

# 2022 VTA Short Range Transit Plan

Adopted December 2022



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## Introduction

Due to a change in guidance from the Metropolitan Transportation Commission (MTC), the 2022 Short Range Transit Plan (SRTP) is wholly different from previous SRTPs produced by VTA. Past SRTPs required VTA to project revenues and expenses over a 10-year period for transit operating and transit capital programs—effectively our most accurate assessment of what the next 10 years of our transit program would look like. For the 2022 cycle, MTC has asked transit operators to produce transit service projections for fiscal years 2024 through 2028 for three COVID-impacted revenue and ridership recovery scenarios that were crafted by MTC.

The MTC-crafted scenarios do not represent VTA’s projections for those years and should not be interpreted as such. Though not requested by MTC, VTA’s 2022 SRTP also includes a fourth scenario crafted by VTA that represents VTA’s projection for transit funding and service levels for fiscal years 2024 through 2028.

## Pre-pandemic State of Service

### **FY 19 State of Transit Service**

VTA operates bus, light rail and paratransit service in Santa Clara County and manages the operation of the Altamont Corridor Express (ACE) shuttles. All these services operated prior to the pandemic and continue to operate today, though some have operated at a reduced scale due to funding and/or driver-availability constraints.

### **2019 New Transit Network Implementation**

In late December 2019, prior to the onset of the COVID-19 pandemic, VTA implemented a redesigned transit network that aimed to increase ridership, improve cost-effectiveness, and expand the mobility of transit riders. The redesigned network allocated more service to areas that showed greater transit demand, generally in the form of increased frequency, and allocated less service to areas that showed low levels of transit demand or low cost-efficiency. In addition, service levels were shifted away from weekday peak travel periods and toward weekday middays and weekends, a recognition that VTA’s riders travel at all times of the day and week. That shift allowed VTA to build a frequent all-day network that greatly increased the mobility and access to opportunity of transit riders due to decreased waiting times. VTA’s express bus program, which largely serves a commuter market at a high cost per rider, was pared back considerably though some routes were maintained with the help of private funding that emerged from the employers the routes serve.

VTA anticipated a months-long decrease in ridership after the implementation of the redesigned network as riders adjusted to the changes followed by gradual ridership growth as the improved service attracted new riders and led to existing riders taking more trips. This expectation was based on similar ridership fluctuations that occurred following the implementation of network redesigns by other transit operators. VTA’s ridership change exceeded expectations, experiencing only a slight decrease in ridership in the first full month (January 2020) compared to the previous year and then a large increase in the second month (February 2020). However, the onset of the pandemic in March 2020 halted that trend.

**Table 1: Boardings Change Following Implementation of New Transit Service Plan**

Service change implemented over final days of December 2019

Mode	Jan 2019	Feb 2019	Jan 2020	Feb 2020	Jan Annual % Change	Feb Annual % Change
Bus	82,784	84,389	81,848	87,945	-1.1%	+4.2%
Light Rail	25,730	25,943	25,608	27,623	-0.5%	+6.5%
<b>Total</b>	<b>108,514</b>	<b>110,332</b>	<b>107,456</b>	<b>115,468</b>	<b>-1.0%</b>	<b>+4.7%</b>

## Current State of Service

### Pandemic Impacts to Transit Service

In the months following the onset of the pandemic, VTA’s ability to provide public transit service was severely constrained by operator availability. The immediate response was to shift all service to VTA’s Sunday service pattern, as it required fewer operators than weekday service and Sunday schedules were already available to riders. VTA continues to operate under an emergency service plan that is updated based on projected operator availability and a stabilizing funding situation. During this time, operator availability continued to fluctuate, resulting in missed pullouts and less service provided than planned.

Social distancing guidelines put in place by the Santa Clara County Health Department limited onboard passenger capacity, which resulted in passengers being refused boarding once buses had reached capacity. VTA began documenting “pass-ups” in real-time and stationed a fleet of surplus buses in the field that could be called into service on routes where pass-ups were occurring. This contributed to the significant increase in bus service levels to 80 percent in February 2021.

Service adjustments during the pandemic have been guided by several goals including preserving ridership, ensuring that reductions are fair and equitable, avoiding eliminating entire routes, maintaining the frequent network, maintaining service in South County, prioritizing weekdays over weekends and prioritizing connections to BART and Caltrain. Systemwide service levels were restored to 90 percent of pre-pandemic service levels in November of 2021 and continues to this day. Minor service adjustments occurred periodically throughout 2022, though efforts have primarily been focused on recovering to full transit service levels heading into 2023. An increase to 92 percent is projected for October 2022 with a gradual increase to 100 percent starting in January 2023 pending operator availability to carry out full service levels.

**Table 2: Change in Service Levels During Pandemic**

<b>Time Period</b>	<b>Bus Service Level</b>	<b>Rail Service Level</b>	<b>Systemwide Level</b>
Pre-Pandemic	100%	100%	<b>100%</b>
March 30 to June 7, 2020	61%	31%*	<b>59%</b>
June 8 to August 9, 2020	61%	56%	<b>62%</b>
August 10, 2020 to February 7, 2021	73%	76%	<b>74%</b>
February 8 to June 14, 2021	80%	76%	<b>80%</b>
June 15, 2021 to October 10, 2021	82%	76%	<b>82%</b>
October 11, 2021 to present	91%	77%	<b>90%</b>

*\*Light rail service was suspended March 26 through April 8.*

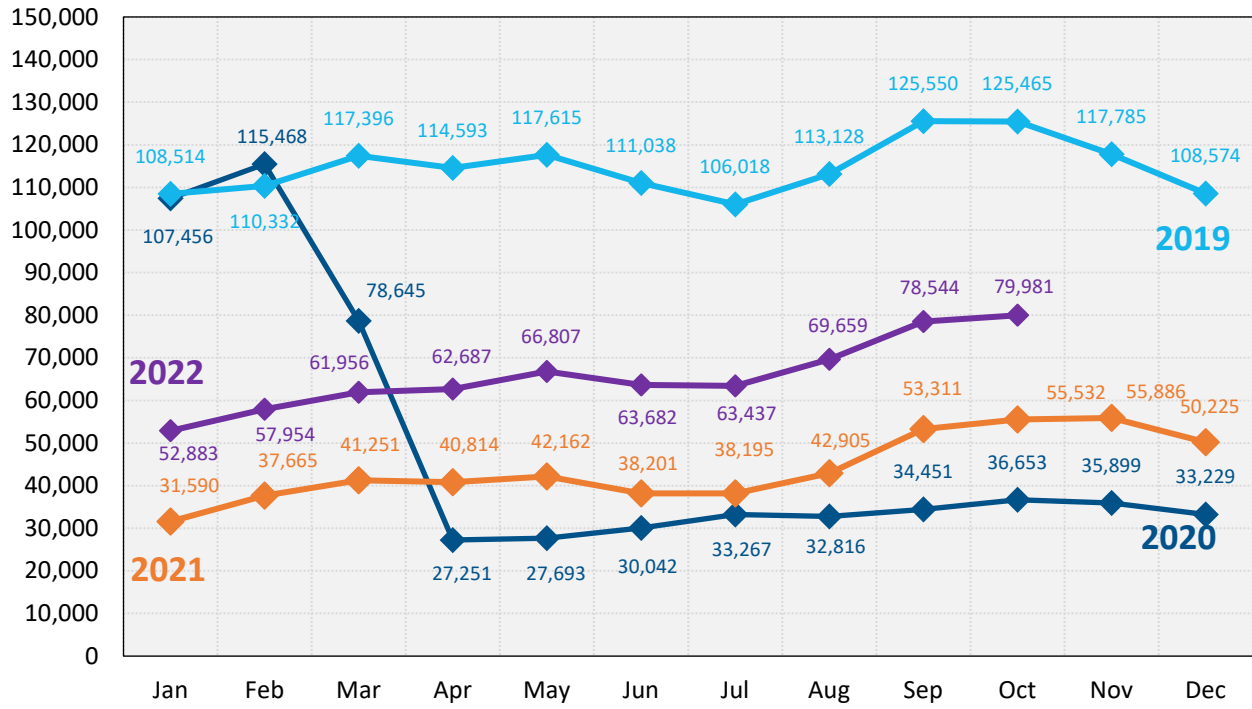
### **Changes in Ridership, Rider Profiles, Travel Patterns**

VTA weekday ridership plummeted 24 percent of pre-pandemic levels as of April 2020. Ridership recovered to 29 percent by the end of 2022 and 43 percent by the end of 2021. As of November 2022, VTA weekday ridership has recovered to 68 percent of pre-pandemic levels. The recovery for bus ridership has outpaced light rail ridership, 73 percent to 52 percent, which is likely a reflection of the different markets that these modes serve. Light rail generally serves employment areas that are better able to adapt to remote work while the bus network skews more toward jobs that require in-person attendance.

In recognition of this difference and with a new focus toward serving essential workers, VTA prioritized restoring bus service levels to a greater extent than light rail levels, especially over the early months of the pandemic when service was lowest and public health cautions were highest. When reductions in service level were necessary, VTA chose to reduce frequencies on routes rather than cut routes completely to preserve access to transit, though riders experienced a lower quantity of service and worse reliability during that time.

Though bus ridership recovery has outpaced light rail recovery, it is unclear if long term changes in the balance between bus and light rail service levels will be warranted. The light rail system is a crucial component of the transit network, serves corridors that buses cannot serve as well and supports bus ridership by providing bus/rail connections.

### Bus and Light Rail Weekday Boardings (2019-2022)



## MTC-Crafted Scenarios

MTC has crafted three revenue and ridership recovery scenarios for fiscal years 2024 through 2028 and is requesting that each Bay Area transit agency project what their service would look like given the prescribed budget and ridership constraints. For VTA, projections for bus, light rail, paratransit, paratransit service that is provided by taxi and Altamont Corridor Express (ACE) Shuttles are provided. The ACE Shuttles are funded by the San Joaquin Regional Rail Commission but are managed by VTA. The scenarios are:

### **Scenario 1 | Robust Recovery**

Agency revenues and ridership return to pre-pandemic levels. MTC has prescribed annual operating budgets ranging from \$466 million in FY 2024 to \$509 million in FY 2028, which reflects 2.2 percent annual escalation.

### **Scenario 2 | Revenue Recovery**

Agency revenues make a full recovery (except fare revenues), but ridership remains at 70 percent of pre-pandemic levels. The prescribed annual operating budgets for this scenario range from \$454 million to \$495 million, which reflects a 30 percent decrease in fare revenue as well as 2.2 percent annual escalation.

### **Scenario 3 | Some Progress**

Federal relief funds are exhausted and transit agencies operate at 85 percent of pre-pandemic levels. The prescribed annual operating budgets for this scenario range from \$397 million to \$433 million, reflecting 15 percent lower funding levels and 2.2 percent annual escalation.

### **Scenario 4 | VTA-Crafted Scenario**

This scenario includes transit operating budgets projected by VTA as well as ridership recovery projections based on to-date actuals, nationwide ridership recovery rates and anticipated future VTA operator staffing levels. Unlike Scenarios 1, 2 and 3 which are hypothetical exercises, Scenario 4 is our best projection for the future of VTA transit operations.

### **MTC Scenario Methodology**

MTC has prescribed annual operating budget totals, but has left projecting how those funds are used, how cost-effectively they are used and what ridership outcomes are achieved up to transit agencies to determine. To the extent possible, VTA has applied a consistent methodology across all four scenarios including:

- Consistent proportional funding by mode for all projected years. Proportions are based on FY 2019 actuals as this was the last full fiscal year before the pandemic began.
- Operating cost increases of 3 percent annually over the projection years. These assumptions are in line with recent cost increases and historical trends.

- Ridership is fixed to transit service levels for the years projected, assuming the same boardings per hour of revenue service as was achieved in FY 2019. Ridership supporting factors like population and job growth are envisioned to be offset by ridership suppressing factors like declining transit travel speeds, worsening reliability due to growing traffic congestion and economic displacement of transit riders due the high cost of living.
- Service productivity from FY 2019 is applied to ridership projections, with the exception of Scenario 2, which assumes the number of riders carried per service hour is only 70 percent as productive, per MTC’s direction for Scenario 2.
- Travel speeds from FY 2019 are applied to revenue miles projections.

**Projection Development**

VTA applied the same percentage change across all three MTC-crafted scenarios, resulting in three projections that are proportionally similar, except for the reduced ridership and farebox revenue of Scenario 2. VTA also applied its own ridership projections, which have VTA ridership returning to pre-pandemic levels in FY 2025.

The projections assume a fixed budget and therefore do not factor in federal relief funding that VTA currently possesses nor any budget maneuvering such as reallocating capital funds to operating funds that could increase the quantity of transit service provided.

**Analysis of MTC Scenarios**

Broadly, growth in VTA’s operating costs outpaces the growth in projected revenues by 0.8 percent annually, resulting in fewer revenue hours of transit service and fewer revenue miles that VTA could afford to operate per year. In turn, a -0.8% change in ridership is projected. Fewer hours of transit service would mean reductions in frequency, shorter spans of service or reduction in routes operated or the length of some routes.

For this exercise, VTA did not project which specific routes would be impacted as those decisions require public and Board input as well as Title VI analyses. Speculating on service changes would be irresponsible, especially years in advance.

**Table 3: General Annual Changes**

Metric	FY24	FY25	FY26	FY27	FY28
Operating Revenues	2.2%	2.2%	2.2%	2.2%	2.2%
Operating Expenses	3.0%	3.0%	3.0%	3.0%	3.0%
Revenue Hours	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
Revenue Miles	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%
Ridership	-	~4%*	-0.8%	-0.8%	-0.8%

\*VTA projects that ridership will return to pre-pandemic levels in FY 2025

## VTA Scenario

### VTA Scenario Methodology

The VTA scenario comes at the fundamental issue of expense growth outpacing revenue growth from a different perspective than the MTC-crafted scenarios. Whereas the MTC-crafted scenarios hold the budget as fixed and service levels are shown in decline as a result, the VTA-crafted scenario holds service levels as fixed to current levels and projects the impact on the budget.

The VTA scenario applies the same methodology as is applied to the MTC methodology with the exception that the VTA scenario is based on VTA's own financial projections for operating revenues and expenses.

VTA Scenario data tables are located at the end of the document.

### Analysis of VTA Scenario

In FY 2024, VTA's operating revenues are projected to be \$429 million and operating expenses are projected to be \$448 million, a gap of \$19 million. This annual deficit grows over subsequent years, reaching \$34 million by FY 2028. In the near term, federal relief funding assistance can cover the deficit, but VTA's federal relief funds are projected to be exhausted partway through FY 2027, resulting in a shortfall of \$6 million that year and \$34 million in FY 2028. Subsequent years are projected for larger shortfalls. Unless another funding source emerges, VTA will need to implement transit/paratransit service cuts of 1 percent in FY 2027 and 6 percent in FY 2028.

**Table 4: VTA Scenario Projected Operating Expenses and Revenues**

	FY2024	FY2025	FY2026	FY2027	FY2028
Operating Expenses (\$M)	\$448	\$464	\$478	\$493	\$508
Operating Revenues (\$M)	\$429	\$447	\$456	\$465	\$474
Federal Relief Funding (\$M)	\$19	\$17	\$23	\$22	\$-
Operating Funding Shortfall (\$M)	-	-	-	\$(6)	\$(34)

### Structural Funding Challenge

The trend of declining transit quantity and quality across these scenarios is largely a product of the longstanding trend of operating costs increasing at a greater rate than revenues. Operating costs have many inputs, but are largely driven by the cost of labor, which is influenced by the cost of living. The rising cost of living in Santa Clara County is largely owed to insufficient housing supply and a considerable jobs/housing imbalance. Effectively, VTA's trend of rising operating cost is due to factors that are outside of the authority's control like municipal land use decisions, changes in global fuel prices and the strength of the economy.



## **How Should VTA React?**

VTA is currently able to offset operating shortfalls with federal relief funds that are in hand, but those funds are finite and, upon exhaustion and absent a new source of funding, VTA would be forced to implement reductions in its transit operation or transit capital program. Such reductions would mean service cuts, deferring maintenance or delaying fleet replacement. VTA has employed the latter two in recent years, resulting in accumulating maintenance needs and an aging fleet. VTA's fleet averages 11 years old (6-7 years is ideal).

In the coming decade, VTA anticipates increased costs for fleet replacement on two fronts. The California Air Resources Board's Innovative Clean Transit Regulation requires operators to begin purchasing zero-emission buses that have per-vehicle costs that are 20 to 40 percent more expensive than VTA's current hybrid-diesel fleet and require the installation of supporting electric charging or hydrogen fueling infrastructure. At the planned transition pace, VTA will face annual fleet replacement costs of \$30 to 40 million and another \$10 million or so in infrastructure needs, which is well more than is presently available through the federal and state grant funding programs that VTA has relied upon to fund these purchases in the past. In addition, VTA's light rail fleet is about 20 years old and will need to be retired and replaced in the next decade. Replacing the fleet will likely cost around \$400 million, but the source of that funding is currently unclear.

In early 2023, VTA will develop its next biennial budget, which will be a time to prepare updated projections (the revenue and expense projections for the VTA Scenario were developed in 2021) and assess whether actions are necessary to adjust the total operating budget or reallocate funds from other efforts.

### **MTC Question: How would priorities and goals change with revenue constraints? What would inform or trigger service change decisions?**

Ultimately, the decision about whether to change transit service in response to operating funding reduction is the responsibility of VTA's Board of Directors. As is VTA's service design practice, the Board of Directors would set a service hour target based on anticipated operating costs and available operating funds as part of developing the budget. VTA's Service Planning Department would be charged with developing the plan within the service hour constraint through a transparent and public-engagement informed process. Any new service plan that makes major changes would need to pass a Title VI analysis and be adopted by the Board of Directors.

The network redesign that VTA implemented in late 2019 was designed to achieve the goals of maximizing ridership and cost-effectiveness as well as expanding the mobility of riders through the creation of an all-day frequent network that was based on transfers across intersecting frequent routes rather than direct, one-seat rides. A new service plan would likely continue emphasizing those objectives.

**MTC Question: How would equity priority communities be considered under each scenario?**

VTA's equity communities currently benefit from higher levels of transit service for two reasons: (1) VTA's focus on addressing inequities through higher levels of transit service and (2) equity communities are disproportionately lower income and minority, which correlates with higher rates of transit use, so these are natural markets to serve if achieving ridership is a leading purpose of the transit system.

Any service changes that VTA considered due to these scenarios would be guided by these factors. Speculating on specific changes years in advance is not practical as VTA's service changes are developed with community input and in response to specific constraints and changing travel needs.

**MTC Question: How would these revenue constraints impact staffing and budgeting?**

Less funding for transit operations would mean less service hours operated, but it's not clear what that would mean for VTA staffing levels, nor is it the role of staff to speculate about what VTA leadership may do in response to revenue constraints. Potentially, a need for overtime shifts could decrease without affecting staffing levels. VTA's operations workforce includes nearly 1,300 individuals. Hiring levels are adjusted to offset retirements and attrition. Through this process, VTA can adjust staffing levels to align with service needs.

**MTC Question: How would different service levels impact fleet requirements or spare ratios?**

The size of the fleet is based on the peak vehicle need and a 20 percent spare ratio requirement. If VTA decreases the peak vehicle need, the total fleet size would decrease commensurately.

## VTA Scenario Projected Metrics

### VTA Scenario | Bus

	FY2024	FY2025	FY2026	FY2027	FY2028
Revenue Vehicle Hours	1,212,533	1,219,566	1,219,550	1,219,550	1,219,550
Revenue Vehicle Miles	14,072,361	14,153,982	14,153,807	14,153,807	14,153,807
Number of Routes Operated	47	47	47	47	47
Total Route Miles	1,474	1,474	1,474	1,474	1,474
Ridership	24,131,046	24,271,007	24,270,708	24,270,708	24,270,708
Operating Budget (\$M)	\$284	\$294	\$303	\$312	\$321
Total Revenue Vehicles	445	445	445	445	445
Vehicles Required For Max Service	356	356	350	347	345
Employees (Full Time Equivalent)	1273	1273	1273	1273	1273

### VTA Scenario | Light Rail

	FY2024	FY2025	FY2026	FY2027	FY2028
Revenue Vehicle Hours	161,354	162,290	162,288	162,288	162,288
Revenue Vehicle Miles	2,381,551	2,395,364	2,395,335	2,395,335	2,395,335
Number of Routes Operated	3	3	3	3	3
Total Route Miles	84	84	84	84	84
Ridership	9,318,075	9,372,120	9,372,005	9,372,005	9,372,005
Operating Budget	\$137	\$142	\$146	\$151	\$155
Total Revenue Vehicles	98	98	98	98	98
Vehicles Required For Max Service	66	66	66	66	66
Employees (Full Time Equivalent)	467	467	467	467	467

**VTA Scenario | Purchased Transit (Altamont Corridor Express Shuttles)**

	FY2024	FY2025	FY2026	FY2027	FY2028
Revenue Vehicle Hours	18,694	18,803	18,802	18,802	18,802
Revenue Vehicle Miles	198,406	199,557	199,554	199,554	199,554
Number of Routes Operated	8	8	8	8	8
Total Route Miles	-	-	-	-	-
Ridership	471,458	474,193	474,187	474,187	474,187
Operating Budget	\$1.94	\$2.01	\$2.07	\$2.13	\$2.20
Total Revenue Vehicles	12	12	12	12	12
Vehicles Required For Max Service	12	12	12	12	12
Employees (Full Time Equivalent)	23	23	23	23	23

**VTA Scenario | Paratransit**

	FY2024	FY2025	FY2026	FY2027	FY2028
Revenue Vehicle Hours	373,608	375,775	375,771	375,771	375,771
Revenue Vehicle Miles	6,127,545	6,163,085	6,163,009	6,163,009	6,163,009
Number of Routes Operated	-	-	-	-	-
Total Route Miles	-	-	-	-	-
Ridership	500,136	503,037	503,031	503,031	503,031
Operating Budget	\$22.22	\$23.01	\$23.70	\$24.42	\$25.15
Total Revenue Vehicles	299	299	299	299	299
Vehicles Required For Max Service	208	208	208	208	208
Employees (Full Time Equivalent)	384	384	384	384	384

**VTA Scenario | Paratransit Served by Taxi**

	FY2024	FY2025	FY2026	FY2027	FY2028
Revenue Vehicle Hours	71,079	71,491	71,491	71,491	71,491
Revenue Vehicle Miles	1,124,123	1,130,643	1,130,629	1,130,629	1,130,629
Number of Routes Operated	-	-	-	-	-
Total Route Miles	-	-	-	-	-
Ridership	94,206	94,753	94,751	94,751	94,751
Operating Budget	\$3.29	\$3.41	\$3.51	\$3.61	\$3.72
Total Revenue Vehicles	-	-	-	-	-
Vehicles Required For Max Service	-	-	-	-	-
Employees (Full Time Equivalent)	-	-	-	-	-