Discounted Fares Pilot: Summary of Findings

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INTRODUCTION

In November 2022, the Allegheny County Department of Human Services (DHS) and Pittsburgh Regional Transit (PRT) launched a fare discount pilot program (the "Pilot") for County residents who received Supplemental Nutrition Assistance Program (SNAP) benefits. The Pilot was designed to evaluate the impact of public transportation fare reductions on ridership, mobility, employment and utilization of social services.

Pilot eligibility was open to adults ages 18 through 64 who lived in Allegheny County, received SNAP at least as of September 2022, and were not already receiving a PRT discount through other programs. Eligibility was limited to one adult participant per SNAP household. Youth ages 6 through 17 were also eligible to participate.

Each participating household was randomly assigned to one of three groups, offering varying levels of fare discounts:

- Free fares on all PRT trips (100% discount)
- 50% fare discount on all PRT trips
- No discount (i.e., control group, the "status quo policy")

The random assignment enabled us to estimate the causal effect of fare discounts on participants' outcomes.

Each participant received a PRT fare card (ConnectCard) programmed with the appropriate discount level. ConnectCards for participants in the no-discount and half-fare groups were preloaded with $10 to encourage initial card use. Once the balance was exhausted, participants in these groups could replenish their cards with cash or a timed pass to continue using them with the relevant applied discount (if applicable). For example, while a PRT ride normally costs $2.75, the half-fare group paid $1.35 per ride. The free-fare group received ConnectCards that allowed unlimited free rides for all PRT trips.

This report summarizes the quantitative findings from the Pilot, as well as the findings from qualitative interviews with participants. A more in-depth discussion of the Pilot program's design, implementation and quantitative results can be found here.

QUANTITATIVE FINDINGS

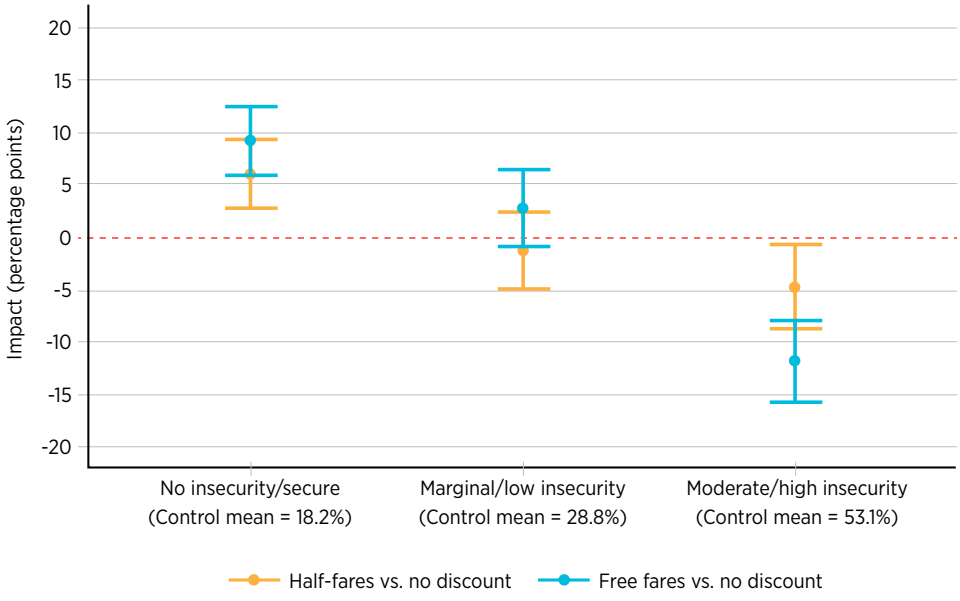
Key finding #1: Fare discounts provided financial relief and improved transportation security

At 15 months after entering the Pilot (toward the end of the active discount period), recipients of free fares reported spending $17.09 less than the control group per week. The half-fare group reported spending $5.64 less per week on public transportation than the control group.

Fare discounts significantly improved people's ability to travel in a safe and timely manner

Both discount levels improved self-reported transportation security according to the Transportation Security Index 6-item validated questionnaire (**Figure 1**). The concept of transportation security refers to the experience of being able to move from place to place in a safe and timely manner. Free fares reduced the share of survey respondents who exhibited moderate to high insecurity by 11.9 percentage points. The half fare treatment reduced moderate to high insecurity by 4.7 percentage points.

FIGURE 1: Effect of fare discounts on Transportation Security Index ratings, from post-endline survey



Key finding #2: Free fares increased public transit ridership, while half fares did not

According to GPS data collected from participants' smartphones, the free fare group took 1.48 more public transit trips per week than the control group (**Table 1**). This statistically significant result represents a 43% increase from the control group mean of 3.47 trips per week. The difference in ridership between the half-fare group and the control group was not statistically distinguishable from zero.

The free-fare group increase in public transit trips resulted mainly from substitution away from other modes of travel for existing journeys. According to GPS data, free fares reduced private vehicle travel by an estimated 1.67 trips per week. Data from self-reported travel diaries offered more precise estimates of mode substitution. The free fare group was 2.6 percentage points more likely than the control group to report taking at least one public transit trip on a given day, with a corresponding 2.9 percentage point decrease in the likelihood of taking a car trip and a 4.6 percentage point decrease for walk or bike trips. At the same time, the total number of weekly trips across all travel modes did not increase in response to free fares. Neither half fares nor free fares increased the frequency of trips to grocery stores, convenience stores, restaurants, or schools.

Together, these results demonstrate that free fares led participants to make greater use of public transportation for their existing travel needs, while shifting away from the use of cars and self-powered travel.

TABLE 1: Effect of fare discounts on number of trips per week, from smartphone GPS data

		TREATMENT EFFECT		
(N = 472)	CONTROL MEAN	HALF FARES	FREE FARES	FREE VS. HALF FARES
Public Transportation	3.47	-0.23 (0.637)	1.48** (0.716)	1.69*** (0.502)
Private Vehicle	13.39	0.441 (1.40)	-1.67 (1.44)	-2.11* (1.14)
Walk or Bike	4.94	-0.204 (0.508)	0.385 (0.513)	0.589 (0.492)
All Travel Modes	21.86	-0.065 (1.47)	-0.108 (1.65)	-0.043 (1.30)

*Note: *p < 0.1, **p < 0.05, ***p < 0.01*

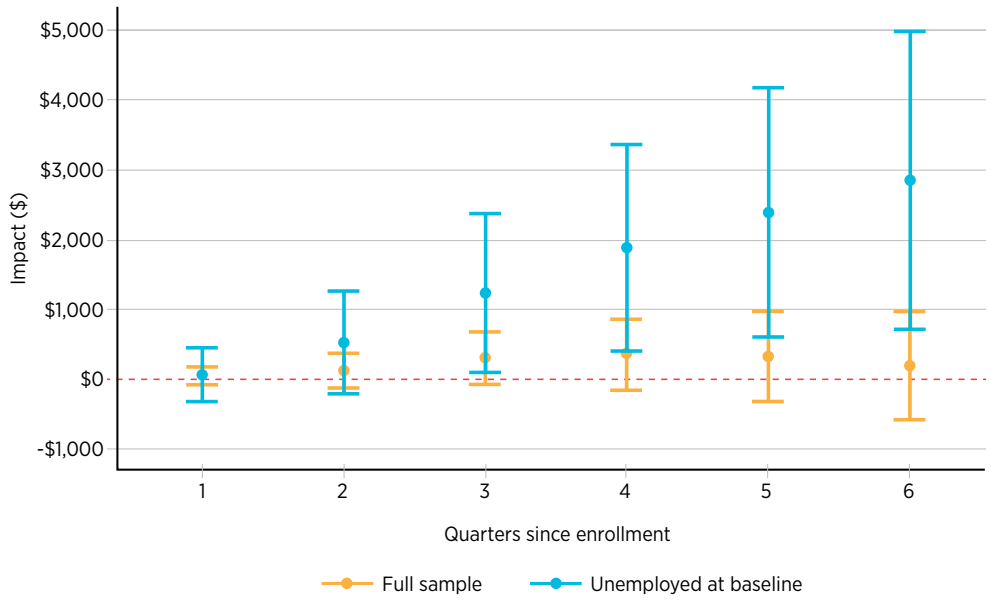
Key finding #3: Fare discounts increased employment and earnings for unemployed recipients

We measured Pilot participants' labor market outcomes using Pennsylvania unemployment insurance (UI) records. Fare discounts did not have a statistically detectable effect on the cumulative likelihood of employment or the cumulative earnings of the average sample member over the first six calendar quarters after random assignment. The 95% confidence interval allowed us to reject that free fares caused a decrease of more than $588 or an increase of more than $977 in cumulative earnings relative to the control group for the average sample member during this time period.

However, free fares did significantly increase employment and earnings for one particular sub-group of participants: those who reported being unemployed at the time they joined the study. In particular, free fares caused a 3.5 percentage point increase (6% of the control mean) in the cumulative likelihood of having any paid employment in the first six quarters, as well as a $2,845 increase (27.9% of the control mean) in cumulative earnings over this time period (**Figure 2**). The results for this sub-group are exploratory and do not represent primary pre-registered study outcomes. Nonetheless, these positive effects strongly suggest that free fares alleviate transportation barriers to work for unemployed workers, making it easier for them to regain employment.

Free fares increased the earnings of unemployed workers by 28% over 18 months

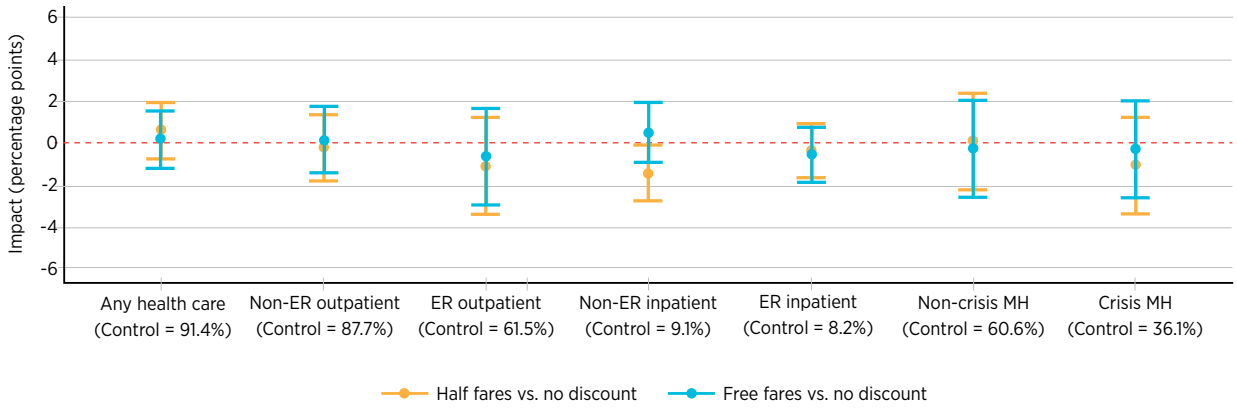
FIGURE 2: Effect of free fares on cumulative earned income during the first six quarters after entering the Pilot



Key finding #4: Fare discounts had minimal effects on health care utilization among adults

Fare prices did not appear to influence the volume of health care that participants consumed. Using Medicaid claims data, we estimated a precise zero effect on adult participants' likelihood of having at least one health care visit in the 18 months after entering the Pilot. We also found small, statistically insignificant effects on the likelihood of receiving any routine primary care and preventive physical health care (as captured in the 'Non-ER outpatient' care category in **Figure 3**). The control group had a non-ER outpatient care visit on an average of 20.4 days during the first 18 months of the Pilot, and neither fare discount affected this outcome.

FIGURE 3: Effect of fare discounts on likelihood of receiving any health care in the first 18 months after entering the Pilot



Key finding #5: Fare discounts did not influence self-reported measures of health or well-being

We found minimal effects on adults' self-reported health and well-being according to follow-up surveys. The fare discounts did not affect ratings of overall life satisfaction or various measures of emotional well-being such as anxiety, loneliness and social connectedness.

Fare discounts yielded no detectable effects on an array of self-reported financial outcomes such as monthly savings, levels of personal debt, or being able to afford a $400 emergency expense. We also observed no effect on overall financial well-being as measured by the Consumer Financial Protection Bureau's Financial Well-Being Scale.

QUALITATIVE RESEARCH FINDINGS

This section presents the findings from the qualitative research component of the Pilot.

DHS staff conducted interviews with 26 Pilot participants between September 2023 and February 2024. Recruitment was done via phone calls. We used a combination of convenience sampling and purposive sampling. We chose participants who were easily accessible (i.e., those who answered the phone), while also considering the demographics of those who were answering so that we could prioritize calling under-represented demographics in future interview recruitment outreach. The demographic characteristics of the interview participants are presented in Table 2 below.

TABLE 2: **Demographic Characteristics of Interview Participants**

N=26	
Legal Sex	
Female	13
Male	13
Race	
Black/African American	15
White	8
Age	
20–29	11
30–39	7
40–49	5
50+	3

Three DHS staff members conducted the interviews. The interviews were semi-structured, meaning that interviewers used an interview guide with open-ended questions and follow-up probes. We asked participants about their financial and housing situation, their transportation usage patterns and decision-making, their experience with the Pilot, and their perception of how the pilot impacted various facets of their lives. All interviews were conducted over the phone and recorded with the participant's consent. Interviews ranged in length from 15 to 54 minutes, with the average being 30 minutes. Participants were compensated with a $50 gift card, either electronic (n=25) or physical (n=1) depending on their preference. We refer to participants using pseudonyms in the results below.

Data analysis followed a grounded theory approach. The interviewers met to discuss observations and emerging points of interest from the interviews. They wrote memos throughout the interviewing period to keep track of thoughts and observations and wrote summaries of interview transcripts. An open-coding process was used to reach a consensus on a codebook. Two interviewers then coded all transcripts. We later pulled key codes and reviewed the coded segments, writing memos and creating tentative themes that were iteratively revised throughout the process.

Managing gaps in public transit

Critiques of Allegheny County's public transit system (PRT) were common across the interviews. Participants expressed varying degrees of dissatisfaction, but most reported at least one shortcoming with the PRT system. Participants described unreliable scheduling and pickups, routes that were not extensive enough, and schedules that were not frequent enough for their needs, as well as accessibility challenges. Participants described how they cobbled together various modes of transportation to get where they need to go and employed various strategies to minimize barriers and inconveniences.

Some participants described a misalignment between their schedules and PRT service, in particular regarding their work schedules. For many, buses did not run early or late enough. Ubers and other rideshare apps were commonly used to fill these gaps. Creed explained that he took Uber in the morning when he had enough money, because his shift started at 6 am, adding that "the bus – it don't really work out, that timing." He used the bus after work when he did not need to worry about making it somewhere on time. Jackie utilized rideshares when she picked up late shifts at the hospital, as the buses no longer operated when her shift ended. Rideshares were also used in cases where buses ran late or did not come at all. For example, Metri opted to call a Lyft rather than wait for the next bus in the cold if he missed his regular bus after work.

Participants mentioned leaving extra early to manage off-schedule public transit. Jeff explained that "I try to get myself at least one extra bus of safety," so that if he missed the first bus, the next one would still get him to work on time. Penny pointed out that this strategy was time-consuming. She had lately been relying on Ubers to get to work, because "I don't really want to have to get up two hours early to get to work when I could Uber 10 minutes down the road." Elaine similarly used express buses whenever she could to minimize the longer travel time of public transit.

Elaine also avoided areas with only one line of public transportation when taking the bus. She considered these areas to be less reliable, leaving her vulnerable to being stranded. Several interviewees described the reach and overall logic of PRT routes as lacking and even nonsensical. They reported that the suburbs of Pittsburgh were underserved by public transit and that too many routes required transferring through areas like Downtown, Squirrel Hill and Oakland. Bus routes were a critical factor in participants' job searches and their general travel decisions. Penny provided a stark example when she recounted how she was forced to quit her job when her car was in the shop for an extended period of time, because her job was unreachable by bus and too far to justify the expense of Ubers.

Participants also considered the location of PRT stops when using public transit. Some participants had medical issues that made walking strenuous, while others simply disliked walking far in cold or hot weather. Kris relied on the bus, but the nearest bus stop was almost a mile away, which she explained was challenging because "right now I can't really do a mile walk with my hip being all messed up … and having the three kids and not lugging them out in the winter, Good Lord." Several participants mentioned that their asthma made walking to bus stops difficult and that very cold or very hot weather made their asthma worse.

The necessity of cars

Pilot participants had a conflicted relationship with cars. Many found it difficult or impossible to rely solely on public transportation for the reasons described above. They supplemented their transit with rideshares and bought their own cars when they could afford it. Yet car ownership has drawbacks. Many car owners did not have enough money to rely on the car as their sole source of transportation. The cost of gas, parking and maintenance was often too high—these costs pushed some participants out of car ownership. Ada, for instance, mentioned that she could no longer afford her car insurance.

Kim's situation illustrates the complicated role of cars. To get to work, Kim parked her car at the busway and took the bus the rest of the way. She could not rely solely on the bus because there was no bus stop near her home, and she could not rely fully on her car because the cost of gas and parking was prohibitive. In fact, Kim's budget was so sensitive to the cost of gas that she would not even drive to Walmart, her preferred grocery store, but instead went to the closer Giant Eagle store. Despite her tight budget, Kim owned two cars "just in case one of 'em didn't work or something needed to go, just be able to get the kids back and forth to school."

Jackie's decision to buy a car further demonstrates how valuable personal vehicles can be for one's spatial mobility. At the time of the interview, Jackie was struggling with the aftermath of a fire that caused her to lose her apartment and all her possessions. Amidst her family's precarious financial position from the fire, Jackie still felt a car was a necessary investment. She purchased a vehicle even while she lived out of a motel. She explained that the bus lines where she was living were not very reliable, causing her and her fiancé to miss a lot of work and doctor's appointments. She reasoned, "why spend, you know, 60, 70 bucks one-way trip for a Lyft to make sure we get there on time and just make that little - well, huge investment and once we get down there we can use the trolleys." Like most other participants with cars, Jackie used her car carefully and strategically to minimize the cost of gas and parking.

Jackie further stated that "my son's safety was my number one thought on even getting a vehicle." She explained that if there were to be an emergency, she needed to be able to get to her son at the drop of a hat. This sentiment highlights two other factors in participants' approach to car ownership: emergencies and children. Lynn also wanted to buy a car for emergencies. The only reason she was even considering getting a car was because her mother was sick, and if something were to happen in the middle of the night, she wanted to be able to easily get to her.

The limitations of public transit were especially aggravating for participants with children. It was too logistically taxing for some participants to travel via public transit from their child's school to their workplace to other daytime engagements. Ashley recounted how she decided to buy her car because otherwise her daughter would have to continue staying with her grandmother during the week in order to get to school on time. This sheds some light on why participants like Christopher and Metri, who both owned cars, rarely used them. Both had partners who were responsible for driving the children to and from their various engagements, so they conceded primary use of the car to their partners.

Still scraping up money — the 50% discount

Interviewees unanimously appreciated and approved of the Pilot. Most of them mentioned that the pilot freed-up money for other expenses. However, the tone of this appreciation differed between the half-fare and free-fare Pilot groups. Overall, half-fare participants described less drastic changes in their travel patterns and were less enthusiastic about the savings that the discount provided.

Half-fare participants rarely mentioned changing the frequency of their bus use or the destinations they traveled to in response to the discount. There were a few exceptions, however. Penny had lost her car and her job at the time she joined the Pilot. She felt that she traveled much more during the Pilot than she would have without the half-fare discount. Zo also said that he was able to travel more thanks to the discount. He still felt, however, that his ability to travel freely was stymied by the remaining 50% fare that he had to pay. Creed succinctly summarized the experience of the half-fare discount when he said, "I'm not mad at it, but I think that there [were] certain times where I was still scraping that up, as sad as it sounds. But it's been really nice." Similarly, Elaine was unemployed at the time she received the discount, and she often struggled to come up with the remaining money for her bus fare.

Some half-fare interviewees described being confused about the program. James thought his discount only lasted as long as he had money on his Connect Card, so he never refilled it after it ran out. He said, "A lot of people had got this for unlimited, I didn't get none of that. I don't understand why, but I didn't argue with it. I just took whatever they gave me." This type of confusion likely reduced the benefits of the Pilot for some in the half-fare group.

Catching the bus is a no-brainer — the 100% discount

Compared with the half-fare group, the free-fare interviewees shared more frequent stories about how the Pilot tangibly affected their lives. Participants in this group reported traveling by bus more often, traveling to new places, and even using the bus for the first time ever in response to the discount. These participants were more effusive than the half-fare group in their enthusiasm and relief around the financial impact of the discount.

Lynn no longer had to scrounge around and walk everywhere when she received free bus fares

At the time he received the discount, David had recently finished a graduate-level program and was struggling to support his family as he waited on his licensing to be approved. He explained that he had never used public transportation before joining the Pilot, but "my girlfriend actually found out about the bus pass and it ended up just saving us around $150 a month … just having one bill, one expense, just forgiven … made it a no-brainer to catch public transit." By the time we interviewed David, his salary had increased and he now had a car, yet he still relied heavily on the T (PRT's light rail system). In contrast to the complaints about PRT service, David talked at length about the effectiveness of the T as a form of public transportation. He explained that it is fast, frequent and dependable. Its main drawbacks were its limited scope and not being available 24 hours a day. Several other participants with cars similarly reported taking the bus more frequently once they received their fare discount, because at that point it was worth it to save on the cost of gas.

Ada was not new to public transportation. However, prior to the discount, she had relied on medical transportation and Ubers. She explained that she was a disabled veteran and walking the 10 blocks to and from the bus stop was very painful. Upon joining the Pilot, however, she started using the bus almost daily, "because the Uber … became a financial burden and … having to choose between getting food and getting a ride to and from a doctor's appointment. Things that I just feel like somebody that's a disabled veteran, you shouldn't have to choose." The free fares made Ada feel that she could no longer justify taking Ubers. Although this change in transit involved greater physical hardship, Ada still felt strongly that the discount was helpful. When asked how the end of the Pilot would affect her, she said "it's kind of like giving a blind person eyes for 12 months and then you take the eyes back from them after 12 months. You know what I mean? … It's more of a necessity for some people, especially disabled people."

Lynn had walked everywhere prior to the Pilot. She had recently been homeless and was living on a very tight budget. When she received the free-fare discount, she no longer had to "scrounge around" and her transportation became "mainly the bus." Lynn had just started a new job Downtown, and although she had enough money for bus fare now that she was working, she said she probably would not have been able to gain employment without the discount. Access to the bus also made recreational traveling more accessible for Lynn. She often took the bus to the mall or a reservoir just to walk around and relax. Similarly, Neasha started traveling Downtown and to farmer's markets more often once she had the discount. She had lived on a fixed income from disability benefits her entire adult life. She explained that once the pilot ends, "I don't think I'll be going out as much because even though it is just $2.75, it's still — it adds up."

CONCLUSION

Together, our quantitative and qualitative results demonstrate that reducing public transit fares provided financial relief to SNAP recipients and improved their ability to get where they needed to go. Free fares led recipients to make greater use of public transportation and decreased their use of automobiles for their travels.

Relative to regular fares, free fares caused substantial improvements in employment and earnings among unemployed SNAP recipients. Otherwise, fare discounts did not appear to translate into meaningful improvements in downstream socioeconomic outcomes for the average adult Pilot participant in the domains of health, emotional well-being, or financial stability.

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