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Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities

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HOUSING CHOICE, TRANSPORTATION EQUITY, AND ACCESS TO OPPORTUNITIES IN REFUGEE AND IMMIGRANT COMMUNITIES

Final Report

NITC-RR-1477

by

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January 2024

Technical Report Documentation Page

1. Report No. NITC-RR-1477	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities		5. Report Date January 2024
		6. Performing Organization Code
7. Author(s) Diane Mitschke, Anne Nordberg, Stephen Mattingly, Katherine Kitchens		8. Performing Organization Report No. 1477
9. Performing Organization Name and Address National Institute for Transportation and Communities (NITC) P.O. Box 751 Portland, OR 97207		10. Work Unit No. (TRAIS)
		11. Contract or Grant No. 69A3551747112
12. Sponsoring Agency Name and Address U.S. Department of Transportation Office of the Assistant Secretary for Research and Technology 1200 New Jersey Avenue, SE, Washington, DC 20590		13. Type of Report and Period Final Report October 2021-June 2023
		14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

Mobility directly impacts access to opportunities for all protected classes; however, transportation planning and public transit agencies and housing authorities rarely coordinate affordable housing and the transportation system planning decisions. This lack of coordination often leads to mismatches between access to opportunities and affordable housing. Safe access to employment, quality schools, and healthcare represent a few of the many factors that may influence housing choice. For most households with budget constraints, all of these factors may not be achievable. While existing research documents the mismatch between affordable housing and access to opportunities, the role that mobility plays in residential selection and the possible transportation barriers in access to essential services remains under investigated. The primary objective of this research was to investigate the role that a household's primary and secondary mobility (i.e., using auto, public transit, social network, walking, etc. to access activities) plays in the housing location choice of immigrants and refugees. The secondary objective was to craft a methodology for producing an access to opportunity index relevant to the study population. The study investigated the importance of community cohesion and other social structures in the decision-making process, thereby providing greater clarification of the burdens encountered by immigrants, refugees, and other protected classes when affordable housing and the transportation system planning remain uncoordinated and fail to address the needs of transportation disadvantaged households. Our qualitative study was conducted in Dallas County, TX, where almost one quarter of the 2.6 million population were born outside the United States. We identified, with the assistance of community partners that serve immigrants and refugees, study participants who were planning to move and those who had recently moved from their initial residence following their arrival in Dallas County to a residence they have considered and selected. We collected qualitative data about the factors and values that drove transition decisions such as transit options, housing costs, proximity to health and mental healthcare, safe neighborhoods, access to quality education, employment proximity, community cohesion or distance, among others. We conducted a conventional content analysis of interviews from 32 participants and found three themes (and several sub-themes). These were: Theme 1) The Multiple Dimensions of Home; Theme 2) The Neighborhood Experience, and; Theme 3) Barriers and Bridges to Opportunity. We present method and findings related to the access to opportunity index using both transit and auto modes from Dallas County block groups. Then, we discuss recommendations for policy and practice that promote the coordination of transportation planning and housing choice for immigrants and refugees in Dallas County and the implications for other transportation-disadvantaged populations in other locations.

17. Key Words Housing choice, transportation equity, immigrants, refugees, access to opportunities index		18. Distribution Statement No restrictions. Copies available from NITC: www.nitc-utc.net	
19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. No. of Pages 32	22. Price

ACKNOWLEDGEMENTS

DISCLAIMER

RECOMMENDED CITATION

Mitschke, Diane, Nordberg, Anne, Mattingly, Stephen, *Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities Transit*. NITC-RR-1477. Portland, OR: Transportation Research and Education Center (TREC), 2023.

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EXECUTIVE SUMMARY

This study investigated the importance of community cohesion and other social structures in the decision-making processes surrounding secondary relocation choices among immigrants and refugees. The main research objective was to investigate how a household's primary and secondary mobility plays in the housing location choice of immigrants and refugees based on modes of mobility, such as personal vehicles, public transit, social networks, walking, etc., to access activities.

The qualitative portion of the study, guided by the tenets of conventional content analysis, was conducted in Dallas County, TX, where almost one quarter of the 2.6 million population were born outside the United States. Community partners that serve immigrants and refugees assisted in the identification of participants (N = 32) who were planning to move in the next five years or had moved from their initial residence following their arrival in Dallas County to a residence they had considered and selected in the past five years.

Three main themes emerged related to the motivations and challenges immigrants and refugees face in their residential location choices.

Theme 1, "The Multiple Dimensions of Home," emerged as a central focus of the study, as participants shared diverse and nuanced perspectives on what *home* meant to them, including physical and emotional aspects, social and relational significance, and challenges and costs. Several sub-themes were identified that captured different dimensions of home, each of which influenced their location choices. Sub-themes include 1) The Personalization of Living Space, 2) Home as a Relational Space, 3) Home as a Structural Place, and 4) The Cost of Home.

The study's second theme, "The Neighborhood Experience," is a complex and dynamic theme that highlights the experiences that motivate immigrants and refugees in choosing where to live. The first aspect was the importance of neighborhood safety as a motivation for selecting a particular area. Another aspect of the theme relates to issues of neighborhood noise and the desire to live in a quiet environment. Participants also spoke about the importance of living near amenities that promote a healthier lifestyle, such as green spaces and walking trails. Similarly, participants discussed the importance of choosing a location that provides a safe and efficient commute to work. For many, the daily commute was a significant factor in their overall quality of life, and the ability to travel to work safely and conveniently was an important consideration when choosing a neighborhood.

Theme 3, "Barriers and Bridges to Opportunity," highlighted the significance of access to work and job opportunities, school, shopping, healthcare, and public transportation for immigrants and refugees in their secondary location choices. Many participants cited

the importance of finding or keeping employment as a critical factor in their decision-making process.

The access to opportunity index presented in this report combines spatial and temporal connectivity measures to identify the opportunities available to easily access from a Dallas County census block group using either public transit or auto as a transport mode. Other researchers have developed many transit accessibility measures, which vary greatly by definition, but they often focus on access to public transit provided by existing infrastructure or measure access to important destinations (Malekzadeh and Chung 2019). The accessibility measures in this study combine both by considering transit availability in the block group and the time required to reach an opportunity using a transportation mode; this study only considers auto and public transportation, but future analyses could consider other modes like walking or bicycling, too. The study uses three different scenarios to calculate the accessibility index scores for each block group: a) public transportation access to opportunities alone, b) auto access to opportunities alone, and c) access to opportunities using either auto or public transportation; the index is calculated for auto and public transportation for each block group in the Texas County from which study participants lived.

From this work, we propose eight recommendations:

1. Enhance coordination between affordable housing and transportation planning
2. Prioritize neighborhood safety and quality of life
3. Improve access to employment and educational opportunities
4. Address food deserts and healthcare accessibility
5. Enhance public transportation options and connectivity
6. Address affordability and availability of suitable housing options
7. Expand research approaches: Culturally informed and participatory methodologies
8. Construct public health index

1.0   BACKGROUND

While existing research documents the mismatch between affordable housing and access to opportunities, the role that mobility plays in residential selection and the possible transportation barriers in access to essential services remains under investigated. While some secondary and tertiary migration among immigrant and refugee populations has been attributed to economic factors such as employment opportunities and housing costs, many refugees make the choice to leave their initial resettlement location due to established social networks and in an effort to be close to friends and family. However, once this first move is made, the next moves appear to be driven by other factors such as economics and access to services. Secondary migration among refugees is characterized by a move that takes place within the first eight months of arrival in the United States, and the limited evidence suggests that these moves may contribute to increased rates of poverty, crime and unemployment (Bloem & Loveridge, 2018). In contrast, some research suggests that higher levels of education and English language proficiency are correlated with relocation decisions that rely less on the existence of social or ethnic networks, particularly among immigrants (Smart, Grimes & Townsend, 2018). Other sociodemographic factors such as gender, income, and age also contribute to the decision to relocate for immigrant families. Low-income Latina immigrants, for example, are less likely than their male counterparts to own an auto or learn to drive, and this trend persists for years following arrival in the U.S. Thus, for wage-earning Latinas, the availability of public transit and the appeal of living in a neighborhood where carpooling and ride sharing is commonplace are important factors in domestic relocation (Matsuo, 2016). Similarly, age and income also show variability in relocation decisions, with individuals with household income lower than $25,000 per year as well as older adults being more likely to rate the availability of public transportation as an important factor in their decision to relocate (Gehrke, Currans & Clifton, 2019). Numerous studies have explored mobility among the general population across the United States, using two main approaches: 1) the life-cycle framework, or the conceptualization that mobility decisions are driven, in large part, by an individual or family's life course; and 2) the residential satisfaction model, which focuses on a resident's relative satisfaction or dissatisfaction with various components of one's neighborhood (Basolo & Yerena, 2016). More recently, research examining mobility has examined the influence of neighborhood satisfaction on mobility among low-income, housing voucher recipients (Urban Institute, 2014). Yet little is known about the factors that guide the decision-making process for established immigrant and refugee families who are planning to move or have recently moved. Interestingly, recent research has indicated that transit demand varies among recent immigrants, with immigrants arriving from another country placing high value on public transit. This contrasts with the relatively lower use of public transit by recent immigrants who relocate from one metropolitan area to another within the U.S. (Chakrabarti & Painter, 2019).The proposed study will fill a gap in the existing literature by documenting the relative importance of the factors that contribute to the decision to make a residential domestic

move among immigrant and refugee populations and will provide insight into the transportation needs of transportation-disadvantaged families.

An uncoordinated housing and transportation infrastructure leaves protected classes such as immigrants and refugees without access to essential goods and services that promote quality of life and community cohesion. This lack of coordination forces vulnerable families to make difficult choices about where to live, particularly when transit options are limited in neighborhoods with high concentrations of low-income immigrants and refugees. The Agape Clinic, the data collection site for the study, is a non-profit medical clinic serving uninsured and underinsured individuals near downtown Dallas. More than 80% of the clinic's patient population is between ages 19 and 64, which is reflective of the gap presented by Medicaid and Medicare eligibility. The clinic reaches a diverse community of immigrants and refugees, with two-thirds of patients speaking a primary language other than English. Sixty percent of patients identify as Latinx, and the clinic serves as the primary source of healthcare for more than 800 resettled refugees from Burma.

The primary objective of this research was to investigate the role that a household's primary and secondary mobility (i.e., using auto, public transit, social network, walking, etc. to access activities) plays in the housing location choice of immigrants and refugees. The secondary objective is to create a method to determine the access to opportunity index for Dallas County.

2.0 METHODOLOGY

This study investigated the importance of community cohesion and other social structures in the decision-making processes surrounding secondary relocation choices among immigrants and refugees. This investigation sought to provide greater clarification of the burdens encountered by immigrants, refugees, and other protected classes when affordable housing and the transportation system planning remain uncoordinated and fail to address the transportation needs of disadvantaged households. The first key objective was to investigate how a household's primary and secondary mobility plays in the housing location choice of immigrants and refugees based on modes of mobility, such as personal vehicles, public transit, social networks, walking, etc., to access activities. This was achieved with qualitative interview data. Additionally, this study aimed to create an access to opportunity index for Dallas County.

2.1 Qualitative Study Design

This study used an exploratory qualitative design that relied on collecting data through semi-structured interviews to achieve the stated research objective. A university internal review board approved the study methods and instruments and the research team adhered to the approved protocol.

2.11 Participants and Study Site

The study was conducted in Dallas County, TX, where almost one quarter of the 2.6 million population were born outside the United States. Community partners that serve immigrants and refugees assisted in the identification of participants ($N = 32$) who were planning to move in the next five years or had moved from their initial residence following their arrival in Dallas County to a residence they had considered and selected in the past five years. Informed consent was obtained from all participants and recorded in QuestionPro.

2.12 Data Collection

The research team collected data from treatment-seeking immigrants and refugees at a free community clinic in Dallas, which serves approximately 11,000 patients per year through roughly 1,500 visits per month. Most of the clinic's patients reside in the Dallas-Fort Worth Metroplex; however, the clinic has served patients from over 325 ZIP codes and 10 states. Individuals were asked if they were interested in participating in a brief screening interview to determine their eligibility for the research study. Respondents met eligibility criteria if they 1) were 18 years of age or older; 2) immigrated to the United States or arrived with refugee status; 3) had moved to their current residence within the past five years; or 4) are planning to move from their current residence in the next five years. The initial screening was conducted verbally and responses were logged by research team members using QuestionPro, a cloud-based survey and research software platform. The screening included a brief assessment of the factors that respondents would consider or prioritize in planning to move.

Respondents meeting the eligibility criteria were interviewed by a research team member using a semi-structured interview guide. Questions related to factors and values that drove transition decisions, including transit options, housing costs, proximity to health and mental healthcare, safe neighborhoods, access to quality education, employment proximity, and community cohesion or distance, among others. All interviews were recorded and transcribed by research team members. Interpreters were provided for the different communities represented in the study, including those who spoke Spanish and the different ethnic languages of Burma, including Karen and Rohingya. The interpreters provided translation during the interviews. Each participant was given a gift card for $15 to a major retailer in appreciation for their participation.

2.13 Data Analysis and Interpretation

Conventional content analysis (Hsieh & Shannon, 2005) was used to systematically analyze the interview transcripts to identify common themes and patterns related to the research objective. This inductive process avoided approaching the data with preconceived categories. Instead, the researchers immersed themselves in the data to allow new insights to emerge. First, three researchers read and re-read the transcripts to better understand the content, taking notes on first impressions of the initial analysis. They then approached the data, word by word, highlighting exact words from the text that captured critical thoughts or concepts. These highlighted words were used to derive codes directly from the text. Initial codes were recorded in an Excel spreadsheet, and the research team members met to discuss organizing codes into categories. The process continued until all the data had been categorized into a complete coding scheme. This coding scheme included the frequency and distribution of codes and was shared with the research team members responsible for creating the integrated access to opportunities index.

The transcripts were then uploaded into MAXQDA and re-coded using the established coding scheme. The coded segments were exported into an Excel spreadsheet, and three research team members met again to discuss potential themes from the content analysis. These themes were then used to interpret the data in the context of the qualitative research objective, and exemplar quotes from the interview transcripts were selected to support and illustrate the themes identified through content analysis. The selected quotes represented key ideas, perspectives, and experiences related to the research objectives.

2.14 Validity and Reliability

The research team ensured the validity and reliability of the study by using multiple coders in the content analysis process. Inter-coder reliability was established by comparing the codes and categories developed by each coder. Given the nature of the data collection site and privacy concerns related to HIPAA, member checking was not possible. As such, the research team could not ensure consistency between their interpretations and participant views.

2.15 Ethical Considerations

Ethical considerations were taken into consideration throughout the study. The study protocol (#2022-0134) was approved and considered exempt by the principal investigator's university institutional review board. Informed consent was obtained from

all participants, and anonymity was ensured by removing all identifying information from the data before analysis.

2.2 Access to Opportunity Index Design

To evaluate the suitability of block groups for refugees and immigrants in Dallas County, the study used data from a project funded by the National Institute for Transportation and Communities (NITC) to construct the public transit and auto accessibility index for block groups in Dallas County (Nordberg et al., 2021). The previous study constructs the database using General Transit Feed System (GTFS) data to calculate the time required to reach an opportunity using public transit options available within a 5-minute walking buffer in the block group; the previous study also determines the area/population served by the transit stops in the block group.

The access to opportunity index uses a Simple Additive Weighting (SAW) approach to calculate the scores for each block group (Ibrahim and Surya 2019). The SAW approach is a multi-attribute procedure that uses a weighted summation to rate the performance of each alternative (block group for housing in this study). The four attributes used in this approach are time to access educational opportunities, time to access healthcare facilities, time to access full-service grocery facilities, and number of jobs present within 30 and 60 minutes within the block group. To calculate individual indices for each attribute, the auto mode just uses the travel time between block groups. To account for transit access within a block group, the transit mode requires a weighted time based on the area served by the closest stop within a block group (see 1 for more details) For both auto and transit the final times are rescaled from 0 to 1 using the following equation:

$$AI_p = (WT_i - Min(WT))/(Max(WT) - Min(WT))$$

AI_p = Access to Opportunities index (Where p = education, hospital and grocery)
WT_i = Weighted time for each block group i
$Min(WT)$ = Minimum of all Weighted time for the specific opportunity
$Max(WT)$ = Maximum of all Weighted time for the specific opportunity

For jobs:

$$AI_q = (NJ_x - Min(NJ))/(Max(NJ) - Min(NJ))$$

AI_q = Access to Opportunities index (Where q = job present within 30 minutes, job present within 60 minutes)
NJ_i = Number of jobs accessible for each block group i
$Min(NJ)$ = Minimum number of jobs accessible for each block group
$Max(NJ)$ = Maximum number of jobs accessible for each block group

The study considers an equal weight for all the attributes, where a 1/4th weight applies to the first three attributes and an 1/8th weight applies to the latter two attributes. The

lower index scores for the block groups indicate that higher time is required to reach opportunities and there are a lower number of jobs accessible from the block group. The opposite is true for the higher index scores.

3.0 FINDINGS

3.1 DESCRIPTIVE STATISTICS AMONG SURVEY PARTICIPANTS

The average age among surveyed participants (N = 218) was 47.43 years (SD = 12.22, range = 18-80), and 68.84% were females (n = 148). The mean number of years living in the United States was 21.18 (SD = 11.39, range = 0.75-61) and 20.65 years (SD = 11.39; range = 0.75-61) living in Texas. The average number of years living at the participant's current address was 9.94 (SD = 8.24, range = 0-43). Among participants, 75.69% were members of Spanish-speaking households (n = 165), whereas 38.99% (n = 85) spoke English. A total of 13 languages were spoken among participants, including 18 (8.26%) who spoke the Karen language of Burma and 10 (4.59) who spoke Burmese. The average number of adults in participant households was 2.57 (SD = 1.04, range = 1-6), and the average number of children was 1.34 (SD = 1.38, range = 0-7). Most participants (n = 153, 70.18%) drove to the clinic. Among those driven by a family member, friend, or neighbor (n = 50, 22.93%), companionship/support was the most frequently cited reason for being accompanied to the clinic (n = 24, 35.82%). See Table 1 for a complete list of descriptive statistics for surveyed participants.

3.2 INTERVIEW FINDINGS

Among those surveyed, 32 participants qualified for the second phase of the research study and participated in semi-structured interviews. The research team analyzed the interview transcripts through conventional content analysis (Hsieh & Shannon, 2005). Three main themes emerged related to the motivations and challenges immigrants and refugees face in their residential location choices.

3.2.1a Theme 1: The Multiple Dimensions of Home

The theme "The Multiple Dimensions of Home" emerged as a central focus of the study, as participants shared diverse and nuanced perspectives on what *home* meant to them, including physical and emotional aspects, social and relational significance, and challenges and costs. The theme provided deeper insight into the values and meaning that participants attached to their living spaces and how this constructed meaning influenced their decisions about where to live. During data analysis, several sub-themes were identified that captured different dimensions of home, each of which influenced their location choices. Sub-themes include 1) The Personalization of Living Space, 2) Home as a Relational Space, 3) Home as a Structural Place, and 4) The Cost of Home.

Sub-theme 1A: The Personalization of Living Space. This sub-theme emerged as an essential factor that explained the motivations of immigrants and refugees in their location choices. The sub-theme highlighted the importance of physical and emotional ownership of one's living space. Regardless of whether the participant owned or rented their residence, the desire to create a sense of ownership and identity within their living spaces was universal. Having their name on the lease was a crucial aspect of this

process for renters, as it provided a sense of stability and control over their living situation. As Leo, a 38-year-old husband and father of a blended family, explained,

"I think the apartment that we live in is [in a] good neighborhood…So yeah, it's a nice place to live. So we love it over there. But you know, it's all on the lease. My wife is on the lease. She's the one putting the rent. So I want everything on my name."

For homeowners, personalization and identity were important factors in creating a meaningful and satisfying living environment. Participants spoke about the role of homeownership in providing stability and security for themselves and their families. Manuel, a 56-year-old immigrant, said, "I just don't like that I must pay rent for a location that isn't mine."

3.2.1b Sub-theme 1B: Home as a Relational Space.
This sub-theme emphasizes the social and emotional significance of home as a site of connection and intimacy and how family and social relationships shape people's experiences of home, all of which influence location choice among immigrants and refugees. Participants discussed various topics related to their relational experiences of home, including the importance of living close to family members, the desire to move away from family to gain personal space and independence, and issues related to tension among extended family members.

For some participants, living close to family was a critical factor in creating a sense of belonging and community, and the ability to maintain close familial relationships was a primary motivator in choosing where to live. Participants emphasized the importance of having family members in proximity, citing benefits such as access to support and caregiving, as well as the comfort of living in a familiar environment. Ana, a 71-year-old Latina immigrant who lives with her husband, both of whom have diabetes, shared her intention to move in with her 91-year-old mother, explaining that her husband's condition was deteriorating daily. Ana's mother expressed a desire for her to return to her childhood home and provide support, as she did not want to be left alone.

However, other participants wanted to move away from family to gain personal space and independence. They discussed the challenges of living with family members and the potential tensions that could arise from proximity and shared living arrangements. Maria, a 36-year-old immigrant who recently married, described why she moved out of her mother's home.

"It was good, but we would randomly have arguments. So, we wanted our own living space now. Well, it's like the saying goes, 'If you want to get married, you got to move out as well.' If I lived there with my husband, it wouldn't be the same."

3.2.1c Sub-theme 1C: Home as a Structural Space.
This sub-theme emphasizes how physical conditions and features shape immigrants' and refugees' decisions to move. Participants discussed a range of topics related to their structural experiences of home, including the need for more space,

issues with maintenance and unresponsive property owners, and concerns related to dwelling safety.

Participants highlighted the importance of having adequate space and being comfortable in their living environment. They also spoke about wanting to move to a larger space when living in crowded or cramped conditions. Gabriela, a 57-year-old immigrant, explained, "We would like a bigger apartment. There are three of us. I live with my son, daughter, and myself. We currently live in a one-bedroom apartment."

Issues related to maintenance and unresponsive property owners also emerged as important factors in shaping participants' motivations for moving. Participants described problems such as leaky roofs, faulty plumbing, and the growth of black mold, which affected their physical health and safety as well as their mental and emotional well-being. Unresolved maintenance issues created a sense of stress and anxiety about the safety and habitability of their living environment. Isabella, a 64-year-old immigrant who has lived in her apartment for four years, described her dwelling: "There is mold in the apartment…It is in the ceiling." Participants, like Isabella, also discussed the challenges of getting property owners to respond to these issues, which could exacerbate frustration and dissatisfaction with their living situation. Referring to the problems with black mold in her ceiling, Isabella went on to say, "We have told them of the situation, and they haven't done anything."

3.2.1d Sub-theme 1D: The Cost of Home.

The Cost of Home sub-theme reflects the economic and social realities that shaped immigrants' and refugees' location choices, including affordability, involuntary displacement, and limited availability of suitable housing options. Participants discussed the challenges of finding and maintaining affordable housing, particularly in the face of rising rents. They described how these costs strained their financial resources and the trade-offs they made in securing affordable housing. Emma, a 52-year-old immigrant, described the possibility of having her adult son move in with her and her husband to save on rent. "But in trying to get to a lower rent, maybe have my son move, move in with us. So that we can split it, and his rent has become too much for him too."

In addition to financial challenges, participants also spoke about the experience of displacement due to circumstances beyond their control. While most participants' experiences related to sale of the property by the property owners, Mya Aye, a 34-year-old refugee, explained her situation's precarity and ambiguity in the property owner's communication.

The first time they come to the apartment and say that we can stay. And they come another next day and say no, he cannot do it anymore. And the other reason why is no reason. They just cannot do it.

Finally, the findings revealed that participants encountered significant challenges in finding suitable housing options, particularly those with lower incomes. participants spoke about the limited availability of suitable housing options, particularly for communities with low incomes, with most citing that the property owner sold the property, requiring that they move. Mya Aye's account of her decision-making process after being displaced by the property owner highlighted the limited availability of options, as availability was the sole determinant in her decision to purchase a home.

3.2.2 Theme 2: The Neighborhood Experience

The study's second theme, "The Neighborhood Experience," is a complex and dynamic theme that highlights the experiences that motivate immigrants and refugees in choosing where to live. The first aspect was the importance of neighborhood safety as a motivation for selecting a particular area. Participants spoke about their experiences of crime in specific neighborhoods and impact of feeling unsafe on their daily lives and sense of well-being. When choosing a neighborhood, safety was a key consideration for many participants, particularly those with families. May Lay, a 30-year-old Karen refugee, described the previous residence, "It was closer to the liquor store, so I had to be more careful. So yeah, a lot of drunk people…They were just standing around."

Another aspect of the theme relates to issues of neighborhood noise and the desire to live in a quiet environment. Participants described the challenges of living in a noisy neighborhood, particularly near busy roads and other sources of disturbance. When choosing a location, Esmeralda, a 46-year-old Latina immigrant, explained she was "looking for something that wasn't close to, I guess, to all the traffic and freeways and all that stuff. Yes, and for it to be calm." Many participants expressed a strong desire for quiet in their living environment and the potential impact of a quiet neighborhood on their overall quality of life. Esmeralda went on to explain that her housing location choice was motivated by the need for quiet, which was necessary for her to sleep better.

Participants also spoke about the importance of living near amenities that promote a healthier lifestyle, such as green spaces and walking trails. Access to these resources was seen conducive to improved overall physical and mental well-being. While their residential location choice was constrained by affordability, participants valued amenities that contributed to a healthy lifestyle, such as green spaces, walking trails, and gyms. Juan, a thirty-seven-year-old Latino immigrant, talked about finding a new apartment the previous year, describing it as "a nice place. It was close to where my family was supposed to work, close to gym. It was the first apartment we saw, and it was one of the cheapest ones, and it was really nice."

Similarly, participants discussed the importance of choosing a location that provides a safe and efficient commute to work. For many, the daily commute was a significant factor in their overall quality of life, and the ability to travel to work safely and conveniently was an important consideration when choosing a neighborhood. Lu Pah, a 55-year-old refugee whose daily commute between home and work was over one hour each way for both himself and his wife, described commuting safety as the primary motivation for his family's decision to move closer to work. After his wife had three wrecks on her commute to work within a seven-year time span, Lu Pah described relief in having a shortened commute, "Now when she moved to [town name], house and the company maybe five-minute drive…Yeah, much better."

3.2.3 Theme 3: Barriers and Bridges to Opportunity

"Barriers and Bridges to Opportunity" emerged as a theme highlighting the significance of access to work and job opportunities, school, shopping, healthcare, and public transportation for immigrants and refugees in their secondary location choices.

Many participants cited the importance of finding or keeping employment as a critical factor in their decision-making process. In the words of Gabriella, a 57-year-old immigrant, "I just want it to be close to my job to be able to keep that job." Gabriella's statement underscores how proximity to her job was crucial in her decision-making process, highlighting the importance of maintaining employment stability in location choices.

Access to schools was a significant consideration for many immigrants and refugees. However, for some participants, such as Jorge, a 49-year-old immigrant, the priority of maintaining his children's enrollment in schools in the same area was outweighed by the need to find affordable housing. The struggle highlights the challenges of balancing school quality with affordability in location choices. "I would prefer the same area, so I don't have to move her school. But if I find something with a better price and if I like it, then I will have to find her a new school."

Participants cited the importance of being able to access affordable food sources. Most participants reported living near a major food chain, which included options for culturally appropriate foods and goods. However, some lived in areas without access to full-service grocers. Sometimes, convenience stores were the only food sources available, highlighting the challenge of living in food deserts, underscoring the reality that proximity to convenience stores may be for many immigrants and refugees the only option for purchasing food and goods.

Access to quality healthcare was a major barrier for many participants, particularly those with chronic conditions like diabetes. While healthcare was a significant concern for many immigrants and refugees, most participants did not live close to affordable or accessible healthcare options. Many drove long distances to visit a provider, with some participants citing long drive times to the community clinic where the interviews for the study took place. Esmeralda, a 46-year-old immigrant, shared that it took her "about 45 minutes to get to the doctor," highlighting the challenges immigrants and refugees face in accessing routine healthcare services.

While most participants owned a vehicle, access to public transportation remained important for some immigrants and refugees when considering locations. Many participants who relied on public transit reported experiencing its limitations. For example, the city's bus system was often cited as being insufficiently connected, making it difficult for residents to access the needed services and opportunities. As a result, many participants, including Carlos, a 45-year-old immigrant, reported that they had to travel for long periods to reach their destinations, even for short-distance trips within the city. Carlos described his trip to the clinic, "Because everything here is far. I mean, I live 19 miles from here. Coming here in a bus took me like two hours," underscoring the limitations of the city's bus system.

TABLE 3.21

Descriptive Statistics for Surveyed Participants (N=218)

	n	*M*	*SD*	Min	Max	*No.*	*%*
Age	217	47.43	12.22	18	80		
Years in US	218	21.18	11.39	0.75	61		
Years in Texas	218	20.65	11.62	0.75	61		
Years living at current address	218	9.94	8.24	0	43		
Adults living in household	218	2.57	1.04	1	6		
Children living in household	218	1.34	1.38	0	7		
Sex	215						
Male						67	31.16
Female						148	68.84
Language Spoken[1]	218						
Spanish						165	75.69
English						85	38.99
Burmese						10	4.59
Karen						18	8.26
Karenni						3	1.38
Yoruba						3	1.38
French						2	0.92
Bengali						1	0.46
Hindi						1	0.46
Italian						1	0.46
Malay						1	0.46
Rohingya						1	0.46
Urdu						1	0.46
Mode of transportation to clinic	218						
Drove self in own car						153	70.18
Drove with family member						37	16.97
Drove with friend/neighbor						13	5.96
Dropped off by family member						7	3.21
Dropped off by friend/neighbor						4	1.83
Train						1	0.46
Uber						1	0.46
Bus						1	0.46
Walked						1	0.46
Reasons for accompaniment to clinic	67						
Companionship/support						24	35.82
Transportation						18	26.87
Clinic appointment						11	16.42
Interpreter						6	8.96
Paperwork						3	4.48
Follow-up with provider						2	2.99
Participant's dependent(s)						2	2.99
Schedule clinic appointment						1	1.49

[1]Some participants spoke multiple languages.

TABLE 3.22

Semi-Structured Interview Participant Characteristics (N = 35)*

| Pseudonym | Age | Sex | U.S. Residency (Years) | | | Language | Household | |
			U.S.	Texas	Current Residence		Adults	Children
Isabella	64	Female	25	25	4	Spanish	1	4
Emma	52	Female	7	7	1	English	2	0
Leo	38	Male	14	4	< 1	French, English	2	1
Sara	28	Female	8	8	2	Spanish	2	1
Mariana*	19	Female	19	19	4	Spanish, English	2	1
Manuel	56	Male	30	30	25	Spanish, English	2	0
Jorge	49	Male	13	13	3	Spanish	2	2
Gabriela	57	Female	5	5	4	Spanish	2	0
Camila	50	Female	23	21	4	Spanish, English	2	1
Luis	57	Male	12	12	6	Spanish	2	0
Valeria	60	Female	50	50	< 1	Spanish, English	2	0
Ma Lay	30	Female	9	9	1	Karen, English	2	0
Daniela	53	Female	30	30	5	Spanish	2	0
Maria	36	Female	15	15	< 1	Spanish	2	2
Paula	44	Female	18	18	1	Spanish, English	2	0
Lu Pah	55	Male	15	15	5	Karen, Burmese	2	0
Ahmed	45	Male	7	7	1	Rohingya, English	2	3
Mya Aye	34	Female	13	13	3	Karen	2	3
Alejandra	40	Female	18	18	4	Spanish	2	4
Carmen	48	Female	4	4	1	Spanish	1	0
Adriana*	32	Female	32	32	1	Spanish	2	0
Lucia	39	Female	22	22	3	Spanish	4	2
Carlos	45	Male	1	1	< 1	Spanish, English	2	0
Alma	53	Female	40	40	20	Spanish, English	4	0
Juan	37	Male	4	4	1	Spanish, English	2	0

Matias	19	Male	5	5	5	Spanish	2	2
Ximena	52	Female	34	34	5	Spanish	3	0
Ana	71	Female	4	4	4	Spanish	3	2
Bianca*	22	Female	22	22	6	Spanish, English	4	1
Mateo	48	Male	37	30	6	Spanish	2	0
Esmeralda	46	Female	21	20	< 1	Spanish, English	2	2
Marcos	56	Male	25	25	14	Spanish	3	3
Cristina	71	Female	34	34	26	Spanish	2	0
Mau Kupoe	40	Female	20	10	2	Karen, English	2	2
Pu Ro	65	Male	12	12	1	Burmese, English	2	0

Note. Participants living at current address for five or more years had plans to move within five years.
*Three individuals were excluded from the final analysis due to residing in the United States since birth.

3.3 ACCESS TO OPPORTUNITY INDEX FINDINGS

Table 3.31 provides an overview of the minimum and maximum index scores for each of the scenarios. Scenario A considers only public transit to access opportunities and results in index scores ranging from 0 to 0.7488. In scenario B, residents rely exclusively on the auto mode to reach opportunities, the block groups experience a greater range of index scores because some block groups have much better or much worse access to all opportunities for auto. This outcome is expected since the auto mode facilitates access to all opportunities within a shorter timeframe.

Scenario C demonstrates the use of the public transit option when both auto and transit modes are available to residents. Notably, the maximum index score for scenario C (0.6675) is lower compared to scenario a, suggesting a decrease in accessibility. Conversely, scenario d depicts the utilization of the auto mode when both mobility options are accessible. In this particular case, the minimum and maximum index scores for scenario d, where both auto and transit options are available, remain relatively similar to those of scenario b, which solely involves the use of the auto mode.

Table 3.31: Minimum and maximum index score in different scenarios

Scenario Name	Number of Block groups	Minimum Index Score	Maximum Index Score
Scenario A) public transportation access to opportunities alone	1328	0.0004	0.88
Scenario B) auto access to opportunities alone	1669	0.00	0.97
Scenario C) public transit access to opportunities using an integrated index across transit and auto values	1328	0.0001	0.86
Scenario D) auto access to opportunities using an integrated index across transit and auto values	1669	0.56	0.98

Figure 3.31 illustrates the access to opportunities indices in Dallas County block groups when transit is the only available option to the users. As depicted, public transit does not
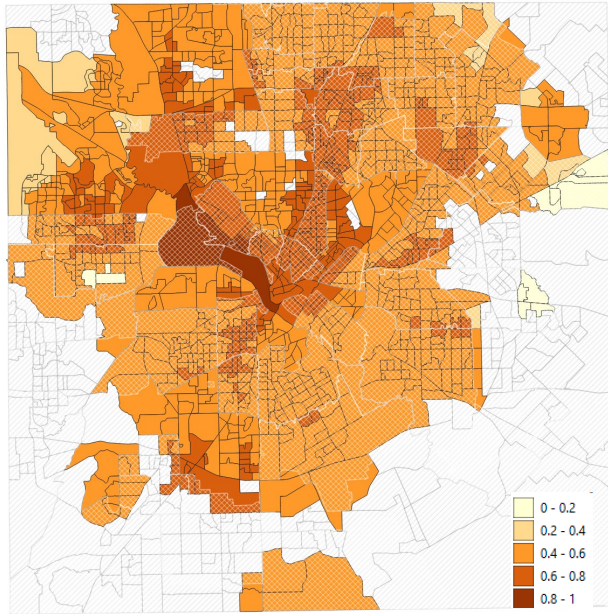

Figure 3.31: Scenario A: Public transportation access to opportunities alone
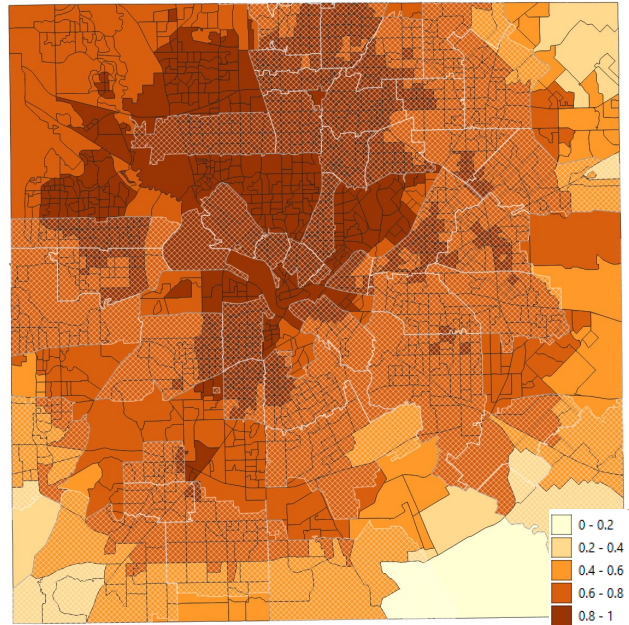

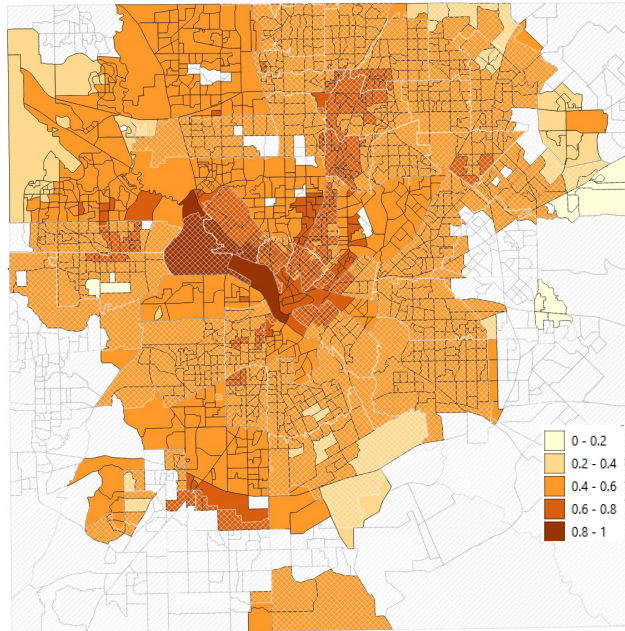Figure 3.32: Scenario B: Auto access to opportunities alone

Figure 3.33: Scenario C: Public transit access to opportunities using an index across transit and auto values
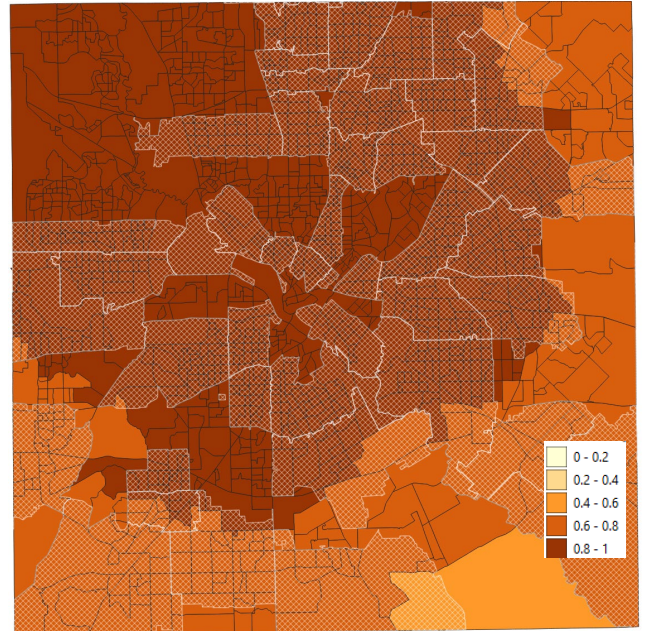

Figure 3.34: Scenario D: Auto access to opportunities using an index across transit and auto values

offer service to approximately 20% of the block groups and higher access to opportunities largely correlate with proximity to light rail lines north of the central business district (CBD) or near the CBD on its southern side. Figure 3.32 illustrates the access to opportunities indices for auto mode. The auto mode offers access to opportunities to all the block groups with higher indices, which means that opportunities can be accessed in less time or more job opportunities can be reached using auto mode, but access appears stronger in north Dallas. In scenario C when both public transit and auto mode option is available to the users (Figure 3.33), the transit index distribution appears similar to scenario 1, but they experience an overall shift to lower values. Figure 3.34 illustrates the indices for auto using an integrated index, where the minimum index score for automobile jumps up to 0.56 from 0 in scenario b, and over eighty-five percent of the counties block groups fall into the topmost category. The results in Table 3.31 and Figures 3.31-3.34 indicate the dominance of the automobile over public transportation for all block groups (even those well served by public transportation) in providing access to opportunities.

Figure 3.35 presents the distribution of index ranges and their corresponding percentages for the four scenarios. The index ranges are uniformly divided into intervals ranging from 0 to 1. In scenario a, most block groups (93.8%) exhibit index scores between 0.4 and 0.7, with approximately half (49.1%) falling within the range of 0.5 to 0.6 and two thirds (67.9%) of the index score are less than 0.6. In scenario b, more than half of the block groups (83.7%) have index scores higher than 0.7, indicating relatively better accessibility overall using automobile. For scenario c, most block groups (94.4%) have index scores ranging from 0.4 to 0.7. Finally in scenario d, 99% of the block groups possess index scores higher than 0.7 and only 1% between 0.5 and 0.7. This supports the previous assertion that the automobile significantly outperforms public transportation in providing access to all opportunities.
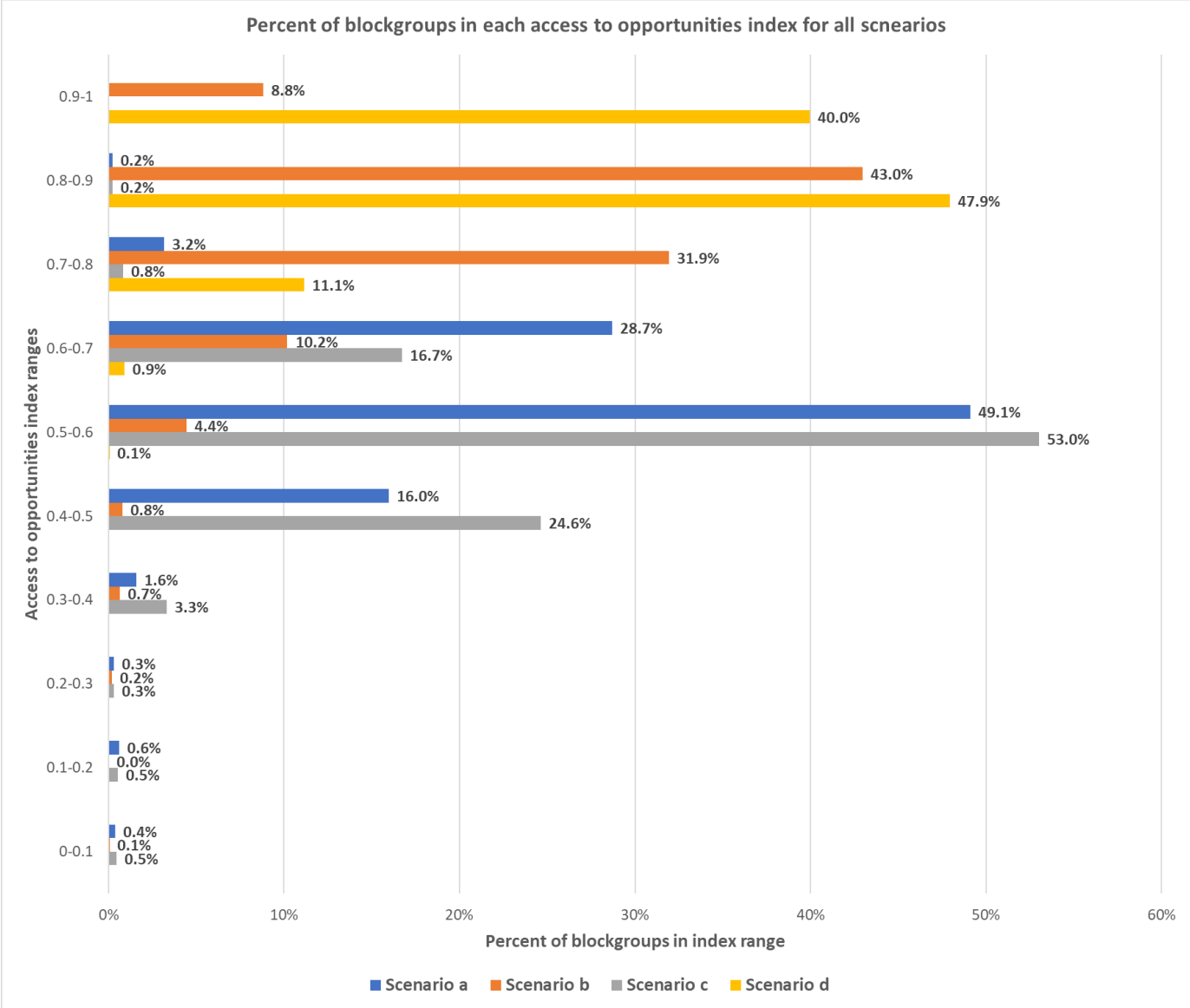
Figure 3.35: Percentages of block groups in each access to opportunities index range for all scenarios

Table 3.32 includes the percentages of block groups in each index range that overlaps with the refugee resident respondents' zip code. Overall, the distribution of percentages of block groups in each index range with refugee residents appears like the overall Dallas County distribution. The refugee population resides in a total of 1026 block groups where transit services are available, and in 1284 block groups where auto mode access exists, which accounts for 77% of all block groups in Dallas County. For scenarios C and D, the percentage of block groups in the best performing categories are lower than those for the entire county. The public transportation percentage for 0.5-0.7 is 67.9% for immigrant block groups and 69.7% for the entire county; the auto percentage for 0.9-1.0 decreases from 40% for the entire county to 32.1% for immigrant

block groups. Overall, the immigrants appear to reside in locations with lower access to opportunities using public transportation and automobile.

Table 3.32: Percentages of block groups in each index range which coincide with refugee residents' zip code

Index Ranges	Transit alone	Auto alone	Integrated Index - Transit	Integrated Index - Auto
0-0.1	6(0.6%)	1(0.1%)	6(0.6%)	-
0.1-0.2	7(0.7%)	0(0%)	7(0.7%)	-
0.2-0.3	2(0.2%)	3(0.2%)	2(0.2%)	-
0.3-0.4	11(1.1%)	7(0.5%)	26(2.5%)	-
0.4-0.5	170(16.6%)	8(0.6%)	278(27.1%)	-
0.5-0.6	523(51.0%)	67(5.2%)	530(51.7%)	1(0.1%)
0.6-0.7	280(27.3%)	148(11.5%)	166(16.2%)	13(1%)
0.7-0.8	24(2.3%)	454(35.4%)	8(0.8%)	167(13%)
0.8-0.9	3(0.3%)	505(39.3%)	3(0.3%)	691(53.8%)
0.9-1	-	91(7.1%)	-	412(32.1%)

4.0 CONCLUSIONS

With this study we investigated community cohesion and social structures on secondary relocation choices among immigrants and refugees, focusing on understanding the challenges these groups face when affordable housing and transportation planning remain uncoordinated. the role of primary and secondary mobility in housing location choices. We designed and implemented a mixed-methods study using an exploratory, sequential design. We administered surveys to 218 adults attending a clinic that serves immigrants and refugees living in or near Dallas County, Texas. A subsample of 32 semi-structured interviews were then conducted among people who identified a recent or upcoming residential relocation and met all other inclusion criteria.

The conventional content analysis identified three themes (and several sub-themes) that added to the existing literature base about how immigrants and refugees find meaning in home, the importance of relational connections related to residential housing location, the importance of spatial comfort both internal to a home and within a neighborhood, and the central import of personal finances that drive many decisions. Finally, we assumed that public transportation would play an important, possibly primary, role in housing location choice, decisions to move, and participant lives in general. However, this research challenged this assumption with public transportation being of consideration among only a *few* participants. DFW public transportation may be inadequate to meet the needs of participants, and this might explain why public transportation remained peripheral to the priorities of many as they made decisions to relocate their homes. The corollary of this observation is that a surprising number of participants prioritized car ownership in limited personal budgets. Also, there was evidence that sharing of transportation resources among household members, family members living outside the household, neighbors, and friends, helped fill any gaps in mobility they experienced.

Proximity to work, family, schools, groceries, and other critical resources were certainly highlighted by participants. Next steps for this team will be to create an integrated access to opportunities index with these data and other publicly available datasets.

This study presented a straightforward methodology for calculating the access to opportunities index. The weights assigned to the attributes analyzed in this study can be modified to align with the priorities of agencies or decision-makers, considering their perception or available information on the impact of these attributes. Moreover, the inclusion of additional attributes, such as access to high-quality or diverse educational institutions, access to legal services, and access to social/immigration services, can further enhance the comprehensiveness of the index. By incorporating these additional attributes, a more comprehensive and holistic assessment of residents' or immigrants' access to opportunities can be obtained, which may provide a broader perspective on the overall landscape of opportunity accessibility.

5.0   RECOMMENDATIONS

The study aimed to investigate the impact of community cohesion and social structures on secondary relocation choices among immigrants and refugees, focusing on understanding the challenges these groups face when affordable housing and transportation planning remain uncoordinated. By examining the role of primary and secondary mobility in housing location choices and developing an integrated access to opportunities index, this research sought to provide insights into how transportation and housing policies can better address the needs of disadvantaged households. In light of these objectives, we offer the following recommendations aimed at improving the coordination and accessibility of housing and transportation options for immigrants and refugees while fostering social cohesion and promoting overall well-being.

9. Enhance Coordination Between Affordable Housing and Transportation Planning

Improving the coordination between housing and transportation agencies is crucial to addressing the transportation needs of immigrants and refugees. This coordination would help ensure affordable housing options in areas with adequate access to public transit, employment, schools, healthcare, and other essential services.

10. Prioritize Neighborhood Safety and Quality of Life

When planning transportation and housing initiatives, it is essential to consider the impacts of neighborhood safety, noise levels, and availability of green spaces on residents' well-being. Developing well-lit pedestrian-friendly streets, implementing traffic-calming measures, and enhancing green spaces and recreational facilities are vital to create a more inclusive and supportive environment for immigrants and refugees. Encouraging mixed-use development and establishing neighborhood watch programs can foster a sense of community and improve neighborhood safety.

11. Improve Access to Employment and Educational Opportunities

Developing and enhancing transportation networks that connect immigrants and refugees to job centers and school is vital in improving access to employment and educational opportunities. Improving access may include expanding public transit routes and frequency, creating more pedestrian and bicycle-friendly infrastructure, and supporting carpooling and rideshare programs.

12. Address Food Deserts and Healthcare Accessibility

Collaborations with local businesses, healthcare providers, and community organizations can improve access to affordable, healthy food options and healthcare services in underserved neighborhoods. These collaborations may involve supporting

the development of full-service grocery stores or farmers' markets and incentivizing healthcare providers to establish clinics in these areas.

13. Enhance Public Transportation Options and Connectivity

Investments in improving the efficiency, reliability, and coverage of public transit systems to serve the needs of immigrants and refugees better can enhance public transportation options and connectivity. These investments may include expanding bus routes, increasing the frequency of service, and improving connectivity with other modes of transportation.

14. Address Affordability and Availability of Suitable Housing Options

Working on expanding the availability of affordable housing options for immigrants and refugees, particularly in areas with access to essential services and opportunities, is critical. This expansion may involve supporting the development of affordable housing projects, implementing rent control policies, offering housing subsidies and assistance programs, and providing channels of recourse for renters dealing with unresponsive property owners who neglect maintenance issues.

15. Expand Research Approaches: Culturally-Informed and Participatory Methodologies

To better understand the location choices of immigrants and refugees, future research could take a more culturally-informed approach that acknowledges the structural and systemic barriers that limit their choices. Rather than assuming that immigrants and refugees choose from a range of options, researchers could explore the broader social and economic forces that shape their location decisions. This exploration could involve partnering with community organizations and leaders to understand better the social and economic conditions that impact the location choices of immigrants and refugees. Additionally, researchers could adopt a more participatory approach, working closely with immigrants and refugees to co-create research questions that reflect their experiences and perspectives. A participatory approach would ensure that the research is culturally responsive and relevant and that the voices and experiences of immigrants and refugees are centered in the research process.

16. Public Health Index Construction

We recommend the development of a Public Health Index by block group, integrated into the Access to Opportunities Index, to better assess the overall health and well-being of different neighborhoods and identify areas that require targeted interventions. This index should consider critical factors such as noise levels, air quality, safety, and the availability of green spaces and opportunities for physical activities. To create the index, data should be collected and analyzed at the block group level, and collaboration with relevant stakeholders, including public health experts, environmental agencies, and community organizations, is essential for developing comprehensive and reliable metrics. Once established, the Public Health Index can guide decision-making

processes in urban planning, housing, and transportation initiatives, prioritizing improvements in areas with lower scores to contribute to more equitable access to healthy living environments for all residents, including immigrants and refugees, and fostering healthier, more resilient communities.

6.0 REFERENCES

Basolo, V., & Yerena, A. (2016). Residential mobility of low-income, subsidized households: A synthesis of explanatory frameworks. *Housing Studies, 32*(6), 841-862. https://doi.org/10.1080/02673037.2016.1240762

Bloem, J. & Loveridge, S. (2018). The costs of secondary migration: Perspectives from local voluntary agencies in the USA. *Journal of International Migration and Integration 19*, 233-251. https://doi.org/10.1007/s12134-018-0538-4

Chakrabarti, S., & Painter, G. (2019). Geographic mobility of recent immigrants and urban transit demand in the U.S.: New evidence and planning implications. *Transportation Research Part A: Policy and Practice, 120*, 71-82. https://doi.org/10.1016/j.tra.2018.12.019

Gehrke, S. R., Currans, K. M., & Clifton, K. J. (2017). Assessing the importance of housing, accessibility, and transportation of characteristics on stated neighbourhood preference. *International Journal of Urban Sciences, 23*(1), 49-66. https://doi.org/10.1080/12265934.2018.1436983

Hsieh, H-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. https://doi.org/10.1177/1049732305276687

Ibrahim, A, & Surya, R.A. (2019). The Implementation of Simple Additive Weighting (SAW) Method in Decision Support System for the Best School Selection in Jambi. *Journal of Physics: Conference Series*. doi:10.1088/1742-6596/1338/1/012054.

Malekzadeh, A., & Chung, E. (2019). A review of transit accessibility models: Challenges in developing transit accessibility models. International Journal of Sustainable Transportation, 1-16. doi:10.1080/15568318.2019.1625087.

Matsuo, M. (2016). Gender differences in mobility of Hispanic immigrants. *Transport Policy*, *52*, 209-230.

Nordberg, A., Davis, J., Mattingly, S. (2021). Optimizing Housing and Service Locations to Provide Mobility to Meet the Mandated Obligations for Former Offenders to Improve Community Health and Safety. Portland, Oregon: Portland State University.

Smart, C., Grimes, A., Townsend, W. (2018). Ethnic and economic determinants of migrant location choice. In: Biagi, B., Faggian, A., Rajbhandari, I., Venhorst, V. (Eds) *New Frontiers in Interregional Migration Research. Advances in Spatial Science*. Springer. https://doi.org/10.1007/978-3-319-75886-2_9

The Urban Institute. (2014). Driving to opportunity: Understanding the links among transportation access, residential outcomes, and economic opportunities for housing voucher recipients. https://bit.ly/3MIaqBB

7.0 APPENDICES

APPENDIX A

University Institutional Review Board Approval

UNIVERSITY OF **TEXAS** ARLINGTON | OFFICE OF RESEARCH ADMINISTRATION
REGULATORY SERVICES

1/28/2022

IRB Approval of Exempt Protocol

PI: Diane Mitschke
Department: Social Work

1.   IRB PROTOCOL #: 2022-0134

Study Title: *Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities*
Exempt Category: 2

2. EFFECTIVE APPROVAL: 1/28/2022

In-person interactions with human subjects must comply with UTA's list of permitted research activities and the related requirements under COVID-19 limitations: https://resources.uta.edu/research/coronavirus/index.php.

Notification of plans to initiate must be provided to (1) your Associate Dean of Research (or Dean in absence of ADR) for college-level/resource considerations and (2) to the IRB via email (regulatoryservices@uta.edu) for tracking purposes.

A. PROTOCOL DETAILS

- Original Protocol Approval Date: 1/28/2022
- Federally Funded: DOT, Mentis BlueSheet #2017-609-S33 ○ Subject to 45 CFR 46.104 (d)(2), Revised 2018
- Continuing Review required: No

The IRB has approved the above referenced submission in accordance with applicable regulations and/or UTA's IRB Standard Operating Procedures.

B. PRINCIPAL INVESTIGATOR AND FACULTY ADVISOR RESPONSIBILITIES

All personnel conducting human subject research must comply with UTA's IRB Standard Operating Procedures and RA-PO4, Statement of Principles and Policies Regarding Human Subjects in Research. Important items for PIs and Faculty Advisors are as follows:

- **Notify Regulatory Services of proposed, new, or changing funding source**
- Fulfill research oversight responsibilities, IV.F and IV.G.
- Obtain approval prior to initiating changes in research or personnel, IX.B.
- Report Serious Adverse Events (SAEs) and Unanticipated Problems (UPs), IX.C.
- Fulfill Continuing Review requirements, if applicable, IX.A.
- Protect human subject data (XV.) and maintain records (XXI.C.).
- Maintain HSP (3 years), GCP (3 years), and RCR (4 years) training as applicable.

APPENDIX B

University-Approved Informed Consents

The University of Texas at Arlington (UTA)

Informed Consent for Minimal Risk Studies with Adults

My name is [Alondra Facudo or Andrea Solis-Trujillo]. I am working with Dr. Diane Mitschke, and I am asking you to participate in a UT Arlington research study titled, "Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities." This research study is about transportation and other factors that are important to you about where you choose to live. You can choose to participate in this research study if you: are at least 18 years old; are an immigrant or refugee, speak English, Spanish, Karen, Burmese, or Rohingyan.

Reasons why you might want to participate in this study include to share your experience as a refugee or immigrant living in the Dallas Fort Worth area, but you might not want to participate if you are uncomfortable sharing your personal experiences with us. Your decision about whether to participate is entirely up to you. If you decide not to be in the study, there won't be any punishment or penalty; whatever your choice, there will be no impact on any benefits or services that you would normally receive. Even if you choose to begin the study, you can also change your mind and quit at any time without any consequences.

If you decide to participate in this research study, I will ask you a few questions about yourself and where you live. It will take less than 15 minutes, and we can go through the questions together right now. Although you probably won't experience any personal benefits from participating, the study activities are not expected to pose any additional risks beyond those that you would normally experience in your regular everyday life or during routine medical / psychological visits.

You will not be paid for completing this study. There are no alternative options to this research project.

The research team is committed to protecting your rights and privacy as a research subject. We may publish or present the results, but your name will not be used. While absolute confidentiality cannot be guaranteed, the research team will make every effort to protect the confidentiality of your records as described here and to the extent permitted by law. If you disclose actual or suspected abuse, neglect, or exploitation of a child, members of the study staff will report the information Child Protective Services, Adult Protective Services, and/or a law enforcement agency. If you have questions about the study, you can ask me now or contact Dr.

Diane Mitschke at dianemitschke@uta.edu or 817-807-1464. For questions about your rights or to report complaints, contact the UTA Research Office at 817-272-3723 or regulatoryservices@uta.edu.

You are indicating your voluntary agreement by checking the box below.

• I agree to participate in the study.

The University of Texas at Arlington (UTA)

Informed Consent for Minimal Risk Studies with Adults

My name is [Alondra Facundo or Andrea Solis-Trujillo]. I am working with Dr. Diane Mitschke, and I am asking you to participate in a UT Arlington research study titled, "Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities." This research study is about transportation and other factors that are important to you about where you choose to live. You can choose to participate in this research study if you: are at least 18 years old, are an immigrant or refugee, speak English, Spanish, Karen, Burmese, or Rohingyan, and have recently moved or plan to move within 6 months of today.

Reasons why you might want to participate in this study include to share your experience as a refugee or immigrant living in the Dallas Fort Worth area, but you might not want to participate if you are uncomfortable sharing your personal experiences with us. Your decision about whether to participate is entirely up to you. If you decide not to be in the study, there won't be any punishment or penalty; whatever your choice, there will be no impact on any benefits or services that you would normally receive. Even if you choose to begin the study, you can also change your mind and quit at any time without any consequences.

If you decide to participate in this research study, you will be interviewed about your recent past or upcoming move. It should take between 30 minutes and 1 hour. Although you probably won't experience any personal benefits from participating, the study activities are not expected to pose any additional risks beyond those that you would normally experience in your regular everyday life or during routine medical / psychological visits.

You will receive a $15 Walmart gift card for participating in this research study, which will be given to you when you complete the interview. There are no alternative options to this research project.

The research team is committed to protecting your rights and privacy as a research subject. We may publish or present the results, but your name will not be used. While absolute confidentiality cannot be guaranteed, the research team will make every effort to protect the confidentiality of your records as described here and to the extent permitted by law. If you disclose actual or suspected abuse, neglect, or exploitation of a child, members of the study staff

will report the information Child Protective Services, Adult Protective Services, and/or a law enforcement agency. If you have questions about the study, you can ask me now or contact Dr. Diane Mitschke at dianemitschke@uta.edu or 817-807-1464. For questions about your rights or to report complaints, contact the UTA Research Office at 817-272-3723 or regulatoryservices@uta.edu.

You are indicating your voluntary agreement to participate by checking the box below.

- I agree to participate in the study.

APPENDIX C

Recruitment Script

Phase 1 Recruitment Script:

"My name is [student name]. I am working with Dr. Diane Mitschke, and I am asking you to participate in a UT Arlington research study titled, "Housing Choice, Transportation Equity, and Access to Opportunities in Refugee and Immigrant Communities."

Participating in this first part of the study just involves answering a few questions about where you live and how you move around. Are you interested in learning more?"

If yes, proceed to consent.
If no, "thank you for your time."

APPENDIX D

Phase I Screening Questions

Phase I: Brief Screening Questions

Note: These questions will be asked immediately following the Part I Screening Consent.

1. What is your age?

2. What is your gender?

3. Which languages are you comfortable speaking?

4. How long have you lived in the United States?

5. How long have you lived in Texas?

6. How many adults and children live in your home with you?

7. How did you travel to the clinic today?

8. What forms of transportation do you use each day? Each week? Each month?

9. How many people accompanied you to the clinic today?

    a. Why did they come with you?

10. What is your current address?

11. How long have you lived at your current address? [Note to intern: If 6 months or less, participant can be included in Phase 2]

12. Are you thinking about moving or planning to move in the next six months? [Note to intern: If answer is affirmative, participant can be included in Phase 2]

Note: If participant is eligible to be included in Phase II, the intern should now introduce the Phase II Consent.

If participant is not eligible to be included in Phase II, the intern should thank the participant for their participation and end Phase I.

APPENDIX E

Phase II Interview Guide

If participant has just moved (interviewer will know before interview begins)...

Q: What was the address that you moved away from?

OR

If participant indicated they will be moving...

Q: What will be your new address?

After asking one of the two mandatory questions above, interviewers will move to a more

openended approach.

Q: Please talk about why you decided to move.

Follow-up questions might include:

You said_____. Please tell me more about that OR can you give me an example of what you

mean?

Such as?

Then, based on the literature and depending on what the participant included in the open-ended

answer, we will probe for some or all of the following topics related to their decision to move:

Timing

Safety

Schools

Transportation

Impact on family

Costs

Healthcare access

Relationship to work

Factors considered when moving

Advantages and disadvantages of relocating

Please note that follow-up questions will be guided by the responses of participants and therefore cannot be entirely predicted in advance.