



DATE: December 14, 2021

CATEGORY: Consent

DEPT.: Public Works

TITLE: **Mountain View Community Shuttle – Various Actions**

RECOMMENDATION

1. Increase appropriations of \$447,101 in the General Fund Transportation Reserve for Mountain View Community Shuttle operations. (Five votes required)
2. Authorize the City Manager or designee to execute an amendment to the agreement with the Mountain View Transportation Management Association increasing compensation by \$447,101 for a not-to-exceed amount of \$3,091,101 for Fiscal Year 2021-22, extending the term to June 30, 2024, and committing the City to assume responsibility for new leased vehicles should the agreement be terminated before 2024 or not be extended beyond 2024.
3. Approve a midyear Capital Improvement Program project, Mountain View Community Shuttle Charging and Storage, and transfer and appropriate \$425,000 from the General Fund Transportation Reserve to the new project. (Five votes required)

BACKGROUND

In 2015, the City partnered with Google LLC (Google) to launch the Mountain View Community Shuttle (Community Shuttle) as a pilot program to provide daytime transit options for Mountain View residents. The Community Shuttle is a fare-free service that provides connections between residential neighborhoods and key destinations in Mountain View as well as connections to the regional transportation network.

During the pilot program, the Community Shuttle was fully funded and operated by Google. On [August 25, 2020](#), the City Council authorized staff to enter into an agreement with Google to transition the management and operations of the Community Shuttle to the City and for Google to provide funding to continue operating the Community Shuttle

at current service levels based on their current costs for the period from October 1, 2020 through June 30, 2024.

The terms of the agreement are as follows:

- Responsibility for operating the Community Shuttle transferred to the City as of October 1, 2020, and the City may use a third-party contractor to operate the service.
- Google funding for the first full calendar year of the agreement (January 1, 2021 to December 31, 2021) will be \$2,400,000. Google will also provide \$600,000 for the last quarter of 2020. Future calendar year funding (2022 to 2024) will be increased in accordance with the Consumer Price Index (CPI). Any funding provided by Google that is not expended for Community Shuttle operations through June 30, 2024 shall be reimbursed to Google by September 30, 2024.
- Google will provide six electric vehicle chargers on their property within the City of Mountain View for Community Shuttle use through September 31, 2022 with an optional one-year extension at Google's discretion. Google shall maintain the chargers and provide the power at no cost to the City or the City's Community Shuttle service provider. In addition, the Community Shuttle operator may use these charging parking spots to store the Community Shuttles when not in service.
- The City may implement modifications to the Community Shuttle service provided that such changes meet the needs of and benefit the residents of the City.

At the same Council meeting, the City Council authorized staff to enter into an agreement with the Mountain View Transportation Management Association (MTMA) to manage and operate the Community Shuttle. Under the terms of the agreement, the City pays for all costs of the shuttle operations with no mark-up or profit to the MTMA. The agreement with the MTMA covers a term from October 1, 2020 to December 31, 2022. The MTMA continued to use the same service operating vendors as Google and assumed the leases for eight Community Shuttle vehicles.

Community Shuttle Ridership

Prior to the COVID-19 pandemic, the Community Shuttle daily ridership exceeded 760 daily riders during the week and 300 daily riders on weekends. After the County of Santa Clara Health Officer issued a Shelter-in-Place Order in March 2020, the Community Shuttle has continued to operate at pre-COVID-19 service levels. Weekday and weekend ridership dropped to around 15% and 18%, respectively. This drop in ridership is comparable to other transit agencies, including the Santa Clara Valley Transportation

Authority (VTA). Maintaining the Community Shuttle at current service levels has proven valuable for serving the essential travel needs of the community who rely on the service. Most of these riders, including many seniors, make essential medical and shopping trips and connections to other transit services.

As the Shelter-in-Place Order was lifted and pandemic-related restrictions eased, ridership has steadily increased over the last 12 months (Figures 1 and 2). With schools resuming in-person classes in August 2021, another ridership jump occurred. As of October 2021, ridership was at 42% pre-COVID weekday daily ridership and 52% pre-COVID weekend daily ridership. On October 29, weekday ridership exceeded 400 (53% pre-COVID) for the first time since March 2020.

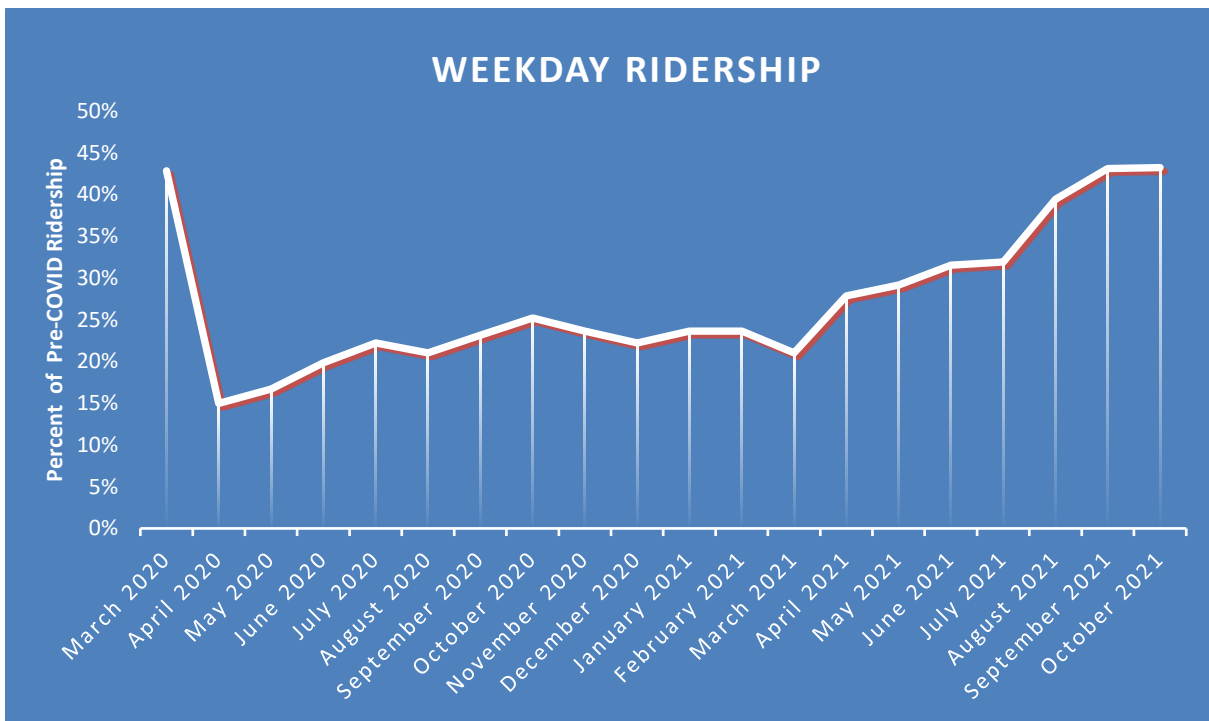


Figure 1: Community Shuttle Weekday Daily Ridership Relative to Pre-COVID Average Daily Ridership of 761

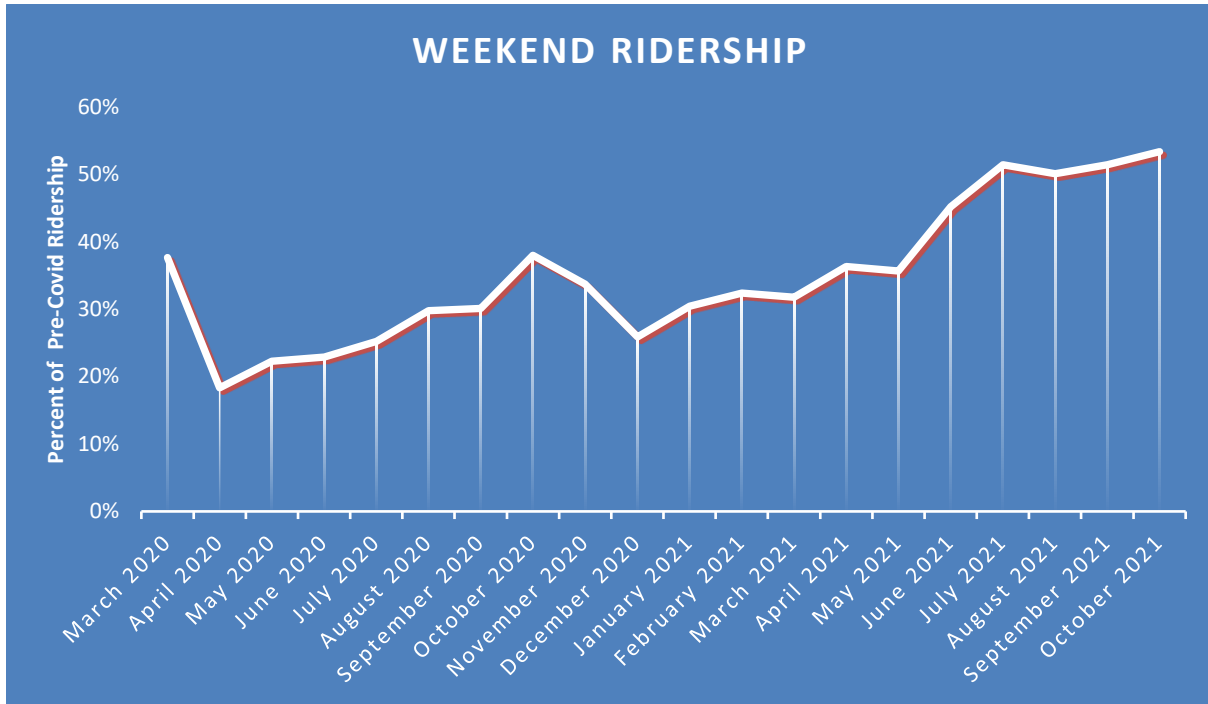


Figure 2: Community Shuttle Weekend Daily Ridership Relative to Pre-COVID Average Daily Ridership of 306

Measure B Funded Service Expansion

At its March 2021 meeting, the VTA Board of Directors awarded a Measure B Transit Service Model grant of \$704,000 to fund expanding the Community Shuttle service hours from the current 10:00 a.m. to 6:00 p.m. daily schedule to a new daily schedule of 7:00 a.m. to 7:00 p.m. for two years. On [June 8, 2021](#), the City Council authorized entering into a funding agreement with VTA for the receipt of the grant funding and authorized an amendment to the MTMA agreement to expand the Community Shuttle service hours.

It had been anticipated that the expanded hours could begin service in fall 2021; however, due to issues with the Community Shuttle fleet described further below and the time needed for the MTMA to make operational and fleet enhancements, the expansion has been delayed. The scheduled start date for the expanded hours is January 3, 2022. Marketing for the expanded service hours will begin this month. It is anticipated that starting the Community Shuttle service at 7:00 a.m. rather than the current 10:00 a.m. will significantly increase ridership as it serves more students, seniors, commuters, and other users.

ANALYSIS

October 1, 2021 marked the one-year anniversary of the transition of the Community Shuttle management and operations from Google to the City and MTMA. During this first year of operations, several issues arose with the aging fleet of electric shuttles that resulted in significantly higher maintenance and repair costs than anticipated and required the use of back-up gas vehicles at a much higher rate than in past years, resulting in higher fuel costs. As discussed further below, new electric shuttle vehicles are needed, and an increase to the operating budget is necessary to keep the Community Shuttle providing reliable service at current service levels.

Shuttle Bus Replacement

The current operation of the Community Shuttle requires four vehicles to be in service simultaneously on weekdays continuously from 10:00 a.m. to 6:00 p.m. Google operated the Community Shuttle with a fleet of six all-electric shuttle buses and two gasoline buses. The gas vehicles were used when more than three electric vehicles needed recharging during the day and/or were out of service for repairs. A few months before the Community Shuttle service was transitioned to the City, one of the electric shuttles was damaged in a collision and could not be returned to service. Therefore, Google transitioned the leases for five all-electric shuttles to the MTMA when the MTMA took over Community Shuttle operations in October 2020.

When the electric shuttle vehicles were first leased by Google in January 2015, it was projected the vehicles would have a lifespan of up to seven years. The shuttles were acquired at a time when battery electric bus technology was in its infancy, presenting some uncertainty about their long-term reliability and overall lifespan.

Each vehicle has six batteries. Over the last year, many of these batteries have been failing. With City approval, the MTMA has been using contingency funding to buy refurbished batteries as the failures occur; however, the failing batteries have significantly reduced the number of miles the vehicles can travel on a charge. The current range of each electric bus now averages only 60 miles per day, so they are only capable of running half a day before they need to be parked for overnight charging. In addition, the rapid evolution of battery technology has made the current fleet of shuttles obsolete, making parts acquisition and vehicle maintenance increasingly problematic. In order to maintain service reliability, the MTMA initially leased a third gas-powered shuttle to replace the sixth electric vehicle that was damaged and then added another gas-powered shuttle due to the problems with the failing batteries and to provide for the expanded shuttle hours.

The lease term for the current fleet is set to expire December 31, 2022. The lead time to order new shuttle buses for purchase or lease, whether electric or gas-powered, from any vendor is nine to 12 months. The recent supply chain problems due to the pandemic may further delay the delivery of new vehicles.

Anticipating the need to replace the shuttles at the end of 2022, the MTMA hired a consulting firm that specializes in transit operations to provide a high-level review of battery electric buses that would be suitable for the Community Shuttle. The battery electric bus technology is still evolving, and there are limited models available. The transit consultant analyzed vehicles from different vehicle manufacturers and compared their passenger capacity, electric range, and vehicle life. They provided recommendations based on a cost/benefit ratio and the vehicle's suitability for driving conditions in Mountain View. Based on the consultant's findings and verified by MTMA and staff analysis, the MTMA proposes the VMC Vicinity Lightning as suitable replacement vehicle for the electric shuttles.

According to VMC, the Vicinity Lightning vehicle is capable of a range of up to 185 miles on a single charge. When the service hours are expanded to 7:00 a.m. to 7:00 p.m., a vehicle will need to run for 158 miles to stay in service all day. Therefore, the additional range of the Vicinity Lightning vehicle is expected to be sufficient to run the entire day, restoring service to being primarily electric, thereby minimizing the use of gas vehicles and reducing greenhouse gas (GHG) emissions. Additional benefits would be reduced costs of service repairs, use of fuel, and vehicle downtime.

It is recommended that four Vicinity Lightning battery electric vehicles and two new gas vehicles be ordered for leasing as soon as possible. Staff does not recommend ordering additional electric vehicles to serve as back-up vehicles due to the much higher cost of the lease rates and challenges related to charging stations for the vehicles (discussed further later in this report). The expectation is that the back-up vehicles would only be used while an electric vehicle is undergoing preventive maintenance or requires unanticipated repairs that will take it out of service. While the use is expected to be minimal, it is necessary to have back-up vehicles available to avoid disrupting service. The electric vehicles would be under a six-year lease. The gas vehicles would be under a shorter three-year lease, which preserves the option to replace them with electric vehicles sooner if the opportunity arises. Table 1 compares the monthly lease rates for the current fleet to the proposed lease rates for the new shuttles. There is a net decrease in leasing costs because the fleet would be reduced from nine vehicles to six vehicles, resulting in an annual savings of \$111,035.

Table 1: Lease Costs for Current and New Fleet

Fleet Financing Terms						
Current Fleet Leases	Monthly Rate/Vehicle	# of Vehicles	Total Lease Cost/Month	Total Lease Cost/Year	Term	Term Ends
Electric Vehicles	\$ 5,366	5	\$ 26,828	\$ 321,930	27 mo.	Dec-22
Gas Vehicles	\$ 2,927	3	\$ 8,781	\$ 105,370	27 mo.	Dec-22
Short Term Gas Vehicle	\$ 1,600	1	\$ 1,600	\$ 19,200	12 mo.	Oct-22
TOTAL		9	\$ 37,208	\$ 446,500		
New Fleet Leases	Monthly Rate/Vehicle	# of Vehicles	Total Lease Cost/Month	Total Lease Cost/Year	Term	Term Ends
Electric Vehicles	\$ 5,470	4	\$ 21,878	\$ 262,537	72 mo.	Dec-28
Gas Vehicles	\$ 3,039	2	\$ 6,077	\$ 72,927	36 mo.	Dec-25
TOTAL		6	\$ 27,955	\$ 335,465		

A security deposit of \$62,000 is required at the time of the order, and a residual balance is owed at the end of the lease should the vehicles be purchased.

Community Shuttle Operating Budget

As described above, staff and the MTMA have learned a lot about the health of the existing fleet over the last year. The aging of the fleet, battery failures, and increasing use of the gas vehicles have led to nonroutine repairs and fuel use far exceeding the estimated costs. Items that were not factored into the initial monthly estimate for Fiscal Year 2020-21 that are also leading to higher costs for Fiscal Year 2021-22 include:

- Powertrain warranty renewal (one year/\$30,000) – This warranty was renewed in December 2020 for one additional year. This warranty is not eligible for renewal beyond December 2021, creating an increased risk of major repair costs in 2022.
- Battery replacement costs – Five of the 30 batteries have required replacement since January 2021, and more are expected to fail and require replacement in the next year. Refurbished batteries cost approximately \$9,000 each and new batteries nearly twice as much.
- Higher fuel costs – This is resulting from higher use of gas vehicles due to downtime of the electric vehicles and rising fuel prices. The use of gas vehicles is expected to increase in 2022 because replacement batteries and/or other parts may no longer be available for the electric vehicles.

- Higher volume of repairs – Due to the aging fleet, there is an overall increase in repairs required in addition to battery failures.

Table 1 below provides the MTMA Fiscal Year 2021-22 budget for the Community Shuttle and a revised budget based on the increases in repair and fuel costs experienced year-to-date and anticipated through the end of the fiscal year. As shown, the estimated budget shortfall for Fiscal Year 2021-22 is \$447,102. The primary cost increases are for the nonroutine vehicle maintenance, fuel, and contingency for any additional unanticipated costs. The increase in vehicle lease costs includes the \$62,000 security deposit to order the new vehicles.

Table 2: Community Shuttle Operating Budget Forecast

MV Community Shuttle Budget Forecast	Adopted Budget	Revised Budget			TOTAL
Direct Costs	FY 2021-2022	FY 2021-2022	FY 2022-2023	FY 2023-2024	
Shuttle Operations (Drivers and Vehicle Maintenance)	\$ 1,557,700	\$ 1,557,700	\$ 2,006,435	\$ 2,082,599	\$ 5,032,458
Vehicles (Leases)	\$ 427,300	\$ 508,500	\$ 390,982	\$ 335,464	\$ 1,011,105
Non-Routine Vehicle Maintenance	\$ 30,000	\$ 417,868	\$ 335,154	\$ 84,000	\$ 709,031
Fuel	\$ 10,000	\$ 116,400	\$ 58,200	\$ 9,600	\$ 121,200
Technical Services	\$ 24,000	\$ 24,000	\$ 27,216	\$ 21,168	\$ 61,992
Charging infrastructure/Electricity			\$ 50,000	\$ 100,000	\$ 150,000
Equipment & Data (Tablets w/ data plan & mobile device manager)	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 12,500
<i>Subtotal</i>	\$ 2,054,000	\$ 2,629,468	\$ 2,872,987	\$ 2,637,831	\$ 7,098,285
Indirect Costs			FY 2022-2023	FY 2023-2024	
Shuttle Management, Planning & Customer Service	\$ 218,000	\$ 218,000	\$ 225,000	\$ 232,000	\$ 569,000
Program Management & Oversight	\$ 90,000	\$ 90,000	\$ 103,000	\$ 106,000	\$ 255,000
Other (legal, insurance, graphics, website maintenance, printing, etc.)	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 50,000
<i>Subtotal</i>	\$ 328,000	\$ 328,000	\$ 348,000	\$ 358,000	\$ 874,000
Other Services			FY 2022-2023	FY 2023-2024	
Future Service Planning	\$ 25,000	\$ 25,000	\$ 30,000	\$ 30,000	\$ 75,000
<i>Subtotal</i>			\$ 30,000	\$ 30,000	\$ 75,000
Contingency	\$ 17,000	\$ 108,633	\$ 168,634	\$ 150,000	\$ 427,268
Grand Total	\$ 2,424,000	\$ 3,091,101	\$ 3,419,621	\$ 3,175,831	\$ 8,474,553
ESTIMATED REVENUE			FY 2022-2023	FY 2023-2024	
Google Funds ¹	\$ 2,424,000	\$ 2,424,000	\$ 2,497,000	\$ 2,571,000	\$ 6,280,000
Measure B Funds and City Matching Funds	\$ 220,000	\$ 220,000	\$ 440,000	\$ 220,000	\$ 880,000
TOTAL FUNDING	\$ 2,644,000	\$ 2,644,000	\$ 2,937,000	\$ 2,791,000	\$ 7,160,000
<i>Estimated Shortfall</i>		\$ (447,101)	\$ (482,621)	\$ (384,831)	\$ (1,314,553)

1. Estimated a 3% increase in Google funding per year.

Table 2 also provides a forecast of expenses and revenue for Fiscal Years 2022-23 and 2023-24. For next fiscal year, the nonroutine vehicle repairs and fuel costs are expected to remain high because the new vehicles would not arrive until December 2022. In addition, the use of Google’s charging stations may end as early as September 30, 2022. Therefore, a budget for electricity to charge the batteries has been added. As shown in the table, an additional budget of around \$483,000 may be needed beyond the Google and Measure B funds to maintain the Community Shuttle service levels.

The outlook for the following fiscal year (2023-24) improves with the new vehicles due to decreased lease costs and anticipated significant savings in repair and fuel costs. This is somewhat offset, however, by potential increases in Community Shuttle driver labor costs and electricity for the chargers. Overall, the current estimate is an additional budget of around \$385,000 that may be needed beyond the Google and Measure B funds to maintain the Community Shuttle service levels.

Staff recommends Council approve \$447,101 in additional funding for Fiscal Year 2021-22 to address the projected budget shortfall. Per the terms of the MTMA agreement, any surplus at the end of the fiscal year will be returned to the City. The Fiscal Impact section below provides additional information regarding addressing the shortfall in Fiscal Years 2022-23 and 2023-24.

MTMA Agreement Extension

The agreement with the MTMA to operate the Community Shuttle expires on December 31, 2022, which is around the same time the new electric shuttle vehicles would arrive and be placed into service. To provide continuity in the management and operation of the shuttle and to facilitate the transition to the new electric shuttles, staff recommends the agreement with the MTMA be extended to June 30, 2024, which aligns with the Google funding agreement.

In addition, as noted in the August 25, 2020 Council report authorizing the agreement with the MTMA, staff and the MTMA intend to work together to develop the best long-term strategy for operations, including consideration of a potential merger of the Community Shuttle with the MVgo shuttle services. Due to workload demands created by the pandemic and staffing shortages, work on a long-term strategy has not yet begun. The additional 18 months added to the MTMA agreement term would allow the Community Shuttle operation to stabilize and provide time for staff to analyze next steps.

The lease terms for the new electric shuttles would expire in late 2028 and the gas vehicles in late 2025, which is beyond the recommended agreement extension to June 30, 2024. The MTMA is prepared to enter into leases for these new vehicles as long the City agrees to assume responsibility for the leased vehicles should the City or MTMA decide to terminate the agreement before 2024 or not to extend beyond 2024.

Charging Infrastructure

As part of the City's agreement with Google, Google is providing six electric vehicle chargers on their property for Community Shuttle use through September 31, 2022 with

a one-year extension option at Google’s discretion. However, the chargers are not compatible with the technology in the new electric shuttles, and, consequently, a new charging facility will be needed when the new electric buses arrive at the end of 2022.

Recognizing the lead time needed to identify, purchase, and develop a lot for Community Shuttle use, staff began searching for a suitable parcel immediately after Google transitioned the Community Shuttle operations in October 2020. In April 2021, staff notified the City Council of an opportunity to purchase two vacant parcels owned by PG&E and received authorization to negotiate for the purchase of the parcels at fair market value. Staff submitted an offer to purchase the property in May 2021, but it was not accepted. PG&E has indicated that they will not reduce their asking price, which is nearly triple the fair market value.

An opportunity for creating a shuttle charging and storage area has arisen as part of the City’s U.S. 101 Shoreline off-ramp realignment project, that also includes installing a new driveway into the Computer History Museum parking lot off of Inigo Way. When staff notified VTA of the City’s desire to acquire an easement to connect the new museum driveway through a small parking lot owned by VTA, VTA agreed to quitclaim the lot to the City at no cost.

This rectangle-shaped lot is 13,040 square feet with driveways at the north and south ends of the lot (Figure 3). The lot is large enough to park and charge the four new electric shuttles, but not large enough to park the entire Community Shuttle fleet. It fulfills an immediate need until a larger property can be secured to park the entire fleet. In the meantime, the two back-up gas powered shuttles could be housed at other City locations, such as the Municipal Operations Center.



Figure 3: VTA Lot on Inigo Way behind Computer History Museum

The five-year Capital Improvement Program (CIP) includes a planned CIP for Fiscal Year 2023-24 in the amount of \$500,000 to prepare a parking area with charging stations and

site improvements for the Community Shuttle. Due to the need to have the parking lot available by the end of 2022, this CIP project needs to be moved up to this fiscal year. It is estimated that it will cost approximately \$420,000 to purchase and install four electric chargers; reconstruct one driveway; regrade, install, and stripe new pavement; and provide project management. Therefore, staff recommends that a Mountain View Community Shuttle Charging and Storage CIP project in the amount of \$420,000 be created. To help offset these costs, staff is looking into grant opportunities to cover the cost of purchasing and installing the chargers.

FISCAL IMPACT

Approval of the recommended actions will provide an increase of \$447,101 for the Fiscal Year 2021-22 Community Shuttle operating budget and create a midyear CIP project to design and install a shuttle storage and charging facility at a cost of \$420,000, both of which would be funded out of the General Fund Transportation Reserve. There is significant funding in the General Fund Transportation Reserve for these appropriations.

The increase in appropriations for the Community Shuttle operating budget will fund the MTMA agreement amendment for the increased operation and maintenance costs and the deposit for the new leased vehicles. The current agreement with the MTMA provides \$2,424,000 for Fiscal Year 2021-22 services. With the service expansion funded by VTA Measure B set to begin in January 2022, \$220,000 will be added for the cost of the expanded hours as authorized by Council on June 8, 2021. With the addition of \$447,101, the MTMA agreement not-to-exceed amount will be \$3,091,101 for Fiscal Year 2021-22.

The budget projection for future fiscal years shows a need for additional funding to maintain service levels. For Fiscal Year 2022-23, this deficit is estimated to be approximately \$483,000. The General Fund Transportation Reserve, which is funded by the portion of the business license tax designated for transportation purposes, is the planned source for funding for the Community Shuttle operations and is expected to have sufficient funding to bridge the shortfall. The additional funding required for Fiscal Year 2022-23 will be requested as part of the annual budget process.

While greater operating efficiencies will be gained by the new electric vehicles that will save on costs, the increase in expenses overall is expected to outpace the amount of funding available from Google and Measure B. A major annual expense is the leasing costs which could be mitigated if the vehicles could be purchased. The City has hired a consultant with a proven track record of obtaining transit-related grants to help identify grant opportunities and prepare a grant application that may fund one or more of the following: purchase electric back-up vehicles, pay off the leases for the new electric

vehicles, fund electric shuttle vehicle charging facilities, and/or assist with ongoing operational costs.

CONCLUSION

The Community Shuttle is a valuable fare-free service used by many Mountain View residents to make essential medical and shopping trips, daily school and commute trips, and connections to other transit services. Prior to the COVID-19 pandemic, the service averaged over 700 riders per day. Staff expects that ridership will continue to rise as people return to their normal travel habits and the service is expanded to 7:00 a.m. to 7:00 p.m. daily. In order for the Community Shuttle to continue to operate at current and expanded service levels, an increase in the operating budget, new vehicles, and an electric shuttle bus charging and storage lot are needed.

ALTERNATIVES

1. Decrease the service levels of the Community Shuttle to reduce the annual operating costs.
2. Use lower-cost gasoline shuttle buses instead of electric vehicles until funding to purchase electric shuttles can be secured to reduce the annual operating costs.
3. Lease all-electric shuttles for the two back-up vehicles at a higher annual lease cost and increase the CIP project budget to install electric charges at the Municipal Operations Center or other City property for the two back-up vehicles.
4. Transition the Community Shuttle from a fare-free service to a pay service to generate revenue to offset a portion of operating cost.
5. Provide other direction.

PUBLIC NOTICING

In addition to the City’s standard agenda posting requirements, notices were distributed to persons who have signed up for updates and information about the Mountain View Community Shuttle. Copies of the Council report were provided to Google and the MTMA.

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DS/TS/6/CAM
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