



## APPENDIX G

# **SERVICE STANDARDS AND POLICIES**

**STANISLAUS REGIONAL TRANSIT AUTHORITY**  
**RESOLUTION 2024-158**  
**APPROVING REVISED MAJOR SERVICE CHANGE, DISPARATE IMPACT AND**  
**DISPROPORTIONATE BURDEN POLICIES REQUIRED FOR COMPLIANCE WITH**  
**TITLE VI OF THE CIVIL RIGHTS ACT OF 1964**

WHEREAS, the Stanislaus Regional Transit Authority (“Authority”) is a joint powers agency whose members are the City of Modesto and the County of Stanislaus, and which was created to consolidate transit services countywide with the exception of the City of Turlock; and

WHEREAS, as the recipient of Federal Transit Administration (FTA) funding, the Authority is required to comply with Title VI by adopting policies specified in FTA Circular 4702.1B, “Title VI Requirements and Guidelines for Federal Transit Administration Recipients”; and

WHEREAS, among the policies requiring review and approval are Major Service Change, Disparate Impact, and Disproportionate Burden as these policies ensure that any changes to transit service or fares, whether an increase or decrease, have no discriminatory effect based on race, ethnicity, national origin, or socio-economic status of affected populations; and

WHEREAS, the Authority’s Title VI policies were developed, adopted and implemented in June 2022 and are being revised for consistency with FTA Title VI Guidance and Circular 4702.1B requirements.

NOW, THEREFORE, BE IT RESOLVED that the Authority Board of Directors hereby approves the Revised Major Service Change, Disparate Impact and Disproportionate Burden Policies required for compliance with Title VI of the Civil Rights Act.

The foregoing Resolution was introduced at a regular meeting of the Stanislaus Regional Transit Authority, on the 27th day of June 2024. A motion was made and seconded to adopt the foregoing Resolution. The Motion was carried, and the Resolution was adopted.

MEETING DATE: **June 27, 2024**

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GEORGE CARR, CHAIR

ATTEST:

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ADAM BARTH, CHIEF EXECUTIVE OFFICER

# Stanislaus Regional Transit Authority

## Service Guidelines

May 2022

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NYGAARD





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# 1 INTRODUCTION

## PURPOSE OF THIS DOCUMENT

Service guidelines are used throughout the transit industry to guide the development of new services and modification of existing services. Service guidelines are also used to measure how services are performing according to an agency's goals and expectations. Service guidelines, called service standards at some agencies, allow for transparency in the service planning process, and provide guidance on when changes to service might be warranted and what types of changes are appropriate.

This document serves several purposes. First, it documents the mission, vision, and goals that guided the development of the service guidelines. Second, it documents the service guidelines that were developed.

The service guidelines in this document are presented in three parts:

- **Service Delivery** - Provides guidelines on what type of transit service should be provided
- **Route Design Guidelines** - Provides consideration for effective fixed routes design
- **Service Performance Guidelines** - Provides guidance on how service should be scheduled and performance metrics

## Connection to Other Documents

There are other service guidelines that are being developed through separate efforts. These efforts will provide additional guidance for The S, including:

- Title VI Program 2019-2022
  - EJ: Vehicle assignments/Distribution of transit amenities
  - Disparate Impact and Disparate Burden Policies/Impact of policy, service, or practice is proportionate to all communities
  - Performance Standards and Monitoring
  - Equitable distribution of service
- Bus Stop Investment Prioritization Plan
  - Placement and spacing of bus stops

The Title VI Plan is required by the Federal Transit Administration and is maintained to ensure equitable outcomes for low-income and minority populations, with considerations for environmental justice and the distribution of assets throughout The S's service area. Guidelines in this document are intended to work in coordination with the Title VI Plan and do not supersede it.

The Bus Stop Investment Prioritization Plan is underway as a part of the Short Range Transit Plan effort and will include additional guidelines that can be incorporated into future data analysis planning efforts. The plan also develops standards for bus stop amenities based on multiple measures.

## **WHAT IS A SERVICE GUIDELINE?**

In the context of this document, we refrain from calling anything a “standard” and instead use the term “service guideline”. We use this term to recognize that while these are best practices and goals that The S should strive to meet, we also recognize that there may be exceptions or specific circumstances where deviating from the guideline may be appropriate.

Service guidelines should not be viewed as an absolute rule. If a service does not meet a guideline, it is merely an indicator to perform a closer examination of the operation. Individual routes or services may not necessarily meet all service guidelines, and that can be okay if the collective needs of the system are being considered. For example, there may be a route that does not meet the boardings per revenue hour guideline but should continue to operate because it provides a vital connection to an employment center for the community.

## **HOW WERE THESE SERVICE GUIDELINES DEVELOPED?**

Since this is The S's first set of service guidelines, the guidelines were predominantly based on industry best practices, found in the following documents:

- “Best Practices in Evaluating Transit Performance Report” prepared for the Florida Department of Transportation
- “Best Practices in Transit Service Planning” prepared for the Florida Department of Transportation Research Center
- TCRP Synthesis 10, “Bus Route Evaluation Standards, A Synthesis of Transit Practice”
- TCRP Report 47, “A Handbook for Measuring Customer Satisfaction and Service Quality”
- TCRP Report 88, “A Guidebook for Developing a Transit Performance-Measurement System”
- TCRP Report 124, “Guidebook for Measuring, Assessing, and Improving Performance of Demand-Response Transportation”
- TCRP Report 136, “Guidebook for Rural Demand-Response Transportation: Measuring, Assessing, and Improving Performance”

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- TCRP Synthesis 137, “Transit Service Guidelines”, 2019
- Transit Capacity and Quality of Service Manual, Third Edition
- U.S. DOT National Transit Database. “2018 National Transit Summaries and Trends”. Office of Budget and Policy, 2019

Consideration was given to examining service standards/guidelines at other agencies in the region and ultimately rejected. Many agencies are still in recovery mode from the pandemic and/or continuing to operate reduced service limiting the value of drawing comparisons. These service standards/guidelines may be modified to reflect post-pandemic travel patterns.

We suggest this service guidelines document be reviewed and updated periodically, particularly as travel patterns normalize in the post-COVID environment.

## **HOW SHOULD THESE SERVICE GUIDELINES BE USED?**

The service guidelines contained in this document should be used whenever service changes are being planned. The S should regularly refer to these service guidelines when measuring the performance of the system, and when changes to the network are being explored.

## 2 MISSION, VISION, AND GOALS

This chapter documents the proposed mission, vision, and goals of The S, which guided the development of the service guidelines. The goals were developed using the feedback received from the triennial on-board survey that The S administered in April 2022. It is recommended that the mission, vision, and goals be reviewed during the next update of this document.

### UNDERSTANDING KEY TERMS

- Mission: The reason your organization exists
- Vision: What your organization aims to achieve in the long term
- Goals: How your organization will achieve its vision (priorities for your organization)

### MISSION

To provide a high quality, safe and efficient transportation system that enhances the quality of life, improves the environment, and promotes economic vitality

### VISION

The Authority is a mobility leader, providing transportation choices and a sustainable future that meets the needs of our diverse communities

### GOALS

1. Mobility: Connect individuals to locations they want to travel to
2. Ease of Use: Provide a system that's accessible and easy to use
3. Safety: Provide safe transportation for passengers, employees, and the community
4. Economic vitality: Support the region's growth by providing access to jobs, education, and commerce
5. Customer Service: Provide consistent excellence in customer service
6. Environment: Support sustainability through innovation, transportation and alternative fuel technologies

## 3 SERVICE DELIVERY GUIDELINES

This chapter presents the service delivery and route design service guidelines for The S. This chapter does not include guidelines for complementary ADA paratransit or non-emergency medical transportation service.

The **route design** section includes guidelines based on best practices for designing fixed route service.

Providing the appropriate type of service for the environment in which it operates.

**Fixed route** transit is the mode most often associated with public transit. With fixed route service, buses drive a fixed alignment at regular intervals, picking up and dropping off passengers along the way. Fixed route service relies on moderate to high levels of population and density to be successful. Areas with small populations or low density are very difficult to serve efficiently and often are good candidates for demand response service.

In lower population and/or lower-density areas, **demand response** service is an alternative way to provide shared rides. Riders call ahead or use an app if available, to book their trip. Riders are given a pickup window, and during that time, a vehicle will pick them up at the curb and deliver them to their desired destination. Demand response can include both **complementary ADA paratransit** service and **general public demand response** service.

The distinctions between ADA paratransit and general public demand response are:

- **Complementary ADA paratransit** is mandated by the Americans with Disabilities Act (ADA) of 1990. This service must be provided within  $\frac{3}{4}$  of a mile of all regularly operated fixed routes (commuter routes are exempt) and must operate when the fixed route network is operational. Individuals must be ADA certified to book a trip that is considered an ADA paratransit trip. Fares must not exceed two times the regular fare for a comparable fixed route trip. An agency can choose to expand eligibility to ADA paratransit to include seniors; however, that is not required by federal law. Further, the provision of ADA paratransit trips **MUST** have priority over other similar, but not required by statute, services, or trips for individuals. ADA paratransit trips cannot be denied, provided the

individual books the trip at least a day prior to the date of travel. Same day service is not a requirement and is considered supplementary. For example, a person cannot be denied a trip that is complementary to the fixed route service and scheduled at least a day prior, but if the agency is also providing same day service to ADA eligible individuals, access to that service may be limited.

- **General public demand response** may be open to all without eligibility requirements or have conditions to ride. Conditions must be applied on an equal basis. For example, if service is offered to people above age 65, all people over 65 are eligible regardless of ADA eligibility status. The boundaries of demand response service are flexible and not geographically tied to fixed-route service. The agency can impose any restrictions it desires on the service (e.g., number of trips per month) to match the resources it has available to provide the service. Fares can be set at any level and do not need to match fixed-route fares. Trips can be denied if demand exceeds capacity and scheduled service can be more limited than what a fixed route would provide.

In rural areas, an **alternative service delivery model** may be more appropriate so that agency resources (vehicles and operators) are used in areas with more demand. This can include working with existing agencies in Stanislaus County to be a transportation provider.

The S can coordinate with these organizations to ensure people who live outside of areas that have fixed route or demand response service have access to transportation. Potential organizations to partner with include, but are not limited to:

- **MOVE** - A Consolidated Transportation Services Agency that coordinates volunteer driver programs and veterans' transportation
- **StanCOG** - A government agency that contracts with Dibs to provide transportation demand management services. Dibs helps individuals find transportation by helping to form carpools/vanpools and providing subsidies for van rentals.

There are no service guidelines in this document for the alternative service delivery model.

## **GUIDELINES**

Fixed route and demand response service should be provided in a way that balances efficiency, service productivity, and customer access. Service levels should be appropriate for the built environment and expected level of demand. Fixed route service should be provided in areas where it is expected to perform financially better than demand response. Where feasible, general public demand response should not duplicate local service being provided by fixed route and complementary ADA paratransit.

### **Service Guidelines**

Stanislaus Regional Transit Authority

Cities with populations of more than 40,000 people should be considered for fixed route service. In cities with a population of between 10,000 and 40,000, general public demand response should be considered for providing local transportation. If demand and the built environment support it, intercity fixed route service that connects people in smaller population centers to larger regional destination centers can also be provided. Cities/towns with less than 10,000 people should be considered for an alternative service delivery model, as described above.

## 4 ROUTE DESIGN GUIDELINES

This chapter presents guidance on effective route design based on best practices.

Transit routes should be designed with some basic principles in mind. The following is a list of recommended best practices for developing a fixed route.

### GUIDELINES

High quality transit service follows four principles:

- Service should be **simple** to understand and use.
- Service should be located where the most transit **demand potential** exists.
- Service should be **direct** and take people where they are going with few route deviations.
- Service should **minimize service duplication** on the same corridors.

#### Simple

Transit service should be easy for people to understand and use. To the extent possible, this includes:

- Routes with bi-directional service, without large, one-way loops
- Routes that
- Routes that have one alignment throughout the day,
  - Trips that serve a school off the main road, or do not serve the entire length of the route can be confusing and require extra planning work for riders to confirm they're on the right bus
- Schedules that are legible and easy to understand
  - When schedules are designed around clockface cycles, they are easier to remember

#### Demand Potential

Transit works best when routes serve areas where the likelihood of transit ridership is high. This includes areas with high housing and/or employment density, areas with low-income households, and where car ownership is low. Transit routes that serve many destinations are more likely to meet more needs than routes that connect to few

destinations. Larger population centers are more likely to support higher-frequency transit service, which reduces waiting time.

### **Direct**

Riders prefer more direct transit routes because they maximize the average speed of the bus and minimize travel time. Faster bus service makes travel time more competitive with personal vehicles.

Route deviations should be limited to major destinations such as shopping centers, employment sites, medical centers, schools, etc. In these cases, the benefits of deviating service from the main route must be weighed against the inconvenience caused to passengers already on board. Route deviations may also be considered when pedestrian access to a large trip generator is unsafe due to a lack of infrastructure.

In most cases, where route deviations are provided, they should operate for the entire service period. Exceptions are during times when the sites that the route deviations serve have no activity—for example, route deviations to high schools do not need to be in place on weekends.

### **Minimize Service Duplication**

Operating overlapping service is costly and riders must check multiple schedules to see when the next bus is coming or how far they can ride it. In some areas, coordination with Turlock Transit or regional providers may be required. In areas where route duplication is necessary due to road design, offsetting schedules to allow for greater frequency in a core area is one way to improve service in a particular corridor. Otherwise, routes should be spaced at least a half-mile apart on parallel corridors where possible so that the routes are not competing for the same riders.

## 5 SERVICE PERFORMANCE GUIDELINES

This chapter presents the service performance guidelines for The S's fixed route and demand response services. There are no guidelines for complementary ADA paratransit, non-emergency medical transportation service, or coordination with human service agencies.

### SERVICE CATEGORIZATION

The S service performance guidelines use the following categories so like services can be compared with each other:

- **Fixed Route**
  - **High Frequency:** Routes that provide a higher level of service along a high ridership corridor, with frequencies of at least 15 minutes during the peak and 30 minutes during off-peak.
  - **Local:** Routes that generally provide travel within a community, and transportation between major transfer points, employment centers, shopping areas, and other points of interest.
  - **Intercity Connector:** Routes that provide service between towns and cities.
  - **Commuter:** Routes that provide express (limited stop) service during limited, high demand hours
  
- **Demand Response:** Service open to the public that is provided on-demand and within defined zones. Passengers must call to book trips in advance and are transported from the curb to their destination, or only to specified destinations. The boundaries of the zones in which people can travel vary throughout the county.

**Figure 1 Routes or Service by Category (April 2022)**

| Category                   | Route name/number   |
|----------------------------|---|
| <b>High Frequency</b>      | 21  |
| <b>Local</b>               | 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 36, 37, 38, 41, 42, 44  |
| <b>Intercity Connector</b> | 10, 15, 35, 40, 45E, 45W, 60, 61  |
| <b>Commuter</b>            | ACE Commuter Express, BART Commuter Express, Route C, Stockton Commuter Express   |
| <b>Demand Response</b>     | Newman Dial-A-Ride (DAR), Oakdale DAR, Patterson DAR, Riverbank DAR, Eastside Shuttle, Turlock/Modesto Shuttle, Waterford/Modesto Shuttle |

The service performance guidelines can be divided into three main categories, Quality Service, Effective Service, and Efficient Service, summarized below in Figure 2. The table also shows which service guidelines apply to fixed route and demand response. These guidelines are described in more detail in subsequent sections of this chapter.

**Figure 2 Summary of Service Guidelines**

| Category          | Service Guideline                             | Fixed Route | Demand Response |
|-------------------|---|-------------|-----------------|
| Quality Service   | Span of Service                               | ✓           | ✓               |
|                   | Service Frequency                             | ✓           |                 |
|                   | Customer Satisfaction                         | ✓           | ✓               |
|                   | Response Time (to answer the phone)           | ✓           | ✓               |
| Effective Service | On-Time Performance                           | ✓           | ✓               |
|                   | Passenger Load                                | ✓           | ✓               |
| Efficient Service | Boardings per Revenue Hour/Boardings per trip | ✓           | ✓               |
|                   | Cost per Boarding                             | ✓           | ✓               |

## QUALITY SERVICE GUIDELINES

The service guidelines in this category are designed to assess the quality of service that is being provided. Specifically, these guidelines can answer questions like:

- When can people expect service?
- How often will the bus come?
- Are there problems that need to be addressed?

## Span of Service

### What It Is

When service is available, including days of the week, and hours in the day.

### Discussion

Useful transit service operates when individuals want and need to travel. As such, service should be provided during normal travel periods. Service that goes from morning until the evening, and operates seven days a week, ensures individuals can use the service for all travel needs, including work, school, healthcare, and recreational/social trips.

### Guidelines

The guidelines developed in the table below are the minimum spans of service that should be provided. Though transit is more expensive on a per passenger basis on weekends due to generally lower overall ridership, more consistency in service between weekdays and weekends promotes transit ridership for more trip purposes than traditional commuting.

**Figure 3 Minimum Spans of Service Guidelines by Type of Service**

| Category            | Weekday           | Saturday          | Sunday            |
|---------------------|-------------------|-------------------|-------------------|
| High Frequency      | 6:00 AM – 9:00 PM | 8:00 AM – 8:00 PM | 8:00 AM – 6:00 PM |
| Local               | 6:00 AM – 9:00 PM | 8:00 AM – 8:00 PM | 8:00 AM – 6:00 PM |
| Intercity Connector | 6:00 AM – 8:00 PM | 8:00 AM – 6:00 PM | 8:00 AM – 6:00 PM |
| Commuter            | 2 AM, 2 PM trips  | -                 | -                 |
| Demand Response     | 8:00 AM – 6:00 PM | 8:00 AM – 6:00 PM | 8:00 AM – 6:00 PM |

## Service Frequency

### What It Is

How often the bus comes

### Discussion

In general, frequencies, or “headways” (the time between buses at the same location) are established to accommodate passenger volumes. Route frequency can be adjusted throughout the day or by the day of the week to correspond with ridership levels.

The correlation between better frequency and higher ridership is well documented. In the United States, service that comes at least every 15 minutes allows people to travel when they want to travel and reduces common barriers to riding, such as having to read the schedule and worrying about being late if you miss a bus. Ridership gains are generally larger when existing service is infrequent (30 minutes or longer). Ridership gains are generally lower when existing service is already somewhat frequent (e.g., every 20 minutes).

However, frequency is adjusted throughout the day to meet the demand. A network with 15-minute service on all routes, all day, every day is very expensive to operate. Furthermore, there are often peak times when more frequent service is a better investment.

In Stanislaus County, there is no morning or evening peak in ridership during traditional commute windows. Instead, ridership is relatively consistent throughout the day with the highest ridership happening at about 2:00 PM. Currently, The S operates its peak frequency from the start of service until 6:00 PM on most routes and at a reduced off-peak frequency after 6:00 PM.

Trip planning becomes more complicated the less often a bus is scheduled to come. Figuring out when a return trip is possible must be understood before the first trip is made, unlike a private automobile. Service that comes less than every hour is often considered lifeline service. Routes with only a few trips per day are usually reserved for specialized trip purposes like commuting.

## Guidelines

The table below recommends policy headways by type of service and time period. This is the maximum allowable headway that will allow passengers to travel throughout the service area without having to wait for long periods between transit services.

**Figure 4** Frequency Guidelines by Route Category

| Category            | Minimum Peak Headway | Minimum Off-Peak Headway |
|---------------------|----------------------|--------------------------|
| High Frequency      | 15 minutes           | 30 minutes               |
| Local               | 30 minutes           | 60 minutes               |
| Intercity Connector | 60 minutes           | 60 minutes               |
| Commuter            | N/A                  | N/A                      |

Frequencies should be increased as needed to address capacity issues (see Passenger Load service guideline in next section), exceeding minimum headway recommendations as needed

## **Customer Satisfaction**

### **What It Is**

Positive feedback from riders. Positive customer satisfaction is correlated with retaining current riders, attracting new riders, and promoting the agency in the community.

### **Discussion**

Trends in customer feedback can alert the agency to the areas in which it is succeeding and when or where targeted changes may be needed. Some feedback may be easy to correct quickly, such as a bus stop sign that's been knocked down. Complaints about a trip consistently arriving late, or a stop being inaccessible for someone in a mobility device may require more work to correct but are also important.

People associate good transit customer service with these categories<sup>1</sup>:

- Reliability and dependability
- Responsiveness to concerns
- Competence in providing the service
- Ease of access to people who can help
- Courtesy
- Communication (providing information that makes sense to the riders)
- Credibility in having the customers' best interests at heart
- Feeling safe, and free from danger and risk
- Understanding the customer and making an effort to understand their needs

### **Guidelines**

Complaints are often the first sign of customer dissatisfaction. As such, the service guidelines were developed as follows:

- Fewer than 1 complaint per 5,000 passengers relating to the provision of service. This should be monitored at both the route-level and system level for fixed-route service. Routes with higher levels of complaints than others should be flagged for further investigation.
- Fewer than 1 complaint per 1,000 demand response passengers relating to the provision of service. This should be monitored at both the route-level and system level.
- The customer filing the complaint should be contacted within 24 hours of making the complaint.

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<sup>1</sup> [https://www.trb.org/publications/tcrp/tcrp\\_rpt\\_47-a.pdf](https://www.trb.org/publications/tcrp/tcrp_rpt_47-a.pdf), page 11

- Customer service should respond to complaints requesting a response within five (5) working days the complaint is received.
- Complaints should be closed out within 14 working days of filing.

### **How It's Measured**

Review all customer complaints received by phone, email, and via the website.

- Compute monthly the ratio of complaints using APC data for fixed route service and reservations data for demand response.

## **Response Time**

### **What It Is**

How long someone waits on the phone before a call is answered by a customer service representative.

### **Discussion**

Long hold times negatively impact the customer experience. Fixed route customers calling to request assistance to plan a trip may miss their bus or fail to make a connection if they cannot speak timely with an operator. For demand response customers that must speak with a customer service agent to book their trip, long hold times may inadvertently suppress travel demand. The unintended consequence of long hold times can result in the violation of the Americans with Disabilities Act (ADA).

### **Guidelines**

Calls to customer service are taken off hold within 180 seconds, 95% of the time.

Response times are measured separately for fixed route and demand response services.

### **How It's Measured**

Track monthly using a summary report of daily call logs

## **EFFECTIVE SERVICE GUIDELINES**

The service guidelines in this category are designed to assess the effectiveness of the service being provided. This includes questions like:

- Is the service operating reliably?

- Are the conditions on board the vehicle comfortable for passengers?

## **On-time performance**

### **What It Is**

The S measures on-time performance differently for demand response and fixed route service.

For fixed route, on-time performance is computed at the vehicle level by comparing timepoints on the schedule with the actual time the bus departs the stop.

For demand response, on-time performance is measured for each person's trip, based on scheduled versus actual pick-up time.

### **Discussion**

Reliability, or having buses arrive on-time, is an important operating practice.

For fixed route, most transit agencies define a bus as on-time if it departs five minutes or less after the scheduled time. Early departures should not be allowed and are not considered on-time (the exception to this would be drop-off only stops for commuter routes). The aggregation of all comparisons of actual versus scheduled departure time generates the on-time percentage for a given route. The on-time performance goals for fixed route service are documented in the next section.

For ADA paratransit demand response, most transit agencies define a trip as on-time if the passenger is picked up within the 30-minute pick-up window they are provided. This definition was used to measure on-time performance in the Existing Conditions Report for this project. General public demand response does not need to follow the ADA complementary paratransit definition for on-time. As a starting point, the general public demand response service can use this same definition. However, this can be examined and refined to better meet customer and agency expectations.

## **Guidelines**

### **Fixed Route**

- High Frequency, Local, and Intercity Connector routes: 85% on-time.
  - This is measured by the trip, but also for timepoints published in the schedule.

A bus is considered on-time if it departs, stops zero minutes early, and up to five minutes after the scheduled time.

- Commuter routes: 85% on-time arrival

A bus is considered on-time if it departs stops zero minutes early and up to five minutes after the scheduled time. At final drop-off-only stops, buses may depart before scheduled timepoints.

### **Demand Response**

- 95% on-time performance

Each individual pickup must occur within the designated 30-minute pick-up window to be counted as on-time, 15-minutes before the scheduled trip, and 15-minutes after.

### **How It's Measured**

- For fixed route: Typically measured using Automatic Vehicle Location (AVL) systems
- For demand response: Measured using AVL systems. Currently, The S uses Ecolane software to monitor trips and on-time performance.

### **Strategies to Address**

#### **Fixed Route**

It is important to track on-time performance and identify if there are:

- Specific trips consistently under 85% on-time; or
- Routes consistently under 85% on-time by day of the week.

If a pattern can be ascertained for about a month and it persists, determine:

- Can the running time be updated for the route without changes to staff or vehicle levels?
- Is another vehicle required to keep running as scheduled? If so, are any routes available for interlining to preserve efficiencies?
- Is there a street design or land use solution? In other words, would the problem be resolved if the stop were moved, or if a traffic light cycle was adjusted by five seconds? Identifying partners is often essential to implement this type of solution.
- Is the AVL data correct? Loop routes and routes in areas with tall buildings are known to cause the software to read as though the bus has arrived early or departed early.
- Is the route too long? Long routes increase the likelihood of the bus getting stuck in traffic and getting delayed. In some instances, splitting a route into two routes may improve on-time performance.

#### **Demand Response**

For demand response, it is important to track if there are consistent issues during specific times of the day or days of the week. This can help to isolate whether the problems are systematic or isolated. Poor on-time performance can be caused by

inefficient or inflexible scheduling, traffic congestion, an imbalance of vehicles or operators to demand, improper calibration of scheduling systems (manual or computer), and customer pickup issues (e.g., having trouble locating the customer, customer not being ready when the vehicle arrives).

## Passenger Load

### What It Is

Passenger load is the number of passengers on a bus at a given time. Passenger load is typically measured as a ratio of passengers to seating capacity.

$$\text{Load Factor} = \frac{\text{total seated + standing capacity}}{\text{seating capacity of the vehicle}}$$

### Discussion

While higher load factors would make the most efficient use of resources, care must also be taken to ensure buses do not become too overcrowded and create an uncomfortable riding experience for passengers. This indicator should be used to determine how many trips must be scheduled for each direction of travel to avoid crowded riding conditions. It is common for transit systems to apply different load factors during peak and off-peak service hours or days of the week.

Future planning efforts may introduce a peak and off-peak load factor.

Riders of high frequency routes often travel shorter distances over local roads at lower speeds, making the option of standing tenable. For routes that travel on roads with high speed limits, or where trip lengths are long, customers prefer having a seat for the trip.

### Guidelines

A load factor of 1.0 means all seats on the bus are taken, and there are no standees.

**Figure 5 Maximum Passenger Load Guidelines**

| Category            | Max load factor (not to exceed) |
|---------------------|---------------------------------|
| High Frequency      | 1.5                             |
| Local               | 1.25                            |
| Intercity Connector | 1.0                             |
| Commuter            | 1.0                             |
| Demand Response     | 1.0                             |

## **How It's Measured**

The number of passengers on board (typically measured using an APC system and sometimes supplemented with farebox data) compared to Original Equipment Manufacturer (OEM) seating capacity of the vehicle operating the trip in question.

Load factors should be measured on a monthly or quarterly basis to provide a robust enough sample size to normalize against any one-off capacity constraints.

## **Strategies to Address**

If it is a single trip that is consistently operating above an acceptable load factor, using a vehicle that can carry a larger number of people should be the first consideration. Adding an extra vehicle to cover that trip (a tripper) is a more expensive option.

If multiple consecutive trips are consistently operating above the maximum load factor, increasing the frequency of service can help distribute the passenger load among trips.

## **EFFICIENT SERVICE GUIDELINES**

The service guidelines in this category are designed to assess how efficiently the service is operating.

### **Boardings per Revenue Hour/Boardings per Trip**

#### **What It Is**

Boardings per revenue hour measures how many passengers were transported in an hour of service.

Boardings per trip measures how many passengers were transported on a single one-way vehicle trip.

#### **Discussion**

Both boardings per revenue hour and boardings per trip both measure productivity. Which one you use depends on the type of service.

Use boardings per revenue hour for:

- Fixed routes with regular, all-day service (local and intercity connector routes predominantly)
- Demand response services

Use boardings per trip for:

- Fixed routes with infrequent service (less frequent than one trip an hour) or just a few trips a day (mostly commuter routes)

Boardings per revenue hour is one of the most widely used productivity measures in the transit industry because driver wages often make up a large share of the cost of running transit service. It is also a metric in which having guidelines rather than standards is so important because of real world operating conditions.

It is one of the best performance indicators that can help agencies understand where they should target increased levels of service, modifications to routes, or work with other agencies to address more structural issues in the road network.

### **Fixed Route**

It is expected that some services or routes may operate below their expected target. Routes performing below the guidelines for their service category should be analyzed by service planners. Issues due to the accessibility of bus stops, safety concerns, construction, or a lack of pedestrian/bicycle infrastructure will have one set of solutions. Buses that are running when people want to ride, or when land use growth patterns have changed will require different approaches.

In more rural or lower-density areas where network coverage is important to the community, performance is expected to be lower. Providing essential coverage to keep people on the transit network is okay when aligned with agency objectives and financial realities can maintain the service.

### **Demand Response**

Demand response in Stanislaus County serves the general public and ADA paratransit customers. ADA paratransit riders are comingled with general public riders on the same vehicles. The merger of the MAX and StaRT systems led to confusion among riders, which will be addressed in this planning process.

Ultimately, demand response service is not beholden to the same FTA regulations as complementary ADA service to the fixed route system. Demand response trips booked as ADA trips go above ADA requirements by including policies around trips denials, pick-up, and drop-off windows, and amount of time on the vehicle that exist for fixed-route paratransit.

With limited vehicles, scheduled ADA-trips take precedence over trips scheduled by the general public. With rider demand of the general public potentially being suppressed due to limited resources (vehicles or operators), we expect the boardings per revenue hour to reflect boardings closer to average complementary ADA paratransit performance, which is about two riders per revenue hour.<sup>2</sup>

Factors that can increase boardings per revenue hour on demand response include:

- Smaller geographic zones

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<sup>2</sup> TCRC Synthesis 139: Transit Service Evaluation. 2019.

- Greater emphasis on all trip purposes
- Shortening the wait time between scheduling a trip and the ride
- Ease of scheduling

## Guidelines

**Figure 6 Minimum Target for Boardings per Revenue Hour by Category**

| Category            | Boardings Per Revenue Hour   | Boardings Per Trip |
|---------------------|--|--------------------|
| High Frequency      | 25   | N/A                |
| Local               | 10 if the route has existed for less than 5 years<br>15 if the route has existed for 5 years or more | N/A                |
| Intercity Connector |  | N/A                |
| Commuter            | N/A  | 20                 |
| Demand Response     | 2.5  | N/A                |

Thresholds adapted from *Best Practices in Evaluating Transit Performance Report*<sup>3</sup>

## How It's Measured

Boardings per revenue hour is computed as the number of passengers divided by the number of revenue hours. The revenue hours must include any layover and recovery time for the route, in addition to the time when the vehicle is in service. Boardings data is typically obtained from farebox or APC data.

Boardings per trip is computed as the number of passengers divided by the number of one way vehicle trips provided. The boardings data is typically obtained from farebox or APC data.

## Strategies to Address

For fixed routes performing under the productivity guidelines, try:

- Modifying the service span to only provide service where there is ridership
- Modifying the route to serve new markets or major activity centers and reduce any route duplication
- Reducing the frequency of service to match observed demand
- Investigating if there are issues with accessing bus stops, including safety concerns, construction, or a lack of pedestrian/bicycle infrastructure

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<sup>3</sup> <https://www.fdot.gov/docs/default-source/transit/Pages/BestPracticesinEvaluatingTransitPerformanceFinalReport.pdf>

For demand response, low productivity can be caused by numerous problems including:

- Lack of awareness from the public that the service exists - Marketing and outreach can improve public awareness and generate ridership for the service
- Scheduling issues - Are shift changes or driver breaks staggered or do they occur at one time? Are trips going to the same area being grouped together?
- Customer no shows or cancellations - Is there a high rate of no-shows and late cancellations?
- Vehicle availability - Are there too many vehicles being operated and not enough demand?

Tracking performance for each demand response service can help to understand trends that may be specific to a given region and/or identify if issues are occurring during specific times of day or day of the week.

## **Cost per Boarding**

### **What It Is**

Cost per boarding is a way to measure how much it costs to transport one person on a single one-way trip.

### **Discussion**

#### **Fixed Route**

Nationally, in urbanized areas under one million people, operating cost per passenger trip ranged between \$5.88 and \$11.38 in 2018 between the 25<sup>th</sup> and 75<sup>th</sup> percent of agencies.<sup>4</sup> Adjusted for inflation, the high end of that range is \$13.48 per passenger trip in 2022. Urban transit agencies that also serve suburban and rural geographies are expected to be on the higher end of the spectrum because they cover more miles to reach fewer people in lower-density areas.

As a regional transit provider, The S operates in urban, densely populated areas like the City of Modesto, as well as rural communities like Empire and Hughson. These intercity routes increase the overall cost per rider on fixed route.

#### **Demand Response**

Demand response service can be deployed in many ways. Many factors can make a service more expensive to operate, just as many factors contribute to the demand to ride the service.

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<sup>4</sup> US DOT NTS: [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/ntd/data-product/134401/2018-ntst\\_1.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/ntd/data-product/134401/2018-ntst_1.pdf)

The S currently operates two demand response models: Point-to-point Dial-A-Rides, where people can go anywhere in the zone; and scheduled-point Shuttles. A first-/last-miles service is also a common use of demand response.

Factors that contribute to costs include:

- Policies that influence the number of vehicles (size of zones, eligibility)
- Software
- Fare
- Whether drivers need CDL licenses

Factors that contribute to demand include:

- Ease of use of scheduling, canceling and modifying a trip
- Ease of taking a trip
- Usefulness of zones

In general, demand response is deployed where running fixed routes would be cost prohibitive for the expected level of productivity, or where productivity would be low because of density and population size. Therefore, we expect demand response to cost more than fixed route service, but to be a better investment than low-productivity fixed routes.

Demand for service can be artificially constrained by the resources available to run the service or if the model of demand response doesn't match rider needs. The S currently prioritizes ADA paratransit trips and has large, overlapping service zones. Where zones are smaller, costs per boarding are lower.

More vehicles will mean shorter wait times, but can only improve ridership to a certain extent since demand response is deployed in areas with lower populations and densities. If average trip lengths are short, fewer vehicles can be deployed to cover smaller zones.

With driver shortages across the United States, some agencies are turning to smaller vehicles in rural areas where drivers do not have to meet the same licensing requirements needed to drive larger buses. This may be another avenue worth exploring for reducing costs to provide service where passenger loads are likely to remain low.

## **Guidelines**

### **Fixed Route**

The S should work towards a systemwide average of \$18 per boarding, with a goal of under \$10 per boarding for high frequency local routes. This higher systemwide average takes into account the more rural nature of the service area.

### **Demand Response**

Point-to-point style demand response service in areas that can support this type of service delivery should aim to be under \$40 per boarding.

Software that will dynamically dispatch to allow people to schedule trips on the same day and get picked up in under an hour should be tested to improve ridership and reduce costs per boarding.

### **Strategies to Address**

Because The S serves a large area, fixed route costs can be managed by maintaining a balance between routes in urban areas that have lower costs with the higher costs expected on routes that cover longer distances in lower density areas.

At the route level, changes to demand by time of day may indicate an adjustment of service frequency or service span. Changes to key destinations on routes may also indicate a route needs to be updated.

Demand response costs per boarding can be modified by adjusting the type of demand response service, the zone size, scheduling policies, eligibility criteria, vehicles available per zone, and types of drivers needed to provide the service.

Any demand response service whose costs are within 10% of the cost of complementary ADA paratransit should be analyzed for modification. Long-term low performance signifies services should be evaluated as potential candidates for alternative service delivery models, such as coordination with human service agencies, and non-emergency medical transportation.

## **6 NEXT STEPS**

## **Service Guidelines**

Stanislaus Regional Transit Authority

The next step of the planning process will be to incorporate feedback from public outreach to develop routes and update service characteristics recommendations.

**STANISLAUS REGIONAL TRANSIT AUTHORITY  
RESOLUTION 2024-158  
APPROVING REVISED MAJOR SERVICE CHANGE, DISPARATE IMPACT AND  
DISPROPORTIONATE BURDEN POLICIES REQUIRED FOR COMPLIANCE WITH  
TITLE VI OF THE CIVIL RIGHTS ACT OF 1964**

WHEREAS, the Stanislaus Regional Transit Authority (“Authority”) is a joint powers agency whose members are the City of Modesto and the County of Stanislaus, and which was created to consolidate transit services countywide with the exception of the City of Turlock; and

WHEREAS, as the recipient of Federal Transit Administration (FTA) funding, the Authority is required to comply with Title VI by adopting policies specified in FTA Circular 4702.1B, “Title VI Requirements and Guidelines for Federal Transit Administration Recipients”; and

WHEREAS, among the policies requiring review and approval are Major Service Change, Disparate Impact, and Disproportionate Burden as these policies ensure that any changes to transit service or fares, whether an increase or decrease, have no discriminatory effect based on race, ethnicity, national origin, or socio-economic status of affected populations; and

WHEREAS, the Authority’s Title VI policies were developed, adopted and implemented in June 2022 and are being revised for consistency with FTA Title VI Guidance and Circular 4702.1B requirements.

NOW, THEREFORE, BE IT RESOLVED that the Authority Board of Directors hereby approves the Revised Major Service Change, Disparate Impact and Disproportionate Burden Policies required for compliance with Title VI of the Civil Rights Act.

The foregoing Resolution was introduced at a regular meeting of the Stanislaus Regional Transit Authority, on the 27th day of June 2024. A motion was made and seconded to adopt the foregoing Resolution. The Motion was carried, and the Resolution was adopted.

MEETING DATE: **June 27, 2024**

ATTEST:



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ADAM BARTH, CHIEF EXECUTIVE OFFICER



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GEORGE CARR, CHAIR

## Major Service Change Policy

Title VI of the Civil Rights Act of 1964<sup>1</sup> prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance. Those characteristics are considered protected, and persons with those characteristics are referred to as a protected class. As a recipient of Federal Transit Administration (FTA) funding, the Stanislaus Regional Transit Authority (StanRTA) is required to comply with Title VI and Executive Order 12898 on Environmental Justice<sup>2</sup> as defined in 42 U.S.C. Section 2000d. FTA Circular 4702.1B<sup>3</sup>, revised in 2012, requires transit operators to evaluate the impacts of proposed major service changes or fare changes on minority and low-income populations and to establish specific measures to avoid, minimize, and mitigate inequitable impacts that these populations may experience due to these changes. To accomplish this, transit agencies develop policies to assist in evaluating impacts on protected classes when considering service and fare changes.

The major service change policy is one of three policies that are the foundation of this analytical framework. This policy updates what constitutes a “major service change” for StanRTA and will be incorporated into the 2024 Title VI Program Update. For any major service change, staff must hold a public meeting and conduct an equity analysis to determine if a proposed change would result in an unequal distribution of burdens or benefits.

All changes in service meeting the definition of “Major Service Change” are subject to a Title VI Service Equity Analysis before Board approval of the service change. All proposed major service changes will be presented to the Board and include the relevant equity analysis. Equity analysis is not limited to major service changes. Minor service changes are also analyzed through an equity lens for potential disparate and disproportionate impacts; however, a formal Service Equity Analysis is not performed. A proposed change in service will be considered a “major service change” if it meets one of the following criteria:

1. **Changes to revenue hours:** Any aggregate change of twenty percent (20%) or more of the number of transit revenue hours of a route for the day of the week for which the change is proposed. Transit revenue hours refers to the amount of time that a bus is available to carry passengers.
2. **Changes to revenue miles:** Any changes in the routing of a bus route that alters twenty-five percent (25%) or more of the route’s path (deadhead path not included).
3. **A new transit line is established.** Applies to fixed-route and commuter services.
4. **New fixed guideway.** Six months before the opening of any new fixed guideway project (e.g. BRT line), regardless of whether the amount of service being changed meets the requirements in the subsections.

The following actions do not constitute a “major service change” and, therefore do not require a

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<sup>1</sup> U.S. Department of Justice Title VI of the Civil Rights Act of 1964: <https://www.justice.gov/crt/fcs/TitleVI>.

<sup>2</sup> The requirements described here apply only to transit providers that operate 50 or more fixed route vehicles in peak service and are located in a UZA of 200,000 or more in population

<sup>3</sup> FTA Circular 4702.1B - Title VI Requirements and Guidelines for Federal Transit Administration recipients, issued October 1, 2012; Chapter IV, Section 7. [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Title\\_VI\\_FINAL.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf)

public hearing or an equity analysis:

- **Changing route numbers:** Changing route numbers, including splitting or combining two or more routes, does not constitute a new transit route. However, if the reassignment will impact the number of transit revenue hours or the route path, the criteria above should be considered.
- **Standard seasonal variations:** Standard seasonal variations do not constitute a major service change unless the variations, compared to operations during the previous season, fall within the definition of major adjustments in transit service listed in the criteria above.
- **Very low-frequency services:** Changes to service on routes with fewer than 1,000 total revenue hours in a year do not constitute a major service change.
- **Change in Operators.** StanRTA transit service is replaced by a different route, mode, or operator providing a service with the same headways, fare, transfer options, span of service, and stops.
- **Demonstration/Pilot Services:** Introduction or discontinuation of short- or limited-term service as long as the service is operated for no more than twelve months.<sup>4</sup> These may include promotional, demonstration, seasonal, or emergency service changes or services provided as a mitigation or diversion for construction or other similar activities. Emergency service changes include changes to routes or service frequencies that result from a disaster that severely impairs public health or safety, changes in access to public streets (such as street closures); or the ability of StanRTA's equipment to travel on public streets. If the service is required to be operated beyond one year, the Title VI Equity Analysis must be completed and considered by the Board of Directors before the year experimental, demonstration, or emergency period ends.

## Equity Analysis Process

Title VI extends protections to minority populations. Low-income populations, however, are not a protected class under Title VI. The FTA recognizes the inherent overlap of environmental justice principles in this area because it is important to evaluate the impacts of service and fare changes on passengers who are transit-dependent. That is why the FTA requires transit providers to evaluate proposed service and fare changes to determine whether low-income populations will bear a disproportionate burden of the changes. A Title VI Equity Analysis completed for a major service change must be presented to the Board of Directors for their consideration and then forwarded to the FTA with a record of the action taken by the Board.

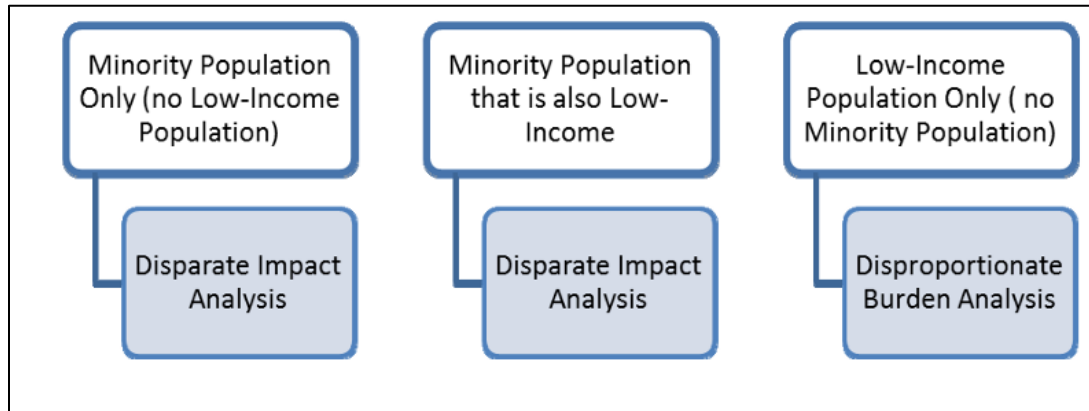
StanRTA recognizes this tiering process when conducting an Equity Analysis and follows the guidance provided by the FTA.<sup>5</sup> As shown in Figure 1, the Equity Analysis only examines the disproportionate burden when the only affected group is a low-income population.

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<sup>4</sup> FTA Circular 4702.1B, Chapter VI, page 13.

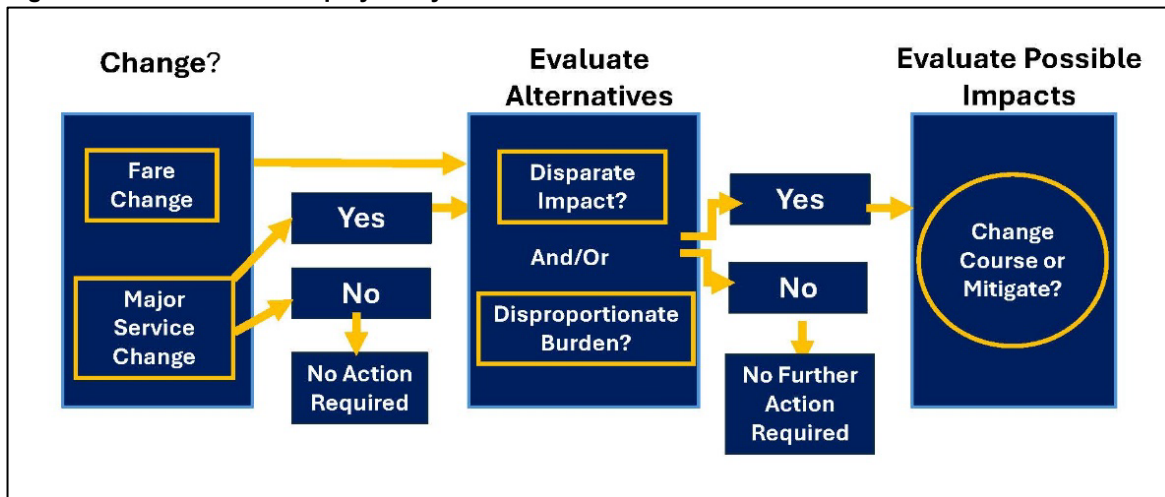
<sup>5</sup> [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Title\\_VI\\_FINAL.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf)

Figure 1: Equity Analysis



The Equity Analysis decision-making process is depicted in Figure 2 below. The chart illustrates the Equity Analysis steps. To the left, “Change?” are the two activities that trigger Equity Analysis. The first activity is a fare change. All fare changes require evaluation of a disparate impact and disproportionate burden. If a burden is found, mitigation measures are explored. If there is no finding, the fare change can proceed as proposed.

Figure 2: Overview of the Equity Analysis Process



For service changes, if the change is not major, then the change is informally evaluated, but no Equity Analysis is prepared. These activities are captured in the center block “Evaluate Alternatives.” If the change qualifies as major, the disparate impact and disproportionate burdens are analyzed. In step three, “Evaluate Possible Impacts,” if no harm is found, the service change moves forward. If harm is documented, mitigation measures are pursued.

**Equity Analysis Mitigations**

StanRTA will provide a meaningful opportunity for public comment on any proposed mitigation measures. This will include a discussion of less discriminatory alternatives that may be available in advance of any action on the proposals that may be submitted to the Board for approval. Where

StanRTA identifies a disproportionate burden on low-income populations due to a fare or service change, it will take steps to avoid, minimize, or mitigate the impacts where practicable. As part of the Equity Analysis process, StanRTA will communicate alternatives available to low-income riders affected by the service or fare change.

All major increases or decreases in transit service are subject to a Title VI Equity Analysis prior to Board approval of the service change. A Title VI Equity Analysis completed for a major service change must be presented to the Board of Directors for their consideration and then forwarded to the FTA with a record of the action taken by the Board.

## Introduction

Title VI of the Civil Rights Act of 1964<sup>1</sup> prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance. Those characteristics are considered protected, and persons with those characteristics are referred to as a protected class. As a recipient of Federal Transit Administration (FTA) funding, the Stanislaus Regional Transit Authority (StanRTA) is required to comply with Title VI and Executive Order 12898 on Environmental Justice<sup>2</sup> s defined in 42 U.S.C. Section 2000d. FTA Circular 4702.1B<sup>3</sup>, revised in 2012, requires transit operators to evaluate the impacts of proposed major service changes or fare changes on minority and low-income populations and to establish specific measures to avoid, minimize, and mitigate inequitable impacts that may be experienced by these populations due to these changes. To accomplish this, transit agencies develop three policies to assist in evaluating impacts on protected classes when considering service and fare changes. Title VI requires the following policies to be adopted:

- *Major Service Change Policy*: Defines what constitutes a “major service change” for StanRTA; only “major service changes” are subject to a service equity analysis.
- *Disparate Impact Policy*: This policy establishes a threshold for determining when adverse effects of proposed service or fare changes are borne disproportionately by minority populations.
- *Disproportionate Burden Policy*: This policy establishes a threshold for determining when adverse effects of proposed service or fare changes are borne disproportionately by low-income populations.

StanRTA is updating all three policies for incorporation in its 2024 Title VI Program Update. The Major Service Change Policy is separately addressed.

The purpose of this *Policy for Establishing Disparate Impact or Disproportionate Burden* is to establish thresholds for determining if a major service change or fare change proposal would result in a fair distribution of positive and negative effects on minority and low-income populations or if it would result in a disparate impact<sup>4</sup> on minority populations or a disproportionate burden<sup>5</sup> on low-income populations.

## Disparate Impact Policy

This policy establishes a threshold for determining when adverse effects of proposed service or fare changes are borne disproportionately by minority populations. The threshold is the difference between the burdens borne by, or benefits experienced by, minority populations

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<sup>1</sup> U.S. Department of Justice Title VI of the Civil Rights Act of 1964: <https://www.justice.gov/crt/fcs/TitleVI>.

<sup>2</sup> The requirements described here apply only to transit providers that operate 50 or more fixed route vehicles in peak service and are located in a UZA of 200,000 or more in population

<sup>3</sup> FTA Circular 4702.1B - Title VI Requirements and Guidelines for Federal Transit Administration recipients, issued October 1, 2012; Chapter IV, Section 7. [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Title\\_VI\\_FINAL.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf)

compared to non-minority populations. When the threshold is exceeded, a fare or major service change (except promotional/temporary changes) either negatively impacts minority populations more or benefits them less than non-minority populations.

The existing disparate impact policy is proposed to be modified as follows:

- **Lower the threshold to 15% to better protect and serve the community.** StanRTA establishes that a fare change, major service change, or other policy has a disparate impact if minority populations will *experience fifteen percent (15%)* more of the cumulative burden or *experience fifteen percent (15%)* less of the cumulative benefit, relative to nonminority populations, unless (a) there is a substantial legitimate justification for the change, and (b) no other alternatives exist that would serve the same legitimate objectives but with less disproportionate effects on the basis of race, color or national origin.
- **Data sources.** StanRTA uses passenger survey data by route or census data for block groups within walking distance of the affected stops/routes for service change analysis. For fare analysis, StanRTA uses data from the annual passenger survey.

## **Disproportionate Burden Policy**

The Disproportionate Burden Policy establishes a threshold for determining whether proposed fare or major service changes have a disproportionately adverse effect on low-income populations relative to non-low-income populations. The threshold is the difference between the burdens borne by, and benefits experienced by low-income populations compared to non-low-income populations. Exceeding the threshold means either that a fare or service change negatively impacts low-income populations more than non-low-income populations or that the change benefits non-low-income populations more than low-income populations.

If the threshold is exceeded, StanRTA must avoid, minimize, or mitigate impacts where practicable. The existing disparate impact policy is proposed to be modified as follows:

- **Threshold lowered from 20% impact to 15% to better protect and serve the community.** StanRTA establishes that a fare change, major service change, or other policy has a disproportionate burden if low-income populations will *experience fifteen percent (15%)* more of the cumulative burden or *experience fifteen percent (15%)* less of the cumulative benefit, relative to non-low-income populations unless (a) there is a substantial legitimate justification for the change, and (b) no other alternatives exist that would serve the same legitimate objectives but with less disproportionate effects on low-income populations.
- **Defined low-income.** Low-income individuals are defined as those making up to 200% of the federal poverty level.

## **The Equity Analysis**

Title VI requires StanRTA to conduct service and fare equity analyses before implementing major

service changes or fare changes (except promotional/temporary changes) to determine whether the proposed changes will have a disparate impact based on race, color, or national origin and to mitigate those impacts where possible. In addition, although low-income populations are not a protected class under Title VI, FTA Circular 4701.1B states that there is an *“inherent overlap of environmental justice principles in this area, and because it is important to evaluate the impacts of service and fare changes on passengers who are transit-dependent, FTA requires transit providers to evaluate proposed service and fare changes to determine whether low-income populations will bear a disproportionate burden of the changes.”*<sup>3</sup>

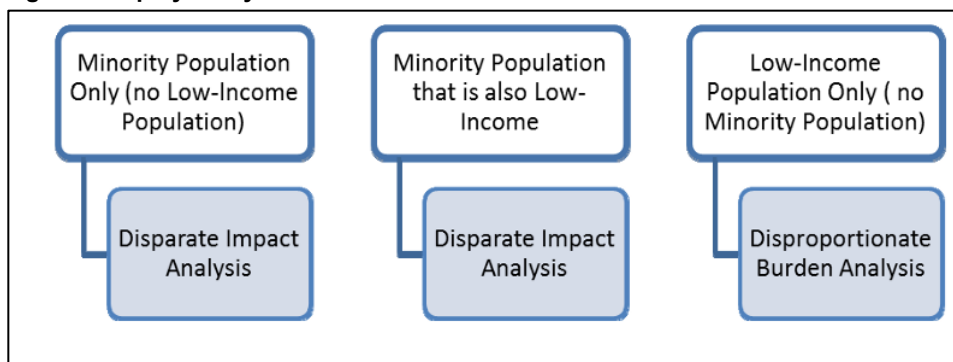
A typical measure of disparate impact involves a comparison between the proportion of persons in the protected class (minority) who are affected by the service or fare change and the proportion of persons not in the protected class who are affected by the service or fare change (non-minority).<sup>7</sup> Analysis should compare both adverse impacts and benefits. For disproportionate burden, the same comparison would be undertaken, comparing the share of low-income persons affected to the share of non-low-income persons affected. After the analysis, a comparison to the thresholds below should be conducted.

### Applying Policies

Title VI extends protections to minority populations. Low-income populations, however, are not a protected class under Title VI. The FTA recognizes the inherent overlap of environmental justice principles in this area because it is important to evaluate the impacts of service and fare changes on passengers who are transit-dependent. That is why the FTA requires transit providers to evaluate proposed service and fare changes to determine whether low-income populations will bear a disproportionate burden of the changes. A Title VI Equity Analysis completed for a major service change must be presented to the Board of Directors for their consideration and then forwarded to the FTA with a record of the action taken by the Board.

StanRTA recognizes this tiering process when conducting an Equity Analysis and follows the guidance provided by the FTA.<sup>4</sup> As shown in Figure 1, the Equity Analysis only examines the disproportionate burden when the only affected group is a low-income population.

**Figure 1: Equity Analysis**



<sup>4</sup> [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Title\\_VI\\_FINAL.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf)

Where StanRTA identifies disparate impacts on minority populations due to proposed fare and major service changes, it will take steps to avoid, minimize, or mitigate the impacts, including revising the fare or service change proposal to address the impacts. If StanRTA finds that they are unable to mitigate a disparate impact after considering other service or fare change proposals, it can only implement the service or fare change if they have a substantial legitimate justification for the service or fare change or can demonstrate that there are no alternatives available that would have a less disparate impact on minority riders.

Where StanRTA identifies a disproportionate burden on low-income populations due to a proposed fare or service change, StanRTA will take steps to avoid, minimize, or mitigate the impacts where practicable. The agency will describe alternatives available to low-income riders affected by the service or fare change. StanRTA will provide a meaningful opportunity for public comment on any proposed mitigation measures. This will include discussion of less discriminatory alternatives that may be available in advance of any action on the proposals that the Board of Directors may approve.