

Pierce Transit

Title VI Fare Equity Analysis

Pursuant to FTA Circular 4702.1B

Elimination of Paper Transfers and New All Day Pass

June 19, 2014

PIERCE TRANSIT TITLE VI FARE EQUITY ANALYSIS

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PIERCE TRANSIT TITLE VI FARE EQUITY ANALYSIS

1 INTRODUCTION

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities receiving Federal financial assistance. This analysis was conducted in compliance with Federal Transit Administration (FTA) Circular 4702.1B, which requires any FTA recipient serving a population of 200,000 or greater to evaluate any fare change and any major service change at the planning and programming stages to determine whether those changes have a discriminatory impact. This document is an analysis of Pierce Transit's proposed elimination of paper transfers and introduction of a new local All Day Pass.

2 BACKGROUND

2.1 PROPOSED FARE CHANGES

The purpose of the proposed elimination of paper transfers is to increase farebox recovery and to minimize fare evasion. Under Pierce Transit's current transfer policy, cash or ticket users receive a paper transfer valid on PT local service that is cut to expire one hour past the end of the line of that route. E-purse users receive a two-hour transfer window on their ORCA card from the time the card is initially tapped. This e-purse transfer is valid on regional and local services.

Feedback from Pierce Transit riders, supervisors and operators indicates that transfers are easily misused, often fraudulently. Also, the one-hour transfer window beyond the end of the line has been considered inequitable for those who board near the end of a route versus those who board at the beginning of a route – particularly longer routes like the Route 1 which is 1.25 hours from beginning to end.

Pierce Transit currently does not offer an All Day Pass during weekday service. There is a weekend and holiday All Day Pass currently offered at \$4.00 for adult riders and \$1.50 for senior, youth and disabled riders. The weekend All Day Pass is currently priced at two times the price of a one-way trip. The introduction of a new weekday and weekend All Day Pass at \$5.00 per day is intended to mitigate the elimination of paper transfers and provide riders with flexibility to travel as many trips as necessary throughout the day.

2.2 FEDERAL TRANSIT ADMINISTRATION REQUIREMENTS

FTA requires that its recipients evaluate the impacts of fare changes on minority and low income populations. If the transit provider finds potential disparate impacts or disproportionate burdens and then modifies the proposed changes in order to avoid, minimize or mitigate those impacts, the transit provider must reanalyze the proposed changes in order to determine whether the modifications actually removed the potential disparate impacts or disproportionate burdens of the changes.

If a transit provider chooses not to alter the proposed fare changes despite the disparate impact on minority ridership or disproportionate burden on low income ridership, or if the transit provider finds, even after the revisions, that minority or low income riders will continue to bear a disproportionate share of the proposed fare change, the transit provider may implement the fare change only if:

- the transit provider has a substantial legitimate justification for the proposed fare change, **and**
- the transit provider can show that there are no alternatives that would have a less disparate impact on minority riders but would still accomplish the transit provider's legitimate program goals.

If the transit provider determines that a proposed fare change will have a disparate impact or disproportionate burden, the transit provider shall analyze the alternatives to determine whether alternatives exist that would serve the same legitimate objectives but with less of a disparate or disproportionate effect on the basis of race, color, national origin, or income status. Where disparate impacts are identified, the transit provider shall provide a meaningful opportunity for public comment on any proposed mitigation measures, including any less discriminatory alternatives that may be available.

This fare equity analysis analyzes whether the elimination of paper transfers and the introduction of a new All Day Pass will have a disparate impact on Pierce Transit's minority riders and/or a disproportionate burden on the agency's low income riders.

3 TITLE VI POLICIES & DEFINITIONS

Pierce Transit's Board of Commissioners adopted three new policies in February 2013 related to Title VI: Major Service Change Policy; Disparate Impact Policy; and Disproportionate Burden Policy. Since no changes to service are proposed at this time, the Major Service Change Policy is not relevant to this analysis. The requirement for these policies comes from Federal Transit Administration (FTA) Circular 4702.1B, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients" which became effective October 1, 2012. The Circular requires any FTA recipient that operates 50 or more fixed route vehicles in peak service and serving a population of 200,000 persons or greater to evaluate any fare change and any major service change at the planning and programming stages to determine whether those changes have a discriminatory impact.

3.1 PIERCE TRANSIT MAJOR SERVICE CHANGE POLICY

The purpose of this policy is to establish a threshold that defines a major service change and to define an adverse effect caused by a major service change.

A major service change is defined as any change in service on any individual route that would add or eliminate more than twenty percent of the route revenue miles or twenty percent of the route revenue hours. All major service changes will be subject to an equity analysis which includes an analysis of adverse effects on minority and low-income populations.

An adverse effect is defined as a geographical or time-based reduction in service which includes but is not limited to: span of service changes, frequency changes, route segment elimination, re-routing, or route elimination.

3.2 PIERCE TRANSIT DISPARATE IMPACT POLICY

The purpose of this policy is to establish a threshold which identifies when adverse effects of a major service change or any fare change are borne disproportionately by minority populations.

A disparate impact occurs when the minority population¹ adversely affected by a fare or service change is ten percent more than the average minority population of Pierce Transit's service area.

Disparate impacts on routes with either span of service changes and/or frequency changes will be determined by analyzing all routes with such changes together. Disparate impacts on routes with segment elimination, re-routing, or route elimination will be determined on a route by route basis.

¹ **Minority Population** – Persons identifying themselves as a race other than white or of Hispanic origin, self-reported in the U.S. Census.

If Pierce Transit finds a potential disparate impact, the agency will take steps to avoid, minimize or mitigate impacts and then reanalyze the modified service plan to determine whether the impacts were removed. If Pierce Transit chooses not to alter the proposed changes, the agency may implement the service or fare change if there is substantial legitimate justification for the change AND the agency can show that there are no alternatives that would have less of an impact on the minority population and would still accomplish the agency's legitimate program goals.

3.3 PIERCE TRANSIT DISPROPORTIONATE BURDEN POLICY

The purpose of this policy is to establish a threshold which identifies when the adverse effects of a major service change or any fare change are borne disproportionately by low-income² populations.

A disproportionate burden occurs when the low-income population adversely affected by a fare or service change is five percent more than the average low-income population of Pierce Transit's service area.

Disproportionate burden on routes with either span of service changes and/or frequency changes will be determined by analyzing all routes with such changes together. Disproportionate burden on routes with segment elimination, re-routing, or route elimination will be determined on a route by route basis.

If Pierce Transit finds a potential disproportionate burden, the agency will take steps to avoid, minimize or mitigate impacts and then reanalyze the modified service plan to determine whether the impacts were removed. If Pierce Transit chooses not to alter the proposed changes, the agency may implement the service or fare change if there is substantial legitimate justification for the change AND the agency can show that there are no alternatives that would have less of an impact on low-income population and would still accomplish the agency's legitimate program goals.

² **Low-Income Population** – Persons reporting as being under the federal household poverty limit as defined by the U.S. Department of Health and Human Services. In 2013 the poverty limit was \$23,550.

4 METHODOLOGY

Staff used data from Pierce Transit's 2010 Customer Satisfaction Survey to assist with the fare equity analysis. This survey of 570 Pierce Transit Riders provides local system-wide representation proportionate to weekday ridership by route and time of day on Pierce Transit's local fixed routes. Respondents were initially intercepted at major transfer and boarding locations as well as onboard key routes and asked to provide contact information in order to participate in a telephone survey. A total of 2,294 Riders were recruited for the telephone survey and surveys were completed with 570 respondents (only 553 responded to the question about how they paid their fare). The maximum margin of error for a sample of 570 is plus or minus 4.1 percentage points at the 95 percent confidence level. That is, in 95 out of 100 cases, the survey result will not differ from the general population by more than 4.1 percentage points in either direction.

Data collection occurred from October 14 to November 18, 2010. The data from the 2010 survey represents the most current data on our riders available to Pierce Transit. A new survey is nearing completion with data expected to be available for use in July 2014 for any future fare equity analyses.

The 2010 survey provides data on the following:

- Trip purpose (work, home, school, appointment, shopping, recreation)
- Payment method (ORCA Pass, ORCA other, Cash, Other)
- Time of day (peak, mid-day, evening)
- Ridership
 - Occasional (0 to 9 trips per month)
 - Infrequent (10 to 59 trips per month)
 - Frequent (60+ trips per month)
- Overall satisfaction with Pierce Transit (Dissatisfied, Neutral, Satisfied)
- Number of vehicles in household (None, 1, 2+)
- Income (less than \$20K, \$20K–\$30K, greater than \$30K)
- Age (16–34, 35–54, 65 and older)
- Gender
- Ethnicity

The survey provides valuable information about the demographics of the agency’s weekday customers and their fare payment methods. In terms of ethnicity, 33% of Pierce Transit’s riders identified themselves as non-white. With an average household size of 2.5, 56% of riders have annual incomes of less than \$20,000. This is the threshold for “low income” used in the analysis of the ridership data. This is also the equivalent of the poverty threshold for 3- to 4-person households. The US Department of Health and Human Services’ poverty threshold is dependent on household size. Table 4-1 below shows these thresholds:

TABLE 4-1 2013 POVERTY GUIDELINES FOR THE 48 CONTIGUOUS STATES AND THE DISTRICT OF COLUMBIA

Persons in family/household	Poverty guideline
For families/households with more than 8 persons, add \$4,020 for each additional person.	
1	\$11,490
2	15,510
3	19,530
4	23,550
5	27,570
6	31,590
7	35,610
8	39,630

For data on paper transfer use, staff used the average transfer rate reported by survey respondents who indicated that they originally paid their fare with cash. In the 2010 survey, 63% of riders indicated that they transferred to get to their destination. However, not all of these 63% of riders are using paper transfers. Only cash and ticket riders are using paper transfers to get to their destination. Since ticket users receive their tickets for free from social service agencies, transfers by ticket users are not included in this examination of who would be impacted by elimination of paper transfers. So, transfers by cash users are the relevant data with which to examine impacts of elimination of paper transfers.³ We know from our survey that cash

³ For the data on transfers by ticket and cash users combined, see Appendix A.

users transfer an average of 1.57 times to get to their destination. This means that they are paying their cash fare and then transferring almost two times; in other words they take, on average, an almost three-seat ride. We also know that minority cash users transfer an average of 1.64 times - slightly higher than the overall cash users. And low income cash riders transfer slightly fewer times on average at 1.49 transfers per trip. These average transfer rates were applied to extrapolated 2013 total ridership data for cash users to determine the number of boardings paid by cash and the number of boardings paid by paper transfer.

Table 4-2 below provides the data on Pierce Transit’s riders who paid by ORCA pass, e-purse and paper ticket, and those who indicated they paid for their original trip using cash. Data from survey respondents is extrapolated to provide data on all Pierce Transit riders, based on 2013 total ridership of 10,344,991 boardings. The average transfer rate of 1.57 is used to determine how many boardings were made using cash as payment and how many boardings used paper transfers.

TABLE 4-2 PIERCE TRANSIT SYSTEM BOARDINGS BY FARE PAYMENT TYPE

Fare Type	All Riders	% of All Riders	2013 Extrapolated Ridership (System total:) 10,344,991	# Cash Fares Paid	Avg # Unpaid Transfers 1.57
Pass, E-purse and Ticket	311	56.2%	5,817,888	0	0
Adult Cash	190	34.4%	3,554,337	1,383,010	2,171,326
Youth Cash	38	6.9%	710,867	276,602	434,265
Senior/Disabled Cash	14	2.5%	261,899	101,906	159,992
Paper Transfer				n/a	2,765,584
Total Riders	553	100.0%	10,344,991	1,761,519	2,765,584

Table 4-3 below provides the data on Pierce Transit’s minority riders who paid by ORCA pass, e-purse and paper ticket, and those who indicated they paid for their original trip using cash. Data from survey respondents is used to provide data on the percentage of all Pierce Transit riders who are minorities (34%) which equals 3,516,923 minority boardings. The average minority transfer rate of 1.64 is used to determine how many minority boardings were made using cash as payment and how many minority boardings used transfers.

TABLE 4-3 PIERCE TRANSIT MINORITY BOARDINGS BY FARE PAYMENT TYPE

Fare Type	Minority Riders	% Minority riders of all riders	% Minority Riders by Fare Type	Extrapolated Minority Ridership by Fare Type	# Cash Fares Paid	Avg # Unpaid Transfers
						1.64
Pass, E-purse and Ticket	97	18%	31%	1,814,583	0	0
Adult Cash	73	13%	38%	1,365,614	517,278	848,336
Youth Cash	11	2%	29%	205,777	77,946	127,831
Senior/Disabled Cash	7	1%	50%	130,949	49,602	81,347
Paper Transfer					n/a	1,057,514
Total Riders	188	34%		3,516,923	644,826	1,057,514

Table 4-4 below provides the data on Pierce Transit’s low income riders who paid by ORCA pass, e-purse and paper ticket, and those who indicated they paid for their original trip using cash. Data from survey respondents is used to provide data on the percentage of all Pierce Transit riders who are low income (49%) which equals 5,050,900 low income boardings. The average low income transfer rate of 1.49 is used to determine how many low income boardings were made using cash as payment and how many low income boardings used transfers.

TABLE 4-4 PIERCE TRANSIT LOW INCOME BOARDINGS BY FARE PAYMENT TYPE

Fare Type	Low Income Riders	% Low Income Riders of All Riders	% Low Income Riders by Fare Type	Extrapolated Low Income Ridership by Fare Type	# Cash Fares Paid	Avg # Unpaid Transfers
						1.49
Pass, E-purse and Ticket	170	31%	55%	3,180,196	0	0
Adult Cash	86	16%	45%	1,608,805	646,106	962,699
Youth Cash	8	1%	21%	149,656	60,103	89,553
Senior/Disabled Cash	6	1%	43%	112,242	45,077	67,165
Paper Transfer					n/a	1,119,417
Total Riders	270	49%		5,050,900	751,287	1,119,417

The data provided in Tables 4-2, 4-3 and 4-4 provide the basis for the equity analysis which is provided below in Section 5.

Data is not available on the characteristics of riders who use the existing weekend All Day Pass since the Customer Satisfaction Survey only collected data on the agency’s weekday riders. Pierce Transit currently does not offer an All Day Pass during weekday service.

5 EFFECTS OF PROPOSED FARE CHANGES ON MINORITY AND LOW-INCOME RIDERS

5.1 Impact of Elimination of Paper Transfers on Minority and Low-Income Riders

Table 5-1 below compares Pierce Transit’s boardings by fare type (from Tables 4-2, 4-3 and 4-4 above) by all riders on the system to minority and low income boardings by fare type.

TABLE 5-1 PIERCE TRANSIT BOARDINGS BY FARE PAYMENT TYPE

	System	Minority	Low Income	System	Minority	Low Income
Total Pass, E-purse and Ticket Boardings	5,817,888	1,814,583	3,180,196	56%	52%	63%
Total Boardings Paid by Cash	1,761,519	644,826	751,287	17%	18%	15%
Total Boardings Paid by Transfer*	2,765,584	1,057,514	1,119,417	27%	30%	22%
Total	10,344,991	3,516,923	5,050,900	100%	100%	100%

*Only for trips originating with cash. Does not include trips originally paid by ticket resulting in a transfer

The key information in Table 5-1 above for this analysis is the Total Boardings Paid by Transfer row. We compare the minority and low income transfer boardings to the system-wide transfer boardings. We see that 27% of all boardings are paid by transfer, 30% of minority boardings are paid by transfer, and 22% of low income boardings are paid by transfer.

5.2 Impact of Addition of a New All Day Pass

With elimination of paper transfers, almost two-thirds of cash riders would have to pay at least four \$2.00 fares per day to get to and from their destination at a total cost of \$8.00. For minority riders, the total number of transfers averages closer to two (1.64), which means about three bus rides per trip. Introduction of the \$5.00 All Day Pass would provide unlimited use and unlimited transfers at a substantially lower cost than the potential \$8.00 to \$12.00 total fare, yet will cost just \$5.00 (\$1.00 more than the current round-trip cost of \$4.00). This leaves All Day Pass users free to use transit for errands in addition to their typical work and appointment trips. All Day Passes will be available for purchase on-board buses through the farebox as well as via the ORCA smart card. ORCA cards have a one-time \$5 purchase fee and are available for purchase online, by phone, or in person at The Bus Shop and at participating retailers throughout the service area. Pierce Transit staff will provide ORCA cards free of charge to customers for a period of time prior to the elimination of paper transfers and introduction of the All Day Pass.

Data is not available to determine whether addition of the All Day Pass creates a disparate impact or disproportionate burden on minority or low income riders, but the pass is considered a benefit to riders and, should a disparate impact or disproportionate burden be found for minority or low income riders regarding elimination of paper transfers, the pass would serve as mitigation for that fare change.

5.3 Elimination of Paper Transfers - Disparate Impact Analysis

Pierce Transit's policy states that a disparate impact occurs when the minority population adversely affected by a fare or service change is 10% more than the average minority population of Pierce Transit's service area. In the case of a fare change, the intent of the policy is to compare the difference between the percentage of all boardings using that fare type and the percentage of minority boardings using that fare type. More specifically, for this analysis, we must look at whether the percentage of minority riders who use paper transfers is 10% more than the percentage of overall system riders who use paper transfers. Minority users of the ORCA fare payment card are not relevant to the analysis as they would not be impacted by the elimination of paper transfers. Also, transfers by ticket users are not included in the number of boardings by paper transfer since they receive their tickets for free from social service agencies. The data in Table 5-1 above provides the information needed to compare the minority riders potentially adversely affected by the fare change to Pierce Transit's disparate impact threshold of 10%.

The table shows that 27% of all system boardings use paper transfers. Minority riders would be slightly more affected by elimination of paper transfers, with 30% of boardings by minorities being paid by transfer. This 3% difference does not warrant a finding of disparate impact to minority riders.

In addition, any negative effects on overall and minority riders of the elimination of paper transfers would be mitigated by the introduction of a new All Day Pass.

5.4 Elimination of Paper Transfers - Disproportionate Burden Analysis

Pierce Transit's policy states that a disproportionate burden occurs when the low-income population adversely affected by a fare or service change is 5% more than the average low-income population of Pierce Transit's service area. In the case of a fare change, this means that we must examine the difference between the percentage of all boardings using that fare type and the percentage of low income boardings using that fare type. More specifically, for this analysis, we must look at whether the percentage of low income riders who use paper transfers is 5% more than the percentage of overall system riders who use paper transfers. Low income users of the ORCA fare payment card are not relevant to the analysis as they would not be impacted by the elimination of paper transfers. Also, transfers by ticket users are not included in the number of boardings by paper transfer since they receive their tickets for free from social service agencies. The data in Table 5-1 above provides the information needed to compare the low income riders potentially adversely affected by the fare change to Pierce Transit's disproportionate burden threshold of 5%.

The table shows that 27% of all system boardings use paper transfers. Low income riders would be slightly less affected than the ridership as a whole by elimination of paper transfers, with just 22% of boardings by low income riders being paid by transfer. Since the low income transfer use is 5% less than the overall system-wide transfer use, no finding of disparate impact to low income riders is warranted.

In addition, any negative effects on overall and low income riders of the elimination of paper transfers would be mitigated by the introduction of a new All Day Pass.

APPENDIX A

TRANSFERS BY CASH AND TICKET USERS

	System	Minority	Low Income	System	Minority	Low Income
Average Transfer Rate				1.57	1.71	1.78
Total Boardings Paid by ORCA Pass/E-purse	4,601,931	1,365,614	2,357,087	44%	39%	47%
Total Boardings Paid by Ticket	473,135	151,865	289,353	5%	4%	6%
Total Boardings Paid by Cash	1,761,519	628,170	672,915	17%	18%	13%
Total Boardings Paid by Transfer	3,508,406	1,333,860	1,712,838	34%	38%	34%
Total	10,344,991	3,479,509	5,032,193	100%	100%	100%

The table above shows that the percentage of minority boardings paid by transfer (highlighted above) is 4% higher than the system-wide transfer boardings, and the percentage of low income transfer boardings is the same as the system-wide transfer boardings (34%). So including ticket users in the analysis of transfer use does not cause the elimination of paper transfers to result in a disparate impact to minority riders nor a disproportionate burden to low income riders.