZEV buses plus infrastructure is estimated to be \$25,000,000 for battery electric buses)

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

The project includes:

- Replacement of 17 existing transit buses
- If the City is required to purchase ZEV replacement buses for its current fleet in this time frame, 24 ZEV buses would be required versus 17 CNG buses due to the need for a higher spare ratio.
- 24 EV power infrastructure for charging Pasadena Transit Vehicle Fleet.

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; etc.

Pasadena Transit Bus Capital Purchase to Increase Frequency (\$3,800,000)*

(* if Zero Emission Vehicles (ZEV) are required, cost of ZEV buses plus infrastructure is estimated to be \$8,300,000 for battery electric buses)

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 is consistent with Mobility Element Policy 1.9 by promoting the enhancement of attractive, convenient, non-auto services providing access to neighborhood districts, community and regional centers, and mixed-use boulevards. The project is also consistent with Policy 1.14 by recognizing the distinctive

Description of City of Pasadena's Proposed Measure M MSP Projects

transportation needs of the community and delivering appropriate transportation services.

Purchase Transportation Service Associated with Capital Vehicle Acquisition¹ **(\$15,700,000)**

Purchase transportation services that are required for service delivery associated with the capital acquisition of vehicles. This is five years of service based on the Pasadena Short Range Transit Plan (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 7a instead of 11a
- Extend weekday service on Pasadena Transit until 10p
- Extend Route 40 (Villa Ave) to South Lake with 20 min frequency

Purchase Replacement Buses (FY 2024) (\$5,000,000)

(* if Zero Emission Vehicles (ZEV) are required, cost of ZEV buses plus infrastructure is estimated to be \$12,000,000 for battery electric buses)

This project continues to provide for the purchase of replacement transit vehicles and expansion of transit vehicles for the City of Pasadena's fixed-route transit system beyond the first five years of funding.

Replace Aging Bus Stop Shelters (\$4,000,000)

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

¹ LA County's legal counsel interprets the statute that enables Measure M as prohibiting the use of Measure M MSP funds to purchase transit operations. This category of request has been included in the eventuality that a waiver process to allow the use of the funds in the requested manner will be forthcoming.

Description of City of Pasadena's Proposed Measure M MSP Projects

Complete Streets Projects

Avenue 64 Complete Street Project (\$1,800,000)

Improvements to Avenue 64 have been identified based on feedback obtained through a community process. This project would provide for the installation of bulb outs and median islands at the intersections of Avenue 64 with Church Street, Melrose Avenue, Nithsdale Road and other locations, as well as a traffic signal at Avenue 64 and Nithsdale Road and small median islands south of Burleigh Drive - from Colorado Blvd to South City Limits.

North Hill Avenue Complete Street Program (\$1,500,000)

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

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, which is currently underway, involves public outreach and the completion of a concept study, which includes preliminary engineering and an 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.

Description of City of Pasadena's Proposed Measure M MSP Projects

Lake Avenue Gold Line Station Pedestrian Access Improvements (\$600,000)*

(*amount requested represents the approximate City's match for an approved future Metro Call for Projects Grant)

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 Avenue; installation of a new pedestrian-scale street lighting system with foundations, electrical, conduit and fiber-optics; widening of sidewalks; curb extensions; reduction of curb radii within the corridor with reconstruction of curb and gutter; removal of bus turning bay at Colorado Boulevard (increased sidewalk width) elimination of "pork chops" islands at Union Street and Del Mar Boulevard with addition of right-turn pockets; realigning intersection crossings at Lake Avenue and Walnut Street; installation of two new pedestrian traffic crossing signals; ADA compliant curb ramps; street furniture; and in-fill street trees, landscaped islands and irrigation.

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 create pedestrian accessibility and safety in business districts in Old Pasadena and Playhouse districts using the existing Alleyways and Streets Plans as a guideline. The project will result in a minimum of 9 mid-block crossing locations in Old Pasadena and a minimum 7 mid-block crossing locations in Playhouse District. Additionally, the project will include crossing improvements for all locations including flashing beacons, curb extensions, and full traffic and/or pedestrian signal at few locations.

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.

Description of City of Pasadena's Proposed Measure M MSP Projects

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 (protected two-way bicycle lanes) 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 near SR134 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, staff believes the project cost should not exceed \$1-2 million, including costs for an initial feasibility study.

Description of City of Pasadena's Proposed Measure M MSP Projects

Measure M Project Funding Estimates

Project Description (in priority order)	Preliminary Cost Estimate
TRANSIT PROJECTS	
Pasadena Transit Operations and Maintenance Facility	\$33,000,000
Purchase Replacement Buses (FY 2018-2022) (* if Electrical Vehicles are requires, cost of buses plus EV infrastructure will be \$25,000,000)	\$11,000,000* (\$25,000,000)
Bus Stop Improvement Program	\$1,700,000
Pasadena Transit Bus Capital Purchase to Increase Frequency (* if Zero Emission Vehicles (ZEV) are required, cost of ZEV buses plus infrastructure is estimated to be \$8,300,000 for battery electric buses	\$3,800,000* (\$8,300,000)
Purchase Transportation Service Associated with Capital Vehicle Acquisition	\$15,700,000
Purchase Replacement Buses (FY 2024) (* if Electrical Vehicles are requires, cost of buses plus EV infrastructure will be \$12,000,000)	\$5,000,000* (\$12,000,000)
Replace Aging Bus Stop Shelters	\$4,000,000
Transit Total	\$74,200,000
COMPLETE STREETS PROJECTS	
Avenue 64 Complete Street Project	\$1,800,000
N. Hill Complete Street Project	\$1,500,000
Allen Ave. Complete Street Enhancement Project	\$1,500,000
Pedestrian and Bicyclist Automated Data Collection	\$1,400,000
Lake Avenue Gold Line Station Pedestrian Access Improvements	\$600,000
Mountain Street Complete Street Project	\$1,000,000
Old Pasadena and Playhouse Districts Pedestrian Improvements	\$5,700,000
Citywide Transportation Performance Monitoring Network	\$2,700,000
The Arroyo Link	\$1,000,000
Complete Streets Total	\$17,200,000

TRANSIT PROJECTS

ATTACHMENT B

ID	Sponsor Agency	Name	Description	Short-Term Funding Need
Burbank				
105	Burbank	BurbankBus State of Good Repair - Bus Replacement 2020	BurbankBus Transit Capital & State of Good Repair; Replace buses that have reached the end of their useful life. 3 @ \$600k each	\$ 1,800,000
131	Burbank	BurbankBus State of Good Repair - Bus Replacement 2023	BurbankBus Transit Capital & State of Good Repair; Replace buses that have reached the end of their useful life. 5 @ \$650k each	\$ 3,250,000
Glendale				
111	Glendale	Photovoltaic System for Beeline Maintenance Facility	Purchase and installation of PV panels and control equipment to increase sustainability of new BMF. Building is designed and being built with PV provisions. Facility will support service in Gln, LAC, LCF, & BUR	\$ 350,000
112	Glendale	Emergency Generator for Beeline Maintenance Facility	Purchase and installation of permanent generator and switch equipment to provide continuing transit operation during a power outage or natural disaster. Building is designed and being built with generator provisions. Facility will support service in Gln, LAC, LCF, & BUR	\$ 800,000
115	Glendale	Beeline Replacement Buses 2021	Purchase 4 40-foot heavy duty transit buses to replace 40' buses that have met their life expectancy. 4 @ \$650k each.	\$ 2,600,000
129	Glendale	Glendale Transportation Center State of Good Repair	Structural repairs to the historic train depot; parking, signage, communications, and landscape improvements.	\$ 1,750,000
133	Glendale	Beeline Expansion Buses to Improve Frequency	Purchase 8 40-foot heavy duty transit buses to improve frequency on existing Beeline bus routes. 8 at \$650k each.	\$ 5,200,000
108B*	Glendale	AVC Expansion Buses for Foothill Blvd to Gold Line - Glendale Portion 26.6%	Purchase 6 40-foot heavy duty transit buses to operate new route on Foothill Blvd (Gln, LAC, LCF) to Pas Gold Line Memorial Station. 6 @ \$650k each.	\$ 1,037,400
117	Glendale	1st/last mile for Glendale Transportation Center.	Install canopies, seating, and bike racks for waiting area, install wayfinding signage to and from site, provide real time train arrival signage on platforms and inside station, provide real time bus arrival signage at bus bays and inside station,	\$ 7,000,000
116	Glendale	ADA Access to select Metro & Beeline Bus Stop Zones	Reconfigure street section, add sidewalk and bus zone to meet ADA compliance for existing non-accessible stops on Glendale Ave and Verdugo Rd, Glendale.	\$ 5,500,000
134	Glendale	Beeline Expansion Buses For New College Route and Route 4 extension to Rapid Bus	Purchase 8 40-foot heavy duty transit buses for College Campus Route (Montrose to Trains station), and Route 4 extension to Metro Rapid Bus (Downtown to San Fernando Road. 8 at \$700k each.	\$ 5,600,000
114*	Glendale	AVC Microtransit Expansion Vehicles - Foothills Glendale Portion 20%; Canyons Glendale 100%	New flex route microtransit to serve unmet needs in areas not accessible by standard bus service. Foothills (Gln, LAC, LCF) 6 vehicles @ \$75k each; Canyons (Gln) 2 vehicles @ \$75k each	\$ 240,000
La Canada Flintridge				
120	La Canada Flintridge	North/South bound Angeles Crest Hwy. connector between Foothill Blvd. and La Cañada Country Club <i>Option 1: Shuttle Stop</i>	Option 1: New shuttle stop including stop signage and bus shelter (Option 2: bike share)	\$ 5,000

TRANSIT PROJECTS

ID	Sponsor Agency	Name	Description	Short-Term Funding Need
121	La Canada Flintridge	Town Center Shuttle Service <i>Option 1: Shuttle Stop</i>	Option 1: New shuttle stop including stop signage and bus shelter	\$ 5,000
	La Canada Flintridge	Town Center Shuttle Service <i>Option 2: Trolley Service with multiple stops</i>	Option 2: Two new shuttle stops including stop signage and bus shelters	\$ 11,000
Pasadena				
125	Pasadena	Pasadena Transit Maintenance Facility	Transit Maintenance Facility to Support the General Plan	\$ 33,000,000
138	Pasadena	Purchase Replacement Buses (FY 2018-2022)	This project provides for the purchase of replacement transit vehicles for the City of Pasadena's fixed-route transit system. If Zero Emission Vehicles (ZEV) are required, cost of ZEV buses plus infrastructure is estimated to be \$25,000,000 for battery electric buses	\$ 11,000,000
	Pasadena			\$ 25,000,000
141	Pasadena	Bus Stop Improvement Program	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; etc.	\$ 1,700,000
124	Pasadena	Pasadena Transit Bus Capital Purchases to Increase Frequency	This project provides for the purchase of transit vehicles for expansion of the transit system identified in the Pasadena Short Range Transit Plan (SRTP). If Zero Emission Vehicles (ZEV) are required, cost of ZEV buses plus infrastructure is estimated to be \$8,300,000 for battery electric buses	\$ 3,800,000
	Pasadena			\$ 8,300,000
139	Pasadena **	Purchased Transportation Services Associated with Capital Vehicle Acquisition	Purchased transportation services that are required for service delivery associated with the capital acquisition of vehicles in Item 124. This is 5 years of service based on the Pasadena SRTP: <ul style="list-style-type: none"> •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 7a instead of 11a •Extend weekday service on Pasadena Transit until 10p •Extend Route 40 (Villa Ave) to South Lake with 20 min frequency 	\$ 15,700,000
144	Pasadena	Purchase Replacement Buses (FY 2024)	Replace existing 32' Transit Buses exceeding useful life with 35' CNG. 7 replacement buses	\$ 5,000,000
	Pasadena			\$ 12,000,000
142	Pasadena	Replace Aging Bus Stop Shelters	Pasadena's aging bus stop shelters need to be replaced	\$ 4,000,000

**

Blue cells indicate project that depends, in part, on Metro allowing operating expenses to be eligible

*Projects 108 and 114 provide service to La Crescenta-Montrose and La Canada Flintridge and may require cost sharing

While La Crescenta-Montrose does not have any transit projects, Los Angeles County is supportive of transit provides that provide benefit to the unincorporated communities

MODAL CONNECTIVITY AND COMPLETE STREETS PROJECTS

ID	Sponsor Agency	Name	Description	Short-Term Funding Need
Burbank				
202A	Burbank	Victory Blvd Connectivity Gap Closure and Transit Enhancements - Burbank portion	Complete a regional gap in the off-street bike path (Class I) network between Chandler Bikeway and LA River via Burbank Western Channel and Victory Boulevard, providing 1st/last mile connectivity to Metrolink station. Burbank Project limits include constructing a Class I bike path and pedestrian path along Burbank Western Channel between the Downtown Burbank Metrolink Station and Alameda Avenue.	\$ 3,000,000
203A	Burbank	Glenoaks Blvd Complete Street - Burbank portion	Complete streets improvements on Glenoaks Boulevard between Brand Boulevard and Verdugo Avenue and Verdugo Avenue between Glenoaks Boulevard and Ikea Way. 5 miles total. Burbank (1 mile) and Glendale (4 miles), including construction of high visibility crosswalks, bulbouts, protected bike lanes on Glenoaks Boulevard and Verdugo Avenue, bioswales, signal modifications, signing and striping upgrades.	\$ 5,000,000
224	Burbank	Downtown Burbank Bike Network High-Impact Upgrade	Install high-impact, low-cost infrastructure on Downtown Burbank's existing class 2 bike lane network. This would include plastic bollards, green painting, and rubber or concrete movable barriers. This would facilitate safe access to the Burbank Metrolink Station, Burbank and Metro bus routes, and Downtown Burbank destinations.	\$ 1,000,000
Glendale				
201B	Glendale	Foothill Blvd Complete Street - Glendale portion	Sunland to LCF - 5 miles. Glendale portion (1.3 miles) including construction of High visibility crosswalks, bulb outs, buffered bike lanes, bioswales, signal modifications, rectangular rapid flashing beacon installations, signing and striping upgrades	\$ 3,900,000
202B	Glendale	Victory Blvd Connectivity Gap Closure and Transit Enhancements - Glendale portion	Complete a regional gap in the off-street bike path (Class I) network between Chandler Bikeway and LA River via Burbank Western Channel and Victory Boulevard, and improve transit and pedestrian connectivity in the corridor. Project Limit: Victory Boulevard from Burbank City Limit to River Walk bikeway entrance in the City of Glendale.	\$ 7,000,000
203B	Glendale	Glenoaks Blvd Complete Street - Glendale portion	Complete streets improvements on Glenoaks Boulevard between Brand Boulevard and Verdugo Avenue. 5 miles total. Burbank (1 mile) and Glendale (4 miles) including construction of High visibility crosswalks, bulbouts, buffered bike lanes, bioswales, signal modifications, signing and striping upgrades	\$ 16,000,000
La Cañada Flintridge				
209	La Canada Flintridge	Foothill Boulevard Link Bikeway and Pedestrian Greenbelt Project	Project Scope: south side of Foothill Blvd - new Class I Bikeway, landscaping, and new sidewalk; new raised center median along Foothill Blvd with landscaping; north side - Class II Bikeway, sidewalk, and landscaping. Limits: 2111 Foothill Blvd. (shopping center west of Leata Lane) to SR-2 On/Off Ramps/Hillard Ave. intersection	\$ 1,835,653
210	La Canada Flintridge	North/South bound Angeles Crest Hwy. connector between Foothill Blvd. and La Cañada Country Club: <i>Bike Share Program Option</i>	Two bike stations at Foothill Blvd. and La Cañada Country Club area. Option 2 is the shuttle service	\$ 150,000

MODAL CONNECTIVITY AND COMPLETE STREETS PROJECTS

ID	Sponsor Agency	Name	Description	Short-Term Funding Need
Pasadena				
215	Pasadena	Avenue 64 Complete Street Project	Installation of bulb outs and median islands at the intersections of Avenue 64 with Church Street, Melrose Avenue, Nithsdale Road and other locations, as well as a traffic signal at Avenue 64 and Nithsdale Road and small median islands south of Burleigh Drive - from Colorado Blvd to South City Limits	\$ 1,800,000
213	Pasadena	N. Hill Complete Street Project	Two Traffic Circles (Topoka St and Elizabeth St) and bulb outs at 12 intersections	\$ 1,500,000
216	Pasadena	Allen Ave. Complete Street Enhancement Project	Allen Avenue corridor, between Villa St. and Colorado Blvd. Proposed improvements may include narrowing of streets by widening sidewalks, raised landscaped medians, enhanced safety and walkability of pedestrian connection to Metro Gold Line Allen Station, constructing curb extensions/bulb outs at some intersections, upgrading traffic signal equipment, and modifying roadway signing and striping.	\$ 1,500,000
219	Pasadena	Pedestrian and Bicyclist Automated Data Collection	Multi-modal counts stations at 36 locations within half-mile of the six Gold Line stations.	\$ 1,400,000
222	Pasadena	Lake Avenue Gold Line Station Pedestrian Access Improvements	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 Avenue; installation of a new pedestrian-scale street lighting system with foundations, electrical, conduit and fiber-optics; widening of sidewalks; curb extensions; reduction of curb radii within the corridor with reconstruction of curb and gutter, removal of bus turning bay at Colorado Boulevard (increased sidewalk width) elimination of "pork chops" islands at Union Street and Del Mar Boulevard with addition of right-turn pockets; realigning intersection crossings at Lake Avenue and Walnut Street; installation of two new pedestrian traffic crossing signals; ADA compliant curb ramps; street furniture; and in-fill street trees, landscaped islands, and irrigation.	\$ 600,000
214	Pasadena	Mountain Street Complete Street Project	Two Traffic Circles between Hill Ave and Allen Ave	\$ 1,000,000
218	Pasadena	Old Pasadena and Playhouse Districts Pedestrian Improvements	This project would create pedestrian accessibility and safety in business districts in Old Pasadena and Playhouse districts using the existing Alleyways and Streets Plans as a guideline. The project will result in a minimum of 9 mid-block crossing locations in Old Pasadena and a minimum 7 mid-block crossing locations in Playhouse District. Additionally, the project will include crossing improvements for all locations including flashing beacons, curb extensions, and full traffic and/or pedestrian signal at few locations.	\$ 5,700,000
217	Pasadena	Citywide Transportation Performance Monitoring Network	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 the for arterial performance monitoring and reporting.	\$ 2,700,000
220	Pasadena	The Arroyo Link	Class I and Class III bicycle facilities connecting the Union Street cycle track (in progress) to the Arroyo Seco Path.	\$ 1,000,000
South Pasadena				
221	South Pasadena	Citywide Safe Routes to School/Complete Streets	Includes operational and safety improvements, consisting largely of traffic signing and striping, traffic signal upgrades and timing changes, new traffic signals, and implementation of bikeways, with relatively few curb line modifications required. K-12 Schools include: (SPHS, SPMS, Arroyo Vista, Monterey Hills, Morengo) Roadways include: Oaks Street, Milan Avenue, Marengo Ave, Fletcher Avenue, Garfield Avenue, Mission Street, Arroyo Drive, Ramona Avenue, El Centro Street, Orange Grove, Grand Avenue, Fremont Avenue, Via Del Rey, Camino Del Sol, Camino Verde, Camino Lindo, Alpha Avenue, Columbia Avenue.	\$ 10,000,000
223	South Pasadena	Fair Oaks Avenue Bikeway	Fair Oaks Avenue Bikeway, which extends from the north city limit to Huntington Drive and contains Class II bike lanes between Monterey Road and Huntington Drive and a Class III bike route north of Monterey Road. This bikeway will provide linkages to the public library, Gold Line Station, school and parks.	\$ 250,000

La Crescenta-Montrose does not have any short-term projects. Los Angeles County is studying projects for inclusion in future MSP plans.

OTHER PROJECTS

ID	Sponsor Agency	Name	Description	Short-term Funding Need
La Canada Flintridge				
301	La Canada Flintridge	Soundwalls	Provide funding for the design & construction of one soundwall segment or funds to go towards soundwall design & construction	\$ 2,000,000
South Pasadena				
302	South Pasadena	State Route 110/Fair Oaks Avenue Interchange Modifications	Includes modifications to the SR-110 on- and off-ramps at Fair Oaks Avenue and additional street improvements on Fair Oaks Avenue. Modifications include a new southbound SR-110 "hook" on-ramp via State Street east of Fair Oaks Avenue, widening of the northbound SR-110 off-ramp at Fair Oaks Avenue from 2 to 4 lanes, removal of the dual left turn lanes from northbound Fair Oaks Avenue to southbound SR-110, addition of a right turn lane from northbound Fair Oaks Avenue to State Street, removal of the existing traffic island at the current SR-110 on-ramp, and restriping the Fair Oaks Avenue bridge.	\$ 27,000,000
303	South Pasadena	Fremont Avenue/Huntington Drive/Fair Oaks Avenue regional traffic corridor improvements.	Fremont Avenue/Huntington Drive/Fair Oaks Avenue regional traffic corridor improvements city-limits to city-limits. The regional traffic corridor improvements include implementing an Adaptive Traffic Control System and synchronization of traffic signals, increasing the visibility of crosswalks, modifying traffic lane configurations and striping improvements, installation of traffic signs, installation of flashing beacons or other safety measures at crosswalks and reconstructing bulb-outs to prevent auto intrusion on the sidewalk.	\$ 25,000,000

The "other" project list is not inclusive of all potential other projects for each member agency. Rather, this list contains projects that were specifically proposed by member agencies for potential inclusion in the first 5-year MSP plan but do not meet the description of the "Transit" and "Modal Connectivity and Complete Streets" programs.

MID/LONG TERM PROJECTS

Sponsor Agency	Name	Description
Burbank		
Burbank	Burbank Transit Maintenance Facility	Transit Maintenance Facility
Burbank	BurbankBus Transit Expansion & Operations to Streamline Routes and Improve Frequency	Purchase 4 35-foot transit buses to implement reconfigured routes, expand to all-day service, and improve frequency. Implement Metrolink-Media District, New NohHo-Downtown via Magnolia, and NohHo-Airport / Airport - Media District Interline per Comprehensive Transit Operations Scenario F, 4 @ 600k each.
Burbank	AVC Burbank/Glendale Improved Rail Transit - Burbank Portion	From LA Union Station to Burbank Airport via Antelope Valley Line corridor
Burbank	BurbankBus State of Good Repair - Bus Replacement 2031	BurbankBus Transit Capital & State of Good Repair; Replace buses that have reached the end of their useful life. 6 @ \$700k each
Burbank	AVIPA High Speed Transit Grid - Burbank portion	
Burbank	LA River Bridge	Connects Riverside to Forest Lawn. Includes bridge over LA River, Class III bike lanes, and Class I bike path
Glendale		
Glendale	AVC High Speed Transit Grid - Glendale portion	Install dedicated bus lanes and signal improvements to improve bus speeds on existing select routes. 12 miles at \$8,000k per lane mile. 8 lane miles of bus lane bypass, queue jumps and/or traffic signal priority on up to 12 lane miles of streets.
Glendale	Glendale Streetcar: Brand Blvd from GTC to Glenoaks Blvd	Street improvements to install rail line and purchase rolling stock
Glendale	Baseline Replacement Buses 2026	Purchase 4 40-foot heavy duty transit buses to replace 40' buses that have met their life expectancy. 4 at \$700k each.
Glendale	Baseline Replacement Buses 2027	Purchase 10 40-foot heavy duty transit buses to replace 40' buses that have met their life expectancy. 10 at \$700k each.
Glendale	Baseline Replacement Buses 2029	Purchase 9 40-foot heavy duty transit buses to replace 40' buses that have met their life expectancy. 9 at \$725k each.
Glendale	Baseline Bus Electrification and Charging Infrastructure	Purchase electric buses and install charging infrastructure for Glendale Beeline
Glendale	Glendale Transportation Center Expansion	Purchase 7 developed parcels adjacent to the Glendale Transportation Center for service/parking/streetcar expansion or TOD.
La Crescenta-Montrose (LA County)		
LA County / LCM	Foothill Blvd Complete Street - LCM portion	Sunland to LCF - 5 miles. LCM portion (1.2 miles)
LA County / LCM	Multi-modal and complete streets projects in LCM area	TBD projects based on future studies
Pasadena		
Pasadena	Purchase Replacement Buses (FY 2029)	This project continues to provide for the purchase of replacement transit vehicles and expansion of transit vehicles for the City of Pasadena's fixed-route transit system beyond the first five year of funding.
Pasadena	Next Gen Service Improvements TBD. - Pasadena portion	If ZEV are required, cost of ZEV buses plus infrastructure is estimated to be \$10,000,000 for battery electric buses Next Gen Service Improvements TBD.
Pasadena	AVC High Speed Transit Grid - Pasadena Portion	Install bus bypass lanes / queue jumps, and signal improvements to improve bus speeds on existing select routes. 8 miles at \$8,000k per lane mile
Pasadena	Bus technology Automatic Vehicle Location (AVL) aging system replacement	Pasadena Transit AVL system will reach end of useful life in FY28, this project will replace the system
Pasadena	Pasadena Transit farebox technology	Upgrade Pasadena Transit farebox technology
Pasadena	AVC Expansion Buses for Foothill Blvd to Gold Line - Pasadena Portion	Purchase 6 40-foot heavy duty transit buses to operate new route on Foothill Blvd (Gln, LAC, LCF) to Pas Gold Line Memorial Station. 6 @ \$650k each.
Pasadena	AVC Expansion Buses & Operations for Foothill Blvd to Gold Line - Pasadena Portion	Purchase 6 40-foot heavy duty transit buses to operate new route on Foothill Blvd (Gln, LAC, LCF) to Pas Gold Line Memorial Station. 6 @ \$650k each. Operations = 15,500 hrs/yr *100
South Pasadena		
South Pasadena	Mid-term Citywide Transportation Improvements	Mid-term. Traffic safety study focused on speed management and safety improvements along specified corridors. Traffic safety study will evaluate potential improvements to improve safety, manage speed and reduce impacts from regional "cut-through" traffic on local streets.
South Pasadena	Active Transportation Improvements	Medium-term: Includes El Centro Street/Oxley Street, Meridian Avenue, Huntington Drive, Fremont Avenue, Oak Street, Monterey Road bikeways. The bikeways on these streets include both Class II bike lanes and Class III bike routes and will also provide linkages to schools, parks, business and shopping areas and to City Hall. The Monterey Road bikeway will serve as a cross-town regional bikeway that connects to the City of Los Angeles.

The mid/long-term project list is not inclusive of all the planned, programmed, or conceptual projects for each member agency. Rather, this list contains projects that were suggested for the Arroyo Verdugo Communities first 5-year MSP plan but were determined to be infeasible in the first five years

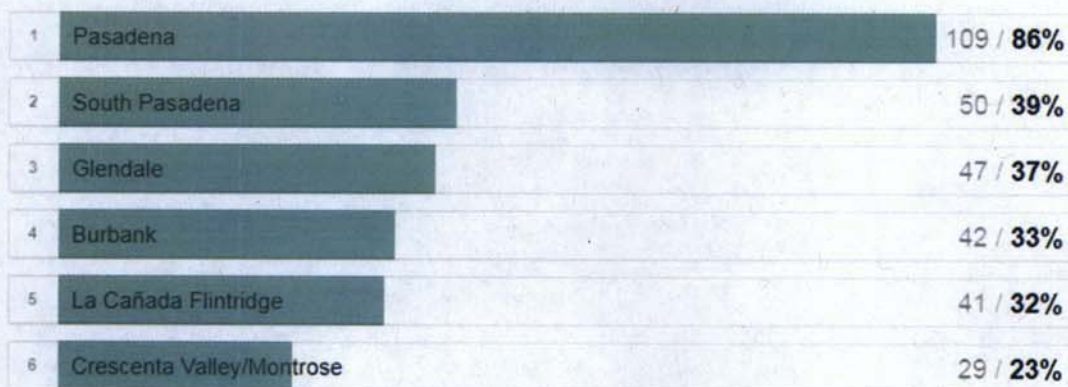
Arroyo Verdugo Communities Joint Powers Authority

Measure M Five-Year Multiyear Subregional Plan

Survey Results as of October 17, 2018

Which of the Arroyo Verdugo Communities do you frequently visit? (Please check all that apply)

127 out of 128 people answered this question



How do you usually commute to work, school or other activities? (Please check all that apply)

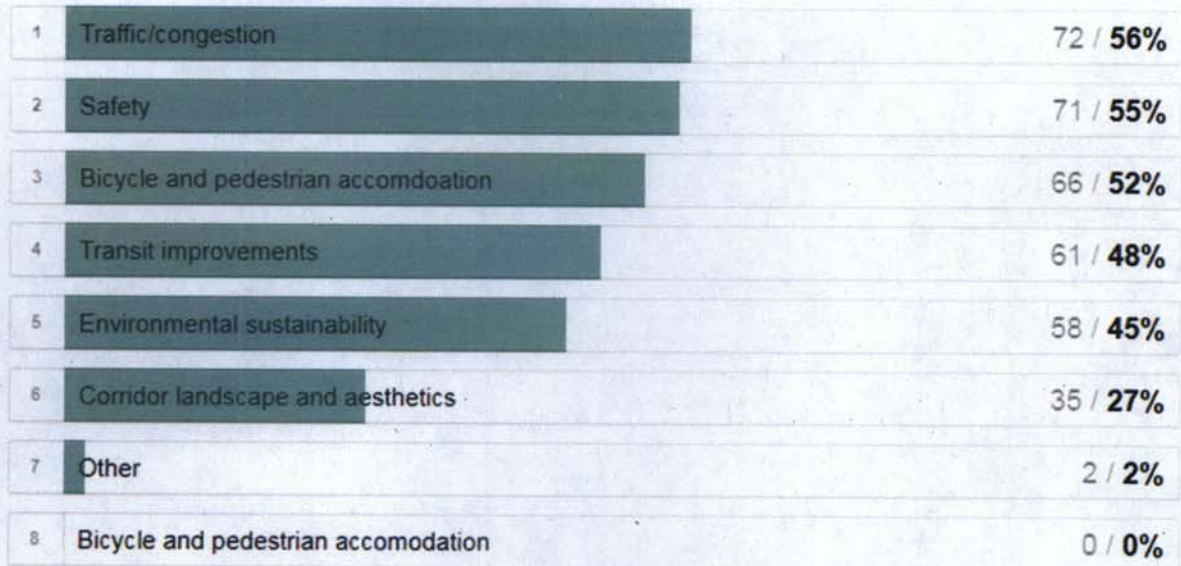
126 out of 128 people answered this question



ATTACHMENT C

What transportation issues are most important to you? (Please check all that apply)

128 out of 128 people answered this question



Please select the Transit projects that you would most like to have funded (Choose 5).
See full project list for description.

110 out of 128 people answered this question

1	Pasadena - Provide Upgrades, ADA Access to Metro & Pasadena Transit Stop Zones	55 / 50%
2	Pasadena - Purchase Replacement Buses	52 / 47%
3	Pasadena - Replace Aging Bus Stop Shelters	47 / 43%
4	Pasadena - Pasadena Transit Bus Capital Purchases to Increase Frequency	45 / 41%
5	Pasadena - Pasadena Transit Maintenance Facility	35 / 32%
^	Show less	
6	Pasadena - Purchased Transportation Services Associated with Capital Vehicle	... 27 / 25%
7	Burbank - Burbank Bus State of Good Repair - Bus Replacement 2020	24 / 22%
8	Glendale - 1st/last mile for Glendale Transportation Center	16 / 15%
9	Glendale - AVC Expansion Buses for Foothill Blvd to Gold Line - Glendale Porti	... 13 / 12%
10	Glendale - Photovoltaic System for Beeline Maintenance Facility	12 / 11%
11	Glendale - Beeline Expansion Buses to Improve Frequency	11 / 10%
12	La Cañada Flintridge - Town Center Shuttle Service Option 2: Trolley Service w	... 8 / 7%
13	Glendale - ADA Access to select Metro & Beeline Bus Stop Zones	7 / 6%
14	Glendale - Beeline Expansion Buses For New College Route and Route 4 exte	... 5 / 5%
15	Glendale - AVC Microtransit Expansion Vehicles - Foothills Glendale Portion 20	... 5 / 5%
16	Glendale - Glendale Transportation Center State of Good Repair	5 / 5%
17	La Cañada Flintridge - North/South bound Angeles Crest Hwy. connector betwe	... 5 / 5%
18	Glendale - Beeline Replacement Buses 2021	4 / 4%
19	Glendale - Emergency Generator for Beeline Maintenance Facility	3 / 3%
20	La Cañada Flintridge - Town Center Shuttle Service Option 1: Shuttle Stop	1 / 1%

Please select the Modal connectivity and Complete Streets projects that you would most like to have funded. See full project list for description. (Choose 5)

120 out of 128 people answered this question

1	Pasadena - Lake Avenue Gold Line Station Pedestrian Access Improvements	49 / 41%
2	Pasadena - Allen Ave. Complete Street Enhancement Project	45 / 38%
3	Pasadena - N. Hill Complete Street Project	41 / 34%
4	Pasadena - The Arroyo Link	39 / 33%
5	Pasadena - Old Pasadena and Playhouse Districts Pedestrian Improvements	35 / 29%
^ Show less		
6	Pasadena - Mountain Street Complete Street Project	33 / 28%
7	Pasadena - Pedestrian and Bicyclist Automated Data Collection	28 / 23%
8	South Pasadena - Fair Oaks Avenue Bikeway	27 / 23%
9	Burbank - Victory Blvd Connectivity Gap Closure and Transit Enhancements - ...	26 / 22%
10	Burbank - Glenoaks Blvd Complete Street - Burbank portion	21 / 18%
11	Pasadena - Avenue 64 Complete Street Project	21 / 18%
12	Pasadena - Citywide Transportation Performance Monitoring Network	21 / 18%
13	Glendale - Glenoaks Blvd Complete Street - Glendale portion	19 / 16%
14	La Cañada Flintridge - Foothill Boulevard Link Bikeway and Pedestrian Greenb ...	19 / 16%
15	Glendale - Foothill Blvd Complete Street - Glendale portion	17 / 14%
16	Glendale - Victory Blvd Connectivity Gap Closure and Transit Enhancements - ...	17 / 14%
17	South Pasadena - Citywide Safe Routes to School/Complete Streets	11 / 9%
18	La Cañada Flintridge - North/South bound Angeles Crest Hwy. connector betwe ...	4 / 3%
^ Show less		

Please select the Other projects that you would most like to have funded. See full project list for description.

88 out of 126 people answered this question

1	South Pasadena - State Route 110/Fair Oaks Avenue Interchange Modifications	41 / 47%
2	South Pasadena - Fremont Avenue/Huntington Drive/Fair Oaks Avenue region ...	33 / 38%
3	La Cañada Flintridge - Soundwalls	14 / 16%