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## Examining Mobilities of Care: Perceptions and Practices of Philadelphia Parents and Children Using Transit

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# Examining Mobilities of Care: Perceptions and Practices of Philadelphia Parents and Children Using Transit

## Abstract

Transit spaces are not uniformly experienced by their users. Closer inspection of individuals' journeys reveals unique barriers corresponding with race, gender, age and ability, signifying that the mobility of certain groups may be less accessible than that of more privileged groups. Using the frameworks of a "politics of mobility" (Cresswell 2010) and "mobility injustice" (Sheller 2018), this paper examines the transit needs and experiences of female caregivers and youth populations whose mobilities are frequently challenged.

I engage with the following questions: How do mothers and children in Philadelphia conceptualize accessibility of transit infrastructure? What are the differences and similarities between the concerns of mothers and their children regarding mobility practices? How do transit agencies currently account for the mobility needs of mothers and children? How do mothers, children, and transit officials conceptualize a family-friendly transit system? How can robust community engagement enhance transportation planning practices in the future?

I find that the experiences of mothers and children navigating transit spaces center around the themes of safety, comfort and convenience. In particular, mothers' express challenges regarding street safety, gendered treatment in public space, and inconvenience of travelling with young children. Children underscore their concerns about safely navigating their neighborhoods in light of reckless driving, issues of poor sanitation and the presence of strangers, and the desire to make transportation spaces sites of play and fun. Mothers and children also expressed clear ideas about how to improve transportation infrastructure to better meet their needs. While planning initiatives and engagement strategies that mitigate certain challenges faced by mothers and children do exist, work is needed to enhance the user experience. Community engagement is a vital component to the creation of not just a family-friendly transportation system, but also one that is accessible to all.

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EXAMINING MOBILITIES OF CARE:  
PERCEPTIONS AND PRACTICES OF PHILADELPHIA PARENTS AND  
CHILDREN USING TRANSIT

Gillian Tiley

A THESIS

in

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Presented to the Faculties of the University of Pennsylvania  
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## ABSTRACT

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## INTRODUCTION

### Study Overview

Transportation spaces signify more than neutral, one-size-fits-all containers, adept at moving diverse individuals from one place to another. Close inspection of individuals' journeys reveals unique barriers corresponding with race, gender, age, and ability. These factors demonstrate that spatial exclusion constitutes a daily element of certain individuals' routines. Accordingly, mobility cannot be described as simply a journey from start to end-point, but rather as a "politics of unequal capabilities for movement" where "more privileged groups control more potentials, enjoy greater ease of movement, and can access a wider range of different kinds of mobility" (Sheller 2018, 1;13). Despite being fundamental to the everyday well-being of a diverse population, "the location of residential areas, work-places, transportation networks, and the overall layout of cities reflect a patriarchal capitalist society's expectations of what types of activities take place where, when, and by whom" (Kern 2020, 34).

We can better understand how spatial exclusion shapes transportation infrastructure and access in cities by focusing on the needs, voices, and perceptions of mothers and youth. Mothers, faced with disproportionate parental burdens, have more complex commute patterns. This is true both in terms of the number of stops made and the task of juggling travel with caretaking and errands throughout the journey. Moreover, transit spaces are central to the mobility and cognitive development of urban youth, acting as sites of learning, socialization, and engagement (Gulati 2018). Yet, transportation planners rarely consider the mobility needs of youth; they are either viewed as an extension of a parent or forgotten entirely. As a result, public and active (biking and walking) transit infrastructure are not well-suited to the unique needs and practices of mothers and children. The challenges facing mothers and youth are under-discussed and seldom



remediated, due to insufficient representation or engagement with these populations in transportation planning processes (Halais 2020).

In an effort to close this gap, this thesis examines the needs and experiences of mothers and youth, populations whose mobilities are frequently challenged by issues of safety, convenience, and comfort. My people-centered approach is situated at the intersection of feminist geography, critical youth geography, and transport justice. This project is a small-scale effort to highlight the voices, needs, and perceptions of mothers and youth regarding Philadelphia's transportation infrastructure. In this way, it challenges colloquial definitions of expertise. Often, "people typically recognized as 'the experts'--especially during design work--tend to be from outside the community" (Design as Democracy, 73). These 'experts' may be planners, designers, policymakers, etc., who are unfamiliar with important histories, tensions, and perceptions of the community of interest. Importantly, "the knowledge these outside experts possess is usually based on secondary information and best practice norms. It is not generated within the community itself" (Design as Democracy, 73). By providing a platform for underrepresented voices and incorporating their ideas and experiences into re-imaginings of Philadelphia transit infrastructure, I reconceptualize users—and in this case, mothers and children—as Experts in and of themselves.

Throughout this project, I urge planners to find equal validity in the lived-experiences and stories of residents as they do with the data points that constitute them. As planners, we often think of data in quantitative terms, especially in the realm of transportation planning. Transportation planners look at ridership in raw counts, focus predominantly on journeys to work, and seek to maximize efficiency through cost-benefit analyses. The obstacles inscribed in journeys remain unnoticed as they do not neatly fit into quantitative data points. This is particularly true for those whose trips do not align with typical nine-to-five commuter journeys.

So, residents facing barriers to mobility find little recourse as they are seldom consulted and instead reduced into data points in a larger quantitative study.

Storytelling is an approach to transportation planning and scholarship that uncovers the lived experiences of transit users. Travelling from one point to another is a highly personal experience in which residents both embody and shape urban spaces. The meanings and obstacles that individuals confront within their unique experiences are not accounted for in the traditional toolsets planners utilize in their primary approaches to place-based intervention. In certain instances, offering their stories is the only way individuals can have input in addressing the problems that directly impact their own lives and communities. For mothers and children, the exclusion embedded in traditional engagement and data collection processes is compounded by insufficient data on non-commuter ridership and inadequate representation of women in transportation planning fields, conversations, and decisions (Halais 2020). If we, as planners, expand our expertise beyond traditional practices and increasingly embrace storytelling as a valid technique of urban planning, underrepresented voices may be better represented. This inclusive and people-centered approach could lead to solutions that more accurately represent the needs of such groups. This approach is guided by the following research questions:

- ⇒ How do mothers and children in Philadelphia conceptualize accessibility of transit infrastructure?
- ⇒ What are the differences and similarities between the concerns of mothers and their children regarding mobility practices?
- ⇒ How do mothers and children conceptualize a transit system that is more inclusive of their needs, practices, and desires?
- ⇒ How do transit agencies currently account for the mobility needs of mothers and children?
- ⇒ How can robust community engagement enhance transportation planning practices in the future?

I aim to provide a detailed account of the challenges faced by mothers and children while using Philadelphia transportation systems. Within this study, ‘transit spaces’ is broadly defined as any space in which an individual enacts mobility. Whereas transit spaces are commonly thought of as train/subway stations or bus stops, my study also includes sidewalks and crosswalks as critical sites of transportation and mobility. In order to understand how these spaces are designed, I conducted interviews with transit officials at Philadelphia transit agencies (SEPTA<sup>1</sup> and OTIS<sup>2</sup>) in which I learned about key decisions points, ongoing and future projects, and goals for creating more accessible and efficient transportation infrastructure. I also spoke directly with mothers and children themselves about their experiences and challenges with existing transit spaces. Taken together, my interviews with officials and families demonstrate how individual storytelling can provide a holistic view of how transit spaces operate and how they could be improved to meet the unique needs of mothers and children. This approach underscores the feasibility and validity of this kind of methodology in the realm of transportation—an approach that is critical and underutilized.

To accomplish such goals, this paper consists of several parts. I first situate the study in place, describing why Philadelphia was selected as a case study. I then move into the literature review, which consists of two parts: a theoretical framework and a synthesis of existing literature on mothers’ mobility practices and youth participation in urban space. From there, I discuss my chosen methodology, placing emphasis on its importance in the realm of transportation planning and scholarship. I then analyze my conversations with mothers, children, and officials, in which I draw themes of safety, comfort and convenience in reference to the lived challenges of my subjects. I conclude on a positive note, offering a list of recommendations synthesized from my

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<sup>1</sup> Southeastern Pennsylvania Transportation Authority

<sup>2</sup> Office of Transportation, Infrastructure and Sustainability

interviews with users and officials alike, culminating in a call to action for heightened community engagement practices as a facet of transportation planning.

### Why Philadelphia?

Philadelphia serves as a useful site for a feminist transportation study. Overall, the city is predominantly [52.7%] female (ACS 2019). Of the population of workers travelling to work, more women [14.3%] utilize public transportation than men [10.6%] (ACS 2019). Similarly, though with a lesser margin, more female workers [4.6%] walk to work than male workers [3.9%] (ACS 2019). When examining the total ridership population—beyond that of workers—sixty percent of SEPTA’s riders are women (OTIS 2021). Regarding the study of mothers, Philadelphia acts as an interesting site both in terms of demographic composition of families and recent policy implementations. Compared to the six cities with the largest populations—excluding Houston, due to insufficient data—Philadelphia is home to the highest rate of single mothers of children, at 45.8% (Table 1, ACS 2019).

Importantly, the city’s major transportation entities, SEPTA and OTIS, have implemented recent policies and commitments that ease the challenges of mothers travelling with children. In July 2020, SEPTA enacted a policy that waived fees for children under the age of twelve. This policy was the result of advocacy efforts by organizations such as 5<sup>th</sup> Square and Transit Forward Philly, as well as an extension of previous discussions of reducing the child fare to \$1. Moreover, in February 2021, OTIS revealed the Philadelphia Transit Plan: A Vision for 2045. This plan explicitly discusses the challenges faced by mothers, female caregivers, and children. the plan included recommendations by OTIS geared towards gender equity in transportation. Among these recommendations were: an analysis of gender and age in fare policies; an expansion of ridership data based on age, gender identity, and non-work-related trips; careful attention to the needs of women and children in the Bus Network Redesign; and an

examination of how design principles and practices can be expanded to suit the unique experiences of women and children. This study seeks to capitalize on the momentum of recent policy shifts and commitments in order to propose additional design and policy recommendations to enhance the transportation experiences of mothers and children throughout the city.

## **THEORETICAL FRAMEWORK**

### **Introduction**

Transportation planning literature identifies three dimensions of harm: exposure, space, and time. First, transportation systems expose individuals to both tangible and intangible elements that pose risk to their wellbeing. The most obvious is that of traffic fatalities, of which there are approximately 1.2 million each year (WHO 2013). Humans also face pollutants of noise, substances, and smells that may pose impacts ranging from sleep disturbance and stress to asthma and cancer (Bryan & Tempest 1973; WHO 2011; Hoek et al 2002; Pope et al 2002). Less tangibly, transportation systems expose individuals to mental and emotional distress (Bissell 2010) and the long-term impacts of climate change (Shafer et al 2009). Second, transportation systems pose spatial consequences. Infrastructure requires ample space in urban settings; while the amount of space varies by city, where and who infrastructure displaces is of great importance to transportation scholars. Access is also discussed as a spatial consequence and includes among many factors, including mode choice, proximity, and cost (Gossling 2016; Deka 2004). Finally, transportation systems imply temporal consequences. Speed has been prioritized among transportation agencies, as “time spent travelling is generally considered a loss, and transport planners have sought to reduce travel time as a cost to traffic participants” (Gossling 2016, 5;

Hutton 2013). Most attention is generally focused on the travel time of automobiles (Gilbert & Perl 2008), yet time and speed vary by mode choice, impacting users in disparate ways.

While transportation planners generally mitigate such negative outcomes through cost-benefit analyses, this approach disproportionately burdens certain populations. This approach is guided by the “assumption that transport is about getting from point A to point B as efficiently as possible” (Sheller 2018, 23). Emphasis is placed on quantifiable benefits and cost, which generate scores that signal whether a proposed policy is a worthwhile investment. However, this method is flawed, as it “takes into account only a part of the social benefits and social costs” (Martens 2017, 24) and “presumes that space is an empty background that transportation infrastructure simply moves through” (Sheller 2018, 23). Many of the human impacts of transportation remain under-addressed. Critically, these consequences are not evenly distributed: certain groups are disproportionately impacted. Inequities fall along the lines of race, gender, class, age, sexuality, and ability. Scholars have discussed such inequities at length, developing theories as to how and why transportation systems negatively affect certain individuals more than others. Existing discussions can be viewed through three key schools of thought: spatial justice, transport justice, and mobility justice.

#### Examining Justice:

##### *Spatial Justice*

Seminal spatial thinker Henri Lefebvre conceptualizes space as more than a container for beings and processes, but as instead expressly political in its construction and existence (1976, 32). Who is adversely impacted by spatial politics, how benefits are allocated among individuals, and how space becomes equitable have comprised key questions in the literature. Lefebvre has stated that cities only becomes just when all residents have equal ability to live, alter, and participate in space (1968). How to achieve this conception of a just city has been theorized by many scholars, most notably David Harvey and Edward Soja. Harvey approaches urban settings

through a combined socio-spatial lens (1973, 26). He agrees with Lefebvre (1976) and De Certeau (1980) in conceiving space as something composed of personal, temporal, and symbolic meanings (1973, 36). Recognizing that within this conception, space and notions of justice are unevenly felt, Harvey set to build a theory of ‘territorial social justice’ in which benefits are equitably distributed to urban residents using criteria of need, common good, and merit (1973, 116). Moreover, in his 2010 book, *Seeking Spatial Justice*, Edward Soja examines the spatial geography of justice, musing on how to equitably distribute resources, services, and access. According to Soja, the “geographies that we have produced will always have spatial injustices and distributional inequalities embedded within them” (2010, 72-73). Recognizing that how space is used and who decides this use is determined through struggles of equity and justice, Soja seeks to apply “a critical spatial perspective to what is more familiarly known as social justice” (2010, 6). For such thinkers, space is fundamentally political: in order to understand and mitigate the worst consequences of spatial and social inequities, a framework of justice must be applied to urban processes.

### *Transport Justice*

More recently, scholars have begun to apply the ideas of spatial justice to the world of transportation studies, creating a field of thought called ‘transport justice.’ Whereas spatial justice recognizes space as contested, transport justice specifically applies this lens to uneven access to transit. Perreira, Schwanen & Bannister (2016) conceptualize transport justice as “the ease with which persons can reach places and opportunities from a given location”; this notion of accessibility is “understood as the outcome of the interplay of characteristics of individuals, transport systems, and land use” (8). They see a just transportation system as one that enhances mobility for all. Martens (2017) sees transportation planning and systems as undeniably political and exclusionary, given their disparate impacts on different users. For Martens, traditional transportation methods of cost-benefit analysis and technical exercises fail to account for

differences in ability and need, leading to substantial issues of uneven accessibility. Accordingly, he argues that “the rules of traditional transportation planning are thus likely to systematically produce, reproduce and reinforce inequalities between persons with access to different transportation systems” (27). To correct for this shortcoming, Martens urges for a people-centered approach to transportation planning that better accounts for differences in accessibility, particularly among those groups facing an accessibility shortage. Crucially, scholars of transport justice, conceptualize notions of justice, access, and equity not as supplemental to the study of transportation, but as a vital reconfiguration of the field in and of itself.

### *Mobility Justice*

Several scholars have built on the field of transport justice by focusing particularly on how mobility is ruled by entrenched power dynamics. In the study of mobility justice, mobility “shapes and is shaped by existing cultural structures and hierarchies of power and by material arrangements,” resulting in uneven mobility practices (Hallenbeck 2018, 360). This *politics of mobility* (Cresswell 2010) or *mobility (in)justice* (Sheller 2018) grants privileged groups greater ease of movement in which they gain heightened autonomy and access to opportunities, resources, and modes. The notion of power is at the crux of understanding mobility justice as separate from transport justice: whereas transport justice recognizes differences in geographical accessibility to transportation infrastructure, mobility justice focuses on the historical, social, and spatial dimensions of power that produce such differences. Cresswell (2010) has been particularly influential in conceptualizing the political facets of mobility, stating that “practices are not just ways of getting from A to B; they are, at least partially, discursively constituted... they are implicated in the production of power and relations of domination” (20). Mimi Sheller (2018) provides crucial nuances to the distinction between mobility justice and the fields of spatial and transport justice. She critiques both fields—and Soja (2010) and Martens (2017) in particular—for viewing transportation through a spatial container. To her, both fields’ conceptions are



inherently immobile and overlook the power dynamics that move through and shape the spaces that they argue as contested. They focus on connections between points in space, not the mobility that facilitates such connections, earning them the label of “an immobile ontology” (Sheller 2018, 35). She urges the city to be examined through this lens, stating that “cities are not only sedimented spaces of injustice, but also are active mechanisms for producing uneven mobilities, unequal bodies, and unbundled infrastructures” (Sheller 2018, 40). To Sheller, mobility justice focuses not simply on uneven distribution of resources or differences in accessibility, but in the unequal capacity for movement that is produced through relations of power. I apply this theoretical framework of mobility justice to my study of mothers’ and children’s transportation experiences, in which I recognize the layered complexities these groups face throughout their journeys, stemming from a transportation system incognizant of their unique needs.

#### Gendered Mobilities & Motherhood

While the processes that produce uneven mobilities are determined by who holds power, the impacts of that production are felt on the level of the individual. The dichotomy of access and exclusion is attributed to the prototype for which transportation spaces (and cities as a whole) were originally designed: the white, heteromale body. This notion has long been emphasized by feminist scholars. In her 1994 essay, “Space, Place and Gender,” Doreen Massey states that “gender has been deeply influential in the production of ‘the geographical’” (177). Dolores Hayden, a fierce advocate of a feminist reconfiguration of the home and urban space, has pointed out the lack of attention paid to female journeys by transportation planners (1984). More recently Leslie Kern (2020) recalls the gendered construction of space in her book, *Feminist City*, stating: “All forms of urban planning draw on a cluster of assumptions about the ‘typical’ urban citizen: their daily travel plans, needs, desires, and values. Shockingly, this citizen is a man. A breadwinning husband and father, able-bodied, heterosexual, white and cis-gender” (Kern 2020,

34). All bodies deviating from this mold are subject to confront daily battles with hostile urban spaces, even during the simplest of routes.

Invoking mobility justice, mothers thus confront obstacles as they move throughout space, as their mobility becomes limited by a landscape designed without their unique needs in mind (Boyer & Spinney 2016; Kern 2020; Loukaitou-Sideris 2016; Massey 1994; Sheller 2018). Siemiatycki et al (2019) attribute such unmet needs to the intertwinement of masculinity and infrastructural design. They see the production of infrastructure as inherently gendered, stating that “not only are all the official systems involved in the production of infrastructure overwhelmingly male dominated, but they also rely on inherently masculine sensibilities about space, place, technology, subjectivity, and embodiment” (Siemiatycki et al 2019, 300). Masculinized infrastructure complicates and belittles mothers’ mobility practices, as mothers are forced to navigate spaces in which their needs constitute afterthoughts of decision-makers. The mobilities of female caregivers become unjustly constrained by infrastructural, temporal, and financial barriers that dictate where, how, and when they must travel (Sheller 2018). My project applies these theoretical framings of gender and urban space, detailing the lived experiences of mothers and their children as they navigate the city.

#### Significance: Mobility, Embodiment, and Identity

Transportation policy and its associated impacts are not simply mundane occurrences in a city; instead, they represent decisions and challenges that fundamentally alter how individuals are able to engage with and find belonging within urban space. The notion that outcomes of transportation systems differ among groups acts as the common factor among the fields of spatial, transport, and mobility justice. In each school of thought, there is a recognition that certain groups disproportionately bear the brunt of negative consequences, often falling along lines of race,

class, gender, age, sexuality, and ability. Such consequences not only complicate one's daily routines, but in fact alter how an individual may constitute their identity and finding meaning within the spaces they operate. When the same voices consistently shoulder perverse outcomes of spatial, transport, or mobility injustices, it becomes clear that their voices and identities are explicitly or implicitly deemed less deserving of a workable urbanity. It is important to consciously incorporate the perspectives and needs of those who are consistently impacted by injustice. This study deals specifically with how mobility justice operates regarding gender and age, centering the experiences of mothers and children. Women and children, with their needs continually left out of transportation decisions, perpetually receive the signal that their safety, comfort, and convenience are less important. Operating through the lens of mobility justice, my study recentres these voices, bringing them into conversation not only with an analysis of existing policies, but with the words and ideas of SEPTA and OTIS decision makers themselves. This approach advocates for the gap to be closed between the knowledge of policy makers and the needs and perspectives of vulnerable transit users.

## **LITERATURE REVIEW**

### **Introduction**

By interviewing mothers alongside their children, I expand on and add significance to existing literature concerning mothers' mobilities. While literature exists regarding the challenges that mothers face when travelling with their children, few scholars forefront the viewpoints of children themselves when discussing such journeys. This is a glaring omission in the literature on mobilities of care, especially given the centrality of transit and public space to childhood development. Therefore, this study recognizes the validity and expertise of youth perspectives as they navigate urban spaces. The examination of intra-family dynamics enables a richer understanding of how mobilities of care are experienced than currently present in the literature.

This section centers on two key realms in existing literature: the complexities of mothers' journeys and the role of youth in urban spaces.

#### Journeys of Motherhood:

Feminist scholars have called attention to the challenges women encounter while using active and public transportation modes, particularly regarding safety, violence, and harassment when travelling alone during non-peak hours (Loukaitou-Sideris 2016; Lubitow et al 2020; Kaufman et al 2018; Kern 2020). In addition to these concerns, female caregivers face a unique set of transit-oriented challenges centered around comfort, accessibility, and convenience. Performing a disproportionate share of parental responsibilities, mothers are more likely to organize their daily trips around the needs of their children and household (Boyer & Spinney 2016; Dominguez Gonzalez 2019; Forsberg et al 2020; Hanson & Pratt 1995; Jiron et al 2020; Kern 2020; Ravensbergen et al 2020; Rosenbloom 1987; Schwanen & Ettema 2009; Vincent et al 2004; Wenzinger 2017). Such *mobilities of care* (coined by Sanchez de Madariaga 2013) involve women making more journeys, but travelling shorter distances, than their male counterparts whose mobility predominantly consists of the commute to and from work (Dominguez Gonzalez 2019; Gossen & Purvis 2004; Moriarty & Honnery 2005; Ng & Acker 2018; White 1977).

Due to their caretaking responsibilities, women's commutes are often more complex and require navigating multiple stops, caring for young children, and transporting groceries along the way (Hjorthol 2000; Jiron et al 2020; Kern 2020; Ng & Acker 2018). These layered duties constrain women in the "double-day" phenomenon in which mothers are "balancing or managing the complexity interwoven into holding paid employment while having the larger responsibility for unpaid household labor" (Ravensbergen 2020, 337; Hanson 2010; Kaufman 2018; Sanchez de Madariaga 2013). This double-day requires mothers to engage in "trip-chaining"—combining multiple journeys into one—which can be physically, emotionally, and financially onerous (Al-

Kazily et al 1995; Levinson & Kumar 1995; McGuckin & Murakami 1999; Ravensbergen et al 2020; Strathman & Dueker 1995).

The household and familial obligations that mothers must build into their mobility practices impact the types of transportation mode they are able and willing to use. Due to the necessity of trip-chaining, a private automobile allows for the simplest journeys that minimize infrastructural and temporal constraints. However, car ownership among women is comparably lower than that of men, which forces many to opt for public or active transportation modes (Loukaitou-Sideris 2016). In their current forms, public and active transportation modes are not conducive to the needs of female caregivers: non-peak scheduling is inadequate (Halais 2020; Jiron et al 2020; Ng & Acker 2018; Ravensbergen et al 2020; Wenzinger 2017; Yearwood 2019); children are stigmatized within transit spaces as unwanted or out of place (Boyer & Spinney 2016; Hallenbeck 2018; Wenzinger 2017); and infrastructural barriers such as lack of stroller storage spaces or child-friendly seating makes transit use difficult for mothers with young children (Boyer & Spinney 2016; Hanson 2010; Jiron et al 2020; Murray 2018; Siemiatycki et al 2019; Wenzinger 2017; Yearwood 2019). Such barriers create cumbersome journeys (Adey 2006; Bissel 2009; Boyer & Spinney 2016; Holdsworth 2013; Hubbard and Lilley 2004) for mothers, complicating their attempts at caring for their family and resulting in feelings of exhaustion, frustration and internalized failure (Boyer & Spinney 2016; Forsberg; Jiron et al 2020; Schwanen & Ettema 2009).

These challenges persist as they are rooted in sociocultural norms that normalize car use and overlook the needs of female caregivers in the urban realm (Loukaitou-Sideris 2016). Such norms become engrained in policy decisions, meaning the experiences of mothers in transit spaces go overlooked by those with the power to enact change. This inaction marks a failure on the part of policymakers and transit agencies and is compounded by insufficient data on female ridership and an overall lack of female representation in transit planning and decision-making

processes (Dominguez Gonzalez 2019; Halais 2020; Loukaitou-Sideris 2016). Aware of these trends, this paper seeks to understand the gaps between transportation policy and infrastructure in Philadelphia and the needs of caregivers who rely on transportation to perform their household duties. I expand existing literature on mobilities of care by drawing on the perspectives of transit officials in conjunction with mothers and children themselves. This juxtaposition allows for an examination of the differences in intended transportation design and how transportation spaces are actually perceived by vulnerable users.

### Youth in Public, Transit, and Planning Spaces

Transit spaces—whether it be a bus, a train, a bike, or a sidewalk—are fundamental to the everyday practices of urban youth (Cope & Lee 2016; Gulati 2018; Lagerqvist 2019; O’Keefe & O’Beirne 2015; Villanueva et al 2014) and play an integral part in identity formation (Bourke 2017; Derr 2016; Ingold & Vergunst 2008; Lee & Ingold 2006; Monk 2019; Percy-Smith 2002; Skelton & Gough 2013). Such spaces are not only where youth exercise mobility, but they also “support cognitive development among young children by providing opportunities to interact with the built environment” (Gulati 2018). They are critical sites of learning, socializing, and engaging with a world outside the bounds of one’s home or neighborhood (Bourke 2014; Bourke 2017; Derr 2016; Jenks 1996/2005). Yet, children are an afterthought in conversations surrounding public space and transportation, viewed as an extension of a parent rather than a separate and autonomous being. Their omission culminates in an ‘adult urbanism’ in which the needs of adults are prioritized and youth are conceptualized as “‘apart’ from the urban realm” (Bourke 2017, 93; Cope & Lee 2016). This perpetuates a conceptualization of youth as invalid participants in urban planning processes due to a perceived lack of knowledge, realism, or critical thinking capacity (Oborne et al 2017; Vivoni 2013).

In response to ideas of youth as ‘out of place’ and unwelcome in public and transit spaces (Bourke 2017; Day & Wagner 2010; Holloway & Valentine 2000; Jenks 1996/2005; Kytta et al

2015; Peake and Rieker 2013; Prout 2003; Valentine 2004; Vivoni 2013), critical youth geographers account “for the ways in which space and place affect young people’s lives while identifying how young people themselves construct spaces of opportunity, fun, work, and even resistance” (Cope & Lee 2016, 312). Here, scholars examine and validate young peoples’ journeys and their associated observations, perceptions, interactions, memories, and attachments (Bourke 2017; Ingold & Vergunst 2008; Lee & Ingold 2006; Lee, Vergunst & Ingold 2006; Mayall 2002/2009). Scholarship places emphasis on the integration and free expression of youth ideas and actions in public space (Bourke 2014; Breitbart 2014; Chawla 2002; Derr & Kovács 2015; Hart 2014) and the need to ensure children’s right to safety, a clean environment, healthcare, education, green space, and play (Broberg et al 2013; Carrol et al 2011; Chawla 2002; Derr & Kovács 2015; Derr 2016; Malone 2006; Ramezani & Said 2013; Smith & Kotsanas 2014).

However, several scholars do highlight the validity of youth perspectives in planning process. For instance, Skelton and Gough (2013) contest paternalistic conceptions of youth, stating that “young people are not only in the city, but they are of the city; their lives are shaped by urban dynamics and they themselves are significant actors in, and creators of, the city” (457). This notion was operationalized in a study conducted by Jackie Bourke in 2017 in which children were given cameras and asked to navigate the downtown district of their city, and report on the places, people, and patterns they saw. Bourke found that “while at times, the children revealed a very imaginative experience, they also indicated a very pragmatic awareness of the urban public realm, with a focus on traffic and a poorly maintained built environment. This sense of the practical challenges they negotiate on their walks indicated an acute place knowledge” (2017, 101). Her study exemplifies a broader literature on the validity of youth participation in planning which urges planners to re-conceptualize children as experts whose experiences and ideas are integral to understanding and changing urban space (Bourke 2017; Cilliers & Timmermans 2014;

Derr 2015; Derr & Tarantini 2016; Hadfield-Hill 2013; Kindon et al. 2007; Lagerqvist 2019; Monk 2019; Mullahey et al 1999; Parnell & Patsarika 2014; Percy-Smith 2002; Skelton & Gogh 2013; Tisdall et al 2014; UNICEF 2014; Wyn & Cahill 2015). My study invokes this scholarship by providing a platform on which youth can convey their experiences and ideas concerning Philadelphia transportation. This endeavor is both necessary and novel, given the lack of formal avenues for youth participation in Philadelphia planning initiatives. I hope to show that youth perspectives are valid and that this work is possible, leading to heightened youth engagement in the future.

## **METHODS**

### Overview:

This thesis consists of a qualitative study surrounding the mobility practices of mothers and youth in Philadelphia. My approach marks a departure from traditional transportation planning studies. Centered on principles of efficacy and efficiency, traditional transportation scholars have frequently utilized cost-benefit analysis and statistical analysis in their approaches (Martens 2017, 29). The field has historically focused on issues of congestion, speed, and technology, leading it to be highly quantitative in nature (ibid.). Moreover, the field tends to focus on work-related trips, leading to an over-deliverance of peak scheduling, while non-commuters' needs have been deprioritized. As urban injustice becomes increasingly at the forefront of planning discussions, scholars have begun to critique the field for its lack of attention to equity and accessibility.

In an effort to make the field of transportation studies more human-centric, there has been a recent shift by several scholars towards the use of qualitative interviews as the primary component of their research design (Boyer & Spinney 2016; Forsberg et al 2020; Jiron et al 2020;



Lubitow et al 2020; Ravensbergen et al 2020). Here, scholars center their analyses on the perceptions and practices of individuals, conceptualizing subjects' experiences beyond that of mere data points. The goal of such qualitative approaches is to highlight the stated needs and challenges of users themselves, thereby centering human experience rather than efficiency in the realm of transportation. The methods in this paper are anchored in this recent shift towards qualitative transportation studies.

### Interviews

Two sets of interviews form the core of this research. I conducted one-on-one, semi-structured interviews with mothers and children to understand their experiences, practices, and opinions of the Philadelphia transportation system. To better understand transportation decisions and practices that contribute to such experiences, I conducted long-form, semi-structured interviews with past and current employees at SEPTA and OTIS.

#### *Recruitment: Transportation Officials*

Two agencies are responsible for the majority of transportation policy, infrastructure, and design in Philadelphia: The Southeastern Pennsylvania Transportation Authority (SEPTA) and the Office of Transportation, Infrastructure, and Sustainability (OTIS). While both are government agencies, SEPTA operates at the state level and OTIS operates at the city level. Though their approaches vary, both agencies are integral to the implementation of transportation infrastructure and policies within the city. The original sample expanded from the initial contacts as interviewees suggested other individuals who could be interested in participating, culminating in four officials interviewed in total.

#### *Recruitment: Families*

Subjects consisted of mothers with children ages six to eleven living in the Philadelphia area. Only adults identifying as non-male were included in the study in order to examine the

unique experiences of female-identifying caregivers navigating transit spaces. Mothers and their children were recruited through a convenience sample, including outreach to local schools, parent groups, and sports teams, as well as via 5<sup>th</sup> Square, a Philadelphia-based urbanist political action committee. All children participating in the study received \$10 Amazon gift cards in order to compensate families for their time and validate the expertise of children in the study. Parents were asked to complete a screening survey before the interview, consisting of basic questions about their backgrounds. It is important to note that this sample was predominantly (80%) white and affluent (median income of \$175,000) and does not represent the demographics of Philadelphia overall. Nonetheless, the interviews serve as a proof of concept of the potential value to be gained from interviewing mothers and children about their experiences using transit.

*Semi-Structured Interviews:*

In order to gain a comprehensive understanding of the transportation sphere and the associated challenges faced by mothers and children, it was important to include both officials and users in the interview study. In the first phase, I conducted semi-structured interviews with SEPTA and OTIS officials concerning the evolving efforts to both engage with the needs of women and children and pass policies on their behalf. Here, interviewees were asked about community engagement strategies, past and current policy and design initiatives, and their own conceptions of how the challenges faced by mothers with children can be addressed. These interviews were conducted with the goals of constructing a timeline of policies and programs in each agency, comparing the practices between agencies, and comparing actual initiatives with the needs and ideas of residents.

In the second phase, interviews were conducted with five Philadelphia-based families. Interviews with mothers were uniform across the board, in which discussions with each parent following a prepared guide of questions, with probe questions varying based on interviewee's responses. Questions revolved around family mobility and transportation practices on their routes

to work, school, errands, and leisure activities. The goal of these interviews was to inquire about individuals' actual practices, perceived barriers, sentiments occurring on their journey, and ideas for changing transit infrastructure. This goal remained consistent for interviews with children, though questions were simplified based on the child's cognitive needs. Mothers and children were assigned pseudonyms using a random generator. I analyzed the interviews according to the themes of safety, comfort and convenience, which are most prominent in existing literature.

#### Limitations:

As this study did not utilize random sampling, the findings of this study could not be generalized to the overall population of female caregivers and youth in Philadelphia. The findings were thus limited to the sample population. Families were selected by a mode of convenience and snowball sampling, meaning that factors such as demographic background could not be controlled by the researcher. Finally, due to COVID-19 restrictions, interviews were required to take place by phone or video call, based on subjects' preference. This limits the analysis to verbal content, rather than body language or expressions that may provide a deeper analysis of subjects' responses.

#### Biases:

In analyzing and reporting the interview findings, I was careful to maintain the original wording of the subjects' quotes. This was done in order to properly reflect their voices and perspectives and minimize skewed interpretations of their experiences. As the subject of this study is highly personal, varying between individuals, it is important to maintain the integrity of individuals' quotes whenever possible. When working with children, I felt it important to maintain their wording, in order to validate their contributions as constituting expertise in their own form.

## FINDINGS

### Introduction:

As exemplified in the literature, mothers and children in my study experienced distinct challenges when moving throughout urban space—be it by bus, train, car, bike, or their own two legs. By engaging in a series of one-on-one conversations with mothers and children, I gained a better understanding of the challenges, concerns, and recommendations that these subgroups view as most pertinent. In speaking with officials at OTIS and SEPTA, I gathered insight on how such issues are linked to community engagement practices, planning challenges, and current and future initiatives. Conversations with families illustrate that mobility-related challenges center around clear and overlapping themes of Safety, Comfort, and Convenience. At the same time, my discussions with officials highlight how past practices and organizational cultures have contributed to such challenges, yet signal that change may be on the horizon.

### *SAFETY*

#### *Street Safety*

Risky driving causes mothers to worry about the well-being of their children and family while biking. Sabrina, a mother of two and a full-time employee at a Philadelphia university, describes how cars in her neighborhood impact her family's travel practices and affect how she thinks about safety with her children:

So we haven't really been out as a family biking in the streets... not all the streets around us have a bike lane. The cars here are crazy. It makes me nervous. And I just feel like it is an important skill to teach my kids to know how to be aware of cars...

Even though Sabrina places emphasis on teaching street safety to her children, she still feels that she is unable to bike with them, attributing these fears to reckless driving behaviors and insufficient bike infrastructure. Maria echoes these concerns about cars as threatening the safety of children and families. She and her husband both work full-time while parenting their six-year-

old daughter, Mollie. Maria and her family have opted not to own a car, and instead use cycling as their main travel mode. To facilitate her travels, Maria switches between her personal bike—which she may ride alone, with her husband, and/or with her daughter—and her cargo bike. The cargo bike is equipped with a “May Use Full Lane” sign and allows her to tow groceries, an extra seat, and her daughter’s bike for when she gets too tired. Despite being an avid and experienced cyclist, Maria points to key safety concerns for her and her family, including aggressive driving, subpar infrastructure, and scarce bike lanes. While her family continue to cycle often, these concerns impact how they feel while biking:

But living in South Philly, where there's a lot of crosswalk parking, rolling through stop signs. We're very vigilant And it doesn't keep us from doing it. But it does add a level of stress...

For her, this stress necessitated additional precautions and being on high alert while biking with her family.

Children echoed their mothers’ fears about biking in the presence of cars and detailed how other urban elements, such as sidewalk conditions, contribute to feelings of unsafety. Naomi, Mollie, and Anthony all expressed fear of biking in bike lanes. For Naomi, “it was a little scary because there’s cars right next to you.” Anthony echoed this, saying “I don’t think you should have a paint line. Because...[a vehicle] might not be able to see the line and just go and crash into a biker.” Mollie felt safer biking in the bike line when she was in the seat of her mom’s cargo bike, but she feels safer on the sidewalk when biking on her own. Darren and Connor, however, mentioned that poor sidewalk conditions make riding their bikes and scooters feel unsafe. Regarding poorly maintained and “bumpy” sidewalks, Connor feels “a little nervous that my bike will fall and it will kind of hurt.” Taken together, the children’s stories show a clear awareness of insufficient bike infrastructure in their neighborhoods, which contribute to feelings of unsafety.

Mothers also expressed concerns about their children crossing the street, due to reckless driving practices of cars in their neighborhoods. In most cases, fears for their children’s safety

altered mothers' practices. Like Sabrina, Maria tries to instill her daughter with a sense of awareness about the dangers of crossing, especially given her small size:

My main concern is how short she is. She's not visible at an intersection so when we're biking together, we have to go out first and block traffic essentially as she's crossing. And so we're trying to train her to be very diligent about that without scaring her.

Lacking enforcement of stop signs and speed limits thereby put the onus on pedestrians to practice vigilance while trying to navigate urban space. This contributes to the complexity of mothers' journeys: travelling with a child is not sampling getting from point A to point B, but being constantly on alert for danger and carefully educating their children about street safety along the way. Alexis, a mother of two children and a physician/researcher at a local hospital, describes herself as a "crazy person" when it comes to crossing the street, a statement that drew giggles from her eight-year-old son, Anthony. Her fears of crossing the street hold true for herself and her children, leading her to take extra care when navigating intersections. She has gone so far as to purchase a reflective vest—and almost bought similar vests for her children—in order to decrease the likelihood of injury when crossing in the evening. In discussing these fears, she states:

I'm worried... I just get really nervous that people are gonna go straight through stop signs. And I mean, because they do. And so I get really nervous about the kids crossing the street. And especially at dusk, so I bought a reflective vest.

Alexis described how these fears are prevalent regardless of whether she is travelling alone or with her two kids. In her experience, she has had too many close calls with cars not obeying traffic rules. She informed me of how she carefully makes her children stop at multiple points and examine their surroundings before crossing even minor intersections. Her son, Anthony, interjected to say how "annoying" this was. She laughed, saying it probably was annoying. But to her, it was necessary. In her eyes, these extra precautions were her only way of protecting herself and her children from reckless driving given the lacking pedestrian infrastructure in her neighborhood.

Nearly every child mentioned their own fears of crossing the street, emphasizing crosswalks as sites critical to their own safety. Mollie, Maria's six-year-old daughter, told me about the letters she wrote to construction workers who were fixing a nearby street in her neighborhood. She wanted them to make sure that the crosswalk was only "nine lines," that way the street would have to be narrower and the cars would have to drive slower, making her feel safer when crossing. In explaining her plan, she told me "because if it's too big, then you could get hit by a car or something when the car could come through the crosswalk." Eric, Sabrina's eleven-year-old son, also expressed concern about drivers' apparent disregard for crosswalk etiquette. He does not like when cars stop in the middle of crosswalks, telling me that it was "annoying" and made him feel unsafe as he had to navigate around them to cross the street. In his words,

some drivers stop right in the middle of the crosswalk. And it's kind of annoying...I was walking to a park with my friend, and there's this car that was parked right in the middle of the crosswalk. And he was waving at us to go. And we were like 'you're in the middle of crosswalk.'

His frustration here is clear: how is he and his friend supposed to safely cross the street when a car blocks where they are supposed to walk?

Even without these barriers of speed and disregard for pedestrians, most children mentioned initial fears about crossing the street that have led them to develop coping mechanisms to enhance their feelings of safety. For instance, Eric felt safer crossing by himself when other people were crossing, even though they were strangers. He told me

Well, the first few times [crossing the street], I just waited a whole bunch of time. I just waited for a really long until someone walked by and when they were walking across the street, I walked.

The presence of others crossing signaled to him that he, too, would be safe. It appears that he relied on other pedestrians to indicate safety given lacking pedestrian infrastructure and reckless driving practices in his neighborhood. On the other hand, David and Naomi (eleven-year-old

twins) told me about how these fears dissipated with practices. When I asked Naomi whether she even felt unsafe crossing the street on her walk to school, she told me “at first kinda, but then not really... I thought since I crossed the street so many times, I basically practiced.” For her, all she needed was consistent positive experiences crossing the street to shake her initial fears. Her brother, David, told me about a time that he and his sister crossed the street without a crossing guard:

I remember in fifth grade, the old crossing guard retired and the new one would come in half of the time. So that was when we were transitioning to actually crossing streets by ourself...It was kind of good practice because it's a big street and usually there was a crossing guard there and sometimes there wasn't but there were always a lot of adults. We'd look both ways and then cross because there was a big crowd of people.

Like Eric, David felt safer crossing in this instance when there were other people around. This moment stuck out to him as an example of becoming more comfortable crossing the street without a parent and navigating safety concerns on his own.

In each of these instances, children expressed clear concerns about crossing the street, most of which stemmed from experiences in which they felt unsafe or witnessed reckless driving. The children told me how they adapt—or in the case of Mollie, how she wanted her streets to be adapted—in light of these safety concerns, be it by taking extra precautions or being surrounded by passers-by. However, it is important to note that the onus should not be on children to adapt, but on transportation officials and planners to create streets that meet the needs and provide for the wellbeing of children.

### *Station Safety*

Several mothers described feelings of anxiety when navigating Philadelphia subway stations, linked to a lack of security personnel and the presence of potentially unpredictable strangers. In particular, Erica, a local dance teacher and business owner, described her concerns about security at her nearby PATCO station, saying “it’s not a good scene down there at all.” She



describes herself as an experienced commuter on the SEPTA system and thinks of herself as not being a particularly scared or nervous person. However, she states:

The stations feel really unsafe at the moment. There's a lot of encampments going on...I hadn't been in a station in about a year and I was pretty stunned and surprised at how different it was down there. I think it's the opioid problem. I don't know how we're going to turn around. But it's definitely affecting public transit.

While Erica was careful to mention that such individuals likely did not pose harm in reality, the presence of being around strangers in mentally altered states added stress to her journey. She noted a lack of security or staff in stations, and wished that someone could be present at stations just in case she was in physical danger one day. To her, being a woman travelling alone or a mother travelling with her child in these circumstances made her feel uneasy.

Children were mostly excited by the opportunity to use public transportation; however, they also expressed safety concerns regarding station conditions and the presence of strangers. Connor, Erica's six-year-old son, told me about a time he took the Market-Frankford line from Second Street. There, the station was really muddy and slippery, leading to concern about his physical safety. When I asked how the dirty station made him feel, he told me "I am feeling like I'll fall in the mud and then I'll get all dirty" Eric also told me how station conditions made him feel unsafe at times. To him, the edge of the platform was scary and he wished there was a protective barrier to prevent him from falling. However, this fear dissipated over time, only occurring for "the first few days I was taking the train."

While the presence of strangers made some of the children feel safer when crossing the street, strangers in public transportation spaces signaled feelings of unsafety. For Connor, these fears made him and his family change their transportation practices:

Well, normally when I'm walking home, I don't take public transportation. I just walk because sometimes in that cold weather, people live down there in the subway so I don't go there. I don't want to be near those people.

The association of individuals experiencing homelessness with fear or unsafety was strong in the Connor’s case. In his view, certain people made him feel “okay.” Not only did he opt to walk instead of taking transit, but when he did ride the train, he was very careful to choose cars that would make him feel safer:

Sometimes I feel unsafe...And I look through the window to make sure there are okay people and not people that, you know... And sometimes when I'm riding on a train, there aren't very many people on it, or there are no people in the car that we got on. So that would make me feel safe when I'm on the train.

Older children echoed these safety concerns, but they did not impact their travel practices as starkly. Eric told me that certain people, made him feel “not exactly unsafe, but kind of uneasy.” He did not specify the characteristics of such individuals. Anthony, Alexis’ eight-year-old son, told me he would sometimes change where he sat when riding the bus or train at night, saying “sometimes I like to, like sit right next to my mom and our dad instead of sitting next to Juno [his little sister]... Well, I just feel more safe when it's at night. Because there's a lot of strangers.” In each case, the presence of strangers on public transportation contributed to feelings of fear and uneasiness of the child, leading them to desire or make minor alterations to their travel practices.

### *Gender & Safety*

In many cases, mothers’ concerns about their own bodily safety were gendered. These experiences were not unique to their positions as mothers, but as women navigating transportation realms. Typically, mothers described the certain transit experiences—such as harassment or threats to bodily safety—as not happening to their male counterparts. Consistent with the literature, several mothers described fears of traveling alone at night. In Alexis’ experience, she doesn’t “want to stand outside too long, especially if it's getting dark and can't see my surroundings.” In those cases, Alexis might order an Uber or a Lyft rather than waiting for a bus or train that is running infrequently or arriving at a poorly lit stations or stop. Maria echoes these fears, saying:

For me either waiting somewhere or having to walk a distance at night, that definitely is a concern. I would always feel more safe biking home from somewhere late at night. Because I'm on the move, as opposed to getting off at the subway and then having to walk a bunch of blocks on empty streets like that. It's definitely a more unsettling experience than just biking.

Studies (Loukaitou-Sideris 2016; Lubitow et al 2020; Kaufman et al 2018; Kern 2020) show higher rates of female harassment in urban spaces, often occurring at night when fewer people are around and women are more vulnerable. Fears of becoming susceptible to such attacks impact how women move throughout urban space. For the women in my study, these fears impacted their mode choice. Feeling unsafe on sidewalks or at public transportation stops and stations, women often opted for rideshare services or taxis.

As the only cyclist of the group, Maria talked about how biking as a pregnant woman was uniquely challenging. To her, biking while pregnant was a lose-lose situation:

The treatment that I received when I was a slow pregnant biker was awful. I'm probably honked at or yelled at or flipped the bird every day I ride a bike. If there's a day of riding the bike and no one honks to it's a win. Because I'm trying to bike in a way that's safe for me. But that actually makes me a nuisance to cars, because I'm not riding between traffic. I'm not doing this wild stuff. So I'm trying to take the lead and stop at stop signs and do the right thing. And that makes people really impatient and aggressive and say things and then if I'm not doing that, then you get the perception that you're one of those jerk bikers...

Maria felt that she could not bike safely while pregnant without receiving pressure or harassment from drivers. In these cases, she was unable to share the road equally—to drivers, she was a nuisance or a jerk, not someone rightfully following traffic and cycling rules. This story exemplifies the automobile-oriented nature of the streets through which she bikes, in which drivers feel entitled to space and their desired travel practices regardless of if they are being safe. This sentiment is echoed by most mothers, whether it be for their fears crossing the streets with their children or biking with their families.

As highlighted in the above stories, a subject's position as a mother or a child played a part in what constitutes as safe versus unsafe. Whereas mothers described general patterns of

safety challenges, children grounded their perceptions of safety in isolated incidents: crossing the street on the way to school, that one time they rode in the bike lane rather than the sidewalk, a memory from a night time bus ride. Such moments exemplify how they think about movement throughout space and which experiences contributed to feelings of [un]safety. In all of my conversations with the women, concerns for their children's safety and well-being were discussed in greater length and before mention of their own. Often, I had to ask a series of follow-up questions in order to elicit concerns about their own well-being. In many cases, the women would qualify their statements with phrases such as "but it's fine," thereby deprioritizing their safety-related concerns and needs. Their children were first and foremost their concern when it came to safety. When it came to her own safety, Erica told me,

I think before I had a child, I was less concerned about my own safety. But now I feel like my self-preservation, my feeling of needing to preserve my, my safety is so much stronger.

When traffic regulations, street infrastructure and transit security personnel failed to provide adequate protection for their families, Erica—alongside all mothers in my study—stepped in.

## *COMFORT*

### *Cleanliness & Comfort*

The most common signifier of comfort was the overall atmosphere of public transportation infrastructure, with sanitation of subway stations being significant to both mothers and children. Sabrina put it succinctly, stating "I wish they were a little cleaner. I wish the subways smelled better." Like their mothers, children also commented on the overall atmosphere of transit spaces. David, Eric, and Connor all mentioned the cleanliness of buses and trains. David told me that in his experience, "the floor is like with a bus covered in junk. Not a ton, but you know, there's stuff on the floor that, to me, that doesn't need to be on the floor." He wishes there was better enforcement of trash pickup or maybe some trash cans on the bus. Eric echoed and

added to this idea of bus sanitation, saying “buses are kind of gross. There’s stuff all over the floor. And sometimes there’s this weird stains on the seats...I don’t want to sit there. It’s just kind of ‘ick.’” Connor once again brought up the Second Street station on the Market Frankford Line and how muddy it is in the winter. This time, he did not tell me his safety concerns of slipping, but instead told me he really didn’t “want all that dirty stuff on my shoes.”

### *Bodily & Mental Comfort*

For mothers, the crowdedness of buses signified more than just physical discomfort, but also the mental toll of travelling with young children and strollers. During peak travel hours, Erica would choose to walk rather than “being crushed in the 47 bus” with her child. At times, comfort was linked to the social elements inscribed in public transportation spaces. Sabrina expressed that the culture of public transit at times felt hostile to mothers, especially when their children were young. She described a time where she felt uncomfortable taking the bus with her son, Eric, when he still required a stroller:

I felt like people were kind of less accommodating here. Coming in with a stroller onto the bus and having to collapse it. People I feel like gave me a harder time. So it was just more unpleasant...So it just felt not as like friendly towards families with young children.

To Sabrina, travelling with her son in a stroller made her feel like a nuisance and as if she did not belong in transit spaces. This experience exemplifies discussions in the literature about the burdens mothers feel not only in having to navigate transit systems with a young child and heavy stroller, but in having to deal with hostility and annoyance from non-parent travelers (Boyer & Spinney 2016; Hallenbeck 2018; Wenzinger 2017).

For children, however, physical discomfort was important, as they pointed to small details that had a large impact on how they felt while travelling. For instance, nearly every child told me that they did not enjoy walking very long, as their legs quickly became tired. Anthony and Connor enjoy taking the bus for this reason, whereas Mollie prefers when her dad carries her on her shoulders. David, Mollie, and Naomi all told me about how uncomfortable bus and train

seats were for children. They felt like the seats were not properly suited for their bodies. David in particular was very passionate about this topic, saying “In subways, it's very crowded, the seats are literally metal and plastic there isn't even any fuzziness over them. But there aren't ridiculously deep holes for your butt that might get stuck and get stuck into.” Both David and Mollie expressed how street infrastructure impacts their comfort while riding bikes, in which bumpy or uneven sidewalks and a lack of curb cuts makes it more difficult and uncomfortable to ride.

### *Mobility as Learning & Play*

Several mothers brought up exposure of their children to new situations as impacting their comfort using transit. For Erica, this notion was negative, as she could not control what her son, Connor, was exposed to in terms of language or subject matter. She describes this in saying

it's just that you're feeling a little bit trapped when you're on the bus, you can't cross the street. So you're forced to confront things you may be able to avoid in other circumstances. So that's not something that makes me avoid transit. But it's sort of an added stress and or responsibility of deciding that if you're going to take your kids on it is being prepared to talk about things that catch you off guard. When I'm outside, I can navigate it, I can see it coming... I'm aware of my surroundings... I'm feeling trapped in, a train car or a bus and I feel like ‘I can't get out. I can't, there's nowhere for me to go.’

For Rosa and Alexis, however, exposing their children to new environments was viewed as a positive aspect of public transit. In simple terms, Alexis describes travelling with her children as “a nice way to get out of the house.” Rosa admires that taking transit with her children enables them to “learn about different parts of the city and expose yourself to different people.”

My conversations with children revealed how transport sites could act as sites of play and amusement. For Naomi and David, their daily walks to and from school enabled them to socialize. David told me that on these walks “I talk to someone for most of that and I talk a lot, so that makes it fun.” Most of the kids enjoyed being outside, as long as the weather was pleasant. Both Eric and Mollie enjoyed incorporating games into their walks. Eric told me that he likes to “try to estimate how many feet until the corner and then measure it with my feet and see how

close I was.” Mollie enjoys playing “matching games with the street signs” and often brings her dolls on bike rides with her. Naomi told me about a positive experience she had at subway stations where there were murals and art on the walls. This added to her comfort levels and she said it even “made it a little more fun.” In each of these cases, mobility practices constituted more than the journey between start and destination, but as opportunity to engage with their environments and find amusement in their surroundings.

### *CONVENIENCE*

The idea of convenience was not largely present in my conversations with children; however, when I spoke to mothers, the matter of convenience seemed to be their foremost concern when travelling. This difference is likely due to children not being the decision-makers when planning and making trips. For the most part, children accompanied their parents on trips, and seldom made individual trips apart from walking their schools or perhaps a nearby park with friends. Mothers, however, are predominantly responsible for both the planning and carrying out of trips, consistent with the literature (Boyer & Spinney 2016; Dominguez Gonzalez 2019; Forsberg et al 2020; Hanson & Pratt 1995; Jiron et al 2020; Kern 2020; Ravensbergen et al 2020; Rosenbloom 1987; Schwanen & Ettema 2009; Vincent et al 2004; Wenzinger 2017). With this disparity in mind, the issue of convenience centered around several themes: routes and scheduling; traveling with children; fares and cost.

### *Travelling with Children*

Mothers emphasized that travelling with children, especially young children, was not convenient given the existing transportation infrastructure in the city. For most mothers, travelling with a young child and a stroller was a huge challenge, regardless of whether they opted to walk, take the train, or hop on the bus. Alexis told me that making trips with her children

in strollers is “kind of a pain if it was crowded.” Sabrina agreed, telling me it would more convenient if she was not forced to fold her stroller, either by the bus driver or due to necessity to make room for other passengers. Frustrated, she told me

When I've got a one year old, who's fussing and my hands full with a diaper bag, if I can just leave it open for a few stops and then pop my kid in and take them out. That's easier for me than having to juggle the kid while the bus is moving and fold up a stroller.

Other times, Sabrina would miss the stop she wanted to get off at because she was unable to gather her toddler and childcare supplies and exit the bus in the allotted time the doors were open. For these mothers, bus infrastructure clearly was not conducive to travelling with children. Rosa's story further exemplified these challenges. As a mother to twins, travelling by public transit was impossible when her twins were young and she needed a double stroller. Her inability to fold up a stroller, while carrying two babies and all her supplies effectively barred her from using transit, and, without a driver's license, her mobility became severely limited. Rosa recounted a time when she wanted to attend a new mother support group, which would require a trek from her home in Queen Village to Rittenhouse Square, over two miles apart. She told me

I remember thinking I can't get there. I can't just pop a baby in a baby carrier and just take the bus or walk there...I couldn't figure out how I could do it with the two babies. So I just didn't go there. Really, I just didn't go.

Consistent with the literature, infrastructural barriers such as a lack of stroller space or policies about stroller storage significantly impacted the convenience of mothers on their trips, while in some cases severely limiting their mobility.

Transportation officials noted that such insufficiencies posed challenges for Philadelphia families using transit infrastructure. An official at OTIS noticed that trolleys pose high barriers for mothers travelling with strollers and small children, due to their steep and narrow stairs. She also noted that the layout of train cars do not provide much space for women with strollers. In her view, “the physical limitations of a lot of our vehicles are really problematic.” Moreover, an official at SEPTA attributed these design challenges to a failure of transportation infrastructure to



keep up with changing city demographics. Despite increasing rates of young people and families, SEPTA's design had not changed since the seventies.

There has, however, been some recent momentum around rethinking transportation infrastructure, particularly the Market Frankford car redesign which created more space for strollers, shopping carts, and wheelchairs by removing 16 seats from each of the cars. SEPTA officials stated that, in reviewing security footage, the new pockets of open space were being predominantly used by mothers with children. As a foil to this progress, the SEPTA stroller policy places significant burdens on mothers. It states

When passengers are travelling with a child, the conductor or operator of the vehicle must request the child be seated or held by an adult. When the passengers are using a stroller, we require children to be removed from strollers, and strollers folded and placed in a secure position. These are safety measures intended to protect all of our riders. We believe that children are safer when held by their parents or placed in a seat. And when the stroller itself is stowed away properly, it is less likely to roll and cause injury.

Several mothers I interviewed expressed to me that it felt impossible to fold and store their strollers while caring for their children and other supplies. This policy claims to protect all users, but instead needlessly complicates mothers' trips. Therefore, while the redesign signals efforts to create more inclusive designs, other policies complicate mothers' journeys. A more uniform, people-centered approach would enhance accessibility for users.

#### *Fares & Cost*

The high cost of combined fares impedes families from accessing transit. Several mothers told me that the combined cost of fares for their family actually added up to more than a trip using a taxi or ride share service. Rosa told me that often, "it is cheaper for a taxi for the four of us than for four fares." This factor of cost thereby impacted her decision to not use public transit when travelling certain places with her family, instead opting for a taxi or her husband's car when available. She believed that other families share this practice, stating

so I think there's ways in which that discourages use of public transit by families because they realize that they may as well drive to Chinatown to go to Franklin Square to play mini golf. They should just drive and pay to park instead of taking the bus each way.

SEPTA officials echoed these sentiments, aware that combined fares pose accessibility barriers. In an effort to mitigate such barriers, SEPTA announced a new policy in July 2020 that allowed children under the age of twelve ride for free. A SEPTA official referenced this policy as a notable step forward towards more accessible transit for families. However, the official was aware the signposting and information sharing of this policy was lacking, leading many families to not be aware of this change. She told me “I’ve actually seen families—moms and dads—continuing to pay for their children when they don’t have to and the bus driver not saying anything.” This notion was reflected in my interviews: only one mother was aware of this shift and some had even been charged for their children’s fares in that time. These findings show insufficient knowledge sharing and signposting about this policy. While this knowledge gap may be attributed to less families using transit due to COVID-19 precautions, it is important for SEPTA to proactively share this information with families especially as we gradually return to normalcy.

### *Routes & Scheduling*

Mothers are inconvenienced by changing or insufficient routes and delayed or infrequent scheduling along their journeys. Regarding routes, the need to transfer added challenges to mothers’ trips. Rosa told me she preferred not to take multiple connecting modes, saying “if there is, like a direct line, transit wise, I’ll do that. If I can take the bus or the train and it makes sense.” Similarly, Maria stated that process of transferring and taking multiple legs “feels like there's a lot of hurdles.” This is amplified when mothers must bring along children or groceries, in which case they expressed opting for a rideshare service or their personal automobile, if possible.

Mothers therefore felt they had to allocate extra time to make these trips with their children in order to account for such hurdles. Erica will opt for public transit “As long as we have ample time and we're not in a rush.” Maria sees this need for careful timing as a barrier to convenience:

You just have to leave so much time because there's no telling how long it's going to take us to get there, how long we're gonna wait. You know, having a kid with you when there's like a service change or a detour, it's such a thing.

These concerns also apply to her experiences with Regional Rail, which she used to take to visit her mother in New Jersey with her family. In discussing the hassle these trips were, she said

And so a weekend quick trip becomes a whole day situation because the service isn't as frequent. So figuring out when to leave, all of that sort of navigation is a challenge with public transit, because it's like how long are we going to be standing here on this corner when it's cold or raining? So I feel like that sometimes changes our decisions about even doing something because we're like, ‘do we feel like going through this today?’

This need to build in cushion time when taking public transit is further complicated by sudden route changes. Sabrina recounted an experiences when she was unaware of a route change, and sat patiently waiting with her son for longer than she expected, only to find out from a neighbor that the bus was never going to come, as it had in fact been rerouted.

This issue of routes also impacts mothers who opt to bike as their central mode of transportation. Maria, an avid cyclist, told me that many family friendly attractions are hard to reach by bike. Not only are bike lanes inconsistent or frequently obstructed, but traffic patterns are, in her words, “insane.” This issue is not solved by simply switching to public transportation, as those routes often necessitate multiple connections, which she views as inconvenient to accomplish with her six-year-old. Without a car, she has to bike. However, just these journeys often end up taking longer than expected due to traffic patterns that prioritize automobiles over bikes. She told me that in the worst example of this she and Mollie tried to bike “from the Perlman building to the oval and it took me twenty minutes, and its maybe fifty yards, because of how insane the traffic pattern is.”

Children also expressed annoyance at the complexity and timing of public transportation, demonstrating their ability to make insightful observations about their surroundings. Naomi enjoyed travelling on the bus because it gave her the opportunity to see the city from big windows. However, she noted that it did not always seem to be the most convenient option, due to longer travel times and inexact destinations. In explaining this, she told me that “the bus has like different places it has to stop. So it might take a little longer. And it also doesn't stop in every exact place you want it stop. And also, even though it has a scheduled time that would arrive at one place, sometimes it's late.” Connor also noted that bus routes could be insufficient, telling me that some buses “don't go very far away.” Naomi's brother, David, told me about how, in his experience, trains were often delayed. One memory in particular stood out to him, in which he had to wait at a station for three hours while a train underwent maintenance. He noted the unique inconvenience of this, stating “in a car, like sometimes you have a problem. But it could be fixed... problems are just resolved quicker in the car.” Both Anthony and Naomi noted that subways can be hard to find, especially for unfamiliar users. Anthony told me “if you don't know where a bunch of them are then you realize that you don't find them as easily as you find a bus stop.” Naomi was just as confused as to how to find her way through a train station. However, with a small giggle and sigh of relief, she said “usually I'm not the one in charge of that.”

Officials noted that the root of the problem regarding routes and scheduling was planning for only a subset of users. The focus in most planning initiatives has been on work-based trips, “the standard unit of analysis in transportation data”; therefore, planning endeavors were typically aimed at enhancing user experience for nine-to-five commuters. One official told me, “basically, if you're anyone who's not just going to and from an office downtown at eight in the morning and coming home at five in the afternoon, then it's harder to get around.” As noted both in the literature and in my conversations with mothers, female caregivers rarely conform to these trips. Their trips—even during peak travel times—are more complex, necessitating multiple stops. An

official told me that the emphasis placed on work-based trips and commuters “manifests in things like over-delivering peak service on transit.” As a result, routes and scheduling are focused on moving people from their neighborhoods to Center City. Flow between neighborhoods is therefore limited, with Center City as the literally center point of most routes. An official noted this as an issue, saying “non-office space trips are going to be more widely dispersed; if you’re a caregiver, you’re going in between neighborhoods.” These priorities means that travelling at other times in non-central neighborhoods equates to more time spent waiting for the next connection when transferring and insufficient frequency for the kinds of trips that mothers must take, thereby adding complexity and inconvenience for already burdened users.

Officials at OTIS noted that these route and scheduling issues force mothers into complex decision-making processes and could have serious consequences. Insufficient schedules and transfers not only inconveniences mothers, but could lead to missing work, appointments, or daycare pick-ups. One official noted that “unreliability compounds,” which disproportionately affects those with more complex trips. Another official notes that mothers may have to make hard decisions about their and their children’s safety. They told me about a decision point that has come up in their experience, both for themselves and at community meetings. The crux of this decision was between shorter, more convenient routes and those that held a better guarantee of safety for their families.

Importantly, mitigating these challenges requires political impetus and continual effort on the part of transportation agencies. Another SEPTA official noted this as a challenge, saying “even if you create these spaces for them to be able with the intention of it being easier to travel, who’s going to enforce that? And is there going to be tension?” Importantly, her statement points to a broader planning challenge: if mothers and children are not on the radar of policymakers in general, who is going to be in their court when enforcing policies that make their trips easier? According to another official, SEPTA is a conservative, slow-changing organization whose

demographic composition does not match the majority of its ridership. The question first becomes, how do we close this gap between decision-makers and users themselves? From there, given a world in which policy and planning decisions were centered around these users, how do we promote that enforcement in the long-term? Creating policies that impact the intersectional issues that mothers and children face on transit will require a coalition of decision-makers who are guided by more progressive and forward-thinking principles.

Given these challenges, women often have to make practical decisions about which transportation mode is most convenient given the circumstances. Their destination, number of errands to be completed, whether they are carrying groceries, the time of day, and if they have children in tow all impact this decision-making process. The issues of inconsistent scheduling and poor planning for non-automobiles are not just an issue for mothers: they pose challenges to users of all ages, genders, and abilities. However, as mothers disproportionately make complex trips to provide for their households and travel with their children, these challenges become magnified.

Such challenges become further complicated when issues of safety and comfort are considered. Often, women must weigh their own well-being, comfort level, and convenience with the best interests of their children—all of which inform how they can and do travel throughout space. However, not all mothers have as much choice as do others. This is clear to Erica, who states “I have the luxury of deciding what's more convenient for me, you know, and I recognize that's a luxury.” As transportation planners consider how to make transit more accessible for mothers—and everyone—they must plan for those whose options are most limited.

#### *RECOMMENDATIONS:*

##### *Planning & Design Changes*

Mothers offered several practical recommendations that would enhance the convenience and safety of their trips. Such recommendations were small-scale and would not require

significant funding or time to implement. Foremost, mothers sought a way to make travelling with young children easier for new mothers. Rosa suggested that vehicles could have spaces in which to lock one's stroller, such that "you didn't have to feel obligated to fold up the stroller." Similarly, Alexis proposed a designated place to store strollers or supplies quickly once you first entered the bus. Mothers also offered ideas concerning fares: Rosa advocated for a more affordable group fare for families (given that not all children are free, just those under 12) and Sabrina suggested that SEPTA keys should be able to be replaced online and be able to be swiped more than once in order to swipe for one's child.

Larger propositions from mothers centered around changing public space, scheduling, and routes. Maria had several ideas for making streets and public spaces more family friendly. She suggested that more bike lanes be protected, similar to those found on 11<sup>th</sup> Street. In explaining this, she stated that they should create "an actual protected lane. I don't just mean bollards for paint, I mean actual protection, like concrete or parking protected bike lanes." Along similar lines, Maria also suggested there be stricter regulation of cars who park in bike lanes and crosswalks, in order to re-prioritize users of active transport rather than cars. She also noted that despite public spaces being places where families wanted to spend time, certain factors act as barriers. She recommended that public spaces and stations be equipped with public restrooms, water fountains and bike locks, in order to make them more hospitable to families.

Mothers also advocated for scheduling and routes to be reconsidered such that reliability, timing, and convenience were enhanced. Sabrina and Maria both advocated for higher bus frequency and aligned transfer times as ways to improve the city's bus network. Alexis offered a way to improve the current bus tracking system, suggesting there be a way to monitor which bus or train your child was on and track it along the way. Finally, regarding routes, mothers had several suggestions. Erica wished for a more expansive subway system. She noted the unlikelihood of this and instead recommended "including more buses on the lines that are always

so jam packed.” Alexis echoed this idea suggesting more frequency in bus and train scheduling. Similar to her statement about public spaces, Maria suggested “some way to focus and actually build connections to outdoor spaces and attractions that families want to spend time at.” To her, this would be a monumental change. She said that because of lacking connections, “there’s times that we just choose to not go to things because it’s too much of a challenge to get there.”

Children also provided valuable design recommendations. Seating appeared to be a pertinent issue that children wanted to improve. For instance, both David and Anthony advocated for seats that were “designed for kids,” noting that current infrastructure is not built for their bodies. Naomi also suggested that seating should be reconfigured so that “a family could sit together and not be in two or three different chunks of people.” On this note of reconfiguration, David recommended that care should be taken to alleviate crowding, “because during COVID how safe do you think that is?”

Design recommendations also revolved around street safety. Both Mollie and Anthony wanted to improve sidewalk quality. Anthony wanted to make sure that sidewalks were more uniform because “sometimes the concrete goes up and down and isn’t completely straight,” which makes biking more difficult for him. As a member of a family that bikes everywhere, Mollie frequently rides on both the sidewalk and the bike lanes. She hates when sidewalks do not have curb cuts, because the big bump between the curb and the sidewalk scares her. She therefore advocated for more curb cuts. She also echoed her mother’s suggestion that cars should not be able to park in the bike lane, and recommended they get tickets if they do. Finally, Anthony and Naomi offered ways to make drivers more aware of children on the roads. Naomi suggested that there be more separation between cars and cyclists on the street, so that the driver was clearly aware of that space being designated for cyclists “and not either a place to park or a place to drive.” Anthony also gave the idea of flashing lights or a gate that would “more safe for kids to bike on the street.”



Parents and children were unified in their goals of improving transit atmospheres. Nearly all of the participants advocated for increased cleaning and sanitation practices. In David's words, "that wouldn't just be for kids, that would be helpful for everybody if they had them cleaned more than once a day." Interestingly, the conception of what constitutes an improved atmosphere differed between parents and children. Whereas parents advocated for safety and security improvements, children offered ideas to make transit spaces sites of play and enjoyment. For instance, Erica said that "having more personnel on the trains and in the station would make me feel better." Similarly, Alexis had the ideas making sure stops were well lit, installing blue lights at stops in order to signal distress, or creating an app to report safety concerns along different routes. Such concerns did not appear for children. Instead, Naomi, for example, suggested that transportation "could be a little bit more interesting or fun." She suggested music and art as ways to achieve that sentiment. Her brother, David, recommended there be "something special to do, like some sort of activity" for children. Connor said it would be great if "the trains were more special on holidays," including more decorations and "exciting things to look at inside."

My exchanges with officials did not yield as specific recommendations as my conversations with mothers and children. Officials offered more high-level ideas of what a family-friendly transportation system could be ideally. For one OTIS official, the answer was "leaning into universal design principles...where everything needs to be designed in a way that benefits folks with the most challenging needs." In his eyes, "if we can make a vehicle work better for them, it's going to work better for all of us." This sentiment was broadly echoed. A SEPTA official stated that "we just need to start designing out vehicles better for all people and the way that people are using transit now." For another OTIS official, ADA accessibility guidelines could offer a path forward for greater accessibility for families. She also noted that street safety should be of the utmost priority, especially given that COVID-19 restrictions have led to increased time spent outside by families. To her, solutions could be as simple as better

pedestrian and biker infrastructure: improved sidewalk conditions, ADA ramps, traffic calming, etc. Moreover, she advocated for traffic calming measures, driver education, and decreasing the total number of cars. She conceptualized sidewalks and streets as a form of transportation that are vital to families' wellbeing. Political willpower, funding, and a hyper-focus on work-based trips act as barriers to actually achieving these aims, however.

*Systemic Changes:*

Parents and officials also suggested changes that would require a more involved and comprehensive overhaul of existing transportation practices. For Sabrina, the key to change was more funding, saying "if I could just wave a magic wand, obviously I'd infuse more money into SEPTA." She also advocated for better training for the staff, in order to make sure fares impacting families were actually enforced. She recognized that in all likelihood "they are underpaid and extremely stressed," meaning that this education would require additional changes to alleviate burdens on transit staff. Maria also suggested that education measures be a part of broader change, but in her eyes, that would be aimed at drivers in order to provide them information on how to co-exist with pedestrians cyclists. She was frustrated that "we have to know our rights more than anybody else does."

Importantly, subjects suggested that the city's transportation system ought to be oriented around user experience, rather than traditional goals of efficiency and speed. An official at SEPTA noted that the city's demographics are changing. To her, changes means that "we need to adapt to the demands and the profiles of these people." Along similar lines, she stated change would look like "being able to accommodate families in the way that they travel." These suggestions resonate with those of Maria, Erica, and Rosa who advocate for higher level thinking in transportation planning. Maria believes that transportation planners need to actually think "that people are multimodal on their trips," something she does not think is currently being done. Erica thinks even larger. To her, a family-friendly transportation system means "more people would

stay in the city,” because they can access all that they need. Finally, Rosa offered a broad, yet succinct conceptualization of what a family-friendly transportation system ought to look like, saying “I think it sounds cliché, right? affordable, accessible, user friendly, welcoming. And obviously, clean.” Mothers, children, and officials alike provide important insight regarding how Philadelphia transportation can be re-imagined to better meet the needs of families. The journey to the creation of a family-friendly transportation system is one replete with challenges—be it funding, political willpower, logistical hurdles, etc.—but not impossible. A coalition of dedicated actors, a cognizance of the experiences of vulnerable users, and a wealth of creative problem solving will pave the way for family-friendly transit in Philadelphia.

## **DISCUSSION & FUTURE RESEARCH**

Enhanced community engagement is the key to creating a transportation system that better accounts for the needs of users. Importantly, a SEPTA official stated that family-friendliness will not be achieved through individual policy or design implementations. Instead, change must happen on a structural level, requiring an overhaul of the system and current modes of thinking. However, this is not to say that change, however small, cannot or should not be enacted. The first step is guaranteeing the incorporation of the voices of vulnerable users into transportation planning decisions. This entails moving beyond basic requirements of community meetings public outreach and towards the pursuit of direct, face-to-face conversations with the users themselves. Transportation is a deeply personal experience, and should be treated as such by officials. Providing space for the experiences and ideas of women and children—along with all users—is of the utmost priority in the creation of an equitable, accessible, and family friendly transportation system.

### Existing Engagement Strategies

Throughout my conversations with officials, it became clear that stark differences exist between the engagement approaches of SEPTA and OTIS. Whereas OTIS seems to prioritize community engagement and input, it is not of the highest priority to SEPTA. OTIS officials told me about their multi-pronged engagement methods, taking place even during COVID. Their approach includes a combination of street-based in-person engagement, community meetings, postcard outreach, and surveys disseminated online, in-person, by phone, or by mail. To accommodate families, they also are careful to schedule meetings and phone calls during commute or school pickup times and provide coloring/game tables for children at community meetings. In the words of one official, their guiding principle for doing community engagement is using “varying ways of meeting people where they’re at.”

An official at SEPTA disclosed that SEPTA has a conservative approach to community engagement. While SEPTA does the basic required outreach methods—monthly public meetings, information notifications, translation of materials—it is not a key tenet of their work. In her words, “We don’t do it. We have open houses a few times a year. We have board meetings that people can attend and comment at. They’re very dry and you’re not there really to solicit people’s feedback in a proactive way. Even when we have major projects, we do everything we can to make sure that there is not a civil process, a public process to it.” In explaining the reasoning for this approach, she told me that SEPTA’s position as a railroad gives them right-of-way, meaning that they can develop and enact policies by right, without consulting the public. Public engagement would only slow down their practices, rather than add to them. While this lack of engagement may add to SEPTA’s efficiency, it actually poses problems along the way. An official stated that “you don’t get good design without it” which leads to “a course correction because we haven’t gone to people early enough.” My interviews with mothers and children show that the public has a lot of valuable input to supply. Therefore, it would be in the best interest of officials to incorporate public input in order to avoid these obstacles in the future.

## An Inclusive Approach to Transportation Planning

Officials at transit agencies play instrumental roles in the future of accessible, family-friendly transit. While several positive initiatives exist pertaining to design, street safety, and community engagement, there are still clear obstacles that must be overcome in order to ease the journeys of mothers and children. My findings highlight the ways in which the journeys of mothers and children have been complicated by issues of safety, comfort and convenience. Addressing these challenges through policy, design, and engagement would create not only a transportation system conducive to the unique needs of mothers and youth, but also for users overall. Given the willingness of mothers to share their experiences with researchers and the validity of their input, heightened community engagement is vital. A family-friendly transportation system cannot be achieved without diligent outreach to families themselves.

Long-term, sustainable change requires a re-tooling of how planners approach transportation decisions, policies, and research. The current emphasis on ridership—particularly that of work-based trips—leads to insufficient data that does not adequately account for the practices or experiences of all users. Such trips are predominated by men and commuters, yet we know that 60% of SEPTA’s users are actually female-identifying. When historical, commute-based ridership is the be all end all for implementing transit initiatives and reforming practices, the same subset of users is continuously served, with marginalized increasingly slipping through the cracks. This focus poses real obstacles to equity-focused planning initiatives. As transportation frequently becomes more cumbersome for non-commuters, ridership decreases. This was evident in my sample alone, with mothers often opting for private automobiles or rideshare services as a way to optimize convenience and mitigate hurdles. Decreased ridership from this subset only serves to perpetuate the narrative that such users ought not be the focus of planning initiatives, as they become unaccounted for in ridership data. With transportation planning so focused on ridership counts, the recorded use of transportation by such users is vital.

Yet when transportation poses real obstacles along the lines of safety, comfort, and convenience, use becomes more and more cumbersome. This becomes a self-perpetuating cycle: families increasingly opt out of transportation as their needs go unmet and transportation planners continue to overlook the needs of families as they are not preeminent in ridership data.

This study shows that, even on the small scale, the incorporation of underrepresented voices yields meaningful insight into the lived experiences and needs of users. My study is a step towards a more systematic understanding of both the needs of families and the creation of a more comprehensive definition of accessibility to be utilized in the planning process. While accessibility is currently conceptualized as a matter of timing, distance, and efficiency, my conversations with Philadelphia families demonstrate that, when considering accessibility, transportation planners ought to look at factors that are hidden in plain sight: safety, comfort, and convenience. For mothers and children, an efficient transportation system is only usable if it feels safe, comfortable, and convenient given their unique needs. The holistic user experience throughout journeys, rather than at the beginning and destination points, must be considered. Future research entails conducting a more robust study, consisting of a larger sample that is more representative of Philadelphia's demographic composition, direct partnerships with transportation agencies, and a mixed-methods approach towards the incorporation of user experience into planning decisions and processes. Sustainable, inclusive, and impactful change requires a coalition of actors—planners, politicians, engineers, advocates, researchers—but most importantly, it requires a commitment to comprehensive community engagement strategies. An emphasis on engagement allows users to have a direct role in shaping how their city's transportation system meets their needs. The challenges I have described, though expressed by mothers, likely also impact a wider subset of users. A broad conceptualization of accessibility and a commitment to engagement will create a more inclusive transportation experience, regardless of

background. A family-friendly transportation system is one that is accessible, equitable, and enjoyable for all.

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