Move, Philadelphia!

An inclusive mobility plan for Philadelphia

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Abstract

As a majority minority city and the poorest large city in the U.S., the concerns of low income people and people of color have long played in the forefront of Philadelphia's issues. Poverty has remained stagnant, hovering around 26%, despite recent growth in population and the economy. As with all successful cities this growth is correlated with increased congestion, with Philadelphia ranking third in congestion amongst U.S. cities. Due to the end of Act 89 and the unprecedented COVID-19 pandemic, the financial viability of the city's transit agency, Southeastern Pennsylvania Transportation Authority (SEPTA), is in peril. Inequities in the transportation system also remain rampant, with the transfer fee, traffic fatalities, and lack of access to a vehicle disproportionately burdening low income people and communities of color. Given these circumstances, the need for an inclusive mobility model is greater now than ever. We propose an inclusive mobility model for Philadelphia that would better price private vehicle use within the city using the latest technologies, discouraging private automobile use and directing those funds into the flailing public transit system. Introducing innovative curbside management tools can help Philadelphia regulate its limited roadway space and keep traffic flowing. Increasing fees for car usage, such as rideshare fees and parking permits, will more accurately price the cost of driving, discourage car use in our most congested areas, and create additional revenues for SEPTA. Furthermore, an overhaul in SEPTA's fare structure and collection will increase financial accessibility of transit and make it a more attractive mode to all Philadelphians.

Introduction

Philadelphia has long had an equity problem. As a majority minority city and the poorest large city in the U.S., the concerns of low income people and people of color have long played in the forefront of Philadelphia's issues. After a long period of contraction starting with white flight in the 1970s, Philadelphia finally experienced population growth from 2000-2010, with development now booming in Center City and nearby neighborhoods. As with all successful cities, this has now correlated with increased congestion. Philadelphia ranks third for congestion among American cities, after Boston and Chicago, according to the 2019 report released by INRIX Inc. Meanwhile, poverty has remained stagnant, hovering around 26%.[1] Transportation issues that affect communities of color and low income people continue to be rampant. The current transfer fee places a higher financial burden on those who need to transfer during their daily travels; traffic fatalities and serious injuries disproportionately affect communities of color; and people of color are more likely to lack access to a vehicle, which presents mobility challenges in a city where over 50 percent of people commute to work by car[2,3]. Public transit is helpful in addressing both congestion and equity, as it is a space-efficient and economical means of transport. Due to the end of Act 89, passed in 2013 to allocate $450 million to public transportation annually through 2022, and the unprecedented COVID-19 pandemic, the financial viability of the city's transit agency, Southeastern Pennsylvania Transportation Authority (SEPTA), is in peril. Given these circumstances, the need for an inclusive mobility model is greater now than ever. We propose an inclusive mobility model for Philadelphia that would better price private vehicle use within the city using the latest technologies, discouraging private automobile use and directing those funds into the flailing public transit system. Furthermore, an overhaul in SEPTA's fare structure and collection will increase financial accessibility of transit and make it a more attractive mode to all Philadelphians. We focus on public transit as a way to improve inclusive mobility because we see it as the best way to reach the most people when attempting to increase inclusive mobility options for residents in Philadelphia.

Curbside Management

We view curbside management as one appropriate lens in which to view our strategy because it has the potential to better manage the transportation system to address congestion while supporting a new revenue stream to fund transit. Space between the sidewalk and street has become highly contested between many actors in the urban mobility realm. Freight delivery, public transit, bike lanes, waste management, and on-street parking compete with rideshare and two-day delivery services. Philadelphia, a legacy city whose curbs were not designed for modern usage, has struggled with the rapidly increasing presence of rideshare services and two-day delivery.

The success of San Francisco's SF Park pilot program can serve as a case study for an innovative curb management strategy applicable to Philadelphia. SF Park employed wireless parking sensors to

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[1] The Pew Charitable Trusts. "Philadelphia's Poor: Experiences From Below the Poverty Line." September 26, 2018. Web. <https://www.pewtrusts.org/en/research-and-analysis/reports/2018/09/26/philadelphias-poor-experiences-from-below-the-poverty-line>.

[2] The Pew Charitable Trusts. "The Cost of Commuting for Philadelphians ." July 24, 2019. Web. <https://www.pewtrusts.org/en/research-and-analysis/reports/2019/07/24/the-cost-of-commuting-for-philadelphians>.

[3] City of Philadelphia. "CONNECT: Philadelphia's StrategicTransportation Plan ." October 2018. Web. <http://www.phillyotis.com/wp-content/uploads/2018/11/Connect_9.8_11-09-18_sm.pdf>.

detect on-street parking space occupancy and set demand-responsive prices to discourage circling and reduce congestion. Data collected from the sensors was used to set dynamic meter rates based on the demand for parking during certain times of the day. Updates on parking availability and prices were accessible through a free SF Park app. The San Francisco Municipal Transit Agency (SFMTA) concluded the pilot project was successful at improving parking availability and decreasing peak period congestion. Philadelphia could implement a similar technology to address a variety of its curb management challenges. Permanent wireless sensors could be used to detect on-street, metered parking occupancy and adjust hourly rates based on current demand. Increasing turnover of parking spots will free up parking availability and maintain traffic flows. Dynamic pricing will provide more revenue for the city and discourage car trips during high-demand periods. The increase in revenue from dynamic pricing should be allocated between SEPTA and the Philadelphia Parking Authority to support operations.

In 2018, it was reported that Center City Philadelphia sees over 18,000 deliveries a day, and in 2019, an estimated 125,000 rideshare trips a day. [4,5] Delivery trucks and rideshare cars in Philadelphia are notorious for blocking sidewalks, driveways, and bike lanes, forcing cyclists and pedestrians to weave in and out of car traffic.[6] Wireless sensors could monitor loading zones and rideshare drop off spots, alerting parking authorities when a vehicle has occupied a space for longer than the allotted time. Coupled with increased enforcement by the Philadelphia Parking Association, effective regulation and pricing has the potential to decrease misuse of curbside space, thus creating a safer street environment for cyclists and pedestrians.

Pricing to Reduce Congestion

In addition to congestion management, implementing higher fees on private vehicle use would allow Philadelphia to better manage congestion while introducing alternative funding streams for transit. New funding streams will allow SEPTA to reduce its reliance on fares, address the budgetary issues created by Act 89, and reduce congestion. We propose additions or changes including a vehicle miles traveled (VMT) fee, rideshare fee, residential parking permits, and congestion pricing. These fees will more accurately price car ownership and use in Philadelphia and discourage car use in our most congested areas.

Much of Pennsylvania's transportation funding is derived from a gas tax. Nationwide, gas tax revenues per vehicle mile traveled, have declined since the gas tax was first implemented, due to improvements in energy efficiency of vehicles, an increase in travel, and the rise of electric vehicles.[7] Pennsylvania needs to transition to a more sustainable funding stream. A vehicle miles traveled fee would provide a direct user fee that prices roadways by the extent to which one uses them. This fee would need to be implemented across the region, including at least those states that border us, to avoid

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[4] Saksa, Jim. "Your online shopping habit clogs Philly's streets. City Hall wants to fix that." WHYY. March 23, 2018. Web. <https://whyy.org/segments/your-online-shopping-habit-clogs-phillys-streets-city-hall-wants-to-fix-that/>.

[5] Rinde, Meir. "Philly parking czar wants to know who's driving your Uber, says Pa. audit doesn't go far enough." WHYY. April 4, 2019. Web. <https://whyy.org/articles/philly-parking-czar-wants-to-know-whos-driving-your-uber-says-pa-audit-doesnt-go-far-enough/>.

[6] Saffron, Inga. " How the Delivery Economy is Disrupting Philadelphia's Street Grid." The Philadelphia Inquirer, June 8, 2017, Web.<https://www.inquirer.com/philly/columnists/inga_saffron/how-the-delivery-economy-is-disrupting-philadelphias-street-grid-20170608.html>.

[7]Fox, Justin. "Why Gas Taxes Aren'T Paying the Bills Anymore." Bloomberg.com, February 15, 2018, Web. <https://www.bloomberg.com/opinion/articles/2018-02-15/gas-taxes-aren-t-paying-the-bills-for-roads-anymore>.

travelers diverting to fee-free states. PennDOT is already researching this possibility, and we propose it be implemented by 2025.

The increase in the use of rideshare services in the last decade has put a significant strain on traffic congestion in many cities, including Philadelphia.[8] These rideshare services have filled transportation gaps in urban settings, but also added many negative impacts by increasing congestion, decreasing ridership on public transit, and deteriorating the environment by adding to carbon emissions. Many cities around the U.S. have implemented regulations and fees on ridesharing companies to alleviate these negative impacts while preserving the important role of the ridesharing services.

In the U.S. rideshare fees currently go as high as $2.75 for rides in Manhattan.[9] Philadelphia currently has a fee of 1.4% of revenue for ridesharing companies.[10] For a $10 ride, this would amount to a fee of 14 cents. 2018 saw a proposal for a 50 cent rideshare fee, which was opposed by many advocacy groups for burdening the poor. Rideshare companies currently do not provide data on trips in Philadelphia, so it is impossible to estimate what portion of trips serve low income areas. A more equitable funding structure would be to charge 30 cents for shared trips, 50 cents for solo trips, and $1.00 for solo trips to Center City. The increase in proceeds should go to SEPTA in addition to the current recipients--Philadelphia Parking Authority and the School District. This would also help reduce congestion in the Center City area.

Low-cost residential parking permits encourage car ownership and undervalue the land on which parking depends. Philadelphia currently offers residential permit parking on select residential streets for fees ranging from $35 for the first car to $100 per car for four or more vehicles.[11] Other cities use higher fees to more accurately reflect the price of land that parking occupies.[12] Philadelphia should increase the base price for a residential parking permit to $100, and tier up to $250 per car for households with 4 or more vehicles. To reflect that Philadelphia is one of the poorest large cities in the country, these increases in fees would only be applied to neighborhoods that are above the city median income level. Vehicles with handicapped permits would also be exempt. These changes will discourage car ownership and potentially alleviate congestion due to residents circling for parking. In some of the wealthiest areas, such as Rittenhouse, the city could pilot a program to release only as many parking permits as there are spaces and auction them off to determine the true willingness to pay.

As congestion pricing becomes a tactic used by many cities around the world to curb traffic and deter people from driving into a city's busiest areas during peak hours, it is spurring interest both as a funding option for SEPTA and as a way to cull the cars clogging Philadelphia streets. Congestion pricing is a fee charged to vehicles traveling into or within a predetermined area of a city at certain hours of certain days with the hope that this stimulates an increased incentive for users to use transit instead. The possibility of creating a new source of revenue that also reduces traffic is provocative. While

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[8] Short, Aaron. "Uber/Lyft Responsible For A Large Share of Traffic." StreetsblogUSA. August 7, 2019. Web. <https://usa.streetsblog.org/2019/08/07/uberlyft-responsible-for-a-large-share-of-traffic/>.

[9] Wisniewski, Mary. "Mayor Lightfoot's Proposed Ride-Share Fees would be the Highest in the Nation. but Other Cities are also Considering Hikes." Chicago Tribune, October 18, 2019, Web. <https://www.chicagotribune.com/business/transportation/ct-biz-ride-share-business-congestion-getting-around-20191018-wuopuaaip5actmnamuyuexlxwm-story.html>.

[10] Laughlin, Jason. "Uber Revenue Error Prompts Renewed Call for New Philly Tax on Ride-Share Trips." The Philadelphia Inquirer, May 22, 2018, Web. <https://www.inquirer.com/philly/business/transportation/uber-lyft-taxi-philadelphia-50-cent-per-ride-tax-20180522.html>.

[11] "Philadelphia Parking Authority ." Web. April 14, 2020 <http://philapark.org/residential-parking-permit/>.

[12] Borough of Manhattan, the City of New York. "Residential parking permit plans in 7 cities worldwide: a survey." October 2019. Web. <https://www.manhattanbp.nyc.gov/wp-content/uploads/2019/10/ParkingZoneWhitePaperFINAL.pdf>.

Philadelphia should follow in NYC's footsteps and implement congestion pricing, it would have to be done in a way that doesn't penalize lower-income people who need to drive for work.

Fare Restructuring at SEPTA

Curbside management and user fees alone cannot resolve the issues of congestion and inequality. To further entice Philadelphians to leave their cars for public transit, we need to overhaul the fare structure and collection systems to make SEPTA a more user-friendly and equitable system. Public transit riders in the United States are more likely to be low income and nonwhite, therefore, advocating for better transit means advocating for more equitable transit. As the current pandemic proves transit all the more vital to our cities, it also highlights its inequities. Equity and inclusivity need to have priority in establishing the future success of Philadelphia's transit system in order to make transit a viable option for many families, children, and current car commuters.

SEPTA's Fare Restructuring Plan, announced in early March 2020, represents an important step towards a more affordable, equitable, and inclusive transit system. The goal of the plan is to reduce costs for low income riders, shifting the costs to higher income residents. As the coronavirus pandemic continues to take a toll on ridership, SEPTA's proposed fare restructuring will be critical to softening the lasting impact the pandemic will have on the poorest customers and to ensuring continued ridership. In order to make SEPTA the most inclusive to the most riders, Philadelphia should further reduce fares for low-income riders, expand student and university passes, establish free fares for children under 12, and eliminate transfer fees. [13]

Philadelphia has the highest poverty rate of any major American city and should follow the lead of cities across the country to adopt a discount program for low-income riders. One way to accomplish this is for SEPTA to offer a 50% fare discount for all regional SEPTA users who qualify for Supplemental Nutrition Assistance Program (SNAP) benefits.

Developing the habit of using transit as a youth leads to adults who become transit riders for life. In order to instill these habits into SEPTA's future customer base and ensure continued loyalty to public transit, SEPTA should expand student and university passes. Currently, elementary, middle and high school students who live more than one and half miles from school currently receive free weekly transit passes paid for by the Commonwealth of Pennsylvania, but the pass stops at 9pm and isn't functional on weekends. In addition, about 33,000 students who live closer to school do not have access to this pass. In order to make the network more accessible to the younger generations, SEPTA and the School District should expand student passes to include students who live closer to school, including making these passes effective on weekends and holidays and allowing the pass to work regardless of the time, in order to be helpful for students with jobs.

Many universities across the country include access to public transit in the tuition or employment benefits, which also provides a steady stream of funding for the transit agency. SEPTA should provide college students and faculty with discounted transit passes included in tuition and benefits packages to encourage more university use of subway, trolley and bus networks. This not only incentivizes better investment in the community, which could lead to university students staying longer

[13] 5th Square. "2020 Fair Fares Platform." Web. April 14, 2020 <https://www.5thsq.org/fair_fares?recruiter_id=760748&fbclid=IwAR25JvqREnvcqpbZghKq5RmebB3q8AF3yfNvSukC-Uwo9QzZj8pbZL5Fy9A>.

in Philadelphia, but also is a way to fill seats during off-peak hours, and encourage transit use to a demographic that may be more inclined towards ridesharing services.

As with students, encouraging transit ridership as a young person can instill the importance of transit use for a lifetime. SEPTA's FY 2021 Fare Restructuring Plan makes an important move in this direction by cutting fares to $1 for children 11 and under.[14] However, SEPTA should take this one step further and eliminate the fare for children under age 12 in order to encourage families to ride transit and allow a more affordable option for parents. In addition, free youth fares continue the trajectory of ridership to adulthood -- from free youth fares to student passes and then subsidized university passes.

Recent research from the Pew Charitable Trusts found that the current fare structure of SEPTA is comparatively high among U.S. transit agencies for riders who have to pay transfer fees.[15] For example, Philadelphia has one of the cheapest cash fares for a bus trip among major U.S. cities ($2.50), while the total cash fare for transferring to rail is one of the most expensive. With equity in mind, the case for eliminating transfer fees in Philadelphia is higher than ever, with the City of Philadelphia being one of the proponents. The City and those who want to see the elimination of transfer fees believe that transit is too expensive for the low-income community. This position is supported by the research from Pew which shows low-income jobs are dispersed around the city and region, making it more likely for low-income residents to pay transfer fees to get to the place of employment, increasing the transit expense burden even higher.[16] Despite the data, SEPTA is concerned about the impact of the loss of transfer revenue to the agency. However, we believe that if different solutions suggested in the paper are implemented, the demand for SEPTA will increase and make up for the loss of transfer revenue.

New Fare Payment Collection Tools for SEPTA

Beyond fare restructuring, updating the current fare collection process is another solution for promoting public transit usage. Since the introduction in 2017, the SEPTA Key card program has seen a series of delays and issues in the ongoing implementation in the SEPTA system. There are a number of outdated fare collection policies that not only discourage new transit riders but also disadvantage those who depend on public transit. Different transit agencies have updated their fare collection system in order to make it easier for new riders to utilize public transit and fairer for low-income riders.

Weekly or monthly passes were introduced as a way to attract more customers and make the transit experience easier. However, one of the main unintended consequences is the fact that a person who cannot afford to pay up front for these passes ends up paying more by purchasing multiple single fares. One way to avoid this is to "cap" single fares paid by riders when they reach the price of a daily, weekly, or monthly period, a policy known as "fare capping". Then, the system provides free rides until the end of the specific period, enabling riders to gradually pay the full cost of a pass and fulfilling the principle of equal service for equal payment.[17]

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[14] SEPTA. "Fiscal Year 2021 Operating Budget and Fiscal Years 2022 - 2026 Financial Plan and Proposed Fare Restructuring." Web. <http://septa.org/notice/fy-21-operating-budget-hearing-notice.html>.

[15] The Pew Charitable Trusts. "The Cost of Commuting for Philadelphians ." July 24, 2019. Web. <https://www.pewtrusts.org/en/research-and-analysis/reports/2019/07/24/the-cost-of-commuting-for-philadelphians>.

[16] Laughlin, Jason. "For Philly's Poor Commuters, SEPTA Fare Ranks among most Expensive in U.S. Cities." The Philadelphia Inquirer, July 24, 2019, Web. <https://www.inquirer.com/transportation/septa-bus-fee-transfer-poverty-transit-pew-study-20190724.html>.

[17] Schmitt, Angie. "The Case for Fare-Capping." StreetsblogUSA. March 9. 2018. Web. <https://usa.streetsblog.org/2018/03/09/the-case-for-fare-capping/>.

Contactless mobile payment is another fare collection tool that can encourage higher transit ridership. Many transit agencies around the world, including New York City and London, have introduced contactless mobile payments, allowing customers to directly use Apple Pay or Google Pay at turnstiles and bus fareboxes. Currently, SEPTA riders can only use Apple or Google Pay to purchase Key Card of Quick Trip tickets at station fare kiosks. Implementing contactless mobile payments can not only make fare payments easier and accessible to Philadelphians and visitors but also encourage many riders, especially low-income individuals, who were deterred by the initial cost of the Key Card ($4.95).

We believe that implementing these new fare collection tools and overhauling the current SEPTA fare collection process can help transit become more accessible and attract potential riders to SEPTA. With more people on transit and fewer cars on the road, Philadelphia can take steps in managing congestion in the city.

Conclusion

With congestion on the rise and Act 89 threatening the financial viability of Philadelphia's transit system, we propose these recommendations to better mitigate congestion. Introducing innovative curbside management tools can help Philadelphia manage its limited roadway space and keep traffic flowing. Increasing fees for car usage, such as rideshare fees and parking permits, will more accurately price the cost of driving, discourage car use in our most congested areas, and create additional revenues for SEPTA. Finally, improving the current fare structure and collection process will not only make transit more accessible to low-income riders but also encourage transit ridership across the population.

As COVID-19 threatens transit agencies across the country, it has unveiled the deep inequalities associated with our lack of investment in these systems. According to the 2018 Census data, an estimated 2.8 million American workers classified as essential during the COVID-19 emergency, commute to work on transit — about 36% of all transit commuters.[18] The current crisis has amplified the disparities in how people travel to access healthcare and get to their jobs. The moment has never been more pressing to design an inclusive network that challenges our city's relationship with congestion and addresses the needs of its most vulnerable users. One week following Philadelphia's "shelter in place" order, SEPTA faced an unprecedented 64% systemwide dip in ridership on transit, an 88% ridership loss on Regional Rail, and a projected $150 million shortfall for the fiscal year from diminished farebox collections.[19] In hopes of preventing a complete financial bleed, the transit agency enacted quick cost-cutting measures that included executive pay cuts, a hiring freeze and elimination of overtime. With the health stigma associated with taking transit, SEPTA and other transit agencies may see reduced ridership levels compared to pre-COVID-19 if people decide to drive to avoid the dense environment of public transit. This potential for increased car usage could exacerbate Philadelphia's underlying congestion problem. Our recommendations provide the City with necessary steps to address a potentially escalating congestion problem and foster financial accessibility of transit amidst a depressed economy.

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[18] TransitCenter. "Transit Is Essential: 2.8 Million U.S. Essential Workers Ride Transit to Their Jobs." March 24, 2020. Web. <https://transitcenter.org/2-8-million-u-s-essential-workers-ride-transit-to-their-jobs/>.

[19] Briggs, Ryan. "SEPTA Faces a Ridership Problem that Coming Federal Aid Won't Fix, Experts Say." WHYY, March 25, 2020, Web. <https://whyy.org/articles/septa-braces-for-covid-19-headwinds-even-as-federal-help-near_s/>.

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