



Understanding Connections Between Mobility, Transportation, And Quality Of Life In Refugee Communities In Tucson, Arizona

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UNDERSTANDING CONNECTIONS BETWEEN MOBILITY, TRANSPORTATION, AND QUALITY OF LIFE IN REFUGEE COMMUNITIES IN TUCSON, ARIZONA

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16. Abstract In this multidisciplinary research project we aimed to study mobility challenges that refugees in Tucson, AZ, experience after their resettlement. Using qualitative and quantitative data collected from interviews and survey data, we argue that mobility shapes the ways refugees foster social connections, attain employment and access educational opportunities. Accordingly, barriers to mobility negatively impact refugees' perception of well-being in post resettlement. However, these challenges are not experienced evenly. Nor are refugees passive subjects who lack agency in overcoming various barriers they experience. The study reveals the resilience of the refugee community in navigating the intersectional challenges they confront related to their mobility. We hope that the implications of this study can inform various stakeholders to better support refugees in navigating existing mobility and transportation challenges and to promote policy change that can increase better spatial mobility for all Tucson community members.			
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DISCLAIMER

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EXECUTIVE SUMMARY

As stated in the mission statement of the U.S. Department of Transportation (USDOT), having access to a safe, efficient and modern transportation system is important to “the quality of life for all American people and communities.” Similarly, the U.S. Federal Transit Administration (FTA) emphasizes personal mobility as a vital factor for American people and communities to succeed.

Yet, millions of Americans do not have access to reliable transportation, preventing them from gaining employment, reaching necessary medical care, and taking advantage of services and programs that may assist and transform their vulnerable conditions. This challenge is heightened for refugee communities who are among the vulnerable members within American society. The COVID-19 pandemic brought their existing vulnerability to the forefront.

Refugee issues have garnered significant attention in political and public debate in recent years with a number of globally displaced persons across the world reaching a record high. Today, one in 95 people in the world are forcibly uprooted from their homes and homelands (UN High Commissioner for Refugees (UNHCR), 2022). Only a small fraction of these forcibly displaced people gets resettled annually in safe countries. While resettlement has typically provided an important escape for millions of forcibly displaced persons from otherwise unpredictable and often dangerous conditions of displacement, most refugees experience an array of challenges in their post-resettlement as they integrate into new communities (Myadar, 2021; Myadar and Dempsey, 2021; Morris, 2009). Many of these challenges are related to their ability to get to and from places that are important to their sense of autonomy and well-being, including sites of worship, education, medical care, and employment (Jamil et al., 2012). There has been a significant body of research on refugees' life satisfaction in their post-resettlement environment; however, the role of mobility remains understudied.

In this project, we focused specifically on mobility-related challenges refugees face after their resettlement. Our multidisciplinary research project was conducted in Tucson, AZ, to provide a window into the lived context of post-resettlement refugee life experiences. Our overall aim was to understand how and in what ways transportation impacts refugees' well-being in order to develop recommendations for how cities and non-profits can better serve this vulnerable population.

This project addressed the NITC theme of increasing access to opportunities, specifically exploring strategies for overcoming barriers to access that improve social equity within our communities. The theme focused on identifying and implementing solutions that could increase access to transportation for vulnerable populations,

including refugees, with the goal of creating a more equitable and inclusive transportation system. Our project aimed to identify some of the barriers experienced by Tucson's refugee population, and propose strategies for increasing access to transportation and improving social equity in our communities.

Recently resettled refugees face a complex array of potential transportation-related barriers to accessing opportunity, ranging from difficulties accessing needed services; social isolation due to constrained mobility; language and cultural barriers; and economic hardship. Previous studies, as well as the PI's previous work, indicated that disadvantage related to mobility was likely intersectional in nature. For example, non-English speaking Muslim refugee women of color may face multiple mobility-related barriers across multiple identities. We sought to be mindful of these multidimensional and layered challenges experienced by refugees. In particular, because we started our project amidst the first of the COVID-19 pandemic, we aimed to understand how the pandemic impacted refugee populations. We used a mixed-method approach to unpack the complexity, nuance, and intersectionality of the challenges faced by refugees as well as strategies different individuals and families used to address these challenges. Based on our research, and insights shared by our participants, we offer some recommendations in this report.



Figure 1.1: Graphic illustration of transportation landscape of Tucson.

1.0 BACKGROUND

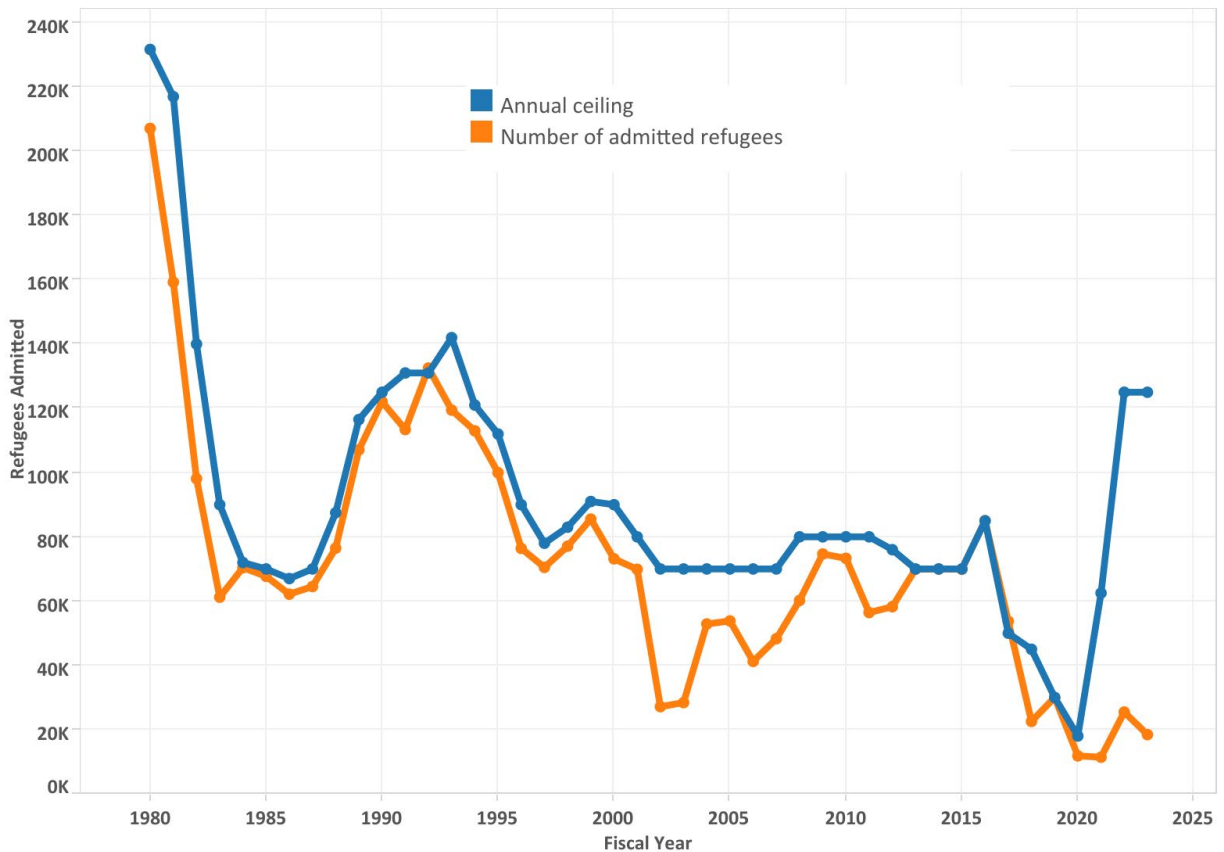
Millions of people around the world leave their homes and homelands because of forces beyond their control. According to UNHCR, more than 103 million people have now been forced to flee their homes around the world due to violence, conflict, persecution and human rights violations, breaking the record yet again (UNHCR, 2022). They are forced to navigate uncertain and often treacherous conditions of displacement. Many remain in this state of liminal and protracted existence of precarity. Of those displaced, 32.5 million are considered refugees under the international law set by the 1951 Refugee Convention and 1967 Protocol (UNHCR). This number is the highest recorded in any single year and still growing.

The global refugee regime was established and has operated to meet the needs of these displaced persons. The term originated from the French word *réfugié*, meaning ‘to seek refuge.’ The formal designation of the term was adopted by the 1951 Refugee Convention to define a category of people who were displaced and forced to seek refuge away from their homelands (Myadar and Dempsey, 2021; Jones, 2020).

But the scope of the original Convention was limited to those who were displaced in Europe in the aftermath of World War II. The 1967 Protocol broadened the scope to cover refugees universally (Ibid). The current legal definition of a refugee is someone “who is outside his/her country of nationality or habitual residence; has a well-founded fear of persecution because of his/her race religion, nationality, membership in a particular social group or political opinion; and is unable or unwilling to avail himself/herself of the protection of that country, or to return there, for fear of persecution” (UN General Assembly, 1967).

Since the inception of the Genocide Convention, millions of people have benefitted from the protection the current refugee regime provides (Myadar and Dempsey, 2021). However, the rigid category has simultaneously excluded millions of others from the definition, thereby denying much-needed protection that the Convention aimed to provide (Jones, 2020; Myadar and Dempsey, 2021). Those who meet the criteria go through layers of screening process to be resettled in a safe country that can take up many years.

Historically, the United States has resettled more refugees than any other country. Since 1975, the U.S. has resettled over three million refugees across 50 states (see Figure 1.1). The U.S. refugee admission reached its peak in 1992 with about 132,000 people resettled that year (U.S. Department of State, 2021; Pew Research Center, 2017).



Migration Policy Institute (MPI) Data Hub
<http://migrationpolicy.org/programs/data-hub>

Figure 2.1: U.S. refugee admissions and ceilings. FY 1980-2023

However, our project was conceived when the U.S. refugee acceptance was capped at the lowest ceiling since the refugee resettlement program was created in 1980. Under the Trump Administration, the U.S. refugee admissions ceiling was reduced from 120,000 in FY 2017 to 15,000 for FY 2021 (National Public Radio (NPR), 2021). During this period, refugee resettlement agencies also suffered dramatic cuts in their already anemic budgets, which had a direct impact on the amount of assistance that refugees received from these organizations. Furthermore, the politicization of refugee resettlement became a fodder for political tactics “in new and often unsettling ways” (Bose, 2020; 2). Geographer Bose argues that several factors contributed to this volatile political climate including home country violence, national border restrictions and closures, increasing refugee numbers, and U.S. political turmoil expressed in both domestic and international spheres (Ibid.)

When the Biden Administration assumed office, it pledged to reverse this trend. In May 2021, President Biden increased the FY21 refugee admissions cap to 62,500. However, when the fiscal year ended in September 30, the United States' admissions number did not even hit the previous administration's ceiling of 15,000 because of the barriers that had been set by the previous administration as well as COVID-specific challenges. The administration has pledged to bring the ceiling to 125,000 persons for FY23, but the number of resettled refugees remains far below the historic average.

1.1 WHY STUDY REFUGEES



Figure 2.2: Project participants after their interview.

Transportation mobility is a basic material need. Consequently, questions of transportation disadvantage and justice run throughout the transportation literature. However, the intersectional challenges refugees experience distinguishes them from other vulnerable groups.

During the PI's previous projects that focused on the stories of Tucson refugees, many informants indicated that their ability to get to the places of importance in their daily lives (e.g., sites of employment, children's schools, grocery stores, churches and mosques) was very important to leading a fulfilling, post-resettlement life. Our project aimed to explore this connection and understand how mobility-related challenges refugees experience impact their sense of well-being, and how various barriers refugees experience impede the process of them becoming socially independent and economically self-sufficient.

We grounded our project in stories of different people whose experiences and journeys are unique to them. By doing so, we hoped to challenge the homogenizing representation of forcibly displaced persons as refugees which creates 'the refugee figure' – "a figure that has no agency and is identical in his/her experiences to other refugees" (Myadar, 2020:2). Although we are mindful of the generalizing notion of the term *refugees*, we use the term in this report to indicate the legal-political status through which these individuals were resettled in Tucson.

Coming from vastly different cultural backgrounds (including patterns of their mobility), refugees face a challenge of navigating complex grids of social and physical mobility. In general, refugees face a unique set of challenges and barriers as they resettle in a new place, having fled various wars and violent conflicts in their home countries. Upon their arrival, many of these individuals live in a precarious state of economic disadvantage and social and cultural marginalization.

Most refugees come with meager to no possessions, and their employment-related skills are often not easily transferable to immediate employment opportunities in the job market in the host country. For example, a person who worked as a doctor in their home country may not be able to practice medicine immediately due to differences in certification and licensing requirements. In addition, refugees are obligated to repay the U.S. government the cost of travel expenses once they become self-sufficient.

In a study of transportation and mobility-related challenges faced by refugees in Seattle, WA, Chaney et al. (2016) found that discrimination and prejudice from transportation providers and other community members were significant barriers to refugees' access to transportation.

The built environment also plays a crucial role in refugees' access to transportation and mobility. In a study of transportation challenges faced by refugees in Atlanta, GA, Lassetter et al. (2015) found that inadequate public transportation infrastructure and services in refugee neighborhoods limited refugees' access to transportation.

Furthermore, many refugees lack English language skills, limiting their access to information. According to a report from the Migration Policy Institute (2016), nearly half of all refugees who resettled in the United States between 2005 and 2014 spoke little or no English upon arrival. Language barriers can also affect refugees' ability to navigate the transportation system in their new communities. In a study of resettled refugees in the United States, Zito et al. (2017) found that language barriers affected refugees' ability to read and understand transportation schedules and maps, leading to difficulty in navigating the transportation system. This language barrier can make it difficult for refugees to access basic services, communicate with employers, and establish social networks.

To overcome these compounding challenges while building new lives, the ability to move around the city independently is absolutely critical for refugees. Yet, navigating a new and different transportation system and built environment remains a critical challenge for many refugees, especially for those who recently arrived or are experiencing multiple layers of vulnerabilities. The built environment and transportation systems in the host country may be vastly different from what they are used to in their home country. Some refugees come from large cities with sophisticated transportation systems, while others may come from rural areas with little or no transportation infrastructure.

Although refugees are similarly socio-economically disadvantaged as other vulnerable groups, many refugees confront additional linguistic and cultural barriers and experience racialized, nativist and unwelcoming sentiments from politicians as well as the general public. For example, a study published in the *Journal of Refugee Studies* found that Somali refugees in the United States faced discrimination in employment and housing, as well as racial profiling and harassment from law enforcement (Liebler and Ahmad, 2018). Discrimination and prejudice towards refugees can also limit their access to transportation.

This comparison to other vulnerable populations is not to rank vulnerabilities across different socio-economic groups or privilege one challenge over another. Instead, we hoped to shed a light on the layered, often unique, challenges refugees experience, which are directly linked to the context and conditions of their displacement and resettlement. For example, as a city in a border state, Tucson is home to a high immigrant population, with 15.3 percent of its residents identifying as foreign-born (2 percent higher than the national average). Refugees share similar vulnerabilities to Tucson's large immigrant population, but they also have distinct experiences.

The majority of the foreign-born persons in Tucson come from Mexico or other Spanish-speaking countries in Central and South America. With 43.6 percent of Tucson's population Hispanic or Latino/a, Spanish is the second most-widely spoken language after English. Indeed, in some areas of the city, Spanish is as dominant as English. For many refugees who do not speak English or Spanish, a language barrier remains a critical challenge. In addition, refugees, as a category of people, have faced violence, wars or conditions that imperiled their lives. Because of the conditions of their displacement, refugees may bear physical and psychological wounds from these experiences. The majority had also spent years in interim places such as refugee camps before arriving in the U.S. in spatially excluded, temporary housing situations served by transportation systems that may be informal or unsafe and difficult to navigate (Ozkazanc, 2021). Understanding these layered challenges provides a context to unpacking the intersection between refugees' mobility and their sense of well-being.

Finally, because our project started during the initial wave of the COVID-19 pandemic, we also aimed to study how specific challenges related to the pandemic impacted refugees' social, physical, and mental well-being as well as different strategies individuals and families used to overcome these challenges.

1.2 THEORETICAL CONSIDERATIONS

Our project aimed to understand the connection between transportation, mobility, and refugees' reported life satisfaction and post-resettlement well-being. We situate our study with the previous work on the intersection of mobility and a sense of well-being (Cresswell, 2010; Sheller, 2014). In understanding the concept of mobility, Tim Cresswell's conceptualization is instructive. According to him, "mobility lies at the centre of constellations of power, the creation of identities and the microgeographies of everyday life" (Cresswell, 2010: 551).

In particular, we relied on the feminist approach to be attentive to the constellations and relations in lived contexts that are unique to individuals. For instance, feminist scholar Jennifer Hyndman argued that mobility is "an outcome of various economic, geopolitical, gendered, and racialized relations and is constitutive of people's locations as social and political subjects" (Hyndman, 2012). This insight is helpful to tease out mobility challenges in different lived contexts. Similarly, as Nancy Hiesmstra argues the feminist approach helps us pay attention "to scales, voices, and topics previously ignored or undervalued" (Hiemstra, 2017: 329).

In our study, we use mobility as the ability to get to places by whatever means available. Transportation, of course, plays an essential role in refugees' mobility. Previous studies have indicated that having access to affordable and convenient transportation contributes positively to the integration of immigrants, including refugees (Bose, 2013, 2014; Morken and Skop, 2017).

Several recent works have attempted to piece together how refugees experience the transportation system. They studied the mobility patterns of refugees in Burlington, VT (Bose, 2014); Durham, NC (Farber et al., 2018.); Clarkston, GA (Karim, 2015); Colorado Springs, CO (Morken, 2016); and Buffalo, NY (Okour, 2019).

Bose's study is one of the most comprehensive demonstrations of the importance of mobility for refugees' quality of life and personal autonomy. His research focused on Burlington, a small city in Vermont, with a small refugee population and limited public transportation options. His study revealed that refugees not being able to move around easily "adversely affect their ability to seek and secure gainful employment, receive necessary medical care, and access other goods and to both basic survival and social advancement" (Bose, 2014:152).

Our study similarly revealed that the transportation-related challenges were common across different refugee communities in Tucson. Refugees in Tucson indicated that they experience significant transportation disadvantages even as they heavily utilized social networks to piece together mobility patterns.

Transportation disadvantage is a term applied to those who are not able to meet daily needs – employment, school, healthcare, basic shopping, and even social obligations – due lack of or unsteady transportation arrangements. Although the term is widely associated with lack of vehicle ownership, it can also apply to vehicle-owning low-income, racial minorities, and those who do not speak the dominant language if the vehicle(s) do not consistently meet the needs of the household such as refugees from diverse backgrounds. When or if they acquire a vehicle, they tend to own older and less reliable vehicles that are costly to maintain (Blumenberg, 2008).

Conversely, the same studies have suggested that a lack of access to transportation options can create barriers to refugees' social integration and, ultimately, their well-being after resettlement. Moreover, transportation and mobility challenges can have significant impacts on refugees' mental health and well-being. In their study of the impact of transportation on the mental health of resettled refugees in the United States, Wagner et al. (2021) found that transportation-related stressors, including long commute times and fear of crime, had negative effects on refugees' mental health.

Similarly, public health scholars have noted that transportation is a key factor in a person's ability to access a range of health promoting opportunities, including access to physical and mental healthcare.

Tools such as the Barriers to Care Questionnaire (BCQ) have been used to identify and characterize barriers to accessing healthcare among minority populations, including refugees (Seid et al., 2009; Jacob, 2016). These challenges may be especially acute for refugee populations who are socially vulnerable, economically disadvantaged, and often lack the cultural capital to navigate complex systems. Refugees may face a range of

barriers to accessing healthcare services, including transportation costs, healthcare system navigation, and discordant beliefs about illnesses.

Transportation costs have been identified as a significant barrier to accessing healthcare for refugees. In a study of Iraqi and Syrian refugees in Michigan, Seid et al. (2009) found that transportation was the most commonly reported barrier to accessing healthcare, with more than 40% of respondents indicating that they had missed a medical appointment due to transportation issues. In another study of refugees in the United States, transportation barriers were found to be a significant predictor of missed appointments and unmet healthcare needs (Jacob, 2016).

Healthcare system navigation can also be a challenge for refugees, particularly those who are unfamiliar with the healthcare system in their new country. A study of refugees in Canada found that many refugees struggled to understand how the healthcare system worked and how to access services (Pottie et al., 2015). In some cases, refugees may be unaware of the availability of healthcare services or how to navigate the process of obtaining care.

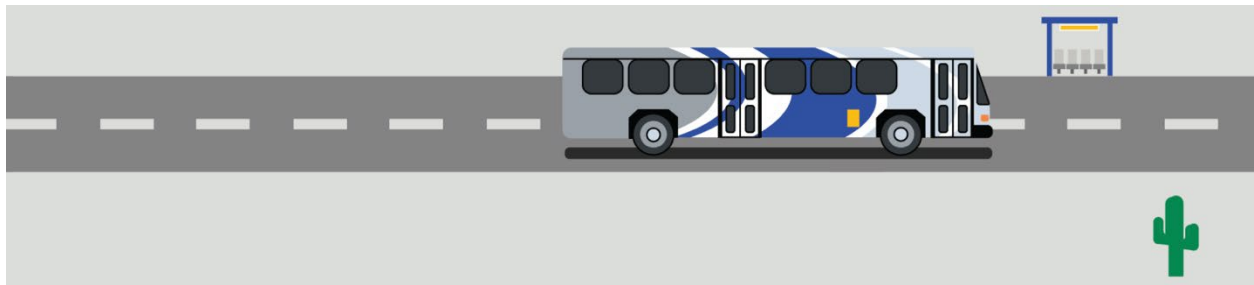
COVID-19 exacerbated these existing challenges and presented new issues with respect to transportation barriers given that refugees rely on public transportation where social distancing can be challenging, with implications for both physical and mental health.

Very little research on refugee resettlement in North America has explicitly focused on transportation and mobility. According to our search of various databases, including TRID, only Bose's (2013) work in Burlington and Farber et al.'s (2018) work in suburban Toronto explore relationships between refugee mobility, transportation, and well-being. Both found a significant impact of transportation on well-being and social exclusion. These studies provide useful context for our proposed research, though in vastly different urban and political contexts.

A key contextual difference between our study and Bose's work is the recent shift in political climate and public discourse around refugees. Until 2016, the U.S. was resettling higher numbers of refugees each year in response to the global refugee crisis. This period also reflected a generally positive attitude towards refugees by the U.S. public.

However, in the last several years, there has been a growing anti-refugee sentiment, driven by politically charged local and national policies. This has resulted in both fewer refugees and potentially more difficult transition for those resettling. During the initial year of this project, the U.S. resettled the lowest number of refugees since the adoption of the 1980 Refugee Act. The volatile political landscape increased the vulnerability of refugee populations in the U.S., subjecting them to greater racially and politically motivated discrimination (Kerwin, 2018).

This new reality likely intersected with the lived experience of moving around the city. Our project sought to contribute to increased awareness of the challenges that refugee communities face while transitioning to a new community. We aimed to highlight how personal mobility impacts autonomy, integration, life satisfaction, and well-being. We hoped that our study would inform how these challenges were exacerbated during a pandemic, and what strategies refugees and local agencies used to address and mitigate these challenges. The key findings of this study appeared in the *Journal of Transportation Geography* (Smith et al., 2022).



2.0 RESEARCH METHOD

2.1 RESEARCH SITE

We conducted our study in Tucson, AZ. In addition to being the resettlement destination for a relatively large refugee population, Tucson is an ideal site to study mobility-related barriers and challenges that refugees experience because the land use and transportation systems are similar to many mid-size cities in the U.S. currently targeted for resettlement.



Figure 3.1: Tucson transportation as illustrated by student assistant, Nic Daniels

Tucson is one of two major refugee resettling cities in Arizona, a state that remains in the top 10 states for its refugee resettlement. It has welcomed at least 11,500 refugees from over 50 countries (IRC). Tucson also faces transportation and urban form challenges shared by cities across the Sun Belt (e.g., lack of quality public transit, low-density single-use development patterns, and unsafe pedestrian environments).

Spread over 238 square miles, Tucson is the second-largest city in Arizona with larger metropolitan area populations of 540,000 and 1.04 million people, respectively (US Census, 2019). Most mid-sized U.S. resettlement cities are low-density and car-

dependent. Yet refugees arrive in these cities with no access to a personal vehicle. Tucson is no different. With 2,500 persons per square mile, single-occupancy vehicle use represents nearly 75 percent of all commuting trips, while an estimated 3.5 percent of Tucson residents use public transportation (City of Tucson, 2018: 2).

Tucson is not particularly easy or safe to navigate by a non-vehicular transportation mode. Arizona had a pedestrian fatality rate of 2.91 per 100,000 people in 2019, the fifth worst in the country (NHTS, 2021). Tucson recorded 39 pedestrian deaths that same year (Conover, 2020). Tucson's staff writer Tim Steller suggested that "there may be a disproportionate number of pedestrian and vehicle crashes involving refugees" (Steller, personal communication, 2021). Steller's insight is shared by the 2015 study, which revealed the motorists are less likely to stop for minorities (Goddard et al., 2015).

There is some effort on the city's part to address alternative modes. For example, the recent passage of the Tucson Complete Streets Ordinance aims to engage vulnerable populations in developing design guidelines and prioritizing improvement projects. The initiatives to make Tucson more bike friendly have included road renovation efforts such as Green Lanes and Buffered Bike Lanes (City of Tucson, 2015). Those without access to a vehicle likely rely on public transit for longer trips.

The city's most extensive public transportation apparatus is the Sun Tran bus system – a privately owned bus company contracted by the City of Tucson that covers 296 square miles with 20 fixed routes and 12 express routes (City of Tucson, 2018: 2). An above-ground train system – the Sun Link Modern Streetcar – travels a mere four-mile route primarily through non-residential districts in the city's downtown area.

Since the users' experience of alternative modes in Tucson is both a dangerous and demeaning proposition (Ingram et al., 2020) hampered by the city's bimodal monsoon seasons and severe heat, with 108 days of 100 degree or higher temperatures recorded in 2020 (NOAA, 2021), many refugees are compelled to find the resources to purchase and maintain a car shortly after arriving . The COVID-19 pandemic led the city to make the bus system free to all users. If this decision is to be maintained, public transportation may become a more attractive option for all Tucsonans, including refugees. However, automobiles continue to be the preferred and privileged mode in Tucson.

2.2 RESEARCH METHODOLOGY AND DATA COLLECTION

For this project, a team of researchers from geography, public health and transportation employed a mixed-methods study to better understand transportation and mobility-related choices, challenges, and impacts on the well-being of refugees who have resettled in Tucson as a part of the Federal Refugee Resettlement Program. We used both a broad survey among refugees in Tucson as well as in-depth interviews with refugees. We augmented the refugee survey and interviews with interviews conducted with personnel at refugee-resettling agencies, and officials from transportation authorities in Tucson.

We conceptualized our research in 2019 but when we began our project in 2020 the COVID-19 pandemic led to lockdowns and extensive social distancing measures were put in place across the U.S. The unique circumstances surrounding the pandemic prompted us to be creative in achieving our goals of conducting interviews and maximizing our survey outreach. To overcome research challenges presented by social distancing and other safety restrictions, we sought assistance from three local Tucson refugee organizations, International Rescue Committee, Lutheran Social Services and Iskashitaa, to reach potential survey and interview participants.

Our survey was made up of 60 questions and was implemented using the online data collection platform Qualtrics. The survey questions were modelled after Bose's 2014 study on refugees and transportation accessibility in Vermont. Some of the key questions included:

- To what extent does the transportation system in Tucson meet the mobility needs of refugees and how does it impact refugees' sense of mental, physical, social, and economic well-being?
- How do overlapping identities (e.g., gender, race, religion, age, language, income) impact connections between the transportation system, mobility, and well-being?
- How does the COVID-19 pandemic exacerbate the unique challenges faced by the intersectionality of identities and vulnerabilities typically found within the refugee communities?
- What specific challenges do refugees encounter in safely, comfortably, and efficiently reaching their desired destinations? And how have these methods changed during this pandemic?
- What strategies do refugees employ to overcome barriers to mobility in the short and long term?
- What strategies do non-profits and public agencies use to help refugees anticipate and overcome these barriers? Are these strategies effective? How have they modified these strategies during this pandemic?
- What are the spatial patterns of realized and desired mobility (and gaps between the two) relative to the existing transportation system, especially during this pandemic?
- What transportation and mobility strategies have non-profits and public agencies employed to improve outcomes for refugees, and how have they revisited and modified their strategies during the pandemic?

The survey also covered sections on demographic information, transportation and mobility, well-being, and pre- and post-COVID-19 pandemic experiences related to

transportation. At the end of the survey, participants were offered USD \$5 compensation and the option to register for an interview. To respect participant privacy concerns, survey demographic information submission was optional. Sixty-two refugees completed the survey.

Important as they are, survey findings do not reveal important details regarding individual lived experience with navigating challenges in their post-resettlement lives (Myadar, 2021; Myadar and Dempsey, 2021; Myadar, 2021). We therefore relied on in-depth interviews to learn more about individual and family-based strategies they use to address and overcome mobility-related challenges Tucson refugee communities experience. Thirty-five refugees from diverse backgrounds were interviewed by the research team.

The in-depth, semi-structured interviews were initially conducted virtually due to COVID-19 physical distancing guidelines (See Appendix 1). When the social distancing measures were eased, we gave the interested participants an option of being interviewed in person. However, most individuals still favored remote interviews.

The local refugee agencies helped recruit these individuals. We then used a snowball technique to reach out to others. Interviews were primarily administered using video call features (such as FaceTime, Zoom, WhatsApp) and lasted approximately 45-60 minutes each. The interview guidelines were developed during the preparation stage. The purpose of the interview guidelines aimed to provide a loose structure for conversation and also allow contextual fluidity. We followed the feminist ethics of care in our conversation, disrupting the hierarchy between the interviewer and interviewee. It was thus important for us to listen, to be engaged and to remain attentive to the details shared by the participants, rather than mechanically going through a list of questions.

The interview began by asking the participants basic background information including their place of residence prior to resettlement and age upon resettlement in Tucson. This helped provide the team with contextual grounding in how pre-resettlement experience with transportation may have informed and shaped refugees' post-resettlement experiences. Interview questions progressed to understand each person's unique experience with getting around in Tucson immediately after resettlement, and how each has navigated and dealt with different mobility-related challenges in Tucson over the subsequent years. We also aimed to understand whether refugees' sense of well-being and life satisfaction were connected to mobility.

Although the research design for interviewee identification was not geographically targeted, the majority of interviewees were largely from central and eastern Africa, perhaps owing in part due to our snowball recruiting technique. The 35 refugees interviewed came from 13 different countries of origin: the Democratic Republic of Congo, Rwanda, Ethiopia, Burundi, Afghanistan, Somalia, Bhutan, Liberia, Uganda, Sudan, Iraq, and Zambia.

Once the interviews were completed, we transcribed, and coded the data using MAXQDA and Microsoft Excel to identify common themes and narratives. In this report

we share key findings of our survey and interviews as consented by our participants and approved by the University of Arizona's Internal Review Board for research.

2.3 ANTI-ESSENTIALIST METHOD

Over the course of the project we met many individuals who resettled in Tucson as refugees who come from diverse backgrounds. There was no single box into which we could categorize the people we interviewed, nor was there a some entirely cohesive social category. Each person and each family's story was unique in their own way.

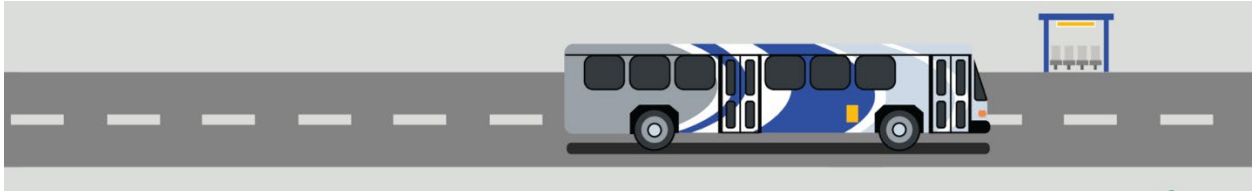
Critical refugee scholars call on the stubborn trend among scholars, policymakers, and practitioners to regard and represent refugees as the objects of their particular disciplinary gaze (Espiritu et al., 2022). These scholars argue that this objectification fails to represent the rich and complicated lives and experiences of refugees (Ibid). They have pushed back against the essentialisms by reconceptualizing "the refugee" not as an object of rescue but as a site of complex social and political geographies (Indra, 1989; Hyndman, 2019; Espiritu, 2014; Makwarimba et al., 2013). Homogenization of refugees is produced by and contributes to essentialist notions of understanding differences among peoples, cultures and places (Crenshaw, 1989). It is thus important to decolonize the epistemological assumption of the refugee figure (Jazeel, 2017).

As a counter to essentialism, our research relied on the feminist method which promotes the power of individual stories by recognizing that the scale of the individual and everyday are important sites of geopolitical experience and reproduction (Hyndman, 2001). In this view, we see the small scale of personal experience and the larger scales of geopolitics as mutually constitutive, and understand that focusing solely on the macro realm risks an erasure of nuance. Through this project, we aimed to push against this essentialist trope. Each interview provided different ways of seeing refugees as individuals rather than as a category of people.

While it is convenient to find something common among different people's stories and make sweeping generalizations about the state of refugee affairs and advocate for grandiose policy changes, we privileged the power of the individual story. Only by listening and paying attention to the stories of the lived struggles and tribulations of different individuals can we better understand complex geographies of displacement and resettlement.

In this report we highlight the story of Ngoy Constance Mwamba (she goes by Constance (see 3.3). We chose to highlight Constance's story because it illuminates the power of a one individual's experience. Constance's story helped us confront our own presumptions about the gendered disparity in mobility among the people we surveyed. We had interpreted our survey data - that men are more likely to drive early or remain the sole drivers among adult members of refugee families - to mean that men were more mobile and therefore more empowered than their female counterparts. Whether this may be true or not in some instances, we had not entertained alternative framings for this particular finding from our survey. Constance's story disrupts assumptions about

refugees and refugee women, but her story is not representative of the experience of all refugee women or even all Congolese refugee women. Rather, her story illuminates how individual and unique each person's lived experience is, and how much power each story holds in dismantling the trope of the refugee.



3.0 KEY FINDINGS

Our research findings reveal various sentiments shared across disparate populations regarding challenges related to their post-resettlement experiences, specifically related to mobility. Some of the key themes that emerged include the critique of Sun Tran bus system, well-being, gender disparity, COVID-related challenges as well as strategies different individuals use to overcome mobility-related challenges.

3.1 SUN TRAN BUS SYSTEM

Most refugees rely on the award-winning Sun Tran public bus system at least initially upon arriving in Tucson (See Figure 4.1.1). Refugee-resettling agencies provide bus passes and help them to get acquainted with the service, typically through a case worker who is assigned to assist the family or individual. Sometimes they hold workshops that provide the basic information on how to use the public transportation system in Tucson. For most refugees, relying on the bus system is only temporary as they aspire to get their own private vehicle.

We administered the survey using Qualtrics software. It was offered in English, Swahili and Arabic, and 81 individuals responded to our survey. The majority of the survey participants were relatively young (46% were 34 years old or younger). In terms of gender, slightly more male participants (32.8%) took the survey than female participants (28.1%). A quarter (26.6%) of survey participants preferred not to answer (See Table 4.1).

Table 4.1: Survey participants

Characteristics	Number	N=64	
Age	18-24	28.1%	18
	25-34	28.1%	18
	35-44	10.9%	7
	45-54	7.8%	5
	55-64	7.8%	5
	65-over	3.1%	2
Sex	Prefer not to answer	14.1%	9
	Female	28.1%	18
	Male	32.8%	21
	Other	12.5%	8
	Prefer not answer	26.6%	17

Survey data was helpful to understand the primary reasons why refugees shift from using public transportation to private vehicles. Our results indicate that the top reasons for not using public transportation are a lack of accessibility (lack of public transportation near respondent home or near destinations); inadequate service (public transportation

is too time intensive); discomfort (too crowded, not air-conditioned, no Wi-Fi); and difficulty understanding the public transportation system. The least reported reasons for not using public transportation are the ride cost, weather hindrances (e.g., rainfall), and COVID-19 specified under “Other” (See Figure 4.1).

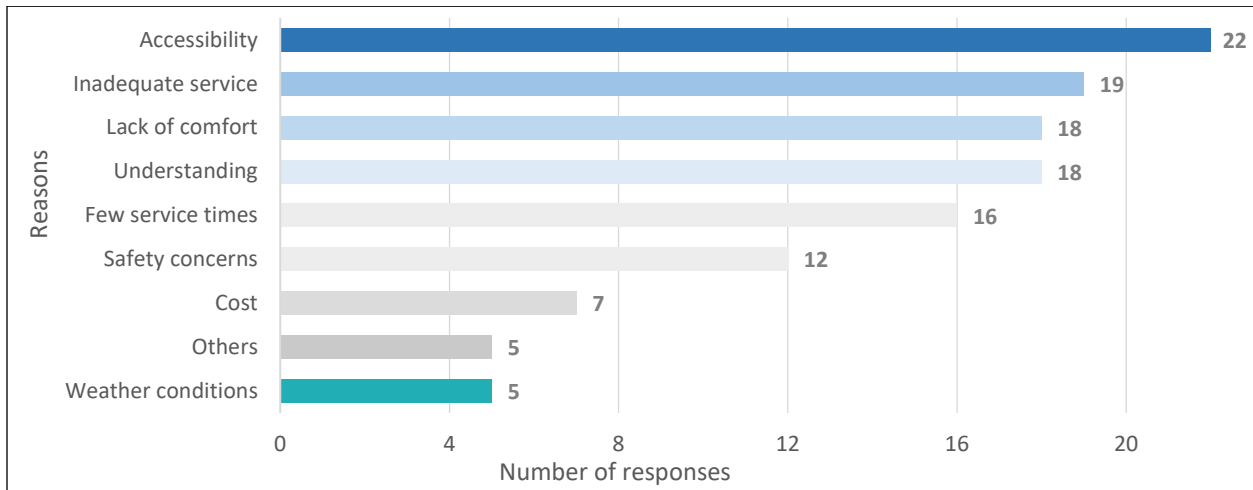


Figure 4.1: Reasons for not using public transportation reported by respondents

Interviews revealed a more nuanced picture. These personal stories revealed complex geographies of networks and mobilities that are differently experienced by individuals depending on each person’s unique circumstances and spatiotemporal positionalities.

A few informants shared that Sun Tran remains their primary mode of mobility. For example, Zaron, who is originally from Pakistan and spent eight years in Nepal before coming to the U.S., told us how convenient it was to use the bus system . He showed us the Sun Tran mobile app that he uses to track arrival times of buses, allowing him to plan his trips efficiently. Similarly, Bosco, a Congolese young man, used to own a car but found it too expensive to maintain. Instead, he takes the bus now everywhere. Like Zaron, he uses the mobile app and thinks that, overall, the Sun Tran system is fairly effective.

Interviews and survey responses also revealed that others face an array of barriers to accessing and navigating the Sun Tran bus system. Difficulties associated with using Tucson’s bus system that surfaced during interviews included expensive bus fares; language barriers; bus-route confusion both in planning and implementation; limited routes and available destinations; and inconsistent bus arrival times.

This sentiment was shared by another interview participant, who fled with his family from Iraq to live in Aleppo, Syria, for four years before being granted refugee status. Using the Sun Tran bus was “very stressful” as a result of language barriers, difficulty accessing bus passes, frustration interpreting bus routes and relying on inconsistent bus schedules.

Additionally, COVID-19 health and safety concerns and harassment/discrimination received from other bus users were also noted by project participants. Even more concerning, both survey and interview findings suggest that people who always/often use public transportation as a primary mode of transportation experienced negative impacts to their sense of well-being (66.6 percent) more often than those who always or often used other modes of transit (52.1 percent).

Several participants emphasized both initial confusion about the public transportation system and its role in getting their basic material needs met. One participant interviewed was a pastor from the Democratic Republic of Congo (DRC) who left his country when he was 18 years old. He travelled by foot for a month before reaching a refugee camp across the border in Uganda. Four years later he was granted refugee status and resettled in Tucson. Pastor Safari told us that the first main challenge for refugees in the United States is the immediate need to find employment, affirming, “You have to work, but there is no assistance in helping refugees with transportation.” Pastor Safari recalled difficulties using Sun Tran buses because of unclear bus routes and communication barriers that forced him and his family to interact with the bus driver and other riders using body language.

Another man came to Tucson after spending five years at refugee camps in Zambia, Zimbabwe, and South Africa. He quickly discovered that the Sun Tran bus system was the only mode of transportation available, but was also confusing and expensive, explaining that:

“Connections between bus locations are not very clear. Most new refugees think that when you get on a bus it will take you anywhere. [Refugees] don’t know about bus routes and the bus price is very expensive too.”

Getting lost was a theme that appeared in several interviews. It was not only a matter of inconvenience. Several informants, for instance, shared instances of becoming lost on their way to job interviews or the places of their employment, with additional financial and material well-being implications.

While it was possible that the interviewees’ perception of the Sun Tran system might be due to their prior reliance on different transportation systems in places they had lived previously, a Tucson bus operator echoed the sentiment that the Sun Tran system can be hard for refugees. Glen Wolfgang has been working for the Sun Tran system for the last four years and explained that the Sun Tran bus system has a “mapping problem” and that refugee challenges using the bus system are “related to mapping.”

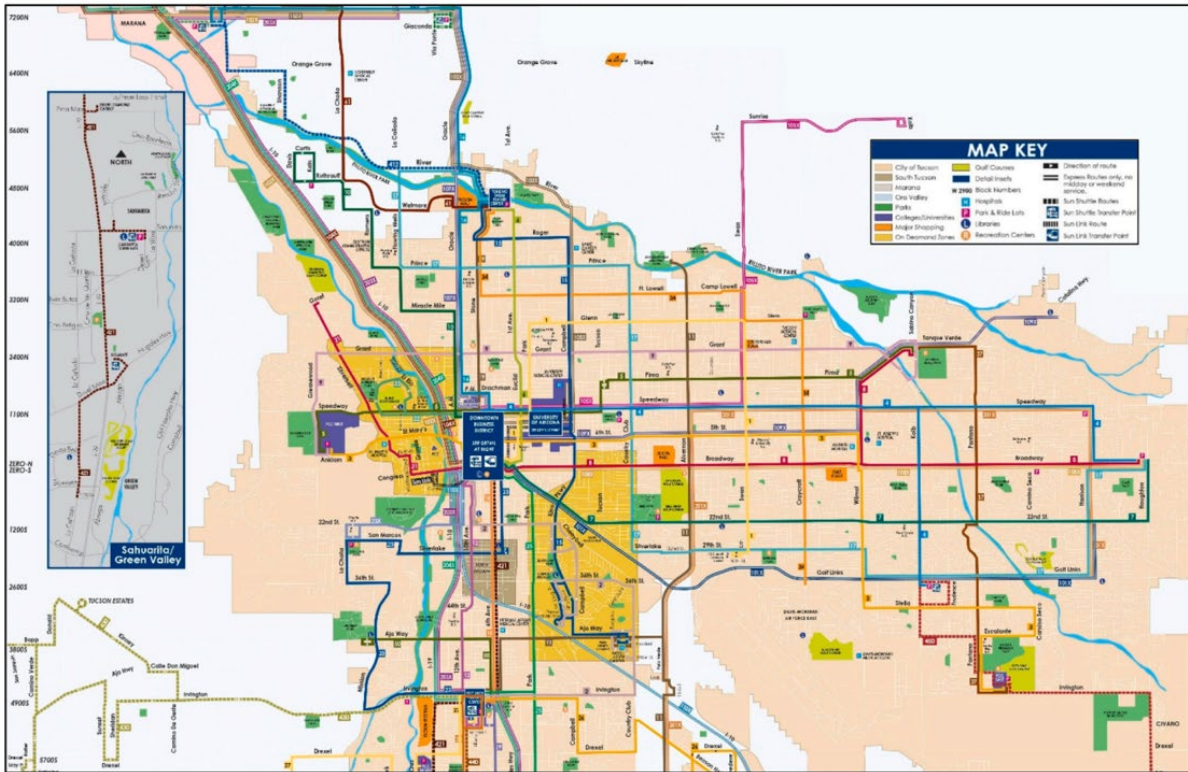


Figure 4.2: Tucson public bus system

Figure 4.2. shows current bus routes in Tucson, which according to Wolfgang is not ideal. He argues that the Sun Tran bus system should have “an actual map of the entire system at each stop” that is available in multiple languages. Wolfgang further explained:

“If refugees don’t speak English, how do they manage to communicate? There’s a phone number [for translation services] that they’re supposed to be able to call but the only time I saw someone try to use it no one picked up.”

Difficulties using the bus due to language barriers were repeatedly identified by interview participants. One interviewee born in Sudan before resettling in Tucson in 2005 claimed:

“I think the biggest factor is communication. If they [Sun Tran] had translators that would help speak with English speaking people.”

Language barriers can undermine the basic dignity and respect refugees already struggle to receive in public, a phenomenon that is beginning to be better understood in transportation justice circles (Ingram et al., 2020). For example, another participant from Ethiopia identified difficulty communicating as a primary challenge for refugees that use the bus system, adding that:

“Sometimes people are not patient, and many people are not understanding. People are disrespectful on the bus. The language barriers are big and [communicating] that you need one more quarter might take time.”

For some refugees, avoiding the bus goes beyond expense or confusion. For Josepha Ntakirutimana it was about the loss of time while taking the bus:

“The first time I used the bus, I realized that I was wasting my time. That was time that I could be using for crochet. I wasted time in refugee camp, and I didn’t want to waste any more time.”

Josepha’s perspective about wasted time on the bus is informed by her lived experience as someone whose life was put on hold in a protracted condition of uncertainty and liminality. Josepha was born in Rwanda and fled her country during the upheaval that followed the 1992 genocide. Josepha spent nearly 10 years in a refugee camp in Malawi before being admitted to the U.S. with refugee status.



Figure 4.3: A typical Tucson bus stop

In addition to these constellations of challenges, taking the bus is also expensive for many. Even though it doesn't cost much (the basic fare historically has been \$1.75) to take the bus occasionally, using it every day for one's primary means of transportation can add up. An individual who had spent six years in a Kenyan refugee camp before being resettled in Tucson told us:

“Some people don't have money to take the bus. A lot of people just walk. When you go [on the bus] every day it adds up.”

The city of Tucson offered free bus rides in response to the COVID-19 pandemic. This policy was appreciated by those who rely on public transportation, including Bosco and Zaron, who rely on the bus system as their primary transportation means. Otherwise, they tend to limit their travel for only essential purposes.

However, most refugees we spoke with overwhelmingly preferred to have access to their personal vehicles. According to our survey, personal vehicle was the primary mode of transportation among those who took the survey (See Figure 4.4).

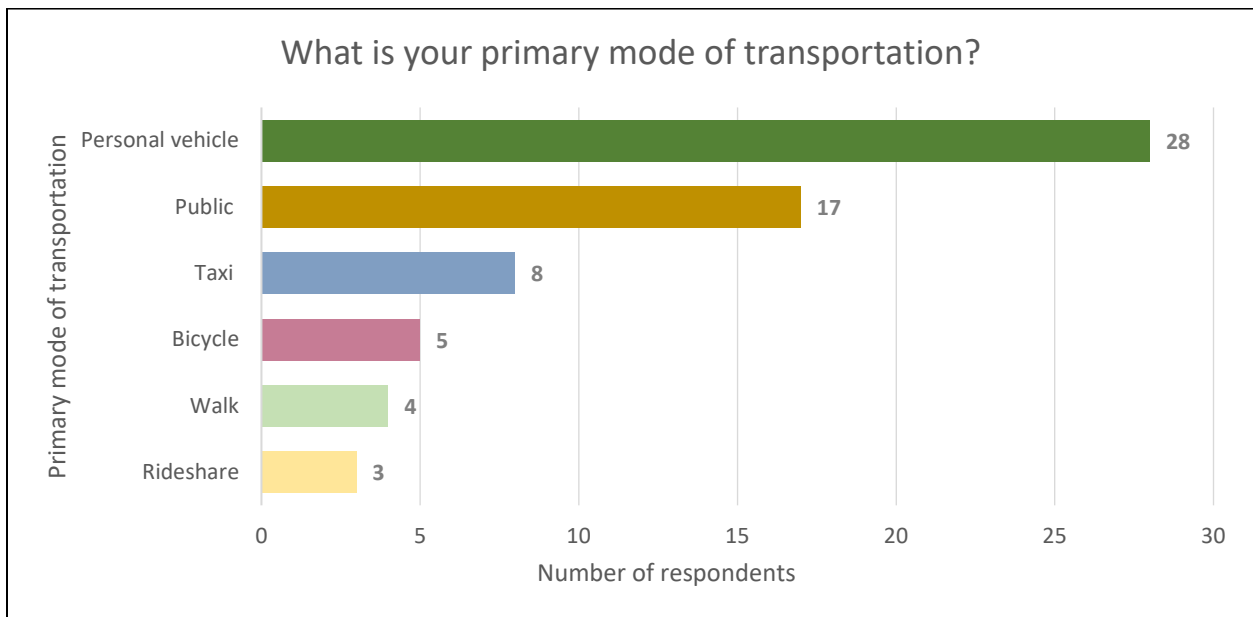


Figure 4.4: Primary modes of transportation

3.2 MOBILITY AND WELL-BEING

We attempted to see if there was any correlation between refugees' sense of well-being and mobility-related challenges they experience. Most (95.0%) survey respondents

reported that their sense of well-being was impacted by transportation and mobility-related challenges to a certain degree (See Figure 4.5).

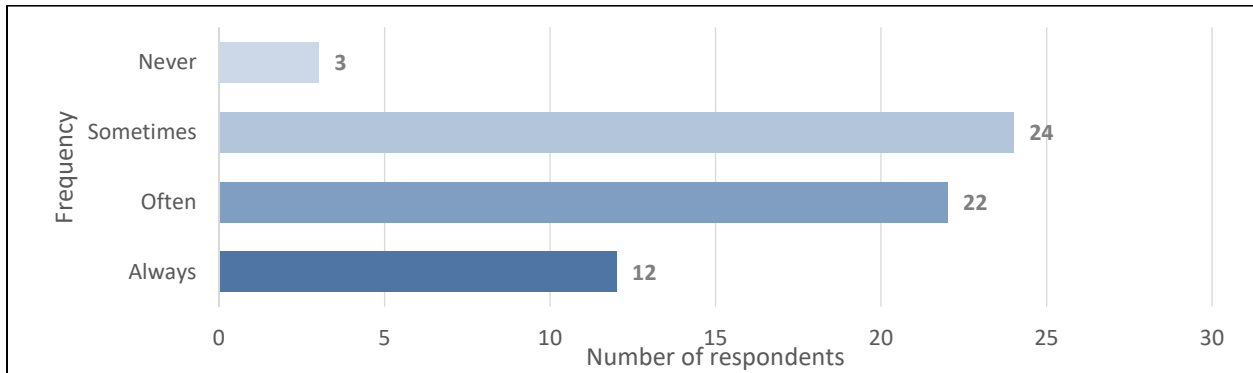


Figure 4.5: Survey respondents' reported impacts of well-being attributed to mobility-related challenges

The survey also revealed specific feelings associated with the transportation and mobility-related challenges that they experience. Anger was recorded as the strongest feeling among different groups as well as frustration, sadness, and a longing for their homeland as other common feelings connected to the challenges related to mobility (See Figure 4.6).

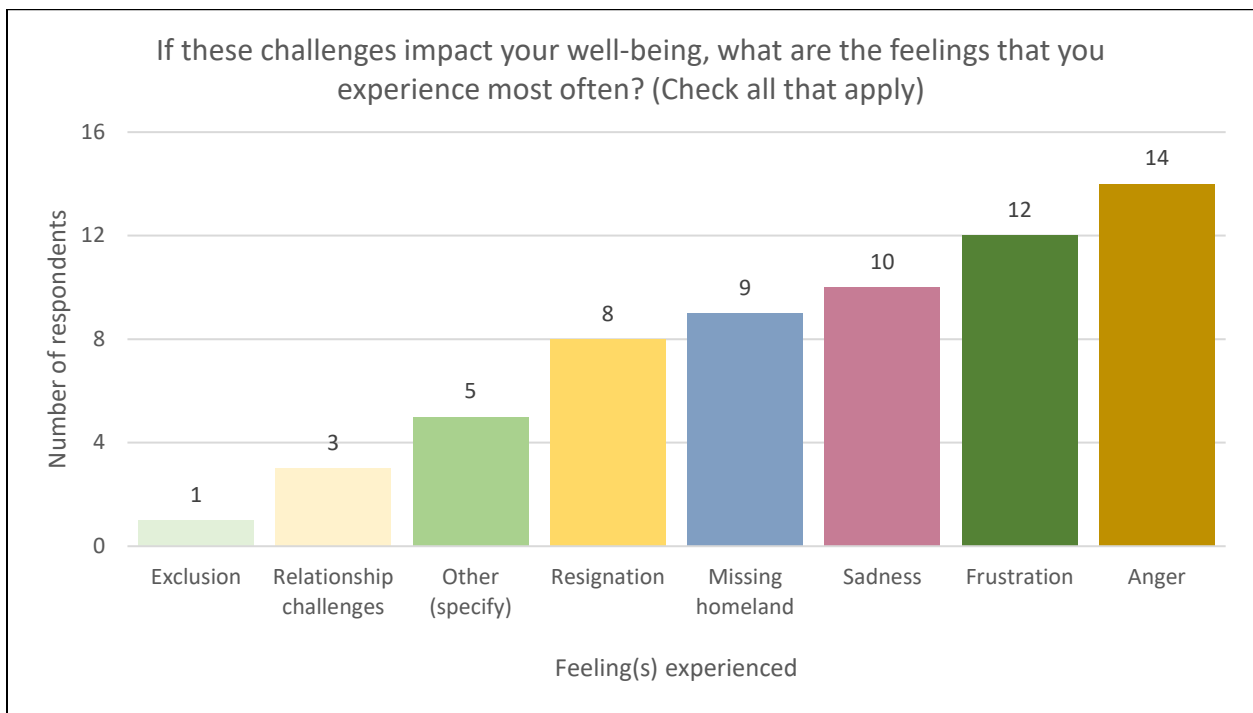


Figure 4.6: Feelings experienced due to transportation challenges

3.3 GENDER AND MOBILITY

Our survey also revealed the gendered dimension in terms of how people experienced mobility-related challenges, eliciting differing emotional responses along gendered lines (See Figure 4.7). Female survey respondents conveyed feelings of anger and sadness more than male survey respondents. Surveyed male participants expressed more feelings of frustration, resignation, and longing for their homeland or country of origin. In addition to feelings, we observed differential challenges associated with gender. Survey data disaggregated by gender show that male respondents report Tucson public transportation to be inefficient (e.g., slow, lack of connections, and too few service times) and difficult to understand more than female respondents. The lack of comfort on public transportation (e.g., overcrowding, inadequate services such as air conditioning and Wi-Fi availability) was more often reported by female survey takers than their male counterparts.

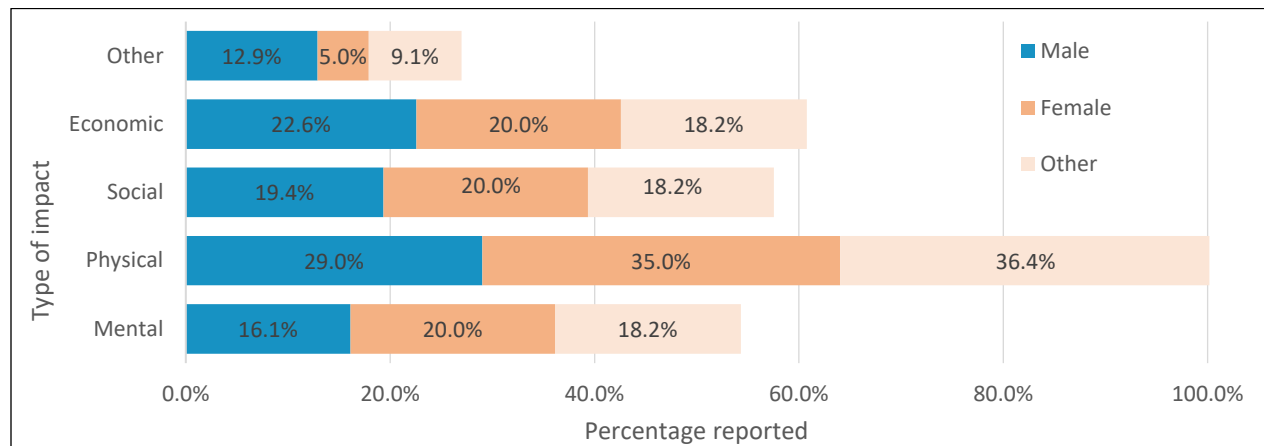


Figure 4.7: Type of mobility impact reported by gender

We also found that the domains of impacts from mobility-related challenges are experienced differently by men and women. Female survey respondents reported that mobility barriers impact social, mental, and physical well-being more than male survey takers. Male participants reported that challenges to mobility impacted their economic well-being more than female participants. Interview data augmented our understanding of this finding. Some of the gendered roles such as caretaking exacerbated the challenges of riding the bus.

Moreover, in a household with two adult partners, it was more common for men to either learn to drive first and, in many cases, remain the sole driver of the family. Men, according to interviewees, had greater need for and access to mobility than their female partners; this was perhaps related to men being more likely to become employed earlier than their partners. One interviewee told us, “Men are the ones that are more mobile, and gender plays a role in that.”

Survey data suggests that mobility challenges may contribute to relationship tension and issues. Dr. Barbara Eisworth, founder and executive director of Iskashitaa Refugee Network, echoed this sentiment, stating that the male parent becoming the first to drive is a “common phenomenon,” adding that:

“Everybody learns how to use the bus but then the husband uses the bus the most because he works the first job. He uses it a lot, and then the wife doesn’t use it. Then he gets a car, and she doesn’t use the bus at all, and she becomes completely dependent on the husband.”

Mekdis, who is originally from Yemen, resettled with her family in 2005. She reiterated this notion and shared that her father received a driver’s license two months after arriving in Tucson while her mother used the bus or waited for her father to provide a ride. She shared that her mother stopped using the bus because she did not feel comfortable due to experiencing negative interactions from other passengers on public transportation. This pushed her to rely on her husband for transportation needs.

Mekdis shared:

“When I was on the bus what I would notice for refugees is that when they have a lot of children it is difficult to watch over them. In that perspective they do struggle. It was difficult for baby strollers and to have all their kids in one hand. Some people are not patient sometimes and many people are not understanding. People were disrespectful on the bus - I feel like it might be cultural. The way they respond - we’re not Muslim - but sometimes we like to wear a white head scarf and the way they acted towards [my mom] or other cultures... When [the bus driver] sees you, they might keep going.”

The sentiment shared by Mekdis was echoed in both our survey and interview findings. It also reiterated the previous research findings that documented the challenges refugees face when using public transportation in the United States, including hostility and discrimination from other passengers (Hirsch et al., 2018; Rosenbaum and Miller, 2012). However, we also observed a generational dimension in terms of gender disparity. Younger women tended to be more willing to take on driving earlier than their mothers. Constance from Congo, for instance, said she could not wait to get her driver’s license. She enjoys the freedom that comes with it.

3.3.1 Constance’s Story

While it is easy to make a subjective interpretation of the gender disparity based on survey findings, stories of people reveal affective and intimate matters within their microgeographies of every day that are overlooked in an empirical study. We thus offer Constance’s story as a way to reflect on the complexity of lived experiences among refugees.

We interviewed Constance on the campus of the University of Arizona in Tucson. Constance is originally from Congo and she was resettled with her family as a part of the U.S. Refugee Admissions Program (USRAP). Constance's insight allows us to see much more nuanced social relations than a simple number in a survey might suggest.



Figure 4.8: Constance after her interview at the University of Arizona

A young woman in her mid-twenties, Constance has a vibrant personality, and bright smiles that radiate infectious positive energy. She serves in the U.S. Army and is currently a student at the University of Arizona. She told us how much she appreciated sharing her story. We spent more than an hour chatting and laughing with her. She believes that sharing her stories helps people better understand why refugees come to the U.S. She hopes to share more of her experiences by writing a book one day. "It's a whole process that we go through as a family and we bond through it," Constance said of her entire experience of fleeing her country and rebuilding their lives in Tucson.

Here we present Constance's story not as a way to privilege any person or category of people, but to use it as a case through which to help understand the diversity of experiences among refugees in Tucson.

Constance indicated that although it was her father who first learned to drive and got a vehicle, it was not a reflection of gender oppression. Rather, according to her, it was an act of love and care on the part of her father. She explained that learning to drive is often dangerous and difficult, and the fact that her father took it on himself first showed that he took his responsibility to take care for his family seriously.

When Constance was three years old, she and her family were forced to leave their home country, Congo, because of civil war. After spending years in a refugee camp in Zambia, Constance and her family resettled in Tucson in December of 2009 through the sponsorship of Catholic Community Services, an NGO in Tucson. Reflecting on her family's early days in Tucson, Constance recalled, "Everything was new to us. Culture shock. Language...I knew four languages at the time but could not speak to any American."

Constance went on to share how she and her family have navigated Tucson's transportation system:

"When it came to transportation, the first few times we came of course we didn't speak the language, we didn't know the laws, my parents didn't know how to drive...So, the first thing is I believe they did a good job at the agency teaching my parents the language. It was mandatory for them to go to class and [people from the agency] would come pick them up to take them to that class...There were only younger people in the family when we came. I was 12 and my brother was 14 so none of us could drive... To go to appointments, we had to call our agency or our case worker and, of course, they would come with a big van because it was a big family... And when we'd go to the agency, we'd meet other families also, we would speak the same language and then we'd become friends..."

Constance shared that, in the beginning, it was hard for them to use public transportation because aside from the logistical challenges, her parents were concerned about the safety of their children traveling by bus and crossing streets. She recalled that she eventually built up enough confidence to start using public transportation:

"Going forward in my life, I took the bus almost all high school. The public bus. I took the SunTran from the moment I entered high school until freshman year in college. The same applies to my siblings."

"At first it was very, very confusing. Reading the book that [SunTran] had, I had maybe 10 of those. The first few months was very complicated. Putting money in the card was provided by the school because we were low income."

When we asked who in her family learned to drive, she responded that it was her father who drove first. This was not inconsistent with our project's broader findings, which revealed that consistently it was men who drove first among heterosexual couples in refugee family households.

“My dad was able to learn a little bit of the language and take his permit, learn how to drive. The agency actually gave him his first car. I don’t know what kind of blessing it was but we received the first car from the agency...Within a year he was already driving. The thing with the agency...by the seventh month you should be able to hold a job and communicate just enough to be able to do all of that and drive, so I’m glad that they were able to enforce that a lot at the time when we came...”

In some households, men remain as the sole drivers. In Constance’s family’s case, her mother began driving in 2015 or 2016 when her little brother started school. Her mother’s ability to drive became an asset to the family:

“My dad was the one that taught her how to drive at that time. He already had experience. We were actually able to, you know, buy a second car so she had her own car. For her to drive, she would drive to school to pick up my brother and she actually helped us with transportation whenever it was too late to take the bus. School events or church events.”

Reflecting on why her father was the first to learn to drive in her family and why she thinks it tends to be the men who start driving before the women upon resettlement, Constance said:

“That question actually goes really deep and it goes back into our culture. You see, when we come from Africa, the men actually take charge of all the machinery. They are in charge of all of the hard stuff, things that are an urgency or are a requirement for the family. For my family, I know that when my dad came with that mentality, where the father is the head. Of course he was the one to take the... lead and he did not do it in a way that was like “only I have to do it, you guys can’t do it” but in a way that, “I will do it first so that way I can provide a way for you guys to go next.” And he really did a good job of doing that because through him, I was able to learn how to drive. Through him and his courage, my mom was able to learn how to drive and my brother and I was able to teach my sister. So it’s something that he can pass down to us because if he’s the older one and he’s more exposed to society and community and people and all the big things that when we were younger we couldn’t take care of, he had to.”

This was a particularly revealing insight in that it pushed against the normative understanding of gender roles manifested in the traditional white feminist viewpoint. In mainstream feminist thought, it is convenient to assume subjectivity and oppression when there are disparities in gender roles. But Constance’s story revealed that her father took upon the risk (rather than the privilege) of driving first to be able to care for and teach (rather than oppress) his family members.

She argued:

“I’m sure he felt responsible first to learn how to drive even though he’s never driven before in his life. I’m sure there were moments that he kind of made mistakes and he kind of shook a little bit and was nervous. But at the end of the day, to him what mattered was that we were able to have that transportation... and that if we needed something we can go and come back and get it without having to call people. You know those first few days, of course, we had to call people for transportation. To go from that and then being able to depend on ourselves more and more and more as the years go on, I think that’s the final goal of every family when they come here is to be able to be just like every other American and have to depend on their family and themselves because who else do you have?”

Constance now drives her own car. She shared with us what it was like for her to start driving and be able to drive others in the refugee community.

“I started driving sophomore year of college and it wasn’t my car, it was my mom’s car. Eventually, after I came back from the army, I bought my own car with all that money I saved up....I bought a used car and I knew it was gonna have problems, you know? I’m gonna have to maintain it more than a newer car. But I was praying to God and I was like, “God, if I get this car, I’m gonna help people, people who are in the same place as my family who maybe need to go to the hospital and can’t or need to go to church and they don’t have a ride or it’s hard for them to take the bus.” And I was able to get a car. In 2018 I got my first car. And, yes, I ran the miles like crazy because I was helping people just like right now, like yesterday I had work Saturday night/Sunday morning. I had church a 3:30pm, but I would go get ready at 1 pm (to) go pick up people, families that we received that are new and they don’t have a car yet. I went to pick them up and take them to church. And from church dropped them back home. And that’s kind of what I would do.”

Constance’s comment pushed against the conventional and Orientalist understanding of non-Western gendered roles where women are often depicted as subservient or needing to be rescued (Shohat, 2014; Said, 1978). More importantly, Constance’s story illuminated affective and compassionate social relations that cannot be captured in empirical data or large statistics. Her story pushes against the essentialist paradigm of the refugee figure, and the gendered assumptions it carries. Instead of being relegated to a subjugated or victimized role needing to be rescued, Constance holds an active and dynamic role within her social network.

“It’s something that I found and I’m trying to enforce and hopefully those that come after me will see that and pick it up as well. Because we can only move forward if we know how to live together and help each other.”

In reflecting on her time in Tucson, Constance recalls: “I’ve been here for 12 years and I see families that come who are brand new and I can kind of feel the excitement that they feel being in a new place and maybe the nervousness they feel or just being in a

strange place, the language. Every little thing, just to make them laugh, it kind of brings back memories for me as well...”

Constance’s stories are only a glimpse into the vastly diverse experiences among refugees in Tucson and the mobility-related challenges they experience. This is not to say that the stories categorically dismantle the assumptions about refugees, but rather they give much more nuanced pictures than empirical data might reveal. Constance’s story forced us to question our own preconceived notions, the project’s survey findings, as well as broader societal expectations about gender norms among refugee communities. The article that featured Constance’s story appeared in the *Journal of Gender, Place and Culture* (Clark and Myadar, 2023).

3.4 MOBILITY, TRAUMA AND THE COVID-19 PANDEMIC

3.4.1 Echoes of Trauma

Our survey and interviews did not ask questions related to past trauma so as to not retraumatize those we were interviewing. But echoes of trauma reverberated in stories of many individuals. Studies have indicated that many refugees suffer from trauma experienced prior, during and after migration, resulting in higher risk of mental health challenges (Hameed, 2018), which may impact their ability to navigate a new transportation system. In their study of transportation barriers faced by refugees in the United States, Jamil et al. (2012) found that traumatic experiences such as persecution and violence in their home countries can impact refugees’ ability to access transportation. Trauma can affect refugees’ sense of safety and security, leading to fear of public transportation and reluctance to leave their homes.

Moreover, traumatic experiences can also affect refugees’ cognitive and emotional functioning, which can impact their ability to navigate the transportation system. In their study of transportation challenges faced by refugees in Atlanta, Lassetter et al. (2015) found that refugees who had experienced trauma had difficulty understanding transportation schedules and maps. They also experienced anxiety and confusion while using public transportation.

Trauma can also affect refugees’ mental health and well-being, which can impact their mobility and access to transportation. In a study of the impact of transportation on the mental health of resettled refugees in the United States, Wagner et al. (2021) found that transportation-related stressors, including long commute times and fear of crime, had negative effects on refugees’ mental health.

However, interviews again helped convey a more nuanced understanding of how trauma influences transportation post-settlement. In particular, several instances of trauma associated with transportation or traveling in their pre-U.S. life hint at why safety and control gained by vehicular travel might be desirable to these populations.

For example, one interviewee shared a childhood experience of spending time in a camp that abutted a game reserve with dangerous animals; his mother would

repeatedly warn him not to stray too far to keep physically safe from wildlife. Another young man from Darfur mentioned that his brother at eight years old began fasting on their long journey to a resettlement camp because they didn't have enough food even though he was still too young to start fasting in normal circumstances.

Perhaps the most pertinent example of trauma associated with pre-settlement transportation was an interviewee from Democratic Republic of the Congo (DRC) who identified that getting lost was a barrier to using public transportation. Later in the interview, this participant spoke of trying to navigate an interim place as a pre-teen to source food for the family. The agency he and his brother had previously relied on for daily food access had unexpectedly closed, so they searched for another food pantry as to not return without food. Eventually, lost and unable to articulate where their family was located, the police sent them to an orphanage where they remained for over a year before being reunited with adults in their family. These stories helped us better understand unique circumstances and vantage points from which each person is navigating various challenges their experience in Tucson.

The insights our project participants shared illuminated how echoes of trauma can significantly impact refugees' ability to access transportation and navigate their new environment post-settlement. Addressing the impact of trauma requires collaboration between transportation providers, mental health professionals, and refugee advocates to ensure that refugees have access to safe, trauma-informed transportation services.

3.4.2 COVID-19 Impacts on Mobility

The layered challenges experienced by Tucson's refugee communities were exacerbated during the COVID-19 pandemic. In a study of the impact of the COVID-19 pandemic on refugees in Arizona, Krause et al. (2021) found that refugees experienced significant challenges in accessing healthcare due to factors such as language barriers, lack of health insurance, and fear of seeking medical care.

Among the survey participants, a quarter of respondents (25.3%) felt that changes to transportation schedules, routes and guidelines were the most difficult change related to mobility during the pandemic (see Table 4.2). In addition, 18.9% of participants deemed the discomfort in following safety guidelines on public transportation as a significant challenge.

Table 4.2: Reported challenges related to mobility since COVID-19

Most difficult challenges related to mobility since COVID-19	Count	Percentage
COVID-19 related safety concerns on public transportation	12	15.1%
Changes to public transportation schedule, routes, and guidelines	23	29.1%
Reduced income to pay for gas or other expenses related to maintaining vehicle	20	25.3%
Discomfort in following safety guidelines on public transportation	15	18.9%

Lack of information related to the policy changes	9	11.3%
Total	79	100.0%

Moreover, the pandemic had significant impacts on the economic well-being of Tucson's refugee communities. In their study of the impact of the COVID-19 pandemic on refugee employment in Arizona, Kaur et al. (2021) found that many refugees lost their jobs or experienced reduced hours and income due to pandemic-related shutdowns and economic downturns. This was true for people across different socio-economic backgrounds.

Interestingly, a number of refugees we spoke with worked in essential services including caretaking positions in nursing homes. A Congolese man shared with us his fear of contracting COVID. In another interview, a man, also from Congo, who worked in healthcare mentioned that his entire family contracted the virus before vaccines became available.

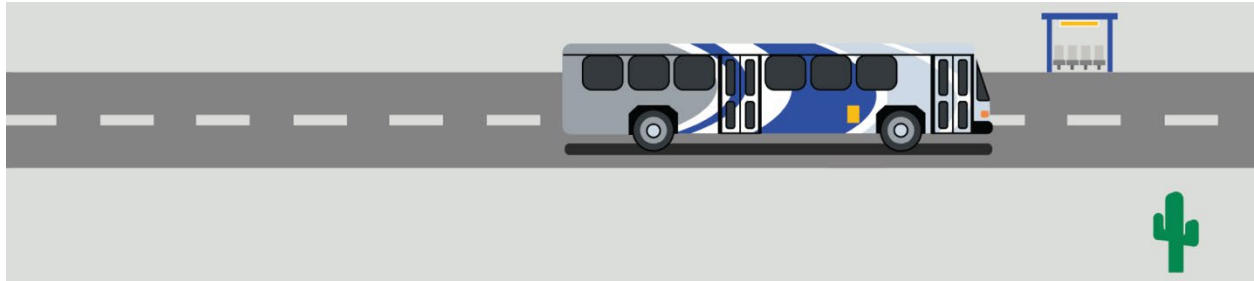
The pandemic had significant impacts on the education of refugee children in Tucson. In a study of the impact of the COVID-19 pandemic on refugee education in Arizona, Dugan et al. (2021) found that many refugee children faced significant challenges in accessing remote learning due to factors such as lack of internet access, lack of devices, and language barriers. We spoke with a family with five young children - four of whom were school-aged - who shared that it was very difficult for their children to learn online. They shared a two-bedroom apartment and it was hard for the children to attend classes remotely and pay attention to their teachers with everyone sharing the same space.

Access to transportation was impacted by the pandemic, with many refugees experiencing increased challenges in accessing transportation to essential services such as healthcare and employment. In their study of the impact of the COVID-19 pandemic on refugees in Arizona, Krause et al. (2021) found that refugees faced increased transportation challenges due to reduced public transportation services and fear of using public transportation. One interviewee revealed:

“It is harder because people have to rely on public transportation just to get around. People are more exposed to getting it [COVID-19] ... It is harder because refugees work in riskier areas and therefore you are relying on public transportation or other people to come and take you. You don't know where they have been.”

Overall, the COVID-19 pandemic exacerbated the already existing layered challenges faced by Tucson's refugee communities, including access to healthcare, economic well-being, education, and transportation. Many refugees work in essential services including hotels, nursing homes and hospitals. The broader social stress was more acutely experienced by those who worked in frontline roles. Some informants reported that their entire household and multi-household extended family had been infected with the virus.

Others lost employment. The lockdown measures and stay-home orders made it hard for refugees who rely on a social network and community network to navigate various daily challenges. Stresses related to COVID-19 thus exacerbated mobility barriers and the means to access essential and nonessential destinations.



4.0 RESILIENCE AND SOCIAL CAPITAL

Despite the disparate challenges refugees experience related to their mobility, including during the pandemic, our research also revealed that social network and community support systems were critical in mitigating different challenges individuals and families encountered. One recurring theme was the importance of social capital or the ability of an individual to access various resources within a particular social network (Bourdieu, 1985). It is similar to what Urry (2012: 27) calls “network capital” or “the real and potential social relations” that are fostered by mobilities.

It was evident that social capital was an important factor that can influence refugees' ability to navigate transportation-related challenges after resettlement. In their study of transportation challenges faced by resettled refugees in the United States, Zito et al. (2017) found that social networks and relationships played a significant role in refugees' ability to access transportation. Social capital, including the resources and support available through social networks, can provide refugees with access to information, transportation, and other resources needed to navigate their new environment.

Moreover, social capital can also facilitate transportation-related integration among refugees. In their study of transportation and mobility-related social exclusion among refugees in a multiethnic, mixed-immigration status urban context, Chaney et al. (2016) found that social networks and relationships provided refugees with access to transportation-related information and resources needed to navigate their new environment.

Social capital can also help refugees overcome transportation-related language barriers. In a study of transportation barriers faced by refugees in the United States, Jamil et al. (2012) found that social relationships with individuals who spoke the same language or were familiar with the transportation system were crucial in helping refugees overcome language barriers and navigate the transportation system.

Overall, the literature suggests that social capital plays an important role in addressing transportation-related challenges among refugees. Social networks and relationships can provide refugees with access to information, transportation, and other resources needed to navigate their new environment. Addressing transportation-related challenges requires collaboration between transportation providers, policymakers, and community organizations to build and support social networks and relationships among refugees.

Our data indicated that these social networks operate as a type of microgeography connecting people, forging relations and sustaining support for each other. These networks were at times maintained among people who share ethnic and cultural backgrounds, and other times they transcended cultural, religious, linguistic and racial

differences. Some of the networks referenced in our interviews arose within pre-existing, local community groups, such as religious organizations and recreational soccer groups, and others were developed specifically by refugee resettlement agencies.

For instance, for Constance, it was clear that she deeply cared about those around her. Her concern for those who are in need was particularly touching. She recalled:

“For the new families who come, I know that if they find people who they can trust and who they can rely on, those people can help. If those people can find us, of course we can help them. It’s taking their permit test or studying for their driving test. For other families that don’t have that support I feel like as a society we need to help them with transportation.”

These social networks were the cornerstone of navigating the challenges presented by the pandemic. Pastor Safari said that both before and during the COVID-19 pandemic, he drove or lent his car to refugees that requested it. Another interview participant corroborated the importance of community institutions and networks in aiding refugee mobility:

“A lot of people rely on the church to rely on these things because it’s really hard when you don’t know the language. A lot of times they’re not able to get help from people to help so they get help from the church.”

In a separate interview a woman from Ethiopia recounted:

“Even during the hard times with only my dad working or only him having a car, he would still go around helping others. My family would make food for the new refugees or have people come over to the house to help new refugees. What [my parents] have given, they give the same back.”

Resettled from DRC in 2008 with fluency in French but no understanding of English, Ishara explained that members of the Tucson refugee community continued to support each other – even if members were personally unfamiliar with each other. He said:

“To get places during the pandemic, people pick up those without cars. I’m giving rides to people that I don’t know.”

Social networks are routinely maintained across time and space. We learned that refugees who have settled in Tucson take it upon themselves to support newly arriving refugees, especially those who come from the same country of origin or mutual church group. Some refugees use these networks to access transportation to essential destinations including places of employment, the grocery store, social events that provide a sense of belonging, and even to practice driving before testing for a driver’s license. Oftentimes, refugees rely on their network capital instead of the formal transit system.

5.0 CONCLUSION

“I hope that there can be a very reliable transportation for refugees that will give them more trust and peace of mind. If they feel like someone is caring for them then that would be a huge help.” Pastor Safari

Our project sheds light on the mobility of resettled refugees and their experiences with Tucson’s geography and transportation options. Quantitative findings from a survey revealed barriers common to those experiencing transportation disadvantage. Qualitative data from interviews, however, augments those findings with rich, illustrative stories of cultural norms, trauma, and disparate impacts by gender that contextualize the intersectional lived reality of refugees. These lived experiences help identify common challenges and thus can be used to develop strategies and recommendations to improve the experience of Tucson refugees around mobility and transportation.

Challenges faced by Tucson refugees are widespread. A need for effective and efficient transportation is a key factor in finding and maintaining employment, which is especially critical for refugees who used a travel loan to resettle and are required to begin loan payments six months after arrival in the U.S. (New York Times, 2019). The Sun Tran bus system was identified as a lifeline for newly resettled refugees, as well as a system that is challenging for many refugees. Language barriers, expensive bus fares, confusion around routes, and infrequent and inconsistent arrival and departure times were reasons that refugees avoided or expressed negative attitudes towards the Sun Tran bus system. Our study was conducted in Tucson with a fairly good public transportation system; many other mid-size cities in the U.S. that commonly accept refugees have less bus accessibility. If our findings around bus usage are generalizable, much more needs to be done to remove financial and logistical barriers that were often described by refugees in accessing public transportation.

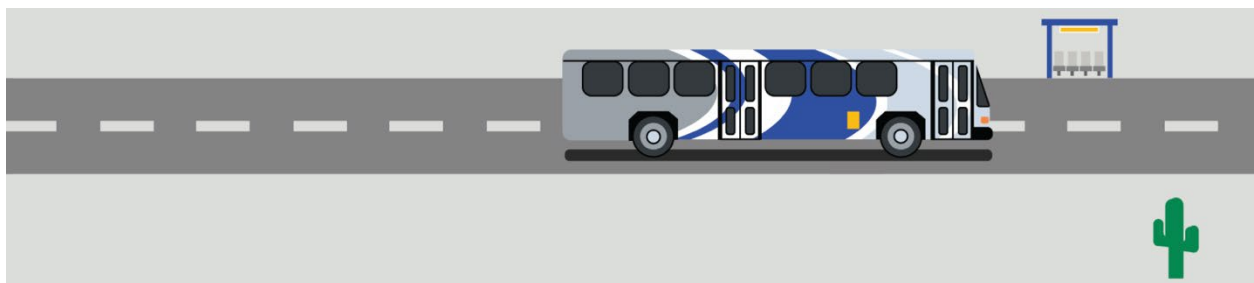
Results from our survey suggest that transportation and mobility challenges are associated with poor sense of well-being and specific feelings of anger, frustration, sadness, and a longing for homeland. These feelings and the challenges refugees experience have gendered components. It is common for male members of the household to begin driving earlier than their female counterparts, starting a cycle of dependency and/or isolation. Women, especially those who are older and do not speak English, are particularly prone to becoming dependent on the male members of their households. It is, however, instructive to see beyond the façade of gender disparity. Rather than seeing this disparity as a case of female oppression, our respondents suggested nuanced mediating factors such as care, responsibility and self-sacrifice.

This research identified a variety of strategies that have been developed in refugee networks to mitigate post-resettlement mobility challenges. We routinely heard about the importance of social connections, especially between refugees from the same or nearby countries of origin, which play a vital role in navigating not only transportation

and mobility but the experience of resettlement in Tucson. Refugee networks provide opportunities for transportation via carpool or loaning one's car; assistance finding employment; and giving entry points into new social circles such as religious organizations or shared ethnic group networks.

While generally beyond the scope of this report, we also asked interviewees about recommendations for improved transportation. Recommendations by interviewees themselves tended to be organized around the need for a public transportation system with more destinations, more buses, increased bus departure and arrival frequencies that is more navigable and intuitive for some of Tucson's newest residents. As a team, we note that refugee organizations and transit agencies occupy a unique space to help orient newly arrived refugees to the transportation system. We also repeatedly heard that transit fare remains a barrier to refugees long after resettlement; the cost of public transportation could be alleviated by broader fare-free policies that are designed for easy access by refugees.

Transportation challenges are not equally experienced in our society. Refugees share many of the characteristics with other transportation disadvantaged populations such as low vehicle ownership, high unemployment, low household income, English as a second language, and racial or cultural identifiers that result in microaggressions and even discrimination. This study demonstrates the extent of those challenges specifically for refugees. Our findings also elevate the intersectional nature of the refugees' experience, hinting that past trauma associated with travel and transportation itself may result in unique barriers to accessing the transportation system. Poor transportation access may also result in additional erosion of mental health and well-being in a population that has been well documented to be at high risk. Thus, we affirm that the intersectional needs of refugees are unique and warrant continued research.



6.0 RECOMMENDATIONS

Lead author: Sarah Clark

Refugee resettlement agencies in Tucson (and across the U.S.) can better support their clients by formalizing programming to foster social networks and community support for refugee-status people arriving in Tucson. They can do this by:

1. Continuing to support connections between refugee-status and non-refugee-status segments of the community.
2. Providing dedicated time and space for resettled refugee-status individuals to meet and socialize with one another in an informal setting.
3. Connecting newly resettled refugees with “mutual aid” networks established by previously resettled refugee-status people via volunteer-created resource and contact books and social events.

These interventions together can be imagined as a three-legged stool of social support with each leg representing one of the suggestions above (See Figure 7.1 below). These suggestions would be integrated into existing individual-centered resettlement programs and would make establishing social bonds less haphazard and precarious. Likewise, they would ensure that more refugee-status people are able to connect with other individuals throughout Tucson to gain friendship, support, and mentorship. Ultimately, this approach would result in greater interpersonal bonds for resettled refugee communities, allowing them to lean on non-refugee-status contacts, informal peer networks, and more formalized peer-peer mutual aid networks for advice, connection, and care throughout their resettlement journey.

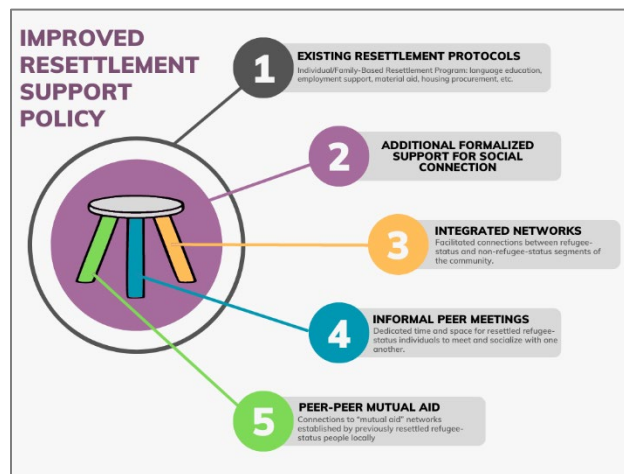


Figure 7.1: Framework for improving resettlement support

Moreover, this approach has the double benefit of reducing the burden on agencies' case managers who will no longer have to be an exclusive node for all types of support. Instead, their clients will now have a diffuse network of community members on which to lean. As such, case workers will be able to focus on their specific roles (language, housing, employment, and health system support, etc.) instead of having to be a jack-of-all-trades for each of their many clients.

This policy recommendation is made with serious consideration of potential costs and critiques of this approach, two of which are addressed specifically below:

Will focusing on connecting refugee-status people with people from their own regions/language groups/cultures/etc. facilitate social segregation rather than full integration into new host communities?

The three-legged stool approach to increasing social connection throughout the resettlement process will augment opportunities to connect with both refugee-status and non-refugee status individuals. Further, connecting refugee-status people with others from their own regions, language groups, and cultures will help them attain material benefits (access to transportation, language learning, etc.) that may help them to connect more quickly with other groups of people in Tucson, including those from other regions or those without refugee status.

Will relying on refugee-status volunteers to spearhead mutual support unjustly overburden them?

This is a serious concern and is rightfully raised when programs that serve communities rely too much on the labor, time, and material/emotional resources of those already impacted. To this critique it is important to emphasize two things:

First, that these mutual aid networks will comprise just one piece of the resettlement support package that we suggest agencies should offer. They should supplement, not replace, the individual-based educational, employment, and material support already offered by agencies. These networks will not take on the jobs of the agencies or their case managers, but will serve to offer more understanding and culturally -based resources in situations when refugee-status individuals would prefer to connect with peers (for example, with questions on navigating the public school system and concerns about parenting through cross-cultural perspectives).

Second, this policy suggestion comes directly from the input of refugee-status people in Tucson. Throughout the interviews and surveys mentioned previously in this brief, refugee-status people in Tucson expressed a great desire to volunteer and help their newly arrived peers. In fact, many resettled refugee-status people already work in this capacity, but their impact is limited because they do not hear when new refugee-status people arrive and are therefore unable to connect with them. Bringing the experience and motivation of peer volunteers into the fold and furnishing them with more institutional support will lift burden both from the agencies and from the refugee-status people who are working harder than necessary to identify and support their recently resettled peers. Formal coordination can reduce overall burden.

Without intentional social support programs, refugee resettlement agencies in the U.S. will continue to put the happiness and well-being of refugee-status people at risk by leaving the social capital factor too much to chance. By formalizing support to help refugee-status people connect with their fellow-Tucsonans (including both non-refugee-status people and refugee-status individuals/families), refugee resettlement agencies can improve their effectiveness and promote better outcomes for their clients. As such, it is imperative that the three-legged social support stool outlined above become formally integrated into refugee resettlement programs in Tucson and throughout the U.S. through funding, staff, and other resource support.

6.1 PROJECT OUTPUTS

- Interviews with 40 people (35 refugees and five non-refugee members)
- Mixed-methods survey of 81 people
- Journal article: Clark, Sarah, and Orhon Myadar. "The power of story: Understanding gendered dimensions of mobility among Tucson refugees." *Geography Compass* 17, no. 3 (2023): e12678.
- Journal article: *Smith, Chandler, Orhon Myadar, Nicole Iroz-Elardo, Maia Ingram, and Arlie Adkins. "Making of home: Transportation mobility and well-being among Tucson refugees." Journal of Transport Geography 103 (2022): 103409.*
- Public Presentation: *Refugee Mobility and Wellbeing Understanding connections between mobility, transportation, and quality of life in refugee communities in Tucson, Arizona* by Chandler Smith at the University of Arizona. 05/15/2021
- Public Presentation: *Making a home: Transportation Mobility and Well-Being Among Tucson Refugees* by Orhon Myadar at the Udall Center for Studies in Public Policy. 4/08/2022
- Public Presentation: *Belong: Geographies of Displacement, Refuge and Longing* by Orhon Myadar at Oxford University. 3/8/2023
- Booklet: *Making a home: Transportation Mobility and Well-Being Among Tucson Refugees*. 2022
- Booklet exhibition: *Making a home: Transportation Mobility and Well-Being Among Tucson Refugees* by Nicholas Daniels. Lionel Romach Gallery. BFA I+D Capstone Thesis show. May 3-16, 2022
- Policy Brief: *Policy Lessons for Refugee Resettlement Programs* by Sarah Clark. 2023

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8.0 APPENDICES

Appendix A-1

Interview Questions

1. Where did you grow up?
2. Where did you live before coming to Tucson?
3. What were your initial impressions of Tucson? Have those impressions changed since then?
4. How long have you lived in Tucson?
5. How many people are in your household?
6. How do you get around in Tucson? What is your primary mode of transportation in Tucson?
7. What is your ideal mode of transportation? What are some barriers that prevent you from using this transportation mode?
8. Does your household own a vehicle? If so, who is the primary driver of the vehicle?
9. What are your most important destinations on a typical day? Has your ability to get to these destinations been impacted by the pandemic? If so, how?
10. What are some challenges that you face in moving around in Tucson?
11. Do these challenges impact your sense of wellbeing? If so, how?
12. What would help you to mitigate the challenges that you experience?
13. Can you share some strategies that you, family and/ or your community use to deal with the challenges related to your mobility and transportation?
14. What solution(s) do you propose to make things better for people such yourself to get around easily and conveniently in Tucson?
15. Is there anything else that you would like us to know related to your mobility and well-being and how the current pandemic has impacted the way you get around?

Appendix A-2

Interview Questions

Tucson Refugee Activists and Leaders: Interview Questions (*refugee resettling agency staff)

1. What is your full name?
2. What is your job title and what are your responsibilities? How long have you held your current position?
3. What do you think are the strengths and weaknesses of Tucson's transportation infrastructure?
4. How do you think this existing infrastructure meets the needs of Tucson's refugee communities?
5. What do you perceive the initial impressions of refugees in Tucson to be? Do you see those impressions change over time?
6. How do refugees that you work with get around in Tucson? Is there a common theme in modes of transportation in Tucson?
7. What are some factors, in your observation, that shape how refugees experience transportation related challenges differently?
8. Who do you think are the most vulnerable members within Tucson refugee communities, especially related to their mobility?
9. What are barriers you have noticed that prevent refugees from using different modes of transportation?
10. Our research findings suggest that refugees.....Do you have any suggestions how we can improve or mitigate these challenges experienced by refugees?
11. Can you share some observed strategies that refugees and the refugee community use to deal with the challenges related to mobility and transportation?
12. Do you think that these challenges impact refugees' sense of wellbeing? If so, how?
13. Does your organization help refugees with transportation or mobility? Do you know of other organizations that help refugees with transportation or mobility?
14. What changes or solutions could be made to mitigate these challenges that refugees experience with mobility and transportation?

15. What are some of the key challenges in making any changes to better address the mobility and transportation related challenges refugees experience?
16. Is there anything else that you would like us to know related to refugee mobility and well-being and how the current pandemic has impacted the way they get around?