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Beyond Ramps: Multi-Layered Barriers and Solutions in the Public Transportation Experience of Individuals with Special Needs

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ABSTRACT

Accessibility in contemporary societies is not only the right to reach physical spaces but also a fundamental determinant of individuals' equitable participation in education, employment, health, and social life. This study aims to examine in depth the experiences of individuals with special needs and their parents regarding public transport services, and to present these experiences holistically through an explanatory and supportive perspective from service providers (drivers). The study employed a qualitative case study design. Participants comprised eight individuals from different disability groups, eight parents, and four public transport drivers. Data were collected through semi-structured interviews and analyzed using content analysis, yielding six themes and 14 subthemes. Findings indicate that accessibility is not merely a matter of technical compliance; instead, physical, informational, attitudinal, and psychological dimensions interact to form a complex system. Physical barriers co-occur with inadequacies at the level of stops and sidewalks. In access to information, the absence of voice announcements and visual displays, limited route/route–timetable coverage, and failure to communicate service changes come to the fore. Attitudinal barriers manifest as driver indifference, rudeness, and a lack of empathy, alongside societal insensitivity and disrespect, as well as low awareness. Safety and comfort issues include the risk of injury, inadequate safety equipment, overcrowding, excessive noise and stimuli, and climate control problems. Improving the public transport process requires physical/infrastructural upgrades (vehicle design; stop/sidewalk arrangements), information–technology solutions (audio–visual announcements, mobile applications, accessible wayfinding), driver training, public awareness, and family/individual supports, as well as inspection–sanction mechanisms and targeted special transport services.

Keywords: Individuals with special needs, Public transport, Universal design, Accessibility

INTRODUCTION

Transportation is one of the most important instruments of social integration. Public transport systems, in particular, play a critical role for individuals with special needs because they are cost-effective and serve a broad user base (Lättman, Friman, & Olsson, 2016; Velho vd., 2016). However, research conducted worldwide and in Türkiye indicates that public transport infrastructure and service design are not always inclusive (Darcy & Burke,

2018; Selçuk & Szeri, 2019). Factors such as insufficient ramps, the lack of auditory or visual information, the physical condition of stops, and limited maneuvering space inside vehicles impede physical access. Deficits in access to information and limited societal sensitivity further complicate the process. These conditions directly affect both the frequency and comfort with which individuals with special needs use public transport. While some individuals with disabilities or special needs refrain from traveling independently, others avoid public transportation altogether due to negative experiences (Bezyak, 2017; Mwaka, 2024).

Moreover, the public transport experience of individuals with different types of disabilities diverges markedly. For people with visual impairments, wayfinding, auditory announcements, and access to stops are the most critical issues; for those with hearing impairments, the absence of visual alert systems poses serious problems for communication and safety. Individuals with orthopedic impairments encounter difficulties, especially related to narrow interior spaces, ramp gradients, and sidewalk design; for people with intellectual disabilities, complex route systems or personnel attitudes can heighten anxiety and dependency (Darcy & Burke, 2018; WHO, 2022; ITDP & World Enabled, 2022). Consequently, these needs and barriers, which vary by disability type, necessitate addressing accessible transportation in a multi-layered rather than a one-dimensional manner. Although the challenges faced by people with disabilities differ, the common thread is the coexistence of physical, communicative, and social barriers throughout the access process (Bezyak, 2019; WHO, 2022).

The public transport experience depends not only on an individual's own capacities but also on their interactions with the surrounding environment. In this context, parents or close family members play a vital role in the use of public transport by children and adolescents with special needs (Angell & Solomon, 2018). Studies show that parents often occupy both protective and facilitative roles, yet in the face of negative attitudes encountered on public transport, they frequently experience anxiety and helplessness (Falkmer & Gregersen, 2002; Graham vd., 2014). The stress experienced by families in this process indirectly shapes the child's public transport experience. On the other hand, drivers, another fundamental component of the system hold a decisive role in the accessible transportation chain. Drivers' skills in communicating with people with disabilities, their level of awareness, and their attitudes can directly affect both safety and comfort (Haveman vd., 2013). Some studies indicate that drivers express a willingness to assist passengers with special needs; however, in many cases, they lack the necessary training and information (Tillmann et al., 2013). This, in turn, leads to breakdowns in the person–system interaction.

Public transport is also a public sphere that reflects society's general outlook on individuals with special needs. The literature emphasizes that social attitudes are as determinative as physical accessibility (Deal, 2007; Velho et al., 2016). Behaviors such as stigmatization, intrusive curiosity, pity, or disregard that people with disabilities encounter in public spaces not only negatively affect immediate experience but also undermine their motivation for long-term social participation (Deal, 2007). Studies in the Turkish context likewise indicate that, despite increased awareness regarding disability, an empathy-based societal transformation has yet to fully materialize (Selçuk & Szeri, 2019; Türkiye İnsan Hakları ve Eşitlik Kurumu [TİHEK], 2024). Therefore, the public transport experience can be understood not solely as an infrastructural matter but also as a phenomenon grounded in human relations, communication, and social awareness. In this regard, understanding the specific needs of different disability groups and the diversity of the challenges they face is critically important for developing inclusive transportation policies. For this reason, the topic should be examined holistically to encompass all components of the system, including individuals with special needs, their families, and drivers (Mwaka et al., 2023; Chapman, 2024; Labbé, 2025). The purpose of this study is to conduct an in-depth examination of the experiences of individuals with special needs and their parents regarding public transport services and to present these experiences holistically through an explanatory and supportive approach from the perspective of service providers (drivers). In line with this aim, the main research question addressed is: "What are the experiences of individuals with special needs and their parents regarding public transport systems?" To answer this overarching question, sub-questions were formulated to capture different dimensions of the experience:

1. In what ways do the public transport experiences of individuals with different disability types (intellectual disability, hearing impairment, visual impairment, orthopedic impairment) and those of their parents converge or diverge?
2. What are service providers' (drivers') explanatory and justificatory views regarding the use of public transport by individuals with special needs and their parents?
3. What recommendations for improving public transport services are proposed by individuals with special needs, parents, and service providers?

METHOD

This section outlines the research design, participant group, data collection instruments and setting, data analysis, trustworthiness, and ethics.

Research Design

To examine in depth the public transport experiences of individuals with special needs and their parents and to enrich these accounts with the perspectives of service providers (drivers) the study adopted a qualitative case study design (Creswell & Poth, 2018; Yin, 2018). The primary "case" comprises the experiences of individuals with special needs and their parents regarding public transport systems. To augment and explicate the primary case data, secondary data were collected from public transport service providers (drivers).

Participant Group

Guided by the study's purpose and to capture a wide range of situations within public transport use, maximum variation sampling one of the purposeful sampling strategies was employed (Patton, 2015). The primary case participants consisted of 16 individuals who used public transport: eight with special needs and eight parents. Among the eight individuals with special needs, four disability types were represented intellectual disability, hearing impairment, visual impairment, and orthopedic impairment. For each disability type, two individuals with special needs and their two respective parents participated. In this way, participant diversity was ensured to depict shared aspects within differences across disability-specific public transport experiences. The inclusion criteria for primary case participants were having public transport experience at least once a week and possessing sufficient communicative competence to participate in the interview.

The secondary data source comprised two bus drivers and two minibus drivers who provide public transport services. The rationale for selecting providers from different vehicle types was that users had experience with both modes of transportation. Moreover, because the two modes differ in operational features and physical configurations, it was deemed important to corroborate how such differences shape user experience from the service providers' standpoint. In line with these considerations, inclusion criteria for service providers were at least one year of professional experience and prior experience transporting individuals with special needs. Details regarding all participants involved in the study are provided in Table 1.

Table 1. Participant Information

Participant ID	Gender	Age	Participant Role
Participant 1	Male	21	Intellectual Disability (ID)
Participant 2	Male	13	Intellectual Disability (ID)
Participant 3	Male	19	Hearing Impairment (HI)
Participant 4	Male	24	Hearing Impairment (HI)
Participant 5	Female	25	Visual Impairment (VI)
Participant 6	Male	28	Visual Impairment (VI)
Participant 7	Female	21	Orthopedic Impairment (OI)
Participant 8	Male	24	Orthopedic Impairment (OI)
Participant 9	Male	43	Parent (ID)
Participant 10	Female	41	Parent (ID)
Participant 11	Female	56	Parent (HI)
Participant 12	Female	48	Parent (HI)
Participant 13	Male	50	Parent (VI)
Participant 14	Female	56	Parent (VI)
Participant 15	Female	63	Parent (OI)
Participant 16	Female	57	Parent (OI)
Participant 17	Male	39	Bus Driver
Participant 18	Male	45	Bus Driver
Participant 19	Male	48	Minibus Driver
Participant 20	Male	35	Minibus Driver

Data Collection Instruments and Setting

Data were gathered through semi-structured interviews, which enable the collection of rich, in-depth information (Merriam, 2009). In accordance with the study purpose, separate semi-structured interview forms were prepared for primary case participants and secondary data source participants. For individuals with special needs and their parents in the primary case, the interview topics were held constant, while the address register was adapted. The interview protocol was reviewed by three experts in qualitative research and special education, whose suggestions informed the final version. The language of questions for participants with intellectual disabilities was simplified. For interviews with participants with hearing impairments, a sign language interpreter and the

interviewer conducted the session jointly. The interview questions addressed experiences, problems, and suggestions related to accessibility, communication, and safety.

Interviews were conducted with the participants' permission and were voluntary. Each interview lasted approximately 45 to 60 minutes. Consistent with the nature of qualitative inquiry and the semi-structured format, in addition to predetermined questions, probing questions were asked to elicit further responses, and clarifying questions were posed to ensure an accurate understanding.

To examine the shared context of public transport experiences holistically, the study focused on a single local setting in which all participants used the same city's public transport system. Accordingly, the research was conducted in a metropolitan municipality in Türkiye, where public transport services are under the authority of the local government. Interviews were conducted face-to-face in quiet and calm environments that safeguarded participants' privacy and allowed them to express themselves comfortably, with preference given to locations chosen by the participants.

Data Analysis

The data were analyzed using thematic analysis, a method that systematically examines interview data to identify themes and categories (Braun & Clarke, 2006). The analytical process involved coding the data, generating subthemes and themes from the codes, reviewing the themes, and reporting the findings. To enhance the study's credibility and depth, themes derived from public transport users were related to the secondary data obtained from service providers. Data from driver interviews served as a cross-source of evidence and were integrated under the primary case themes as supportive quotations, rather than being presented as a separate theme.

Data analysis was conducted independently by four researchers, each of whom coded the data separately. The independently generated codes were then compared, with a focus on areas of agreement and divergence. In cases of discrepancies, the relevant themes and illustrative quotations were reviewed jointly to ensure semantic coherence; the process concluded when a shared understanding was reached.

Trustworthiness

To enhance rigor in qualitative research, procedures were implemented to address the criteria of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Accordingly, data were obtained from different groups individuals with special needs, parents, and service providers thereby ensuring data triangulation. Experiences in public transport were examined in depth from multiple perspectives to strengthen both diversity and consistency. A multiple-coder approach was adopted during analysis to promote dependability and the objectivity of interpretations. Additionally, the contextual characteristics of different disability types and participants' statements regarding their public transport experiences were presented within themes through embedded quotations and researchers' interpretations, thereby conveying thematic depth and contextual meaning. Archiving data records, documenting the data collection process, and maintaining researcher journals to record researchers' roles during collection and analysis helped to safeguard data-grounded interpretations.

Ethics

Ethical approval was obtained to protect participant rights throughout the research process (Ethics Committee Approval No: … / Date: …). Participants were informed in detail about the study's purpose, procedures, and confidentiality protocols, and participation was entirely voluntary. Before interviews, informed consent forms were signed, and participants' identities were kept confidential. To preserve confidentiality, pseudonyms were used in the report, including for direct quotations. During interviews with individuals who have hearing impairments, intellectual disabilities, and visual impairments, accommodation was made in accordance with the principle of accessibility.

FINDINGS

To identify the public transport experiences of individuals with special needs, semi-structured interviews with 20 participants were analyzed using content analysis. The analysis yielded six themes, 14 subthemes, and 43 codes regarding public transport experiences. The themes and subthemes are presented in Table 2. The following sections detail the findings for each theme in sequence.

Table 2. Themes and Subthemes

Theme	Subthemes
Accessibility Barriers	Vehicle Accessibility
	Stop and Built-Environment Accessibility
Information and Access	Information Access Barriers

	Communication Barriers
Attitudes and Awareness	Driver Attitudes
	Societal Attitudes
Safety and Comfort	Travel Safety
	Comfort
Psychological Impacts	Emotional Experiences
	Independence and Social Participation
Recommendations for Improvement	Physical Accessibility and Infrastructure
	Information and Technology Solutions
	Training and Awareness Initiatives
	Policy and Administrative Measures

Accessibility Problems

The first theme concerns the accessibility problems encountered by individuals with special needs during public transport. Data under the Accessibility theme were grouped into two subthemes: vehicle accessibility and stop-and-environment accessibility. Codes under vehicle accessibility included high steps, lack of ramps, insufficient wheelchair space, and narrow doors and entrances. Under stop-and-environment accessibility, the codes included non-accessible stops and sidewalks, a lack of tactile paving, inadequate auditory cues, and issues with lighting and visibility. Participant views on accessibility problems are summarized in Table 3.

Table 3. Accessibility Barriers

Subtheme	Code	f
Vehicle Accessibility	High Steps	6
	Lack of Ramps	8
	Insufficient Wheelchair Space	3
	Narrow Doors and Entrances	4
Stop and Built-Environment Accessibility	Inaccessible Stops and Sidewalks	10
	Lack of Tactile Guidance Paths	5
	Lack of Audible Announcements	7
	Poor Lighting and Visibility	3

Regarding high steps a recurrent problem within vehicle accessibility Participant 7 stated, "Sometimes I really do not want to board. About half of the buses are new and have slightly lower entry steps, but most are old, so the steps are high. Then I have to ask people for help. Some stare or sigh in annoyance. It is disturbing there are times I do not board." Participant 13 described a similar difficulty: "We cannot get on because of the step. My child has grown before, I could lift and carry them on, but now, in adolescence, it is not easy to lift. Moreover, why should we be forced into this? Is it so hard to install something that folds down?"

On the frequently mentioned lack of ramps, Participant 8, who has an orthopedic impairment, shared: "It is 2025, and I still cannot ride the municipal bus because there is no ramp. Tell me, what am I supposed to do to get the wheelchair up there? Some drivers do not even stop." Concerning insufficient wheelchair space, Participant 7 noted: "I try to catch the few new buses. Even then, when I get on, I have to hunt for a corner. Either there is no designated space for wheelchairs, or it is crowded, and I am unable to access it. Then I struggle the whole ride to stay steady." Another frequently cited issue was the narrowness of doors and entrances. Participant 5 explained: "I do not use minibuses at all. Buses are one thing, but minibus doors are extremely narrow. How am I supposed to pass through? They are also trying to come and go quickly. As if my difficulty were not enough, I get stressed on top of it. It should not be this hard."

Within the second subtheme, stop-and-environment accessibility, participants focused heavily on non-accessible stops and sidewalks. Participant 6 shared: "On the way to the stop, there is Nothing on the sidewalk to guide me. Moreover, there are obstacles everywhere. With my cane, I try to reach the stop while getting past cars parked on the sidewalk. Sometimes someone happens to come by and guides me." Participant 17 supported this point: "First of all, the stop is not suitable. Telecoms and other companies continue to dig everywhere. It is like a field I cannot walk properly; how can a customer? Moreover, some of our friends are in wheelchairs how will they get there?"

On the lack of tactile paving, Participant 12 said: "My daughter can move about independently we received training but there is no tactile surface on the sidewalk. How is she supposed to navigate? So I cannot leave her on her own; I am always by her side." Regarding the lack of auditory cues, Participant 5 noted: "I have to stop every bus and ask. I am about ninety percent blind; the numbers are tiny, and there is no system announcing which bus is arriving." Participant 20 highlighted lighting and visibility: "Some stops have no lights; others have broken ones. You cannot tell whether anyone is waiting at the stop."

Information and Access

The second theme, Information and Access, comprises two subthemes: problems in accessing information and communication problems. Under 'Access to Information', the codes included a lack of voice announcements, a lack of visual information, and route/schedule issues. Under 'Communication Problems', the codes included a lack of sign language and language support, as well as an inability to obtain information on changes. Participant views on this theme are presented in Table 4.

Table 4. Information and Access

Subtheme	Code	f
Information Access Barriers	Lack of Audible Announcements	8
	Lack of Visual Information/Signage	6
	Route and Schedule Information Issues	9
Communication Barriers	Sign Language and Language Support Issues	3
	Lack of Access to Service-Change Updates	7

On the lack of voice announcements the first code under access to information Participant 5 stated: "I have to stay alert all the time. Even if I manage to board, there is nowhere that announces which stop we are at, where we will go next, or where I should get off." Participant 4 emphasized the lack of visual information: "Is it really that hard to put a screen at the stop and in the bus? We should be able to track our progress. Alternatively, at least see how many minutes away the bus is these should not be difficult anymore." Participant 15 described route and schedule issues: "Why doesn't the municipal bus go everywhere in the city? For my child to get to work, they have to transfer from a bus to a minibus, and even then still walk. I am constantly worried did they have any trouble today?"

Under communication problems, Participant 10 underscored the need for sign language and language support: "My child can only communicate using sign language. We have lived in multiple cities due to my spouse's work. Not once did we encounter a bus driver who knew sign language." Participant 4 described difficulties obtaining change-related information: "Sometimes I have to go somewhere new, not my usual route. I check online say I need the number 3. The bus does not go where I am going; it goes another way. Turns out there was roadwork. Why don't you post this? I end up walking a long way."

Attitudes and Awareness

The third theme, Attitudes and Awareness, includes two subthemes: driver attitudes and societal attitudes. Codes for driver attitudes were indifference, rude behavior, and lack of empathy. Codes for societal attitudes were insensitivity and disrespect, helpfulness, and lack of awareness. Participants' views on these subthemes and codes are provided in Table 5.

Table 5. Attitudes and Awareness

Alt Tema	Code	f
Driver Attitudes	Indifference	11
	Rude Behavior	7
	Lack of Empathy	8
Societal Attitudes	Insensitivity and Disrespect	14
	Helpfulness	9
	Lack of Awareness	7

Participants frequently reported driver indifference. Participant 11 shared: "The driver does not care. I ask for help because I cannot lift my child alone; he stares at my face as if to say, 'What do you want me to do?' A university student was there thankfully, he helped." Participant 7 added: "I asked the driver to clear the space reserved for wheelchairs. I need to be there to stay steady. He says, 'What can I do?' You are the driver who else should I ask?"

Regarding rude behavior, Participant 15 explained: "My child is autistic; I cannot make him do everything instantly. We were trying to board the minibus, but it took a bit because he did not want to get on at first. The driver shouted from inside, 'Are we going to wait for you all day?' They do not treat us like people." Participant 9 pointed to a lack of empathy: "We barely got on the minibus, and immediately he pressured us to move to the back. He saw how hard it was for us to board can't he put himself in my place? What would it cost to wait just a moment?"

Under societal attitudes, insensitivity and disrespect featured prominently. Participant 6 recounted: "I was trying to get off the minibus no one helps anyway. A man kept forcing his way on. I could not take it and shouted,

'Let me get off, then you can board!' You see the cane please, wait a little." Still, helpfulness also appeared in accounts. Participant 19 noted: "Yes, we have talked about the problems, but that is not the whole story. I also witnessed many helpful passengers. We meet them at stops and they help when boarding or alighting." Participant 12 emphasized a lack of awareness: "No one shows understanding. They turn their heads when they see us. My child does not have a contagious illness. Some act like we are going to harm them."

Safety and Comfort

The Safety and Comfort theme comprises the subthemes of travel safety and comfort. Under travel safety, the leading codes were risk of injury, lack of safety equipment, and fear of getting lost. Under comfort, the codes coalesced around overcrowding and physical difficulty, noise and excessive stimuli, and climate-control problems. Frequencies for participant views within this theme are shown in Table 6.

Table 6. Safety and Comfort

Subtheme	Code	**f**
Travel Safety	Risk of Injury	7
	Lack of Safety Features/Equipment	5
	Fear of Getting Lost	2
Comfort	Overcrowding and Physical Strain	8
	Noise and Excessive Stimuli	4
	Climate Control Issues	4

For travel safety, participants most often highlighted the risk of injury. Participant 3 described: "He stopped in such a place that, once I got off, either a car would hit me or I would fall into a pothole. Where I stepped was a half-flooded pit when I stepped in, I fell. Thank goodness no car was coming. He did not even get out to ask if I was okay. They forget they are transporting people. If a car had come, what would have happened? Who would answer for it?" On the lack of safety equipment, Participant 10 shared: "They push everything to take three extra passengers. There is nowhere to hold on. Should I hold my child or try not to fall myself? There needs to be a limit."

Regarding comfort, participants stressed overcrowding and physical strain. Participant 8 said: "They take so many passengers that I would have to sit with my wheelchair in my lap if they were not embarrassed. Why isn't there a strict limit? If a private car did this, it would be stopped and fined. However, on buses or minibuses, it is normal because they carry people, right? 'There is no room.' Then why take more?" Participant 12 added: "There are no limits for them they try to fill every gap with another person. We get stuck in a corner if we can even find one." Participant 15 discussed noise and excessive stimuli: "When it gets too noisy, my child can have a meltdown. I try to travel at quieter times for this reason, but it is always crowded whenever we ride. The minibus plays whatever music the driver wants, and they scramble to pick up even more passengers. Then, when my child has a meltdown, we are in a tough situation." Participant 3 highlighted climate-control issues: "Just last month, on a very hot day, the driver did not turn on the AC to save a few pennies. He opened the windows, but the air was already hot. We are forced to ride with the sweat of so many people."

Psychological Effects

Content analysis grouped the Psychological Effects theme into two subthemes: emotional experiences and independence and social participation. Under emotional experiences, the codes were stress and anger, anxiety and fear, and feelings of embarrassment and shyness. Under independence and social participation, the codes were needed for a companion, restricted independent mobility, and decreased social participation. Frequencies for participant views by code appear in Table 7.

Table 7. Psychological Effects

Alt Tema	**Code**	**f**
Emotional Experiences	Stress and Anger	6
	Embarrassment and Shyness	3
	Anxiety and Fear	4
Independence and Social Participation	Need for a Companion/Caregiver	9
	Restricted Independent Mobility	5
	Reduced Social Participation	4

Stress and anger dominated participants' emotional experiences related to public transportation. Participant 6 explained: "I get angry, inevitably. I am just trying to go downtown, but I have to brace myself for a host of

problems. These issues have become normalized for people. However, they are not normal for me." On embarrassment and shyness, Participant 14 shared: "Honestly, I do not want to go out unless it is essential. And if my daughter does not have to come, I will not take her. People's ridiculous looks are really hurtful. No one understands anyone in this country."

Regarding anxiety and fear, Participant 9 said: "I cannot be sure. Nothing will happen to him. I still cannot send him alone, even at his age. We see things on TV every day. Who can guarantee my child will go and return without any problems?"

Under independence and social participation, the need for a companion was a prominent feature. Participant 19 remarked: "There is no other staff on the bus just me. People can help, but during off-peak hours, there are not many around. I cannot manage everyone; I think a family member should accompany them." Participant 16 added, "I cannot send my child alone in this country. It is already obvious what the situation is. If only the bus or minibus worked without issues with staff or screens, say. However, that is not the case, and I do not think it will be." Participant 8, speaking to restricted independent mobility among individuals with orthopedic impairments, said: "Nothing is as people say. Everyone claims to understand us in words. Let them spend a day in a wheelchair. Doing everything alone is incredibly hard." On decreased social participation, Participant 9 shared: "I no longer want to be out in society neither with my child nor by myself. I am truly tired of people. No one understands."

RECOMMENDATIONS FOR IMPROVEMENT

The theme of Recommendations for Improvement is extensive, encompassing subthemes such as physical accessibility and infrastructure, information and technological solutions, training and awareness-raising activities, and policy and administrative regulations. Participants' proposals for improving physical accessibility and infrastructure focused on vehicle design enhancements, adjustments to stops and sidewalks, and upgrades to in-vehicle equipment. The Information and Technological Solutions subtheme encompassed the use of audio and visual announcement systems, mobile applications, and information signage. The Training and Awareness subtheme included codes on driver training, public awareness campaigns, and support for families and individuals. The Policy and Administrative Regulations subtheme highlighted enforcement and sanctions, as well as codes related to special transportation services. Frequencies for participants' improvement proposals are presented in Table 8.

Table 8. Recommendations for Improvement

Subtheme	Code	f
Physical Accessibility and Infrastructure	Vehicle Design Improvements	6
	Stop and Sidewalk Improvements	3
	Onboard Equipment Upgrades	5
Information and Technology Solutions	Audible and Visual Announcement Systems	7
	Mobile Applications	6
	Information Signage	4
Training and Awareness Initiatives	Driver Training	10
	Public Awareness Campaigns	7
	Support Services for Individuals and Families	3
Policy and Administrative Measures	Oversight and Enforcement	12
	Specialized Transportation Services	3

Regarding physical accessibility and infrastructure, many participants emphasized the need for improvements in vehicle design. Participant 19 stated: "Ramps and folding steps should be standard in vehicles, but there should also be tax incentives. Otherwise, we clash with citizens these are not cheap." Participant 13 stressed the need for better stops and sidewalks: "The road to the stop, its surroundings, and the stop itself should be proper. It is not that hard just lay those tactile tiles. Moreover, properly patch the asphalt they cut. The minibus is a struggle on its own, and the stop is another struggle." On in-vehicle equipment, Participant 7 underscored the importance of securement systems: "Minibuses have none of it. Some buses have flooring where I can secure my wheelchair, so people cannot push me into a corner that is all they need to build. Of course, they need to install a ramp first."

In the domain of information and technological solutions, participants most frequently called for audio and visual announcement systems. Participant 12 noted: "Even though my child can see very little, he can hear. If arriving and upcoming stops were announced or if, at the stop, the bus number and destination were announced he could travel independently much more easily." Participant 20 advocated for mobile applications: "Some

municipalities have started doing this. Almost everyone has a smartphone they can build an app. Buses can even be tracked, since vehicles already have tracking systems." Regarding information signage, Participant 5 suggested: "We read Braille. Why isn't it on the stops? Not on the seating area, but on the side they could write the bus or minibus number and where it goes; that would make things much easier."

During training and awareness sessions, both drivers and other participants emphasized the importance of driver training. Participant 18 said, "I do not know what to do with a child in that situation. The municipality could train us. Otherwise, we grope in the dark, trying to do something or we ask what to do but when we encounter a situation for the first time, it is hard for us too." Participant X supported this: "Drivers need to be taught how to behave with these children. Maybe they do not know; maybe they do not mean harm I do not know. But after training, you can ask, 'Why did you act like that?'" Participants also called for public awareness campaigns to reduce negative societal experiences. Participant 9 stressed: "It is hard to 'fix' society, but we need campaigns to help people understand us. Ministries or local governments should increase awareness."

Finally, participants emphasized the need for policy and administrative regulations to enhance public transportation experiences. The most frequent recommendation concerned increasing inspections and imposing sanctions for recurring problems. Participant 6 emphasized: "They see what we go through, but they do not care. Why aren't minibuses fined for taking too many passengers? If they issued regular fines, would they continue to do so? Of course not. However, they are not inspected." Participant 11 added: "At the very least, the municipality should provide separate transportation for special children. Buses and minibuses don't work there are a million problems. However, they remember us only at election time when they want votes."

DISCUSSION

This study set out to examine in depth the public transport experiences of individuals with special needs, the multilayered barriers they face, and their proposed solutions through three core stakeholder groups (individuals, parents, and drivers). The findings clearly demonstrate that accessibility is not merely a matter of technical compliance; rather, it is a complex system that interweaves physical, informational, attitudinal, and psychological dimensions, directly shaping social participation. In this section, the six main themes that emerged (Accessibility Problems, Information and Access, Attitudes and Awareness, Safety and Comfort, Psychological Effects, Recommendations for Improvement) are interpreted in light of the United Nations Convention on the Rights of Persons with Disabilities (BM-EHS, 2006) and the relevant literature. The theoretical and practical implications are discussed, followed by an examination of limitations and directions for future research.

The most salient result is that physical accessibility remains the most basic and prevalent barrier. Participants' emphasis on "high steps," "lack of ramps," and "insufficient wheelchair space" reveals how far the current public transport fleet falls short of universal design principles. This aligns strongly with Darcy & Burke's (2018) account of why persons with disabilities tend to rely on private vehicles. Likewise, "non-accessible stops and sidewalks" and "lack of tactile paving" emerge as the most concrete obstacles to the BM-EHS's (2006) guaranteed right to "independent living and full participation in society," simultaneously signaling infrastructural shortcomings in the Turkish context (Selçuk & Szeri, 2019; TİHEK, 2024).

A closely connected, critical theme concerns access to information. The "lack of voice announcements" and "lack of visual information" render the planning and execution of journeys highly demanding and dependency-inducing for individuals with visual or hearing impairments. This finding reinforces the emphasis on "access to information" in WHO's (2022) definition of accessibility. It aligns with the ITDP & World Enabled (2022) report, which highlights the distinct needs of different disability groups. In addition, "route and schedule issues" together with "inability to obtain change-related information" indicate a system that lacks flexibility and a user-centered service ethos. Overlooking the fact that public transport is not only a "transport" system but also an "information" system has tangible consequences.

Perhaps the most wounding and deeply penetrating dimension of accessibility, as evidenced in this study, lies in attitudinal barriers. Within "driver attitudes," the prominence of "indifference," "rude behavior," and "lack of empathy" goes beyond Tillmann vd.'s (2013) observations on drivers' training deficits, pointing to a more systemic desensitization and professional burnout. Participant accounts suggest that some drivers perceive passengers with special needs as a "burden" or a "cause of delay." Even more striking is the "insensitivity and disrespect" code of highest frequency within "societal attitudes." Difficulties caused by fellow passengers who ignore white canes during boarding/alighting or who display "intrusive curiosity" and "pitying" looks map directly onto Deal's (2007) notion of "aversive disablism (aversive engellilik)." As Velho vd. (2016) underscores that such subtle yet injurious attitudes can lead to social exclusion that surpasses physical barriers, compounding individuals' struggles to legitimate their presence in public spaces. These findings reinforce the notion that, despite increasing disability awareness in Türkiye, an empathy-based social transformation remains incomplete (Selçuk & Szeri, 2019; TİHEK, 2024).

The inevitable outcome of physical, informational, and attitudinal barriers is profound psychological impact and curtailed social participation. The emotions of "stress and anger," "anxiety and fear," and especially "embarrassment and shyness" illustrate the heavy burden public transport places on mental well-being. Extending Angell & Solomon's (2018) work on parental anxiety, the present findings show that individuals themselves experience similar, and sometimes even more intense, psychological difficulties. This psychological load directly impacts one's social standing. The high frequency of "need for a companion" and of "restricted independent mobility" severely undermines autonomy; "decreased social participation," in turn, points to social exclusion as the ultimate and most painful consequence of transport inaccessibility, as highlighted by Bascom & Christensen (2017) (see also Allen & Farber, 2020; Lucas, 2012). Individuals who cannot travel independently are deprived of opportunities for education, employment, and socialization risking entrapment in cycles of poverty and isolation (Allen & Farber, 2020; Lucas, 2012). At this juncture, the truth reasserts itself: accessible transport is not a "cost" but an "investment."

Participants' "recommendations for improvement" present a comprehensive, interconnected action agenda commensurate with the problem's multidimensional nature. While proposals address technical infrastructure (e.g., vehicle design enhancements, mobile applications), they primarily focus on the human factor and governance. "Driver training" and "inspection and sanctions" receive the most significant emphasis, reflecting that the core problem centers on a lack of training and lax enforcement of rules. Participants are not only asking for ramps; they are also calling for driver training in ramp use and sanctions for drivers who fail to use them. This demand echoes the dignity-based, equitable service ethos emphasized by Mwaka vd. (2024) and Chapman (2024). Moreover, the call for "public awareness campaigns" reflects an understanding that responsibility for change does not rest solely with the state and service providers but with society as a whole.

This study confirms the inadequacy of approaches that treat accessible transport solely as an engineering matter. The findings support socio-ecological models (WHO, 2022; Mwaka et al., 2024) that conceptualize accessibility holistically across physical, informational, attitudinal, and psychological dimensions and endorse multi-stakeholder analyses (Labbé et al., 2025). Practically, they indicate that short-term, people-centered interventions especially driver training and robust inspection mechanisms must proceed in tandem with long-term infrastructure investments.

Like any study, this research has its limitations. By design, it does not aim for statistical generalizability; the participant pool is therefore relatively limited. Future research could test these findings using quantitative methods in larger samples, focus on the professional challenges faced by drivers, or evaluate the effectiveness of specific accessibility interventions (e.g., new vehicle designs or training programs) using experimental designs.

CONCLUSION

This research demonstrates that, for individuals with special needs, public transport is far from a simple matter of "moving from point A to point B." Rather, it is a nexus of processes that begin with physical barriers, are compounded by informational deficits, become traumatizing through negative attitudes, and ultimately exert profound effects on psychological resilience and social participation. Participants' voices reiterate that accessible transport is not a "privilege" but a fundamental human right integral to independence, dignity, and equal participation in social life (BM-EHS, 2006). Solutions lie not only in technical adjustments but also in transforming social mindsets, building compassionate and professional service cultures, and, crucially, enforcing existing regulations effectively. A truly inclusive public transport system can exist only when the needs, concerns, and recommendations of every user are placed at the heart of policy and practice.

REFERENCES

Allen, J., & Farber, S. (2020). Planning transport for social inclusion: An accessibility-activity participation approach. *Transportation Research Part D: Transport and Environment, 80,* 102212. https://doi.org/10.1016/j.trd.2019.102212

Angell, A. M., & Solomon, O. (2018). Understanding parents' concerns about their children with autism taking public school transportation in Los Angeles County. *Autism, 22*(4), 401–413. https://doi.org/10.1177/1362361316680182

Bascom, G., & Christensen, K. M. (2017). *The impacts of limited transportation access on persons with disabilities' social participation*. Disability and Health Journal, 10(3), 356–361. https://doi.org/10.1016/j.dhjo.2016.12.007

Bezyak, J. L., Sabella, S. A., & Gattis, R. H. (2017). Public Transportation: An Investigation of Barriers for People With Disabilities. *Journal of Disability Policy Studies*, *28*(1), 52-60. https://doi.org/10.1177/1044207317702070

Bezyak, J. L., Sabella, S. A., & Tullis, S. (2019). *Community participation and public transportation barriers experienced by people with disabilities*. Disability & Rehabilitation, 41(16), 1907-1916. https://doi.org/10.1080/09638288.2019.1590469

Birleşmiş Milletler. (2006). *Engelli Haklarına İlişkin Sözleşme*. New York: Birleşmiş Milletler. https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Chapman, K. (2024). The dignity experience of people with disability when using public transport. *Disability & Society, 39*(2), 228–247. https://doi.org/10.1080/09687599.2023.2203307

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4. baskı). Sage Publications. ISBN: 978-1506330204.

Darcy, S., & Burke, P. F. (2018). *On the road again: The barriers and benefits of automobility for people with disability*. *Transportation Research Part A: Policy and Practice, 107*, 229–245. https://doi.org/10.1016/j.tra.2017.11.002

Deal, M. (2007). Aversive disablism: Subtle prejudice toward disabled people. *Disability & Society, 22*(1), 93–107. https://doi.org/10.1080/09687590601056667

Falkmer, T., & Gregersen, N. P. (2002). Perceived risk among parents concerning the travel situation for children with disabilities. *Accident Analysis & Prevention, 34*(4), 553–562. https://doi.org/10.1016/S0001-4575(01)00053-7

Graham, B. C., Keys, C. B., McMahon, S. D., & Brubacher, M. R. (2014). Transportation challenges for urban students with disabilities: Parent perspectives. *Journal of Prevention & Intervention in the Community*, *42*(1), 45–57. https://doi.org/10.1080/10852352.2014.855058

Haveman, M., Tillmann, V., Stöppler, R., Kvas, Š., & Monninger, D. (2013). Mobility and public transport use abilities of children and young adults with intellectual disabilities: Results from the 3-year Nordhorn public transportation intervention study. *Journal of Policy and Practice in Intellectual Disabilities, 10*(4), 289–299. https://doi.org/10.1111/jppi.12059

Institute for Transportation and Development Policy, & World Enabled. (2022). *Access and persons with disabilities in urban areas* [Report]. https://itdp.org/wp-content/uploads/2022/02/Full-Report-jun21.pdf

Labbé, D., Yao, D. P., Scales, T., McCain, H., Miller, W. C., & Mortenson, W. B. (2025). Inclusion of People With Disabilities in Public Transportation: A Case-Study Analysis of Canada and U.S. Policies. *Journal of Disability Policy Studies*, *0*(0). https://doi.org/10.1177/10442073251370266

Lättman, K., Friman, M., & Olsson, L. E. (2016). Perceived accessibility of public transport as a potential indicator of social inclusion. *Social Inclusion, 4*(3), 36-45. https://doi.org/10.17645/si.v4i3.481

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications. ISBN 978-0803924314.

Lucas, K. (2012). *Transport and social exclusion: Where are we now?* Transport Policy, 20, 105–113. https://doi.org/10.1016/j.tranpol.2012.01.013

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation* (3.th Eds.). Jossey-Bass. ISBN 978-0-470-28354-7.

Mwaka, N. (2023). *Public transport accessibility for people with disabilities*. International Journal of Environmental Research and Public Health, 20(8), 6257. https://doi.org/10.3390/ijerph20086257

Mwaka, C. R., Best, K. L., Gamache, S., Gagnon, M., & Routhier, F. (2023). Public transport accessibility for people with disabilities: Protocol for a scoping review. *JMIR Research Protocols, 12*, e43188. https://doi.org/10.2196/43188

Mwaka, C. R., Best, K. L., Cunningham, C., Gagnon, M., & Routhier, F. (2024). *Barriers and facilitators of public transport use among people with disabilities: A scoping review*. *Frontiers in Rehabilitation Sciences, 4*, 1336514. https://doi.org/10.3389/fresc.2023.1336514

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4. baskı). SAGE Publications. ISBN 978-1412972123.

Selçuk, İ. A., & Szeri, R. (2019). Equity, accessibility and public transportation. *İdealkent, 10*(28), 1207–1229. https://doi.org/10.31198/idealkent.519139

Tillmann, V., Haveman, M., Stöppler, R., Kvas, Š., & Monninger, D. (2013). Public bus drivers and social inclusion: Evaluation of their knowledge and attitudes toward people with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 10*(4), 307-313. https://doi.org/10.1111/jppi.12057

Türkiye İnsan Hakları ve Eşitlik Kurumu (TİHEK). (2024). *Report on the problems faced by disabled individuals in accessing transportation services (accessibility of transportation services* [Report]. https://www.tihek.gov.tr/public/editor/uploads/zBgQCXQm.pdf

Velho, R., Holloway, C., Symonds, A., & Balmer, B. (2016). The effect of transport accessibility on the social inclusion of wheelchair users: A mixed method analysis. *Social Inclusion, 4*(3), 24–35. https://doi.org/10.17645/si.v4i3.484

World Health Organization (WHO). (2022). *World report on health equity for persons with disabilities*. World Health Organization. https://www.who.int/publications/i/item/9789240067512

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th Eds.). Sage Publications. ISBN: 978-1506336169.

