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Environmental Scan of Community Transit Needs in Massachusetts

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16. Abstract This report presents findings from the <i>Environmental Scan of Community Transit Needs in Massachusetts</i> , conducted for the Massachusetts Department of Transportation (MassDOT) Research Program. The study provides a statewide assessment of community transportation needs and mobility challenges across Massachusetts. The project included a structured environmental scan and qualitative review of 216 transportation-related reports, coordinated plans, community assessments, and gray literature sources from Regional Transit Authorities (RTAs), Aging Services Access Points (ASAPs), Councils on Aging (COAs), Community Health Needs Assessments (CHNAs), and other state and community organizations. Using a thematic coding framework, the study identified recurring transportation barriers across transportation modes, geographic regions, and population groups. Findings indicate that transportation challenges are best understood not as isolated modal deficiencies, but as interconnected mobility limitations shaped by the interaction between individual capacity, community environments, and transportation system design. Key barriers included fragmented transportation systems, limited service flexibility, inaccessible pedestrian infrastructure, first- and last-mile challenges, affordability concerns, and difficulties coordinating trips across providers and service boundaries. The report concludes that improving mobility for older adults and people with disabilities will require greater coordination, accessibility, flexibility, and more consistent statewide transportation data collection and evaluation.		

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Environmental Scan of Community Transit Needs in Massachusetts

Final Report

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Disclaimer

The contents of this report reflect the views of the author(s), who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Massachusetts Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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Executive Summary

This study of Environmental Scan of Community Transit Needs in Massachusetts was undertaken as part of the Massachusetts Department of Transportation (MassDOT) Research Program. This program is funded with Federal Highway Administration (FHWA) State Planning and Research (SPR) funds. Through this program, applied research is conducted on topics of importance to the Commonwealth of Massachusetts transportation agencies.

The project provides a statewide assessment of community transportation needs, barriers, and mobility gaps affecting residents across Massachusetts, particularly older adults, people with disabilities, low-income populations, and individuals with limited or no access to personal vehicles. Community transportation plays a critical role in supporting access to healthcare, employment, food, social participation, caregiving, and independent living. However, the presence of transportation services does not necessarily mean that individuals are able to complete trips reliably, safely, or practically. Across many communities, barriers emerge throughout the trip-making process, including difficulties reaching services, coordinating schedules, navigating fragmented systems, and traveling across service boundaries.

To better understand these challenges, the research team conducted a statewide environmental scan and gray literature review of transportation-related needs assessments, planning documents, and community reports across Massachusetts. The final review included 216 reports and related documents from Regional Transit Authorities (RTAs), Aging Services Access Points (ASAPs), Community Health Needs Assessments (CHNAs), MassDOT and MBTA reports, coordinated human services transportation plans, Community Transit Grant Program (CTGP) materials, and community-based assessments.

Using a structured qualitative coding framework, the study identified 880 transportation-related thematic excerpts across twelve transportation themes and 1,439 mode-specific excerpts across eleven transportation modes. The findings indicate that transportation barriers across Massachusetts are best understood not as isolated modal issues, but as multi-level mobility challenges shaped by the interaction between individual capacity, community environments, and transportation system design.

Individual-Level Functional and Capacity Constraints

At the individual level, transportation access is closely shaped by functional ability, driving status, financial resources, digital literacy, and the capacity to independently navigate transportation systems. Across transportation modes, many barriers emerged not because services were entirely absent, but because individuals lacked the physical, cognitive, financial, or technological capacity to use available systems reliably in practice.

One of the clearest patterns involved the gradual transition from unrestricted driving to self-regulated or ceased driving among older adults. Across multiple community needs assessments, older adults described limiting driving to daytime hours, avoiding highways, unfamiliar routes, or adverse weather conditions, and increasingly depending on others for transportation as physical and cognitive changes progressed. Reports consistently showed

that individuals who no longer drove—or who drove with limitations—experienced substantially higher rates of transportation difficulty, including missed or delayed medical appointments, reduced participation in community and social activities, and increased dependence on family members, neighbors, or caregivers for essential trips.

Functional limitations also shaped whether individuals could physically access or complete trips across multiple transportation modes. In fixed-route and public transportation systems, long walking distances to transit stops, difficulty navigating stations, and the physical demands of transfers frequently created barriers for older adults and individuals with mobility limitations. In demand-response and ADA paratransit services, the absence of door-through-door assistance often prevented frail riders from fully using otherwise available transportation services. Several reports noted that curb-to-curb transportation alone was insufficient for individuals who required help leaving their homes, entering buildings, or navigating destinations independently.

Cognitive and technological barriers emerged repeatedly as additional constraints on transportation usability. Older adults frequently reported difficulty understanding fragmented transportation systems, coordinating multiple services, or navigating advance reservation processes. In several reports, digital platforms and app-based transportation systems created further challenges for individuals with limited digital literacy, limited smartphone access, or discomfort using technology-based booking systems.

Financial capacity further shaped transportation access, particularly for individuals without access to private vehicles. Taxi and ride-share services were often described as technically available but financially unsustainable for routine use, especially for older adults, low-income individuals, and non-drivers needing frequent medical transportation. In many communities, the cost of transportation effectively limited mobility even when transportation options formally existed.

These findings suggest that transportation access depends not only on the presence of services, but on whether individuals possess the functional, financial, cognitive, and technological capacity required to successfully navigate and use transportation systems in real-world conditions.

Community and Built Environment Barriers

At the community level, transportation access was strongly shaped by the surrounding built environment, local service geography, and the degree to which transportation systems were physically connected within communities. Across transportation modes, many barriers emerged not from the complete absence of services, but from environmental and spatial conditions that prevented individuals from reaching, connecting to, or successfully using available transportation options in practice.

One of the most consistent patterns across the reviewed reports involved first-mile and last-mile barriers. In both public transportation and fixed-route systems, individuals frequently described situations in which transit services technically existed, but were difficult or impossible to access safely. Long walking distances to bus stops, missing or disconnected sidewalks, unsafe crossings, poorly maintained pedestrian infrastructure, and inaccessible

transit environments repeatedly appeared as barriers, particularly for older adults and individuals with mobility limitations. Seasonal conditions, including snow accumulation, debris, and inadequate sidewalk maintenance, further intensified these challenges in many communities. In several reports, even relatively short gaps in pedestrian infrastructure were sufficient to make transportation systems functionally unusable for vulnerable populations.

The findings also highlight the broader transportation significance of walking and bicycling infrastructure beyond active transportation itself. Across many reviewed documents, walking and bicycling functioned as critical first- and last-mile connectors within the larger transportation system. When sidewalks, curb ramps, bicycle facilities, or pedestrian connections were incomplete, unsafe, or disconnected, individuals often lost not only the ability to walk or bike, but also practical access to public transportation and other mobility services. In this sense, deficiencies in the built environment propagated across transportation modes, weakening the overall usability of the broader mobility network.

Community geography and land use patterns further shaped transportation feasibility, particularly in suburban and rural communities where dispersed destinations, long travel distances, and weak inter-community connections limited practical access to healthcare, shopping, and other essential destinations.

Local service structures also influenced transportation usability. Across many communities, COA transportation programs, demand-response systems, and other community transportation services operated within highly defined geographic and temporal boundaries. Limited evening and weekend operations, within-town service restrictions, and minimal interregional coordination reduced the ability of these systems to support medical transportation, employment-related travel, and other time-sensitive trips. In several cases, individuals could access transportation within their local community but lacked reliable options for reaching regional healthcare systems or specialized services located outside municipal boundaries.

The findings suggest that transportation effectiveness depends not only on whether services are provided, but on whether community environments and local transportation systems enable individuals to physically access, navigate, and connect between transportation options throughout the full trip-making process.

System-Level Structural and Service Design Limitations

At the system level, transportation challenges consistently reflected fragmentation, rigid service structures, and misalignment between how transportation systems are organized and how individuals actually need to travel in daily life. Across transportation modes, many barriers emerged not from the complete absence of transportation services, but from limitations in coordination, continuity, scheduling flexibility, geographic integration, and the ability to complete trips seamlessly across systems.

One of the clearest system-level patterns involved the structural limitations of fixed-route transportation systems. Across multiple regional transit plans and community needs assessments, fixed-route services were frequently described as difficult to use for dispersed, time-sensitive, or multi-stop trips. Limited evening and weekend operations, infrequent

service, indirect routing, and long transfer times often reduced the practicality of fixed-route transit for employment, healthcare access, grocery shopping, and caregiving responsibilities. In many suburban and rural communities, low-density development patterns further constrained the viability of frequent fixed-route service, producing trade-offs between geographic coverage and service frequency that limited overall usability.

Demand-response and ADA paratransit services addressed some of these limitations but introduced a different set of structural constraints. Across the reviewed documents, riders frequently described the burden of advance scheduling requirements, limited same-day flexibility, and extended pickup windows that reduced responsiveness to real-world travel needs. ADA paratransit services were additionally constrained by eligibility requirements and geographically bound service areas tied to fixed-route systems. Several reports described situations in which individuals could technically access paratransit services within one jurisdiction but lacked reliable ways to complete trips across neighboring service areas or reach specialized medical care located outside defined boundaries.

A recurring statewide issue involved fragmentation across transportation providers, jurisdictions, and service structures. Weak coordination between regional transit authorities, inconsistent transfer systems, and poorly integrated schedules frequently created discontinuities across trips. In several cases, individuals were required to combine multiple transportation modes and providers to complete a single trip, particularly for regional healthcare access. Reviewed documents repeatedly highlighted difficulties transferring between systems, navigating differing eligibility requirements, and coordinating transportation across municipal or regional boundaries. These gaps were especially consequential for older adults, people with disabilities, and non-drivers, for whom complex or fragmented trip chains could make transportation functionally unusable.

The findings also suggest that many transportation programs currently operate as partial or supplemental solutions rather than as components of a fully integrated mobility system. COA transportation programs, volunteer driver services, taxi voucher programs, and emerging microtransit pilots were frequently described as filling specific service gaps left by the broader transportation network. These programs often played critical roles in supporting access to medical appointments, shopping, and community participation, yet they typically operated with constrained geographic coverage, limited operating hours, or highly targeted eligibility structures that restricted their broader system capacity.

Transportation systems also frequently failed to align with the temporal realities of everyday travel, particularly for medical appointments, shift-based employment, and other time-sensitive trips requiring flexible scheduling and reliable return transportation.

The findings indicate that transportation barriers across Massachusetts are driven less by the complete absence of transportation services than by systemic fragmentation, operational rigidity, and limited integration across transportation systems. Mobility challenges frequently emerged at the points where systems, jurisdictions, schedules, and service models failed to connect coherently within the full process of completing real-world trips.

Cross-Cutting Finding: From “Mode Choice” to “Unmet Mobility Need”

Across transportation modes, regions, and population groups, one of the clearest statewide patterns was that transportation challenges were rarely experienced as isolated problems within a single mode of transportation. Instead, mobility barriers consistently emerged as failures in the ability to complete essential trips reliably, safely, and continuously across a fragmented transportation environment.

Many of the most consequential barriers emerged at the interfaces between systems rather than within individual modes themselves. Difficulties reaching transit stops, navigating unsafe pedestrian environments, coordinating schedules across providers, completing transfers, crossing jurisdictional boundaries, arranging return trips, or adapting transportation to real-world timing constraints repeatedly undermined the practical usability of otherwise available services. As a result, transportation modes that technically existed frequently failed to operate as dependable mobility solutions in practice.

The findings also suggest that transportation systems are often evaluated and organized around service provision at the modal level, while users experience transportation at the level of trip completion and daily functioning. From the perspective of individuals attempting to access healthcare, employment, food, social participation, or caregiving responsibilities, transportation systems function as interconnected mobility chains in which breakdowns at any point can render the entire trip infeasible. In this context, transportation disadvantage is experienced less as the absence of a particular mode and more as the absence of a continuous, usable, and coordinated pathway through the broader mobility environment.

Viewed collectively, the findings indicate that community transportation challenges across Massachusetts are best understood not as isolated modal deficiencies, but as interconnected mobility limitations produced through the interaction between personal capacity, built environments, and transportation system design. This perspective shifts the focus of transportation planning from the presence of individual services toward the broader question of whether transportation systems enable individuals to reliably complete the trips necessary for health, independence, economic participation, and community life.

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List of Acronyms

Acronym	Expansion
ADA	Americans with Disabilities Act
ASAP	Aging Services Access Points
CHNA	Community Health Needs Assessments
COA	Councils on Aging
CSDRA	Center for Social and Demographic Research on Aging
CTGP	Community Transit Grant Program
MASILC	Massachusetts Statewide Independent Living Council
MassDOT	Massachusetts Department of Transportation
MBTA	Massachusetts Bay Transportation Authority
MPO	Metropolitan Planning Organizations
RTA	Regional Transit Authorities
UMDI	University of Massachusetts Donahue Institute

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1 Introduction

This study, *Environmental Scan of Community Transit Needs in Massachusetts*, was undertaken as part of the Massachusetts Department of Transportation (MassDOT) Research Program. This program is funded through the Federal Highway Administration (FHWA) State Planning and Research (SPR) program and supports applied research on transportation issues of importance to the Commonwealth of Massachusetts.

The Massachusetts Department of Transportation (MassDOT), in collaboration with the University of Massachusetts Boston, initiated this project to comprehensively examine community transit needs across the Commonwealth. The project reflects MassDOT's ongoing commitment to improving mobility and transportation access for residents throughout Massachusetts, particularly older adults, people with disabilities, low-income individuals, and those with limited or no access to personal vehicles.

Community transit plays a critical role in supporting independence, health, social participation, and access to essential services. For the purposes of this review, transportation needs and barriers were examined across several transportation modes, including public transportation, fixed-route transit, demand-response transportation, ADA paratransit, Council on Aging (COA) transportation services, volunteer driver programs, taxi and ride-share services, bicycle and pedestrian transportation, driving, and microtransit.

Although several of these modes may be considered subsets or components of the broader public transportation system, they were analyzed separately because the reviewed documents frequently discussed them as distinct services with different operational characteristics, eligibility requirements, geographic coverage, and user experiences. Examining these modes individually allowed the review to identify transportation needs, barriers, and service gaps that may not be apparent when transportation is considered as a single category.

In addition, emerging micromobility options, such as e-bikes and scooters, are increasingly being recognized as complementary components of integrated transportation systems, particularly for first- and last-mile connections, although they were not commonly referenced in the documents reviewed for this study.

While transportation modes provide an important framework for organizing and understanding transportation systems, transportation needs are ultimately experienced through individuals' ability to access destinations and complete trips successfully. Importantly, the presence of transportation services does not necessarily mean that individuals are able to complete trips reliably, safely, or practically. Across many communities, transportation challenges emerge not only from the absence of services, but also from barriers that occur throughout the trip-making process, including difficulties reaching transit stops, limited service hours, poor coordination across service areas, long travel times, infrastructure limitations, and challenges navigating multiple transportation modes. As a result, transportation needs are often experienced as broader mobility challenges that affect individuals' ability to access healthcare, employment, food, social activities, and other essential daily activities.

This environmental scan was conducted to systematically identify and synthesize community transportation needs documented across Massachusetts transportation-related reports and needs assessments. The study examines transportation challenges across transportation modes, geographic regions, and population groups, while also identifying cross-cutting and system-level barriers that influence mobility across the Commonwealth. By synthesizing findings across diverse local and regional assessments, this report provides a statewide perspective on community transportation needs and offers insights to support future transportation planning, coordination, and policy development in Massachusetts.

2 Research Methodology

2.1 Study Design and Analytical Approach

This project aims to provide actionable recommendations for improving transit options and enhancing the quality of life for Massachusetts' residents. It included three components:

- A comprehensive environmental scan of community transit needs across Massachusetts;
- A secondary-data analysis of existing individual-level data from residents in selected cities and towns; and
- A set of meaningful, easy-to-implement evaluation questions for community transportation providers to measure the impact of their services.

2.2 Environmental Scan

This study employed a structured environmental scan and qualitative document review methodology to systematically assess community transportation needs across Massachusetts. The analytical approach combined elements of qualitative thematic analysis and document-based evidence synthesis.

The study was designed to synthesize findings from a broad range of publicly available transportation needs assessments, planning documents, community reports, and related gray literature in order to identify recurring transportation barriers, unmet mobility needs, and service gaps affecting older adults and other transportation-disadvantaged populations across the Commonwealth.

Particular attention was given to:

- Mode-specific transportation challenges;
- Geographic variation across rural, suburban, and urban communities; and
- Equity-related transportation barriers affecting underrepresented populations.

The review utilized a multi-phase analytical process combining systematic document collection, thematic coding, cross-source synthesis, transportation mode classification, and descriptive frequency analysis.

2.2.1 Gray Literature Collection and Source Identification

The review began with the systematic identification and collection of gray literature relevant to community transportation needs in Massachusetts. In consultation with the Massachusetts Department of Transportation (MassDOT), the research team developed a statewide document corpus consisting of transportation needs assessments, planning reports, community assessments, and related transportation-focused publications produced by state agencies, regional organizations, transit providers, and community-based entities. The final review included a total of 216 reports and related documents from across the Commonwealth.

Key document sources included:

- Regional Transit Authorities (RTAs)'s Comprehensive Regional Transit Plans;
- Aging Services Access Points (ASAPs)'s Area Plans;
- Community Health Needs Assessments (CHNAs);

- Center for Social and Demographic Research on Aging (CSDRA)’s Community Needs Assessment Reports;
- MassDOT’s publications;
- Massachusetts Bay Transportation Authority (MBTA)’s reports;
- MassMobility’s reports;
- Massachusetts Statewide Independent Living Council (MASILC)’s documents;
- Community Transit Grant Program (CTGP)’s grantee materials; and
- The Executive Office of Aging & Independence (AGE)’s reports.

Most reviewed documents were published within the previous five years and were compiled into a centralized gray literature database for analysis. In a limited number of cases, older reports were included when more recent versions were not publicly available or when the reports remained important reference documents within a particular region or service system.

Because this review synthesized findings from previously completed transportation needs assessments, plans, and related documents, the results reflect conditions, needs, and service gaps identified at the time those documents were prepared. Some transportation services, programs, or infrastructure may have changed since the original assessments were conducted. As a result, the findings should not be interpreted as a real-time assessment of current transportation conditions in every community.

2.2.2 Phase One: Initial Thematic Coding and Data Extraction

During the first phase of analysis, reports were reviewed systematically and key metadata were extracted, including publication year, issuing organization, target community, target population, and methods of community engagement (e.g., surveys, focus groups, public meetings, and stakeholder interviews). In total, 880 excerpts were ultimately extracted to support the thematic analysis of transportation needs, barriers, and service limitations.

A structured thematic coding framework was developed to categorize transportation-related needs, barriers, and service gaps across the reviewed documents. Initial coding categories included 12 themes related to:

- Availability
- Types of trips
- Affordability
- Accessibility of services
- Access to services
- Information and communication
- Adaptability and flexibility
- Acceptability-satisfaction
- Acceptability-stigma
- Utilization
- Transportation-no detail
- Other

Each theme was operationalized through predefined coding definitions to promote consistency across diverse document types and geographic contexts. Detailed thematic code definitions are

provided in [Appendix B: Thematic Coding Framework and Definitions](#). Narrative excerpts relevant to transportation barriers or unmet needs were coded into one or more thematic categories. Multiple coding assignments were permitted when excerpts reflected overlapping transportation issues or intersecting barriers. To support cross-document comparison, frequency counts were calculated at the report level rather than by raw mention count, ensuring that findings reflected the breadth of issue identification across reports rather than repetition within individual documents.

2.2.3 Phase Two: Cross-Source Thematic Synthesis and Data Structuring

Following the initial coding phase, the analytical process transitioned from source-based review to cross-source thematic synthesis. Coded findings from all reviewed documents were reorganized into unified thematic datasets to facilitate statewide comparison and pattern identification. Each thematic category was consolidated into a structured analytical worksheet containing coded excerpts from across the full document corpus. Additional analytical dimensions were incorporated during this phase, including:

- Transportation mode; and
- Equity-related population characteristics.

This second-round analysis enabled the research team to examine transportation barriers not only by theme, but also across:

- Transportation systems;
- Community types; and
- Population groups.

Throughout this process, coding definitions and classification rules were iteratively refined through team review and discussion to improve conceptual consistency and address overlapping transportation issues.

2.2.4 Transportation Mode Sub-Coding Framework

To support more detailed analysis of transportation barriers and unmet mobility needs, a second-level mode-based sub-coding process was conducted across all thematically coded excerpts. This phase of analysis was designed to identify which transportation modes were associated with specific transportation challenges, recognizing that transportation barriers often operate differently across service types and geographic contexts.

The mode-based sub-coding process enabled the research team to move beyond broad thematic identification and examine how specific transportation issues manifested across different transportation systems, including fixed-route transit, demand-response services, ADA paratransit, volunteer driver programs, driving, bicycle and pedestrian transportation, microtransit, taxi and ride-share services, and Council on Aging (COA) transportation programs, etc. Detailed transportation mode definitions are provided in [Appendix C: Transportation Mode Definitions](#).

Within each thematic dataset, coded narrative excerpts were reviewed and assigned to one or more transportation mode categories based on explicit references and identifiable service characteristics described in the source documents. Transportation mode classification followed a standardized decision framework developed to promote consistency across reports and coding stages.

Whenever transportation modes were explicitly identified in the source material, excerpts were coded directly to the corresponding transportation mode. In cases where transportation modes were not directly named, classification was based on clearly inferable service characteristics. For example, references to route coverage, bus stop access, service frequency, evening and weekend availability, or inter-community route connections were generally associated with fixed-route transportation systems, while references to door-to-door transportation, advance scheduling, or individualized origin-to-destination transportation were typically associated with demand-response services.

Particular attention was given to distinguishing ADA paratransit services from broader demand-response transportation. ADA paratransit classification was reserved for excerpts explicitly or implicitly referencing disability-related eligibility requirements or ADA complementary paratransit services connected to fixed-route systems. Other flexible or community-based transportation services without ADA-specific eligibility criteria were classified separately as demand-response transportation.

Because transportation barriers frequently involved overlapping systems and interconnected service gaps, excerpts were permitted to be coded to multiple transportation modes when appropriate. This multiple-mode attribution approach was intended to preserve the complexity of transportation experiences and avoid artificially limiting transportation challenges to a single mode category.

Excerpts describing general transportation barriers without sufficient contextual detail to identify a specific transportation mode were classified as Global Transportation Needs. This category was used to capture broad transportation concerns that reflected system-level mobility limitations rather than mode-specific barriers.

Throughout the sub-coding process, the research team applied standardized coding definitions and iterative team review procedures to improve consistency and analytical reliability across transportation modes, geographic regions, and thematic categories. Following completion of the thematic and mode-based sub-coding process, the final analytic dataset consisted of 1,439 coded narrative excerpts representing transportation needs, barriers, and mobility-related experiences identified across the reviewed gray literature sources.

2.2.5 Quantitative Descriptive Analysis

Descriptive frequency analysis was conducted to quantify the prevalence of transportation needs, barriers, transportation modes, and population-specific concerns identified across the reviewed documents.

Summary tables and visualizations were developed to examine:

- Thematic frequency distributions;
- Transportation mode patterns; and
- Equity-related transportation concerns across geographic contexts.

Because reports could contribute to multiple thematic categories, analyses were designed to reflect the breadth and distribution of transportation concerns across the statewide document corpus.

2.2.6 Qualitative Synthesis and Equity Lens Analysis

In parallel with the descriptive analysis, qualitative synthesis was conducted to identify recurring narratives, contextual differences, and cross-cutting transportation challenges emerging across the reviewed materials. Particular attention was given to:

- Regional variability;
- Transportation barriers affecting underrepresented populations; and
- Differences in transportation needs across rural, suburban, and urban communities.

An equity lens analysis was incorporated to examine how transportation challenges varied across population groups, including older adults, people with disabilities, low-income individuals, racial and ethnic minority populations, and individuals with limited access to private vehicles.

This combined qualitative and quantitative approach provided a comprehensive understanding of community transportation needs across Massachusetts and informed the development of subsequent findings and policy recommendations.

2.3 Secondary Data Analysis

To deepen our understanding of transportation needs across Massachusetts and how needs differ across communities and regions, as well as by individual characteristics (e.g., driver status, age, disability, economic status), analysis of 4 existing data sources was conducted.

2.3.1 CSDRA Community Needs Assessment Survey Data

The first data source we analyzed included pooled survey data from community needs assessments conducted by the Center for Social & Demographic Research on Aging (CSDRA) between 2022 and 2024. Survey responses from 31,271 individuals living in 22 different municipalities in Eastern Massachusetts are included in the data file. For this project, we restricted the sample to residents age 60 and older, amounting to 28,188 cases.

Descriptive statistics were computed to document transportation needs of drivers versus non drivers, by age, and by disability. See Appendix D for a full list of variables and coding scheme. Written responses to the option “Other (please specify)” for the question, “What difficulties do you have in getting the transportation that you need?” were analyzed qualitatively, using the thematic coding scheme developed for the Environmental Scan as a starting point for coding.

2.3.2 2023 Community Health Equity Survey Data Tables

The Massachusetts Department of Public Health conducted the Community Health Equity Survey (CHES) across the Commonwealth in 2023; its purpose “was to understand the most pressing health-related needs facing Massachusetts residents, including their social circumstances, economic situations, and resource needs” (CHES 2023 Adult Data Tables). The total sample of respondents age 18 and older amounts to 16,206 adults from 117 cities and towns across the state. This data source provided more information about equity in transit access as well as geographic differences in access.

The survey included two questions related to transportation. Survey respondents were asked “In the past 12 months, did you have trouble paying for any of the following?” of which, ‘transportation’ was a response option. Secondly, respondents were asked, “How much do you

agree with the following statement? I live in a place that allows me to get where I need to go (work, social, errands) safely, comfortably, and easily.” The percent of respondents who reported they have trouble paying for transportation and the percent of respondents who somewhat or strongly disagree that they are able to get where they need to go were analyzed by geography, age, race, ethnicity, gender, and disability status.

2.3.3 Health Aging Profiles

The [Massachusetts Healthy Aging Data Report](#) provides data on a robust set of indicators of healthy aging for the state, each of the 351 cities and towns across the Commonwealth, and for the neighborhoods within Boston and Worcester. The Healthy Aging Data Report includes the AllTransit™ Score, which “measures more than just access to transit. It considers the performance of transit - connections to other routes, jobs accessible in a 30-minute transit ride, and the number of workers using transit to travel. All neighborhoods in cities with over 100,000 population are ranked and given a score from 1 to 10 and summed up for larger areas.” ([AllTransit web quote](#)). This data source provided more information about geographically different transit gaps.

We assessed the distribution of AllTransit™ Scores across Massachusetts, using the map generated and accompanying data compiled by the Massachusetts Health Aging Data Report.

2.3.4 American Community Survey Estimates

The American Community Survey (ACS), conducted by the U.S. Census Bureau, is a continuous data collection effort that provides annual estimates of sociodemographic characteristics of individuals and households across the United States. Estimates from the ACS are representative at each geographic level for which they are computed. We retrieved current data for Massachusetts (ACS 2024 5-year estimates; Ruggles et al., 2025) from IPUMS and analyzed a weighted sample of community-dwelling adults (age 18+). The percent of adult residents who do not have access to a vehicle and the distribution of transit mode to get to work among adults in the labor force were analyzed by geography, age, race, ethnicity, gender, and disability status. This data source provided more information about equity in transit access.

2.4 Review of Evaluation Metrics and Rider Survey Questions

To answer the question, “what evaluation metrics and rider survey questions are most useful, feasible, and actionable for community transportation providers?”, two sets of tasks were completed. First, a review of existing research papers and public reports was conducted using keywords like “community transportation” and “evaluation”. Reports were reviewed for relevance, and 10 papers were used to generate the review. Second, four key-informant interviews were conducted with stakeholders at the national, state, and local levels as well as mix of rider, provider, and advocate/policymaker perspective. Interviews were conducted via video conference. Detailed notes and audio recordings were obtained. Interviewees included a senior researcher at an international transportation learning center, a local public transit director, a coordinator of the state’s independent living council, and a rider with a disability.

3 Results

3.1 Environmental Scan: Statewide Overview of Transportation Concerns

This section presents the findings from the statewide review of community transportation needs assessment documents across Massachusetts. The section begins with an overview of the overall distribution of transportation concerns across thematic categories and transportation modes, followed by a detailed mode-specific analysis of transportation challenges within individual transportation systems. The final part of the section examines transportation concerns through an equity lens, highlighting the most prominent issues affecting different population groups and geographic contexts across the Commonwealth.

Tables 3.1 and 3.2 summarize the overall distribution of coded transportation concerns identified across the reviewed documents. These summary tables provide a high-level view of the transportation issues most frequently discussed across the statewide document corpus and help contextualize the mode-specific findings presented in subsequent sections.

Table 3.1: Distribution of transportation concerns by theme

12 Themes	#
Types of trips	144
Availability	115
Other	103
Access TO services	100
Transportation-no detail	83
Acceptability-satisfaction	68
Information/	
Communication	65
Affordability	61
Accessibility OF services	51
Adaptability/Flexibility	51
Utilization	31
Acceptability-stigma	8
Total	880

Table 3.1 presents the distribution of transportation concerns across the twelve thematic categories. The findings indicate that transportation needs were concentrated within a relatively small number of recurring themes, with Types of Trips, Availability, and Other representing the most frequently identified transportation concerns across the reviewed documents. Access to Services and Transportation concerns with no detail also appeared frequently across the reviewed materials.

Table 3.2 presents the distribution of transportation concerns across transportation modes. A substantial portion of reviewed documents reflected broad transportation challenges that

were not tied to a single transportation mode, represented by the Global Transportation Needs category. Among mode-specific categories, public transportation and fixed-route systems were discussed most frequently across the reviewed materials, followed by driving and bicycle and pedestrian transportation.

Table 3.2: Distribution of transportation concerns by mode

11 Modes	#
Global Transportation Needs	454
Public Transportation	215
Fixed Route	202
Driving	138
Bicycle and Pedestrian Transportation	111
COA Van	105
Demand-response Services	74
Taxi/Ride Share	62
ADA Paratransit	45
Volunteer Driver Programs	26
Microtransit	7
Total	1439

3.2 Environmental Scan: Mode-Specific Findings (Ranked by Frequency)

3.2.1 Global Transportation Needs (n = 454)

A substantial share of excerpts (n = 454, 31.5% of all 1,439 excerpts) were coded as “Global Transportation Needs”, indicating that many transportation concerns are framed as system-level issues rather than being tied to a particular transportation mode. This suggests that a significant portion of the literature discusses transportation challenges in terms of overall access, system performance, and user experience, without distinguishing between specific services such as public transit, demand-response, or driving.

Across these reviewed documents, several themes emerge with varying levels of prominence (see Table 3.3). “Types of Trips” represents the largest share (27.8%), highlighting that even in the absence of a specified mode, discussions are often centered on the purposes and needs motivating travel. “Transportation—no detail” (14.5%) and “Information/Communication” (10.1%) also account for a notable proportion of the reviewed documents, suggesting that a lack of specificity in transportation discussions is often accompanied by broader concerns related to system understanding, navigation, and general transportation barriers. Other themes, including Access to Services (9.7%), Availability (9.5%), Affordability (7%), and Acceptability-satisfaction (7%), appear at moderate levels, while the remaining themes constitute relatively smaller shares.

The following section examines the three most prominent themes within this category to better understand the underlying issues reflected in these reviewed documents.

Table 3.3: Distribution of transportation concerns for global transportation needs

Global Transportation Needs	
Themes	%
Types of trips	27.8
Transportation-no detail	14.5
Information/ Communication	10.1
Access TO services	9.7
Availability	9.5
Acceptability-satisfaction	7
Affordability	7
Adaptability/Flexibility	6.2
Accessibility OF services	5.1
Other	2.2
Utilization	0.7
Acceptability-stigma	0.2

Types of Trips (27.8%)

“Types of Trips” emerges as the most prominent theme within Global Transportation Needs. Trip needs are highly concentrated in a small number of essential categories. Medical trips—including doctor visits, hospital care, recurring treatments, and pharmacy access—emerge as the most frequently cited category. These trips are often non-negotiable and recurrent, requiring transportation arrangements that align closely with appointment schedules. The reviewed sources frequently reference missed or delayed appointments, extended wait times—particularly for return trips—and mismatches between transportation schedules and appointment times.

Social and community participation trips represent the second most frequently identified category. These include visits to family and friends, participation in senior center activities, and broader community engagement. While generally less time-sensitive than medical trips, they play a critical role in maintaining social connectedness and preventing isolation among older adults. Grocery shopping and food access also emerge as a major category of trip needs, closely tied to daily living and nutritional well-being. These trips often highlight challenges related to accessing nearby stores and managing shopping trips without reliable transportation options.

Other types of trips—such as work, education, and routine errands (e.g., banking or post office visits)—are mentioned less frequently. Work-related trips often reflect challenges related to aligning transportation options with non-standard work schedules, while educational and discretionary trips appear more sporadically. Recreational trips are rarely discussed, suggesting that transportation needs are primarily framed around essential activities rather than quality-of-life purposes.

In this context, the absence of a specified mode suggests that transportation demand is often articulated independently of available transportation options. Rather than reflecting mode choice, these reviewed documents highlight situations in which individuals identify the need to complete a trip without a clear or viable means of doing so. This pattern indicates that transportation challenges are frequently experienced at the level of unmet need—where the central issue is not which mode to use, but whether any feasible option exists.

Illustrative Examples

“Additionally, transportation services are limited, preventing seniors from easily traveling to medical appointments, grocery stores, or social events.” — Up-Island Council on Aging: Planning for the Future, 2025

“Employment is growing and there is a need to better connect the suburbs to the urban cores, especially as the job market decentralizes to suburban office parks.” — GATRA Comprehensive Regional Transit Plan Update, 2021

Transportation—No Detail (14.5%)

The second most prominent theme, “Transportation—no detail,” reflects a broad and non-specific articulation of transportation challenges. Across the reviewed sources, respondents frequently describe transportation as a major concern or barrier—often ranking it among top community needs—without identifying a particular mode, service, or operational issue. These statements commonly emerge in survey responses and needs assessments, where transportation is cited alongside other high-level concerns such as housing or healthcare.

A closer examination suggests that this lack of specificity does not indicate a lack of underlying issues but rather reflects a generalized experience of transportation difficulty. Reports often summarize respondents’ references to challenges related to mobility, aging in place, access to services, and seasonal or weather-related barriers, as well as disparities between those who drive and those who do not. In many cases, transportation is framed as a prerequisite for maintaining independence, accessing healthcare, and participating in community life. The absence of detail may therefore signal that barriers are diffuse, overlapping, and difficult for to attribute to a single cause. As such, this theme highlights a gap between lived experience and system-level articulation, where users recognize transportation as a problem but lack the information or framework to specify how or why.

Illustrative Examples

“Transportation was identified as a significant barrier to care and needed services, especially for older adults who no longer drove or who did not have family or caregivers nearby.” — Beth Israel Deaconess Needham Community Health Needs Assessment, 2022

“Transportation has always come up as need during focus groups and surveys. Transportation - Next to housing, transportation has been and continues to be identified as the top challenge in our communities.” — South Shore Elder Services Area Plan on Aging Four-Year Plan 2022-2025, 2021

Information/Communication (10.1%)

“Information/Communication” represents a critical dimension of transportation challenges related to system awareness, usability, and navigation. The reviewed materials consistently indicate that many individuals—particularly older adults, people with disabilities, and transit-dependent populations—lack clear, understandable, and easy-to-navigate information about available transportation options. This includes not only awareness of services, but also understanding how to use them, how to schedule trips, and how to navigate complex or fragmented systems.

Several communication barriers emerge across the reviewed sources. First, limited outreach and awareness mean that existing services are often underutilized, even when available. Second, system complexity—such as booking trips through specific platforms or navigating schedules of different transit services and programs—creates additional challenges, particularly for individuals with limited digital access or literacy. Third, communication barriers related to language, technology, digital literacy, and system complexity further restrict individuals’ ability to obtain and use transportation information effectively. The need for travel training, simplified information materials, real-time updates, and more user-friendly communication systems is frequently emphasized.

Overall, these findings suggest that transportation challenges are not solely a function of service availability, but also of how effectively information is communicated and how easily systems can be understood and navigated. Even where services exist, insufficient or inaccessible information can create barriers equivalent to a lack of service.

Illustrative Examples

“Many older adults lack information on transportation services in Barnstable and may not know what services exist or how they operate.” — Building an Age & Dementia Friendly Barnstable: An Action Plan, 2023

“It is challenging to access information about available transportation services, pricing, schedules, and regional coordinating routes...70% of survey respondents indicate they are unfamiliar with the transportation for seniors and those with disabilities that are already in place, suggesting a knowledge gap about transportation services in Chelmsford.” — Age-Friendly Chelmsford: A Livable Community for All Ages, Chelmsford Age-Friendly Action Plan, 2020

3.2.2 Public Transportation (n = 215)

Public Transportation was one of the most frequently identified mode-specific categories, accounting for 215 excerpts (14.9% of all mode-coded excerpts). This finding indicates that public transit systems remain a central focus in discussions of transportation access. Unlike Global Transportation Needs, where concerns are often framed at a general system level, this category reflects how individuals experience public transportation as a whole, frequently referencing broad system characteristics such as overall coverage, availability, and the system’s role in connecting individuals to essential destinations.

Across themes (see Table 3.4), “Availability” emerges as the most prominent concern (24.7%), followed by “Access to Services” (14.0%) and “Types of Trips” (13.0%). Other themes, including Acceptability (6.0%), Affordability (5.6%), and Information/ Communication (5.6%), appear at moderate levels, while Adaptability/Flexibility (1.9%) and Accessibility of Services (3.7%) are less frequently cited. This distribution suggests that concerns related to public transportation are primarily centered on whether services exist, where they operate, and how effectively they connect riders to needed destinations. The following section examines these top themes in greater detail to identify key patterns and challenges.

Table 3.4: Distribution of transportation concerns for public transportation

Public Transportation	
Themes	%
Availability	24.7
Access TO services	14
Types of trips	13
Other	11.6
Transportation-no detail	8.8
Acceptability-satisfaction	6
Affordability	5.6
Information/ Communication	5.6
Utilization	4.2
Accessibility OF services	3.7
Adaptability/Flexibility	1.9
Acceptability-stigma	0.9

Availability (24.7%)

Availability represents the most significant challenges associated with public transportation. Many reviewed documents highlight limitations in geographic coverage, particularly in suburban and rural areas, as well as gaps in service frequency and operating hours. In many cases, public transportation systems do not extend to key destinations or fail to provide adequate service during evenings and weekends, limiting their usefulness for a wide range of trip purposes. These gaps are especially consequential for individuals who rely on public transportation as their primary means of transit.

Even where services are available, infrequent operations and limited network reach can result in long travel times, multiple transfers, or an inability to complete trips altogether. These findings indicate that the effectiveness of public transportation, as experienced by users, is shaped not only by the presence of service, but by whether the system provides sufficient coverage, frequency, and hours of operation to support everyday travel needs.

Illustrative Examples

“Stakeholders note that public transportation is very inconvenient or nonexistent.” — Norwood Hospital Community Health Needs Assessment, 2021

“The Town of Berlin is connected to the surrounding area with extremely limited public transportation options, particularly as the Worcester Regional Transit Authority (WRTA), public transportation network has been sporadic.” — Aging in Berlin: A Community Needs Assessment, 2023

Access to Services (14.0%)

Access to services emerges as the second most prominent theme within public transportation, referring to the extent to which individuals can connect to and use transit services in practice. Across the reviewed documents, concerns consistently center on barriers at the point of access, including the distance to transit stops, unsafe or poorly designed pedestrian routes, and inadequate supporting infrastructure such as sidewalks and crossings. These challenges are particularly pronounced in rural and suburban areas, where transit stops may be difficult to reach without a car.

These findings suggest that access to public transportation depends not only on whether service exists, but on whether individuals can realistically reach and use it as intended. For older adults, people with disabilities, and those who do not drive, barriers at the access stage can effectively render public transportation unusable, even when services are technically available.

Illustrative Examples

“For those relying on public transportation, issues like long walks from drop-off points to their destinations and the complexity of navigating bus stations are significant barriers.” — The ReiMAGine Aging 2030, 2025

“49% of respondents wanted better access to public transportation.” — Beth Israel Deaconess Plymouth, Community Health Needs Assessment, 2022

Types of Trips (13.0%)

“Types of Trips” represents a notable share of concerns about public transportation. Within this mode, many reviewed documents emphasize how well existing transit services align with the range of trip purposes identified by users. Rather than focusing on the nature of trip needs themselves, these studies highlight the extent to which public transportation systems can accommodate different types of travel.

Across the reviewed documents, public transportation is frequently described as less suited to trips that require greater flexibility, direct routing, or precise timing. Medical-related travel, for example, often requires coordination with appointment schedules, which may be difficult to achieve given fixed routes and service intervals. Similarly, grocery shopping trips can be constrained by route design, stop locations, and the practical challenges of carrying goods across multiple segments of a trip.

These patterns suggest that the effectiveness of public transportation is shaped not only by its presence within a community, but by how well it enables individuals to complete the activities that travel is intended to support, reflecting a broader understanding of transportation as a means to participation rather than an end in itself.

Illustrative Examples

“The lack of access to public east/west transit also limits travel opportunities.” — Mass General Brigham/Cooley Dickinson Hospital Community Health Needs Assessment, 2022

“At the regional level, roadways and public transportation impact access to economic, social, and healthcare opportunities. Public transportation connections are particularly vital to ensure access for people unable to drive, such as members of low-income households, immigrants, children, individuals with disabilities, and older adults. Rural residents and historically marginalized communities often find it more challenging to reach key destinations, which results in negative travel experiences.” — Beyond Mobility: The Massachusetts 2050 Transportation Plan, 2024

3.2.3 Fixed Route (n = 202)

A total of 202 excerpts (14.0% of all excerpts) were coded as Fixed Route, indicating that scheduled transit services operating along defined routes—whether with designated stops or allowing flag stops—remain a major focus in discussions of transportation needs and barriers. Compared with the broader “Public Transportation” category, concerns in this section focus more specifically on the structural characteristics of fixed-route systems themselves. Many reviewed documents frequently highlight how predefined routes, stop patterns, and linear service design shape travel experiences, often constraining directness of travel, increasing reliance on transfers, and limiting the ability to efficiently accomplish trip purposes.

Table 3.5: Distribution of transportation concerns for fixed routes

Availability	28.2
Access TO services	18.8
Acceptability-satisfaction	11.9
Accessibility OF services	9.4
Information/ Communication	8.4
Utilization	6.4
Adaptability/Flexibility	5.4
Affordability	4
Types of trips	4
Transportation-no detail	2
Other	1.5

Within the mode of Fixed Route (see Table 3.5), “Availability” is the most prominent concern (28.2%), followed by “Access to Services” (18.8%) and “Acceptability-satisfaction” (11.9%). Other themes, including Accessibility of Services (9.4%), Information/Communication (8.4%), Utilization (6.4%), and Adaptability/Flexibility (5.4%), appear at moderate levels, while Affordability (4.0%), Types of Trips (4.0%), Transportation-no detail (2.0%), and Other (1.5%) account for smaller shares. This distribution suggests that concerns related to fixed-route transportation are concentrated primarily around whether routes are available where and when residents need them, whether people can realistically access them, and how well these services meet user expectations in practice. The following section examines the three most prominent themes within this category to better understand the underlying issues reflected in these studies.

Availability (28.2%)

Availability emerges as the most prominent concern within fixed-route transportation, reflecting not only whether services exist, but how the inherent structure of fixed-route systems shapes when and where service can be provided. In this context, challenges are primarily associated with three interrelated dimensions: service span, frequency, and geographic coverage, all of which are constrained by the need to operate along predefined routes and schedules.

Limited service hours emerged as a frequently identified challenge, particularly the lack of evening, weekend, and early morning service. This limitation is especially consequential for individuals whose travel needs fall outside these windows, including shift workers, older adults, and those seeking to participate in social and community activities.

Concerns related to service frequency further reflect the structural constraints of fixed-route systems. Maintaining frequent service requires sustained ridership along the full length of a route, which can be difficult to achieve in lower-density areas. As a result, many systems operate with infrequent service, leading to extended travel times and increased reliance on transfers. These patterns highlight an inherent trade-off within fixed-route design: efforts to expand coverage often come at the expense of frequency, limiting the overall usability of the system.

The third major issue is the limited and uneven spatial reach of fixed-route networks, particularly in suburban and rural areas where dispersed demand makes route-based service difficult to sustain. Fixed-route services are often not viable in areas with dispersed populations, resulting in entire communities lacking access to transit or being only partially served. Even where routes exist, their alignment may not correspond well to actual travel patterns, requiring indirect travel or multiple transfers to reach key destinations.

The above findings highlight a core limitation of fixed-route systems: their reliance on predefined routes and service structures constrains their ability to align with spatially and temporally dispersed travel demand. As a result, availability challenges in this mode are not solely a matter of insufficient service, but reflect deeper structural tensions between network design, demand distribution, and resource constraints.

Illustrative Examples

“Need for expanded transit early morning and evening hours during the week as well as Saturday and Sunday service. Transit hours of operation are not adequate to address the primary types of employment in the area. The need for evening and weekend service has been repeatedly expressed by communities and individuals throughout the region and is considered to be a top priority transit need.” — Southeastern Regional Transit Authority Coordinated Human Services Transportation Plan, 2023

“Requests to increase bus service frequency and service hours.” MBTA FY25-29 Capital Investment Plan, 2024

Access to Services (18.8%)

Access to services is the second most prominent theme within fixed-route transportation. In this context, it refers to whether individuals can physically reach and use a system organized around predefined routes and designated boarding points. Unlike availability, which focuses on where and when services operate, access centers on the first point of interaction between users and fixed-route infrastructure, including the location of bus stops, the condition of surrounding pedestrian environments, and the need to transfer between routes at specific points in the network.

A dominant issue across the reviewed documents is the inaccessibility of bus stops and surrounding environments. Respondents described long walking distances to stops, unsafe crossings, and inadequate or missing sidewalks as major barriers. Seasonal conditions, including snow and debris, further exacerbate these challenges by blocking access routes. Even when fixed-route services are technically available, these first- and last-mile barriers can make them functionally unusable, particularly for older adults and individuals with mobility limitations.

Closely related are concerns about the design and condition of transit stops. Many reviewed documents frequently highlight the lack of basic amenities such as shelters, seating, and lighting. The absence of these features affects comfort, safety, and usability, especially for individuals with physical limitations. In some cases, system features such as flag-stop operations were described as difficult to understand or use, particularly for individuals with visual impairments or cognitive challenges.

Another key issue is the lack of seamless connections within and across transit systems. Respondents noted difficulties transferring between services, particularly across different regional transit authorities, where service boundaries, schedules, and fare systems are often poorly coordinated. Weak integration between fixed-route services and other transit modes, as well as limited connections to commuter rail and regional services, further compound these challenges. Park-and-ride facilities, for example, are often difficult to reach without access to a private vehicle, further limiting system usability.

These gaps highlight the importance of designing fixed-route systems not as isolated services, but as part of an integrated mobility network.

Illustrative Examples

“Others remarked that it can be challenging for individuals to reach the commuter rail stations if they do not have a car or do not live within walking distance.” — Emerson Hospital Community Health Needs Assessment, 2021

“Improve lighting at bus stops, bus stops snow and trash removal, safer crossings at heavily used crosswalks by bus stops, bus stop consolidation, policy for bench placement at bus stops, longer bus stops, improve bus stop amenities, bus stop shelters at high ridership stops.” — Pioneer Valley Transit Authority Comprehensive Regional Transit Plan, 2021

Acceptability – Satisfaction (11.9%)

Acceptability—satisfaction is the third most prominent theme within fixed-route transportation and reflects users’ experiences with service performance and overall quality. In contrast to availability and access, which focus on whether services exist and can be reached, this theme captures how well fixed-route systems function in practice and the extent to which they meet user expectations.

A dominant concern across the reviewed documents is the lack of consistency and predictability in service delivery. Respondents frequently cited delays, irregular service patterns, and difficulty anticipating travel times as major barriers to use. Missed or unfulfilled trips, schedule variability, and service disruptions were described as undermining confidence in the system. These issues are often linked to broader system constraints, including aging infrastructure, vehicle condition, and capacity limitations, which contribute to uneven performance.

Travel time inefficiencies further compound these challenges. Even when routes are available, long wait times, missed connections, and extended trip durations significantly delay travel. In fixed-route systems, particularly those operating with limited service frequency, this inefficiency may be amplified, further limiting users’ ability to complete trips in a timely and reliable manner. As a result, transit becomes less viable for essential activities such as commuting, healthcare visits, and daily errands.

User experience at stops, stations, and onboard vehicles represents an additional area of concern. The reviewed documents highlight dissatisfaction with transit environments, including cleanliness, crowding, and the lack of basic amenities such as seating, shelters, and restrooms. Safety concerns—particularly at major transfer points—further shape negative perceptions. In addition, complex transfers and poorly coordinated routes reduce overall usability.

These findings point to systemic issues in perceived service quality. Within fixed-route transportation, dissatisfaction is driven not only by the presence of services, but by how those services are experienced in practice—particularly in terms of reliability, efficiency, and comfort.

Illustrative Examples

“Across all modes, the prioritization of reliability is most pronounced among transit riders (rail, bus, and subway). Approximately 60 percent of passenger and Commuter Rail riders selected reliability as a key priority. Similarly, 55 percent of bus and subway riders and 52 percent of single-occupancy vehicle (SOV) drivers prioritized reliability. Residents across Massachusetts expressed challenges around reliability.” — Beyond Mobility: The Massachusetts 2050 Transportation Plan, 2024

“Of all respondents, bus riders were the most dissatisfied, identifying service infrequency, unreliability, crowding and slow speeds as discouraging use of the bus system. MBTA stops often lack basic amenities.” — State of the System: Bus, 2015

3.2.4 Driving (n = 138)

A total of 138 excerpts (9.6% of all excerpts) were coded as driving, ranking as the 4th most mentioned mode of transportation in the reviewed literature. Findings related to driving highlight a distinct set of concerns centered on individual capacity, vehicle access, and the broader conditions that shape driving as a viable mode of transportation. Unlike other modes, driving is not only a transportation option but also closely tied to independence and daily functioning. As a result, challenges associated with driving often reflect both personal limitations—such as age-related physical or cognitive decline—and structural factors, including the cost of vehicle ownership and disparities in access to a reliable car. These factors shape whether individuals are able to maintain driving as a primary mode of mobility.

Table 3.6: Distribution of transportation concerns for driving

Other	42
Transportation-no detail	13
Types of trips	10.1
Acceptability-satisfaction	9.4
Access TO services	9.4
Availability	8
Affordability	5.8
Accessibility OF services	0.7
Information/ Communication	0.7
Utilization	0.7

As shown in Table 3.6, driving-related concerns were concentrated in a small number of themes, with the distribution led by “Other” (42.0%), “Transportation-no detail” (13.0%), and “Types of Trips” (10.1%). A second tier of themes included Acceptability-satisfaction and Access to Services (each 9.4%), followed by Availability (8.0%) and Affordability (5.8%). All other themes accounted for less than 1%, indicating that the literature on driving was primarily focused on a relatively narrow set of recurring concerns. The following section focuses on the three most prominent themes to elucidate the key issues reflected in these reviewed materials.

Other (42.0%)

As the largest theme, “Other” encompasses a diverse set of concerns that warrant further unpacking. Findings coded under this category point to cross-cutting, system-level conditions that shape individuals’ ability to drive and remain mobile. Collectively, these reviewed documents highlight how driving is enabled—or constrained—by factors that extend beyond individual capacity. Sustaining driving emerges not solely as an individual issue, but as a function of how well the broader system supports entry into, navigation within, and continuation of driving over time.

The first set of concerns relates to whether individuals can obtain and maintain access to a vehicle. Across reports, affordability emerges as a foundational barrier, particularly for older adults and low-income populations facing rising costs associated with vehicle ownership. These include not only upfront purchase costs, but also recurring expenses such as insurance, fuel, and maintenance. In some regions, limited financial capacity constrains individuals’ ability to replace aging or unreliable vehicles, indirectly limiting mobility. While often framed in economic terms, these constraints have clear equity implications: without stable and affordable vehicle access, driving cannot function as a viable mobility option, particularly in areas with limited alternatives.

Beyond access, the driving environment plays a critical role in shaping mobility outcomes. Many documents highlight concerns related to roadway conditions, infrastructure quality, and the broader built environment. Respondents frequently cited inadequate road maintenance, unclear signage, and poorly designed or unsafe intersections, all of which increase the cognitive and physical demands of driving. Traffic congestion and complex roadway configurations further contribute to navigational challenges, especially for individuals with reduced confidence or functional limitations.

Parking availability, particularly in central locations and near key destinations such as senior centers and healthcare facilities, emerges as another critical component of a supportive driving environment. Limited, inconvenient, or unsafe parking was described as a barrier to accessing essential services and participating in community life. Seasonal and environmental factors, including snow accumulation and inadequate street maintenance, further exacerbate these challenges, particularly for older drivers who may already be self-limited under certain conditions. Together, these findings underscore that even when individuals have access to a vehicle, the usability of driving depends on whether the surrounding environment is safe, predictable, and navigable.

A third set of findings reflects changes in driving ability over time and the challenges associated with maintaining mobility as functional capacity evolves. Driving status is consistently described along a spectrum—from unrestricted driving to self-regulation, to cessation—and is strongly associated with age. Many older adults report modifying their driving behavior to maintain safety, such as avoiding nighttime driving, highways, unfamiliar routes, or adverse weather conditions. These modifications increase with age; while most individuals in their 50s and 60s report driving without limitations, a substantially smaller share of those age 80 and older do so, with many limiting or ceasing driving

altogether. In several communities, more than one-quarter of adults in their 80s reported not driving, with an additional share reporting restricted driving.

These changes are closely associated with increased difficulty meeting daily transportation needs. Individuals who do not drive—or who drive with limitations—consistently report higher rates of transportation challenges, including difficulty reaching routine destinations, reduced participation in social and community activities, and greater reliance on others or on limited alternative transportation options.

These reviewed documents also reflect forward-looking concerns among older adults about their future mobility. Many expressed uncertainties about how they would meet their transportation needs if they were no longer able to drive, particularly in environments where alternatives are limited, costly, or unreliable. These concerns are closely tied to the ability to age in place, as declining driving capacity—without adequate substitutes—can lead to increased isolation, reduced independence, and potential displacement.

In summary, driving is shaped not only by individual ability, but by access to a vehicle, the quality of the surrounding environment, and changes in functional capacity over time. Together, these factors determine whether individuals can sustain mobility, access essential destinations, and remain connected to their communities.

Illustrative Examples

“37% identified a need for better roads. 12% of housing units did not have an available vehicle.” — BILH Beverly Hospital & Addison Gilbert Hospital Community Health Needs Assessment, 2022

“Inadequate transportation systems alongside driver safety were noted as major concerns that, if addressed, could benefit residents of all ages. More than one out of four respondents in their 80s do not drive and an additional 26% report driving with some limitations—suggesting that the oldest old are in highest need of transportation alternatives.” — Aging in Holliston: A Community Needs Assessment, 2023

Transportation-no detail (13.0%)

A second prominent theme captures broad, non-specific concerns among individuals who drive or drive with limitations, without pointing to a discrete underlying issue. Unlike excerpts coded as “Other”—which reference identifiable factors such as road conditions, parking, vehicle access, or traffic-related barriers—these responses reflect more generalized perceptions of transportation difficulty.

Across interviews, focus groups, and survey data, participants frequently described transportation challenges in broad terms when discussing mobility in the context of driving. Rather than identifying specific service gaps or modes, these reviewed documents convey a wider concern that, as individuals begin to limit or cease driving, available alternatives are insufficient to sustain mobility.

A clear pattern emerges: individuals who drive without limitations report relatively few challenges, while those who no longer drive—or who self-regulate their driving—are substantially more likely to encounter barriers to getting around. This contrast suggests that existing transportation systems remain heavily oriented toward independent driving and do not adequately support transitions to alternative modes.

Notably, participants often articulate these challenges in diffuse terms, referencing “transportation” as a whole—including concerns about system adequacy, safety, and future mobility—without identifying specific points of failure. This pattern indicates that the gap is experienced as systemic rather than discrete. When driving is no longer fully viable, the broader mobility environment lacks a clear and reliable substitute, leaving individuals uncertain about how their needs will be met over time. These concerns are reflected in both reported dissatisfaction with existing transportation options and broader anxiety about maintaining mobility as driving becomes less viable.

Illustrative Examples

“Forty-one percent of those who don’t drive or drive with limitations reported they are ‘only slightly’ or ‘not at all satisfied’ with transportation options in Hamilton.” — Aging in Hamilton: A Community Needs Assessment, 2022

“An additional consistent theme expressed by all interviewees and focus group participants were concerns for transportation options. As being able to drive is also essential to the autonomy and independence of older residents, views expressed by participants reflected concern for not only those known to not have the ability to drive themselves at this time, but also for their own personal future needs and ability.” — Aging in North Andover: A Community Needs Assessment, 2023

Types of Trips (10.1%)

Findings under this theme underscore the extent to which driving status directly shapes individuals’ ability to carry out essential daily activities. Across the reviewed documents, driving emerges as a primary mechanism for accessing fundamental needs, including healthcare, employment, shopping, and social participation.

Access to medical care is a particularly salient concern. Individuals who do not drive—or who drive with limitations—are significantly more likely to miss, delay, or forgo medical appointments due to transportation barriers. This pattern suggests that driving functions not simply as a mode of travel, but as a key determinant of timely and reliable healthcare access. Similar dynamics are evident across other essential trips. Activities such as grocery shopping, accessing social services, and participating in community life are frequently described as contingent on access to a personal vehicle. In communities where destinations are geographically dispersed, the absence of a car renders even routine errands difficult or, in some cases, infeasible. Participants consistently emphasized that without the ability to drive, their capacity to meet basic needs and maintain social connections is substantially constrained.

Transportation barriers also have clear economic implications. Limited vehicle access restricts participation in the labor force, particularly among already vulnerable populations. In some cases, respondents described missed work opportunities, challenges accessing childcare, and broader financial strain as direct consequences of constrained mobility. Collectively, these findings indicate that in driving-dependent contexts, the ability to complete essential trips is tightly coupled with access to a personal vehicle and the capacity to drive. As driving becomes limited or unavailable, access to these activities becomes increasingly uncertain, with significant implications for health, economic stability, and social participation.

Illustrative Examples

“However, driving status impacts this experience heavily, with 10% of those who drive with limitations and 22% of respondents who do not drive at all reporting that they had missed, cancelled or rescheduled a medical appointment because of transportation.” — Hanson Council on Aging Needs Assessment, 2020

“The impact of this was heard with the Charlestown focus groups as participants shared that not having access to a car in the neighborhood severely impacts one’s ability to access basic services.” — NEW Health Community Needs Assessment, 2023

3.2.5 Bicycle and Pedestrian Transportation (n = 111)

A total of 111 excerpts (7.7%) were coded under Bicycle and Pedestrian Transportation. As shown in Table 3.7, concerns within this mode are highly concentrated in a small number of themes, with “Other” accounting for the largest share (52.3%). This is followed by “Access to Services” (20.7%), while all remaining themes represent relatively smaller proportions.

Table 3.7: Distribution of transportation concerns for bicycle and pedestrian transportation

Other	52.3
Access TO services	20.7
Transportation-no detail	6.3
Accessibility OF services	4.5
Adaptability/Flexibility	4.5
Types of trips	3.6
Utilization	3.6
Acceptability-satisfaction	2.7
Information/ Communication	1.8

The prominence of the “Other” category suggests that many concerns related to bicycle and pedestrian transportation are not captured by standard thematic classifications but instead reflect a range of conditions associated with the built environment and broader physical context. “Access to Services” also represents a substantial share, indicating the importance of proximity and the ability to reach key destinations through walking or bicycling. The following sections examine the two most prominent themes within bicycle and pedestrian transportation.

Other (52.3%)

The “Other” category represents the largest share of concerns within bicycle and pedestrian transportation, capturing a broad set of issues related to the built environment and physical conditions that shape the feasibility of active transportation. These concerns can be broadly grouped into four key areas: deficiencies in sidewalk and bicycle infrastructure, safety risks associated with traffic and crossings, limited network connectivity and land use constraints, and the lack of supportive amenities that enable safe and sustained use.

A dominant concern across the reviewed documents is the limited availability and poor condition of pedestrian and bicycle infrastructure. Many communities report incomplete or disconnected sidewalk networks, with sidewalks that are uneven, damaged, or entirely absent in certain areas. In some cases, pathways end abruptly or fail to connect to key destinations, making continuous travel difficult. Maintenance challenges further exacerbate these issues, particularly during winter months when snow and ice create hazardous walking conditions. These infrastructure limitations significantly restrict the ability of individuals, especially older adults and those with mobility limitations—to safely and independently walk or bike within their communities.

Safety concerns emerge as another major dimension. These reviewed documents frequently reference dangerous intersections, high volumes of traffic, and elevated crash risks for pedestrians and bicyclists. In many settings, inadequate crossing infrastructure, poorly timed signals, and lack of separation between modes increase both actual and perceived risks. These conditions can discourage walking and bicycling altogether, particularly among more vulnerable populations.

In addition, many reviewed documents highlight challenges related to connectivity and land use patterns. Even in communities where some infrastructure exists, pedestrian and bicycle networks are often fragmented and do not provide continuous access to essential destinations such as healthcare facilities, grocery stores, and community services. In suburban and rural areas, longer travel distances and dispersed land use further limit the practicality of walking or biking as a mode of transportation.

Finally, the absence of supportive amenities and user-oriented design features further constrain usability. Respondents frequently note insufficient lighting, lack of benches or resting areas, inadequate signage, and limited bicycle infrastructure such as bike lanes or storage. These elements play a critical role in enabling longer or more frequent trips, particularly for older adults, but are often missing or inconsistently implemented.

In total, these findings indicate that challenges in bicycle and pedestrian transportation are primarily rooted in the physical and spatial structure of communities. The ability to walk or bike is shaped not only by the presence of infrastructure, but by its continuity, safety, and usability within the broader built environment.

Illustrative Examples

“Working groups: Narrow roads, some of which are maintained by the state, need repairs and present safety challenges for drivers, bicyclists, and pedestrians. Pedestrian safety features vary due to sidewalk conditions and inconsistent availability of crosswalk signals with features for those with vision loss. 14% of older respondents described “walkability” issues such as poorly maintained sidewalks and interrupted or non-existent walkways as a transportation barrier. Sidewalks are unsafe due to mixed materials including cobblestone and brick as well as damaged surface and tree roots. Connectivity for walkable travel is difficult due to sidewalks that end abruptly, including one disconnected route that leads to the beach.” — Building an Age & Dementia Friendly Barnstable: An Action Plan, 2023

“Users of active transportation modes, namely walking and bicycling, often experience unsafe, low-comfort, and disconnected facilities, especially in Gateway Cities and rural areas. Older adults are particularly vulnerable to serious injury or death when they are involved in crashes as pedestrians.” — Beyond Mobility: The Massachusetts 2050 Transportation Plan, 2024

Access to Services (20.7%)

Within bicycle and pedestrian transportation, access is best understood in terms of whether these modes can function as reliable first- and last-mile connectors within the broader transportation system. The issue is not simply the presence of barriers, but the point at which those barriers make walking or bicycling unusable as a link in completing a trip.

Across many reviewed documents, a consistent pattern is that access breaks down when trips cannot be completed in a continuous and dependable manner. Even relatively small disruptions—such as gaps in route continuity or unsafe transition points—can prevent individuals from reaching transit stops, nearby services, or key destinations. When this occurs, walking and bicycling are no longer viable as connectors, even if the overall distance or trip purpose would otherwise be suitable for these modes.

Because these modes frequently serve as the critical first- and last-mile link, their failure has implications beyond active transportation itself. When individuals cannot safely or reliably walk or bike, they may also lose practical access to public transit and other transportation services. In this sense, barriers at the level of walking and bicycling can propagate upward, weakening access to the broader mobility system. This dynamic is especially consequential for individuals who rely on walking or bicycling to connect to transit stops, nearby services, or other transportation options. When these connections are unsafe, incomplete, or unreliable, walking and bicycling become less practical as access modes, even if the destination or transit service itself is technically nearby.

Overall, access to bicycle and pedestrian transportation depends not only on whether these modes are theoretically available, but on whether they can function as dependable connectors within a larger, interdependent transportation network.

Illustrative Examples

“The lack of contiguous, safe, high-comfort bicycle or pedestrian pathways connecting existing pedestrian and bicycle facilities limits the ability of people walking, bicycling, and using other non-motorized modes, including mobility-assistive devices, to access critical destinations. Missing sidewalks, curb ramps, and crosswalks limit mobility options, especially for older adults, people with disabilities, and children. This is a particular issue in rural communities, where many such residents live.” — Beyond Mobility: The Massachusetts 2050 Transportation Plan, 2024

“Increased bicycle visibility (First/last mile connections).” — MetroWest Regional Transit Authority Comprehensive Regional Transit Plan, 2021

3.2.6 COA Van (n = 105)

A total of 105 excerpts (7.3% of all excerpts) were coded under COA Van. As shown in Table 3.8, concerns within this mode are distributed across several themes, with “Types of Trips” representing the largest share (30.5%). This is followed by “Utilization” (18.1%) and “Availability” (15.2%), while all remaining themes account for smaller proportions. “Other” (10.5%) and “Transportation—no detail” (9.5%) represent a moderate share of excerpts, suggesting that some concerns are either broadly defined or do not fall neatly within standard thematic categories. Additional themes constitute relatively small shares.

Table 3.8: Distribution of transportation concerns for COA van

Types of trips	30.5
Utilization	18.1
Availability	15.2
Other	10.5
Transportation-no detail	9.5
Adaptability/Flexibility	4.8
Information/ Communication	4.8
Acceptability-satisfaction	2.9
Affordability	1.9
Acceptability-stigma	1
Access TO services	1

The following sections examine the three most prominent themes within this mode in greater detail.

Types of Trips (30.5%)

Within COA Van services, “Types of Trips” reflects not only the purposes of travel, but also how these programs are explicitly structured around a defined set of prioritized trip needs. Unlike general transportation modes, COA Van services operate as purpose-driven programs, with trip provision closely aligned to essential activities that support health, daily functioning, and social participation among older adults.

Medical transportation emerges as the central organizing function of these services. Across the reviewed documents, COA Vans are consistently described as a critical resource for accessing both local and out-of-area medical care, particularly for individuals who no longer drive. In many cases, however, programmatic constraints, such as limits on service boundaries or scheduling capacity, restrict the ability to meet demand for specialized or distant care, highlighting the tension between high-priority needs and operational limitations.

Beyond medical trips, COA Van services also support a defined set of routine, program-supported activities. These include errands such as grocery shopping and pharmacy visits, as well as transportation to senior centers, meal programs, and community events. Rather than serving as an open-ended mobility option, these trips are often pre-scheduled, grouped, or tied to specific destinations, reflecting the programmatic nature of service delivery.

These studies indicate that unmet needs within COA Van services are not evenly distributed across all trip types but are concentrated in specific areas: access to out-of-area medical care, and the ability to meet a broader range of routine and community-based trip purposes. As a result, while COA Vans play a critical role in supporting essential travel, they do not fully address the diversity of trip needs required for independent and active living.

Illustrative Examples

“Also highlighted in interactions with focus group participants was tremendous concern for many of the characteristics of the Senior Center, including...the limits on availability of vans for older adults to access evening and weekend community events.” — Aging in Westborough: A Community Needs Assessment, 2023

“Another identified concern is for people needing to get to medical appointments that are outside of the town they reside in when COA van or volunteer transportation services are limited to local only.” — Minuteman Senior Services Area Plan on Aging Federal Fiscal Years 2022-2025, 2021

Utilization (18.1%)

“Utilization” represents the second most prominent theme within COA Van services, highlighting patterns in who uses these services, under what conditions, and the extent to which current usage reflects underlying demand.

Across the reviewed documents, utilization is highly uneven across population groups and is closely associated with driving status and functional ability. Individuals who do not drive, or who experience limitations in mobility, are consistently more likely to use COA Van services than those who are able to drive independently. In several cases, COA transportation functions as a critical support for maintaining community participation among non-drivers and those with participation-limiting impairments.

At the same time, multiple reviewed documents report growth in ride volumes over time, as well as rising requests for transportation services that exceed existing capacity. In some communities, the number of transportation requests has outpaced the ability of COA programs to respond, reflecting constraints related to limited vehicles, staffing, and operating hours.

Operational characteristics of COA programs further shape utilization. Services are often limited in geographic scope (e.g., in-town service), scheduling (e.g., advance reservation, weekday hours), and capacity, which can restrict who is able to use them and for what purposes.

Overall, these findings indicate that utilization of COA Van services reflects both targeted use by those with the greatest need and broader constraints in service capacity and accessibility. While these programs play a critical role for certain populations, current usage levels may underrepresent the full extent of demand for transportation support among older adults.

Illustrative Examples

“Survey: Among those who do not drive at all—one third report using the Maynard Council on Aging transportation, suggesting that it functions as a lifeline to those residents who may otherwise be home bound.” — Aging in Maynard: A Community Needs Assessment, 2023

“Among those who drive themselves, only 3% report using COA transportation in the last year. This proportion jumps to 26% among those who do not drive at all and 9% of those who limit their driving in some way.” — Aging in Brewster: A Community Needs Assessment, 2023

Availability (15.2%)

“Availability” represents a key dimension of constraints within COA van services, reflecting the extent to which these programs are able to provide transportation across different times, locations, and service needs. Across the reviewed documents, concerns consistently point to limitations in operating hours, geographic coverage, and overall service capacity.

A primary constraint relates to service hours. Many COA transportation programs operate within a limited daytime window, often ending in the mid-afternoon and providing little or no service during evenings or weekends. As a result, individuals may be unable to schedule transportation for appointments or activities that occur outside of standard operating hours, restricting the range of trips that can be supported.

Geographic coverage represents another significant limitation. In many communities, COA van services are restricted to within-town travel or a limited service area, with only minimal interregional coverage. This poses particular challenges for individuals who need to access services beyond municipal boundaries, such as specialized medical care or regional facilities. In some cases, the lack of coverage requires individuals to seek alternative arrangements or forgo trips altogether.

Service capacity further constrains availability. Many COA programs operate with a limited number of vehicles and drivers, which restricts the volume and frequency of trips that can be provided. In smaller communities, services may rely on a single vehicle, while in others, fixed schedules or advance reservation requirements limit the number of trips that can be accommodated. Even in cases where basic transportation services are available, they may not be sufficient to meet the full range of community needs. In addition, variations across

communities contribute to uneven levels of service provision. Differences in funding, staffing, and local resources result in significant variability in the types of services offered, including the availability of transportation for individuals with different mobility needs.

In summary, COA van services are characterized by defined operational boundaries in terms of when, where, and how transportation is provided. These constraints shape not only the availability of services, but also the extent to which they can effectively meet the diverse and evolving transportation needs of older adults.

Illustrative Examples

“The COA does provide some transportation, but it is very limited in what it can provide (e.g., limited hours and distances/locations).” — Aging in Middleton: A Community Needs Assessment, 2023

“The Councils on Aging vans are limited, and access to grocery shopping and medical transportation varies by town.” — South Shore Elder Services Area Plan on Aging Four-Year Plan, 2022

3.2.7 Demand-Response Services (n = 74)

A total of 74 excerpts (5.4% of all) were coded under Demand-Response Services. As shown in Table 3.9, concerns within this mode are distributed across multiple themes, without a single dominant category. “Availability” represents the largest share (18.9%), followed by “Adaptability/Flexibility” (16.2%) and “Access to Services” (12.2%).

Additional themes, including “Acceptability-satisfaction” (10.8%), “Types of Trips” (9.5%), and “Accessibility of Services” (8.1%), also account for a notable proportion of excerpts, indicating a broad range of concerns related to how these services are delivered and experienced. Other themes, such as “Affordability” (6.8%), “Information/Communication” (5.4%), and “Utilization” (5.4%), appear at more moderate levels, while “Other” (4.1%) and “Acceptability-stigma” (2.7%) represent relatively smaller shares.

Table 3.9: Distribution of transportation concerns for demand-response services

Availability	18.9
Adaptability/Flexibility	16.2
Access TO services	12.2
Acceptability-satisfaction	10.8
Types of trips	9.5
Accessibility OF services	8.1
Affordability	6.8
Information/ Communication	5.4
Utilization	5.4
Other	4.1
Acceptability-stigma	2.7

The following sections examine the three most prominent themes within this mode in greater detail.

Availability (18.9%)

“Availability” represents the largest share of concerns within demand-response services, reflecting limitations in when, where, and how these services are provided. Across the reviewed documents, issues consistently center on gaps in service hours, geographic reach, and the availability of user-responsive service options.

A primary concern relates to temporal coverage. Many demand-response services operate within restricted hours, with limited or no availability during evenings or weekends. This constrains the ability of users, particularly older adults, to schedule trips outside of standard daytime windows, reducing the practicality of these services for a wider range of needs.

Geographic limitations also emerge as a significant constraint. In many cases, demand-response services are restricted to within-town travel or a limited-service area, with minimal connections across communities or regions. This lack of inter-community coverage limits access to destinations beyond local boundaries and reduces the usefulness of services for individuals requiring travel to regional facilities.

Illustrative Examples

“Hours of operation for on-demand service and Sunday service are also a major concern for seniors.” — Merrimack Valley Regional Transit Authority Coordinated Public Transit - Human Services Transportation Plan, 2023

“Currently demand response is operated by COAs and limited to in-town service with very limited interregional service.” — Greater Attleboro Taunton Regional Transit Authority Comprehensive Regional Transit Plan, 2021

Adaptability/Flexibility (16.2%)

“Adaptability/Flexibility” represents a key dimension of demand-response services, reflecting the extent to which these services can accommodate users’ varying needs, schedules, and levels of independence. Across the reviewed documents, concerns consistently center on the rigidity of service structures and the challenges users face in aligning transportation with real-world demands.

A primary issue relates to the lack of flexibility in scheduling. Many demand-response services require advance reservations, often with limited ability to accommodate same-day or short-notice requests. As a result, users may be unable to respond to unexpected needs or make spontaneous trips, particularly for routine activities such as errands, social engagements, or time-sensitive appointments. In some cases, the need to plan transportation well in advance adds complexity and reduces the practicality of using these services.

The complexity of coordinating trips further limits flexibility. Users often report that arranging transportation—particularly for medical appointments—requires navigating multiple systems, eligibility rules, service areas, or scheduling processes. In some cases, trips involve extended travel times and waiting periods relative to the duration of the activity itself, reducing efficiency and increasing burden. As a result, these services function as a set of discrete programs rather than an integrated system, limiting the extent to which individuals can use demand-response transportation as a consistent and responsive option.

Across the reviewed documents, demand for more responsive and user-centered service models is consistently noted. Many studies point to interest in on-demand or microtransit-style services, shorter scheduling windows, and the ability to book trips through digital platforms. These features are seen as ways to reduce uncertainty, improve convenience, and better align services with users’ daily routines.

Overall, adaptability within demand-response services is shaped not only by whether transportation is available, but by how well service structures accommodate variability in users’ needs, preferences, and day-to-day circumstances.

Illustrative Examples

“There is a need for same day service throughout the region for demand response users. Reduced anxiety around the demand response window-A shorter wait time/window was identified as a need.” — Greater Attleboro-Taunton Regional Transit Authority: Comprehensive Regional Transit Plan, 2021

“There is interest in flexible on demand ride services in smaller environmentally friendly vehicles.” — Aging in Hanover: A Community Needs Assessment, 2024

Access to Services (12.2%)

“Access to Services” represents a critical dimension of demand-response transportation, focusing on the extent to which individuals are able to use these services to complete trips. Across the reviewed documents, concerns consistently center on whether individuals can successfully connect to and engage with these services, particularly when additional assistance is needed at the point of pickup or drop-off.

A recurring issue is that access is often contingent on the availability of basic support—such as door-to-door or door-through-door assistance—that enables individuals to enter, exit, and complete a trip. In the absence of such support, some individuals may be unable to initiate or complete trips, even when transportation services are technically available. In some cases, liability concerns or program policies limit the ability of service providers to offer higher levels of assistance, further restricting access for those with the greatest need. In this sense, access is shaped not only by the presence of service, but by whether the conditions exist to connect individuals to that service in practice.

Illustrative Examples

“Older, disabled elders who are frail and who need extra assistance for all trips require service beyond the curb-to-curb transportation that is currently available.” — Southeastern Regional Planning & Economic Development District Coordinated Human Services Transportation Plan, 2023

“There is a ride service that services Hopkinton, but it only provides door to door service. Many older adults need help getting out of their doors and getting to the office or place they need to be.” — Aging in Hopkinton: A Community Needs Assessment, 2024

3.2.8 Taxi/Ride Share (n = 62)

A total of 62 excerpts (4.3% of all) were coded under Taxi/Ride Share. As shown in Table 3.10, concerns within this mode are distributed across multiple themes, with “Affordability” (17.7%) and “Availability” (17.7%) representing the largest shares. These are followed by “Types of Trips” (12.9%) and “Utilization” (12.9%), while all remaining themes account for smaller proportions.

Additional themes, including “Information/Communication” (9.7%) and “Access to Services” (6.5%), appear at moderate levels, indicating concerns related to system navigation and the ability to use these services. Other themes, such as “Acceptability-satisfaction” (4.8%), “Accessibility of Services” (4.8%), and “Other” (4.8%), represent smaller shares, while “Adaptability/Flexibility” (3.2%), “Transportation—no detail” (3.2%), and “Acceptability-stigma” (1.6%) constitute relatively minor proportions.

Table 3.10: Distribution of transportation concerns for taxi/ride share

Affordability	17.7
Availability	17.7
Types of trips	12.9
Utilization	12.9
Information/ Communication	9.7
Access TO services	6.5
Acceptability-satisfaction	4.8
Accessibility OF services	4.8
Other	4.8
Adaptability/Flexibility	3.2
Transportation-no detail	3.2
Acceptability-stigma	1.6

The following sections examine the most prominent themes within this mode in greater detail.

Affordability (17.7%)

“Affordability” represents one of the most prominent concerns within taxi and ride share services, highlighting the financial barriers associated with using these modes for routine transportation. Across the reviewed documents, taxi and ride share services are frequently described as available and, in some cases, preferable to other options, but ultimately unaffordable for sustained use.

A consistent pattern across the reviewed documents is that these services are often used as a fallback option rather than a primary mode of transportation. When public transportation or community-based services are unavailable or insufficient, individuals may turn to taxis or ride-sharing platforms such as Uber or Lyft to meet immediate needs. However, the cost of these services, particularly for repeated trips or longer distances, can quickly become prohibitive.

These financial constraints are especially pronounced among older adults, individuals without access to a personal vehicle, and those with limited incomes. In such cases, reliance on taxi or ride share services may place a significant financial burden on users, particularly for essential trips such as medical appointments. As a result, individuals may instead rely on family members or caregivers for transportation or forgo trips altogether when affordable options are not available.

In addition, affordability challenges extend beyond individual users to the broader care ecosystem. The reviewed documents indicate that paid caregivers may be unable to afford ride-sharing services to reach clients, particularly in areas with limited public transportation. This creates additional barriers to accessing care and highlights the role of transportation costs in shaping service delivery.

Although some studies note the availability of supports such as taxi vouchers or subsidized programs, these are often limited in scope and insufficient to offset the overall cost burden. In this context, taxi and ride share services are characterized by a paradox: while they offer flexibility and convenience, their cost structure limits their viability as an equitable and reliable transportation option for many users.

Illustrative Examples

“Additionally, the request for access to more taxi coupons was made.” — City of Boston Area Plan 2022-2025, 2022

“Non-driving residents may resort to Uber or other ridesharing options; however, this can become quite costly going into the city.” — Aging in North Andover: A Community Needs Assessment, 2024

Availability (17.7%)

“Availability” represents a parallel and equally prominent concern within taxi and ride share services, reflecting limitations in the presence and geographic reach of these options. Across the reviewed documents, issues consistently center on whether these services exist and where they operate, particularly outside of more densely populated areas.

A primary concern is the absence of local taxi or ride share services in many communities. Many reviewed documents frequently note that certain towns lack any taxi service, while ride-sharing platforms such as Uber and Lyft may not operate or be offered at all. In some areas, the lack of these services is identified as a direct barrier to reaching destinations, particularly for individuals who do not drive. In addition, limited driver supply in certain areas further constrains overall service availability, reducing the presence of taxi and ride share options in the market.

Even where services are present, geographic coverage is often uneven. Ride-sharing availability tends to be concentrated in larger or more urbanized areas, with limited or no service in smaller towns and rural communities. As a result, individuals living outside these areas may be unable to rely on taxi or ride share services as a viable transportation option.

In addition, access to ride-sharing services is shaped by technological requirements, including the need for smartphones and digital literacy. For some users, particularly older adults, these requirements can constrain the effective availability of services, even where they are technically offered.

Overall, taxi and ride share services are characterized by uneven geographic presence and limited coverage, restricting their role as a broadly accessible transportation option across communities.

Illustrative Examples

“Uber and Lyft do not come to many of our communities and even in larger (e.g., Northampton) not always reliable.” — The ReiMAgine Aging 2030, 2025

“The focus group participants explained that taxis, Lyft, and Uber are far less available now than before the pandemic; they believe, driver shortages account for the decreased availability of these services.” — Salem Hospital Community Health Needs Assessment, 2022

Types of Trips (12.9%)

“Types of Trips” within taxi and ride share services reflects the contexts in which these modes are relied upon, rather than a broad distribution of everyday travel needs. Across the reviewed documents, these services are most commonly associated with specific situations where other transportation options are unavailable, insufficient, or unsuitable.

A primary use case is transportation to medical appointments, particularly for individuals who do not drive and lack access to public or community-based transportation services. In

such cases, taxis or ride-sharing services may serve as one of the few options available for reaching healthcare destinations, despite the associated financial burden.

In addition to medical needs, taxi and ride share services are also referenced in connection with transportation to senior centers, community programs, and other key destinations, particularly when more structured or subsidized transportation services are unavailable. These services also appear in discussions of pilot programs aimed at expanding mobility options in rural or underserved areas.

In summary, many reviewed documents indicate that taxi and ride share services are most often used in targeted, situation-specific contexts, rather than as a primary mode for routine travel, reflecting their limited but important role within the broader transportation system.

Illustrative Example

“For seniors in the communities with no access to public or human services transportation, depend on their family members and friends to attend medical appointments or pay higher costs for transportation services provided by private taxis and ambulance services that are not subsidized.” — Berkshire Regional Coordinated Public Transit – Human Services Transportation Plan, 2023

Utilization (12.9%)

“Utilization” of taxi and ride share services reflects the extent to which these options are actually used in practice relative to other transportation modes. Across the reviewed documents, usage rates appear to be generally limited at the population level, with taxi and ride share services representing a relatively small share of overall transportation use.

Survey findings consistently indicate that only a modest proportion of respondents report using taxi or ride-sharing services as part of their regular transportation patterns. In many communities, these services account for a small percentage of reported travel modes, often significantly lower than driving or other established transportation options. In some cases, reported usage falls below five percent of respondents.

At the same time, utilization is more pronounced among specific subgroups. Individuals who do not drive or who limit their driving are more likely to use taxi or ride share services compared to the general population, indicating that usage is concentrated among those with more constrained transportation options.

Overall, these patterns suggest that taxi and ride share services are used selectively and by a relatively small segment of the population, rather than functioning as a widely adopted mode of transportation.

Illustrative Example

“Other primary ways respondents meet their transportation needs include..., the commuter rail (8%), and taxi or ride sharing (6%).” — Aging in Brockton: A Community Needs Assessment, 2023

3.2.9 ADA Paratransit (n = 45)

A total of 45 excerpts (3.1% of all) were coded under ADA paratransit. As shown in Table 9, concerns within this mode are distributed across multiple themes, with “Availability” representing the largest share (17.8%), followed by “Acceptability-satisfaction” (15.6%) and “Access to Services” (13.3%). Additional themes, including “Accessibility of Services” (11.1%) and “Adaptability/Flexibility” (11.1%), also account for a notable proportion of excerpts, indicating a broad range of concerns related to service delivery and user experience. Other themes, such as “Information/Communication” (8.9%) and “Utilization” (8.9%), appear at moderate levels, while “Affordability” (4.4%) and “Types of Trips” (4.4%) represent smaller shares. Other themes constitute relatively minor proportions. The following sections examine the most prominent themes within this mode in greater detail.

Table 3.11: Distribution of transportation concerns for ADA paratransit

Availability	17.8
Acceptability-satisfaction	15.6
Access TO services	13.3
Accessibility OF services	11.1
Adaptability/Flexibility	11.1
Information/ Communication	8.9
Utilization	8.9
Affordability	4.4
Types of trips	4.4
Acceptability-stigma	2.2
Other	2.2
Transportation-no detail	

Availability (17.8%)

“Availability” represents the most prominent concern within ADA paratransit services, reflecting constraints in the geographic scope and service boundaries within which these services operate. Across the reviewed documents, concern consistently centers on the extent to which ADA paratransit is accessible beyond designated service areas.

A defining limitation is the structure of service boundaries. ADA paratransit is typically restricted to areas within a specified distance—often three-quarters of a mile—of fixed-route transit. As a result, individuals living outside these corridors may have limited or no access, even when transportation needs are substantial. In some communities, large segments of the population fall outside these service areas, creating significant coverage gaps. Some reviewed documents also highlight difficulties accessing destinations beyond local or regional boundaries, including specialized medical care located outside service areas.

Changes to fixed-route transit systems can further exacerbate these constraints. Because ADA paratransit is designed to complement fixed-route services, reductions or modifications to those systems often result in corresponding contractions in paratransit coverage.

While ADA paratransit provides a critical mobility option for individuals unable to use fixed-route transit, these findings indicate that its availability is structurally tied to predefined service areas that do not consistently align with the full range of users' transportation needs.

Illustrative Example

“ADA complementary paratransit service (door-to-door, shared-ride transportation) is provided to those whose disability prevents them from using the fixed-route services. However, this service only operates within $\frac{3}{4}$ of a mile of the fixed route.” — Building an Age & Dementia Friendly Barnstable: An Action Plan, 2023

Acceptability-Satisfaction (15.6%)

“Acceptability-Satisfaction” represents a significant dimension of concerns within ADA paratransit services, reflecting users' experiences with service reliability, scheduling, and overall usability. Across the reviewed documents, ADA paratransit is often described as a necessary but burdensome transportation option.

A primary concern relates to service reliability and time burden. Many reviewed documents frequently highlight long wait times, delayed pick-ups, and extended travel durations, with some trips for relatively short appointments requiring several hours of total travel time. These challenges are compounded by scheduling practices, including complex booking processes, pick-up times that do not align well with appointments, and difficulties coordinating return trips. Together, these factors contribute to prolonged waiting periods and reduced predictability, increasing the overall burden on users.

As a result, ADA paratransit is often perceived as a service that, while essential, may not provide a convenient or comfortable travel experience, with cumulative challenges related to time and coordination reducing overall user satisfaction.

Illustrative Examples

“Many participants expressed frustration about long wait-times/delayed arrivals and pick-ups that are too soon before an appointment for the MBTA RIDE service.” — City of Boston Area Plan 2022-2025, 2022

Access to Services (13.3%)

“Access to Services” in the context of ADA paratransit reflects the extent to which individuals are able to successfully enter and use services within a system defined by specific eligibility criteria, regulatory requirements, and service boundaries. Across the reviewed documents, concerns consistently center on structural and procedural barriers that limit practical access, even when services are in place.

At the structural level, access is shaped by fragmented service areas and limited coordination across transportation systems. Many reviewed documents highlight gaps in connectivity between ADA paratransit and other services, including fixed-route transit and regional providers. Because services are bounded by jurisdictional limits, the absence of coordinated transfers can require users to rely on multiple modes to complete a single trip, increasing complexity and constraining access.

Procedural requirements further restrict access. Advance scheduling, which is integral to ADA paratransit operations, can present challenges for users who need timely or less constrained trip arrangements. For some individuals, particularly older adults, these processes create an additional layer of difficulty in navigating the system.

Access is also influenced by the alignment between user needs and service design. Variations in mobility, support needs, and the availability of assistance can affect whether individuals are able to use services as intended. In such cases, services that are formally available may not be practically usable without adequate support.

Finally, access is inherently linked to the structure of fixed-route transit systems. As a complementary service, ADA paratransit operates within the geographic and operational boundaries of fixed-route networks. Limitations in those systems can directly constrain where and how paratransit services are provided, particularly in areas with limited transit infrastructure.

Overall, access to ADA paratransit is shaped by a combination of system design constraints, procedural requirements, and the degree to which services align with users' functional needs, rather than by service availability alone.

Illustrative Example

“Newton residents noted in the Newton community needs assessment that the RIDE works, but it is notoriously difficult to access and is not a particularly pleasant experience.” — Newton-Wellsley Hospital Community Health Needs Assessment, 2022

3.2.10 Volunteer Driver Programs (n = 26)

A total of 26 excerpts (1.8% of all) were coded under Volunteer Driver Programs. As shown in Table 3.12, concerns within this mode are distributed across several themes, with “Utilization” representing the largest share (23.1%). Three themes— “Availability” (15.4%), “Transportation—no detail” (15.4%), and “Types of Trips” (15.4%)—follow at equal levels, indicating a cluster of secondary concerns.

Additional themes, including “Acceptability-satisfaction” (7.7%), “Adaptability/Flexibility” (7.7%), and “Other” (7.7%), account for smaller but comparable shares, while “Accessibility of Services” (3.8%) and “Information/Communication” (3.8%) represent relatively minor proportions. The following sections examine the most prominent theme within this mode in greater detail, which is Utilization. Other themes, including availability, transportation—no detail, and types of trips, appear at similar levels but are less substantively developed in the reviewed documents.

Table 3.12: Distribution of transportation concerns for volunteer driver programs

Utilization	23.1
Availability	15.4
Transportation-no detail	15.4
Types of trips	15.4
Acceptability-satisfaction	7.7
Adaptability/Flexibility	7.7
Other	7.7
Accessibility OF services	3.8
Information/ Communication	3.8

Utilization (23.1%)

“Utilization” represents the most prominent theme within volunteer driver programs, reflecting how these services are used in practice. Across the reviewed documents, volunteer driver programs generally appeared to serve a relatively small number of users.

At the same time, usage is highly concentrated among specific individuals and trip purposes. These programs are most often used to support essential trips, particularly medical and dental appointments, and typically operate through volunteer-provided rides using personal vehicles. In some communities, programs deliver a steady volume of rides, underscoring their role in meeting targeted transportation needs.

Overall, volunteer driver programs are characterized by low overall utilization but high relevance for a defined group of users, reflecting a targeted rather than broadly adopted service model.

Illustrative Examples

“Respondents rarely use other modes of transportation, including the CATA fixed bus route, the CATA door-to-door service, ride sharing services, and SeniorCare volunteer driver services (<3% for each of these options).” — Living in Essex: A Community Needs Assessment, 2023

“Among those respondents who limit their driving in some way, or do not drive at all, a similar pattern of transportation use emerged. Aside from driving oneself, relying on family or friends was a top option reported by 59% of these respondents; followed by relying the on Berlin COA transportation (15%) and reliance on friends or neighbors (14%).” — Aging in Berlin: A Community Needs Assessment, 2023

3.2.11 Micro transit (n = 7)

A total of 7 excerpts (0.5% of all) were coded under microtransit. As shown in Table 3.13, “Other” represents the largest share (42.9%), while several additional themes—including “Adaptability/Flexibility,” “Availability,” “Information/Communication,” and “Types of Trips”—each account for 14.3% of excerpts. Given the limited number of excerpts, these themes are not examined separately. Instead, the findings are considered collectively to reflect emerging observations related to microtransit services.

Table 3.13: Distribution of transportation concerns for micro transit

Other	2.9
Adaptability/Flexibility	14.3
Availability	14.3
Information/ Communication	14.3
Types of trips	14.3

Across the reviewed documents, microtransit is most often discussed as a potential solution to gaps in existing transportation systems, particularly in rural areas and regions with limited fixed-route service. It is frequently positioned as a connector, linking smaller or more remote communities to primary transit networks and main service corridors. At the same time, some studies highlight concerns related to service design and coordination. Challenges include scheduling constraints, the ability to accommodate variable demand, and the need for stronger integration with existing transit systems. These issues suggest that while microtransit offers conceptual flexibility, its implementation presents operational complexities.

Reliance on technology-based platforms introduces an additional layer of consideration. App-based booking and digital interfaces may create access barriers for certain populations, particularly older adults and others with limited familiarity or comfort with mobile technologies.

More broadly, microtransit is often referenced in the context of pilot programs and future-oriented planning. Many reviewed documents express interest in expanding or introducing microtransit as a strategy for addressing mobility needs in areas where traditional transit options are not feasible.

Overall, these patterns indicate that microtransit is viewed less as an established mode and more as an emerging approach, with growing interest in its potential to complement and extend existing transportation systems.

Illustrative Example

“Microtransit was a frequently cited need in rural areas where fixed route transit will likely not be relevant soon.” — Beyond Mobility: The Massachusetts 2050 Transportation Plan, 2024

3.3 Transportation Barriers by Region & Population

While the preceding analysis examines transportation challenges by mode, this approach does not fully capture how these challenges are experienced by different populations. Individuals do not engage with a single mode in isolation; rather, their mobility is shaped by a combination of available options, personal circumstances, and local contexts. As a result, barriers that appear mode-specific may manifest very differently across regions and population groups.

To better understand these differences, this section applies an equity lens, shifting the focus from transportation modes to the populations and contexts in which mobility needs arise. By examining the most prominent barriers across groups, the analysis highlights how transportation challenges are distributed unevenly and shaped by underlying differences in capacity, environment, and access to resources.

Table 3.14 presents the top three transportation barriers identified across different regions and population groups, highlighting how transportation challenges are distributed unevenly across contexts. The findings indicate that while certain themes—such as *availability*, *access*, and *types of trips*—appear across groups, their relative prominence varies significantly depending on geographic and population characteristics.

Across geographic contexts, availability-related challenges are most prominent. For urban, rural, and suburban areas alike, *availability* emerges as the top concern, followed by *types of trips*, suggesting that both the presence of services and their ability to meet specific travel needs remain central issues across regions.

Table 3.14: Top Three Transportation Barriers by Region and Population Group

Region & Population	Top Issue	Second	Third
Urban / Rural / Suburban	Availability (27)	Types of trips (11)	Transportation – no detail (9)
Income	Access to services (10)	Types of trips (10)	Affordability (8)
Race / Ethnicity	Information / Communication (9)	Accessibility of services (5) Access to services (5) Transportation-no detail (5)	Accessibility of services (5) Access to services (5) Transportation-no detail (5)
People with Disabilities	Accessibility of services (46)	Availability (27)	Access to services (20)
Older Adults	Types of trips (82)	Availability (66)	Transportation – no detail (55)
Non-drivers / Limit Driving	Other (37)	Types of trips (38)	Availability (29)
Underserved Populations	Affordability (2)	Availability (2)	

Differences become more pronounced across population groups. For individuals with disabilities, accessibility of services stands out as the dominant barrier, far exceeding other concerns, underscoring the importance of service design and accommodation. Among older adults, types of trips and availability are most frequently cited, reflecting the importance of meeting specific, often essential, travel needs within the constraints of aging-related limitations.

For income-based groups, barriers are more mixed. While access to services and types of trips are prominent, affordability also emerges as a key concern, indicating that financial constraints play a more direct role in shaping transportation access. Similarly, among underserved populations, affordability and availability appear as primary issues, though with relatively fewer excerpts overall.

Patterns for non-drivers or individuals who limit driving further highlight the complexity of transportation needs. In this group, concerns categorized as other are most prominent, followed by types of trips and availability, suggesting that existing categories may not fully capture the range of barriers experienced by individuals who rely heavily on alternatives to driving.

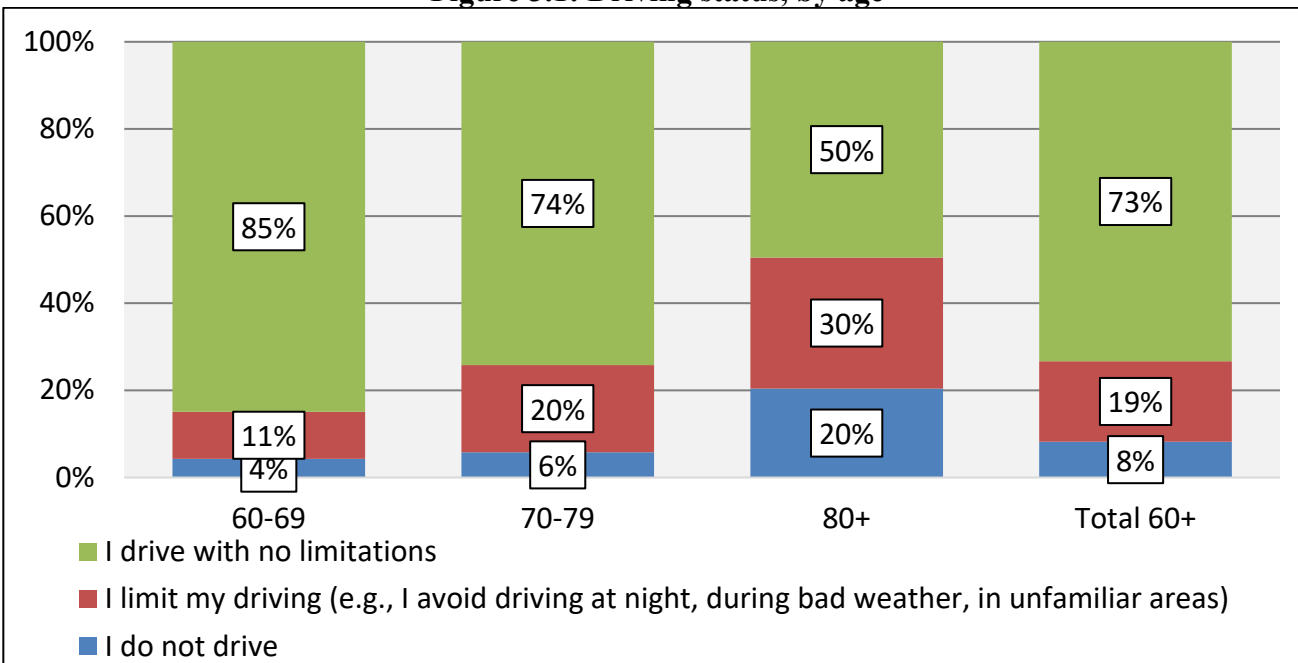
In summary, these findings reinforce that transportation barriers are not uniform across populations. Instead, they reflect distinct configurations of constraints shaped by functional ability, socioeconomic status, and reliance on different transportation options, pointing to the need for more targeted and group-specific approaches to transportation planning and policy.

3.4 Secondary Data Analysis

3.4.1 CSDRA Community Needs Assessments

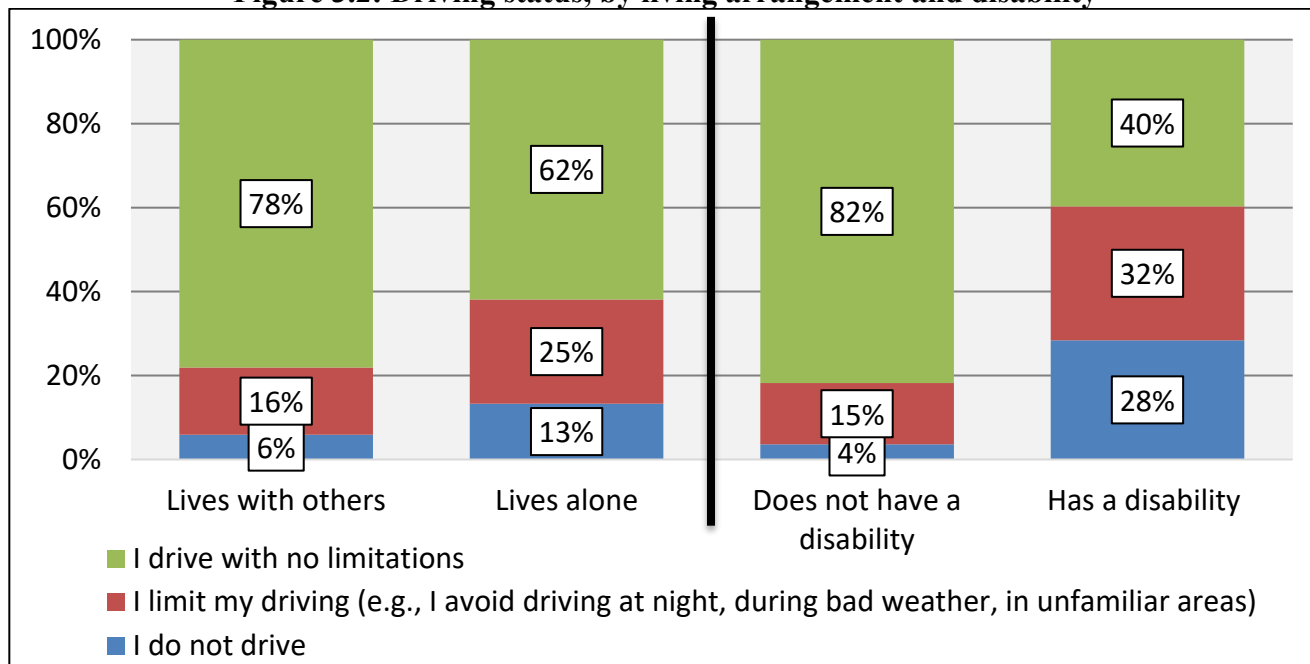
Nearly 3 out of 4 older adults (age 60+) in this sample drive without limitations; almost a fifth limit their driving, and 8% do not drive at all. Broken down by age, however, it is apparent that driving status changes with age (Figure 3.1). While the share of respondents who drive without limitations decreases with age, the proportion of older adults who limit their driving nearly triples from 11% of respondents in their 60s to 30% of respondents in their 80s. The share of older adults who do not drive at all is significantly higher among those age 80+ (20%) than for those in their 60s (4%) and 70s (6%). Additionally, 22% of women age 60+ limit their driving, compared to 13% of men age 60+ (not shown).

Figure 3.1: Driving status, by age



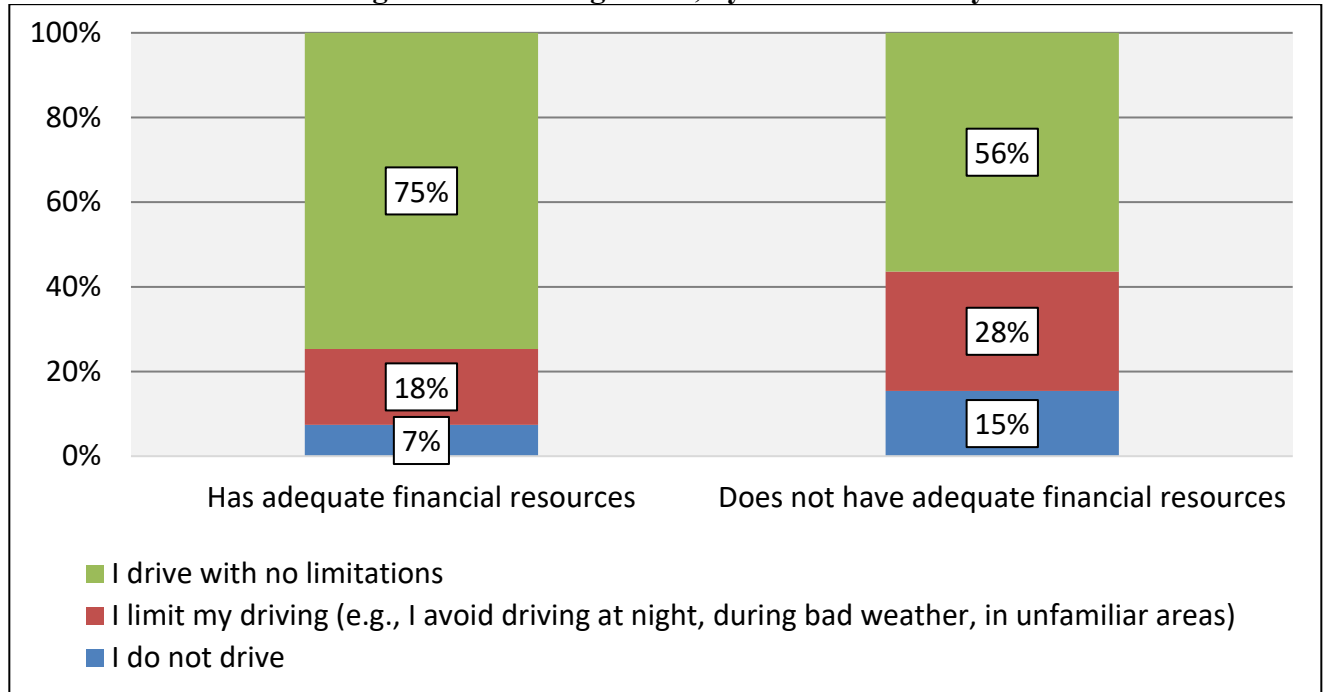
Living alone and having an impairment that limits ability to participate in the community can make getting where needed difficult without a car or support from others. Figure 3.2 presents driving status by living arrangement and disability status. A quarter of older adults who live alone limit their driving, and another 13% do not drive at all; this compares to 16% and 6%, respectively, of older adults who live with others. More than twice as many older adults without a disability drive without limitation (82%) than those with a disability (40%). Over a quarter (28%) of those with limiting conditions do not drive at all, much greater than the share of those without a disability (4%).

Figure 3.2: Driving status, by living arrangement and disability



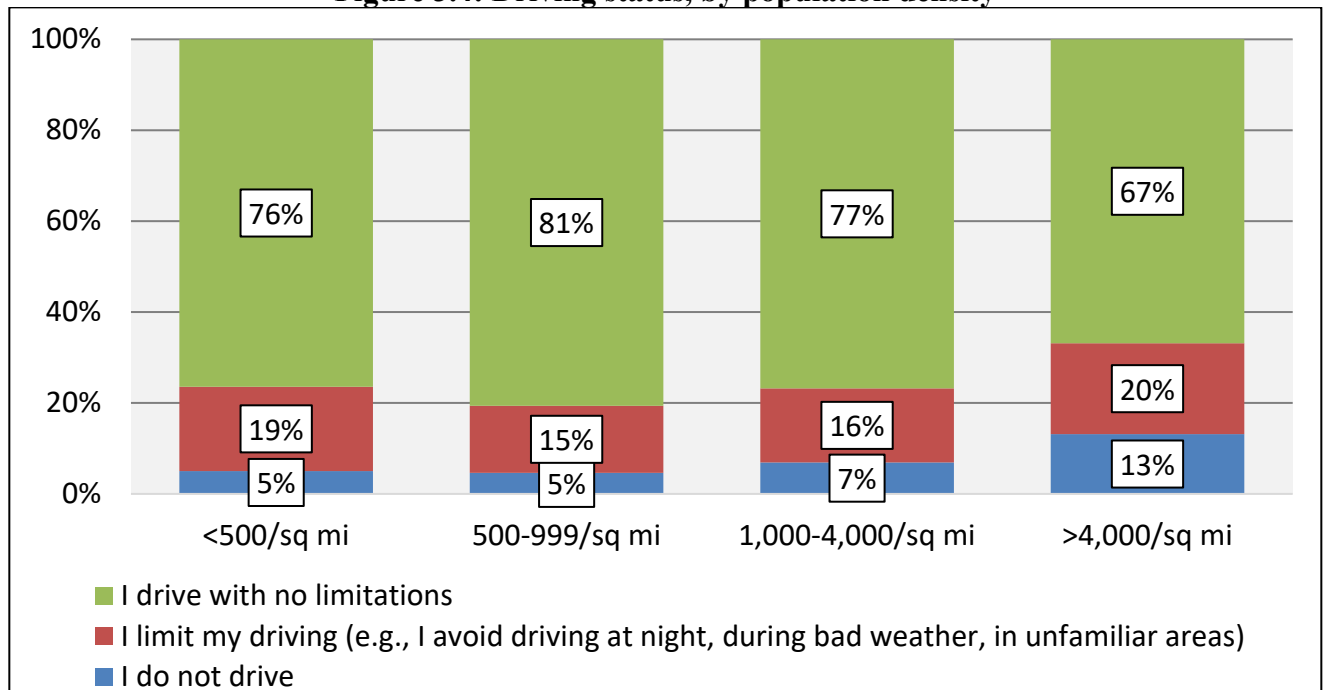
Older adults who do not have adequate financial resources more frequently report limited or non-driver status (Figure 3.3). About 3 out of 4 older adults who feel financially secure drive without limitations; this compares to about half (56%) of older adults who do not feel financially secure.

Figure 3.3: Driving status, by financial security



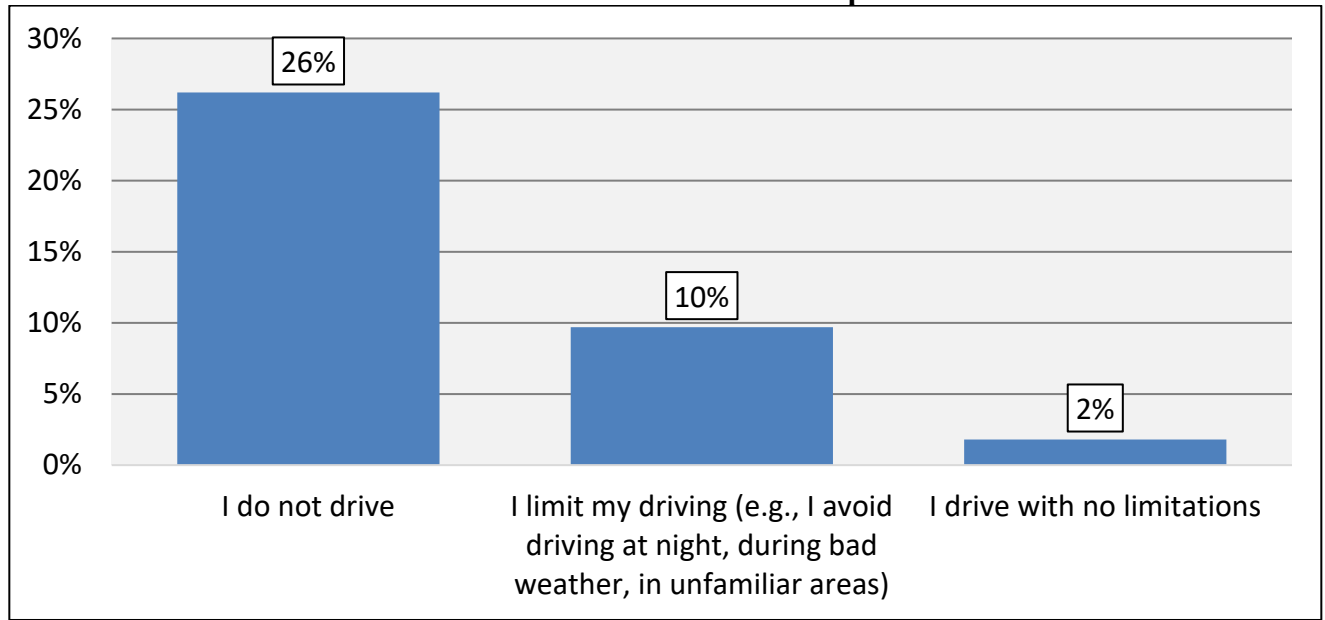
Fewer older adults in the most densely populated communities in this sample drive without limitations compared to those in less densely populated communities (Figure 3.4).

Figure 3.4: Driving status, by population density



Although only 5% of all respondents age 60+ have had to miss, cancel, or reschedule a medical appointment due to lack of transportation, over a quarter of nondrivers have had this experience, and 10% of those who limit their driving have experienced this (Figure 3.5). Only 2% of those who drive without limitations have had a missed medical appointment due to transportation.

Figure 3.5: Percent who have had to miss, cancel, or reschedule a medical appointment in the last 12 months due to a lack of transportation



About 29% of respondents have experienced at least 1 difficulty with transportation, but that differs by driving status, as shown in Figure 3.6. Over half of nondrivers reported experiencing at least 1 difficulty with transportation, which is higher than the 46% of respondents who limit their driving and 22% of those who drive with no limitations.

Figure 3.6: Percentage reporting at least 1 transportation difficulty, by driving status

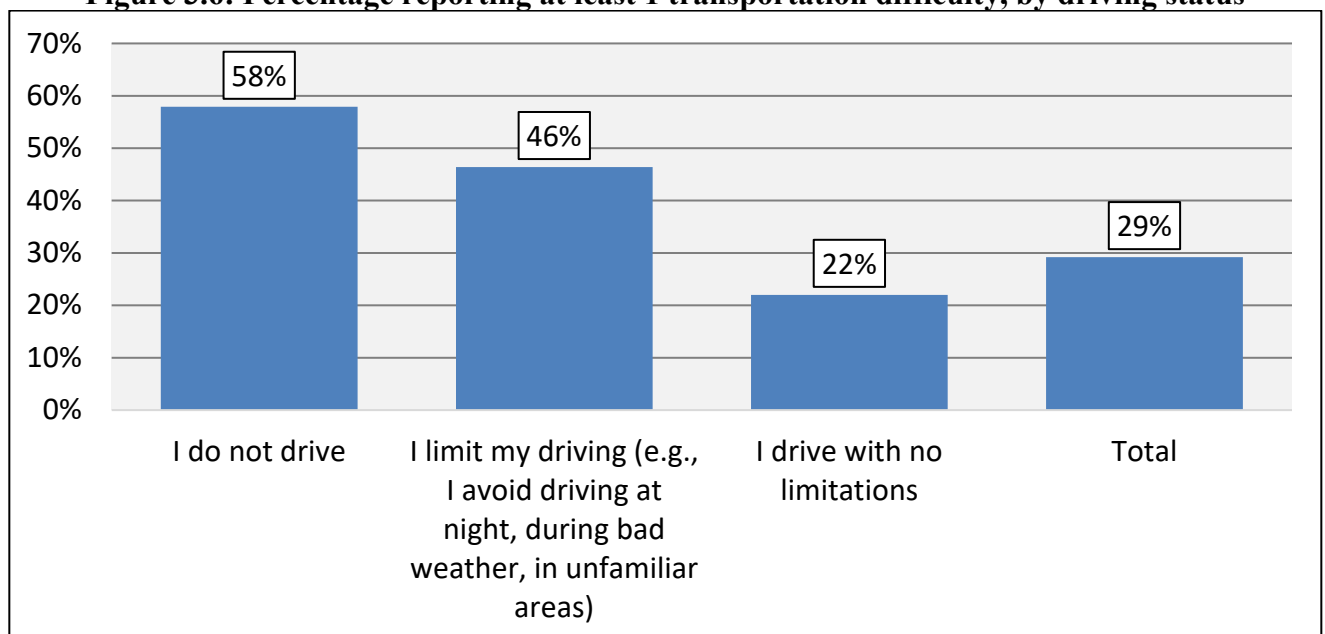
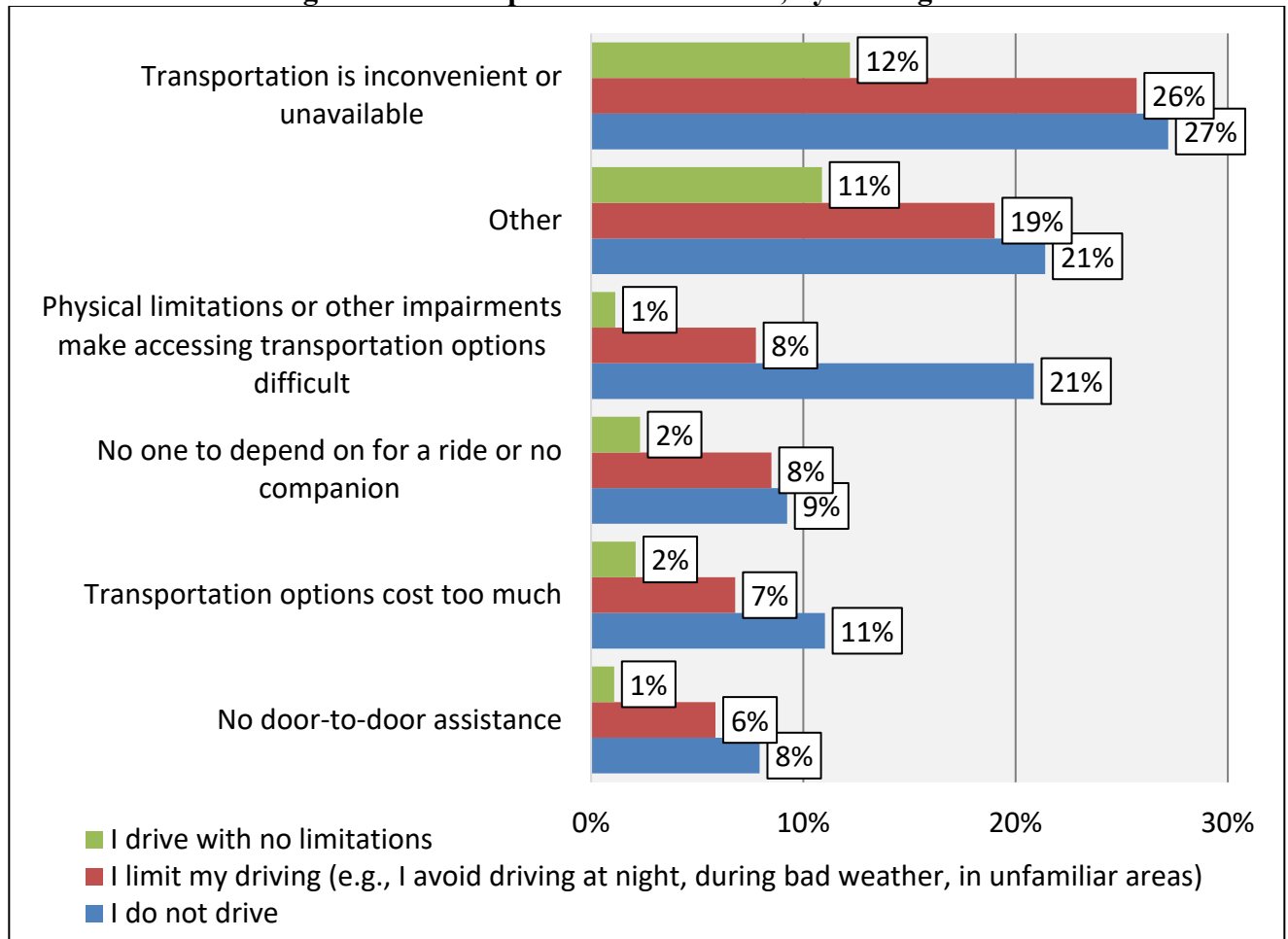


Figure 3.7 shows what transportation difficulties have been experienced, broken down by driver status. The topmost difficulty for the whole sample was transportation being inconvenient or unavailable, selected by 12% of drivers, 26% of limited drivers, and 27% of non-drivers. Nearly a fifth of nondrivers reported physical limitations or other impairments making accessing transportation options difficult, much higher than the proportion of limited drivers (8%) and drivers (1%). Indeed, across response options, people who do not drive cited challenges more frequently than those who limit their driving, and those who limit their driving more frequently selected challenges than those who drive without limitation.

Figure 3.7: Transportation difficulties, by driving status



The second most selected transportation difficulty was “Other,” and respondents were asked to explain their other difficulty through a write-in. There were 3,084 respondents who reported an “other” transportation difficulty, half of which (n=1,684) described challenges related to alternative transportation options from driving (e.g., public transportation, COA/senior center transportation; rideshare, taxi, etc.). Among these, nearly half (46%) expressed not having information about what is available and a large number of responses expressed a desire for more convenient public transit. About 19% (n=587) of the write-ins included difficulties related to driving, many of which centered on concerns related to availability and affordability of parking. These responses also expressed concerns about being able to continue to drive. A similar share of other responses (n=533, 17%) expressed concerns related to safety walking or biking.

Table 3.15: Themes and demonstrative quotes from the written responses of “Other” transportation difficulties

Alternative transportation options
Lack of information and awareness of options
“At the moment I have no difficulties, but I'd expect that to change. Then I'm not sure how these other options will meet my needs.”
“Unsure how in the future to arrange transportation to doctors / grocery store / mall / shopping”
“I have no transportation difficulties now but if I was unable to drive, I'd have to move since there are no viable options in Sherborn.”
Desire for more convenient public transit
“I plan to stop driving in a few years! Now I will need reliable transportation - and convenient transportation”
“Currently I drive but I would use public transportation if more frequent and went to places I go”
“While public transportation is within a reasonable distance the fact is that you have to drive from your residence to get to the stations. Currently I'm able to do so, but I do have concerns for the future.”
“I do not Uber or Lyft- and Malden Taxi closes at 6:00 pm. Commuter rail could be more frequent”
Being able to continue to drive
“Significant lack of [handicap] parking and/or door design/planning for needs of people with disabilities”
“The cost of parking up town is exorbitant. Elder population should be excluded from having to pay for parking downtown.”
“If my car is in for service, taxis are so expensive for round trip to get my car afterward.”
“winter affects my ability to drive myself could use assistance in future”
“try not to travel at night or busy times - school traffic, rush hour I avoid left-hand turns”
“When I can no longer drive myself, I will have no one to depend on”
Safety while walking and biking
Walking at night is very unsafe especially at traffic lights
Street crossings aren't always safe and turning traffic doesn't always yield to pedestrians.
While I know the City is trying, I consider it unsafe to bike on the streets. Weather permitting, I would bike if there were protected bike lanes throughout the city.
More sidewalks that are level and well lit. And cleared of ice and snow in the winter. For example, the sidewalks on Cabot, a major thoroughfare, are completely icy. We cannot count on residents to take care of all sidewalks.

3.4.2 2023 Community Health Equity Survey Data

Based on data from the 2023 CHES data, about 17% of adults in Massachusetts have trouble paying for transportation, and 7% are not able to get where they need to go (Table 3.16). When comparing responses by rurality, there are no major differences in trouble paying for transportation, but about twice as many respondents in rural communities reported disagreement about ability to get where they want to go compared to respondents in urban communities. This demonstrates a disparity in need for transportation, but not necessarily the cause of need.

Table 3.16: Transportation difficulties from CHES 2023, by Geography

	Trouble paying for transportation		Able to get where you need to go (% disagree/strongly disagree)	
	N ¹	%	N	%
Massachusetts	8,078	13%	11,926	7%
Rurality				
Urban	5,440	13%	8,063	6%
Rural Level 1	803	12%	1,176	10%
Rural Level 2	599	15%	875	12%

Table 3.17 shows the results related to transportation difficulty broken down by age, race and ethnicity, gender, and disability for all respondents age 18 and older. Regarding trouble paying for transportation, the share of respondents reporting difficulty paying for transportation decreases with age. A slightly smaller share of Asian or Pacific Islander (9%) and Middle Eastern or North African (9%) respondents reported difficulty paying for transportation compared to other racial and ethnic groups. Furthermore, “Adults identifying as American Indian or Alaska Native were 1.5 times as likely to report trouble paying for transportation related costs compared to White adults (16.8%* vs 11.4%)” (Community Health Equity Initiative, 2024). The proportions of respondents who identified their gender as non-binary, transgender, or not sure are approximately twice as high as those for respondents who reported their gender as male, female, or not transgender. Only 10% of respondents who do not have a disability reported difficulty paying for transportation, a smaller share compared to those who have a disability, which ranges from 13% of respondents who are deaf or hard of hearing up to 39% of respondents with mental health disability.

There are some similar patterns in response to the question about ability to get where needed across each characteristic. The proportion of respondents who cannot get where they need to go is fairly consistent across age groups, though there is a *slight* decline in proportion as age increases. The highest proportion of respondents reporting disagreement that they can get where they need to go among racial and ethnic groups are among Middle Eastern or North African respondents (16%) and ‘Other’ race (14%). Respondents who identify as a sexual or gender minority reported higher rates of disagreement than those who did not identify as a sexual or gender minority. Moreover, “Adults with transgender experience were 2.6 times as likely to report they are not able to get where they need to go safely, comfortably, and easily compared to those without transgender experience (16.9%* vs 6.6%)” (p. 43, The Community Health Equity Initiative, 2024). Only 5% of respondents

¹ Ns in tables 3.16 and 3.17 represent the total number of respondents within each row who responded to the question (i.e., the denominator of the percentage).

who do not have a disability reported disagreement about being able to get where needed, a smaller share compared to those who have a disability, which ranges from 9% of respondents who are deaf or hard of hearing up to 24% of respondents with a self-care or independent living disability.

Table 3.17: Transportation difficulties from CHES 2023, by selected individual characteristics

	Trouble paying for transportation		Able to get where you need to go (% disagree/strongly disagree)	
Age	N	%	N	%
18-24	599	20%	887	10%
25-34	1,057	20%	1,557	9%
35-44	1,440	18%	2,103	9%
45-64	2,901	13%	4,263	7%
65-74	1,479	5%	2,209	5%
75+	602	3%	907	6%
Race & Ethnicity	N	%	N	%
American Indian/Alaska Native	168	19%	256	9%
Asian or Pacific Islander	475	9%	680	3%
Black or African American	540	19%	776	8%
Hispanic or Latine/a/o	750	18%	1,101	9%
Middle Eastern or North African	59	9%	89	16%
Multiracial	117	22%	175	11%
Other race	50	16%	80	14%
White	5,482	12%	8,133	7%
Gender	N	%	N	%
Female/Woman	5,781	13%	8,577	7%
Male/Man	1,720	11%	2,493	7%
Non-Binary	189	37%	280	19%
Questioning/Undecided	X ²	X	43	12%
Not Transgender	7,322	12%	10,822	7%
Transgender	196	28%	276	17%
Not Sure	60	29%	83	13%

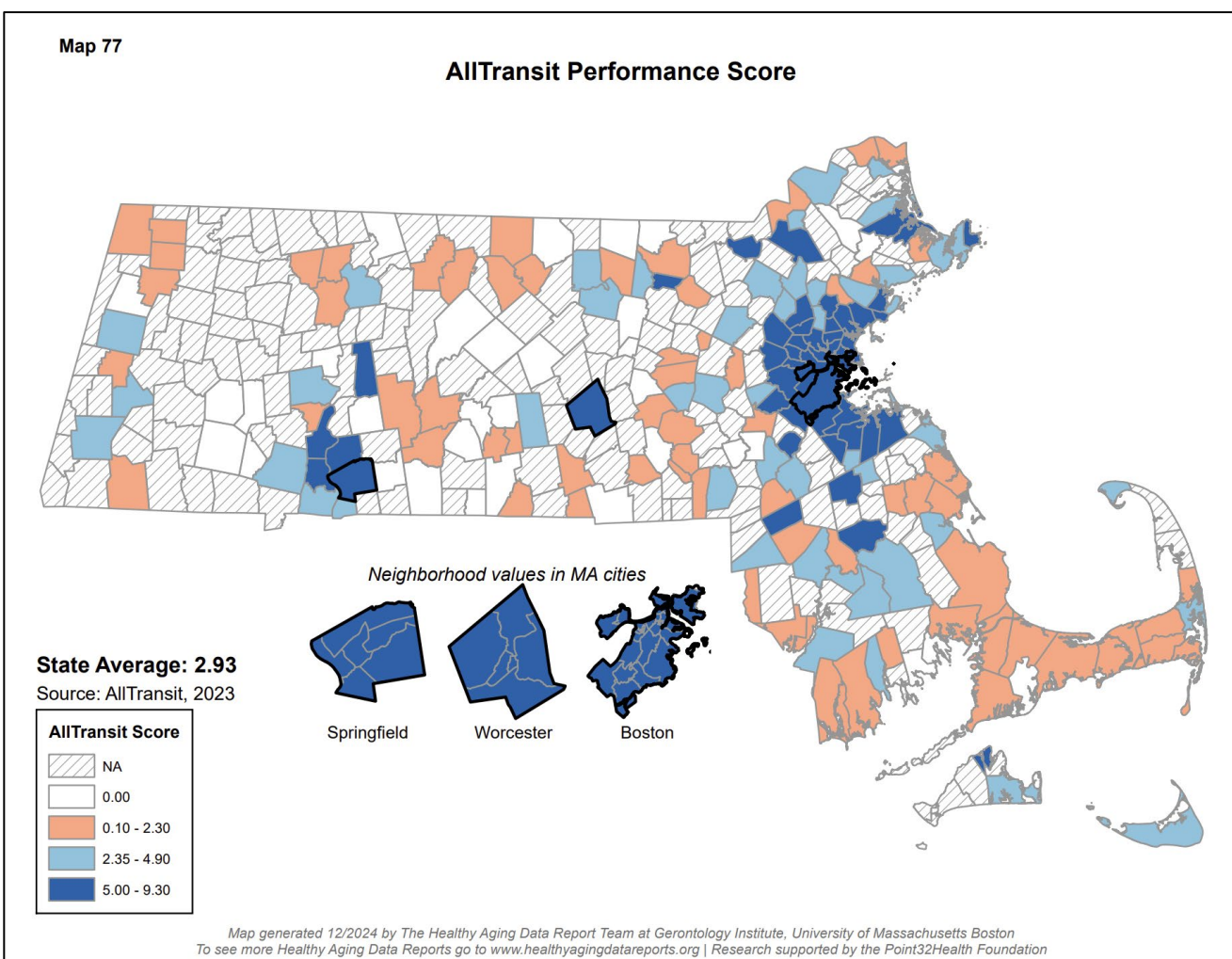
² Too few respondents who reported questioning/undecided gender *and* responded to the transportation affordability question to report publicly (The Community Health Equity Initiative (2025)).

	Trouble paying for transportation		Able to get where you need to go (% disagree/strongly disagree)	
Disability	N	%	N	%
Blind/Vision Impaired	208	24%	303	17%
Cognitive Disability	697	34%	1,010	17%
Deaf/Hard of Hearing	385	13%	572	9%
Learning/Intellectual Disability	197	32%	296	16%
Mental Health Disability	477	39%	692	20%
Mobility Disability	549	25%	822	16%
Self-Care/Independent Living Disability	428	32%	600	24%
Other Disability	686	24%	1,003	14%
No Disability	5,868	10%	8,683	5%

3.4.3 Healthy Aging Profiles

Figure 3.8 presents the map of AllTransit Performance Scores in Massachusetts. The average score for Massachusetts is 2.93. There are 154 communities (44% of municipalities) that do not have a score, due to limited data (Dugan et al., 2025), most of which are in western and central Massachusetts. About 9% of municipalities (n=33) have a score of 0, and 19% have a low score between .1 and 2.30. There are 48 communities (14%) with a medium score between 2.4 and 4.9, and another 48 with the highest scores, ranging from 5.0 to 9.3. Among these communities, nearly all are in the metro Boston region, with others being in and around other larger cities, such as Springfield and its surrounding communities, Worcester, Lowell, and Brockton.

Figure 3.8: Map of AllTransit Performance Score, by municipality, produced by the Healthy Aging Data Report



3.4.4 American Community Survey Estimates

Having access to a vehicle in the household is important for getting around, particularly in a car-dominated society. Table 3.18 shows the percentage of adults who do not have access to a vehicle at home. In Massachusetts, 9% of all adults do not have access to a vehicle. That statistic is consistent across age groups except for Massachusetts residents aged 80 and older: 21% of whom do not have access to a vehicle (not shown). One in five adults with a disability do not have access to a vehicle, much higher than 7% of those without a disability.

There are some comparative disadvantages among residents aged 60 and older. Older adults of color have higher rates of no access to a vehicle, with about a quarter of Black or African American (23%) and Hispanic or Latine older adults (26%), 17% of Asian older adults, and 14% of older adults of another race without vehicle access, compared to 8% of white residents age 60+. Also, 25% of older adults in smallest household income quintile do not have access to a vehicle, compared to 5% or less of higher income quintiles.

Table 3.18: Percent of Massachusetts adults who do not have access to a vehicle at home, among adults age 18+ and among adults 60+

	Does NOT have access to a vehicle at home
All MA Residents Age 18+	9%
Age	
Age 18-59	8%
Age 60+	10%
Disability	
Has a Disability	20%
Does not have disability	7%
Residents age 60+	10%
Race & Ethnicity	
White, non-Hispanic	8%
Black/African American, non-Hispanic	23%
Asian, non-Hispanic	17%
Other race, non-Hispanic	14%
Hispanic, any race	26%
Household Income (Quintiles)	
Under \$52,520	25%
\$52,520-\$99,849	5%
\$99,850-\$152,199	3%
152,200-\$235,804	2%
\$235,805 or more	2%

Most MA adults (18+) who are working get to work by driving (69%) or by working from home (19%). A slightly smaller share of the workforce with a disability (17%) work from home compared to those without a disability (19%). Otherwise, mode of transportation to work is similar for people with a disability (Table 3.19).

A slightly higher share of older adults (72%) rely on a private vehicle to get to work than those under age 60 (68%) and 4% of older workers use public transit compared to 7% of workers under age 60. Among older adults who are still working, greater shares of Black, Asian, and Hispanic older workers get to work by public transit compared to white and other race older adults. About 6% of those in the smallest household income quintile use public transportation, which is slightly more than older adults in higher income brackets (3-4%).

Table 3.19: Mode of Transit to Work, among Massachusetts adults who are in the workforce

	Private vehicle	Public transit	Walk or bike	Other (taxi, ride-hailing, other)	Worked from home
MA Residents Age 18+ who are in the workforce	69%	7%	4%	2%	19%
Age					
Age 18-59	68%	7%	4%	2%	19%
Age 60+	72%	4%	3%	1%	19%
Disability					
Has a Disability	69%	7%	4%	3%	17%
Does not have disability	69%	6%	4%	2%	19%
Residents age 60+					
Race & Ethnicity					
White, non-Hispanic	73%	3%	3%	1%	21%
Black/African American, non-Hispanic	67%	12%	4%	4%	13%
Asian, non-Hispanic	68%	10%	5%	1%	17%
Other race, non-Hispanic	72%	6%	5%	3%	15%
Hispanic, any race	69%	12%	5%	3%	12%
Household Income					
Under \$52,520	74%	6%	4%	3%	12%
\$52,520-\$99,849	78%	4%	3%	1%	13%
\$99,850-\$152,199	76%	4%	2%	1%	17%
152,200-\$235,804	71%	3%	2%	2%	21%
\$235,805 or more	62%	4%	4%	1%	29%

3.4.5 Summary Insights from Secondary Data Sources

The four secondary data sources analyzed independently from the environmental scan of existing reports each provide additional information about transportation challenges for older adults and people with disabilities, particularly from the equity lens.

With respect to geographic differences in transit needs, data from the CHES 2023 demonstrates that adults who live in rural areas of Massachusetts have a hard time getting where they need to go compared to those in urban areas. This is supported by the AllTransit Score data, as reported in the Healthy Aging Report, which shows how clustered around Boston and other urban areas high performing transit accessibility is. Similarly, CSDRA data shows that more older adults who live in densely populated communities limit their driving or do not drive compared to older adults in less densely populated communities—this may indicate that older adults can still get to where they

need to go without driving as much in denser communities, whereas older adults in less densely populated communities need to remain dependent on driving to meet their transit needs.

People with a disability or impairment face transit challenges differently than those without a disability. Almost 60% of older adults with a disability in the CSDRA survey data limit their driving or do not drive at all, compared to just 19% of those without a disability (Figure 3.2). Nearly a fifth of non-drivers and limited drivers reported that physical limitations or other impairments make accessing transportation options difficult. Among adults (18+), more respondents to the CHES 2023 who reported having a disability survey reported disagreement that they can get where they need to, compared to those who did not report a disability. Similarly, respondents with a disability more frequently reported difficulty paying for transportation than those without a disability. Among CSDRA survey respondents, 11% of non-drivers identified cost as a barrier to transportation, higher than the 7% of limited drivers and 2% of drivers who selected this challenge.

Data from the 2023 CHES suggests that adults who reported a minoritized identity—with respect to race, ethnicity, or gender—experience greater challenges of affordability and getting where needed than others. Indeed, 2024 ACS estimates show that greater proportions of Black, Asian, Hispanic, and other race older adults have limited access to a vehicle in their household compared to white older adults.

Lastly, being financially insecure or having low income can differentially impact transportation experiences for older adults and people with disabilities. For one, CSDRA survey data suggests that older adults who do not have adequate financial resources more frequently report limited or non-driver status. This does not necessarily mean that having inadequate financial resources is a cause of limited or ceased driving, but there is a notable connection between driving status and financial security. Similarly, 2024 ACS estimates show that 25% of older adults in the 20th percentile of household income do not have access to a vehicle, compared to just 2%-5% of older adults in higher percentiles.

3.5 Review of Evaluation Metrics for Community Transportation for older adults and people with disabilities.

Effective community transit evaluation requires looking beyond whether a ride simply occurred and instead understanding whether the system meaningfully supports independence, participation, and quality of life. Riders should be asked about reliability and accessibility because these factors shape whether people can confidently use transit for healthcare, work, shopping, caregiving, and social participation. Important metrics include on-time performance, ease of scheduling, trip availability, wait times, affordability, travel time, ease of transfers, and whether riders can get where they need to go at the times they actually need transportation.

Equally important are measures that capture the broader lived experience and real-world consequences of transportation access. Riders should be asked whether transportation helps them maintain independence, reduce isolation, and remain connected to community life. These outcomes are especially important for older adults and people with disabilities, for whom transportation is often directly linked to health, wellbeing, and the ability to age in place. Useful rider-centered metrics include whether transit allows people to attend medical appointments

consistently, participate in social or religious activities, maintain employment or volunteer roles, access healthy food, and feel less isolated or stressed. **One particularly valuable question is: “What would you have done if you did not have this ride today?” Responses can reveal the hidden impact of community transit systems by identifying missed medical care, forgone social participation, dependence on family members, financial strain from alternative transportation, or trips that simply would not have occurred at all.**

The literature on community transit evaluation consistently shows that transportation systems are most effective when they measure not only operational performance, but also the real-world impact transportation has on people’s daily lives. Traditional metrics such as ridership, on-time performance, trip denials, wait times, and cost efficiency remain important and are widely used across transit evaluations (National Academies of Sciences, Engineering, and Medicine, 2023; GAO, 2012). However, many recent studies and evaluation frameworks argue that these measures alone fail to capture whether transportation is actually helping people access healthcare, maintain independence, participate socially, or remain connected to their communities (CUTR, 2010; Community Transit, n.d.). Across the literature, there is growing emphasis on rider-centered evaluation approaches that ask whether transportation enables quality of life, community participation, and equitable access to opportunity.

Several of the reviewed resources emphasize the importance of measuring the rider experience itself. Studies of paratransit, on-demand transportation, and community transit systems consistently identify reliability, ease of scheduling, affordability, accessibility, driver courtesy, and perceived safety as major predictors of rider satisfaction and continued use (CUTR, 2010; Drake & Watkins, 2024). The literature also highlights the value of asking riders about unmet needs and hypothetical alternatives, including questions such as “What would you have done if this ride had not been available?” These types of questions help providers better understand the hidden consequences of transportation barriers, including missed medical care, social isolation, forgone employment opportunities, dependence on family caregivers, or trips that simply would not occur otherwise (National Academies of Sciences, Engineering, and Medicine, 2023). Multiple reports also note that rider trust and dignity are critical but often undermeasured aspects of transportation quality, particularly for older adults and people with disabilities (TCRP, 2014; Passenger Environment Survey framework).

Another major takeaway across the literature is the importance of evaluating equity and inclusion. Several sources argue that transportation should be understood as a social determinant of health and community participation rather than simply a mobility service (National Academies of Sciences, Engineering, and Medicine, 2023). Effective evaluation therefore requires understanding who is not being served, which trips are hardest to access, and how barriers differ across income, disability status, age, language, digital literacy, and geography (Yan et al., 2019). Research on mobility-on-demand and community transportation programs also cautions that innovation alone does not guarantee equity; systems must intentionally assess whether technology requirements, service design, or scheduling structures create unintended barriers for vulnerable populations (Drake & Watkins, 2024; Yan et al., 2019). Overall, the literature suggests that the strongest community transit evaluations combine operational metrics with rider-reported outcomes related to independence, wellbeing, access, dignity, and social participation.

A few particularly relevant papers and reports include:

- The National Academies' *Fare-Free Transit Evaluation Framework* is one of the strongest comprehensive resources because it explicitly organizes evaluation around themes like access, mobility, equity, operational efficiency, financial health, and community impacts. It also reviews the actual evaluation questions transit agencies commonly ask, such as impacts on ridership, service quality, customer satisfaction, and access to opportunity.
- Kaufman et al.'s paper on evaluating demand-responsive transit services argues that traditional transit metrics alone are insufficient for modern community transit systems and calls for composite measures that integrate rider experience, efficiency, accessibility, and service effectiveness.
- Research on mobility-on-demand systems in low-income communities emphasizes evaluating perceived accessibility, technology barriers, affordability, and rider confidence — especially among disadvantaged populations.
- Several operational studies focus on balancing efficiency with rider experience. Commonly recommended measures include on-time performance, productivity, onboard travel time, trip denials, and rider satisfaction.
- Equity-focused transportation literature increasingly frames transportation as a social determinant of health. These studies recommend measuring unmet transportation need, healthcare access, social participation, and disparities in mobility access across vulnerable populations.

A major theme across this literature is that the field is moving away from evaluating community transit solely through operational outputs (e.g., rides provided or cost per trip) and toward evaluating whether transportation systems actually improve independence, access to services, wellbeing, and community participation. Many papers also note that rider-centered outcomes remain underdeveloped and that community transit agencies need more standardized but practical evaluation frameworks.

Given the focus on community transportation providers, we suggest that the following topics—social connection and independence, rider satisfaction, and mobility impact—are especially relevant to community transit providers because they capture the broader purpose of community transportation systems beyond simply delivering rides. Community transit often serves older adults, people with disabilities, rural residents, and others who may have limited transportation alternatives, making transportation a critical factor in maintaining healthcare access, independence, social participation, and overall wellbeing.

Measuring social connection helps providers understand whether transportation is enabling riders to remain engaged in community life and the ability to maintain relationships, while questions about mobility impact—such as “how would you have done if you did not have access to this ride?”—assesses the role of transportation services in preventing missed trips and maintaining access to healthcare, shopping, employment, social activities, and other essential destinations. It helps quantify the extent to which riders would forgo travel, rely on family or friends, use another transportation mode, or incur additional costs if the service were unavailable. Rider satisfaction is equally important because community transit systems rely heavily on trust, reliability, accessibility, and ease of use. Questions about scheduling, safety, courtesy, communication, and overall ride experience provide actionable information for improving service quality and identifying operational barriers that may discourage continued use. Together, these three areas help providers

evaluate not only how transportation systems operate, but whether they are meaningfully improving access, equity, participation, and quality of life for the populations they are intended to serve.

Connection/Independence

- “Has this transportation service helped you feel more connected to your community?”
(Adapted from transportation as social participation and wellbeing measures discussed in Yan et al., 2019; National Academies of Sciences, Engineering, and Medicine, 2023.)
- “In the past month, has transportation availability affected your ability to visit friends, family, religious activities, or social events?”
(Draws on community participation and social isolation concepts in transportation-health equity literature; see NCBI Transportation and Health Equity Review.)
- “Does this transportation services help you participate in activities that are important to your wellbeing and sense of belonging?”
(Inspired by rider-centered quality-of-life measures described in Community Transit needs assessment frameworks and National Academies evaluation guidance.)
- “How important is this transportation service to your ability to remain independent?”
- “Without this transportation service, how often would you stay home when you would prefer to go out?” (Conrick et al. 2020)

Satisfaction / Service Experience

- “Overall, how satisfied are you with the transportation service you received today?”
(Common transit rider satisfaction measure used in CUTR Passenger Survey Results and Passenger Environment Survey frameworks.)
- “How easy was it to schedule and complete your trip?”
(Frequently used in paratransit and demand-responsive transportation evaluations; see CUTR, 2010; Drake & Watkins, 2024.)
- “Did you feel safe, respected, and supported throughout your ride experience?”
(Based on rider experience, safety, and dignity measures identified in TCRP ADA Paratransit research and Passenger Environment Survey frameworks.)

Alternative if Ride Was Not Available

- “What would you have done today if this ride had not been available?”
(A commonly recommended unmet-need and counterfactual assessment question in community transportation evaluations; discussed in National Academies, 2023.)
- “Would you still have made this trip without this transportation service?”
(Used in evaluations assessing trip substitution, transportation dependence, and unmet mobility need; see demand-responsive transit literature.)
- “If this transportation option did not exist, how difficult would it have been for you to get where you needed to go?”
(Draws on accessibility and transportation disadvantage frameworks in mobility equity research; see Yan et al., 2019 and health equity transportation literature.)

4 Implementation and Technology Transfer

The findings from this environmental scan provide several important considerations for MassDOT, Regional Transit Authorities, community transportation providers, and local planning agencies.

First, the findings suggest that transportation planning should focus on successful trip completion rather than service availability alone. Across many communities, transportation challenges reflected not only service gaps but also gaps in connectivity, coordination, reliability, and usability throughout the trip-making process. The existence of a transportation service does not necessarily translate into meaningful mobility if individuals are unable to reach pick-up locations, coordinate schedules, complete transfers, access destinations, or return home reliably. In many communities, the central issue was not the complete absence of transportation, but the inability of existing systems to function cohesively and reliably across the full trip-making process. Improving coordination across providers, strengthening inter-community connections, simplifying navigation and scheduling systems, and improving transfer continuity may therefore be as important as expanding service availability itself.

Second, the findings underscore the importance of integrating transportation planning with broader community and built-environment planning efforts. Transportation usability is shaped not only by the services available within a community, but also by the environment through which people access those services. Investments in sidewalks, crossings, lighting, wayfinding, bus stop accessibility, and first-mile/last-mile infrastructure may significantly influence whether transportation systems are practically usable. These findings suggest that pedestrian and bicycle infrastructure should be viewed not only as active transportation amenities, but also as essential components of a broader mobility network that supports access to transit, community services, employment, healthcare, and other destinations.

Third, the analysis highlights the importance of more coordinated, flexible, and user-centered transportation systems. Many existing services remain structured around administrative boundaries, provider-specific requirements, fixed schedules, and fragmented eligibility criteria that do not align well with how people travel in daily life. Emerging approaches such as mobility management, coordinated scheduling systems, integrated trip planning, microtransit, and regional transportation partnerships may help reduce fragmentation and improve continuity across transportation modes and service providers. Future transportation initiatives may benefit from placing greater emphasis on the user experience of navigating the transportation system as a whole rather than on the performance of individual services in isolation.

Finally, the findings reinforce the importance of viewing transportation as a foundational enabler of health, economic opportunity, social participation, and overall quality of life. Across the reviewed reports, transportation barriers frequently affected individuals' ability to access healthcare, maintain employment, obtain food and essential services, participate in community life, fulfill caregiving responsibilities, and maintain independence. Future transportation planning efforts may therefore benefit from continued integration of equity, accessibility, and mobility outcomes into statewide transportation policy and investment decisions, recognizing that transportation systems influence far more than travel alone.

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5 Conclusions

This statewide review of community transportation needs assessments reveals that transportation challenges across Massachusetts are not confined to isolated service gaps or individual transportation modes. Rather, the findings point to a broader pattern in which mobility barriers emerge through the interaction of individual circumstances, community environments, and structural features of transportation system design. Across transportation modes, geographic regions, and population groups, similar challenges repeatedly appeared, although the underlying causes and operational constraints often differed.

- Transportation barriers operate at multiple interconnected levels

One of the clearest cross-cutting findings is that transportation barriers operate simultaneously at the individual, community, and system levels. At the individual level, mobility is shaped by factors such as physical and functional ability, driving status, financial capacity, digital access, caregiving responsibilities, and the availability of assistance or accompaniment. The findings consistently demonstrate that even when transportation services are technically available, these factors substantially influence whether residents are able to use services effectively, safely, and independently in practice.

While these challenges affect many residents, they were often particularly pronounced among older adults and people with disabilities. For these populations, changes in functional ability, increased reliance on assistance, and transitions from unrestricted driving to driving limitation or cessation frequently created significant mobility challenges. Respondents described reduced participation in community life and greater dependence on family members or caregivers as transportation options became more limited over time.

To plan effectively for these findings, communities and transportation systems need to move beyond viewing transportation solely as a service delivery issue and instead adopt a mobility ecosystem approach that addresses barriers at the individual, community, and system levels simultaneously.

- The built environment is a critical determinant of transportation usability

At the community level, the built environment and local service context strongly influence transportation access and usability. Across many reports, incomplete pedestrian infrastructure, unsafe crossings, lack of sidewalks, long distances to transit access points, inadequate lighting, poor snow removal, and weak connections between transportation services emerged as recurring barriers. These issues were particularly important in relation to first-mile and last-mile travel, where gaps in the surrounding environment often limited the practical usability of otherwise available transportation services.

While these challenges affect residents across many population groups, they can create disproportionate barriers for older adults, people with disabilities, individuals with limited mobility, and others who rely heavily on accessible transportation options. For these populations,

deficiencies in the built environment may significantly reduce the ability to reach transit services safely and independently.

The findings suggest that pedestrian and bicycle infrastructure function not only as active transportation amenities, but also as essential components of the broader mobility system that enable people to access transit and community transportation services safely, reliably, and efficiently. Improving transportation outcomes therefore requires attention not only to transportation services themselves, but also to the surrounding environments that determine whether those services can be reached and used in practice.

- Transportation systems are fragmented and poorly aligned with real-world travel needs

At the system level, the findings consistently highlight challenges related to fragmentation, coordination, and service design. Across Massachusetts, transportation services are often divided across providers, jurisdictions, eligibility requirements, funding streams, and service boundaries, creating operational gaps that can make trips difficult to complete in practice. While transportation services may exist individually, they do not always function as a coordinated mobility network from the perspective of users.

Across transportation modes, a recurring pattern was the mismatch between how transportation systems are designed and the realities of how people actually need to travel in daily life. Limited evening and weekend service, inflexible scheduling requirements, inconsistent transfer coordination, and weak interregional connections frequently reduced the practical usability of transportation systems, particularly for healthcare access, employment, caregiving responsibilities, shopping, social participation, and other time-sensitive activities.

Collectively, these findings suggest that transportation systems are often organized around service delivery structures and administrative boundaries, while users experience transportation as a continuous process of trip completion. As a result, mobility challenges frequently emerge at the interfaces between services rather than within any single transportation mode. Many community transportation programs therefore function as important gap-fillers rather than as components of a fully integrated mobility system. Although individual services often play critical roles in meeting transportation needs, riders frequently must navigate a patchwork of transportation options with differing service areas, schedules, eligibility requirements, and operating procedures. Addressing these challenges will require greater coordination across providers, service areas, and transportation modes to support seamless and reliable travel across the broader mobility network.

- Limited Disability-Specific Data and Inconsistent Data Collection Constrain Statewide Assessment and Planning of Community Transit Needs

An important finding of this environmental scan was the relative lack of disability-specific transportation needs assessments and publicly available documentation from organizations primarily serving people with disabilities. Compared to the substantial volume of aging-related community needs assessments, coordinated plans, and COA-related reports available across Massachusetts, far fewer transportation needs assessments centered specifically on the experiences of people with disabilities were identified within the gray literature review.

More broadly, the review revealed substantial inconsistency in how community transportation needs are documented, measured, and reported across organizations, regions, and transportation programs. Data collection practices varied considerably in terms of populations included, transportation topics assessed, definitions used, geographic scope, and the level of operational detail provided. Many reports discussed transportation challenges only in broad or generalized terms, while others focused narrowly on specific programs or services without providing system-level context. In addition, few reports included standardized rider experience metrics, trip completion measures, or comparable outcome indicators across transportation modes and providers.

As a result, developing a comprehensive statewide “state of the state” assessment of community transportation for older adults and people with disabilities remains challenging. The absence of consistent, coordinated, and disability-inclusive transportation data limits the ability to compare needs across regions, identify statewide service gaps, evaluate system performance, and assess whether transportation systems are effectively supporting mobility, independence, and community participation. These findings highlight the need for more standardized, coordinated, and equity-centered approaches to community transportation data collection and evaluation across Massachusetts.

In summary, the findings suggest that community transportation needs across Massachusetts are best understood not as isolated modal deficiencies, but as interconnected mobility challenges shaped by the interaction between personal capacity, local environments, and system-level transportation design. Addressing these challenges may therefore require approaches that move beyond expanding individual services alone and instead focus on improving coordination, trip continuity, accessibility, and system integration across the broader transportation landscape.

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7 Appendices

7.1 Appendix A: List of Transportation Needs Assessment Reports Reviewed in This Study

Organization	Report	Year
Center for Social and Demographic Research on Aging Publications (CSDRA)	Aging in the City of Attleboro: A Community Needs Assessment	2020
CSDRA	Age-Friendly Chelmsford: A Livable Community for All Ages, Chelmsford Age-Friendly Action Plan	2020
CSDRA	Hanson Council on Aging Needs Assessment	2020
CSDRA	An Assessment of Veteran's Services in the Town of Natick, MA	2020
CSDRA	Town of Needham: Center at the Heights Planning Study	2020
CSDRA	Envisioning an Age-Friendly Norwood	2020
CSDRA	Envisioning an Age-Friendly Stoneham	2020
CSDRA	Age Friendly North Reading: A Community Needs Assessment	2021
CSDRA	Aging in South County: A Regional Needs Assessment	2022
CSDRA	Aging in Lynn: A Community Needs Assessment	2022
CSDRA	Aging in Middleton: A Community Needs Assessment	2022
CSDRA	Arlington: An Age and Dementia Friendly Action Plan	2022
CSDRA	Aging in Hamilton: Planning for the Future, A Community Needs Assessment	2022
CSDRA	Aging in Hull: A Community Needs Assessment	2022
CSDRA	Aging in Hingham: A Community Needs Assessment	2022
CSDRA	Aging in Sherborn: A Community Needs Assessment	2022
CSDRA	Community Engagement and Planning: Reading Center for Active Living (ReCal)	2022
CSDRA	Aging in Eastham: A Community Needs Assessment	2023
CSDRA	Aging in Holliston: A Community Needs Assessment	2023
CSDRA	Building an Age & Dementia Friendly Barnstable: An Action Plan	2023
CSDRA	Aging in Norwell: A Community Needs Assessment	2023
CSDRA	Aging in Westborough: A Community Needs Assessment	2023
CSDRA	Aging in Berlin: A Community Needs Assessment	2023
CSDRA	Aging in Brockton: A Community Needs Assessment	2023
CSDRA	Age & Dementia Friendly Plymouth: A Community Needs Assessment	2023
CSDRA	Aging in Brewster: A Community Needs Assessment	2024

Organization	Report	Year
CSDRA	Aging in the City of Melrose: A Community Needs Assessment	2024
CSDRA	Aging in North Andover: A Community Needs Assessment	2024
CSDRA	Aging in Hopkinton: A Community Needs Assessment	2024
CSDRA	Aging in Maynard: A Community Needs Assessment	2024
CSDRA	Aging in Hanover: A Community Needs Assessment	2024
CSDRA	Aging in Newton: A Community Needs Assessment	2024
CSDRA	Aging in Uxbridge: A Community Needs Assessment	2025
CSDRA	Up-Island Council on Aging: Planning for the Future	2025
CSDRA	Living in Essex: A Community Needs Assessment	2025
CSDRA	Aging in Somerville: A Community Needs Assessment	2025
Brockton Area Transit Authority	Avon/Stoughton Beyond ADA	2024
Montachusett Regional Transit Authority	Ayer-Shirley-Lancaster-Devens Microtransit	2024
Pioneer Valley Transit Authority	Beyond ADA Operating Assistance	2024
Bridgewater Council on Aging	Bridgewater Cares Microtransit	2024
BAT Flex Service	Brockton Area Transit Authority	2024
Berkshire Regional Transit Authority	BRTA Travel Training Program	2024
Cape Ann Transportation Authority	Cape Ann TA-Dialysis	2024
Cape Ann Transportation Authority	CATA Connect: Access for All	2024
The Community Access to Rides Program	Community Access to Rides (CAR) Program	2024
Town of Acton	CrossTown Connect	2024
Cape Cod Regional Transit Authority	Digital Equity Access Program for Older Adults	2024
S.C.M. COMMUNITY TRANSPORTATION CORPORATION	Door2Door Transit Innovation Grant Continuation	2024
Town of Andover, Elder Services Division	Expanded community transportation services to support seniors, adults with disabilities and low-income adults/families	2024
Melrose Council on Aging	Expanded Transportation Availability	2024
Worcester Regional Transit Authority	Expansion of WRTA Travel Training Program	2024
Rutland Council on Aging	Extended Transportation	2024
Taking People Places, Inc.	FY2026 TPP-CTGP Funding	2024
Helping Our Women Inc	Healthcare transportation for rural women living with chronic or serious health conditions	2024

Organization	Report	Year
Hilltown Community Development	Hilltown Transportation Expansion	2024
Worcester Regional Transit Authority	Holden to Worcester - Extended Service Hours	2024
Brookline Council on Aging	Improving Mobility Training for Seniors Through Location Based Apps	2024
Healthy Aging Martha's Vineyard	Island-wide Older Adult Mobility Manager	2024
Town of Lexington Transportation Services	Lexpress Bus Service Operating Support	2024
City of Lynn	Mobility Management: Lynn's Community Transportation Coordinator	2024
Lowell Regional Transit Authority	Mobility Outreach Coordinator	2024
Greater Lynn Senior Services, Inc	MoveSafe/MobilityLinks (MS/ML)	2024
Mystic Valley Elder Services	MVES Mobility Management and TRIP Metro North Programs	2024
MetroWest Regional Transit Authority (MWRTA)	MWRTA Milford Dial-A-Ride & MicroTransit (MT) Service Expansion	2024
Needham Council on Aging	Needham Council on Aging Medical Transportation Program	2024
Health Equity Partnership of North Central Mass	North Central Regional Coordinating Council Development Project	2024
Health Equity Partnership of North Central Mass	North Central Regional Coordinating Council Development Project	2024
Town of North Reading	North Reading Transportation Operations (Year 2)	2024
Old Colony Planning Council	OCPC-AAA Elder, Disabled, & Caregiver Volunteer & Alternative Transportation	2024
Healthy Aging Martha's Vineyard Inc/ Martha's Vineyard Transit Authority	On Island Older Adult Transportation Solutions	2024
Quaboag Connector	Quaboag Connector	2024
City of Quincy Council on Aging	Quincy Council on Aging Enhanced Mobility Initiative	2024
Somerville-Cambridge Elders Services	SCES Transportation Hub	2024
Worcester Regional Transit Authority	SCM Elderbus - ReadyBus Service	2024
Worcester Regional Transit Authority	SCM Elderbus - ReadyBus Service	2024
Worcester Regional Transit Authority	SCM Elderbus Midday Shuttle	2024

Organization	Report	Year
Brookline Council on Aging	Senior Transportation Service	2024
Martha's Vineyard Center for Living	Shopping Shuttle	2024
Town of Great Barrington	South County Connector	2024
Volunteers in Medicine Berkshires (VIM)	Supporting Immigrants' Access to Equitable Healthcare Through Secure Transportation	2024
Groveland Council on Aging	Transportation Operations Support	2024
South Shore Community Action Council, Inc. (SSCAC)	Transportation Program Operating Assistance	2024
Franklin Regional Transit Authority	Travel Ambassador Program	2024
Pioneer Valley Transit Authority	Travel Training Program	2024
Pioneer Valley Transit Authority	Travel Training Program	2024
Tri-Valley Inc.	Tri-Valley Transportation Grant	2024
Northern Essex Elder Transport, Inc. "NEET"	Vital Voyages: Keeping Older Adults Healthy and Well While Driving Away Isolation and Loneliness	2024
Winchendon Senior Center	Winchendon Community Connection and Access Project (CCAP) Phase II	2024
The Executive Office of Aging & Independence (AGE)	Councils on Aging Annual Report FY 2024	2025
The Executive Office of Aging & Independence (AGE)	The ReiMagine Aging 2030: The Massachusetts Plan	2025
The Executive Office of Aging & Independence (AGE)	ReiMagine Aging Age- and Dementia-Friendly MA Action Plan Refresh: Summary of 2024 Written Feedback	2025
Berkshire Regional Transit Authority (BRTA)	Keep Public Transit Thriving: BRTA Annual Report FY24	2024
Cape Ann Transportation Authority (CATA)	Comprehensive Regional Transit Plan Update 2020	2021
Cape Cod Regional Transit Authority (CCRTA)	Ten Year Strategic Plan & Supporting Five Year Capital Plan	2022
Franklin Regional Transit Authority (FRTA)	Comprehensive Regional Transit Plan Update 2020	2021
Greater Attleboro Taunton Regional Transit Authority (GATRA)	Comprehensive Regional Transit Plan Update 2020	2021

Organization	Report	Year
Lowell Regional Transit Authority (LRTA)	Comprehensive Regional Transit Plan Update 2020	2021
Merrimack Valley Regional Transit Authority (MeVa/MVRTA)	Coordinated Public Transit-Human Services Transportation Plan	2023
MetroWest Regional Transit Authority (MWRTA)	Comprehensive Regional Transit Plan Update 2020	2021
Montachusett Regional Transit Authority (MART)	Comprehensive Regional Transit Plan Update 2020	2021
Nantucket Regional Transit Authority (NRTA)	Regional Transit Plan 2015	2015
Pioneer Valley Transit Authority (PVRTA)	Comprehensive Regional Transit Plan Update 2020	2021
Southeastern Regional Transit Authority (SRTA)	Comprehensive Regional Transit Plan Update 2020	2021
Vineyard Transit Authority (VTA)	Comprehensive Regional Transit Plan Update 2020	2021
Worcester Regional Transit Authority (WRTA)	Connecting Communities: A Comprehensive Transportation Vision for Shrewsbury, Westborough, and Northborough	2025
Quaboag Connector	Regional Transit in MA: Where we are and where we need to go	2024
the Task Force on Regional Transit Authority Performance and Funding	A Vision for the Future of Massachusetts' Regional Transit Authorities	2019
MassMobility	Addressing Short-Term Healthcare Transportation Needs through regional collaboration	2017
MassMobility	Age-Friendly Bus Stops- Creating Bus Stops for People of All Ages	2022
MassMobility	Community Transportation for Transition-aged youth with disabilities	2019
Baystate Franklin Medical Center	Community Health Needs Assessment	2022
Baystate Medical Center	Community Health Needs Assessment	2022
Berkshire Health Systems	Community Health Needs Assessment	2022
Beth Israel Lahey Health	Community Health Needs Assessment	2022
BILH Anna Jaques Hospital	Community Health Needs Assessment	2022
BILH Beverly Hospital & Addison Gilbert Hospital	Community Health Needs Assessment	2022
BILH-Lahey Hospital and Medical Center	Community Health Needs Assessment	2022
BILH-Mount Auburn Hospital	Community Health Needs Assessment	2022

Organization	Report	Year
BILH-New England Baptist Hospital	Community Health Needs Assessment	2022
BILH-Winchester Hospital	Community Health Needs Assessment	2022
Brigham and Women's Hospital	Community Health Needs Assessment	2022
Brigham and Women's Faulkner Hospital	Community Health Needs Assessment	2022
Beth Israel Deaconess Medical Center	Community Health Needs Assessment	2022
Beth Israel Deaconess Plymouth	Community Health Needs Assessment	2022
Beth Israel Deaconess Milton	Community Health Needs Assessment	2022
Beth Israel Deaconess Needham	Community Health Needs Assessment	2022
Boston CHNA/CHIP Collaborative (BMC)	Community Health Needs Assessment	2022
Boston Children's Hospital	Community Health Needs Assessment	2022
Cambridge Health Alliance	Community Health Needs Assessment	2022
Cape Code Healthcare	Community Health Needs Assessment	2023-2025
Carney Hospital	Community Health Needs Assessment	2021
Emerson Hospital	Community Health Needs Assessment	2021
Dana Farber Cancer Institute (Cancer Focused)	Community Health Needs Assessment	2022
Hebrew Rehabilitation Center	Community Health Needs Assessment	2022
Holy Family Hospital	Community Health Needs Assessment	2022
Lawrence General Hospital	Community Health Needs Assessment	2022
Lowell General Hospital	Community Health Needs Assessment	2022
Mass General Brigham-Cooley Dickinson Hospital	Community Health Needs Assessment	2022
Mass General Hospital	Community Health Needs Assessment	2022
McLean Hospital	Community Health Needs Assessment	2022
Melrose Wakefield Hospital and Lawrence Memorial Hospital	Community Health Needs Assessment	2022
Massachusetts Eye and Ear Infirmary	Community Health Needs Assessment	2022
Milford Regional Medical Center	Community Health Needs Assessment	2024
NEW Health	Community Health Needs Assessment	2023
Newton-Wellesley Hospital	Community Health Needs Assessment	2022
Norwood Hospital	Community Health Needs Assessment	2021
Salem Hospital	Community Health Needs Assessment	2022

Organization	Report	Year
Shriners Hospitals for Children	Community Health Needs Assessment	2022
Signature Healthcare Brockton Hospital	Community Health Needs Assessment	2022
Southcoast Health System: Charlton Memorial Hospital, St. Luke's Hospital, Tobey Hospital and Southcoast Behavioral Health	Community Health Needs Assessment	2022
South Shore Health (South Shore Hospital)	Community Health Needs Assessment	2024
Spaulding Rehabilitation Hospital	Community Health Needs Assessment	2022
Spaulding Hospital - Cambridge	Community Health Needs Assessment	2022
St. Elizabeth Medical Center	Community Health Needs Assessment	2021
Sturdy Memorial Hospital	Community Health Needs Assessment	2022
Trinity Health-Mercy Medical Center	Community Health Needs Assessment	2022
Trinity Health-Saint Mary's Hospital	Community Health Needs Assessment	2022
Tufts Medical Center	Community Health Needs Assessment	2022
UMass Memorial-Marlborough Hospital	Community Health Needs Assessment	2019
UMass Memorial Health-Harrington Hospital	Community Health Needs Assessment	2022
Berkshire Health Systems	Community Health Needs Assessment	2022
The City of Cambridge	Community Health Needs Assessment	2020
United Way of Greater Plymouth County	Summary of Regional Community Need Assessments	2020
North Suffolk Public Health Collaborative	North Suffolk's Community Health Needs Assessment Report	2022
Massachusetts Association for Community Action	Hampshire County Community Needs Assessment	2023
Metrowest Health Foundation	Metrowest Community Health Assessment	2023
UMass Memorial Health-Heywood Healthcare	Community Health Needs Assessment 2024-2026	2023
The City of Worcester-Fallonhealth-UMass Memorial Health-Coalition for a Healthy Greater Worcester	Greater Worcester Community Health Assessment	2024

Organization	Report	Year
West Suburban Community Health Network Area (CHNA 18)	Community Health Assessment	2017
AgeSpan (formerly Elder Services of the Merrimack Valley and North Shore)	Elder Services of the Merrimack Valley and North Shore Area Plan on Aging FY 2022-2025	2022
Boston AgeStrong Commission	City of Boston Area Plan 2022-2025	2022
Bristol Aging & Wellness, Inc.	Area Plan on Aging Development 2022-2025	2023
Coastline Elderly Services, Inc.	2021 Needs Assessment	2021
Elder Services of Berkshire County, Inc.	Area Plan on Aging 2022-2025	2023
Elder Services of Cape Cod and the Islands, Inc.	Area Plan on Aging 2022-2025	2022
Greater Lynn Senior Services, Inc.	Area Plan on Aging 2022-2025	2021
Greater Springfield Senior Services, Inc.	Area Plan 2022-2025	2022
HESSCO Elder Services	Area Plan 2022-2025	2022
Highland Valley Elder Services, Inc.	Area Plan Fiscal Year 2026-2029	2024
LifePath, Inc.	Lifepath Area Plan on Aging 2022-2025	2021
Minuteman Senior Services	Area Plan on Aging Federal Fiscal Years 2022-2025	2021
Mystic Valley Elder Services, Inc.	Area Plan on Aging 2022-2025	2022
Old Colony Planning Council	2022-2025 Area Plan on Aging	2021
Senior Connection	Central Massachusetts Agency on Aging FFY 2022-2025 Area Plan	2021
SeniorCare, Inc.	Area Plan on Aging 2022-2025	2021
Somerville/Cambridge Elder Services, Inc.	Area Plan on Aging	
South Shore Elder Services, Inc.	Area Plan on Aging Four-Year Plan 2022-2025	2022
Springwell, Inc.	Area Plan on Aging for FFY 2022-2025	2021
Springwell, Inc. (BayPath report pre-merger)	Area Agency on Aging Area Plan FFY 2022-2025	2021
WestMass Elder Care, Inc. (now Access Care Partners)	Area Agency on Aging Area Plan FFY 2022-2025	2021

Organization	Report	Year
The Central Massachusetts Metropolitan Planning Organization (CMMPO)	2024 Coordinated Public Transit-Human Services Transportation Plan	2024
Berkshire Regional Planning Commission (BRPC)	Berkshire Regional Coordinated Public Transit – Human Services Transportation Plan	2023
The Boston Region Metropolitan Planning Organization (MPO)	2023 Coordinated Public Transit-Human Services Transportation Plan	2023
Cape Cod Commission	2023 Coordinated Public Transit – Human Services Transportation Plan	2023
Franklin Region Council of Governments (Frcog)	Coordinated Public Transit – Human Services Transportation Plan for Franklin County	2023
The Northern Middlesex Metropolitan Planning Organization (NMMPO)	Coordinated Public Transit-Human Services Plan	2023
Merrimack Valley Planning Commission (MVPC) & MVMPO	2023 Coordinated Public Transit - Human Services Transportation Plan	2023
Martha’s Vineyard Transit Authority (VTA) and Martha’s Vineyard Commission (MVC)	Martha's Vineyard Coordinated Human Services Transportation Plan	2015
Montachusett Metropolitan Planning Organization (MMPO)	Montachusett Coordinated Public Transit-Human Services Transportation Plan-Update	2024
Nantucket Planning and Economic Development Commission	Coordinated Human Services Public Transportation Plan for the Nantucket Region 2020	2020
Old Colony Planning Council	Coordinated Human Services Transportation Plan	2023
Pioneer Valley Planning Commission	2024 Update to the Regional Transportation Plan	2024
Southeastern Regional Planning & Economic Development District	2023 Coordinated Human Services Transportation Plan	2023
UMass Amherst-Donahue Institute Economic and Public Policy Research	Quaboag Connector Rural Microtransit Economic Impact Analysis	2025
MassDOT	Beyond Mobility: The Massachusetts 2050 Transportation Plan	2024
MassDOT	Beyond Mobility-Appendix C: Needs Assessment	2024
MassDOT	Beyond Mobility-Appendix A: Engagement Approach & Results	2024

Organization	Report	Year
MBTA	Accessibility Initiatives	2024
MBTA	The Capital Needs Assessment and Inventory	2023
MBTA	FY25-29 Capital Investment Plan (CIP)	2024
MBTA	Strategic Plan	2024
MBTA	MBTA Bus Network Redesign	2023
MBTA	Focus 40: the RIDE	2015
MBTA	Focus 40: The 2040 Investment Plan for the MBTA: Priority Places	2015
MBTA	Focus 40: The 2040 Investment Plan for the MBTA- State of the System Report: Bus	2015
MBTA	Focus 40: The 2040 Investment Plan for the MBTA- State of the System Report: Rapid Transit	2015
MBTA	Focus 40: The 2040 Investment Plan for the MBTA- State of the System Report: Commuter Rail	2015

7.2 Appendix B: Thematic Coding Framework and Definitions

Thematic Code	Definition
Access to Services	Can transit options be reached? bus stop locations, sidewalk conditions, need door-to-door assistance or companion.
Accessibility of Services	Can riders physically use transit services? Vehicles can accommodate wheelchairs or other mobility devices (e.g., ramps, lifts, securement in vehicle), appropriate signage or communication devices for people with vision or hearing impairment, adequate time to board and disembark, seats are high enough, low floor boarding.
Acceptability-Satisfaction	Satisfaction with vehicle cleanliness, comfort, timeliness of transit, reliability; frequency of services.
Acceptability-Stigma	Rider perceptions-stigma with needing services. Driver or service-provider perceptions--sensitivity to needs of older adults and people with disabilities.
Adaptability/Flexibility	Transit that can be modified or adjusted to meet special needs: scheduling last-minute or on-demand, multi-stop rides; ease of crossing jurisdictional boundaries/transfers; coordination is difficult.
Affordability	Cost as a barrier; voucher or discount options not available or limited for low-income individuals.
Availability	Existence of transit options, hours of operation, gaps in service/doesn't go where needed.
Information/Communication	Knowledge or awareness of what's available; how to access or book rides; training or info available for riders/consumers.
Other	Need does not fit under any other umbrella. We can revisit this set of responses as we iterate through reviewing and further developing themes.
Transportation-No detail	Claims transportation is a need, but no additional detail about types of transportation or dimensions of barriers.
Types of Trips	Specific destination types/purposes for transit are needed: medical transportation, errands, shopping.
Utilization	Rates of ridership.

7.3 Appendix C: Transportation Mode Definitions

Mode	Definition
Global Transportation Needs	Definition of: Excerpts were coded as Global Transportation Needs when transportation barriers or needs were described as difficulty with accessing destinations or getting where one wants to go, now or in the future, without reference to a specific transportation mode.
Public Transportation	When the text explicitly refers to public transportation as a system or general concept without specifying a particular mode.
Fixed Route	Transit services where vehicles operate on regular, scheduled routes with designated stops, though some services may allow flag stops where passengers can request pick-up or drop-off along the route.
ADA Paratransit	ADA paratransit is a type of demand-response transportation service required under the Americans with Disabilities Act (ADA) for individuals who cannot use fixed-route public transit due to a disability. It provides origin-to-destination service within a defined service area and operates under specific eligibility and service requirements.
Demand-response Services	Demand-response service is the type of transportation service where individual passengers can request transportation from a specific location (their origin) to another specific location (their destination) at a certain time. Vehicles providing demand-response service do not follow a fixed route. Instead, they travel throughout the community transporting passengers according to riders' specific requests. Advance reservation of 24 to 48 hours is usually required for demand-response services, although some providers may accept same day or real-time requests.
Volunteer Driver Programs	Volunteer driver programs connect community members who need a ride with individuals who are willing to provide transportation, often using their personal vehicles. These programs are typically organized by nonprofit, faith-based, or community organizations, and each program determines its own policies regarding eligibility and volunteer participation. While many focus on serving older adults, some serve broader populations. This category also includes informal transportation provided by family members, friends, or neighbors, reflecting non-commercial, community-based sources of rides.
Taxi/Ride Share	A taxi is a vehicle licensed by a city or town to carry paying customers who do not have to pre-arrange the service. Ridesharing is a type of demand-response transportation where passengers can use technology (such as a cell phone app) to request a driver to meet them at a particular time and location.
Bicycle and Pedestrian Transportation	Forms of active transportation in which individuals travel using their own physical effort rather than motorized vehicles. These modes are typically used for short-distance trips and are supported through pedestrian-friendly infrastructure (e.g., sidewalks, crosswalks) and bike facilities (e.g., bike lanes, shared-use paths, bike racks).

Mode	Definition
COA Van	Locally coordinated ride programs are designed to support older adults in accessing essential destinations such as medical appointments, grocery stores, meal sites, and senior programs. These services are typically provided by municipal agencies, often using lift-equipped vans or contracted drivers. They may operate on fixed schedules or by advance reservation and are usually low-cost or donation based. Services are not federally mandated, and eligibility is generally limited to older adults (e.g., age 60+).
Driving	Both the act of driving and access to a vehicle; physical or cognitive limitations affecting driving ability, affordability and costs of owning/maintaining a car; household and community-level patterns or disparities in vehicle access.
Microtransit	A technology-enabled service that uses multi-passenger vehicles to provide on-demand services with dynamically generated routing. Micro transit services are traditionally provided in designated service areas.

7.4 Appendix D: Secondary Data Methods Details

Table 7.1: Communities included in the CSDRA Survey Data File, with count of responses and count of responses age 60+

	All responses	Age 60+
Berlin	620	451
Brewster	1,390	1,310
Brockton	1,443	1,394
Eastham	1,563	1,422
Hanover	1,442	1,228
Harwich	1,816	1,726
Hingham	1,202	949
Holliston	1,332	1,179
Hopkinton	1,413	1,176
Hull	1,750	1,521
Lynn	1,170	1,159
Maynard	1,305	1,016
Melrose	1,396	1,240
Newton	2,869	2,846
North Andover	1,849	1,842
Norwell	1,081	842
Plymouth	1,972	1,714
Sherborn	540	462
Somerville	1,519	1,512
Up-Island (Aquinnah, Chilmark, & West Tisbury)	691	632
Uxbridge	1,275	1,155
Westborough	1,633	1,412
Total	31,271	28,188

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Table 7.2: Analysis Variables, CSDRA Data File

Variable		Coding
Driving Status	1	I do not drive
	2	I limit my driving (e.g., I avoid driving at night, during bad weather, in unfamiliar areas)
	3	I drive with no limitations
Within the past 12 months, did you have to miss, cancel, or reschedule a medical appointment because of a lack of transportation?	0	No
	1	Yes
	99	Missing <use this code if no response given>
What difficulties do you have in getting the transportation that you need?		
Transportation is unavailable or inconvenient	0	Public transportation around [COMMUNITY] is unavailable or inconvenient=not selected AND COA transportation around [COMMUNITY] is unavailable or inconvenient= not selected AND Transportation not available where I need to go= not selected AND I need flexibility in planning (e.g., I don't like to schedule in advance)=not selected AND Lack of transportation options evenings and weekends=not selected
	1	Public transportation around [COMMUNITY] is unavailable or inconvenient=selected OR COA transportation around [COMMUNITY] is unavailable or inconvenient= selected OR Transportation not available where I need to go=selected OR I need flexibility in planning (e.g., I don't like to schedule in advance)= selected OR Lack of transportation options evenings and weekends=selected
Physical limitations or other impairments make accessing transportation options difficult	0	Not selected
	1	Selected

No one to depend on for a ride or no companion	0	No one I can depend on for a ride=not selected AND I do not have a travel companion to help me= not selected
	1	No one I can depend on for a ride=selected OR I do not have a travel companion to help me=selected
Transportation options cost too much	0	Not selected
	1	Selected
No door-to-door assistance	0	Not selected
	1	Selected
Other	0	Other (please specify)=not selected AND I don't have information about what is available=not selected
	1	Other (please specify)=selected OR I don't have information about what is available=OR
Lives alone	0	If "I live alone" is not selected AND at least one other response selected
	1	If "I live alone" is selected AND no other response selected
	99	Missing <use this code if no response given>
Disability	0	Do you have an impairment or condition that limits your ability to participate in your community?= No
	1	Do you have an impairment or condition that limits your ability to participate in your community?=Yes
	99	Missing <use this code if no response given>
Financial insecurity	0	Please indicate your level of agreement or disagreement with the following statement: "I have adequate resources to meet my financial needs, including food, home maintenance, personal healthcare, and other expenses".= Agree OR Strongly Agree
	1	Please indicate your level of agreement or disagreement with the following statement: "I have adequate resources to meet my financial needs, including food, home maintenance, personal healthcare, and other expenses".= Disagree OR Strongly Disagree
	99	Missing <use this code if no response given>