Triennial Performance Audit

of the

Solano County Transit (SolTrans)

Fiscal Years 2017/18, 2018/19 and 2019/20

FINAL AUDIT REPORT

prepared for the

METROPOLITAN TRANSPORTATION COMMISSION

by

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NOTE:

All exhibits in this report are presented at the end of the associated discussion in each section.

EXECUTIVE SUMMARY

This executive summary highlights the findings from the performance audit of Solano County Transit (SolTrans). In California, a performance audit must be conducted every three years of any transit operator receiving Transportation Development Act (TDA) Article 4 funds, to determine whether the operator is in compliance with certain statutory and regulatory requirements, and to assess the efficiency and effectiveness of the operator's services. The two service modes operated by SolTrans, bus and paratransit, are the prime focus of this performance audit. The audit period is Fiscal Years 2018 through 2020 (from July 1, 2017 through June 30, 2020). **NOTE: Due to the COVID-19 emergency it is recognized that performance in the latter part of FY2020 is anomalous with the earlier part of the audit period. As such, trend analyses in this report do not place much emphasis on performance beyond FY2019 for the purposes of drawing conclusions and formulating recommendations.**

Performance Audit and Report Organization

The performance audit was conducted for MTC in accordance with its established procedures for performance audits. The final audit report consists of these sections:

- An assessment of data collection and reporting procedures;
- A review of performance trends in TDA-mandated indicators and component costs;
- A review of compliance with selected PUC requirements;
- An evaluation of SolTrans' actions to implement the recommendations from the last performance audit;
- An evaluation of functional performance indicator trends; and

- Findings, conclusions, and recommendations to further improve SolTrans' performance based on the results of the previous sections.

Comments received from SolTrans and MTC staff regarding the draft report have been incorporated into this final report. Highlights from the key activities are presented in this executive summary.

Results and Conclusions

Review of TDA Data Collection and Reporting Methods - The purpose of this review is to determine if SolTrans is in compliance with the TDA requirements for data collection and reporting. The review is limited to the five data items needed to calculate the TDA-mandated performance indicators. This review has determined based on the information provided, SolTrans appears to be in compliance with the data collection and reporting requirements for the five TDA statistics.

The statistics collected over the period appear to be consistent with the TDA definitions and indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics.

A reporting consistency discrepancy was noted for vehicle service miles, beginning in FY2017. While operating costs increased, both vehicle service hours and miles decreased in FY2017, a discrepancy which was noted in the prior audit report. The decrease in service miles was more pronounced than service hours, with miles decreasing about 10 percentage points more than hours. Similar discrepancies were seen in FY2018, where service hours increased for both fixed-route and paratransit services, while service miles decreased. Beginning in FY2019, the service statistics began moving in the same

direction, with fixed route service hours decreasing about two percent, while service miles decreased 5.5 percent. On the paratransit side, service hours increased 13.5 percent while service miles increased three percent. The FY2020 statistics showed similar trends, with both service hours and miles moving in the same direction for each mode.

Performance Indicators and Trends – SolTrans' s performance trends for the five TDA-mandated indicators were analyzed by mode. A six-year analysis period was used for all the indicators. In addition, component operating costs were analyzed.

- Bus Service – The following is a summary of the TDA performance trend highlights over the six-year period of FY2015 through FY2020:

  - There was an average annual increase in the operating cost per hour of 1.8 percent, which amounted to a 0.9 percent decrease in inflation adjusted dollars.

  - The cost per passenger increased on average by 10.1 percent per year, resulting in an average annual increase of 7.1 percent in constant FY2015 dollars.

  - Passenger productivity declined, with passengers per vehicle service hour decreasing by 7.5 percent per year overall, and passengers per vehicle service mile decreasing by 2.7 percent annually.

  The following is a summary of the component operating costs trend highlights for the bus service between FY2015 through FY2020:

  - Purchased transportation costs increased modestly, an average of just over three percent per year, and remained the largest component cost area at about 65 percent of total costs.

  - In-house labor and fringe benefit costs increased overall, with both these categories combined comprising about ten to 11 percent of total operating costs.

- Services costs increased by about five percent on average per year, and comprised about 12 percent of total operating costs.

- Costs decreased over the review period for both the materials/supplies and other expenses categories. The share of these costs averaged about 10 to 12 percent of total operating costs over the review period.

- There was a 28 percent increase in casualty/liability, which comprised less than one percent of total costs.

- Paratransit – The following is a summary of the TDA performance trend highlights over the six-year period of FY2015 through FY2020:

  - Cost efficiency showed a decrease, with an average annual increase in the operating cost per hour of 4.2 percent. This amounted to an average annual increase of 1.4 percent in inflation adjusted dollars.

  - Cost effectiveness was similar, with the operating cost per passenger increasing an average of 4.8 percent per year, or 1.9 percent annually when expressed as normalized FY2015 dollars.

  - Passenger productivity was mixed, with only minor changes in passengers per hour, decreasing 0.5 percent per year on average, and passengers per mile increasing 8.9 percent annually.

  The following is a summary of the component operating costs trend highlights for paratransit between FY2015 through FY2020:

  - Purchased transportation costs represented the largest portion of total paratransit operating costs, at about 75 percent throughout the review period. Purchased transportation costs increased by 0.9 percent per year on average.

  - Annual average increases were seen in the labor (9.8 percent), and fringe benefits (13.4 percent) categories, however, these categories combined account for less than 15 percent of the total paratransit costs.

- Overall cost decreases occurred in the services (15.3 percent), materials/supplies (11.2 percent), and other expenses (22.6 percent) categories during the review period. Together, these categories combined represent about less than ten percent of total operating costs in the current audit period.

- Increases were shown in the casualty/liability category, but this area comprises less than one percent of total expenses.

Compliance with Statutory Requirements – SolTrans is in compliance with each of the seven sections of the state PUC that were reviewed as part of this performance audit. These sections included requirements concerning CHP terminal safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluating passenger needs.

Status of Prior Audit Recommendations – There was one recommendation made in SolTrans' prior performance audit. SolTrans has implemented several corrective actions for the recommendation from the prior audit to improve its data collection and reporting activities for its quality-of-service statistics.

- The recommendation was for SolTrans to improve its data collection and reporting activities for its quality-of-service statistics. The prior audit found numerous data gaps in quality-of-service statistics identified in the Functional Performance Indicator section for both bus and paratransit services, including late trips, missed trips, total trips and complaints. SolTrans acknowledged that the data elements should have been tracked, or tracked correctly, but the operating contractor was not doing so.

- SolTrans has implemented several corrective actions for the recommendation from the prior audit, listed in Exhibit 7. The current audit found a much more complete submission of service statistics for the Functional Performance Indicator section in the current audit period.

Functional Performance Indicator Trends - To further assess SolTrans' performance over the past three years, a detailed set of systemwide and modal functional area performance indicators was defined and reviewed.

- Systemwide (All Modes) – The following is a summary of the systemwide functional trend highlights between FY2018 and FY2020:
  - Administrative costs increased to almost 50 percent of total operating costs, and increased by 12.3 percent between FY2018 and 2019, before increasing another 7.1 percent to about $63 per vehicle service hour in FY2020.
  - Marketing costs decreased overall compared to total administrative costs and held relatively steady when measured per passenger trips.
  - Systemwide farebox recovery ratio declined slightly in the first two years, but more significantly (21.4 percent) in FY2020.

- Bus Service – The following is a summary of the bus service functional trend highlights between FY2018 and FY2020:
  - Service Planning results showed operating costs per passenger increasing 32.4 percent overall, with the largest increase occurring in FY2020. Vehicle miles in service and vehicle hours in service both remained above 91 percent overall, and passengers per vehicle service mile and hour declined about 10 and 16 percent respectively, with the largest decrease again occurring in FY2020.
  - In Operations, overall vehicle operations costs decreased as a percentage of total operating costs, as did operations cost per service hour during the audit period. Farebox recovery had a slight decrease between FY2018 and FY2019, with a more significant decrease in FY2020 (23.4 percent). The TDA recovery rate decreased at about the same rate as overall farebox recovery ratio. Schedule adherence improved from 69 percent to about 77 percent over the three years, and the number of complaints declined overall. The percentage of missed trips increased significantly, attributed to labor shortages

due to difficulties attracting and retaining operators, and service disruptions and operator absences due to the COVID pandemic in FY2020.

- Maintenance results were mixed, with maintenance costs decreasing moderately overall relative to total operating costs, but increasing on a service mile basis. The vehicle spare ratio increased slightly, and vehicle reliability showed significant improvement, especially in FY2020.

- Safety results demonstrated fluctuations in the rate of preventable accidents per 100,000 vehicle miles, but remaining low overall, while casualty costs per vehicle service hour and mile remained steady throughout the audit period.

- Paratransit – The following is a summary of the paratransit functional trend highlights between FY2018 and FY2020:

  - Service Planning results were mixed, with the cost per passenger mile increasing, with most of the increase occurring in FY2020, when ridership decreased during the COVID pandemic. The percent of vehicle miles and vehicle hours in service improved from the high seventy percent to the low eighty percent range for both. Passenger productivity was mixed, with passengers per vehicle service mile increasing, while passengers per vehicle service hour decreased slightly.

  - Operations results included a small decrease in vehicle operations costs as a portion of total operating costs, and vehicle operations cost per hour. Farebox recovery increased during the audit period, and data for the TDA recovery ratio was unavailable for the period. Schedule adherence fluctuated, but ended up improving by 4.5 percent overall, while complaints decreased significantly. There were almost no missed trips and ADA trip denials during the audit period. The rate of trip cancellations increased significantly by more than 40 percent overall, mostly in FY2020. The late cancellation and passenger no-show rates both decreased.

- Maintenance results showed vehicle maintenance costs increasing as a percentage of total operating costs, while vehicle maintenance costs per service mile increased significantly in FY2020, due to decreased service miles. The miles between mechanical failures declined by 61 percent for major failures, and 50 percent for all failures.

- Safety results found a small increase in the number of preventable accidents per 100,000 miles over the audit period.

Recommendations

1. EXAMINE THE CAUSES OF THE DECLINE IN MILES BETWEEN MECHANICAL FAILURES ON THE PARATRANSIT SERVICES.
   [Reference Section: VI. Functional Performance Indicator Trends]

   Current audit period maintenance results for SolTrans' paratransit service showed a substantial decrease in the mean distance between major failures for paratransit, which declined overall by 61 percent, from 25,544 miles to 9,900 miles. The performance in mean distance between all failures, declined by 50 percent, from 19,868 miles to 9,900 miles.

   SolTrans speculated that personnel turnover in the paratransit maintenance manager position may have been a factor in the performance decline. In addition, they further speculated that errors in how mechanical failures were reported may have resulted in over-stating the number of mechanical failures in 2019. However, no empirical information to support either of these possible explanations was provided.

SolTrans should examine the reasons for the decline in miles between mechanical failure and take appropriate steps to improve performance, and/or data collection accuracy.

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I. INTRODUCTION

Public Utilities Code (PUC) Section 99246 requires that a performance audit be conducted every three years of each public transit operator in California. The audit requirement pertains to recipients of Transportation Development Act (TDA) funds, and is intended to assure that the funds are being used efficiently. The substance and process of the performance audit is defined by the Regional Transportation Planning Agency (RTPA).

In the San Francisco Bay Area, the Metropolitan Transportation Commission (MTC) has been designated the RTPA and has this responsibility. By statute, the audit must be conducted in accordance with the U.S. Comptroller General's "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions" (the "yellow book"). The performance audit is a systematic review to determine the extent to which a transit operator has complied with pertinent laws and regulations, and conducted operations in an efficient and economical manner. Relative to system compliance testing, all findings are reported regardless of materiality.

This report has been prepared as part of the performance audit of the Solano County Transit (SolTrans). The two modes operated by SolTrans, bus and paratransit, are the focus of this performance audit. The audit period is Fiscal Years 2018 through 2020 (from July 1, 2017 through June 30, 2020). **NOTE: Due to the COVID-19 emergency it is recognized that performance in the latter part of FY2020 is anomalous with the earlier part of the audit period. As such, trend analyses in this report do not place much emphasis on performance beyond FY2019 for the purposes of drawing conclusions and formulating recommendations.**

An overview of SolTrans is provided in Exhibit 1. This is followed by a recent organization chart in Exhibit 2, which reflects the basic organizational structure during the audit period and beyond.

Performance Audit and Report Organization

This performance audit of SolTrans was conducted for MTC in accordance with its established procedures for performance audits. The audit consisted of two discrete steps:

1. Compliance Audit - Activities in this phase include:
    - An overview of data collection and reporting procedures for the five TDA performance indicators;
    - Analysis of the TDA indicators; and
    - A review of compliance with selected state Public Utilities Code (PUC) requirements.

2. Functional Review - Activities in this phase include:
    - A review of actions to implement the recommendations from the prior performance audit;
    - Calculation and evaluation of functional performance indicator trends; and
    - Findings, conclusions, and the formulation of recommendations.

This report presents the findings from both phases. Comments received from SolTrans and MTC staff regarding this draft report will be incorporated into the final report.

Exhibit 1: System Overview

Locations

Operations and Maintenance Facility - 1850 Broadway Street, Vallejo, CA 95489
Administrative Offices & Transit Center – 311 Sacramento Street and 237 Georgia Street, Vallejo, CA 94590

Establishment

Solano County Transit (SolTrans) is a Joint Powers Authority that provides public transportation to the southern Solano County cities of Vallejo and Benicia. SolTrans was created by a joint powers agreement approved in the fall of 2010 by the City of Benicia, the City of Vallejo, and the Solano Transportation Authority to build a unified public transit system in southern Solano County. On July 1, 2011, SolTrans officially took over the public transit programs from the cities of Vallejo and Benicia.

Board

SolTrans has a six-member Board of Directors with four City Council members from Benicia and Vallejo and two members from regional planning agencies boards of directors, the Metropolitan Transportation Commission (MTC), and the Solano Transportation Authority (STA). The STA member is a non-voting ex-officio member. The Board has two alternate members.

Facilities

The SolTrans operations and maintenance facility is located on Broadway in Vallejo. It is the central base of operations for services and houses the contractor employees. SolTrans' agency staff are located in the administrative office located at the Vallejo Transit Center at 311 Sacramento Street, in Downtown Vallejo. SolTrans services are centered around three transit centers in Vallejo: the Vallejo Transit Center, the Sereno Transit Center on Sereno Drive in west Vallejo, and the Curtola Park and Ride Hub at Curtola Parkway and Lemon Street.

Service Data

SolTrans provides local bus service to the Solano County cities of Vallejo and Benicia, with express bus service connecting to the City of Fairfield and the Contra Costa County communities of El Cerrito, Pleasant Hill, and Walnut Creek with regional connections to BART. SolTrans also operates express service connecting Vallejo and El Cerrito del Norte BART with the San Francisco Ferry Terminal. SolTrans contracts with National Express Transit Corporation to operate and maintain its fixed-route and paratransit services. Eight local fixed routes serve Vallejo, four limited-service routes operate during school in-service dates within Vallejo and Benicia, and three intercity routes connect to surrounding areas. In addition to fixed route service, SolTrans provides ADA complementary paratransit bus service.

SolTrans operates eight local fixed-routes with a span of service Monday through Friday from 5:30 a.m. to 9:32 p.m., Saturdays 6:44 a.m. to 7:45

p.m. and two routes on Sunday 8:30 a.m. to 7:26 p.m. Frequencies on most routes are variable and midday trips are often widely spaced, but headways generally run on 15-to-60-minute headways during the peak periods and 45 to 90 minutes off-peak. Express service runs weekdays from approximately 4:10 a.m. to 11:41 p.m., Saturdays 6:31 a.m. to 11:36 p.m. and two routes on Sunday from 8:29a.m. to 9:18 p.m. SolTrans' current fixed-route fleet consists of 42 revenue vehicles, including diesel-electric hybrid, compressed natural gas, and electric 40-foot and 45-foot transit coaches.

The local adult fare is $2.00, the express fare within Solano County is $2.75, and the express fare for travel to locations outside Solano County is $5.00. Discounted fares are offered to senior patrons, disabled patrons, and Medicare cardholders at $1.00 for local routes, $1.35 for express travel within Solano County and $2.50 for express routes. Daily and 31-day passes and discounted 10-ride tickets are also available.

Complementary ADA paratransit service is provided by SolTrans Paratransit seven days a week during the same hours as the fixed route service. The fare is $4.00 per trip within. A $40 10-Ride Pass is also available.

Recent Changes

SolTrans completed the following projects:

- Construction on a compressed natural gas (CNG) fueling facility was completed and became operational in February 2018;
- Recommendations from a Comprehensive Operational Analysis of SolTrans' local fixed route service were implemented in 2019;
- Replacement of the remaining diesel over-the-road coaches was completed in 2019;
- Purchase of two additional electric buses for the local fixed route fleet in 2020.

Response to COVID-19

SolTrans is a member of the "Riding Together – Bay Area Healthy Transit Plan", designed to align the region's public transportation providers around transit-related health and safety standards. SolTrans has responded to the pandemic by modification of buses to ensure the safety of operators and passengers, suspension of fare collection in March 2020 (re-instated in June), implemented reduced capacity maximums on the bus to ensure safe social distancing, implemented rear-door boarding protocols, modified service levels to ensure that essential workers and transit dependent passengers have appropriate levels of transportation, and implementing mask/face covering requirements for all riders.

Planned Changes SolTrans is planning the following projects:

- Purchase and installation of a new AVL-CAD system on the fixed route fleet;
- Design and installation of electrical infrastructure to support a future electric fleet began in 2020;
- Replacement of 21 local fixed route buses is planned to begin in 2023 and be completed by 2027.

Staff SolTrans currently has thirteen approved in-house positions:

- One (1) Executive Director;
- One (1) Board Clerk;
- One (1) Administrative Clerk;
- One (1) Deputy Director;
- One (1) General Services Manager;
- One (1) Transit Services Manager;
- One (1) Accountant;
- Five (5) Program Analysts I & II; and
- One (1) Program Assistant.

Exhibit 2.1: Organization Chart FY2018

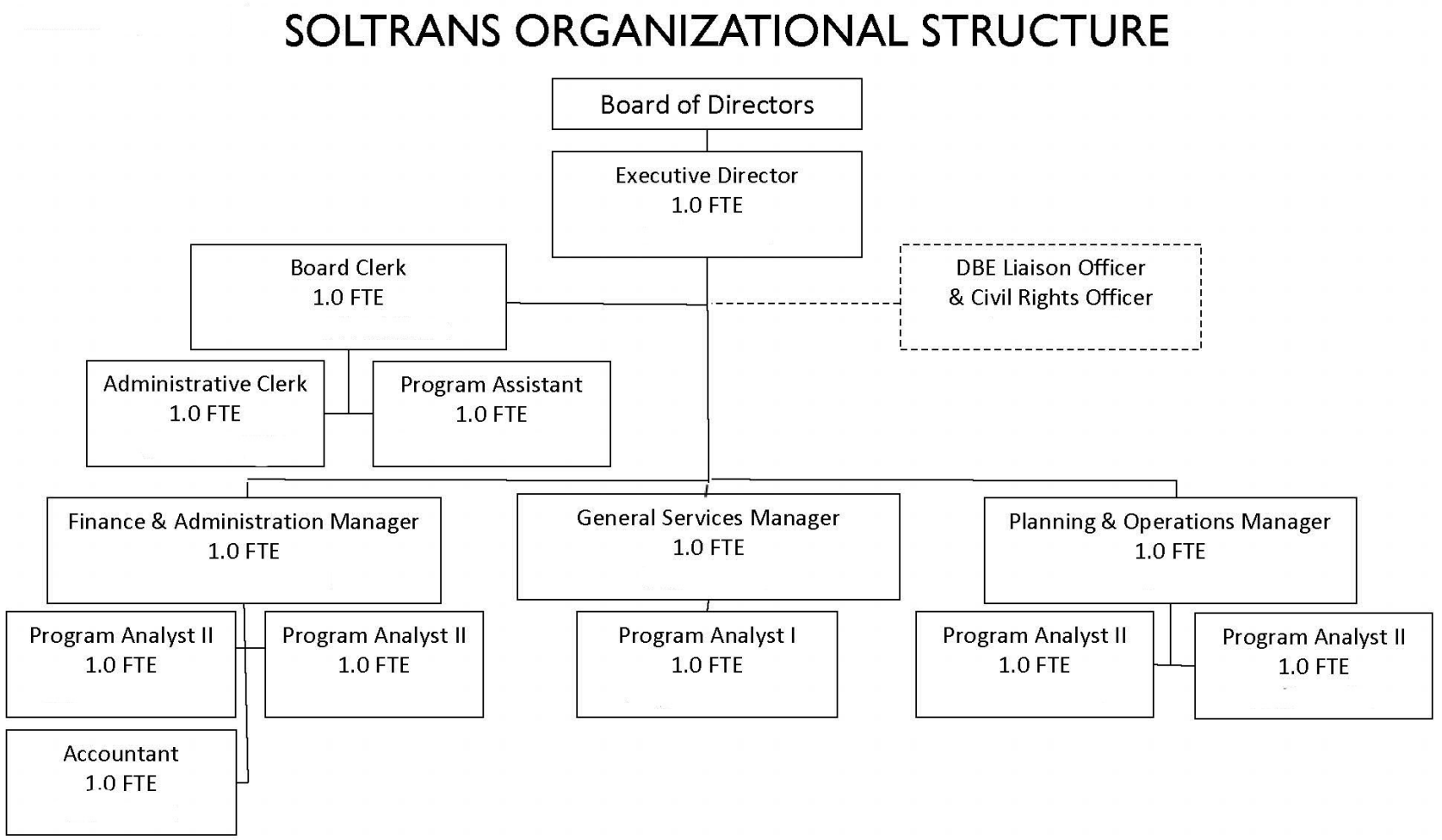
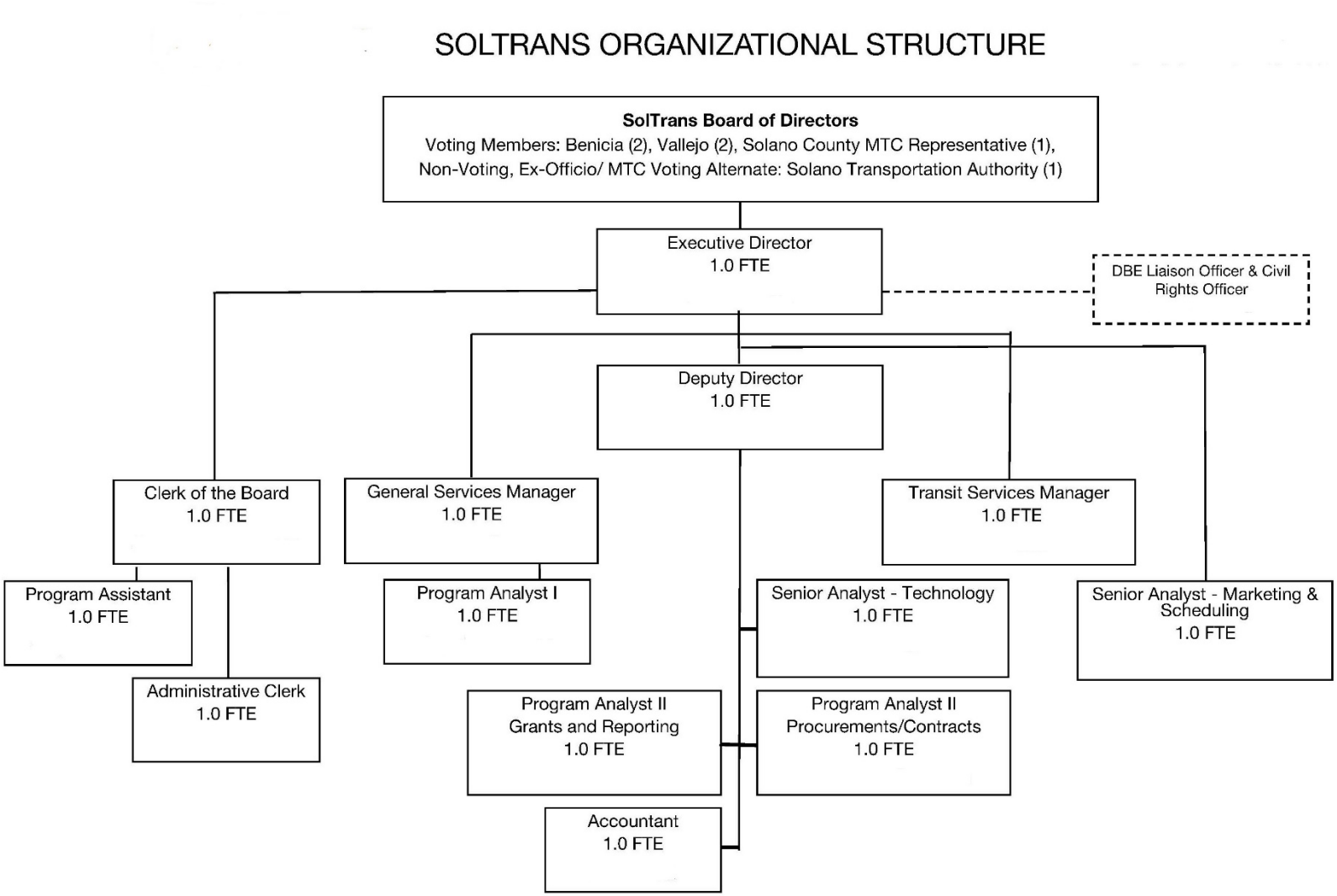


Exhibit 2.2: Organization Chart FY2019 – FY2020



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II. REVIEW OF TDA DATA COLLECTION AND REPORTING METHODS

This section focuses on the five performance indicators required by TDA law. These indicators have been defined by the state PUC to evaluate the transit operator's efficiency, effectiveness, and economy. The purpose of this review is to determine if SolTrans is in compliance with the data collection and reporting requirements necessary to calculate the TDA performance indicators. The review is limited to the data items needed to calculate the indicators:

- Operating costs
- Vehicle service hours
- Vehicle service miles
- Unlinked passengers
- Employees (full-time equivalents)

The TDA indicator analysis is based on these operating and financial statistics in the National Transit Database (NTD) reports submitted annually to the Federal Transit Administration (FTA). The information reported by SolTrans covering the audit period has been reviewed. SolTrans' NTD reports include its bus and paratransit services.

Compliance with Requirements

To support this review, SolTrans staff confirmed that the data collection and reporting procedures remain mostly unchanged from those described in the prior performance audit, apart from the implementation of new AVL technology. SolTrans implemented a CAD-AVL system from Avail Technologies in 2017. This system includes a database to house all data (hours and miles) needed for reporting purposes. SolTrans identified discrepancies between miles calculated in its TMS scheduling software and

miles being reported in the Avail system, as the TMS system was calculating miles on an "as the crow flies" straight line measurement. SolTrans had been manually calculating route miles and overriding the input miles in Avail with the true calculated mileage to ensure accuracy. However, they abandoned that effort as too unwieldy and switched to using the Avail data exclusively.

Based on the information provided as shown in Exhibit 3.1, SolTrans appears to be in compliance with the data collection and reporting requirements for the five TDA statistics.

Consistency of the Reported Statistics

The resulting TDA statistics for SolTrans' bus and paratransit services are shown in Exhibits 3.2 and 3.3, respectively. Included are statistics covering each fiscal year of the three-year audit period, plus the immediately preceding three fiscal years, resulting in a six-year trend. The statistics collected over the period appear to be consistent with the TDA definitions. Further, most statistics indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics, that is, increases or decreases in annual operating costs are relatively proportional to increases or decreases in annual vehicle service hours.

A reporting consistency discrepancy was noted for vehicle service miles, beginning in FY2017. While operating costs increased, both vehicle service hours and miles decreased in FY2017, a discrepancy which was noted in the prior audit report. The decrease in service miles was more pronounced than service hours, with miles decreasing about 10 percentage points more than hours. Similar discrepancies were seen in FY2018, where service hours increased for both fixed-route and paratransit services, while service

miles decreased. Beginning in FY2019, the service statistics began moving in the same direction, with fixed route service hours decreasing about two percent, while service miles decreased 5.5 percent. On the paratransit side, service hours increased 13.5 percent while service miles increased three percent. The FY2020 statistics showed similar trends, with both service hours and miles moving in the same direction for each mode.

Exhibit 3.1: Compliance with TDA Data Collection and Reporting Requirements

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Operating Cost	"Operating cost" means all costs in the operating expense object classes exclusive of the costs in the depreciation and amortization expense object class of the uniform system of accounts and records adopted by the Controller pursuant to Section 99243. Also excluded are all subsidies for commuter rail services operated on railroad lines under the jurisdiction of the Federal Railroad Administration, all direct costs for providing charter services, all vehicle lease costs, and principal and interest payments on capital projects funded with certificates of participation.	In Compliance	• SolTrans maintains accounting records by mode. All costs are coded or allocated between fixed route, demand response and the taxi scrip program. • The FTA required SolTrans to conduct an Independent Auditor Statement – Financial Data (IAS-FD) performed by outside auditors due to the implementation of a new accounting system in FY 2017-18. The auditor's report found no exceptions to the data examined.
Vehicle Service Hours	"Vehicle service hours" means the total number of hours that each transit vehicle is in revenue service, including layover time.	In Compliance	• Scheduled hours are imported into Avail from SolTrans' scheduling software, TMS. Any deviations to the scheduled hours are input daily into Avail by National Express Staff.
Vehicle Service Miles	"Vehicle service miles" means the total number of miles that each transit vehicle is in revenue service.	In Compliance	• Scheduled miles are imported into Avail from SolTrans' scheduling software, TMS. Any deviations to the scheduled hours are input daily into Avail by National Express Staff.
Unlinked Passengers	"Unlinked passengers" means the number of boarding passengers, whether revenue producing or not, carried by the public transportation system.	In Compliance	• Ridership is tracked through GFI Odyssey Fareboxes. The GFI server is updated each night from the buses that are probed that night. As GFI does not capture Clipper riders, SolTrans performed a manual integration of GFI and Clipper in the early portion of the audit period. The Solutions for Transit system now performs the integration automatically.

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Employee Full-Time Equivalents	2,000 person-hours of work in one year constitute one employee.	In Compliance	• SolTrans defines one FTE employee as 2,000 person-hours of work during a one-year period.

Exhibit 3.2: TDA Statistics – Bus Service

TDA Statistic	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Operating Cost (Actual $)	$10,128,752	$10,594,647	$11,826,483	$11,908,654	$12,259,621	$12,069,980
Annual Change	*- -*	*4.6%*	*11.6%*	*0.7%*	*2.9%*	*-1.5%*
Vehicle Service Hours	86,895	97,734	97,167	100,090	98,239	94,603
Annual Change	*- -*	*12.5%*	*-0.6%*	*3.0%*	*-1.8%*	*-3.7%*
Vehicle Service Miles	1,634,273	1,902,244	1,700,035	1,578,515	1,491,844	1,385,614
Annual Change	*- -*	*16.4%*	*-10.6%*	*-7.1%*	*-5.5%*	*-7.1%*
Unlinked Passengers	1,451,350	1,516,835	1,410,375	1,347,760	1,411,192	1,071,308
Annual Change	*- -*	*4.5%*	*-7.0%*	*-4.4%*	*4.7%*	*-24.1%*
Employee Full-Time Equivalents	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	*- -*
Annual Change	*- -*	*- -*	*- -*	*- -*	*- -*	*- -*

Sources: *FY2015 through FY2017 - Prior Performance Audit Report*
FY2018 through FY2020 - NTD Reports
(a) Contracted service - FTEs not applicable

Exhibit 3.3: TDA Statistics – Paratransit

TDA Statistic	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Operating Cost (Actual $)	$1,667,253	$1,599,198	$1,697,513	$1,789,663	$1,837,575	$1,639,703
Annual Change	*- -*	*-4.1%*	*6.1%*	*5.4%*	*2.7%*	*-10.8%*
Vehicle Service Hours	15,229	13,945	13,562	13,887	15,762	12,181
Annual Change	*- -*	*-8.4%*	*-2.7%*	*2.4%*	*13.5%*	*-22.7%*
Vehicle Service Miles	208,602	166,387	145,727	142,768	146,845	105,890
Annual Change	*- -*	*-20.2%*	*-12.4%*	*-2.0%*	*2.9%*	*-27.9%*
Unlinked Passengers	32,476	29,110	26,817	29,527	34,971	25,293
Annual Change	*- -*	*-10.4%*	*-7.9%*	*10.1%*	*18.4%*	*-27.7%*
Employee Full-Time Equivalents	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	*- -*
Annual Change	*- -*	*- -*	*- -*	*- -*	*- -*	*- -*

Sources: *FY2015 through FY2017 - Prior Performance Audit Report*
FY2018 through FY2020 - NTD Reports
(a) Contracted service - FTEs not applicable

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III. TDA PERFORMANCE INDICATORS AND TRENDS

The performance trends for SolTrans' bus and paratransit service modes are presented in this section. Performance is discussed for each of the five TDA-mandated performance indicators:

- operating cost per vehicle service hour
- passengers per vehicle service hour
- passengers per vehicle service mile
- operating cost per passenger
- vehicle service hours per full-time equivalent employee (FTE)

The performance results in these indicators were primarily developed from the information in the NTD reports filed with the FTA for the three years of the audit period. SolTrans' NTD reports were the source of all operating and financial statistics.

In addition to presenting performance for the three years of the audit period (FY2018 through FY2020), this analysis features two enhancements:

- Six-Year Time Period – While the performance audit focuses on the three fiscal years of the audit period, six-year trend lines have been constructed for SolTrans' service to provide a longer perspective on performance and to clearly present the direction and magnitude of the performance trends. In this analysis, the FY2018 to FY2020 trend lines have been combined with those from the prior audit period (FY2015 through FY2017) to define a six-year period of performance.

- Normalized Cost Indicators for Inflation – Two financial performance indicators (cost per hour and cost per passenger) are presented in both constant and current dollars to illustrate the impact of inflation in the Bay Area. The inflation adjustment relies on the All-Urban Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) for the San

Francisco Metropolitan Area. The average CPI-W percent change for each fiscal year has been calculated based on the bi-monthly results reported on the U.S. Department of Labor – Bureau of Labor Statistics website. The CPI-W is used since labor is the largest component of operating cost in transit. Since labor costs are typically controlled through labor contracts, changes in normalized costs largely reflect those factors that are within the day-to-day control of the transit system.

The following discussion is organized to present an overview of SolTrans' performance trends in each of the five TDA performance indicators. The discussion is organized by service mode -- bus service is discussed first, followed by paratransit. The analysis is also expanded to include a breakdown of the various component costs that contributed to the total and hourly operating costs during the last six years.

Bus Service Performance Trends

This section provides an overview of the performance of SolTrans' bus service over the past six years. The trends in the TDA indicators and input statistics are presented in Exhibit 4. The six-year trends are illustrated in Exhibits 4.1 through 4.3.

Operating Cost Per Vehicle Service Hour (Exhibit 4.1)

- A key indicator of cost efficiency, the cost per hour of bus service increased an average of 1.8 percent annually during the six-year review period, reflecting operating costs increasing at a slightly higher average annual rate than vehicle service hours.

- The cost per hour fluctuated throughout the review period, ranging from $116.56 in FY2015 to $124.79 in FY2019, and ending at $127.59 in FY2020. Modest decreases in both costs and service hours in FY2020 led to a 2.2 percent increase in cost per hour that year.

- In FY2015 constant dollars, there was an average annual decrease of 0.9 percent in this indicator.

Passengers per Vehicle Service Hour (Exhibit 4.2)

- A key indicator of passenger productivity, passengers per hour decreased an average of 7.5 percent annually during the six-year period. Through FY2019, the average annual decrease was 3.7 percent, demonstrating the substantial effect the FY2020 pandemic had on the overall performance.

- The increase reflects a modest overall increase in service hours, combined with decreasing passengers over the six-year period. A 24 percent decrease in ridership in the FY2020 pandemic year resulted in a 21.1 percent drop in this indicator that year. Passengers per hour decreased in every year of the review period except FY2019.

- Passengers per hour decreased overall from 16.7 in FY2015 to 11.3 in FY2020.

Passengers per Vehicle Service Mile (Exhibit 4.2)

- Similar to passengers per hour, passengers per mile also decreased overall, but by 2.7 percent annually on average. Removing FY2020 results from the calculation results in an average annual increase of 1.6 percent in this indicator, again demonstrating the effect the COVID pandemic had on the overall performance.

- An overall decrease in both ridership and vehicle service miles over the review period contributed to the smaller average annual decrease in passengers per mile. The large decrease in ridership in FY2020 resulted in an 18.3 percent decline in this indicator that year.

- Passengers per mile decreased overall from 0.89 passengers per mile in FY2015 to 0.77 passengers per mile in FY2020.

Operating Cost per Passenger (Exhibit 4.3)

- A key measure of cost effectiveness, the cost per passenger increased from $6.98 in FY2015 to $8.69 in FY2019, then to $11.27 in FY2020, reflecting the decline in ridership during the pandemic.

- The cost per passenger increased in almost every year of the review period, due to modestly increasing operating costs and declining ridership.

- Overall, cost per passenger increased an average of 10.1 percent annually, but just 5.6 percent through FY2019. With the impact of inflation removed from the cost side (normalization), cost per passenger exhibited an average annual increase of 7.1 percent per year (2.4 percent through FY2019).

* * * * *

The following is a summary of the bus service TDA performance trend highlights over the six-year period of FY2015 through FY2020:

- There was an average annual increase in the operating cost per hour of 1.8 percent, which amounted to a 0.9 percent decrease in inflation adjusted dollars.

- The cost per passenger increased on average by 10.1 percent per year, resulting in an average annual increase of 7.1 percent in constant FY2015 dollars.

- Passenger productivity declined, with passengers per vehicle service hour decreasing by 7.5 percent per year overall, and passengers per vehicle service mile decreasing by 2.7 percent annually.

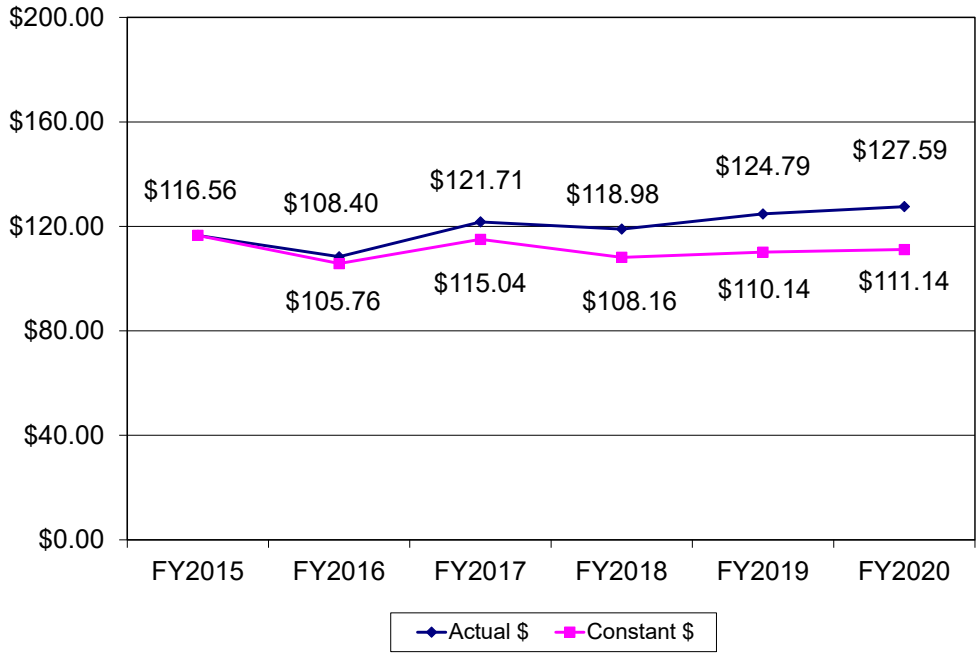
Exhibit 4: TDA Indicator Performance - Bus Service

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual $)	$116.56	$108.40	$121.71	$118.98	$124.79	$127.59	- -
Annual Change	- -	*-7.0%*	*12.3%*	*-2.2%*	*4.9%*	*2.2%*	*1.8%*
Op. Cost per Vehicle Svc. Hour (Constant $)	$116.56	$105.76	$115.04	$108.16	$110.14	$111.14	- -
Annual Change	- -	*-9.3%*	*8.8%*	*-6.0%*	*1.8%*	*0.9%*	*-0.9%*
Passengers per Vehicle Service Hour	16.7	15.5	14.5	13.5	14.4	11.3	- -
Annual Change	- -	*-7.1%*	*-6.5%*	*-7.2%*	*6.7%*	*-21.2%*	*-7.5%*
Passengers per Vehicle Service Mile	0.89	0.80	0.83	0.85	0.95	0.77	- -
Annual Change	- -	*-10.2%*	*4.0%*	*2.9%*	*10.8%*	*-18.3%*	*-2.7%*
Op. Cost per Passenger (Actual $)	$6.98	$6.98	$8.39	$8.84	$8.69	$11.27	- -
Annual Change	- -	*0.1%*	*20.1%*	*5.4%*	*-1.7%*	*29.7%*	*10.1%*
Op. Cost per Passenger (Constant $)	$6.98	$6.81	$7.93	$8.03	$7.67	$9.81	- -
Annual Change	- -	*-2.4%*	*16.3%*	*1.3%*	*-4.5%*	*28.0%*	*7.1%*
Vehicle Service Hours per FTE	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	- -
Annual Change	- -	- -	- -	- -	- -	- -	- -
Input Data							
Operating Cost (Actual $)	$10,128,752	$10,594,647	$11,826,483	$11,908,654	$12,259,621	$12,069,980	- -
Annual Change	- -	*4.6%*	*11.6%*	*0.7%*	*2.9%*	*-1.5%*	*3.6%*
Operating Cost (Constant $)	$10,128,752	$10,336,241	$11,178,150	$10,826,049	$10,820,495	$10,513,920	- -
Annual Change	- -	*2.0%*	*8.1%*	*-3.1%*	*-0.1%*	*-2.8%*	*0.7%*
Vehicle Service Hours	86,895	97,734	97,167	100,090	98,239	94,603	- -
Annual Change	- -	*12.5%*	*-0.6%*	*3.0%*	*-1.8%*	*-3.7%*	*1.7%*
Vehicle Service Miles	1,634,273	1,902,244	1,700,035	1,578,515	1,491,844	1,385,614	- -
Annual Change	- -	*16.4%*	*-10.6%*	*-7.1%*	*-5.5%*	*-7.1%*	*-3.2%*
Unlinked Passengers	1,451,350	1,516,835	1,410,375	1,347,760	1,411,192	1,071,308	- -
Annual Change	- -	*4.5%*	*-7.0%*	*-4.4%*	*4.7%*	*-24.1%*	*-5.9%*
Employee Full-Time Equivalents	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	- -
Annual Change	- -	- -	- -	- -	- -	- -	- -
Bay Area CPI - Annual Change	- -	2.5%	3.3%	4.0%	3.0%	1.3%	- -
- Cumulative Change	- -	2.5%	5.8%	10.0%	13.3%	14.8%	*2.8%*

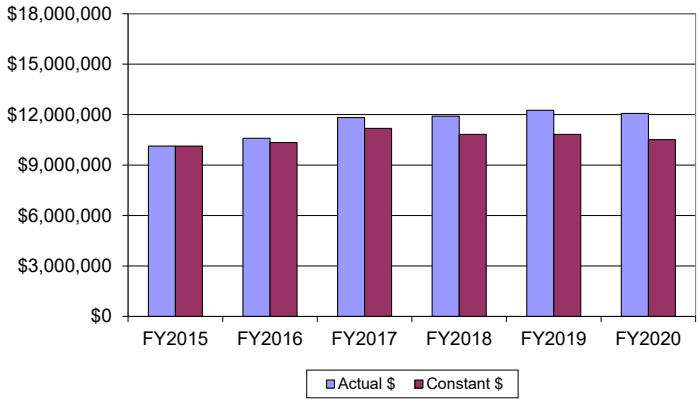
Sources: FY2015 through FY2017 - Prior Performance Audit Report
FY2018 through FY2020 - NTD Reports
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

(a) Contracted service - FTEs not applicable

Exhibit 4.1: Operating Cost per Vehicle Service Hour - Bus Service



Operating Cost



Vehicle Service Hours

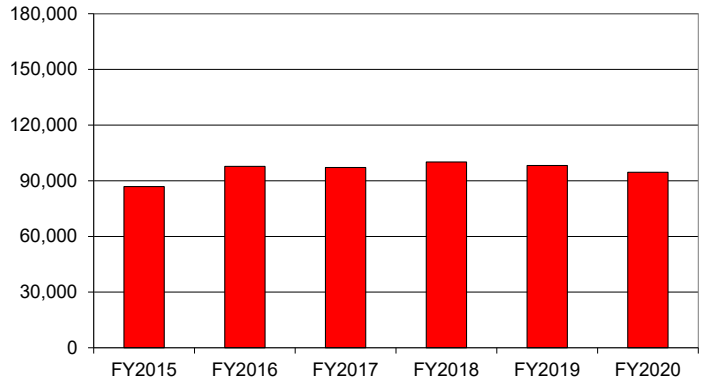
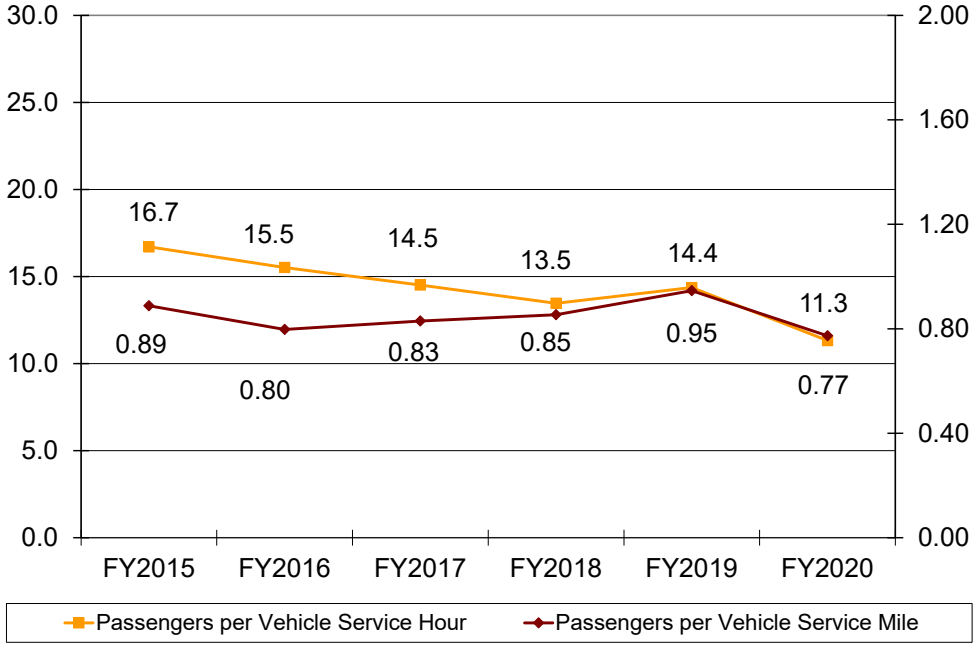
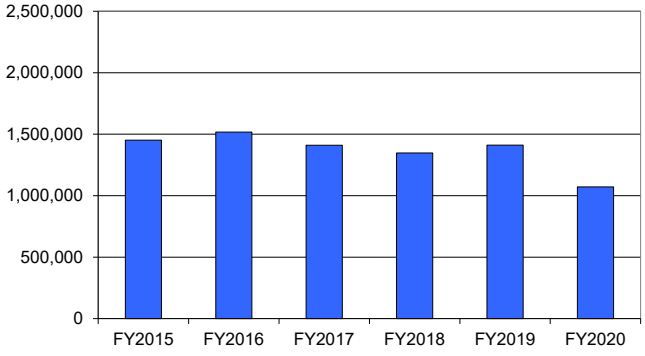


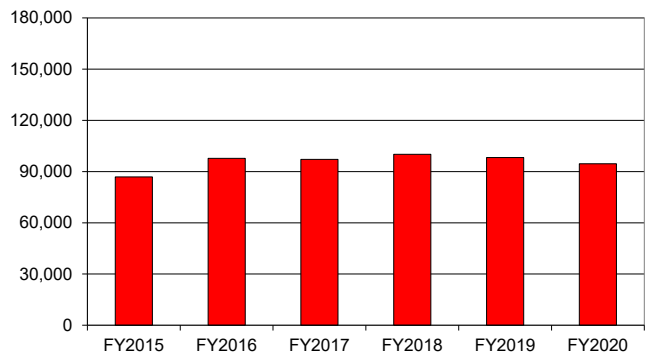
Exhibit 4.2: Passengers per Hour and per Mile – Bus Service



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

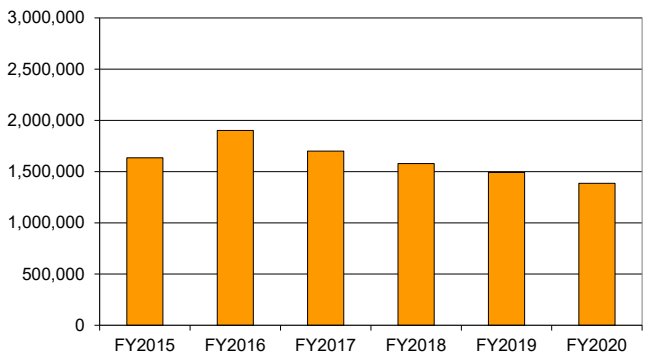
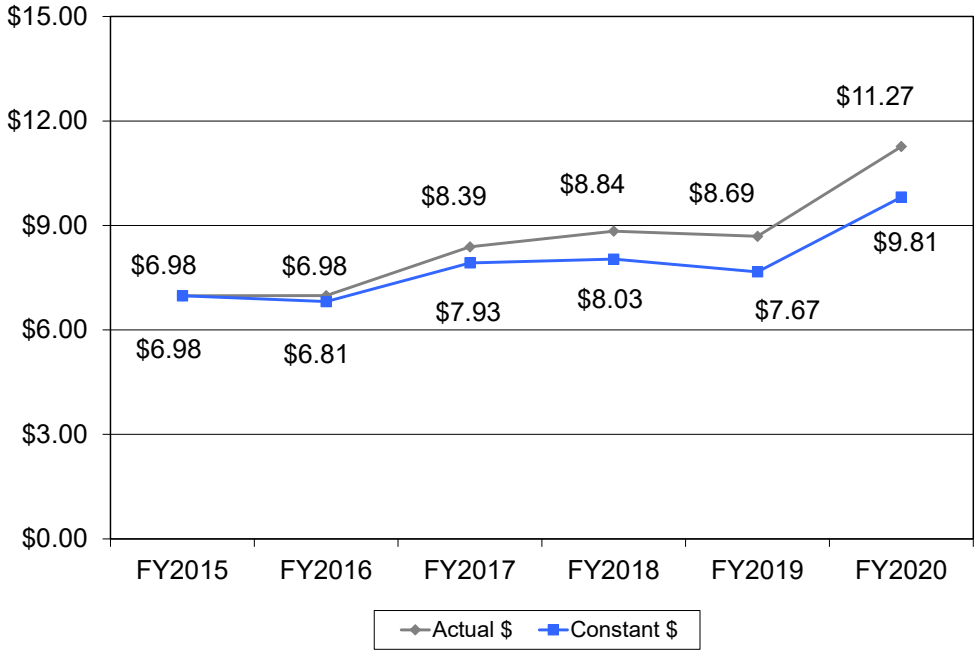
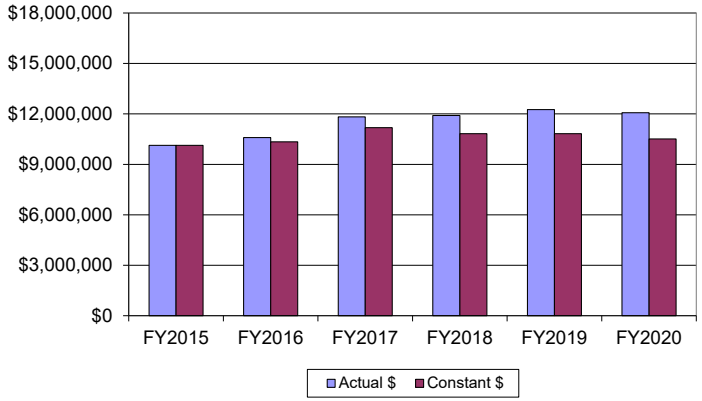


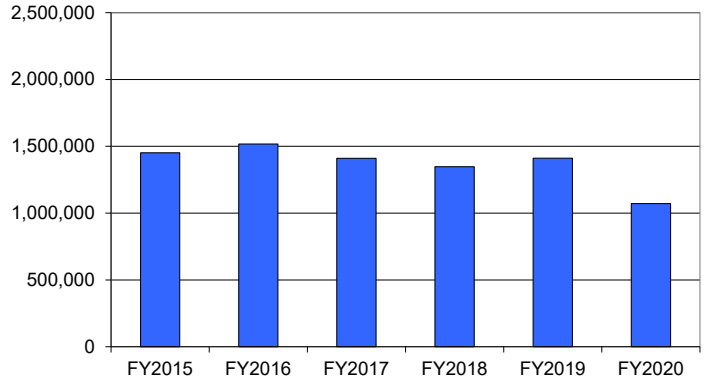
Exhibit 4.3: Operating Cost per Passenger – Bus Service



Operating Cost



Unlinked Passengers



Bus Service Component Costs

Year-to-year changes in selected operating cost categories over the past six years are presented in Exhibit 4.5. Examining components of operating costs (e.g., labor, fringes, fuel, and casualty/liability) may determine what components had the most significant impacts on the operating costs. Exhibit 4.5 also shows the concurrent changes in vehicle service hours, and Exhibit 4.6 illustrates the portion of the cost per bus service hour that can be attributed to each included cost component.

- In-house labor costs increased an annual average of 10.6 percent over the six-year period.

- Fringe benefits costs increased an annual average of 19.8 percent. This is mostly due to large increases occurring in FY2018 (41.2 percent) and FY2019 (25.6 percent), due to a change in the allocation of health insurance costs. Prior to FY2018, health insurance was provided as a stipend allocated to the salary category. In FY2018, a recommendation from the Comprehensive Operational Analysis changed health insurance to being included with fringe benefit costs.

- Services costs increased by about 4.8 percent on average per year. Services costs averaged about 12 percent of total operating costs over the review period.

- Purchased transportation costs increased modestly, an annual average of 3.4 percent per year, but were the largest component of total operating costs at about 65 percent.

- Costs for both materials/supplies, (which includes fuels/lubricants) and other expenses decreased just over four percent and five percent, respectively. These categories share of total operating costs remained at about 10 to 12 percent over the review period.

- Casualty/liability costs increased just over 28 percent per year from FY2015 to FY2020. This cost category comprised less than one percent of total operating costs annually.

* * * * *

The following is a summary of the bus service component operating costs trend highlights between FY2015 and FY2020:

- Purchased transportation costs increased modestly, an average of just over three percent per year, and remained the largest component cost area at about 65 percent of total costs.

- In-house labor and fringe benefit costs increased overall, with both these categories combined comprising about ten to 11 percent of total operating costs.

- Services costs increased by about five percent on average per year, and comprised about 12 percent of total operating costs.

- Costs decreased over the review period for both the materials/supplies and other expenses categories. The share of these costs averaged about 10 to 12 percent of total operating costs over the review period.

- There was a 28 percent increase in casualty/liability, which comprised less than one percent of total costs.

Exhibit 4.4: Component Cost Trends – Bus Service

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$575,922	$737,409	$818,838	$796,410	$868,148	$951,723	- -
Annual Change	- -	*28.0%*	*11.0%*	*-2.7%*	*9.0%*	*9.6%*	*10.6%*
Fringe Benefits *(a)*	$232,141	$289,177	$309,220	$436,769	$548,665	$573,290	- -
Annual Change	- -	*24.6%*	*6.9%*	*41.2%*	*25.6%*	*4.5%*	*19.8%*
Services	$1,073,073	$1,154,718	$1,679,231	$1,555,457	$1,498,776	$1,356,651	- -
Annual Change	- -	*7.6%*	*45.4%*	*-7.4%*	*-3.6%*	*-9.5%*	*4.8%*
Purchased Transportation	$6,708,074	$7,127,238	$7,573,329	$7,619,100	$7,929,668	$7,932,519	- -
Annual Change	- -	*6.2%*	*6.3%*	*0.6%*	*4.1%*	*0.0%*	*3.4%*
Materials/Supplies	$1,053,665	$860,674	$988,139	$1,068,365	$1,016,488	$841,096	- -
Annual Change	- -	*-18.3%*	*14.8%*	*8.1%*	*-4.9%*	*-17.3%*	*-4.4%*
Casualty/Liability	$16,381	$25,204	$25,902	$60,355	$61,794	$57,015	- -
Annual Change	- -	*53.9%*	*2.8%*	*133.0%*	*2.4%*	*-7.7%*	*28.3%*
Other Expenses *(a)*	$469,494	$400,227	$431,824	$372,198	$336,082	$357,686	- -
Annual Change	- -	*-14.8%*	*7.9%*	*-13.8%*	*-9.7%*	*6.4%*	*-5.3%*
Total	$10,128,750	$10,594,647	$11,826,483	$11,908,654	$12,259,621	$12,069,980	- -
Annual Change	- -	*4.6%*	*11.6%*	*0.7%*	*2.9%*	*-1.5%*	*3.6%*
OPERATING STATISTICS							
Vehicle Service Hours	86,895	97,734	97,167	100,090	98,239	94,603	- -
Annual Change	- -	*12.5%*	*-0.6%*	*3.0%*	*-1.8%*	*-3.7%*	*1.7%*

Sources: FY2015 through FY2017 - Prior Performance Audit Report; FY2018 through FY2020 - NTD Reports

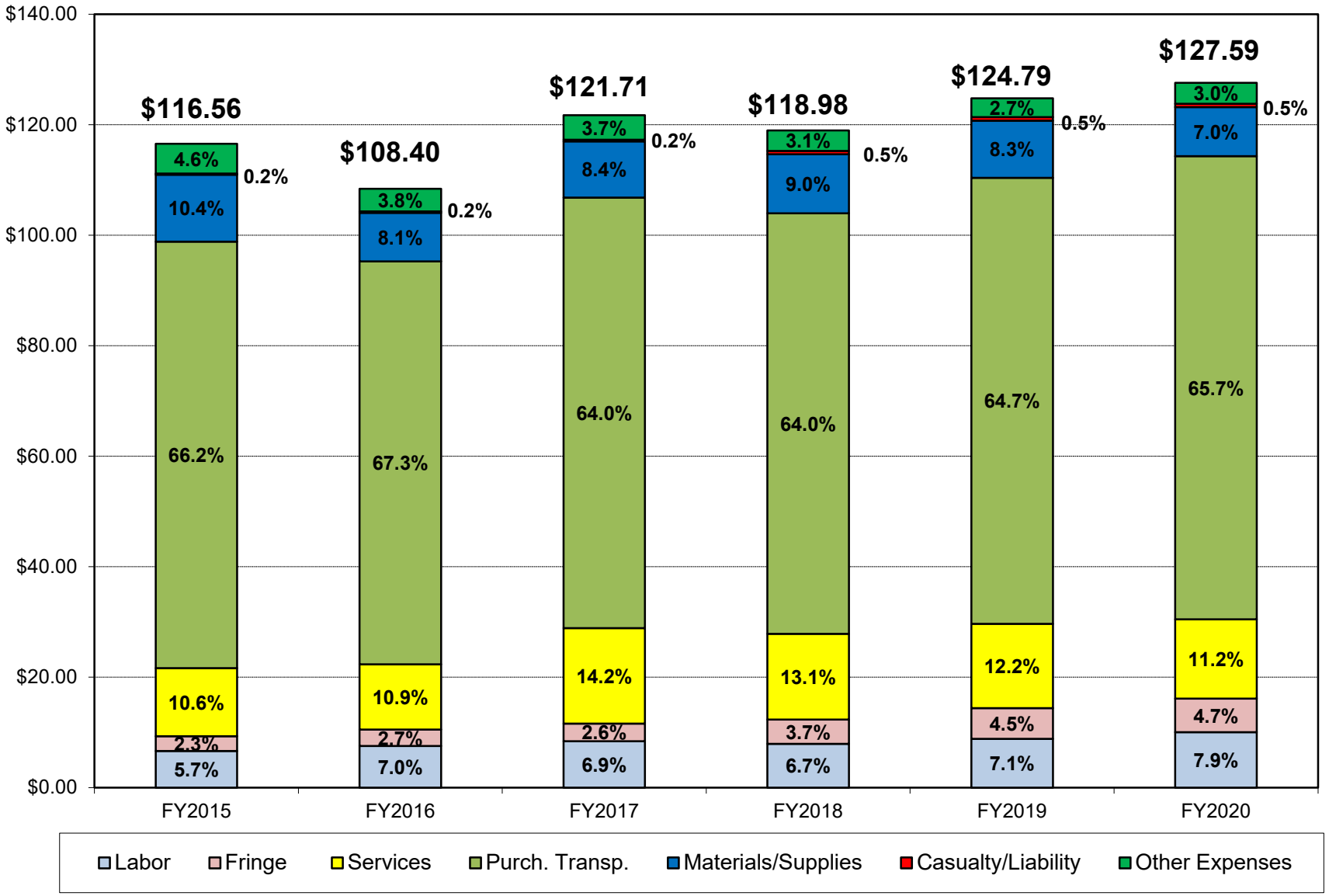
(a) Includes paid absence

(b) Includes tires/tubes, fuels/lubricants, and other materials/supplies

(c) Includes utilities, taxes, and miscellaneous expenses

Exhibit 4.5: Distribution of Component Costs – Bus Service

Operating Cost per Vehicle Service Hour



Paratransit Performance Trends

This section provides an overview of the performance of SolTrans' paratransit service over the six-year analysis period. The trends in the TDA indicators and input data are presented in Exhibit 5. The six-year trends are illustrated in Exhibits 5.1 through 5.3.

Operating Cost per Vehicle Service Hour (Exhibit 5.1)

- SolTrans' paratransit cost per hour increased in the first four years of the review period, from $109.48 in FY2015 to $128.87 in FY2018, before decreasing to $116.58 in FY2019. A decrease of more than 20 percent in vehicle service hours in the FY2020 pandemic year caused a 15 percent spike to $134.61 per vehicle service hour.

- This performance was the result of declining vehicle service hours combined with mostly unchanged operating costs over the review period. The FY2020 decreases in vehicle service hours and operating costs (10.8 percent), may have skewed the overall cost per hour performance, which increased an average of 4.2 percent per year over the six years, but only 1.6 percent through FY2019.

- With the effects of inflation removed, cost per hour exhibited an average annual increase of 1.4 percent, but a 1.5 percent average decrease through FY2019.

Passengers per Vehicle Service Hour (Exhibit 5.2)

- Passengers per vehicle service hour was unchanged overall at 2.1 passengers per hour in both FY2015 and FY2020, with minor fluctuations in between.

- The trend amounted to an average annual decrease of 0.5 percent, as overall annual passenger levels decreased at a slightly higher rate than service hours.

- Decreases of more than 20 percent in service hours, service miles and unlinked passengers in FY2020 caused the passenger productivity indicators to decrease slightly or stay mostly unchanged that year.

Passengers per Vehicle Service Mile (Exhibit 5.2)

- Performance in passengers per vehicle service mile was improved, with an average increase of 8.9 percent over the six-year period.

- This performance was the result of vehicle service miles decreasing at a higher average annual rate than ridership over the review period.

- SolTrans' paratransit service carried 0.16 passengers per mile in FY2015, rising to 0.24 passengers per mile in both FY2019 and FY2020.

Operating Cost per Passenger (Exhibit 5.3)

- The cost per passenger rose by 4.8 percent per year on average through the review period, from $51.34 in FY2015 to $52.55 in FY2019, then to $64.83 in FY2020. Removing FY2020 results, the annual average increase in cost per passenger was 0.6 percent through FY2019.

- As with cost per hour, this performance was the result of steady operating costs and decreased ridership over the review period.

- With the impact of inflation removed, there was an average annual increase in the cost per passenger of 1.9 percent, but a 2.5 percent decrease through FY2020.

* * * * *

The following is a summary of the paratransit TDA performance trend highlights over the six-year period of FY2015 through FY2020:

- Cost efficiency showed a decrease, with an average annual increase in the operating cost per hour of 4.2 percent. This amounted to an average annual increase of 1.4 percent in inflation adjusted dollars.

- Cost effectiveness was similar, with the operating cost per passenger increasing an average of 4.8 percent per year, or 1.9 percent annually when expressed as normalized FY2012 dollars.

- Passenger productivity was mixed, with only minor changes in passengers per hour, decreasing 0.5 percent per year on average, and passengers per mile increasing 8.9 percent annually.

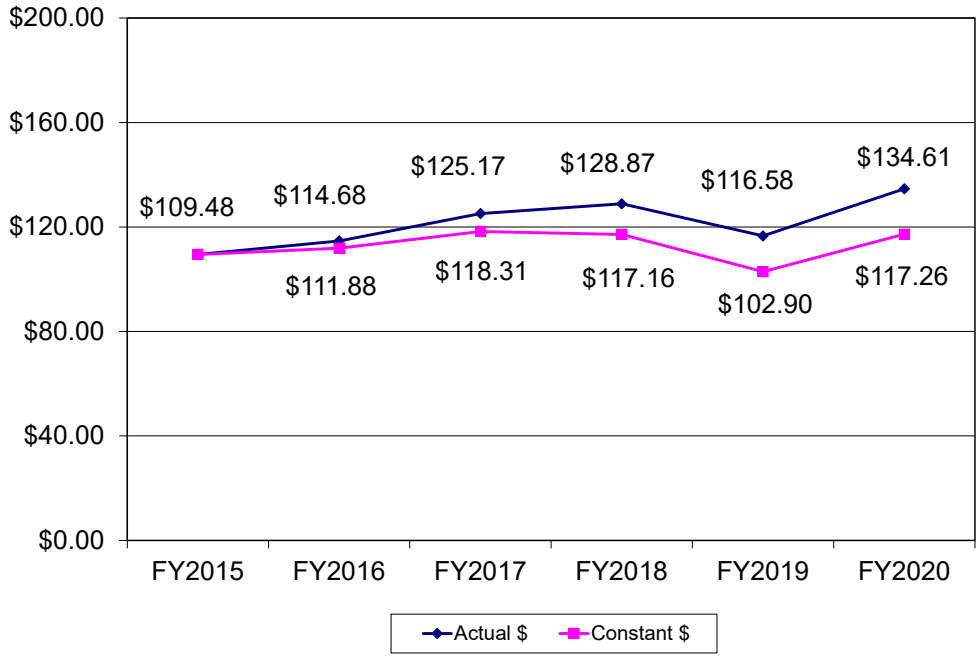
Exhibit 5: TDA Indicator Performance – Paratransit

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual $)	$109.48	$114.68	$125.17	$128.87	$116.58	$134.61	- -
Annual Change	- -	*4.7%*	*9.1%*	*3.0%*	*-9.5%*	*15.5%*	*4.2%*
Op. Cost per Vehicle Svc. Hour (Constant $)	$109.48	$111.88	$118.31	$117.16	$102.90	$117.26	- -
Annual Change	- -	*2.2%*	*5.7%*	*-1.0%*	*-12.2%*	*14.0%*	*1.4%*
Passengers per Vehicle Service Hour	2.1	2.1	2.0	2.1	2.2	2.1	- -
Annual Change	- -	*-2.1%*	*-5.3%*	*7.5%*	*4.3%*	*-6.4%*	*-0.5%*
Passengers per Vehicle Service Mile	0.16	0.17	0.18	0.21	0.24	0.24	- -
Annual Change	- -	*12.4%*	*5.2%*	*12.4%*	*15.1%*	*0.3%*	*8.9%*
Op. Cost per Passenger (Actual $)	$51.34	$54.94	$63.30	$60.61	$52.55	$64.83	- -
Annual Change	- -	*7.0%*	*15.2%*	*-4.2%*	*-13.3%*	*23.4%*	*4.8%*
Op. Cost per Passenger (Constant $)	$51.34	$53.60	$59.83	$55.10	$46.38	$56.47	- -
Annual Change	- -	*4.4%*	*11.6%*	*-7.9%*	*-15.8%*	*21.8%*	*1.9%*
Vehicle Service Hours per FTE	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	- -
Annual Change	- -	- -	- -	- -	- -	- -	- -
Input Data							
Operating Cost (Actual $)	$1,667,253	$1,599,198	$1,697,513	$1,789,663	$1,837,575	$1,639,703	- -
Annual Change	- -	*-4.1%*	*6.1%*	*5.4%*	*2.7%*	*-10.8%*	*-0.3%*
Operating Cost (Constant $)	$1,667,253	$1,560,193	$1,604,455	$1,626,966	$1,621,867	$1,428,313	- -
Annual Change	- -	*-6.4%*	*2.8%*	*1.4%*	*-0.3%*	*-11.9%*	*-3.0%*
Vehicle Service Hours	15,229	13,945	13,562	13,887	15,762	12,181	- -
Annual Change	- -	*-8.4%*	*-2.7%*	*2.4%*	*13.5%*	*-22.7%*	*-4.4%*
Vehicle Service Miles	208,602	166,387	145,727	142,768	146,845	105,890	- -
Annual Change	- -	*-20.2%*	*-12.4%*	*-2.0%*	*2.9%*	*-27.9%*	*-12.7%*
Unlinked Passengers	32,476	29,110	26,817	29,527	34,971	25,293	- -
Annual Change	- -	*-10.4%*	*-7.9%*	*10.1%*	*18.4%*	*-27.7%*	*-4.9%*
Employee Full-Time Equivalents	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	*(a)*	- -
Annual Change	- -	- -	- -	- -	- -	- -	- -
Bay Area CPI - Annual Change	- -	2.5%	3.3%	4.0%	3.0%	1.3%	- -
- Cumulative Change	- -	2.5%	5.8%	10.0%	13.3%	14.8%	*2.8%*

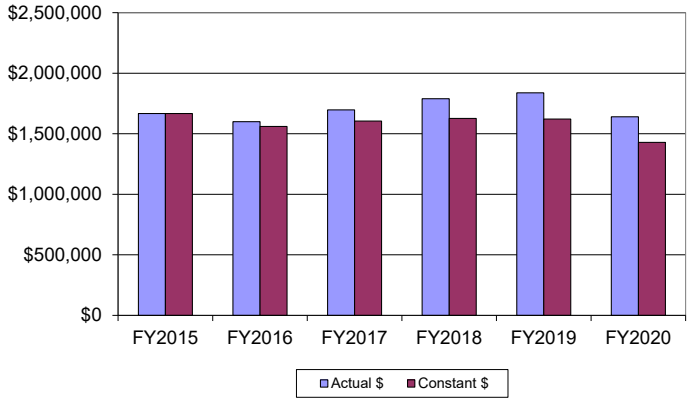
Sources: FY2015 through FY2017 - Prior Performance Audit Report
FY2018 through FY2020 - NTD Reports
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

(a) Contracted service - FTEs not applicable

Exhibit 5.1: Operating Cost per Vehicle Service Hour – Paratransit



Operating Cost



Vehicle Service Hours

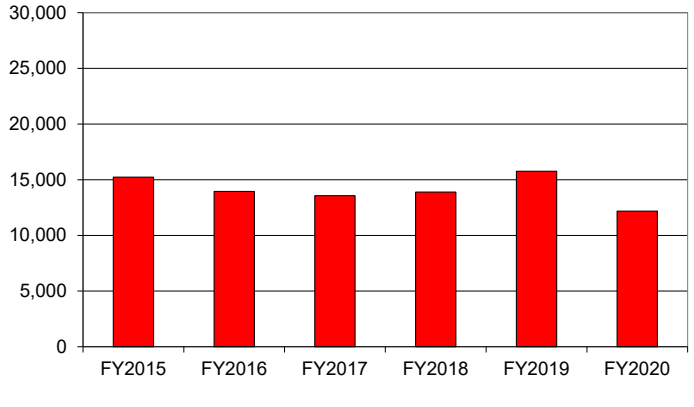
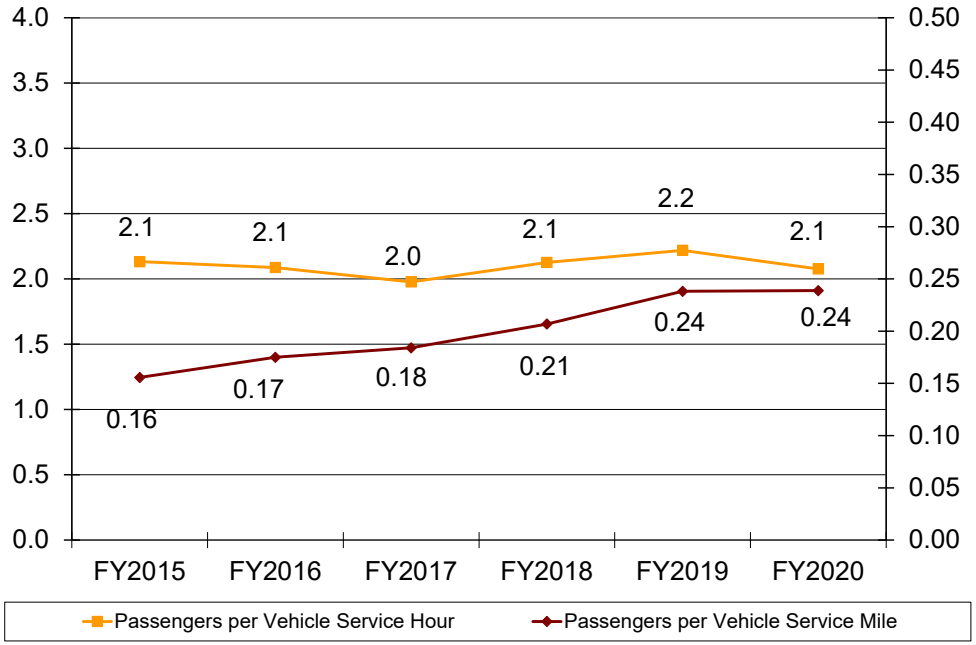
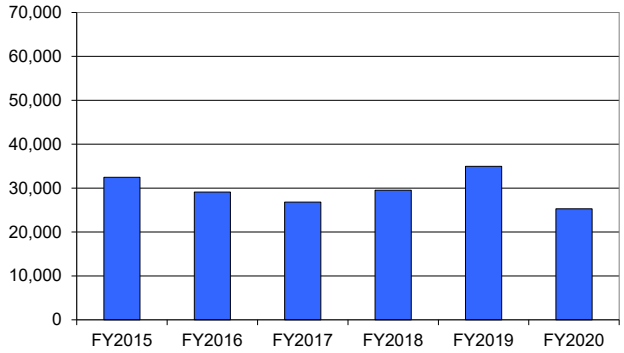


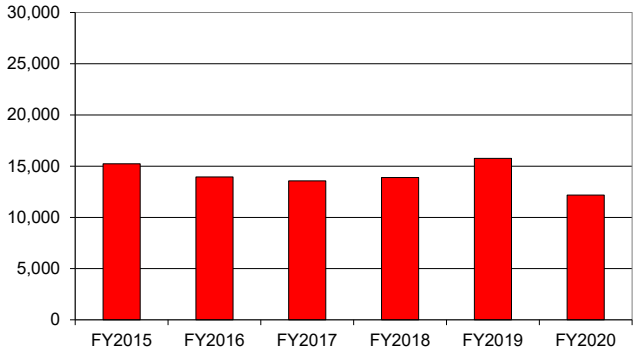
Exhibit 5.2: Passengers per Hour and per Mile – Paratransit



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

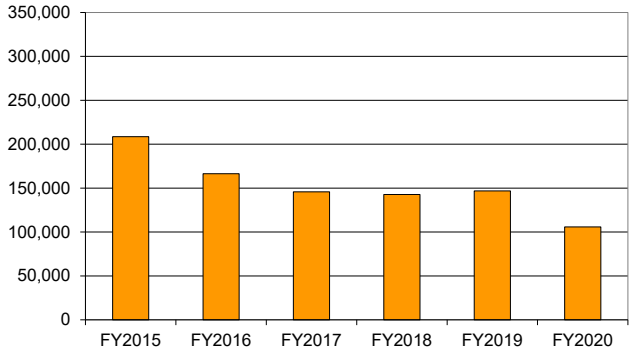
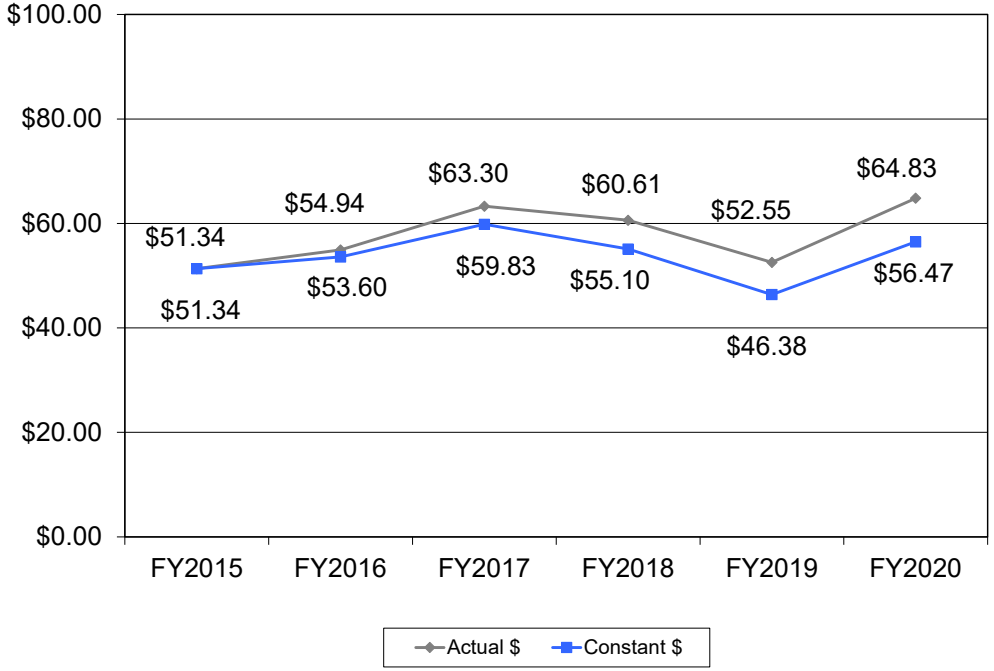
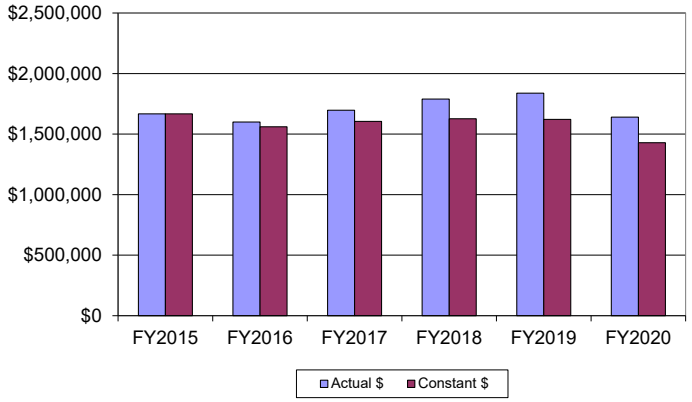


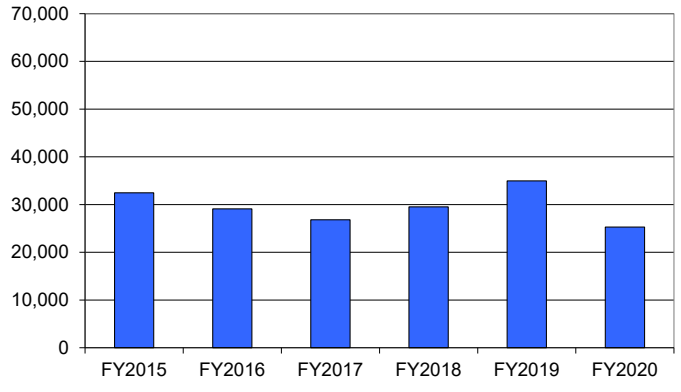
Exhibit 5.3: Operating Cost per Passenger – Paratransit



Operating Cost



Unlinked Passengers



Paratransit Component Costs

The year-to-year changes in selected operating cost categories are presented in Exhibit 5.5, along with the concurrent changes in vehicle service hours. The portions of the cost per vehicle service hour that can be attributed to each included cost component are shown in Exhibit 5.6.

- In-house labor costs increased an annual average of 9.8 percent over the six-year period.
- Fringe benefits costs increased an annual average of 13.4 percent. Overall, fringe benefits comprise less than five percent of total operating costs.
- Costs for services decreased an average of 15.3 percent annually, with decreases shown in all three years of the current audit period.
- Purchased transportation costs remained steady, increasing by 0.9 percent per year on average. Purchased transportation costs, which comprise over 75 percent of total operating costs, fluctuated over the review period, with an 11 percent decrease in FY2020 offsetting modest cost increases in the prior years.
- Costs for both materials/supplies and other expenses categories decreased about 11 percent and 23 percent, respectively. These two categories share of total paratransit operating costs declined from about 12 percent to about six percent during the review period.
- There was an 18.4 percent annual average increase in the casualty/liability area, but that component category comprises less than one percent of total operating costs.

* * * * *

The following is a summary of the paratransit component operating costs trend highlights between FY2015 and FY2020:

- Purchased transportation costs represented the largest portion of total paratransit operating costs, at about 75 percent throughout the review period. Purchased transportation costs increased by 0.9 percent per year on average.

- Annual average increases were seen in the labor (9.8 percent), and fringe benefits (13.4 percent) categories, however, these categories combined account for less than 15 percent of the total paratransit costs.

- Overall cost decreases occurred in the services (15.3 percent), materials/supplies (11.2 percent), and other expenses (22.6 percent) categories during the review period. Together, these categories combined represent about less than ten percent of total operating costs in the current audit period.

- Increases were seen in the casualty/liability category, but this area comprises less than one percent of total expenses.

Exhibit 5.4: Component Costs Trends – Paratransit

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$81,500	$128,732	$126,144	$135,038	$143,127	$129,780	- -
Annual Change	- -	*58.0%*	*-2.0%*	*7.1%*	*6.0%*	*-9.3%*	*9.8%*
Fringe Benefits *(a)*	$34,740	$47,450	$41,823	$68,813	$77,721	$78,508	- -
Annual Change	- -	- -	*-11.9%*	*64.5%*	*12.9%*	*1.0%*	*13.4%*
Services	$131,260	$74,160	$155,962	$91,090	$60,165	$57,085	- -
Annual Change	- -	*-43.5%*	*110.3%*	*-41.6%*	*-33.9%*	*-5.1%*	*-15.3%*
Purchased Transportation	$1,212,523	$1,193,884	$1,223,011	$1,347,087	$1,425,637	$1,268,787	- -
Annual Change	- -	*-1.5%*	*2.4%*	*10.1%*	*5.8%*	*-11.0%*	*0.9%*
Materials/Supplies *(b)*	$146,809	$109,516	$112,522	$115,219	$109,724	$81,286	- -
Annual Change	- -	*-25.4%*	*2.7%*	*2.4%*	*-4.8%*	*-25.9%*	*-11.2%*
Casualty/Liability	$2,286	$4,103	$3,614	$10,454	$7,315	$8,076	- -
Annual Change	- -	- -	*-11.9%*	*189.3%*	*-30.0%*	*10.4%*	*18.4%*
Other Expenses *(c)*	$58,135	$41,353	$34,437	$21,962	$13,886	$16,181	- -
Annual Change	- -	*-28.9%*	*-16.7%*	*-36.2%*	*-36.8%*	*16.5%*	*-22.6%*
Total	$1,667,253	$1,599,198	$1,697,513	$1,789,663	$1,837,575	$1,639,703	- -
Annual Change	- -	*-4.1%*	*6.1%*	*5.4%*	*2.7%*	*-10.8%*	*-0.3%*
OPERATING STATISTICS							
Vehicle Service Hours	15,229	13,945	13,382	13,887	15,762	12,181	- -
Annual Change	- -	*-8.4%*	*-4.0%*	*3.8%*	*13.5%*	*-22.7%*	*-4.4%*

Sources: FY2015 through FY2017 - Prior Performance Audit Report; FY2018 through FY2020 - NTD Reports

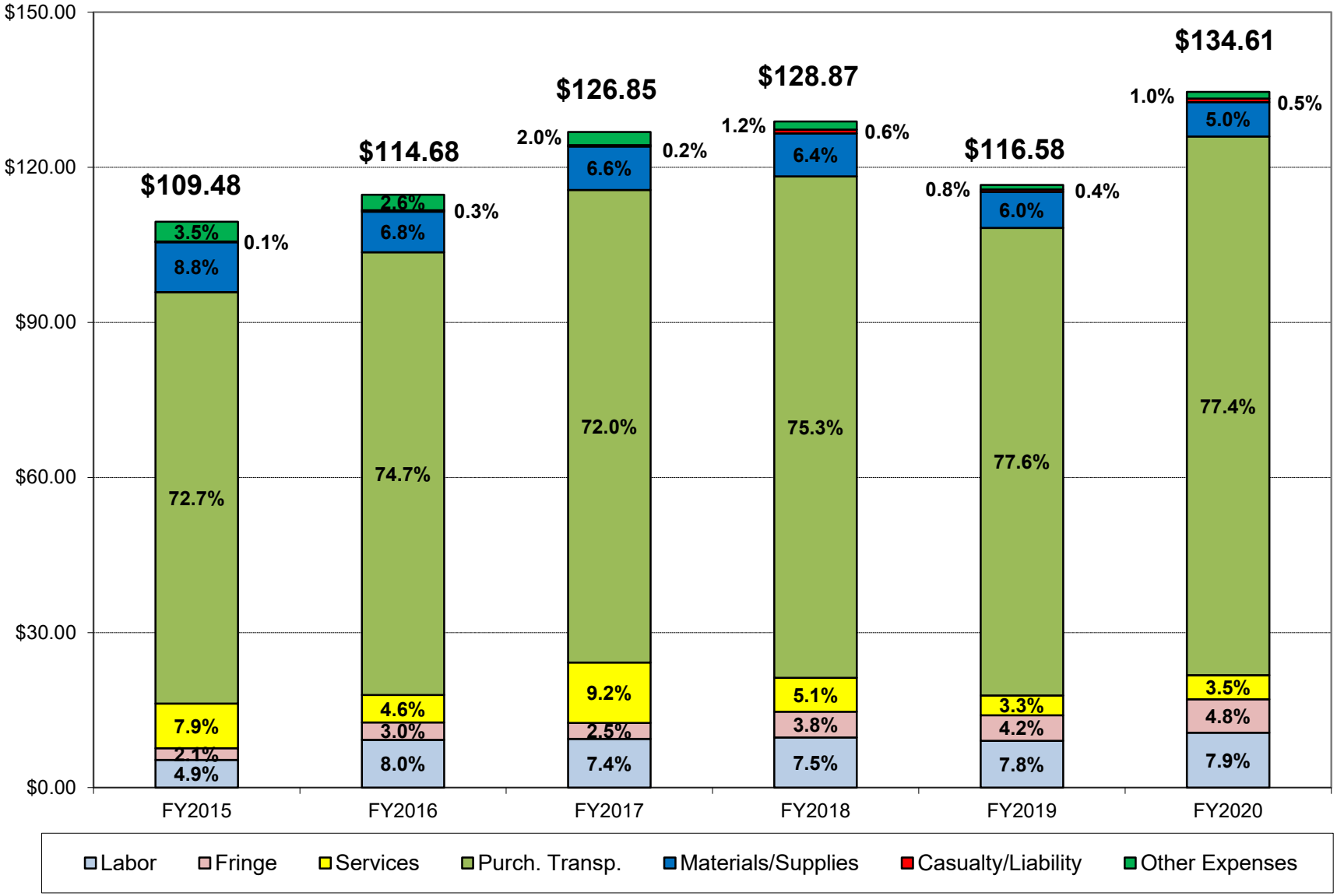
(a) Includes paid absence

(b) Includes tires/tubes, fuels/lubricants, and other materials/supplies

(c) Includes utilities, taxes, and miscellaneous expenses

Exhibit 5.5: Distribution of Component Costs – Paratransit

Operating Cost per Vehicle Service Hour



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IV. COMPLIANCE WITH PUC REQUIREMENTS

An assessment of SolTrans' compliance with selected sections of the state Public Utilities Code (PUC) has been performed. The compliance areas included in this review are those that MTC has identified for inclusion in the triennial performance audit. Other statutory and regulatory compliance requirements are reviewed by MTC in conjunction with its annual review of SolTrans' TDA-STA claim application.

The results from this review are detailed by individual requirement in Exhibit 6. SolTrans is in compliance with each of the seven sections of the state PUC that were reviewed as part of this performance audit. These sections included requirements concerning CHP terminal safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluating passenger needs.

Exhibit 6: Compliance with State PUC Requirements

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99251	CHP Certification - The CHP has, within the 13 months prior to each TDA claim submitted by an operator, certified the operator's compliance with Vehicle Code Section 1808 following a CHP inspection of the operator's terminal	In Compliance	Satisfactory Inspections: • 2018: 12/18/18 • 2019: 10/28/19 • 2020: 09/16/20
PUC99264	Operator-to-Vehicle Staffing - The operator does not routinely staff with two or more persons public transportation vehicles designed to be operated by one person	In Compliance	• No provision for excess staffing in Transit Operations Service Contract with National Express Corp., effective 07/01/13 (current fifth amendment dated 6/30/20 – expires 6/30/21).
PUC99314.5 (e)(1)(2)	Part Time Drivers and Contracting - Operators receiving STA funds are not precluded by contract from employing part-time drivers or from contracting with common carriers	In Compliance	• Part Time Drivers – Provisions for Part-Time Employees included in Staffing Plan in Transit Operations Service Contract with National Express Corp., effective 07/01/13 through 06/30/21. • Contracting - SolTrans contracts with National Express Corp. to provide its transit services.
PUC99155	Reduced Fare Eligibility - For any operator who received TDA Article 4 funds, if the operator offers reduced fares to senior citizens and disabled persons, applicant will honor the federal Medicare identification card, the California Department of Motor Vehicles disability ID card, the Regional Transit Connection Discount Card, or any other current identification card issued by another transit operator that is valid for the type of transportation service or discount requested; and if the operator offers reduced fares to senior citizens, it also offers the same reduced fare to disabled patrons	In Compliance	Fare information in public information materials: • SolTrans website: http://www.soltransride.com/fares

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99155.1 (a)(1)(2)	Welfare to Work Coordination - Operators must coordinates with county welfare departments in order to ensure that transportation moneys available for purposes of assisting recipients of aid are expended efficiently for the benefit of that population; if a recipient of CalWORKs program funds by the county, the operator shall give priority to the enhancement of public transportation services for welfare-to-work purposes and to the enhancement of transportation alternatives, such as, but not limited to, subsidies or vouchers, van pools, and contract paratransit operations, in order to promote welfare-to-work purposes	In Compliance	• SolTrans participates in the regional MTC Coordinated Human Service Transportation plan (updated 2/28/18). SolTrans services are included in the plan's inventory. • SolTrans is a member of the Solano Express Intercity Transit Consortium and Solano Senior and People with Disabilities Transportation Advisory Committee.
PUC99314.7, Govt Code 66516, MTC Res. Nos. 3837, 4073	Joint Revenue Sharing Agreement - The operator has current joint fare revenue sharing agreements in place with transit operators in the MTC region with which its service connects, and submitted copies of agreements to MTC	In Compliance	• Signatory participant in Amended and Restated Clipper® Memorandum of Understanding (October 2020). Agreement also includes MTC and the other transit operators participating in the Clipper® program. • Other valid transfer/revenue sharing agreements with connecting operators: CCCTA, FAST, Golden Gate Transit, NVTA, SFMTA, and WCCTA (per Rider's Guide).

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99246(d)	Process for Evaluation of Passenger Needs - The operator has an established process in place for evaluating the needs and types of passengers being served	In Compliance	• SolTrans Public Involvement Policy, 09/21/17; Title VI Policy 03/21/19. • SolTrans Public Advisory Committee (PAC) quarterly (pre-pandemic) meetings; now held via teleconference (ZOOM). • SolTrans Technical Advisory Committee (TAC) semi-annual meetings • Short Range Transit Plan (SRTP) 2021-2030 includes evaluations of existing service conditions, service area characteristics, system trends and performance, and operating and capital budgets.

V. STATUS OF PRIOR AUDIT RECOMMENDATIONS

SolTrans' prior performance audit was completed in May 2018. Generally, MTC has used the audit recommendations as the basis for developing the Productivity Improvement Program (PIP) projects the operator is required to complete. MTC tracks PIP project implementation as part of its annual review of the operator's TDA-STA claim application. This section provides an assessment of actions taken by TDA-STA recipients toward implementing the recommendations advanced in the prior audit. This assessment provides continuity between the current and prior audits, which allows MTC to fulfill its obligations where the recommendations were advanced as PIP projects.

This review addresses SolTrans' responses to the recommendation made in the prior performance audit, and whether SolTrans made reasonable progress toward the implementation. There was one recommendation made in SolTrans' prior audit. A summary of the recommendation and the actions taken by SolTrans in response is presented in Exhibit 7. A determination of the status of the recommendation also is provided, using one of the following four evaluation categories:

- Implemented – appropriate actions have been taken and the issue has been sufficiently addressed.
- Implementation in Progress – actions have been taken to address the issue, but the recommendation remains open until further actions are completed.
- Not Implemented – no actions have been taken to address the issue, and the recommendation remains open.
- Closed – no actions have been taken to address the issue, but changes in circumstances have impacted the need to implement the recommendation.

SolTrans has implemented several corrective actions for the recommendation from the prior audit to improve its data collection and reporting activities for its quality-of-service statistics.

- The prior audit found numerous data gaps in quality-of-service statistics identified in the Functional Performance Indicator section for both bus and paratransit services, including late trips, missed trips, total trips and complaints. SolTrans acknowledged that the data elements should have been tracked, or tracked correctly, but the operating contractor was not doing so.

- SolTrans' current reporting vendor is The Reporting Solution managed by Solutions for Transit (Solutions). SolTrans directed Solutions to create a report to combine GFI farebox data and Clipper, MTCs regional fare payment system. Current CAD/AVL systems integrate GFI but have had no way to integrate clipper ridership and fares. The improved reports allow for a central database for ridership and cash/e-cash collections on the bus.

- SolTrans contracted with its CAD/AVL vendor Avail, to review the CAD/AVL system configuration and retrain staff to ensure the system is working effectively to produce the data required for reporting. SolTrans implemented processes to ensure certain performance standards were calculated and reviewed monthly. Avail also dedicated a staff position to ensuring data accuracy.

- SolTrans upgraded its fixed-route scheduling software in 2019, allowing for greater functionality and more robust capabilities than in prior years. The scheduling software imports seamlessly to the CAD/AVL system, further ensuring accuracy of scheduled hours and miles.

- SolTrans also dedicated an analyst to oversee all operation technology to ensure data accuracy and maintenance of these systems.

- SolTrans made more intensive use of the Trapeze reporting system for the paratransit system. The Transit Services Manager oversees the system, allowing SolTrans to easily report separate metrics for this mode.

The current audit found a much more complete submission of service statistics for the Functional Performance Indicator section in the current audit period.

Exhibit 7: Status of Prior Audit Recommendations

Recommendation	Actions Taken	Evaluation
1. Improve data collection and reporting activities for quality-of-service statistics for both the bus and paratransit services.	• Directed vendor Solutions for Transit to create a report to combine GFI farebox data and Clipper. The improved reports allow for a central database for ridership and cash/e-cash collections on the bus. • Contracted vendor Avail, to review the CAD/AVL system configuration and retrain staff to ensure the system is working effectively. Dedicated a staff position to ensuring data accuracy. • Upgraded the fixed-route scheduling software in 2019, allowing for greater functionality and more robust capabilities. • Dedicated an analyst to oversee all operation technology to ensure data accuracy and maintenance of these systems. • Paratransit - Transit Services Manager implementing more intensive use of the Trapeze reporting system for the paratransit system, allowing easier reporting of paratransit metrics.	Implemented

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VI. FUNCTIONAL PERFORMANCE INDICATOR TRENDS

To further assess SolTrans' performance over the past three years, a detailed set of functional area performance indicators was defined. This assessment consists of a three-year trend analysis of the functions in each of the following areas:

- Management, Administration and Marketing
- Service Planning
- Operations
- Maintenance
- Safety

The indicators selected for this analysis were primarily those that were tracked regularly by SolTrans, or for which input data were maintained by SolTrans on an on-going basis, such as performance reports, contractor reports, and NTD reports. As such, there may be some overlap with the TDA indicators examined earlier in the audit process, but most indicators will be different. Some indicators were selected from the California Department of Transportation's Performance Audit Guidebook for Transit Operators and Regional Transportation Planning Entities as being appropriate for this evaluation. The input statistics for the indicators, along with their sources, are contained in Appendix A at the end of this report.

The trends in performance are presented over the three-year audit period to give an indication of which direction performance is moving for these indicators. The remainder of this section presents the findings from this review. The discussion presents the highlights of performance by mode (Systemwide, Bus Service and Paratransit), each followed by an exhibit illustrating the indicators by function as applicable.

Systemwide (All Modes)

For the purposes of this review, SolTrans' functional indicators relating to Management, Administration and Marketing have been included on a systemwide basis. Systemwide audit period performance is discussed below and presented in Exhibit 8.

- Administrative costs rose from 42 percent of total operating costs in FY2018 to 49 percent in FY2020. Administrative costs also increased, from $50 to $56 per vehicle service hour between FY2018 and FY2019, before increasing to $63 per hour in FY2020, reflecting reduced service levels in that year.

- The portion of administrative costs attributed to marketing activities decreased overall, dropping to below two percent in both FY2019 and FY2020. In terms of passenger trips, marketing costs remained steady at about $0.12 overall.

- The systemwide farebox recovery ratio decreased from 24.1 to 23.5 percent in the first two years to 18.5 percent in FY2020.

* * * * *

The following is a summary of the systemwide functional trend highlights between FY2018 and FY2020:

- Administrative costs increased to almost 50 percent of total operating costs, and increased by 12.3 percent between FY2018 and 2019, before increasing another 7.1 percent to about $63 per vehicle service hour in FY2020.

- Marketing costs decreased overall compared to total administrative costs and held relatively steady when measured per passenger trips.

- Systemwide farebox recovery ratio declined slightly in the first two years, but more significantly (21.4 percent) in FY2020.

Exhibit 8: Functional Performance Trends – Systemwide (All Modes)

FUNCTION/Indicator	Actual Performance		
	FY2018	FY2019	FY2020
MANAGEMENT, ADMINISTRATION & MARKETING			
Administrative Cost/Total Operating Cost	42.0%	45.8%	49.1%
Annual Percent Change	- -	*9.1%*	*7.1%*
Three Year Percent Change	- -	- -	*16.9%*
Adminstrative Cost/Vehicle Service Hour	$50.46	$56.65	$63.02
Annual Percent Change	- -	*12.3%*	*11.2%*
Three Year Percent Change	- -	- -	*24.9%*
Marketing Cost/Total Administrative Cost	2.5%	1.9%	1.9%
Annual Percent Change	- -	*-26.2%*	*1.3%*
Three Year Percent Change	- -	- -	*-25.3%*
Marketing Cost/Unlinked Passenger Trip	$0.11	$0.08	$0.12
Annual Percent Change	- -	*-21.1%*	*39.2%*
Three Year Percent Change	- -	- -	*9.8%*
Farebox Revenue/Operating Cost	24.1%	23.5%	18.5%
Annual Percent Change	- -	*-2.6%*	*-21.4%*
Three Year Percent Change	- -	- -	*-23.4%*

Bus Service

SolTrans' bus service functional area trends represent areas of cost efficiency, safety, productivity, and service reliability. Audit period performance is discussed below and presented in Exhibit 9.

- Service Planning
  - Operating costs per passenger mile increased slightly from $1.01 in FY2018 to $1.03 in FY2019 (two percent), before increasing to $1.34 in FY2020.
  - About 91 percent of all vehicle miles and 92 percent of all vehicle hours traveled were in service in all three years of the audit period.
  - Passengers per vehicle service mile and vehicle service hour both declined overall during the audit period, by about 10 and 15 percent respectively, with most of the decline occurring in FY2020 (18 and 20 percent).
- Operations
  - Vehicle operations costs decreased from 41.5 percent in FY2018 to 36.7 percent in FY2020.
  - Vehicle operations costs per service hour fluctuated but decreased overall, from $49.38 in FY2018 to $46.86 in FY2020.
  - The bus service farebox recovery ratio declined slightly from 27.4 percent in FY2018 to 26.6 percent in FY2019, then declined to 20.4 percent in FY2020.
  - The TDA recovery ratio, reflecting farebox revenue plus local support less operating cost exclusions, decreased from 27.5 percent to 20.5 percent, with most of the decrease occurring in FY2020 (23.7 percent).

- Schedule adherence improved from 69 percent in the first year to 76.8 percent in FY2020.

- The number of complaints per 10,000 passenger trips decreased from 2.3 in FY2018 to 1.7 in FY2020.

- The rate of missed trips increased from 0.17 percent in FY2018 to 1.64 percent in FY2020. The actual number of missed trips increased from 271 in FY2018 to 1,873 in FY2020 (591 percent). SolTrans indicated the data from its contractor for FY2018 was incomplete, but the increase in missed trips was largely due to difficulties in hiring and retaining bus operators during this period. Missed trips increased over 86 percent between FY2019 and FY2020, likely caused by a combination of staffing shortages, service disruptions, and unscheduled operator absences caused by the COVID pandemic.

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) decreased from 16.8 percent of total operating costs in FY2018 to 13.8 percent by FY2020.

  - Vehicle maintenance costs per service mile increased from $0.84 to $0.89 in the first two years of the audit period, before rising to $0.99 in FY2020.

  - The vehicle spare ratio increased slightly from 26.7 percent in FY2018 to 28.6 percent in FY2020.

  - The mean distance between major failures and between all failures increased significantly (about 200 percent) overall, with most of the increase occurring in FY2020, by about 140 percent and 180 percent, respectively.

- Safety

  - The rate of preventable accidents fluctuated over the audit period, but remained at two or fewer accidents per 100,000 vehicles miles throughout the period. Casualty and liability costs per vehicle service hour and mile remained steady for each indicator in all three years.

* * * * *

The following is a summary of the bus service functional trend highlights between FY2018 and FY2020:

- Service Planning results showed operating costs per passenger increasing 32.4 percent overall, with the largest increase occurring in FY2020. Vehicle miles in service and vehicle hours in service both remained above 91 percent overall, and passengers per vehicle service mile and hour declined about 10 and 16 percent respectively, with the largest decrease again occurring in FY2020.

- In Operations, overall vehicle operations costs decreased as a percentage of total operating costs, as did operations cost per service hour during the audit period. Farebox recovery had a slight decrease between FY2018 and FY2019, with a more significant decrease in FY2020 (23.4 percent). The TDA recovery rate decreased at about the same rate as overall farebox recovery ratio. Schedule adherence improved from 69 percent to about 77 percent over the three years, and the number of complaints declined overall. The percentage of missed trips increased significantly, attributed to labor shortages due to difficulties attracting and retaining operators, and service disruptions and operator absences due to the COVID pandemic in FY2020.

- Maintenance results were mixed, with maintenance costs decreasing moderately overall relative to total operating costs, but increasing on a service mile basis. The vehicle spare ratio increased slightly, and vehicle reliability showed significant improvement, especially in FY2020.

- Safety results demonstrated fluctuations in the rate of preventable accidents per 100,000 vehicle miles, but remaining low overall, while casualty costs per vehicle service hour and mile remained steady throughout the audit period.

Exhibit 9: Functional Performance Trends – Bus Service

FUNCTION/Indicator	Actual Performance		
	FY2018	FY2019	FY2020
SERVICE PLANNING			
Total Operating Cost/Passenger Mile	$1.01	$1.03	$1.34
Annual Percent Change	- -	*2.0%*	*29.8%*
Three Year Percent Change	- -	- -	*32.4%*
Vehicle Service Miles/Total Miles	91.9%	88.8%	92.7%
Annual Percent Change	- -	*-3.4%*	*4.4%*
Three Year Percent Change	- -	- -	*0.8%*
Vehicle Service Hours/Total Hours	93.7%	92.0%	91.6%
Annual Percent Change	- -	*-1.8%*	*-0.4%*
Three Year Percent Change	- -	- -	*-2.2%*
Passengers/Vehicle Service Mile	0.85	0.95	0.77
Annual Percent Change	- -	*10.8%*	*-18.3%*
Three Year Percent Change	- -	- -	*-9.4%*
Passengers/Vehicle Service Hour	13.47	14.36	11.32
Annual Percent Change	- -	*6.7%*	*-21.2%*
Three Year Percent Change	- -	- -	*-15.9%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	41.5%	40.1%	36.7%
Annual Percent Change	- -	*-3.3%*	*-8.5%*
Three Year Percent Change	- -	- -	*-11.5%*
Vehicle Operations Cost/Vehicle Service Hour	$49.38	$50.09	$46.86
Annual Percent Change	- -	*1.4%*	*-6.5%*
Three Year Percent Change	- -	- -	*-5.1%*
Farebox Revenue/Operating Cost	27.4%	26.6%	20.4%
Annual Percent Change	- -	*-2.8%*	*-23.4%*
Three Year Percent Change	- -	- -	*-25.5%*
TDA Recovery Ratio *(a)*	27.5%	26.8%	20.5%
Annual Percent Change	- -	*-2.5%*	*-23.7%*
Three Year Percent Change	- -		*-25.6%*
Percentage of Trips On-Time	69.0%	75.0%	76.8%
Annual Percent Change	- -	*8.7%*	*2.4%*
Three Year Percent Change	- -	- -	*11.3%*
Complaints/10,000 Boardings	2.3	1.5	1.7
Annual Percent Change	- -	*-36.4%*	*18.4%*
Three Year Percent Change	- -	- -	*-24.7%*
Missed Trips/Total Trips	0.17%	0.65%	1.64%
Annual Percent Change	- -	*270.9%*	*152.7%*
Three Year Percent Change	- -	- -	*837.0%*

FUNCTION/Indicator	Actual Performance		
	FY2018	FY2019	FY2020
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	16.8%	13.2%	13.8%
Annual Percent Change	- -	*-21.4%*	*4.4%*
Three Year Percent Change	- -	- -	*-18.0%*
Vehicle Maintenance Cost/Vehicle Service Mile	$0.84	$0.89	$0.99
Annual Percent Change	- -	*6.0%*	*12.0%*
Three Year Percent Change	- -	- -	*18.7%*
Spare Vehicles/Total Vehicles	26.7%	28.3%	28.6%
Annual Percent Change	- -	*6.0%*	*1.1%*
Three Year Percent Change	- -	- -	*7.1%*
Mean Distance between Major Failures (Miles)	9,039	11,668	28,750
Annual Percent Change	- -	*29.1%*	*146.4%*
Three Year Percent Change	- -	- -	*218.1%*
Mean Distance between All Failures (Miles)	7,467	7,926	22,313
Annual Percent Change	- -	*6.1%*	*181.5%*
Three Year Percent Change	- -	- -	*198.8%*
SAFETY			
Preventable Accidents/100,000 Vehicle Miles	1.3	2.0	1.5
Annual Percent Change	- -	58.0%	-24.0%
Three Year Percent Change	- -	- -	20.1%
Casualty & Liability Cost/Vehicle Service Hour	$0.60	$0.63	$0.60
Annual Percent Change	- -	*4.3%*	*-4.2%*
Three Year Percent Change	- -	- -	*-0.1%*
Casualty & Liability Cost/Vehicle Service Mile	$0.04	$0.04	$0.04
Annual Percent Change	- -	*8.3%*	*-0.7%*
Three Year Percent Change	- -	- -	*7.6%*

(a) Farebox Revenue plus Local Support/Operating Cost less TDA Allowable Exclusions

Paratransit

SolTrans' paratransit functional area trends represent mostly similar areas to the bus service. Audit period performance is discussed below and presented in Exhibit 10.

- Service Planning
  - Operating costs per passenger mile decreased from $12.77 in the first year to $10.18 in FY2019, before rising to $16.14 in the last year (58.6 percent increase).
  - The percentage of vehicle miles traveled in service increased from about 80 percent to 82 percent, while vehicle hours traveled in service increased from 77 percent to about 84 percent over the three years.
  - Passenger productivity was mixed, with passengers per vehicle service mile increasing by 15.5 percent and passengers per vehicle service hour decreasing by about two percent during the audit period.
- Operations
  - Vehicle operations costs declined from 43.2 percent to 39.7 percent of total operating costs in all three years.
  - Vehicle operations costs per service hour also decreased overall, from about $56 in the first year to $54 in FY2020.
  - The paratransit farebox recovery ratio increased over the three years from 2.5 percent to 4.4 percent in FY2020.
  - Data for calculating the TDA recovery ratio, reflecting farebox revenue plus local support less operating cost exclusions, was not available for paratransit service this period.
  - Schedule adherence dipped from about 83 percent in FY2018 to 82 percent in FY2019, before recovering to 87 percent in FY2020.

- Complaints per 1,000 passenger trips decreased significantly, from one in FY2018 to 0.27 in the last two years.

- The incidence of missed trips was so small it was almost unmeasurable and decreased in each year of the audit period.

- There were almost no ADA trip denials, but the rate of trip cancellations increased significantly in FY2020, rising almost 42 percent that year after a four percent increase in FY2019.

- The rate of late cancellations decreased slightly overall, and passenger no-shows also decreased from 2.7 to 1.3 percent.

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) increased from 12.9 percent to 14.1 percent over the three years.

  - After remaining steady in the first two years, vehicle maintenance costs per service mile increased by 43 percent in FY2020, reflecting the decrease in service miles that year.

  - The vehicle spare ratio fluctuated but ultimately remained unchanged at 42.9 percent in the first and last year of the period.

  - Overall, the mean distance between major failures and all failures showed significant decreases in performance over the audit period, declining by 61 percent (from 25,544 miles to 8,914 miles) and 50 percent (from 19,868 miles to 7,428 miles) respectively, with the largest decrease occurring between FY2018 and FY2019.

- Safety

  - The rate of preventable accidents increased from zero to about 1.6 per 100,000 miles in the last two years of the period.

* * * * *

The following is a summary of the paratransit functional trend highlights between FY2018 and FY2020:

- Service Planning results were mixed, with the cost per passenger mile increasing, with most of the increase occurring in FY2020, when ridership decreased during the COVID pandemic. The percent of vehicle miles and vehicle hours in service improved from the high seventy percent to the low eighty percent range for both. Passenger productivity was mixed, with passengers per vehicle service mile increasing, while passengers per vehicle service hour decreased slightly.

- Operations results included a small decrease in both vehicle operations costs as a portion of total operating costs, and vehicle operations cost per hour. Farebox recovery increased during the audit period, and data for the TDA recovery ratio was unavailable for the period. Schedule adherence fluctuated, but ended up improving by 4.5 percent overall, while complaints decreased significantly. There were almost no missed trips and ADA trip denials during the audit period. The rate of trip cancellations increased significantly by more than 40 percent overall, mostly in FY2020. The late cancellation and passenger no-show rates both decreased.

- Maintenance results showed vehicle maintenance costs increasing as a percentage of total operating costs, while vehicle maintenance costs per service mile increased significantly in FY2020, due to decreased service miles. The miles between mechanical failures declined by 61 percent for major failures, and 50 percent for all failures.

- Safety results found a small increase in the number of preventable accidents per 100,000 miles over the audit period.

Exhibit 10: Functional Performance Trends – Paratransit

FUNCTION/Indicator	Actual Performance		
	FY2018	FY2019	FY2020
SERVICE PLANNING			
Total Operating Cost/Passenger Mile	$12.77	$10.18	$16.14
Annual Percent Change	- -	*-20.3%*	*58.6%*
Three Year Percent Change	- -	- -	*26.4%*
Vehicle Service Miles/Total Miles	79.8%	82.4%	82.3%
Annual Percent Change	- -	*3.2%*	*-0.1%*
Three Year Percent Change	- -	- -	*3.0%*
Vehicle Service Hours/Total Hours	77.1%	85.2%	83.6%
Annual Percent Change	- -	*10.5%*	*-1.9%*
Three Year Percent Change	- -	- -	*8.4%*
Passengers/Vehicle Service Mile	0.21	0.24	0.24
Annual Percent Change	- -	*15.1%*	*0.3%*
Three Year Percent Change	- -	- -	*15.5%*
Passengers/Vehicle Service Hour	2.13	2.22	2.08
Annual Percent Change	- -	*4.3%*	*-6.4%*
Three Year Percent Change	- -	- -	*-2.3%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	43.2%	47.3%	39.7%
Annual Percent Change	- -	*9.5%*	*-16.0%*
Three Year Percent Change	- -	- -	*-8.0%*
Vehicle Operations Cost/Vehicle Service Hour	$55.65	$55.13	$53.46
Annual Percent Change	- -	*-0.9%*	*-3.0%*
Three Year Percent Change	- -	- -	*-3.9%*
Farebox Revenue/Operating Cost	2.5%	2.7%	4.4%
Annual Percent Change	- -	*8.1%*	*60.4%*
Three Year Percent Change	- -	- -	*73.5%*
TDA Recovery Ratio *(a)*	*(b)*	*(b)*	*(b)*
Annual Percent Change	- -	- -	- -
Three Year Percent Change	- -		- -
Percentage of Trips On-Time	82.8%	81.7%	86.5%
Annual Percent Change	- -	*-1.3%*	*5.9%*
Three Year Percent Change	- -	- -	*4.5%*
Complaints/1,000 Passenger Trips	1.0	0.2	0.2
Annual Percent Change	- -	*-79.6%*	*18.5%*
Three Year Percent Change	- -	- -	*-75.8%*
Missed Trips/Total Trips	0.103%	0.058%	0.009%
Annual Percent Change	- -	*-44.0%*	*-83.7%*
Three Year Percent Change	- -	- -	*-90.9%*

FUNCTION/Indicator	Actual Performance		
	FY2018	FY2019	FY2020
OPERATIONS (Continued)			
ADA Trip Denials/Total ADA Trips	0.01%	0.00%	0.00%
Annual Percent Change	- -	*-100.0%*	- -
Three Year Percent Change	- -	- -	*-100.0%*
Trip Cancellations/Total ADA Trips	22.2%	23.1%	32.7%
Annual Percent Change	- -	*4.3%*	*41.6%*
Three Year Percent Change	- -	- -	*47.6%*
Late Cancellations/Total ADA Trips	5.8%	4.8%	5.7%
Annual Percent Change		*-16.4%*	*17.0%*
Three Year Percent Change			*-2.2%*
No-Shows/Total ADA Trips	2.7%	1.4%	1.3%
Annual Percent Change	- -	*-47.0%*	*-6.1%*
Three Year Percent Change	- -	- -	*-50.2%*
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	12.9%	12.5%	14.1%
Annual Percent Change	- -	*-3.0%*	*13.3%*
Three Year Percent Change	- -	- -	*9.9%*
Vehicle Maintenance Cost/Vehicle Service Mile	$1.46	$1.45	$2.08
Annual Percent Change	- -	*-0.1%*	*43.2%*
Three Year Percent Change	- -	- -	*43.0%*
Spare Vehicles/Total Vehicles	42.9%	52.9%	42.9%
Annual Percent Change	- -	*23.5%*	*-19.0%*
Three Year Percent Change	- -	- -	*0.0%*
Mean Distance between Major Failures (Miles)	25,544	8,914	9,900
Annual Percent Change	- -	*-65.1%*	*11.1%*
Three Year Percent Change	- -	- -	*-61.2%*
Mean Distance between All Failures (Miles)	19,868	7,428	9,900
Annual Percent Change	- -	*-62.6%*	*33.3%*
Three Year Percent Change	- -	- -	*-50.2%*
SAFETY			
Preventable Accidents/100,000 Vehicle Miles	0.0	1.7	1.6
Annual Percent Change	- -	- -	*-7.7%*
Three Year Percent Change	- -	- -	- -

(a) Farebox Revenue plus Local Support/Operating Cost less TDA Allowable Exclusions

(b) Not available

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VII. CONCLUSIONS AND RECOMMENDATIONS

This report has presented the findings of the compliance audit portion of the performance audit of SolTrans' transit service. The primary focus was the three-year audit period of FY2018 through FY2020 (July 1, 2017 through June 30, 2020). It has focused on TDA compliance issues including trends in TDA-mandated performance indicators and compliance with selected sections of the state Public Utilities Code (PUC). It also provides the findings from an overview of SolTrans' data collection activities to support the TDA indicators. Performance results from the previous three years have also been included as applicable to provide a longer perspective on performance.

The key findings and conclusions from the individual sections of this performance audit are summarized below:

- Data Collection – With the exception of the vehicle service mile reporting difficulties identified by SolTrans, based on the information provided, SolTrans appears to be in compliance with the data collection and reporting requirements for four of the five TDA statistics, with vehicle service mile compliance to be determined. SolTrans will provide additional information concerning the vehicle service mile data collection and reporting as it becomes available.

  The statistics collected over the period appear to be consistent with the TDA definitions. Further, most statistics indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics, that is, increases or decreases in annual operating costs are relatively proportional to increases or decreases in annual vehicle service hours.

  A reporting consistency discrepancy was noted for vehicle service miles, beginning in FY2017. While operating costs increased, both vehicle service hours and miles decreased in FY2017, a discrepancy which was noted in the

prior audit report, with the change over to the Avail system suggested as the cause of the discrepancy. The decrease in service miles was more pronounced than service hours, with miles decreasing about 10 percentage points more than hours. Similar discrepancies were seen in FY2018, where service hours increased for both fixed-route and paratransit services, while service miles decreased. In FY2019, fixed route service hours decreased about two percent, while service miles decreased 5.5 percent. On the paratransit side, service hours increased 13.5 percent while service miles increased only three percent. SolTrans responded that it is continuing to examine the causes and will provide additional information at a later date.

- TDA Performance Trends

SolTrans' performance trends for the five TDA-mandated indicators were analyzed by mode. A six-year analysis period was used for all the indicators. In addition, component operating costs were analyzed.

Bus Service – The following is a summary of the TDA performance trend highlights over the six-year period of FY2015 through FY2020:

- There was an average annual increase in the operating cost per hour of 1.8 percent, which amounted to a 0.9 percent decrease in inflation adjusted dollars.

- The cost per passenger increased on average by 10.1 percent per year, resulting in an average annual increase of 7.1 percent in constant FY2015 dollars.

- Passenger productivity declined, with passengers per vehicle service hour decreasing by 7.5 percent per year overall, and passengers per vehicle service mile decreasing by 2.7 percent annually.

The following is a summary of the component operating costs trend highlights for the bus service between FY2015 and FY2020:

- Purchased transportation costs increased modestly, an average of just over three percent per year, and remained the largest component cost area at about 65 percent of total costs.

- In-house labor and fringe benefit costs increased overall, with both these categories combined comprising about ten to 11 percent of total operating costs.

- Services costs increased by about five percent on average per year, and comprised about 12 percent of total operating costs.

- Costs decreased over the review period for both the materials/supplies and other expenses categories. The share of these costs averaged about 10 to 12 percent of total operating costs over the review period.

- There was a 28 percent increase in casualty/liability, which comprised less than one percent of total costs.

Paratransit – The following is a summary of the TDA performance trend highlights over the six-year period of FY2015 through FY2020:

- Cost efficiency showed a decrease, with an average annual increase in the operating cost per hour of 4.2 percent. This amounted to an average annual increase of 1.4 percent in inflation adjusted dollars.

- Cost effectiveness was similar, with the operating cost per passenger increasing an average of 4.8 percent per year, or 1.9 percent annually when expressed as normalized FY2015 dollars.

- Passenger productivity was mixed, with only minor changes in passengers per hour, decreasing 0.5 percent per year on average, and passengers per mile increasing 8.9 percent annually.

The following is a summary of the component operating costs trend highlights for paratransit between FY2015 and FY2020:

- Purchased transportation costs represented the largest portion of total paratransit operating costs, at about 75 percent throughout the review period. Purchased transportation costs increased by 0.9 percent per year on average.

- Annual average increases were seen in the labor (9.8 percent), and fringe benefits (13.4 percent) categories, however, these categories combined account for less than 15 percent of the total paratransit costs.

- Overall cost decreases occurred in the services (15.3 percent), materials/supplies (11.2 percent), and other expenses (22.6 percent) categories during the review period. Together, these categories combined represent about less than ten percent of total operating costs in the current audit period.

- Increases were seen in the casualty/liability category, but this area comprises less than one percent of total expenses.

- Compliance with Statutory Requirements – SolTrans is in compliance with each of the seven sections of the state PUC that were reviewed as part of this performance audit. These sections included requirements concerning CHP terminal safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluating passenger needs.

- Status of Prior Audit Recommendations – There was one recommendation made in SolTrans' prior performance audit. SolTrans has implemented several corrective actions for the recommendation from the prior audit to improve its data collection and reporting activities for its quality-of-service statistics.

  - The recommendation was for SolTrans to improve its data collection and reporting activities for its quality-of-service statistics. The prior audit found numerous data gaps in quality-of-service statistics identified in the Functional Performance Indicator section for both bus and paratransit services, including late trips, missed trips, total trips and complaints. SolTrans acknowledged that the data elements should have been tracked, or tracked correctly, but the operating contractor was not doing so.

  - SolTrans has implemented several corrective actions for the recommendation from the prior audit, listed in Exhibit 7. The current audit found a much more complete submission of service statistics for the Functional Performance Indicator section in the current audit period.

- Functional Performance Indicator Trends

To further assess SolTrans' performance over the past three years, a detailed set of systemwide and modal functional area performance indicators was defined and reviewed.

Systemwide – The following is a summary of the systemwide functional trend highlights between FY2018 and FY2020:

- Administrative costs increased to almost 50 percent of total operating costs, and increased by 12.3 percent between FY2018 and 2019, before increasing another 7.1 percent to about $63 per vehicle service hour in FY2020.

- Marketing costs decreased overall compared to total administrative costs and held relatively steady when measured per passenger trips.

- Systemwide farebox recovery ratio declined slightly in the first two years, but more significantly (21.4 percent) in FY2020.

Bus Service – The following is a summary of the bus service functional trend highlights between FY2018 and FY2020:

- Service Planning results showed operating costs per passenger increasing 32.4 percent overall, with the largest increase occurring in FY2020. Vehicle miles in service and vehicle hours in service both remained above 91 percent overall, and passengers per vehicle service mile and hour declined about 10 and 16 percent respectively, with the largest decrease again occurring in FY2020.

- In Operations, overall vehicle operations costs decreased as a percentage of total operating costs, as did operations cost per service hour during the audit period. Farebox recovery had a slight decrease between FY2018 and FY2019, with a more significant decrease in FY2020 (23.4 percent). The TDA recovery rate decreased at about the same rate as overall farebox recovery ratio. Schedule adherence improved from 69 percent to about 77 percent over the three years, and the number of complaints declined overall. The percentage of

missed trips increased significantly, attributed to labor shortages due to difficulties attracting and retaining operators, and service disruptions and operator absences due to the COVID pandemic in FY2020.

- Maintenance results were mixed, with maintenance costs decreasing moderately overall relative to total operating costs, but increasing on a service mile basis. The vehicle spare ratio increased slightly, and vehicle reliability showed significant improvement, especially in FY2020.

- Safety results demonstrated fluctuations in the rate of preventable accidents per 100,000 vehicle miles, but remaining low overall, while casualty costs per vehicle service hour and mile remained steady throughout the audit period.

Paratransit – The following is a summary of the paratransit functional trend highlights between FY2018 and FY2020:

- Service Planning results were mixed, with the cost per passenger mile increasing, with most of the increase occurring in FY2020, when ridership decreased during the COVID pandemic. The percent of vehicle miles and vehicle hours in service improved from the high seventy percent to the low eighty percent range for both. Passenger productivity was mixed, with passengers per vehicle service mile increasing, while passengers per vehicle service hour decreased slightly.

- Operations results included a small decrease in both vehicle operations costs as a portion of total operating costs, and vehicle operations cost per hour. Farebox recovery increased during the audit period, and data for the TDA recovery ratio was unavailable for the period. Schedule adherence fluctuated, but ended up improving by 4.5 percent overall, while complaints decreased significantly. There were almost no missed trips and ADA trip denials during the audit period. The rate of trip cancellations increased significantly by more than 40 percent overall, mostly in FY2020. The late cancellation and passenger no-show rates both decreased.

- Maintenance results showed vehicle maintenance costs increasing as a percentage of total operating costs, while vehicle maintenance costs per service mile increased significantly in FY2020, due to decreased service miles. The miles between mechanical failures declined by 61 percent for major failures, and 50 percent for all failures.

- Safety results found a small increase in the number of preventable accidents per 100,000 miles over the audit period.

Recommendations

1. EXAMINE THE CAUSES OF THE DECLINE IN MILES BETWEEN MECHANICAL FAILURES ON THE PARATRANSIT SERVICES.
   [Reference Section: VI. Functional Performance Indicator Trends]

   Current audit period maintenance results for SolTrans' paratransit service showed a substantial decrease in the mean distance between major failures for paratransit, which declined overall by 61 percent, from 25,544 miles to 9,900 miles. The performance in mean distance between all failures, declined by 50 percent, from 19,868 miles to 9,900 miles.

   SolTrans speculated that personnel turnover in the paratransit maintenance manager position may have been a factor in the performance decline. In addition, they further speculated that errors in how mechanical failures were reported may have resulted in over-stating the number of mechanical failures in 2019. However, no empirical information to support either of these possible explanations was provided.

   SolTrans should examine the reasons for the decline in miles between mechanical failure and take appropriate steps to improve performance, and/or data collection accuracy.

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APPENDIX A:
INPUT STATISTICS FOR
FUNCTIONAL PERFORMANCE MEASURES

Functional Performance Inputs - Systemwide (All Modes)

Data Item	FY2018	FY2019	FY2020	Source
Total Operating Costs	$13,698,317	$14,097,196	$13,709,683	NTD F-40
Administrative Costs	$5,751,169	$6,458,638	$6,729,715	NTD F-40
Vehicle Service Hours	113,977	114,004	106,784	NTD S-10 MB+DR
Marketing Costs	$145,260	$120,337	$127,034	SolTrans Financial System
Unlinked Passenger Trips	1,377,287	1,446,163	1,096,601	NTD S-10 MB+DR
Farebox Revenue (All Modes)	$3,303,336	$3,310,679	$2,530,810	NTD F-10

Functional Performance Inputs – Bus Service

Data Item	FY2018	FY2019	FY2020	Source
Vehicle Service Miles	1,578,515	1,491,844	1,385,614	NTD S-10 MB
Total Vehicle Miles	1,717,457	1,680,260	1,494,994	NTD S-10 MB
Vehicle Service Hours	100,090	98,239	94,603	NTD S-10 MB
Total Vehicle Hours	106,827	106,804	103,231	NTD S-10 MB
Unlinked Passenger Trips	1,347,760	1,411,192	1,071,308	NTD S-10 MB
Farebox Revenue	$3,258,212	$3,260,584	$2,459,088	NTD F-10
Total Operating Costs	$11,908,654	$12,259,621	$12,069,280	NTD F-30 MB
Passenger Miles	11,801,253	11,906,770	9,031,753	NTD S-10 MB
Vehicle Operations Costs	$4,942,093	$4,920,731	$4,432,902	NTD F-30 MB
Local Support *(a)*	$19,764	$29,860	$12,110	NTD F-10 MB
TDA Oper. Cost Exclusions - PUC 99247 *(b)*	$0	$0	$0	SolTrans staff
TDA Oper. Cost Exclusions - PUC 99268.17 *(c)*	$0	$0	$0	SolTrans staff
Trips On-Time	69.0%	75.0%	76.8%	SolTrans System Performance Report
Total Trips	155,080	154,920	114,390	SolTrans staff
Complaints per 10,000 Boardings	2.3	1.5	1.7	SolTrans Complaint Data Base
Missed Trips	271	1,004	1,873	SolTrans Contractor Billing Records (FY 17-18 Incomplete data)
Vehicle Maintenance Costs	$1,320,502	$1,323,373	$1,376,148	NTD F-30 MB
Non-Vehicle/Facility Maintenance Costs	$681,704	$296,219	$288,039	NTD F-30 MB
Spare Vehicles (Total less Maximum Service)	12	13	12	NTD S-10 MB
Total Vehicles	45	46	42	NTD S-10 MB
Revenue Vehicle Mechanical System Failures - Total	230	212	67	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	190	144	52	NTD R-20
Preventable Accidents (NTD Guidelines)	22	34	23	Accidents by Mode Spreadsheet
Casualty/Liability Costs	$60,355	$61,794	$57,015	NTD F-30 MB

(a) Local Support includes the following (USOA revenue class in parentheses):

- *Auxiliary transportation revenue (406)*
- *Taxes directly levied (408)*
- *Local cash grants and reimbursements (409)*
- *Local special fare assistance (410)*
- *Subsidy from other sectors of operation (440)*
- *Other non-federal/non-state grant funds or other revenues*

(b) Operating expense object classes exclusive of the following pursuant to PUC Section 99247:

- *depreciation and amortization expenses*
- *subsidies for commuter rail services operated on railroad lines under the jurisdiction of the Federal Railroad Administration*
- *costs for providing charter services*
- *vehicle lease costs*
- *principal and interest payments on capital projects funded with certificates of participation*

(c) Operating expense object class exclusions pursuant to PUC Section 99268.17:

- *additional operating costs for federally required ADA paratransit service that exceed prior year costs (CPI adjusted)*
- *cost increases beyond the CPI change for: fuel; alternative fuel programs; power (including electricity); insurance premiums/liability claims payouts; state and federal mandates*
- *start-up costs for new services (not more than two years)*

Functional Performance Inputs – Paratransit

Data Item	FY2018	FY2019	FY2020	Source
Vehicle Service Miles	142,768	146,845	105,890	NTD S-10 DR
Total Vehicle Miles	178,810	178,274	128,699	NTD S-10 DR
Vehicle Service Hours	13,887	15,762	12,181	NTD S-10 DR
Total Vehicle Hours	18,016	18,501	14,576	NTD S-10 DR
Unlinked Passenger Trips	29,527	34,971	25,293	NTD S-10 DR
Farebox Revenue	$45,124	$50,095	$71,722	NTD F-10
Total Operating Costs	$1,789,663	$1,837,575	$1,639,703	NTD F-30 DR
Passenger Miles	140,199	180,567	101,593	NTD S-10 DR
Vehicle Operations Costs	$772,772	$869,011	$651,186	NTD F-30 DR
Local Support *(a)*	*(d)*	*(d)*	*(d)*	
TDA Oper. Cost Exclusions - PUC 99247 *(b)*	*(d)*	*(d)*	*(d)*	
TDA Oper. Cost Exclusions - PUC 99268.17 *(c)*	*(d)*	*(d)*	*(d)*	
Trips On-Time	82.8%	81.7%	86.5%	Trapeze Reports
Total Trips (Booked)	27,231	31,250	21,285	Trapeze Reports
Complaints	29	7	6	Trapeze Reports
Missed Trips	1	18	2	Trapeze Reports
Total ADA Trips (Completed)	22,028	25,637	19,992	Trapeze Reports
ADA Trip Denials	2	0	0	Trapeze Reports
Trip Cancellations	4,881	5,923	6,540	Trapeze Reports
Late Trip Cancellations	1,275	121	1,054	Trapeze Reports
No Shows	593	367	268	Trapeze Reports
Vehicle Maintenance Costs	$207,853	$213,581	$220,522	NTD F-30 DR
Non-Vehicle/Facility Maintenance Costs	$22,224	$15,644	$11,171	NTD F-30 DR
Spare Vehicles (Total less Maximum Service)	6	9	6	NTD S-10 DR
Total Vehicles	14	17	14	NTD S-10 DR
Revenue Vehicle Mechanical System Failures - Total	9	24	13	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	7	20	13	NTD R-20
Preventable Accidents	0	3	2	Accidents by Mode Spreadsheet

(a) Local Support includes the following (USOA revenue class in parentheses):
- *Auxiliary transportation revenue (406)*
- *Taxes directly levied (408)*
- *Local cash grants and reimbursements (409)*
- *Local special fare assistance (410)*
- *Subsidy from other sectors of operation (440)*
- *Other non-federal/non-state grant funds or other revenues*

(b) Operating expense object classes exclusive of the following pursuant to PUC Section 99247:
- *depreciation and amortization expenses*
- *subsidies for commuter rail services operated on railroad lines under the jurisdiction of the Federal Railroad Administration*
- *costs for providing charter services*
- *vehicle lease costs*
- *principal and interest payments on capital projects funded with certificates of participation*

(c) Operating expense object class exclusions pursuant to PUC Section 99268.17:
- *additional operating costs for federally required ADA paratransit service that exceed prior year costs (CPI adjusted)*
- *cost increases beyond the CPI change for: fuel; alternative fuel programs; power (including electricity); insurance premiums/liability claims payouts; state and federal mandates*
- *start-up costs for new services (not more than two years)*

(d) Not available