



May 15, 2019  
NVTA Agenda Item 10.2

Continued From: New  
**Action Requested: INFORMATION**

## **NAPA VALLEY TRANSPORTATION AUTHORITY Board Agenda Letter**

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**TO:** NVTA Board of Directors  
**FROM:** Kate Miller, Executive Director  
**REPORT BY:** Matthew Wilcox, Manager of Public Transit  
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**SUBJECT:** Fiscal Year (FY) 2018-19 Third Quarter Operational Summary

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### **RECOMMENDATION**

That the Napa Valley Transportation Authority (NVTA) Board receive Vine performance statistics for the third quarter of FY 2018-19.

### **COMMITTEE RECOMMENDATION**

None

### **EXECUTIVE SUMMARY**

The report summarizes the performance of all Vine services during the third quarter of FY 2018-19. The new report format has been designed for the Napa Valley Transportation Authority's new Performance Monitoring and Evaluation Program illustrating NVTA's staff process for evaluating Vine service.

### **PROCEDURAL REQUIREMENTS**

1. Staff Report
2. Public Comments

### **FISCAL IMPACT**

Is there a Fiscal Impact? None.

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## **CEQA REQUIREMENTS**

**ENVIRONMENTAL DETERMINATION:** The proposed action is not a project as defined by 14 California Code of Regulations 15378 (California Environmental Quality Act (CEQA) Guidelines) and therefore CEQA is not applicable.

## **BACKGROUND AND DISCUSSION**

The intent of NVTA's Service Performance Monitoring and Evaluation Program is to provide a consistent approach to evaluate and alter transit service. The program will operate on two schedules, quarterly and annually. Quarterly evaluations will result in minor service changes to include: stop-to-stop running times, departure times, and timed transfers. Annual evaluation will result in all changes included under the quarterly schedule with the addition of: route pattern alterations, service reduction, service increases, and/or service elimination. Service changes meeting the thresholds in the previous section will be completed on this schedule in tandem with changes driven by operational performance.

The performance of each route and service will be determined by four key performance indicators (KPIs). These include: riders per revenue hour, riders per revenue mile, farebox recovery, and subsidy per passenger. These four KPIs will determine a composite score for each route. Staff will also review changes in total ridership year-over-year to benchmark the Vine's performance against other public transit systems in the region. Staff will review and present all KPIs to the NVTA Board on a quarterly basis. Reports will be furnished at the November, February, and May meetings. An annual report on system performance will be provided to the NVTA Board in September for the previous fiscal year. Any service changes resulting from the quarterly analyses will be brought to the Board in June for approval.

Public utility will also play a part in how staff measures service performance. Anecdotal evidence will be compared side-by-side with performance data to help staff determine a course of action for making service changes. In addition to public comments, staff will use on-time performance as a data driven measure of public utility. The reliability of transit is a primary factor in how useful the public finds the service.

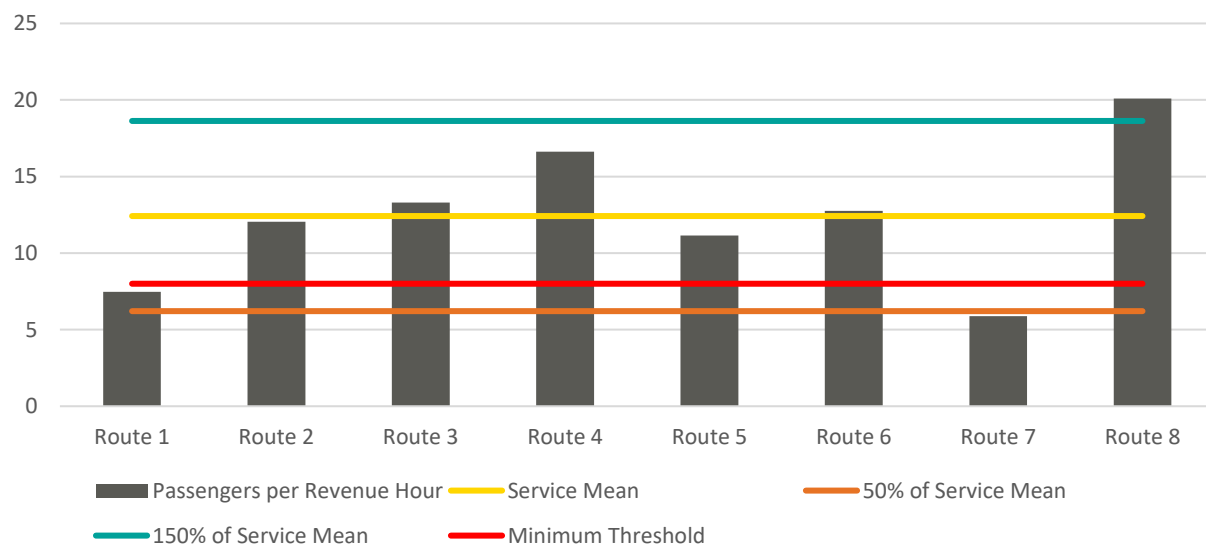
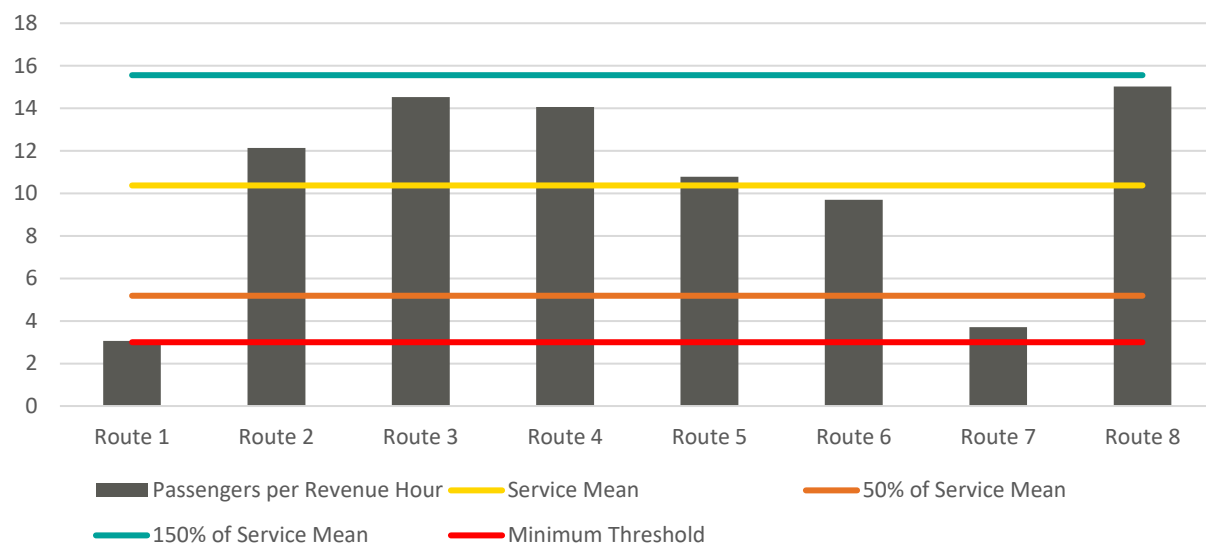
The following sections will provide the metrics and means in which NVTA will ensure Vine service is useful to customers and cost-effective to the agency.

### **Passengers per Revenue Hour**

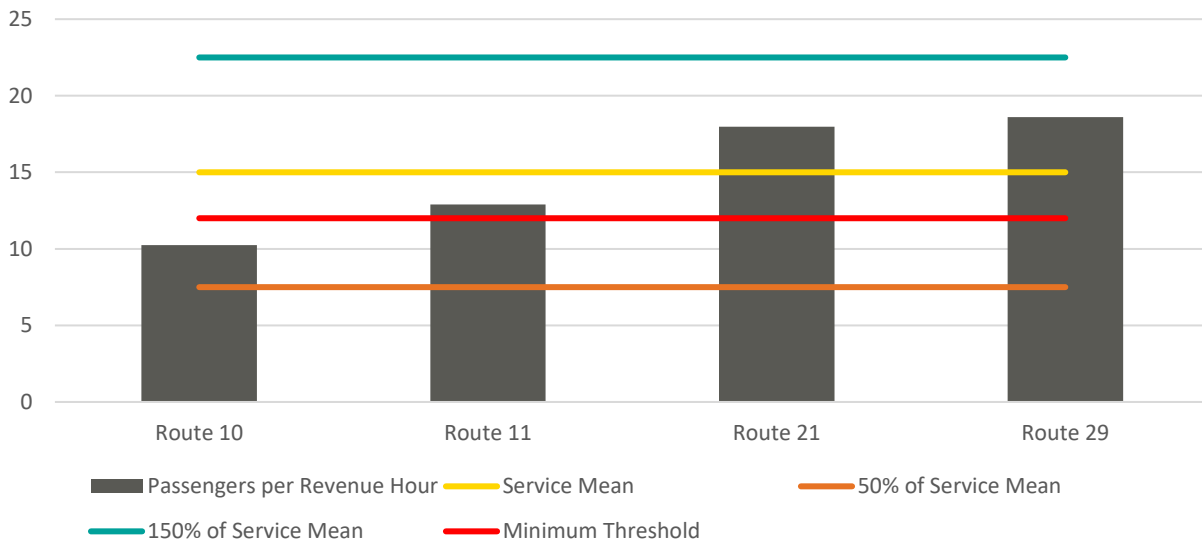
This KPI measures service effectiveness/productivity based on ridership (unlinked boardings) for each hour of service available to the public. Passengers per revenue hour for Routes 21 and 29 are calculated with only 65% of the total revenue hours to adjust for where passengers cannot be picked up due to the route traveling on a major highway or freeway. The formula used to calculate this metric is as follows: TOTAL PASSENGERS/ADJUSTED REVENUE HOUR

**Table 1: Minimum Thresholds for Service by Service Type and Day of the Week (Passengers per Revenue Hour)**

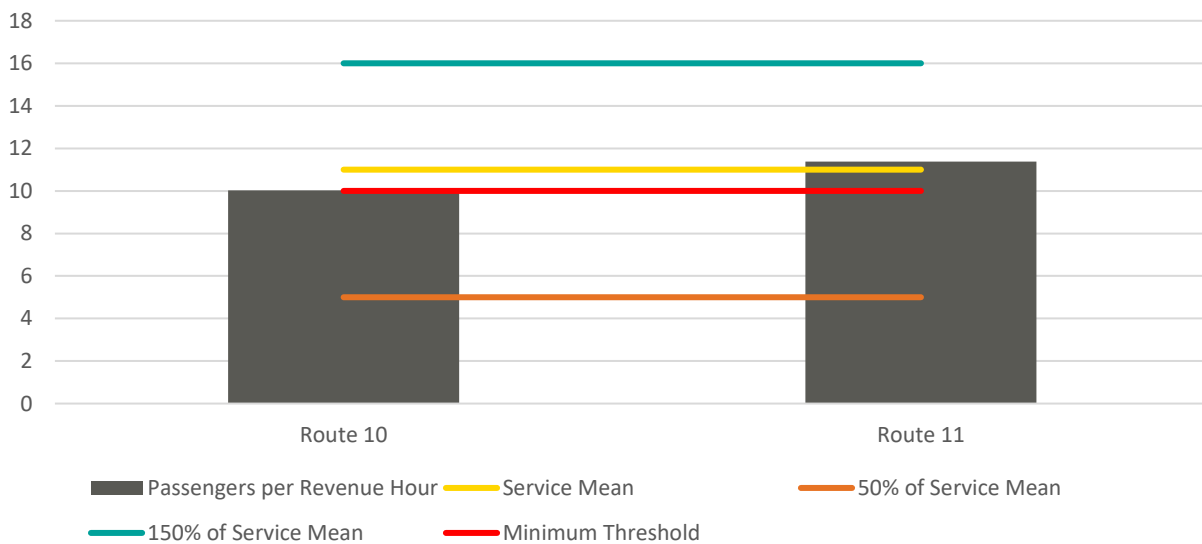
	Weekday	Weekends
On Demand	4	3
Local	8	7
Regional	12	10

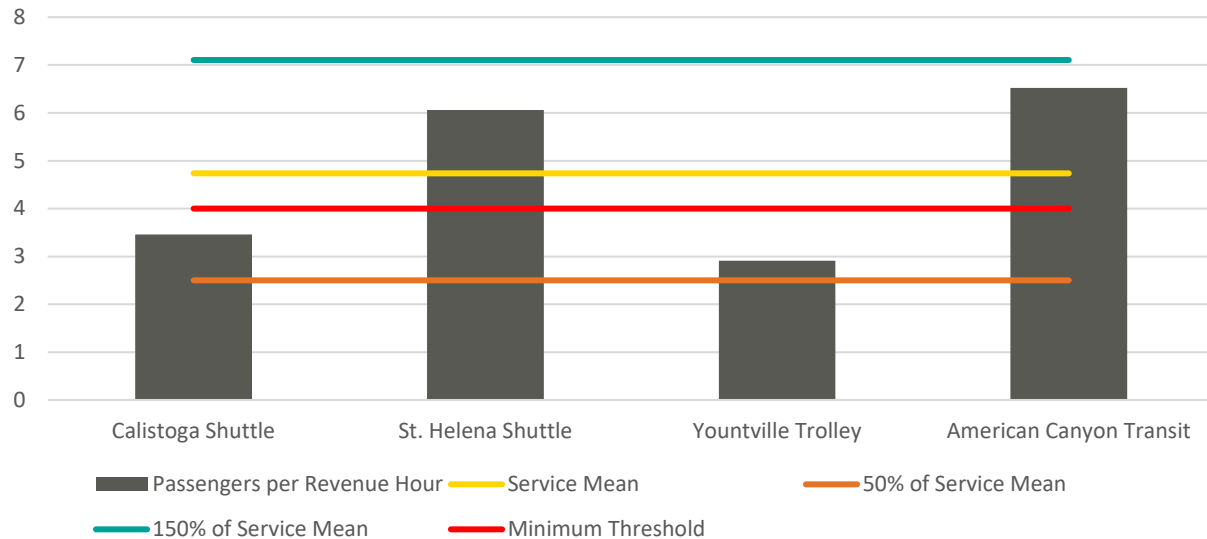
**Chart 1: Local Service Passengers per Revenue Hour (Weekdays)****Chart 2: Local Service Passengers per Revenue Hour (Weekends)**

**Chart 3: Regional Service Passengers per Revenue Hour (Weekdays)**



**Chart 4: Regional Service Passengers per Revenue Hour (Weekends)**



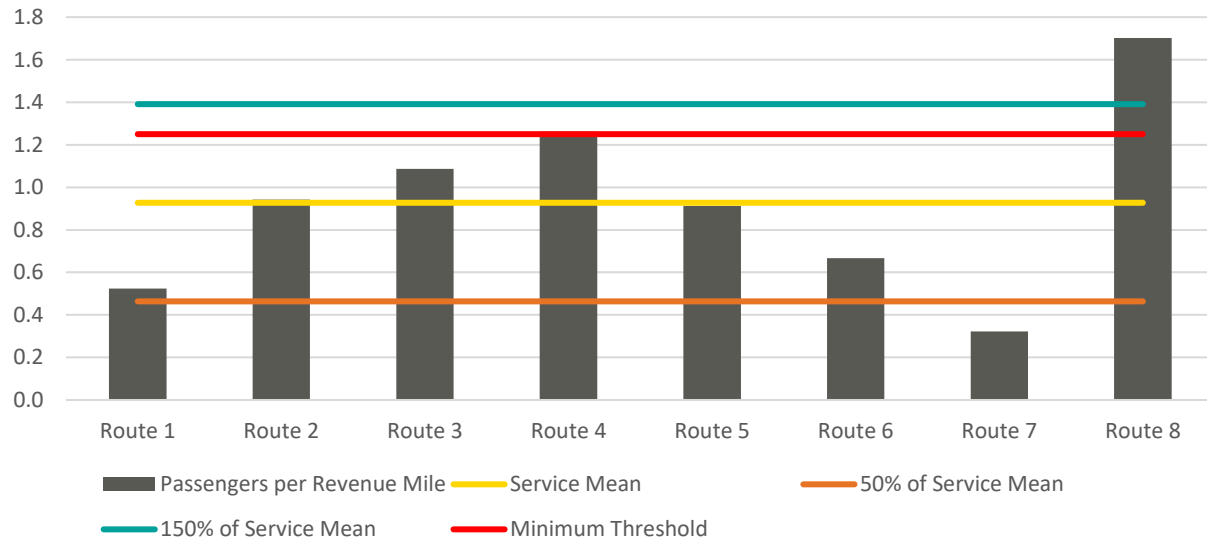
**Chart 5: On Demand Service Passengers per Revenue Hour (Weekdays)****Passengers per Revenue Mile**

This KPI measures service effectiveness/productivity based on ridership (unlinked boardings) for each mile of service available to the public. Passengers per revenue hour for Routes 21 and 29 are calculated with only 65% of the total revenue hours to adjust for where passengers cannot be picked up due to the route traveling on a major highway or freeway. The formula used to calculate this metric is as follows:  $\text{TOTAL PASSENGERS} / \text{TOTAL REVENUES MILES}$

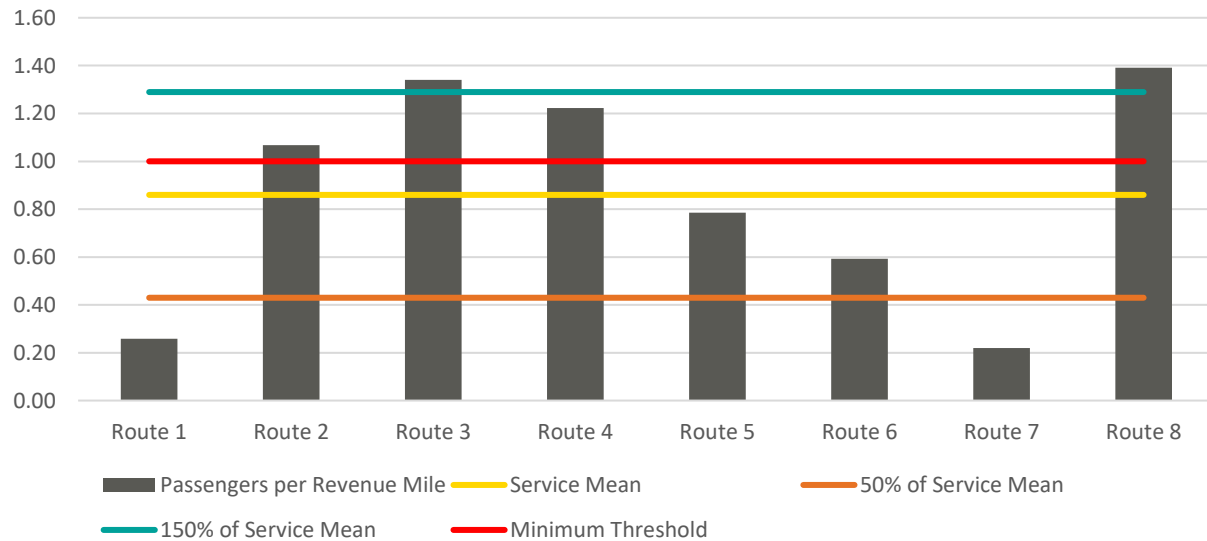
**Table 2: Minimum Thresholds for Service by Typology and Day of the Week (Passengers per Revenue Mile)**

	Weekday	Weekends
On Demand	1	.75
Local	1.25	1
Regional	1	.75

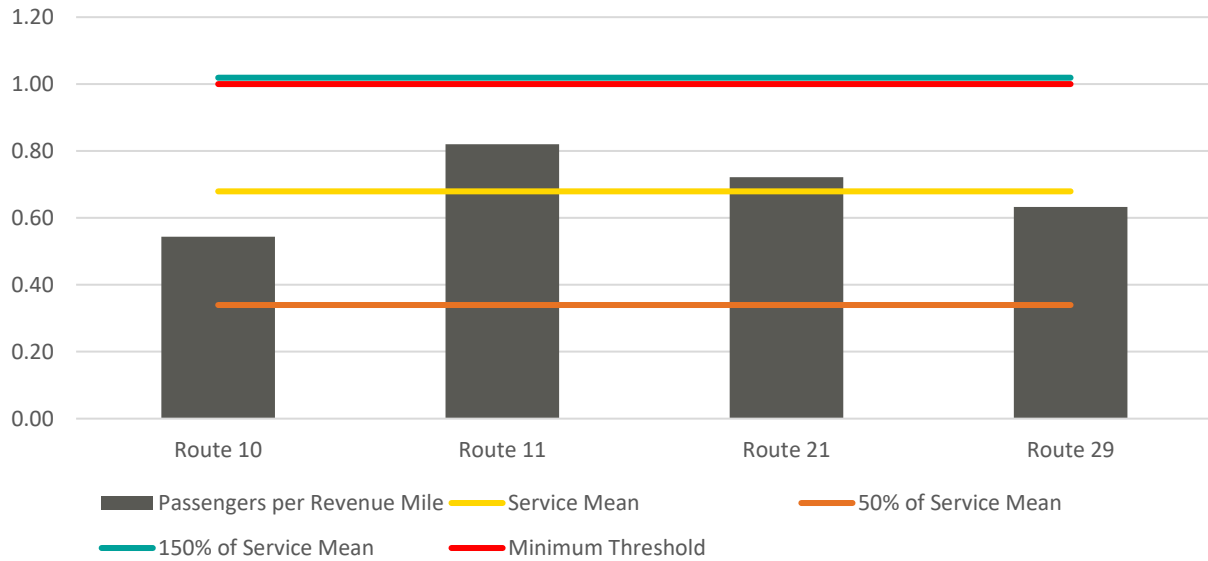
**Chart 6: Local Service Passengers per Revenue Mile (Weekdays)**



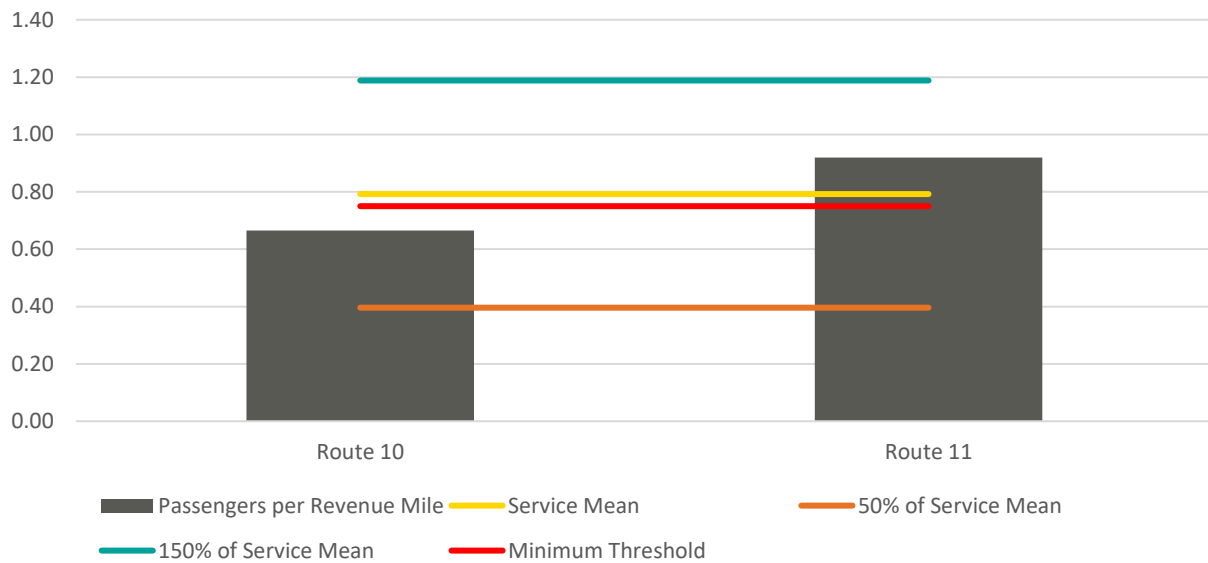
**Chart 7: Local Service Passengers per Revenue Mile (Weekends)**

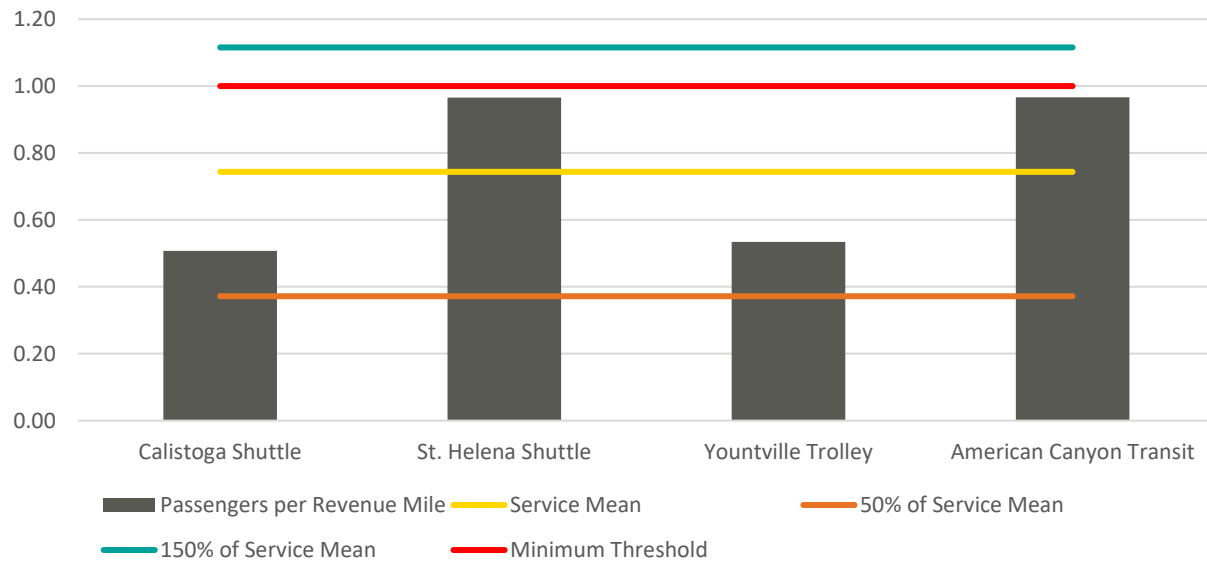
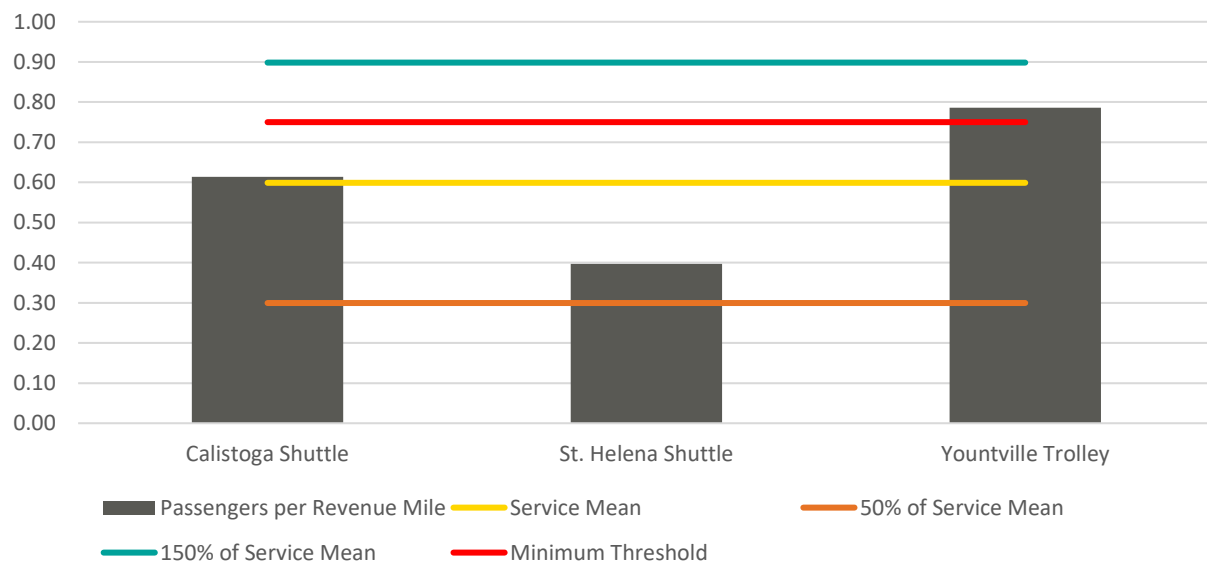


**Chart 8: Regional Service Passengers per Revenue Mile (Weekdays)**



**Chart 9: Regional Service Passengers per Revenue Mile (Weekends)**



**Chart 10: On Demand Service Passengers per Revenue Mile (Weekdays)****Chart 11: On Demand Service Passengers per Revenue Mile (Weekends)****Farebox Recovery Ratio**

Farebox revenue ratio is expressed as a percentage of fares collected in relationship to total operating cost. The State of California requires NVRTA to meet a 15% farebox recovery ratio to receive State Transportation Act (STA) funds for service within an urbanized area. In addition to fares collected on the buses NVRTA is allowed to use certain other sources of revenue to meet this requirement. However, for the purpose of this analysis these funding sources are not accounted for. NVRTA does not apply the standard

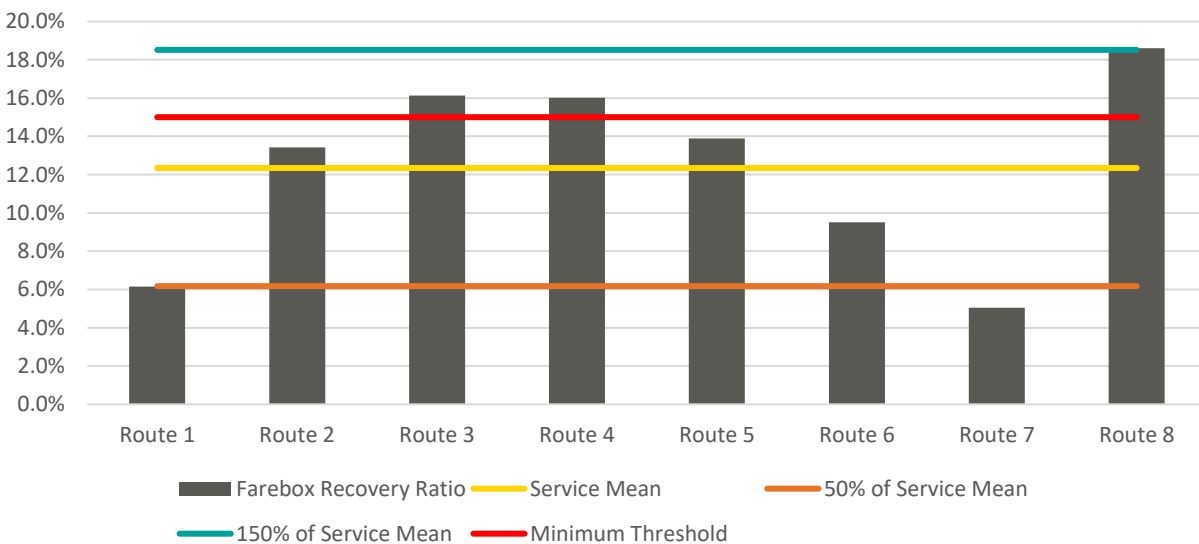


to the shuttle services due to the funding agreements with each jurisdiction it serves. The formula used to calculate this metric is as follows: TOTAL FARES/TOTAL COSTS

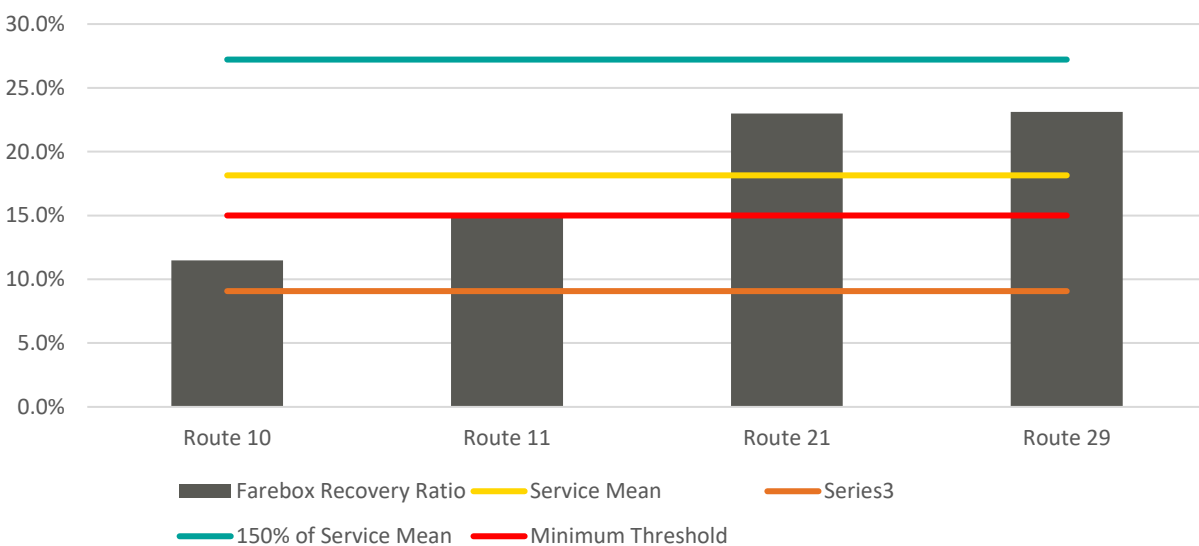
**Table 3: Minimum Thresholds for Service by Typology and Day of the Week (Farebox Recovery)**

	Weekdays/Weekends
Local	15%
Regional	15%

**Chart 12: Local Service Farebox Recovery Ratio (Weekday+Weekend)**



**Chart 13: Regional Service Farebox Recovery Ratio (Weekday+Weekend)**



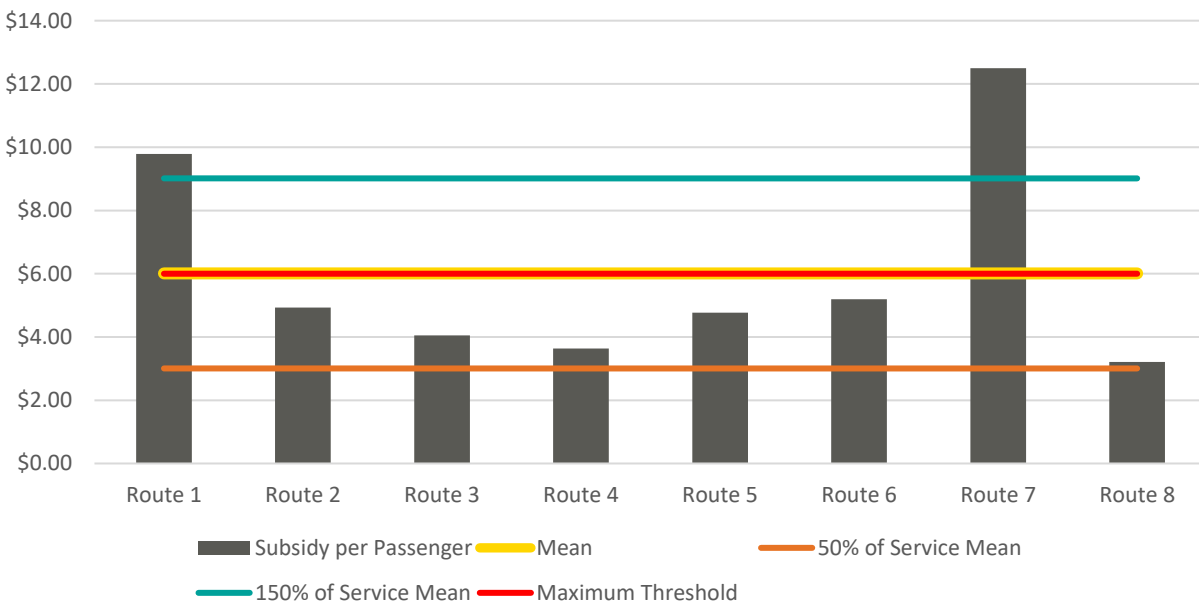
**Subsidy per Passenger**

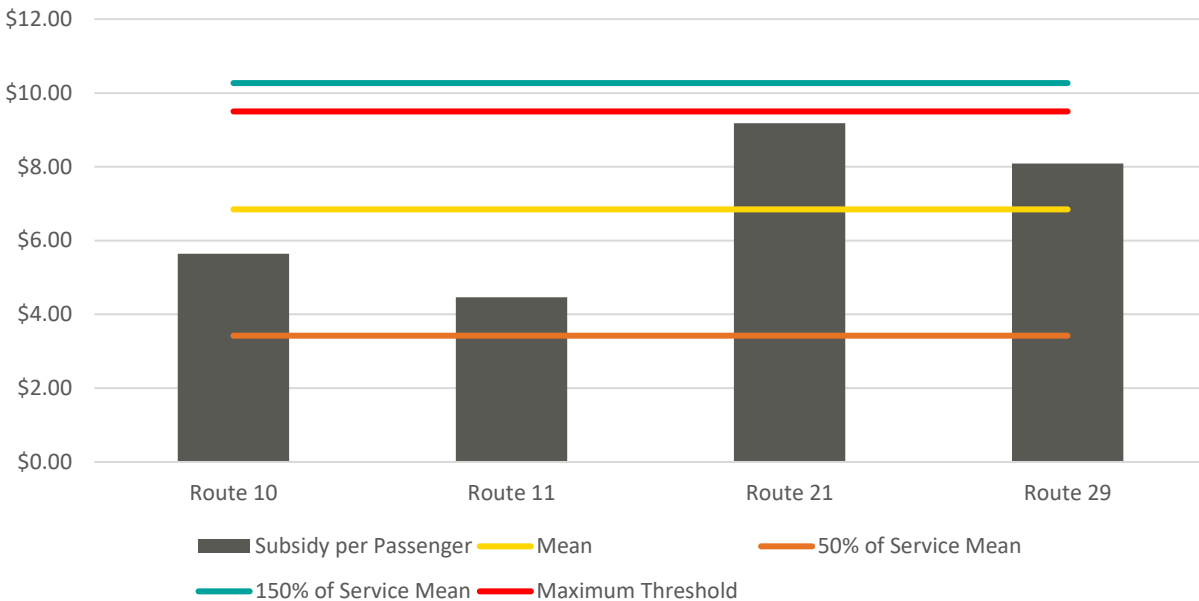
This KPI measures the cost to provide service on a per-passenger basis. This specific metric uses a maximum threshold. NVRTA uses this metric to ensure the cost of a service on a per rider basis is not disproportionately high for any one service or route. The formula used to calculate this metric is as follows:  $\text{OPERATING COST} - \text{FAREBOX REVENUE} / \text{UNLINKED PASSENGER TRIPS}$ .

**Table 4: Maximum Thresholds for Service by Typology and Day of the Week (Subsidy per Passenger)**

	Weekday
Local	\$6.00
Regional	\$9.50

**Chart 14: Local Service Subsidy per Passenger (Weekday+Weekend)**



**Chart 15: Regional Service Subsidy per Passenger (Weekday+Weekend)****On-Time Performance**

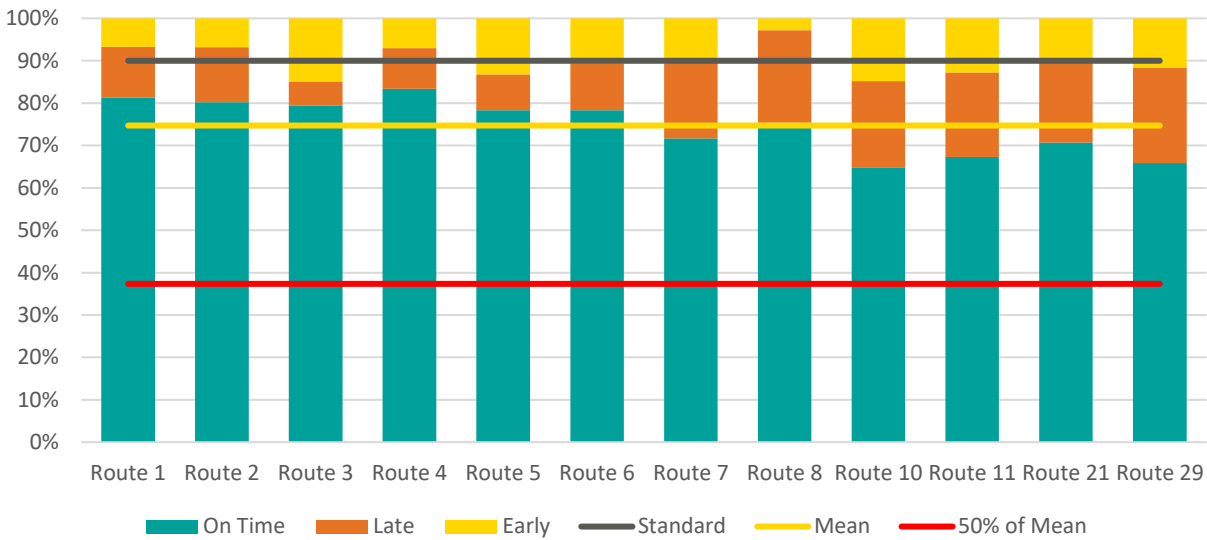
On-time performance is the standard for the minimum threshold the Vine should meet regarding the percentage of total daily trips that are recorded as “on-time”. The goal for all of NVRTA’s services is to be 90% on-time. This is a common industry standard, which allows for some level of variability related to unforeseen circumstances, e.g. accidents, while maintaining the reasonable expectation of reliability for customers. Table 5 provides the definitions for what is considered “on-time”.

**Table 5: Definitions of On-Time by Service Typology**

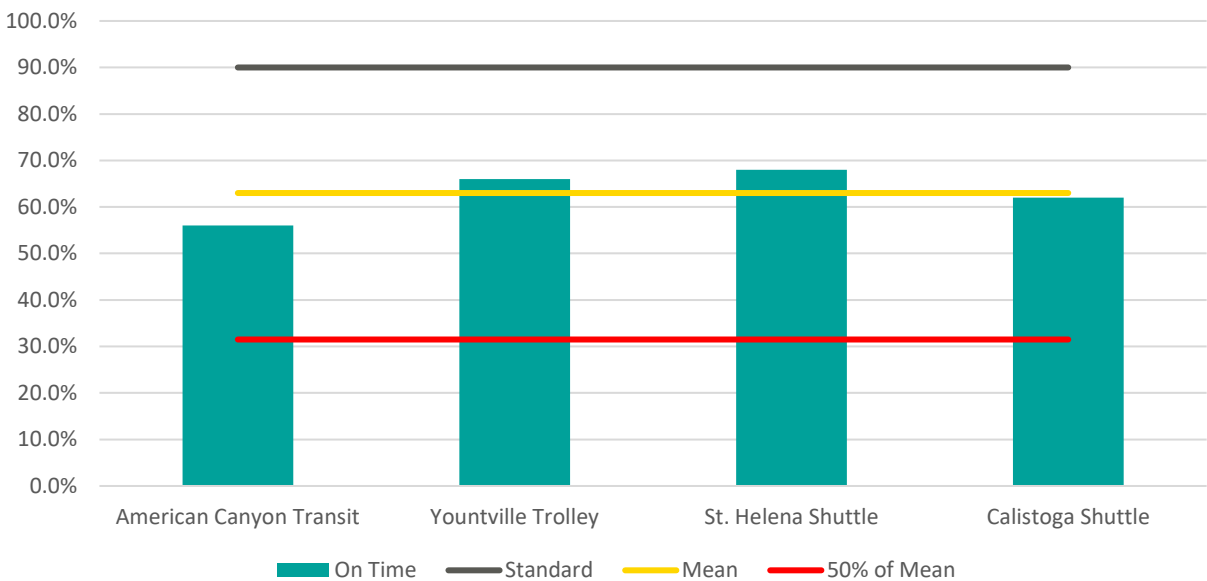
	Early	Late
On Demand	0 Minutes	12 Minutes
Local	0 Minutes	5 Minutes
Regional	0 minutes	5 Minutes

\*Due to the nature of the service some stops are drop-off only and the bus can depart early. Early departure times are not included on routes that are allowed to depart early

**Chart 16: On-Time Performance Local and Regional Service**



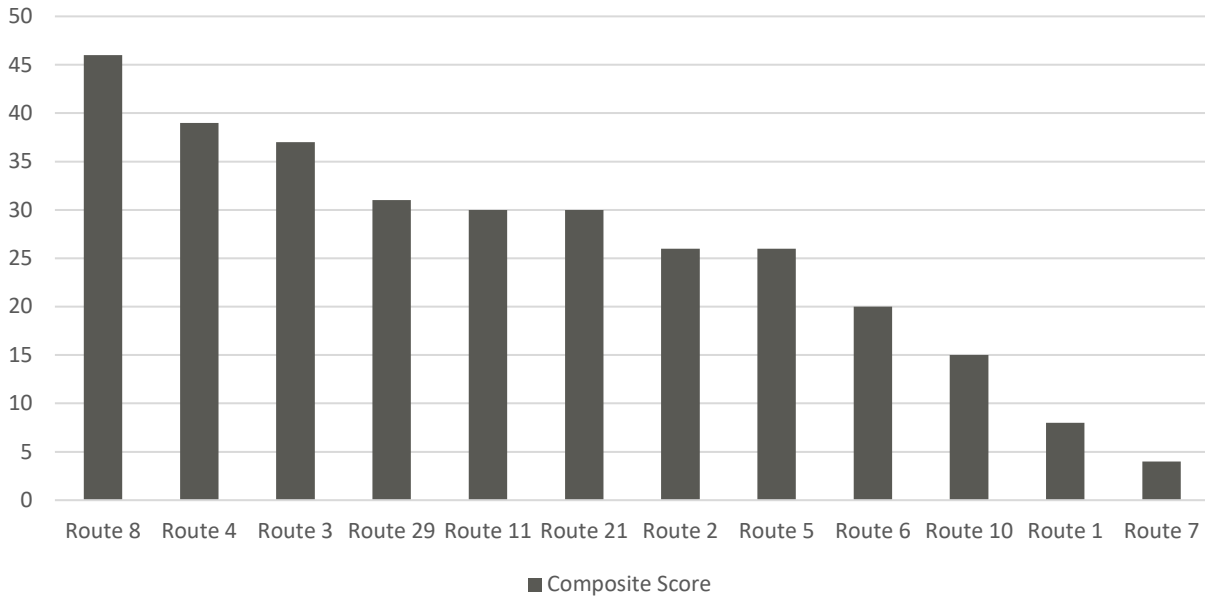
**Chart 17: On-Time Performance On Demand Service**



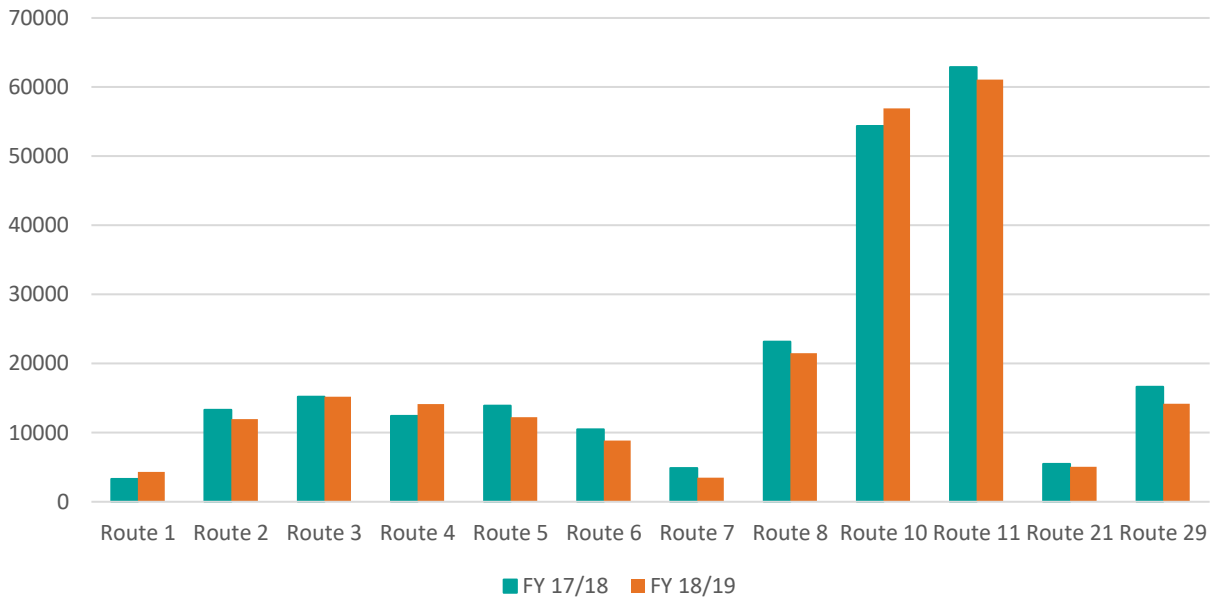
### **Composite Score**

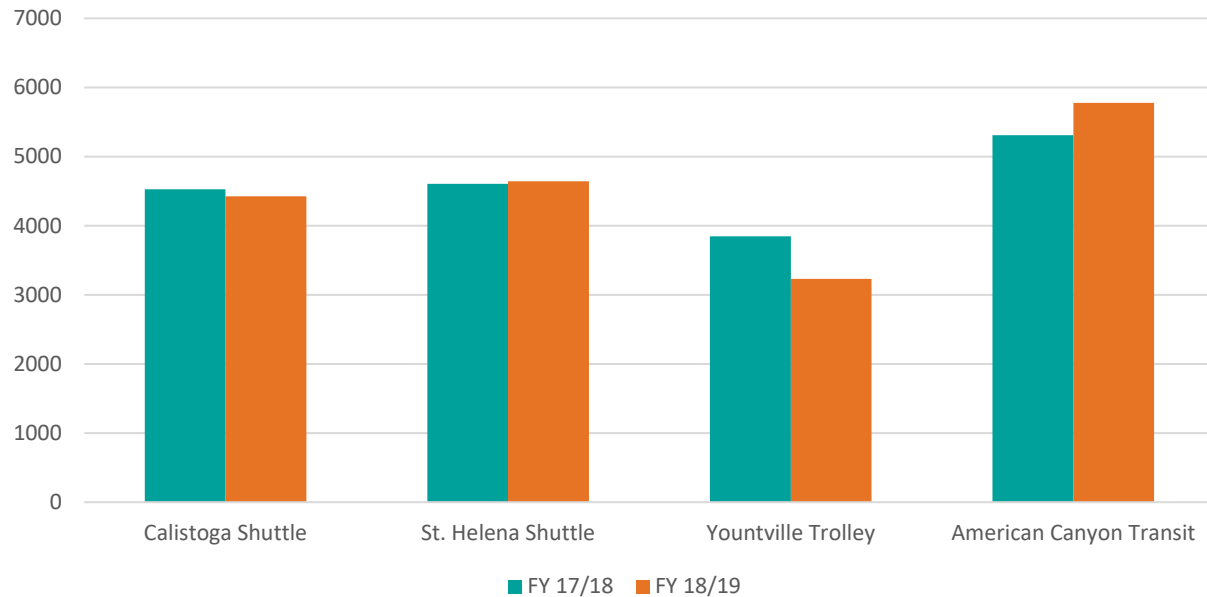
The composite index is calculated by assessing a point value to each route for each of the efficiency and effectiveness measures. A route performing the highest of twelve routes in a specific metric will receive 12 points, the lowest receives 1 point. The end result is a more measured and balanced overall look at the performance of each route against the system averages.

**Chart 18: Composite Score of all KPIs**



**Chart 19: Total Ridership Change Year-Over-Year Local and Regional Service**



**Chart 20: Total Ridership Change Year-Over-Year On Demand Service****Staff Recommendations**

Staff recommendations based on the provided information can be found in Table 6. All routes will need continual monitoring but some will need more help than others and have been subjected to a corrective action plan. Staff will continue working towards improving on-time performance, especially for the community shuttles.

**Table 6: Service Recommendations**

<b>Route/Service</b>	<b>Performance Level</b>	<b>Recommendation</b>
Route 1	<b>Low Performing</b>	Staff recommends that Route 1 be subjected to a corrective action plan to improve performance.
Route 2	Average Performing	No recommendations at this time.
Route 3	Average Performing	No recommendations at this time.
Route 4	Average Performing	No recommendations at this time.
Route 5	Average Performing	No recommendations at this time.
Route 6	Average Performing	No recommendations at this time.
Route 7	<b>Low Performing</b>	Staff recommends that Route 7 be subjected to a corrective action plan to improve performance
Route 8	<b>High Performing</b>	Staff recommends Route 8 be subjected to a corrective action plan to further enhance ridership
Route 10	Average Performing	Staff recommends further evaluation of Route 10 to improve general productivity.
Route 11	Average Performing	Staff recommends further evaluation of the Route 11 to help with heavy loads during peak periods.
Route 21	Average Performing	No recommendations at this time.
Route 29	Average Performing	No recommendations at this time.
Calistoga Shuttle	Average Performing	Due to poor OTP staff recommends further study of trip patterns and the feasibility to add more vehicles to service
St. Helena Shuttle	Average Performing	Due to poor OTP staff recommends further study of trip patterns and the feasibility to add more vehicles to service
Yountville Trolley	Average Performing	Due to poor OTP staff recommends further study of trip patterns and the feasibility to add more vehicles to service
American Canyon Transit	Average Performing	Due to poor OTP staff recommends further study of trip patterns and the feasibility to add more vehicles to service

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**Corrective Action Plan (Low Performing)**

If a route or service is found to be “low performing” in two of the four efficiency and effectiveness metrics and falls in the bottom half of the composite scores for two consecutive quarters, it will be subject to a Corrective Action Plan.

Routes falling into this category will be reviewed to determine their potential for improvement. NVTA staff will use any and all of the following methods in response to poor performance.

**Segment Level Analysis:** A segment level analysis reviews performance of a specific route segment by reviewing boardings and alightings. If a specific route segment is not generating ridership and/or is not a destination, modifying that segment may result in improved productivity. If the segment analysis provides inconclusive results, modifications along the entire route might be warranted.

**Pattern Analysis:** Each route has a specific pattern or turns between its origin and destination. Realigning service to cover only critical segments and eliminating deviations are ways to reduce travel time and save resources.

**Change in Service Levels:** Adjusting the frequency, span, and day of the week service levels can help tailor service to market demand. Lowering one or all of these service levels can boost productivity and lower costs.

**Partnerships:** Under unique circumstances NVTA can partner with outside entities to form funding agreements. This approach is appropriate in cases where a route is not performing well but meets a critical need. NVTA will reach out to private and public entities that would be most affected by the elimination of the service.

**Focused Marketing:** Marketing can help boost awareness of the route and in turn boost ridership. This is especially useful if the route serves major shopping centers, schools, or large scale residential communities.

**Rider Outreach:** NVTA staff will reach out directly to the riders of the route in question. Information from this outreach may provide insight into the service’s struggles and provide ideas for improving the service to attract more riders.

**Corrective Action Plan Follow Up:** NVTA staff will develop a Corrective Action Plan for routes not performing. A Route Corrective Action Plan will be implemented in the next feasible service change window. Some changes may take longer to implement due to the public process. Once a Corrective Action Plan is in place the route must meet Average Performance or High Performance in at least two of the four efficiency and effectiveness metrics and fall within the top half of the composite scores for one quarter of the three successive quarters. Once a route achieves this, any subsequent poor performance will be approached as a separate incident of low performance.



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**Discontinuation:** Discontinuing the service is the final option for a low performing service. Discontinuation will only be considered if the route in question is unable to meet Average Performance in one of the three successive quarters after its Corrective Action Plan is in place. Before discontinuing a route NVTA staff will analyze the effect the elimination will have on the surrounding population.

**Corrective Action Plan (Average Performing)**

Routes falling into the range of 51% and 149% of the system mean are fulfilling their role in the transit network. No corrective action should be taken on these services. Continuous monitoring is still critical for these routes as they may start to shift in one direction or another. NVTA staff may still alter these services at its discretion.

**Corrective Action Plan (High Performing)**

Routes ranking at 150% of the system performance mean suggest the need for expanding service. Routes performing at this level may have capacity constraints and are unable to tap latent demand. NVTA staff will use any and/or all of the following measures to ensure capacity constraints are not reached and latent demand goes untapped.

**Increase Service Levels:** To maintain a high quality of service, it is important to prevent overcrowding on any service. Increasing frequency has the potential to alleviate overcrowding, specifically during commute hours. NVTA staff will evaluate service throughout the day to strategically increase frequency. NVTA staff may also increase the span of service to attract new riders to an already high performing route.

**SUPPORTING DOCUMENTS**

None