



Title VI Fare Equity Analysis

Draft

May 1, 2018

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1. Purpose of Analysis

Pursuant to SacRT's fare change policy and in accordance with Federal Title VI civil rights requirements, the purpose of this analysis is to identify and document any potential disparate impacts on minority populations or disproportionate burdens on low-income populations resulting from changes to SacRT's fare structure.

SacRT will accept comments on this draft analysis through May 30, 2018.

2. Project Description

On December 11, 2017, SacRT authorized, on a temporary six-month basis, a reduction in the price of the Student Semi-Monthly Pass from \$27.50 to \$10.00. The fare changes were implemented on January 1, 2018, and were authorized to continue through June 30, 2018.

Declining ridership trends have been observed at SacRT, as well as most transit agencies nationwide, for the last few years. In an effort to attract new riders, SacRT began considering potential ways to increase ridership. Based on research from previous surveys and studies, it was determined that student riders have been highly sensitive to fare pricing; therefore, Staff recommended offering additional discounts to students as a cost effective means to increase ridership.

3. Title VI Requirements

SacRT is required to conduct a Title VI fare equity analysis prior to implementing any fare change, with some exceptions, including promotional free-ride days and promotional fare reductions lasting up to six months.¹ The proposed change to the Student Semi-Monthly Pass was implemented on January 1, 2018 for a six-month pilot ending on June 30, 2018. Staff intends to seek approval from the SacRT Board on June 11, 2018, to make this change permanent. Prior to doing so, The Board must approve a Title VI fare equity analysis.

Prior to any fare changes being approved permanently, the Board of Directors must approve the findings of a final Title VI fare equity analysis. Prior to approving a final Title VI fare equity analysis, SacRT policy requires that a draft analysis of the proposed changes be made available for a 30-day public review period, that members of the public be invited to comment, and that staff and the Board of Directors take public comments into consideration. In accordance with these requirements, this draft report is being made available on SacRT's web site on May 1, 2018, and comments will be received for a 30-day period (through May 30, 2018). Staff intends to present a final version of the report, including the comments received, to the Board of Directors on June 11, 2018.

¹ See FTA Circular 4702.1B, Chapter IV, Section 7 and RT Fare Change Policies (Resolution No. 15-11-0129).

4. Data and Methodology

On-Board Survey – In April 2013, an on-board passenger survey was conducted on SacRT buses and light rail trains. Passengers on randomly selected trips on all SacRT routes completed a self-administered questionnaire. In accordance with FTA guidance, when possible, equity analyses are based on demographic estimates of actual riders. These on-board survey responses therefore form the basis of the analysis below.

Fare Survey – On an annual basis, SacRT conducts a passenger fare survey. This survey provides ridership figures for each fare type, including multi-ride passes, and is used to compute an average fare per boarding for each fare type.

Special Surveys – In the case of new fare types, SacRT may use special surveys or research to estimate minority and/or low-income utilization rates.

Analysis - Using the demographic data from the 2013 on-board survey, SacRT can estimate the percentage that minority and low-income populations utilize each fare type. This data is combined with the average fare per boarding for each fare type from the annual fare survey. SacRT can then estimate overall average fare splits for minority versus non-minority and low-income versus non-low-income riders.

Findings - Potential disparate impacts to minority populations, and disproportionate burdens to low-income populations, from fare changes are determined by comparing the rate of change of the average fare for all minority riders to that for non-minority riders and the rate of change of the average fare for all low-income riders to that for non-low-income rides, respectively. SacRT's Title VI goal is for the percent increase in average fare for minority or low-income populations to be less than or equal to that for non-minority or non-low-income populations in the case of a net fare increase and equal or greater to that for non-minority or non-low-income populations in the case of a net fare decrease. A disparate impact or disproportionate burden may exist if there is a statistically significant deficiency from this goal. SacRT defines a deficiency as statistically significant if the rates of change differ by more than 20 percent.

Minority Definition - FTA defines a minority person as anyone who is American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, or Native Hawaiian or other Pacific Islander.

Low-Income Definition - FTA defines a low-income person as a person whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. The HHS definition varies by year and household size. For the purpose of this analysis, SacRT used HHS poverty guidelines from 2013.² Survey

² Although newer HHS statistics are available, the 2013 statistics were the newest statistics available at the time that the statistical analysis was performed on the 2013 on-board survey data. RT's baseline demographic statistical data is typically refreshed during the process of preparing the triennial Title VI update report, which was last updated in 2017.

participants were asked their household size and their household income from a list of ranges. For the purposes of this survey, the participant's income is assumed to be the midpoint of the range selected.³

5. Baseline Data

Based on Fiscal Year 2019 budget forecasts, SacRT expects to collect \$28,122,210 in fares over 19,416,000 passenger boardings for an average fare of \$1.45 per passenger boarding. These figures include adjustments for transfer agreement reimbursements to other agencies, boardings made by children under age five, and boardings made by riders in other minor categories for which SacRT has no demographic data. These figures are used as a baseline for the remainder of this analysis.

**Figure 1
Baseline Minority
Ridership Statistics – FY 2019**

	Fare Revenue		Boardings		Average Fare
	Amount	%	Amount	%	
Minority	\$18,383,857	65.4%	12,459,454	64.2%	\$1.48
Non-Minority	\$9,738,353	34.6%	6,956,546	35.8%	\$1.40
All Riders	\$28,122,210	100.0%	19,416,000	100.0%	\$1.45

Minority riders make up an estimated 64.2 percent of SacRT ridership and pay an estimated 65.4 percent of fares. They pay an average of \$1.48 per boarding, compared to \$1.40 for non-minority riders.

**Figure 2
Baseline Low-Income
Ridership Statistics – FY 2019**

	Fare Revenue		Boardings		Average Fare
	Amount	%	Amount	%	
Low-Income	\$12,152,973	43.2%	8,486,853	43.7%	\$1.43
Non-Low-Income	\$15,969,237	56.8%	10,929,147	56.3%	\$1.46
All Riders	\$28,122,210	100.0%	19,416,000	100.0%	\$1.45

³ For example, if a passenger selected a household income range of \$25,000 to \$35,000, that passenger's income was assumed to be \$30,000 for the purposes of this analysis.

Low-income riders make up an estimated 43.7 percent of SacRT fixed-route ridership and pay an estimated 43.2 percent of fares. They pay an average of \$1.43 per boarding compared to \$1.46 for non-low-income riders.

Baseline fare revenue, passenger boardings, and average fare forecasts for Fiscal Year 2019 are provided for each major fare type in Figure 3.

**Figure 3
Ridership and Fare Revenue
By Fare Type – FY 2019 Forecasts**

Fare Type	Face Value	Fare Revenue	Boardings	Average Fare
Single Cash - Bus	\$2.75	\$1,765,598	643,722	\$2.74
Single Ticket - Bus	\$2.75	\$539,864	196,830	\$2.74
Single Cash - Rail	\$2.75	\$1,167,789	870,503	\$1.34
Single Ticket - Rail	\$2.75	\$1,030,581	715,848	\$1.44
Disc Single Cash - Bus	\$1.35	\$514,990	382,476	\$1.35
Disc Single Tkt - Bus	\$1.35	\$45,922	34,106	\$1.35
Disc Single Cash - Rail	\$1.35	\$410,731	367,560	\$1.12
Disc Single Tkt - Rail	\$1.35	\$29,089	194,860	\$0.15
Daily Pass	\$7.00	\$3,285,124	2,858,283	\$1.15
Disc Daily Pass	\$3.50	\$1,944,753	1,241,008	\$1.57
Monthly Pass	\$110.00	\$7,998,196	3,581,533	\$2.23
Semi-Monthly Pass	\$60.00	\$215,729	131,815	\$1.64
Student Semi-Monthly	\$27.50	\$649,526	691,287	\$0.94
Senr/Disb Monthly/Semi	\$55.00	\$1,786,306	1,687,229	\$1.06
Los Rios		\$2,005,890	1,475,135	\$1.36
CSUS		\$916,822	832,367	\$1.10
DHA		\$1,688,049	790,590	\$2.14
Fare Evader		\$0	605,955	\$0.00
Child		\$0	372,045	\$0.00
Lifetime		\$0	94,224	\$0.00
Mobile Single	\$2.75	\$399,205	181,164	\$2.20
Mobile Daily	\$7.00	\$38,676	71,892	\$0.54
Mobile Disc Single	\$1.35	\$103,559	41,770	\$2.48
Mobile Disc Daily	\$3.50	\$25,734	14,889	\$1.73
G1 Employee Pass		\$500,000	283,200	\$1.77
Round Trip (Special Event)	\$5.50	\$46,693	16,979	\$2.75
Round Trip (Discount Spec Event)	\$2.75	\$11,166	8,273	\$1.35
Daily Best Fare - Full	\$7.00	\$143,458	96,180	\$1.49
Daily Best Fare - Disc	\$3.50	\$26,957	24,312	\$1.11
90m Ticket - Full	\$2.75	\$703,165	479,082	\$1.47
90m Ticket - Disc	\$1.35	\$128,639	120,899	\$1.06
Other Boardings		\$0	309,982	
Total		\$28,122,210	19,416,000	\$1.45

6. Demographics of Fare Change

SacRT surveys show that student demographics are typically considered low-income and high-minority. Users of the Student Semi-Monthly Pass are 87.0% percent minority and 63.8% percent low-income, both well above systemwide averages.

Based on this analysis, the change in fare type is expected to have greater minority and low-income utilization than the overall SacRT system, which has 64.2 percent minority and 43.7 percent low-income utilization.

Figure 4
Minority and Low-Income Use

Fare Type	% Minority	% Low-Income	Minority/ Low-Income Fare Type
Student Semi-Monthly Pass	87.0%	63.8%	Yes
SacRT System (Baseline)	64.2%	43.7%	

7. Results and Impacts

Based on actual and projected sales data for the first three months of the reduced Student Semi-Monthly Pass pilot, revenues are projected to decrease by \$190,622 per year for FY 2019; however, boardings are expected to increase by 207,386 per year.

Figure 5
Student Semi-Monthly Pass
Sales and Ridership Forecasts

Fare Type	Face Value	Minority/Low-Income Fare Type	Fare Revenue	Boardings	Average Fare
Baseline FY 2019 <i>(No changes)</i>	\$27.50	Yes	\$649,526	691,287	\$0.94
Projected Changes			(\$190,622)	207,386	
Proposed FY 2019 Totals	\$10.00	Yes	\$458,904	898,673	\$0.51

The average fare for the new fare type is expected to be \$0.51 per boarding, approximately 65 percent less than SacRT's existing systemwide average of \$1.45.

8. Systemwide Average Fare Impacts

If the proposed changes are approved, SacRT is expected to average \$1.42 in fare revenue per passenger boarding for Fiscal Year 2019, a reduction of \$0.03 from the baseline estimate of \$1.45.

**Figure 6
Systemwide Average Fare by Minority Status
With Proposed Fare Change**

	<u>Fare Revenue</u>		<u>Boardings</u>		<u>Avg. Fare</u>
	Amount	%	Amount	%	
Minority	\$18,218,016	65.2%	12,639,880	64.4%	\$1.44
Non-Minority	\$9,713,572	34.8%	6,983,506	35.6%	\$1.39
All Riders	\$27,931,588	100.0%	19,623,386	100.0%	\$1.42

Under the proposed change, minority riders would pay slightly more per boarding (\$1.44) than non-minority riders (\$1.39); however this is already the case and the proposed change would reduce this difference.

**Figure 7
Systemwide Average Fare by Low-Income Status
With Proposed Fare Change**

	<u>Fare Revenue</u>		<u>Boardings</u>		<u>Avg. Fare</u>
	Amount	%	Amount	%	
Low-Income	\$12,031,289	43.1%	8,619,238	43.9%	\$1.40
Non-Low-Income	\$15,900,300	56.9%	11,004,148	56.1%	\$1.44
All Riders	\$27,931,588	100.0%	19,623,386	100.0%	\$1.42

Under the proposed change, low-income riders would pay slightly less per boarding (\$1.40) than non-low-income riders (\$1.44).

9. Comparison of Impacts

Compared to existing conditions, all riders would see a reduction in average fare; however, minority and low-income riders would experience a greater reduction than non-minority and non-low-income riders. In other words, this change would be beneficial to both minority and low-income populations.

Figure 8
Projected Change in Average Fare
Minority and Low-Income Splits

Rider Type	Existing	Proposed	Change	% Change
All	\$1.45	\$1.42	-\$0.03	-2.11%
Minority	\$1.48	\$1.44	-\$0.04	-2.78%
Non-Minority	\$1.40	\$1.39	-\$0.01	-0.72%
Low-Income	\$1.43	\$1.40	-\$0.03	-2.14%
Non-Low-Income	\$1.46	\$1.44	-\$0.02	-1.39%

10. Findings

Potential disparate impacts to minority populations are determined by comparing the *rate of change* of the average fare for all minority riders to that for non-minority riders. An adverse difference exceeding 20 percent is considered significant. The same analysis is conducted for low-income populations to determine potential disproportionate burdens.

Figure 9
Determination of Potential Disparate Impacts
and/or Disproportionate Burdens

a. Percent decrease in non-minority avg fare	-0.72%
b. Threshold of statistical significance (80% * a)	-0.58%
c. Percent decrease in minority avg fare	-2.78%
d. Do fares decrease more for non-minority populations? (a < c)	No
e. Is there evidence of a potential disparate impact (c > b)	No
f. Percent decrease in non-low-income avg fare	-1.39%
g. Threshold of statistical significance (80% * f)	-1.11%
h. Percent decrease in low-income avg fare	-2.14%
i. Do fares decrease more for non-low-income populations? (f < h)	No
j. Is there evidence of a potential disproportionate burden? (h > g)	No

The fare change is expected to benefit minority populations more than non-minority populations; therefore, this analysis finds *that there are no potential disparate impacts on minority populations as a result of the proposed fare changes.*

The fare change is also expected to benefit low-income populations more than non-low-income populations; therefore, this analysis finds *that there are no potential*



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disproportionate burdens on low-income populations as a result of the proposed fare changes.