



Fast Break “Smart Card” Program Fare Equity Analysis



Prepared by the Pioneer Valley Planning
Commission for the Pioneer Valley Transit
Authority

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Executive Summary

The Pioneer Valley Transit Authority (PVTA) is launching its Fast Break Card program, an electronic “smart card” fare payment technology. The Fast Break Card will allow PVTA customers to load passes and cash value onto a single durable plastic card to pay fares on fixed bus routes, rather than having to pay cash or repeatedly buy paper magnetic strip passes.



The Fast Break Smart Card will offer several features, including online value reloading and balance read-out, as well as faster boarding with a “tap-and-go” capability at the fare box. The program will also include a Fast Break Limited Use Card that will be a magnetic stripe paper card designed to last up to two months.

There will be no increase to PVTA’s existing fares and no changes to fare policies when the Fast Break Card becomes available. All of PVTA’s existing fare payment options will continue to be available as they are today for people who do not wish to use the Fast Break Card. There will be no changes to any of PVTA’s fixed route or paratransit services associated with the Fast Break Card.

This fare equity analysis has been performed consistent with federal law to insure that the features of the Fast Break Card program are equitably available to all PVTA bus customers.

This analysis concludes that the addition of the Fast Break Card program fare payment options to the existing fare media that are, and will continue to be, available to PVTA customers will not disproportionately discriminate against customers of color customers as compared to white customers, and it will not pose disparate impacts to low-income customers.

This analysis has identified a limited number of circumstances in which there is the potential that some of the features of the Fast Break Card might not be available to all PVTA riders who are low-income and/or people of color. In these cases, this analysis describes mitigation measures so that the implementation of the Fast Break Card Program is fair to all customers.

1. Conformance with Regulatory Requirements

This analysis has been prepared to comply with the requirements of Title VI of the Civil Rights Act of 1964 in 49 CFR Section 21.5(b)(2), 49 CFR Section 21.5(b)(7), and Appendix C Section 3 to 49 CFR part 21, and in accordance with the guidance in Federal Transit Administration Circular 4702.1B of October 1, 2012 and related guidance to FTA recipients with service areas containing 200,000 or more residents.

Under these regulations and guidelines, the Pioneer Valley Transit Authority (PVRTA) is required to conduct a Title VI equity analysis in the course of planning a major service change or any magnitude of change to fare prices or fare media (method of payment) to determine whether service or fare changes will have a discriminatory impact with regard to race, color, income, or national origin. Equity analyses are required regardless of whether proposed changes would be beneficial or detrimental to riders.

This analysis is required because PVRTA is proposing a change in its fare media by adding the Fast Break Card, a “smart card” fare payment option that will provide customers with additional and more convenient options for paying their fares. There will be no changes to PVRTA’s existing fares and no changes to existing fare policies and payment options. All existing fare media and payment options will be retained. There will be no changes to PVRTA bus or paratransit services.

In this case, the purpose of an equity analysis is to determine whether or not the new fare media may have an adverse impact on PVRTA customers of color and/or low-income riders, depending on where and when [the new fare media] can be purchased, as well as the costs, bank account requirements, and internet access needs associated with new fare payment options.

A demographic analysis of the customers who using PVRTA’s current fare media and estimating who among them will or will not be able to use the new fare media is required by FTA so that PVRTA can determine whether there are adverse or disproportionate burdens on minority or low-income populations and what are the effective and appropriate measures to mitigate those impacts on those transit customers.

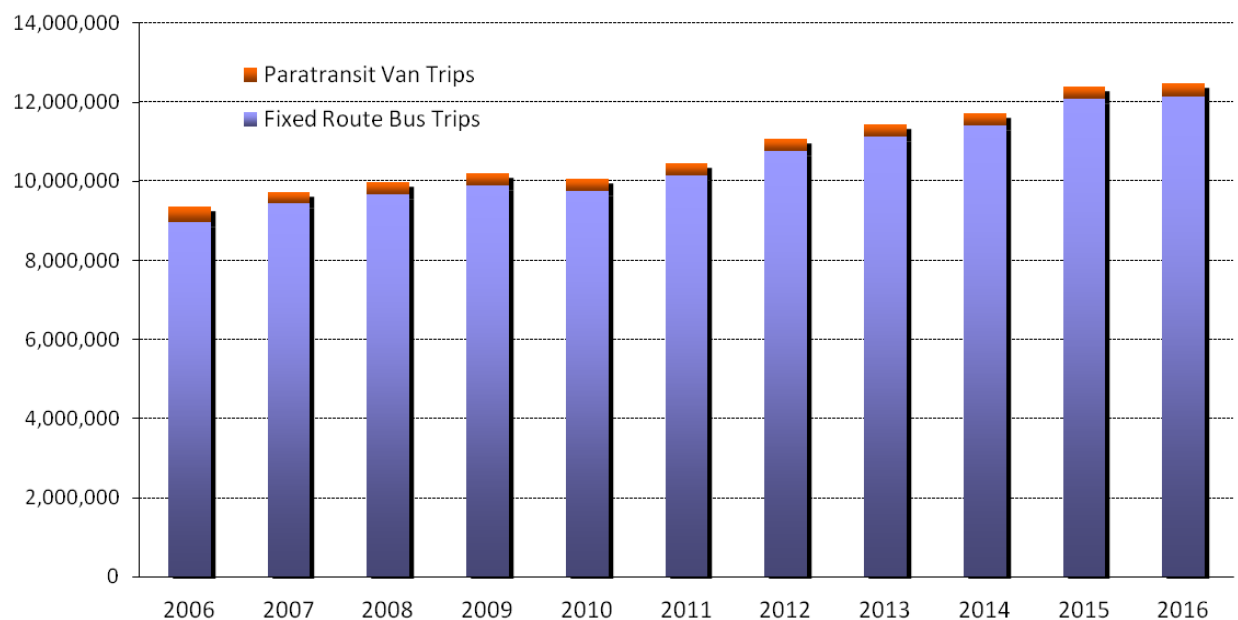
(In accordance with FTA guidance, this report uses the term “minorities” where necessary to conform to federal regulations that refer collectively to people who are not white. However, in PVRTA’s view the term “minorities” is not consistent with the intent and purpose of an equity analysis because the majority of PVRTA customers—at least 62%—are a race other than white. Therefore, PVRTA uses more inclusive language with respect to race where ever possible in this document.)

2. PVTA Background Information

The Pioneer Valley Transit Authority (PVTA) serves 24 communities in Western Massachusetts with a population of 580,230 (ACS 2014 five-year estimates). PVTA is a designated recipient of FTA funds that provides fixed route bus and ADA demand response public transportation to a geographic area measuring some 600 square miles that contains the Cities of Springfield, Chicopee, and Holyoke; the Five Colleges area of Northampton and Amherst, including more than 30,000 students and employees at the University of Massachusetts Amherst; and outlying suburban and rural communities.

PVTA operates a fleet of 186 heavy duty transit buses, 144 paratransit vans, and five 18-passenger vans. There are 45 scheduled bus routes (fixed routes), with paratransit van provided within $\frac{3}{4}$ mile of those routes when they are operating to comply with the Americans with Disabilities Act (ADA). PVTA provided 12.3 million passenger trips in FY2015 (July 1 to June 30), up 18.1% since FY2010.

Fig. 2-1: PVTA Ridership FY2006 to FY2016



Source: PVTA

Created in 1974, PVTA had an operating budget of \$45 million in FY2015. Under Massachusetts law, PVTA and the Commonwealth's 13 other regional transit authorities may not directly operate transit services. Therefore, PVTA competitively contracts with private companies to operate its fixed routes bus routes and paratransit van services. Currently, these contract operators are UMass Transit Services, First Transit, and Hulmes Transportation Services.

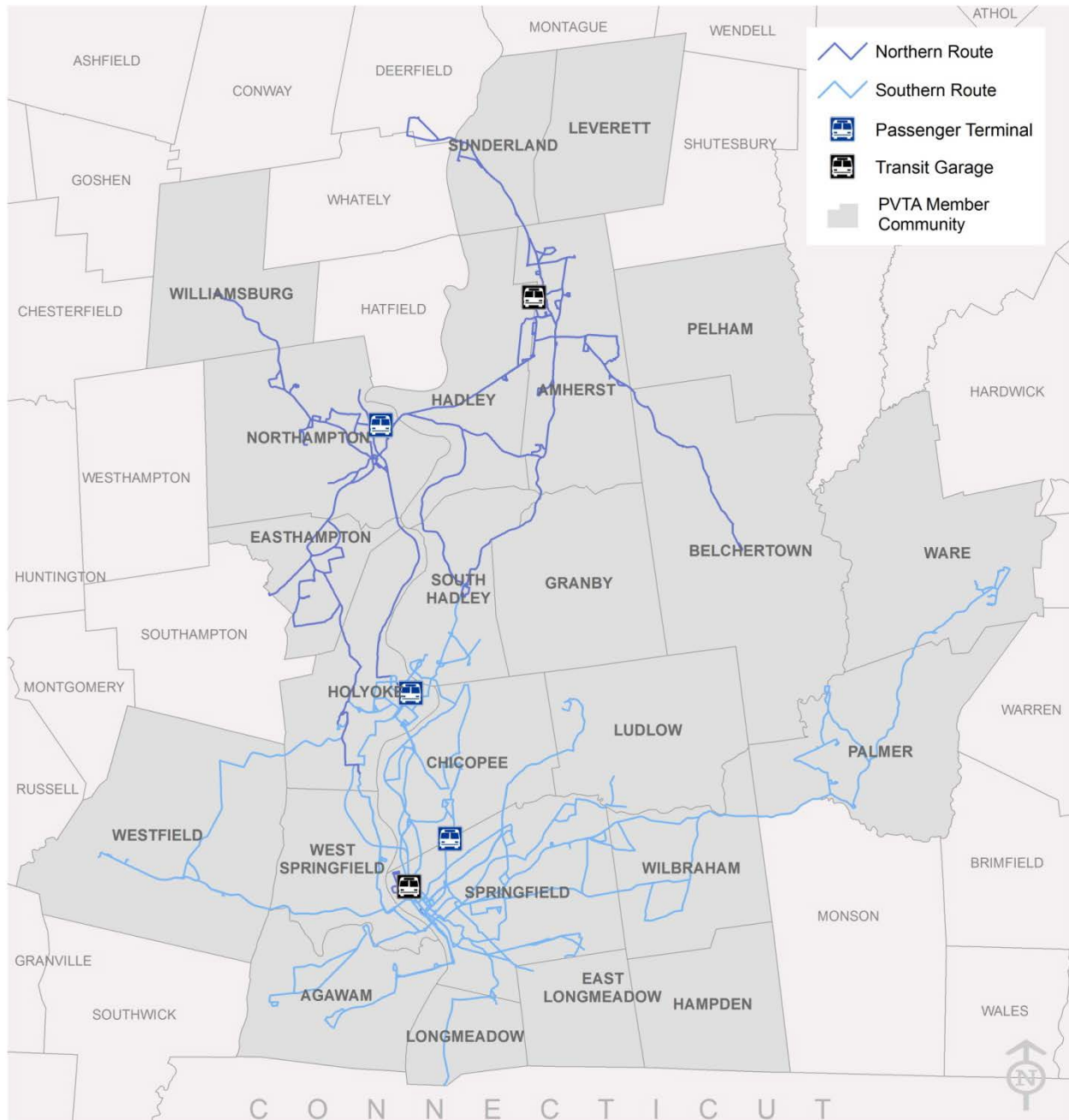
Funding for PVTA operations and capital improvements comes from several sources: federal grant programs; state and local governments; institutions; advertising; and passenger fares, which accounted for 18% of the total cost of services in FY2015.

Fig. 2-2: PVRTA Service Area

Pioneer Valley Transit Authority



Service Area Map



3. PVTA Ridership Profile

PVTA customers are highly dependent on public transit. “Transit dependent” is generally defined as having no means other than public transit to make a typical trip. A total 68% of PVTA riders surveyed said they have “No other way to make my trip” (PVTA 2015-2016 onboard rider surveys, n=2,798).

FTA defines transit dependency as: 1) people without private transportation or private car; 2) elderly age 65 and older; 3) youths under age 18; and 4) persons below poverty or median income. With respect to these characteristics, PVTA’s most recent customer surveys found:

- 52% of PVTA customers do not own or have access to a private auto.
- 3.7 % are age 65 or older.
- Approximately one-fifth are 18 or younger.
- More than half (55.2%) of PVTA riders have incomes at or below the federal poverty level.

Therefore, it is reasonable to conclude that at least 2 of every 3 PVTA riders meet at least one of the criteria for being transit dependent. Based on ridership, fare payment data, and customer trip frequencies reported on rider surveys, there are an estimated 15,000 to 20,000 people in the region who use PVTA on a regular basis (at least once a week). This means that between 10,000 and 13,400 regular PVTA riders are considered transit dependent.

The Fast Break Card will be available to all customers of PVTA’s fixed route buses, as the card works only with PVTA fare boxes. PVTA’s paratransit vans are not equipped with fare boxes; therefore paratransit customers will not experience any changes in fare payment and are not included in this equity analysis.

3.1 Fixed Route Customer Demographics

Demographic information presented in this section was compiled from surveys of 2,799 riders performed in 2015 (Hampden County PVTA routes) and 2016 (Hampshire and Franklin County routes). Additional information is presented from 2014 American Community Survey five year estimates.

3.1.1 Income

PVTA customers on average have personal incomes that are significantly less than the regional average. In fact, the majority of PVTA customers report personal income that is at or below the federal poverty level, which is shown below for 2015.

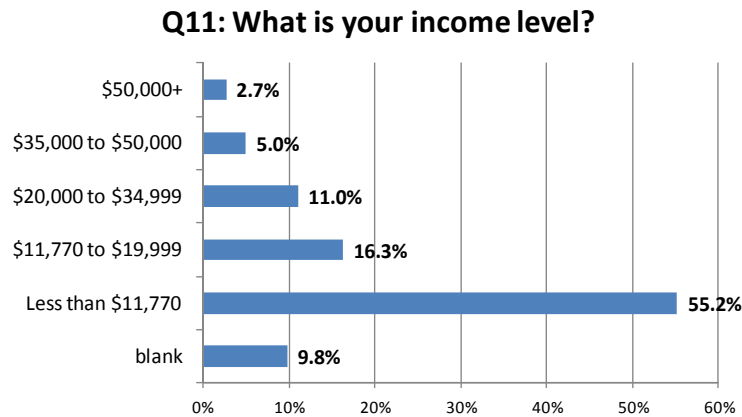
Fig 3.1.1-1: Federal Poverty Thresholds 2015

Household Size	Annual Income
1 person	\$11,770
2 people	\$15,930
3 people	\$20,090
4 people	\$24,250
5 people	\$28,410
6 people	\$32,730

Source: U.S. Department of Health and Human Services

Results from the 2015 and 2016 PVTA Customer Survey presented below show that more than 55% of PVTA customers are at or below the federal poverty level.

Fig. 3.1.1-2: PVTA Customers' Annual Income



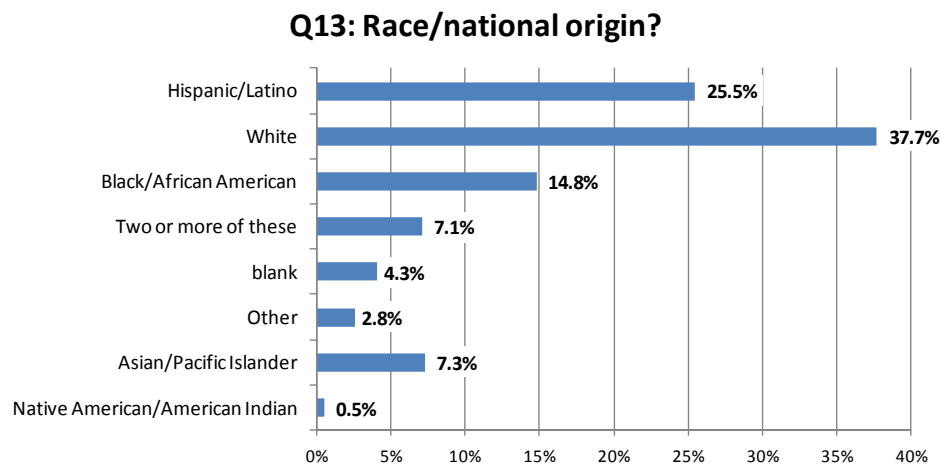
PVTA On Board Customer Surveys 2015 and 2016. N=2,798

This finding is generally supported by U.S. Census American Community Survey 2014 five-year estimates, which report that 55% of commuters who take transit to work make less than \$10,000/year. Another 29% make between \$10,000-14,999, of which approximately 6% can reasonably be estimated to be below the \$11,700 federal poverty threshold shown below. Therefore, the estimated proportion of transit commuters only in the region below the poverty level is at least **61%**.

3.1.2 Race and Ethnicity

People of color are the majority of PVTA riders, constituting at least 62% of customers surveyed in 2015 and 2016.

Fig 3.1.2-1: Racial Characteristics of PVTA Customers



PVTA On Board Customer Surveys 2015 and 2016. N=2,798

The proportion of transit commuters in the PVTA service region who are people of color is approximately four times greater than the proportion of persons of color in the region as a whole.

Fig 3.1.2-2: Regional Commuting by Public Transportation by Race

<i>Proportion of Commuters Who Take Public Transportation to Commute to Work</i>			
Race	Hampden County	Hampshire County	PVTA Riders Who Use Bus to Commute to Work (25% of riders surveyed)
American Indian/Alaska Native	0.4%	0.0%	0.6%
Asian	1.4%	24.4%	3.1%
Black/African American	27.5%	3.1%	19.8%
Hawaiian/Pacific Islander	0.0%	0.0%	0.0%
Hispanic/Latino	41.8%	9.5%	33.8%
White	45.5%	70.1%	29.8%
Another Race	20.2%	0.6%	3.3%
Two or more races	5.1%	1.7%	9.7%

Source: American Community Survey 2014 five-year estimates; PVTA Customer Surveys 2015 and 2016

3.1.3 Language and English Proficiency

For languages spoken, the proportion of PVTA customers surveyed in 2015-2016 who said they speak only Spanish was 1.1%. This is much lower than the regional average of 6.3%. However, 6% of PVTA riders who took the survey chose the Spanish language form, which suggests the actual proportion of PVTA customers who speak only Spanish is greater than 1.1% and probably closer to the regional average of 6.3%.

Also, in Hampden County (where two-thirds of PVTA riders live) the proportion of PVTA customers who speak both Spanish and English is nearly double (31.5%) the countywide average (16.8%). While the PVTA survey was not able to ask how well bilingual customers speak English, the ACS 2014 five-year estimates for Hampden County suggests that approximately one-third of Spanish/English bilingual persons “Do Not Speak English Well or At All.” Therefore, it is likely that at least one-third of PVTA customers in Hampden County (approximately 10%) also do not speak English well or at all. It is for this critical reason that PVTA provides all rider information in Spanish, as well as English.

4. Paratransit Customer Impacts

There will be no impacts to PVTA paratransit van customers (ADA and Senior Service) because there will be no change in fare payment media for paratransit customers. Currently, van riders pay their fares using cash, check, or a credit card from the PVTA Customer Service office, PVTA.com, or local councils on aging (most of which do not accept credit card payments).

5. Fast Break Card Program Description and Features

PVTA's new smart card fare media is known as the Fast Break Card. The Fast Break Card program is being offered to increase the convenience of fare payments for all PVTA fixed route customers by helping them pay their fares more quickly, reducing bus stop dwell times and improving on time performance.

There are no fare increases or service changes proposed as part of the Fast Break Card program.

This section summarizes the Fast Break Card Program features and policies. The program involves the addition of two new fare media options:

- Fast Break Smart Card:** A plastic, reusable wallet-size card with an embedded radio frequency identification (RFID) electric chip with a usable lifespan of five years. The card may be produced with photo ID for Elderly & Disabled Transportation Access Pass, or TAP, card. Can be loaded with up to 3 passes, or two passes and cash value up to \$100. PVTA intends to implement these features using a phased approach to improve customer adoption and familiarity with the card.
- Fast Break Limited Use Card:** A paper card with magnetic strip similar to PVTA's existing passes which can be used for up to two months (62 days). May be loaded with up to two passes *or* stored value up to \$100 (but not both). Once a limited use card is used for a specific product, it cannot be reloaded. Features will also be implemented on a phased basis.

PVTA's fare boxes on fixed route buses are equipped with RFID and magnetic strip readers to work with both these types of new fare media, while continuing to read existing paper magnetic strip passes and accept cash payments for cash fares and 1-day passes on board.

Fig 5-1: PVTA Fare Media Features Summary

Fare Purchase Options Comparison			
Feature	Existing	Fast Break Card	Limited Use Card
Card/pass acquisition fee	\$0.00	\$3.00	\$0.00
Minimum stored value	N/A	\$5.00	\$0.00
Expiration period	31 days	5 years	62 days
Replacement fee: 1st time (if lost before expiration)	N/A	\$3.00	\$0.00
Replacement fee: 2nd time	N/A	\$5.00	\$0.00
Replacement fee: 3 or more more times	N/A	\$15.00	\$0.00
Online stored value reloading	No	Yes	No
Can be linked to credit card	No	Yes	No
Automatic replenishment	No	Yes	No
Activation and reloading waiting period	No	48 hrs	TBD
Balance check function at farebox	No	Yes	No
Balance protection for lost/stolen card	No	Yes	No

Fig 5-2: Fast Break Smart Card Transaction Type Availability by Purchase Location

Purchase Location	Type of Transaction						
	Purchase & Load Regular Fare products and stored value onto Smart Card	Purchase & Load Reduced Fare products and stored value onto existing E&D Smart Card	Reload existing Smart Card with products and stored value	Check Balance of products or stored value remaining on the smart card	Apply for and Obtain E&D smart card /ID	Purchase Limited Use smart card (Ticket)	Purchase Magnetic Day pass and/or magnetic transfer*
Customer Service Information Center	✓	✓	✓	✓	✓	✓	✓
Holyoke Transportation Center	✓	✓	✓	✓	✓	✓	✓
Ticket Vending Machine (TVM)	✓	✓	✓	✓	—	—	—
E-fare**	✓	✓	✓	✓	—	✓	—
Retailers (Big Y)	✓	✓	✓	✓	—	—	—
On the bus fare box	—	—	—	✓	—	—	✓
*Although the magnetic day pass and transfer will continue to be available on the bus as is the current practice, PVTA will not continue to promote it at other sales locations.							
**A 48-hour waiting period applies to all E-fare transactions. Once the transaction is completed on E-fare, it will take a maximum of 48-hours to use the purchased product.							

Ticket vending machines are expected to be located at the Holyoke Transportation Center and Springfield Bus Terminal upon initial roll-out, or as soon as practicable thereafter. More TVMs will be added in the future at other convenient locations. Future locations will be selected on proximity to the greatest number of riders, as well as environmental justice neighborhoods.

Smart card fare payment is available at peer transit authorities in New England, as summarized below.

Fig 5-3: Smart Card Availability at Peer New England Transit Authorities

Agency	Basic Full Cash Fare	SmartCard Name	Acquisition Cost	Minimum Balance	Fare Discount	Expiration
PVTA	\$1.25	Fast Break	\$5	\$0	none	5 yrs
CDTA	\$1.50	Navigator	TBD	TBD	TBD	TBD
CTTransit	\$1.50	None (<i>no card</i>)	N/A	N/A	N/A	N/A
BRTA	\$1.75	Charlie Card	\$0	\$0	15-20%	10 yrs
WRTA	\$1.50	Charlie Card	\$0	\$0	13%	10 yrs
MBTA	\$2.00	Charlie Card	\$0	\$0	15-20%	10 yrs

(MBTA Charlie Cards are accepted at the following transit authorities in Massachusetts: MetroWest Regional Transit Authority, Brockton Area Transit Authority, Lowell Regional Transit Authority, Merrimack Valley Regional Transit Authority, Montachusett Regional Transit Authority, Worcester Regional Transit Authority, Cape Ann Transportation Authority, Cape Cod Regional Transit Authority, Southeastern Regional Transit Authority, and Berkshire Regional Transit Authority.)

6. Public Outreach and Consultation

Public outreach for the implementation of the Fast Break Card included the following activities:

- PVTA Finance Committee briefings and consultation on May 25, June 29, 2016.
- Ongoing PVTA Advisory Board briefings and consultation from 2012 through 2016.
- Two PVTA Bus Rider Forums on April 1 and May 3, 2016.
- Contacts and information flier provided to approximately 60 bus riders at Springfield Bus Terminal and Northampton Academy of Music on August 29 and September 6, 2016.
- Four public hearings with information about the Fast Break Card program and opportunities for public feedback.
- Telephone line and email comment address set up to accept additional public input.

PVTA staff held public hearings and informational meetings on these dates at the following locations:

- Monday, August 18, 2016 from 4:00 to 5:30 PM – Springfield Area – 60 Congress St., Springfield (Pioneer Valley Planning Commission Office).
- Tuesday, August 19, 2016 from 3:00 to 4:30 PM – Chicopee Area – 449 Front St., Chicopee Public Library.
- Wednesday, August 20, 2016 from 5:00 to 6:30 PM – Northampton Area – 210 Main St, City Council Chambers.
- Monday, August 22, 2016 from 5:00 to 6:30 PM – Holyoke Area – 206 Maple St., Holyoke Transportation Center.

At each meeting, PVTA staff presented the Fast Break Card features and proposed mitigation measures. Key themes of public comments received are:

- Interest in knowing when the Fast Break Card will be available.
- General interest and support for new fare payment option.
- Questions about whether or not use of Fast Break card will be mandatory.
- Questions about whether or not the PVTA Elderly & Disabled Pass and TAP pass will be affected.

7. Impact Analysis and Mitigation Measures

This section presents information to identify and analyze potential impacts of the proposed Fast Break Card program that may be either disproportionate for low-income riders (Section 7.1) and/or disparate for PVTA customers of color (Section 7.2). The intent of this analysis, as required by FTA guidance, is to yield clearer understanding of actual and potential differences in existing and proposed fare media.

The following matrix (Fig 7-1 on next page) summarizes existing PVTA fare media and the proportion of fares paid with each in the most recent fiscal year (FY2015). The matrix also shows the three proposed future fare media options that will be available, which are: 1) Regular Purchase (existing fare media); 2) Purchased on a Fast Break Smart Card; and 3) Purchased on a Fast Break Limited Use Card.

FTA guidance requires PVTA to determine or estimate of the number and percent of users who will be affected by each fare media being changed. In this case, no existing fare media will be changed. Two new fare media will be added for fixed route bus riders (Fast Break Smart Card and Fast Break Limited Use Card). There will be no fare media change for ADA paratransit users.

FTA guidance requires PVTA to review fares before and after the proposed fare media change. The matrix above present this review, which shows there will be no increase in the dollar amount of any fares paid through existing Regular Purchase fare media as compared to the new Fast Break Smart Card and Limited Use Card. PVTA will continue to track the proportion of fares paid through existing pass products and cash fares, and will require monthly reporting by its fixed route operators of the proportion of those products purchased using the Fast Break Smart Card and Fast Break Limited Use Card.

In accordance with federal guidance, if PVTA finds potential disparate impacts and then modifies the proposed changes in order to avoid, minimize or mitigate those impacts, the proposed changes must be refined to determine whether the modifications actually remove the potential disparate impacts of the proposed changes. Sections 7.1 and 7.2 identify potential disproportionate and disparate impacts and describe the mitigation measures that will be implemented to avoid or minimize these impacts.

While PVTA will aggressively market the Fast Break program, it is anticipated that customer adoption will be gradual. This was the implementation pattern at peer transit agencies in Massachusetts: the Berkshire Regional Transit Authority implemented the MBTA-based Charlie Card for its customers in 2011, and adoption has grown steadily to the point where more than half of customers use it. The Worcester RTA reports a similar adoption pattern for its Charlie Card users. It is reasonable to expect PVTA would experience similar adoption rates.

Fig 7-1: Summary Analysis of Existing and Proposed PVTA Fare Media

Fare Classification/Media (Existing and Proposed for Fast Break and Limited Use Cards)	Existing		Proposed Future Fare Payment Options (3)					
	Fare and Pass Prices	% of All Fares Paid ²	1. Regular Purchase	% Change	2. Purchased on Fast Break Card	% Change	3. Purchased on Limited Use Card	% Change
Basic Fares								
Adults Basic Fare	\$1.25	19.5%	\$1.25	0%	\$1.25	0%	\$1.25	0%
Adult Transfer ³	\$0.25	10.1%	\$0.25	0%	\$0.25	0%	\$0.25	0%
Elderly & Disabled Fare	\$0.60	5.7%	\$0.60	0%	\$0.60	0%	\$0.60	0%
Elderly & Disabled Transfer ³	\$0.10	1.5%	\$0.10	0%	\$0.10	0%	\$0.10	0%
Child Fare (6-12)	\$0.75	1.3%	\$0.75	0%	\$0.75	0%	\$0.75	0%
Child (6-12) Transfer ³	\$0.25	0.1%	\$0.25	0%	free		free	0%
Child under age 6	free	4.7%	free	0%	free		free	0%
Passes								
31-Day Pass (regular fare)	\$45.00	10.2%	\$45.00	0%	\$45.00	0%		0%
<i>If purchased at PVTA Customer Service, SBT, HTC</i>	\$45.00		\$45.00	0%	\$45.00	0%		0%
<i>If purchased at PVTA.com with Paypal/eFare; incl. postage</i>	\$46.50		\$46.50	0%	\$45.00	-3%	n/a	
<i>If purchased at Big Y</i>	\$43.00		\$43.00	0%	\$43.00	0%		0%
Elderly & Disabled 31-day pass (TAP pass)	\$22.00	11.5%	\$22.00	0%	\$22.00	0%		0%
<i>If purchased at PVTA Customer Service</i>	\$22.00		\$22.00	0%	\$22.00	0%	\$22.00	0%
<i>If purchased at Big Y</i>	\$20.00		\$20.00	0%	\$20.00	0%	\$20.00	0%
7-Day Pass	\$12.50	2.0%	\$12.50	0%	\$12.50	0%	\$12.50	0%
1-day Pass	\$3.00	21.7%	\$3.00	0%	\$3.00	0%	\$3.00	0%
College and Public School Passes (WSU, HCC, STCC, WNEU, etc) ¹	varies	8.9%	varies		TBD		TBD	
Tickets								
1-ride Ticket (Customer Service, HTC, social service agencies, Amherst Big Y, councils on aging)	\$1.15	0.9%	\$1.15		TBD		TBD	TBD
¹ Paid by affiliated institutions; excludes Five Colleges/UMass system, which has no fare boxes								
² FY2015								
³ Transfers are always purchased with a basic fare, so no "% Fares Paid" is reported								

7.1 Disproportionate Impact Assessment (to Low-income Customers)

This section presents an assessment of the potential disproportionate impacts of the Fast Break Card program on customers who have low incomes. The threshold for such an impact is established by the PVTA Advisory Board's Disproportionate Impact Policy:

"If a PVTA planned transit fare rate, fare media or major service change results in low-income populations bearing a variance that is **20 percentage points greater** in comparison to non-low-income populations, the resulting effect will be considered a low-income disproportionate impact." (September 23, 2015)

Federal guidance requires PVTA to compare the differences for each particular fare media for low-income users versus all users to determine whether or not this 20-percent threshold is reached.

7.1.1 Geographic and Sales Hours Availability of Fast Break Card and Mitigation

FTA guidance requires an assessment of the availability of new fare media with respect to point of sale locations and hours. The existing PVTA pass sales locations and hours are shown below.

Fig 7.1.1-1: Existing Locations and Hours of PVTA Pass and Ticket Sales

Location	Address	Days	Open	Close	HRS/WK
PVTA Customer Service	1341 Main St, Springfield	Mon-Fri	9:00 AM	4:45 PM	39
Springfield Bus Terminal (Peter	1776 Main St, Springfield	Mon-Sun	6:30 AM	9:00 PM	101
Holyoke Transportation Center	206 Maple St, Holyoke	Mon-Sat	8:00 AM	4:45 PM	52
Northampton City Hall	210 Main St., Northampton	Mon-Fri	8:30 AM	4:30 PM	40
PVTA.com	www.pvta.com and PayPal	Mon-Sun	12:00 AM	11:59 PM	168
Big Y Amherst	175 University Dr, Amherst MA 01002	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Chicopee	650 Memorial Drive, Chicopee, MA, 01020	Mon-Sun	7:00 AM	10:00 PM	105
Big Y East Longmeadow	441 N Main Street, East Longmeadow, MA, 01028	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Longmeadow	802 Williams Street, Longmeadow, MA, 01106	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Ludlow	433 Center Street, Ludlow, MA, 01056	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Northampton	136 North King Street Rt 5, Northampton, MA, 01060	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Palmer	1180 Thorndike Street, Palmer, MA, 01069	Mon-Sun	7:00 AM	10:00 PM	105
Big Y South Hadley	44 Willimansett Street, South Hadley, MA, 01075	Mon-Sun	7:00 AM	9:00 PM	98
Big Y Springfield (Cooley S)	300 Cooley St., Springfield, MA, 01128	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Springfield (St. James Ave)	1090 St. James Avenue, Springfield, MA, 01104	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Ware	148 West Street, Ware, MA, 01082	Mon-Sun	7:00 AM	10:00 PM	105
Big Y West Springfield	503 Memorial Avenue, West Springfield, MA, 01089	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Westfield (East Main St)	475 East Main St., Westfield, MA, 01085	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Westfield (East Silver St)	10 East Silver Street, Westfield, MA, 01085	Mon-Sun	7:00 AM	10:00 PM	105
Big Y Wilbraham	2035 Boston RD, Wilbraham, MA, 01095	Mon-Sun	7:00 AM	10:00 PM	105

The Fast Break Smart Card and Fast Break Limited Use Card will be available for sale at all of the existing locations and during the same hours at each location shown above, with the single exception of Northampton City Hall, which will continue to sell passes and tickets but cannot be equipped with Fast Break Card sales equipment at this time.

Fig. 7.1.1-2 Fast Break Card Sales Locations and Hours Impacts and Mitigation Measures

#	Potential Disparate Impact	Mitigation
7.1.1-1	Geographic availability and sales hours for Fast Break Smart Card and Limited Use Card could be less than those of all other PVRTA fare payment options because Fast Break products will not be sold initially at Northampton City Hall, which accounts for less than 0.5% of all pass and ticket sales.	All existing regular purchase passes and tickets will continue to be sold at Northampton City Hall. Customers requesting a Fast Break product at that location will be provided with information on how to purchase either the Fast Break Smart Card or Limited Use Card from PVRTA, local Big Y stores, or www.PVRTA.com . Because there are at least 19 other sales locations (one of which is less than 2 miles from Northampton City Hall at the Hampshire Plaza on North King Street) where customers will be able to purchase Fast Break products during existing hours, this reduction in geographic and hours of sales availability does not exceed the 20% threshold established by the PVRTA Advisory Board's Disparate Impact Policy and mitigation is not required.

7.1.2 Environmental Justice Neighborhoods Availability of Fast Break Card and Mitigation

FTA guidance also requires PVRTA to determine whether or not there will be any impact to the availability of fare media with respect to race or income. The following figure shows PVRTA pass sale locations and whether or not they are located in a neighborhood that is classified by the Pioneer Valley Planning Commission as "environmental justice," which means there are a greater proportion of either people of color or a greater proportion of people who earn annual salaries that are below the federal poverty level than the average for the region. Neighborhoods are defined at the Census block group level using the 2010 U.S. Decennial Census boundaries.

Fig 7.1.2-1: Environmental Justice Status of Sale Locations of Existing PVRTA Pass and Fast Break Card

Location	Address	EJ Neighborhood?
PVRTA Customer Service	1341 Main St, Springfield	YES
Springfield Bus Terminal (Peter	1776 Main St, Springfield	YES
Holyoke Transportation Center	206 Maple St, Holyoke	YES
Northampton City Hall	210 Main St., Northampton	YES
PVRTA.com	www.pvta.com and PayPal	YES
Big Y Amherst	175 University Dr, Amherst MA 01002	YES
Big Y Chicopee	650 Memorial Drive, Chicopee, MA, 01020	NO
Big Y East Longmeadow	441 N Main Street, East Longmeadow, MA, 01028	NO
Big Y Longmeadow	802 Williams Street, Longmeadow, MA, 01106	NO
Big Y Ludlow	433 Center Street, Ludlow, MA, 01056	YES
Big Y Northampton	136 North King Street Rt 5, Northampton, MA, 01060	YES
Big Y Palmer	1180 Thorndike Street, Palmer, MA, 01069	NO
Big Y South Hadley	44 Willimansett Street, South Hadley, MA, 01075	NO
Big Y Springfield (Cooley S)	300 Cooley St., Springfield, MA, 01128	YES
Big Y Springfield (St. James Ave)	1090 St. James Avenue, Springfield, MA, 01104	YES
Big Y Ware	148 West Street, Ware, MA, 01082	YES
Big Y West Springfield	503 Memorial Avenue, West Springfield, MA, 01089	NO
Big Y Westfield (East Main St)	475 East Main St., Westfield, MA, 01085	YES
Big Y Westfield (East Silver St)	10 East Silver Street, Westfield, MA, 01085	YES
Big Y Wilbraham	2035 Boston RD, Wilbraham, MA, 01095	YES

There will be no disproportionate impact to PVRTA customers in environmental justice neighborhoods with respect to geographic availability because the Fast Break Card will be available at all the same locations where passes and tickets may be purchased currently with the exception of Northampton City Hall. Pass and ticket sales at this location for the most recent fiscal year (FY2015) were less than 0.5% of all fares sold (by number of fare, not dollar value).

Fig. 7.1.2-3 Environmental Justice Impacts and Mitigation Measures

#	Potential Disparate Impact	Mitigation Measure
7.1.2-1	The availability of the Fast Break Smart Card and Limited Use Card could be somewhat less in one Environmental Justice neighborhood (downtown Northampton) because Fast Break products will not be sold initially at Northampton City Hall, which accounts for less than 0.5% of all pass and ticket sales.	All existing regular purchase pass products will continue to be sold at all existing pass and ticket sales locations, including Northampton City Hall. Customers requesting a Fast Break product at Northampton City Hall will be provided with information on how to purchase card from PVRTA Customer Service offices, local Big Y stores, or www.PVRTA.com . There are at least 19 other sales locations (one of which is less than 2 miles from Northampton City Hall at the Hampshire Plaza on North King Street) where customers will be able to purchase Fast Break products during existing hours. Because pass and ticket sales at the Northampton City Clerk's office are less than 0.5% of all PVRTA pass and ticket sales, this potential impact does not exceed the 20% threshold established by the PVRTA Advisory Board's Disparate Impact Policy.

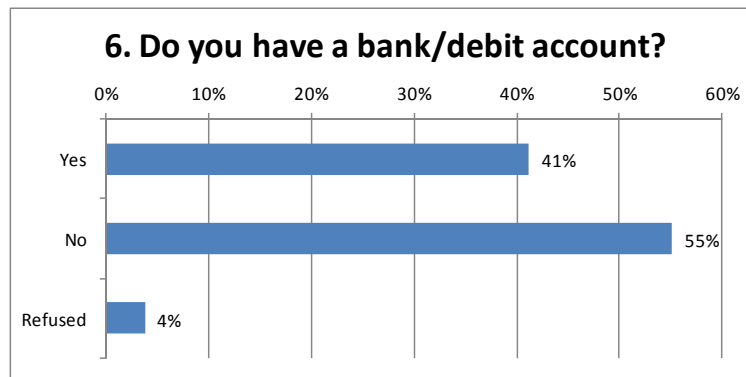
7.1.3 “Banked” Customer Impacts and Mitigation

Some of the new purchase options and features for the Fast Break Card will require the card holder to have a bank account and/or credit card. For purposes of this analysis, a “banked” customer is one who has a checking or debit account with a tradition bank or financial institution.

All transactions at PVRTA Customer Service windows will continue to accept cash, personal checks/debit cards, and credit cards. Online transactions at www.PVRTA.com for Fast Break Card products, however, cannot accept cash or debit cards; only credit cards can be used for online purchase of either Fast Break Card or Fast Break Limited Use Card, manual replenishment of the Fast Break Card, and automatic replenishment of Fast Break Card features.

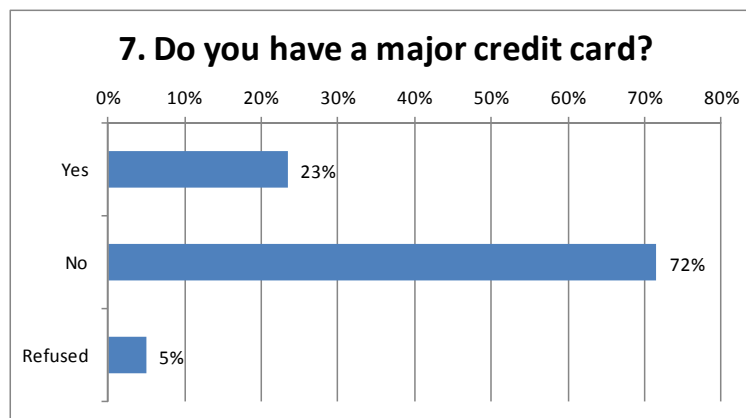
In general, the likelihood is greater that people who have lower incomes do not have a bank account, as compared to people with higher incomes (U.S. Federal Reserve 2015). To better understand the proportion of PVRTA customers who are “banked” and would therefore have access to the additional features of the Fast Break Card program that require a bank account and/or credit card, a survey of 158 customers was conducted at two rider outreach events: one at the Springfield Bus Terminal on April 1, 2016, and the other at the Holyoke Transportation Center on May 3, 2016.

As reported below, this survey found that a majority of PVRTA customers (55%) do not have a bank account.

Fig 7.1.3-1: Proportion of PVTA Customers Surveyed with Bank Accounts

Customer surveys April 1 and May 3, 2016. N=158

Also, some online features of the Fast Break Smart Card (but not the Limited Use Card) are available only with a credit card (such as VISA or Master Card). These features include the manual card value replenishment of the Fast Break Card and setting up the Auto Buy feature to automatically add stored value to registered cards via secure funds transfer from a credit card (debit cards are not accepted online) on a scheduled basis. The survey results suggest that a majority of PVTA customers do not have credit cards and would therefore not be able to use these features.

Fig 7.1.3-2: Proportion of PVTA Customers Surveyed with Major Credit Card

Customer surveys April 1 and May 3, 2016. N=158

Based on the survey findings above, it is likely that more than 20% of low-income PVTA customers are not “banked” would therefore be affected by the bank account and credit card requirements to access all the features of the Fast Break Card. Therefore, mitigation measures have been developed for this potential impact, which are described below, to comply with PVTA’s Disproportionate Impact Policy.

Fig. 7.1.1-1 Fast Break Card Sales Locations and Hours Impacts and Mitigation Measures

#	Potential Disparate Impact	Mitigation Measure
7.1.3-1	Customers without a checking or debit account will not be able to purchase the Fast Break Card or Limited Use Card online or perform manual replenishment or set up the Auto Buy features.	PVTA will make available a Limited Use Card that can be purchased with cash or check or debit. PVTA will also continue to make all existing forms of fare payment available, so there will be no change for customers who do not have a bank account or debit card.
7.1.3-2	Customers who do not have a credit card will not be able to use the manual and Auto Buy online replenishment features of the Fast Break Card.	PVTA will make available a Limited Use Card that can be purchased with cash or check or debit. PVTA will also continue to make all existing forms of fare payment available, so there will be no change for customers who do not have a credit card.

7.1.4 Internet Access Analysis

Internet access is required to use some features of the Fast Break Smart Card and Limited Use Card, including online purchase of either card, manual replenishment, and “Auto Buy” automatic replenishment of the Smart Card. Also, Balance Protection registration for stolen or lost cards requires card registration via an online service with PVTA (E-fare).

If purchased online, a Fast Break Smart Card can be registered immediately; if purchased at a Customer Service outlet or Big Y store, the user must wait 48 hours before going online to register.

No specific data on the internet access capacities of PVTA customers is available (no such question was asked on the 2015-2016 customer surveys). According to 2013 information from U.S. Census, internet access is proportionally less for people with lower incomes and non-white races. In 2013, an estimated 80.5% of households in the Springfield Metropolitan Statistical Area had broadband internet access, which exceeds the national average of 73.4%. However, the Census 2013 data show that low-income persons, who are the vast majority of PVTA customers, have significantly less internet access than average: just 48.4% of people who earn less than \$25,000 per year or less have internet access.

Based on these general population characteristics, it is reasonable to estimate that at least 20% or more of PVTA customers, the majority of who are low-income, do not have regular internet access and would therefore be impacted by this requirement. Therefore, additional mitigation measures have been developed and are described below to assure that customers will have equal access to the convenience features of the Fast Break Card, consistent with the PVTA Disproportionate Impact Policy.

Fig. 7.1.4: Internet Access Requirement Impacts and Mitigation

#	Potential Disparate Impact	Mitigation Measure
7.1.4-1	Lack of online access reduces Fast Break Smart Card and Limited Use Card online purchase convenience for low-income customers.	All existing cash fare, pass, and ticket purchase options will continue to be available, including Big Y grocery stores. There will be no change in pass availability for these customers.
7.1.4-2	Lack of online access reduces availability of manual and Auto Buy Fast Break Card replenishment for low-income customers.	All existing cash fare, pass, and ticket purchase options will continue to be available, including Big Y grocery stores. There will be no change in pass availability for these customers.
7.1.4-3	Lack of online access reduces availability of	Smart Card registration will be available at PVTA

	registration for lost/stolen card balance protection on the Smart Card for low-income customers.	Customer Service offices in Springfield and Holyoke. Public libraries also offer an alternative to customers for free online access. Smart Card registration will not be required for the Limited Use Card and existing regular cash fare and pass purchases.
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7.1.5 Fast Break Smart Card Fees and Minimum Stored Value Impacts and Mitigation

The Fast Break Smart Card will require the card holder to pay a \$3.00 acquisition fee and load an initial minimum balance of \$5.00 in stored value on the card. The Smart Card also has the following fee schedule for replacement if lost before expiration: \$3.00 for first loss; \$5.00 for second loss; \$15.00 for third and all subsequent losses. Therefore, a customer who wishes to use a Smart Card must have an additional \$8.00 on hand to acquire one, though the \$5.00 minimum balance at time of acquisition could be applied to cash fare or pass products immediately.

Customer survey data for existing fare payment by income level (below) finds that the breakdown of types of fare payment is relatively consistent for all income ranges. The ratio of 1-ride and 1-day pass cash on board purchases (column 2 vs. column 6) is approximately the same (31.5% vs. 10.3%) for the lowest income range “Less than \$11,700/year” as it is for the highest range “More than \$50,000/year,” which is 29.3% vs. 9.3%.

Fig. 7.1.5-1: Fare Payment by Income Level (as Percentage of Fares Paid by each Income Category)

Income Range	Full Fare Cash (includes 1-day pass)	E&D Discount Cash	Free (prepaid)	31-day E&D pass	31-day or 7-day pass
Less than \$11,700/year	31.5%	3.5%	48.5%	6.3%	10.3%
\$11,700 to \$19,999/year	43.5%	5.1%	28.3%	8.0%	15.0%
\$20,000 to \$34,999/year	47.7%	2.3%	25.8%	8.7%	15.4%
\$35,000 to \$50,000/year	47.4%	6.6%	22.6%	8.8%	14.6%
More than \$50,000/year	29.3%	5.3%	52.0%	4.0%	9.3%
blank	45.5%	6.6%	19.3%	11.5%	17.2%

PVTA On Board Customer Surveys 2015 and 2016. N=2,798

Reviewing the existing fare media patterns by income range as a percentage of all fares collected by PVTA in FY2015, it is evident that customers with lower incomes are also buying the 1-ride and 1-day cash on board fares in roughly the same proportion as than those customers with higher incomes. In the “Less than \$11,700/year” income range, customers bought approximately three times as many 1-ride and 1-day pass cash fares than 31-day and 7-day passes (17.6% vs. 5.7%, or approximately 3:1 ratio), as compared to customers in the “More than \$50,000/year” range (0.8% vs. 0.3%, also an approximate 3:1 ratio).

Fig. 7.1.5-2: Fare Payment by Income Level (as Percentage of All Fares Paid)

Income Range	Full Fare Cash (includes 1-day pass)	E&D Discount Cash	Free (prepaid)	31-day E&D pass	31-day or 7-day pass
Less than \$11,700/year	17.6%	1.9%	27.1%	3.5%	5.7%
\$11,700 to \$19,999/year	7.2%	0.8%	4.7%	1.3%	2.5%
\$20,000 to \$34,999/year	5.2%	0.3%	2.8%	1.0%	1.7%
\$35,000 to \$50,000/year	2.4%	0.3%	1.1%	0.4%	0.7%
More than \$50,000/year	0.8%	0.1%	1.4%	0.1%	0.3%
blank	4.1%	0.6%	1.7%	1.0%	1.5%

It is reasonable to conclude that low-income customers will not be disproportionately affected by additional fees associated with the Fast Break Smart Card than customers who earn higher incomes because the additional fees will apply to customers of all income levels equally. Therefore, the impact of these fees does not trigger the 20-percentage point threshold of the PVRTA's Disproportionate Impact Policy.

Fig. 7.1.5: Smart Card Fee Impacts and Mitigation

#	Potential Disparate Impact	Mitigation Measure
7.1.5-1	The initial \$5.00 acquisition cost for the Fast Break Card may be a burden to customers of all income levels.	The \$5.00 acquisition cost will be waived during the 6-month Fast Break introductory promotional period. After that period, the Limited Use Card and all existing pass products will continue to be available with no acquisition cost. Both the Fast Break Card and the Limited Use card will not require a minimum balance be carried, so the \$5.00 acquisition cost may be applied entirely to fare payment.
7.1.5-2	The initial \$5.00 minimum balance requirement for the Smart Card may be a burden to customers of all income levels.	The initial \$5.00 of stored value on the Smart Card will be only required at time of purchase. The Smart Card balance may be as little as \$0.00 and the card will still be active (but the customer will need to reload value to purchase a ride or pass product). Also, the Limited Use Card will continue to be available with no minimum stored value balance. And all existing passes and cash fares will be available with no minimum balance requirement.
7.1.5-3	The Smart Card replacement fees if lost before the five-year expiration (\$3.00 for first loss; \$5.00 for second loss; \$15.00 for third and all subsequent losses) may be a burden to customers of all income levels.	Customers may insure against having to pay Smart Card replacement fees (due to loss or theft) by registering it with PVRTA. Registration may be accomplished online at www.PVRTA.com or at the Customer Service Center offices in Springfield or Holyoke.

7.2 Disparate Impact Assessment (to Customers of Color)

This section assesses whether or not there will likely be differences for each particular fare media between users who are not white and overall users. This is known as a “disparate impact.” The threshold for this impact is established in the Disparate Impact Policy adopted by the PVTa Advisory Board:

“If a PVTa planned transit fare rate, fare media change, or major service change results in minority populations bearing a variance that is **20 percentage points greater** in comparison to non-minority populations, the resulting effect will be considered a minority disparate impact.

“In the course of performing a Title VI Equity Analysis, PVTa must analyze how the proposed action would impact minority as compared to non-minority populations. This analysis would also be performed for low income populations as compared to non-low income population. In the event the proposed action has a negative impact that affects the low income or minority populations more than the non-low income or non-minority populations with a disparity that exceeds the adopted 20% thresholds, PVTa must evaluate whether there is an alternative that has a more equitable impact. Otherwise, PVTa must take measures to mitigate the impact of the proposed action on the affected minority population or low income population and demonstrate that a legitimate business purpose cannot otherwise be accomplished and that the proposed change is the least discriminatory alternative.” (September 23, 2015)

The Fast Break Card will be available to all riders, regardless of ethnic background. Therefore, no disparate impacts are anticipated.

7.2.1 Fare Payment by Race Analysis

The 2015-2016 survey of PVTa customers found that people of color use the 31-day and 7-day passes more frequently than white customers, while white customers are more likely to pay their fares under educational institutional prepayment arrangements.

Fig 7.2-1: Fare Payment Types as Percentage of Fares Paid by Racial Group

Race	Full Fare Cash (includes 1-day pass)	E&D Discount Cash	Free (prepaid)	31-day E&D pass	31-day or 7-day pass
Asian/Pacific Isl	6.0%	0.0%	91.5%	0.0%	2.5%
Black/African American	50.1%	5.1%	22.2%	7.1%	15.4%
Hispanic/Latino	54.8%	4.9%	14.0%	9.1%	17.2%
Native American/Am Indian	28.6%	14.3%	28.6%	14.3%	14.3%
Other race	44.2%	0.0%	41.6%	2.6%	11.7%
Two or more races	46.6%	1.0%	31.6%	5.2%	15.5%
White	23.8%	4.5%	54.0%	8.4%	9.2%
(blank)	43.8%	6.3%	28.1%	7.3%	14.6%

* “Free (prepaid)” means the fare was purchased through a prepaid institutional reimbursement pass program.

The Fast Break Smart Card and Fast Break Card will be available at all existing PVTa pass sales locations, except for Northampton City Hall. Section 7.1 demonstrates that 14 of 20 current PVTa pass sale locations are in neighborhoods where the proportion of people of color exceeds the regional average. The Fast Break card will be available at all these existing locations. Therefore, there will be no disparate impact on PVTa customers of color with respect to the availability of the Fast Break Card

In the future, PVTa will update customer surveys to include Fast Break Card use for cross tabulation with race to determine if a disparate impact occurs over time as the card comes into wider use.

Fig 7.2-2: Fare Payment by Racial Group as Percentage of All Fares

Ethnicity	Full Fare Cash (includes 1-day pass)	E&D Discount Cash	Free (prepaid)	31-day E&D pass	31-day or 7-day pass
Asian/Pacific Isl	0.4%	0.0%	6.7%	0.0%	0.2%
Black/African American	7.5%	0.8%	3.3%	1.1%	2.3%
Hispanic/Latino	13.9%	1.2%	3.6%	2.3%	4.4%
Native American/Am Indian	0.1%	0.1%	0.1%	0.1%	0.1%
Other race	1.2%	0.0%	1.2%	0.1%	0.3%
Two or more races	3.3%	0.1%	2.2%	0.4%	1.1%
White	9.1%	1.7%	20.7%	3.2%	3.5%
(blank)	1.5%	0.2%	1.0%	0.3%	0.5%

There is no information in PVRTA customer surveys to suggest that riders of color will be disproportionately more or less likely to use the new payment media, as there is no data available yet on its use. PVRTA will survey riders at one year intervals during the Fast Break roll out period to assess whether or not disproportionate impacts occur.

7.2.2 English Proficiency Impacts and Mitigation

In looking at the fare payment choices of the 6% of PVRTA riders (165 individuals) who filled out the survey in Spanish (shown below), riders who filled out the Spanish version of the survey were more likely to pay cash on board (for either a cash fare or a 1-day pass).

	Full Fare or 1-day pass Cash on board	E&D Discount Cash on board	Free (prepaid)	E&D 31-day pass	31-day or 7- day pass
English Survey Respondents	36.4%	3.7%	41.2%	6.5%	12.2%
Spanish Survey Respondents	50.3%	10.2%	1.3%	22.3%	15.9%

Fig. 7.2.2-1: English Proficiency Impacts and Mitigation

#	Potential Disparate Impact	Mitigation Measure
7.2-1	Customers who are not proficient in English or do not speak English may not have access to all information about the features and requirements of the Fast Break Card Program.	All Fast Break Card program materials (for both the Smart Card and Limited Use Card versions) will be translated to Spanish. PVRTA will provide Spanish speaking staff at outreach events. News releases and advertisements will be produced for and distributed to Spanish language media in the PVRTA service area.
7.2-2	Spanish-speaking customers are more likely to pass cash onboard for a 1-ride basic fare or 1-day pass.	Outreach materials will emphasize that 1-ride fares and 1-day passes may be paid using the Smart Card and Limited Use Card.

8 Conclusion: Additional Fare Media is Equitable

PVTA's implementation of the Fast Break Card program is equitable with the mitigation proposed in this analysis. The analysis presented in this report demonstrates that the addition of the Fast Break fare media options will not disparately affect more than 20% of customers of color, and it will not disproportionately affect more than 20% of low-income riders, consistent with PVTA's publicly developed policy for impact thresholds.

This analysis finds that there are a limited set of circumstances related to bank account, credit card, and internet access requirements that could potentially disproportionately affect less than 20% of low-income PVTA customers. In these cases, PVTA has proposed a series of mitigation measures that will allow customers to avoid or minimize these impacts to the greatest extent possible within the program's technical capabilities and where practicable. Importantly, all existing fare media and payment options will be retained. There will be no change for people who do not wish to use the Smart Card program, and no fare discounts for people who do. PVTA has determined that retaining existing fare payment is the most feasible and equitable alternative that will still accomplish the Fast Break Card Program goals.

As the Fast Break Program is implemented, PVTA will conduct regular follow up customer surveys at intervals of no less than one per year to monitor the effectiveness of proposed mitigation measures and develop and implement any new ones that may be necessary to address Title VI impacts.

Appendices