3. Needs and Strategies

3.1 Needs Assessment

Iowa's public transit system is quite expansive and reaches across the entire state. However, there are gaps and needs within the system that need to be addressed.

To identify the existing and forecasted needs of the public transit system, needs assessments and gap analyses were completed to ultimately develop solutions and strategies, along with tangible metrics to begin estimating the costs associated with each of them.

Transit Needs Survey

Understanding the needs of the public transit system requires detailed knowledge of how it operates. The first effort to assess these needs relied upon input from all transit agencies in Iowa.

Immediately after the launch of the Iowa Public Transit Long Range Plan development process, a set of survey questions targeting the transit agencies were developed. All 35 Iowa transit agencies responded to the survey. Complete results can be found in the Appendix.

The survey questions were organized into several different sections based on the type of need. The sections included:

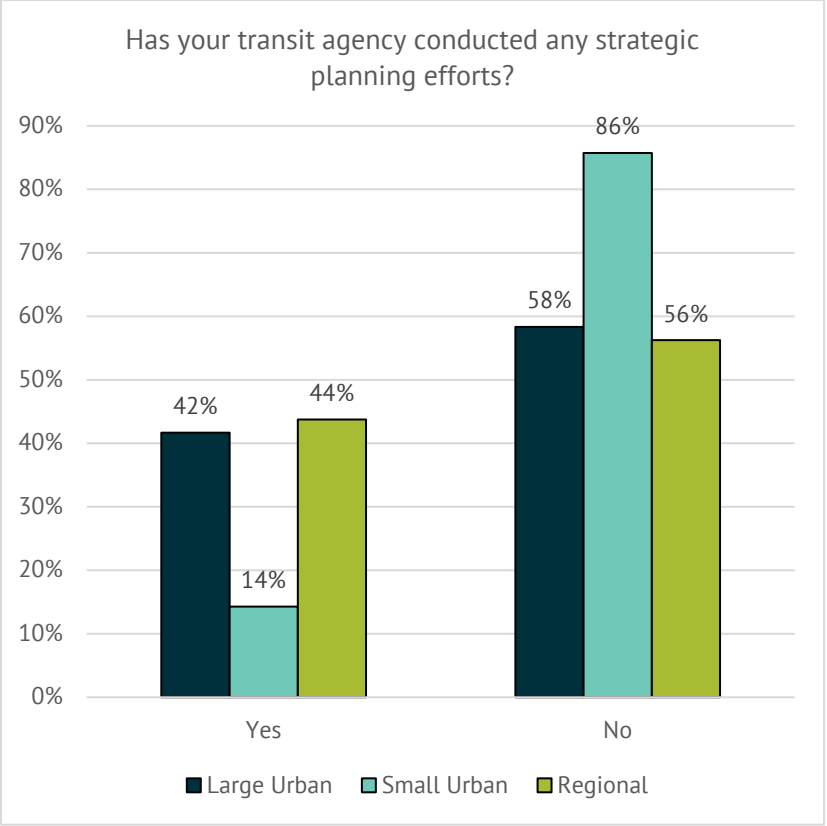
- Section 1: Agency Information
- Section 2: Service Needs
- Section 3: Fleet Needs
- Section 4: Facility Needs
- Section 5: Personnel Needs
- Section 6: Technology Needs

Section 1: Agency Information

The first section of the survey was intended to validate agency contact information and learn about the agency itself. These questions were valuable providing additional context on how the transit agencies operate and communicate.

One fact that quickly became clear was a general lack of long-range or strategic planning efforts. Based on feedback provided, most agencies do not conduct planning to this extent. This was also evident through the difficulties that some agencies experienced when trying to forecast needs out to 2030 and 2050. Open-ended comments supplied in each survey section indicated this as well. The overall lack of long-range strategic planning serves as further evidence that this Public Transit Long Range Plan is needed.

Figure 3.1: Transit agency strategic planning



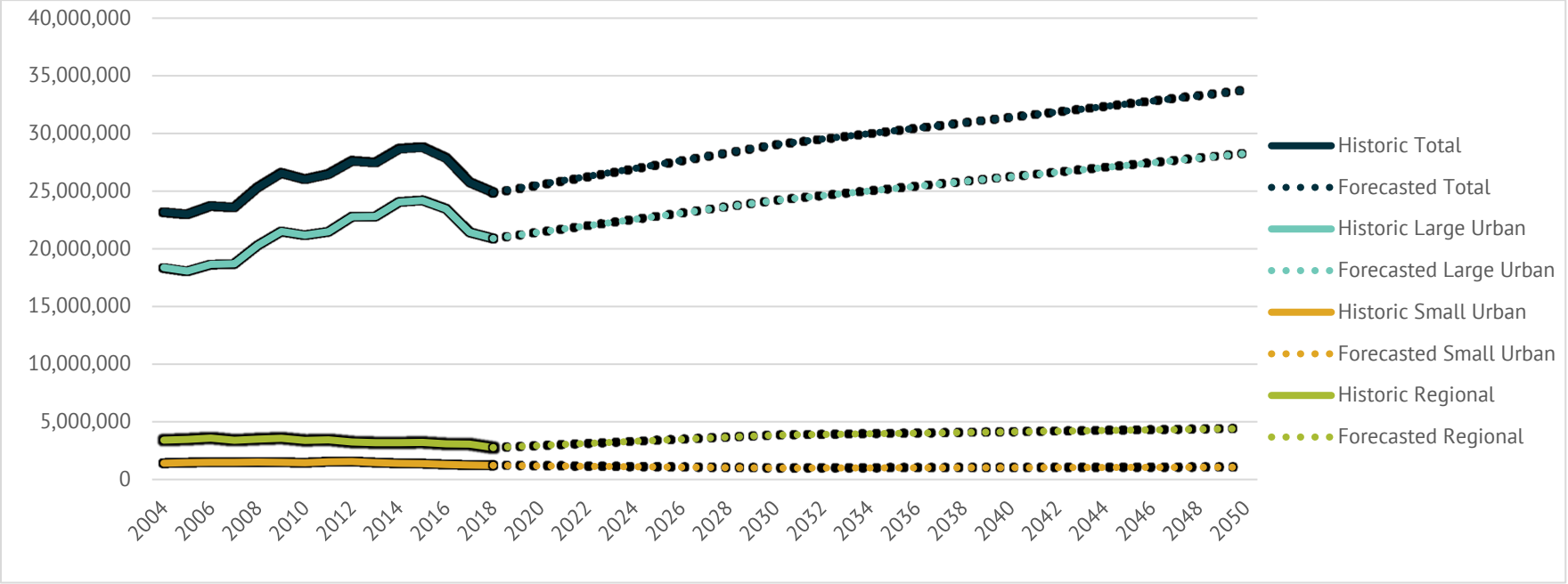
Source: Iowa DOT

Section 2: Service Needs

Service needs are defined as unmet demand for specific components of public transit service. Needs could be gaps in service area, frequency, or time periods that service operates; or a lack of options such as express routes (routes with few stops or transfers), paratransit (service for individuals with disabilities), or demand response (pre-scheduled trips with no set stops).

Historic ridership numbers and projected ridership levels based on survey responses show a decrease from its peak around 2015 through the present. There are multiple factors that may explain this decline. During that time, Transportation Network Companies (TNCs) began expanding in Iowa's urban areas and Medicare medical transportation contracted through Iowa's Managed Care Organization (MCO) providers resulted in a significant number of riders being diverted from public transportation. Despite the recent decreases in public transit ridership, transit agencies are projecting long-term growth in ridership through 2050 with slightly higher growth in ridership from now to 2030 compared to 2030 to 2050.

Figure 3.2: Historic and forecasted count of transit riders, 2005-2050

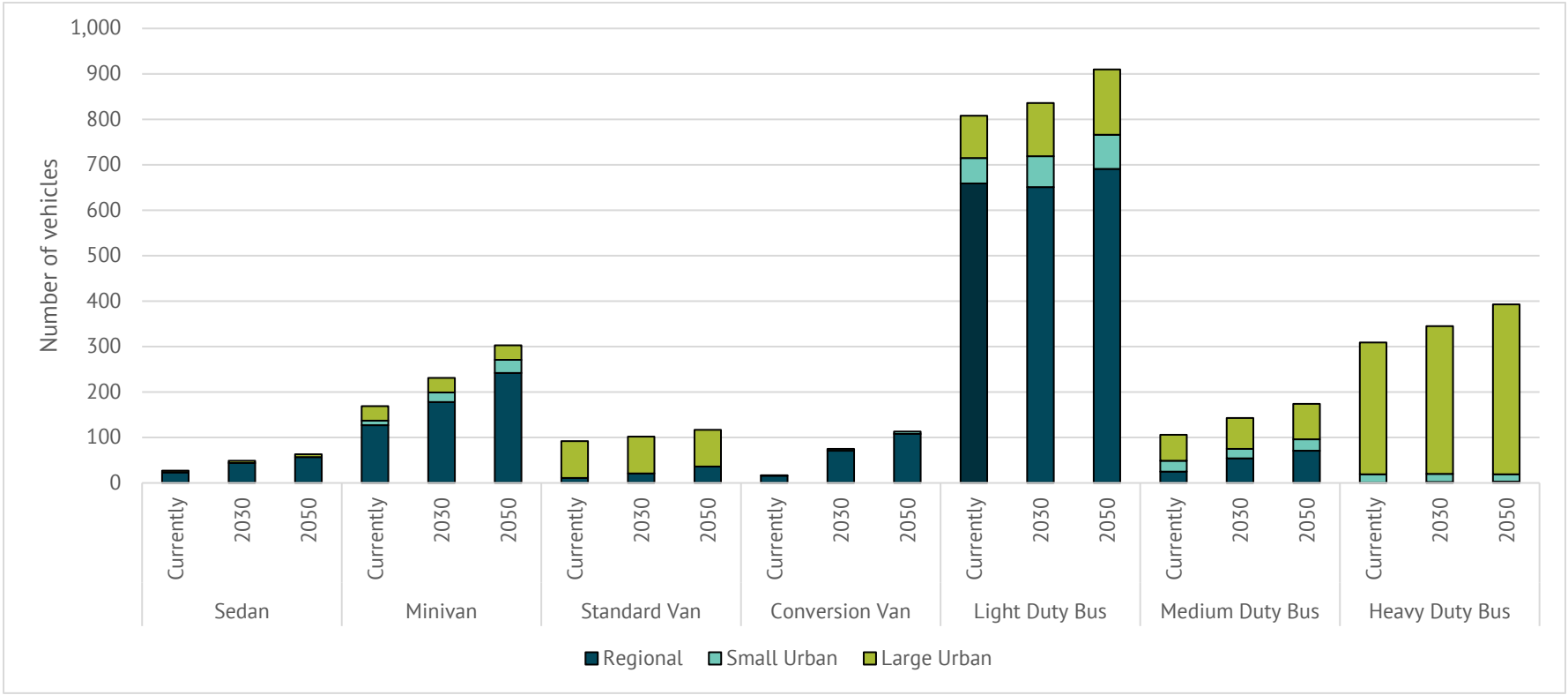


Source: Iowa DOT

Section 3: Fleet Needs

Fleet needs refer to revenue vehicles, which are a transit agency's bus and van fleet used to transport riders. This does not include vehicles used by office personnel or for non-public transportation purposes such as maintenance trucks. Vehicle fleet needs are a constant challenge, involving both the replacement of aging vehicles that have exceeded their useful life and the planning of additional vehicles—known as expansion vehicles—to increase the overall fleet size. In general, transit agencies are exploring the "right-sizing" of their fleet to have appropriately sized vehicles for the likely number of riders. The varying vehicle needs between the different types of transit agencies are highlighted by the estimated additional vehicles needed by 2030 and by 2050 on top of their current vehicle fleets. In order to address driver shortages and cost restraints, agencies have been shifting from light duty buses and minivans to conversion vans. Recently, some agencies have also begun downsizing their fleets.

Figure 3.3: Current transit agency fleets and projected additional vehicle needs by 2030 and 2050



Source: Iowa DOT

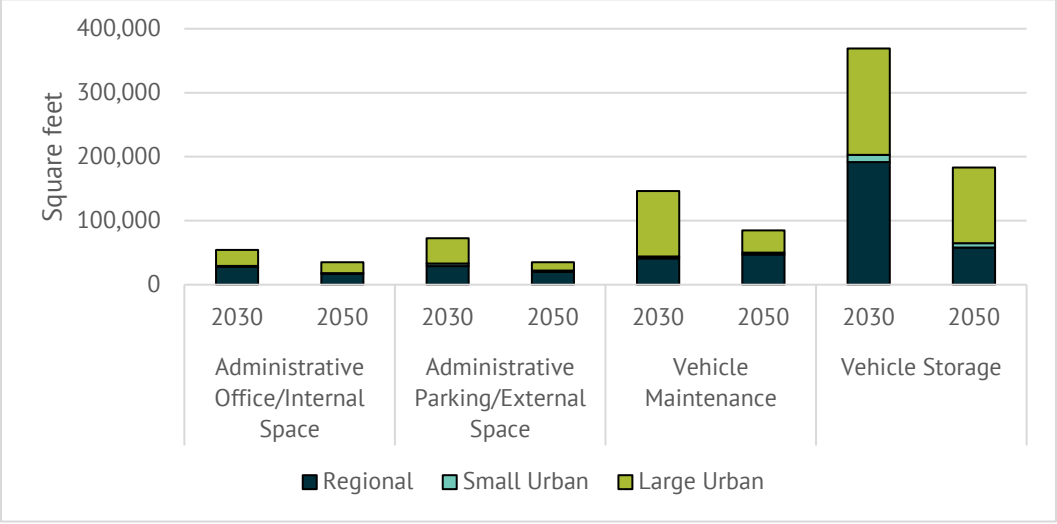
Section 4: Facility Needs

Facility needs include maintenance areas (e.g, wash racks and wash bays), revenue vehicle storage areas, administrative/offices (e.g, building needs such as offices/storage space, and site needs such as parking spaces and walkways), and park and ride facilities.

Typically, the larger the vehicle size, the more expensive it is to fix and replace. To extend the life of these vehicles, it is best to protect them to reduce maintenance costs and wear-and-tear. Additional revenue vehicle storage is one of the more significant needs for extending the longevity of the bus fleet. Maintenance facilities for the fleet was also identified as a need; however, it was significantly lower compared to storage needs. Administrative offices and parking space were also notably lower in need compared to other types of facilities.

Nearly all facility needs were identified in the short-term planning horizon of 2030, with additional facility needs significantly lower in the long-term out to 2050. This shows that additional facilities, particularly for vehicle storage, is a higher priority and a more immediate need. Transit agencies had varying needs for bus shelters and park and ride lots. Regional systems had a slight need that increased very little between 2030 and 2050. Large urban systems showed the greatest change between 2030 and 2050, with much more need for both types of facilities. Small urban systems show an increase for bus shelters in the short-term by 2030 with a similar need by 2050 but show no need for additional park and ride facilities.

Figure 3.4: Transit agency additional facility needs by 2030 and 2050 (square feet)



Source: Iowa DOT

Table 3.1: Bus shelter and park & ride additional facility needs by 2030 and 2050 (number of shelters/lots)

Agency Type	Bus Shelters		Park & Ride	
	2030	2050	2030	2050
Regional	4	6	9	10
Small Urban	16	15	0	0
Large Urban	203	317	13	22

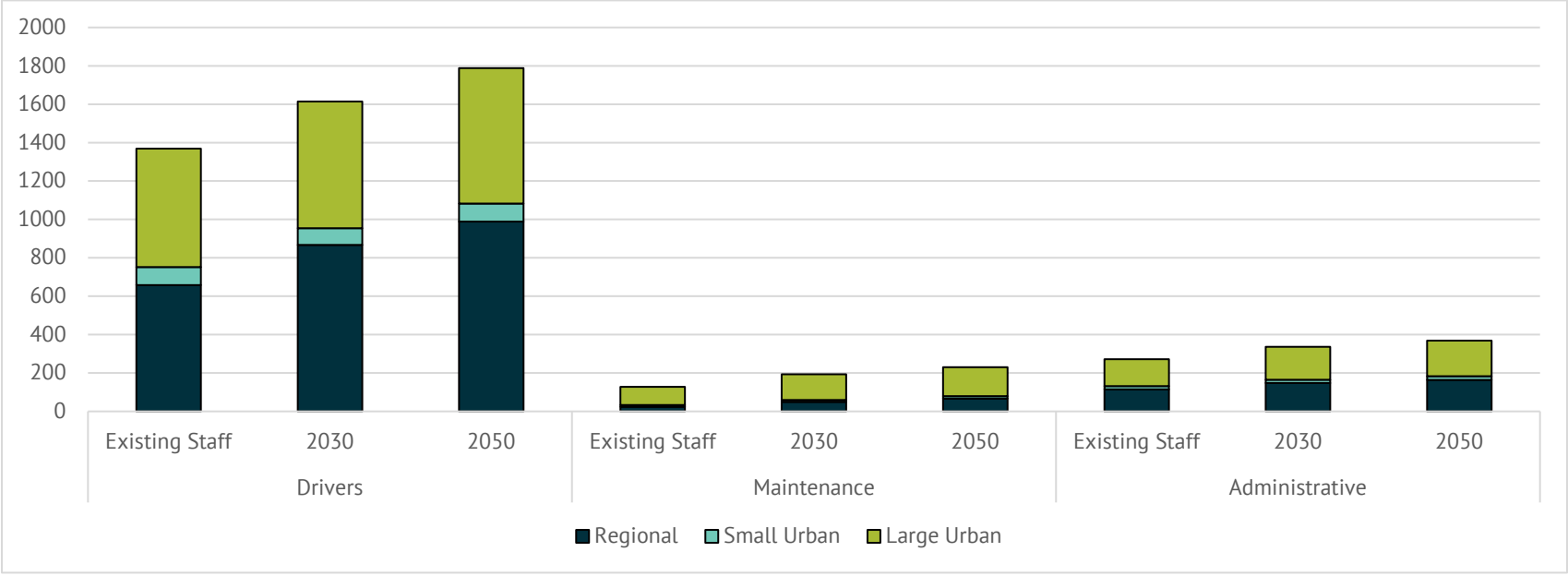
Source: Iowa DOT

Section 5: Personnel Needs

Personnel needs relate to the workforce of the transit agency. All types of transit agencies expressed current personnel needs as well as ongoing needs for additional drivers, maintenance staff, and administrative or office staff. However, the needs for more bus drivers represents the single greatest personnel need across the state. In some situations, the need for drivers is so significant that dispatchers, maintenance staff, and even agency directors attempt to fill the gap by driving a limited number of routes and picking up on-demand transit calls.

A lack of drivers will have the effect of limiting the level of transit service that is available in each region. It does not matter how many buses or vans are available if there are not enough qualified and licensed drivers to operate them. Likewise, a lack of maintenance employees may impact the ability to service and sustain the fleet of vehicles available for transit service, while a lack of office staff will limit the agency's ability to conduct public outreach, market its services, or perform strategic planning or analyses.

Figure 3.5: Transit agency personnel needs



Source: Iowa DOT

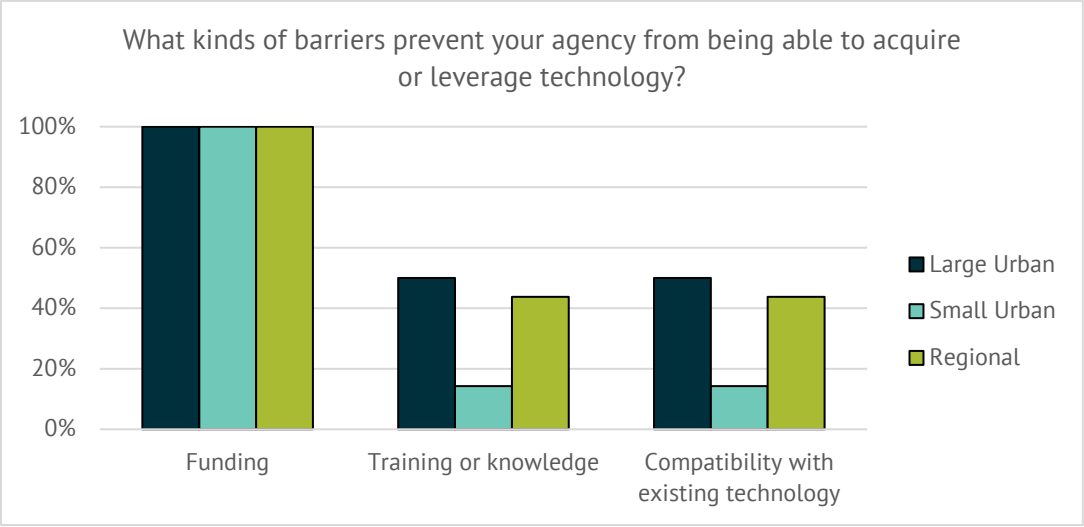
Section 6: Technology Needs

Technology needs relate to hardware or software capabilities within vehicles, as well as those utilized by administrative staff in the office.

Transit agencies utilize a wide range of tools and technologies to keep the transit system operating. From dispatching to route optimization software, hybrid buses, and live geolocating services and apps, even to cyber security concerns, there are many different aspects of running transit operations that are impacted by the rapid pace of changing technology. Additionally, there are rapidly changing expectations of potential riders that make it difficult for transit agencies to simultaneously manage current operations while researching and implementing new technological approaches.

The most significant barrier to implementing new technology is funding. Several transit agencies made mention of the difficulty in determining the overall cost of technology, such as predicting training costs, subscription services, and long-term licensing agreements. While most agencies expressed interest in adopting new technology, there was even more interest in understanding its return-on-investment. In other words, they would like to understand what the overall costs entail, including lost opportunity costs, in relation to cost savings or some other tangible benefit.

Figure 3.6: Transit agency technology needs



Source: Iowa DOT

3.2 Transit Accessibility Analysis

Background

The ultimate purpose of the transportation system is to get people and goods where they need to go—mobility. As show in Figure 1.3, one of the Iowa DOT's system objectives is accessibility. An accessibility/mobility analysis was conducted that focuses on factors that may limit mobility, ability to access transportation infrastructure, and/or travel via a personal vehicle. This includes identifying the locations of "hot spots" where transit accessibility demand is highest in Iowa.

Table 3.2: Accessibility Factors

Factors	Scale	Description
Gas Prices	County	Average gas prices from AAA web site with samples taken in Feb 2025. O'Brien County data from Gas Buddy website (not available from AAA).
Median Household Income	Block Group	Median household income for the block group.
Limited English Proficiency (LEP)	Block Group	Percentage of the block group that speaks English less than "very well."
Minority (Non-white) Population	Block Group	Percentage of households in the block group that is not solely classified as "white."
Individuals Under Age 18	Block Group	Percentage of the block group under age 18.
Individuals Over Age 65	Block Group	Percentage of the block group over age 65
Foreign Born	Block Group	Percentage of the block group that is foreign born.
College Enrollment	Block Group	Percentage of the block group that is currently enrolled in post-secondary school.
Households Underneath the Poverty Level	Block Group	Percentage of households in the block group who live under the poverty level.
Carless Households	Block Group	Percentage of households in the block group with zero vehicles available.
Population Density	Block Group	Population per square mile.
Individuals Living with Disabilities	Census Tract	Percentage of the census tract that identifies as living with a disability.

Methodology

Twelve factors were selected to conduct this analysis, as shown in Table 3.2. Most factors are analyzed in terms of U.S. Census Block Groups. The exceptions are gas prices which were analyzed at the county-level, and individuals living with disabilities which were analyzed at the U.S. Census Tract level. All data was sourced from 2019-2023 American Community Survey (ACS) 5-year estimates from the U.S. Census Bureau, except for the Gas Prices, which was sourced from the American Automobile Association (AAA) and Gas Buddy data from February 2025.

Once data was gathered, it was rendered in a Geographic Information System (GIS) map. This mapping software allowed for detailed analysis of the individual factors as layers of information that could then be summarized and compiled into a single overlay to represent accessibility/mobility needs in different areas of the state.

For each factor, a scale of one (best) through five (worst) was applied with a value of five having the least access to transportation or mobility. All remaining block groups were divided into nine categories with an equal number of remaining block groups in each category. This enabled the comparison of factors based on a normalized scale rather than each individual factor's data range.

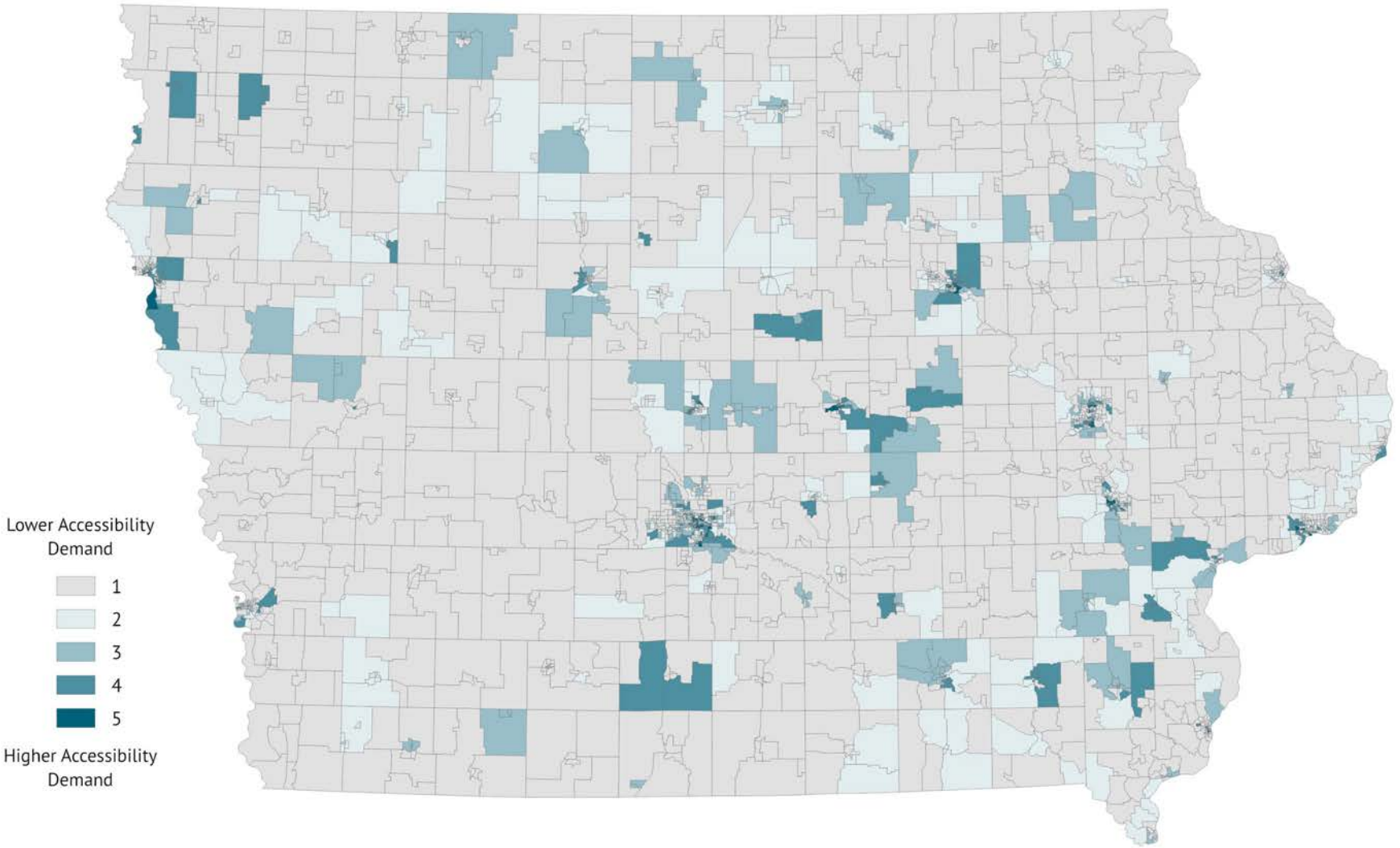
The transit agencies were then asked to provide input on the scoring values for each of the 12 factors. The higher the value assigned to the factor, the more weighting or perceived importance was given to that factor by that agency. The scores for each factor were multiplied by that factor's weight, then all individual weighted layers were added together.

Application

This analysis shows the complex relationship between multiple factors and how they contribute to accessibility. Transit agencies can review these results and see where there are populations that may be more likely to need meaningful access to transportation alternatives. This allows for focused discussion on how to address those needs.

In the case of this analysis, one size does not fit all. Different strategies can be leveraged based on the combination of the individual factors in the region that are flagged as less mobile or more transit dependent. Just because an area needs more meaningful access to transit does not necessarily mean that routes or schedules need to change, which could be quite costly for the transit agency. By examining the individual factors in transit dependent block groups, an agency can tailor the appropriate response and potentially achieve the end goal of serving additional riders in those areas. The individual, non-weighted factors can also be used as a reference to better understand an area's characteristics when tailoring appropriate strategies.

Figure 3.7: Composite accessibility scores weighted by all transit agency results, 2023



See Appendix C for Transit Accessibility Analysis Data

Source: Iowa DOT

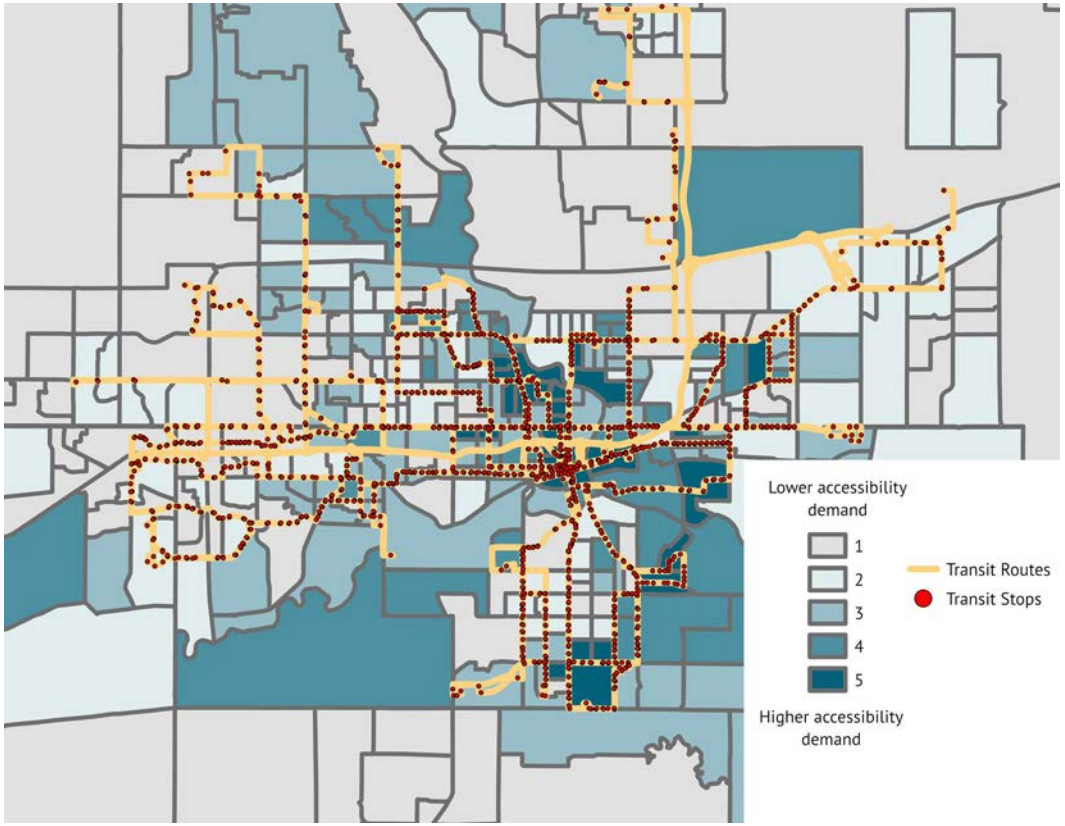
Accessibility Analysis Results

Even though this analysis is supposed to serve as a tool for local transit providers to see where in their locales could benefit from transit services the most, we can also see some general trends about transit needs across the state. One of the most readily apparent trends is that there is a lot of demand for transportation services in and around the large urban centers of the state, which could be tightly correlated to the population density and college enrollment factors.

However, demand for transportation alternatives is not exclusive to our urban areas. All across the state we can see hot spots of demand for transportation alternatives. It is difficult to determine exactly which factors impact these more rural hot spots exactly, but carless households for Amish communities could serve as an example how certain communities may need specific needs that the department needs to address.

It is important to clarify that even though transportation alternative demand may be higher in areas, that doesn't mean it doesn't exist in our lower demand areas as well. It is imperative to try and have as expansive transit coverage as possible in order to serve all Iowans adequately.

Figure 3.8: Des Moines example showing how existing transit services serve the community, 2023



See Appendix C for Transit Accessibility Analysis Data

Source: Iowa DOT

3.3 Strategies

To carry out the vision of the public transit systems and address the needs that were identified during the planning process, implementation strategies have been developed. The strategies that are listed in this section were derived from existing plans (such as the State Long Range Transportation Plan and metropolitan planning organization and regional planning affiliation Passenger Transportation Plans) and input from stakeholders, the Iowa Transportation Commission, and the public.

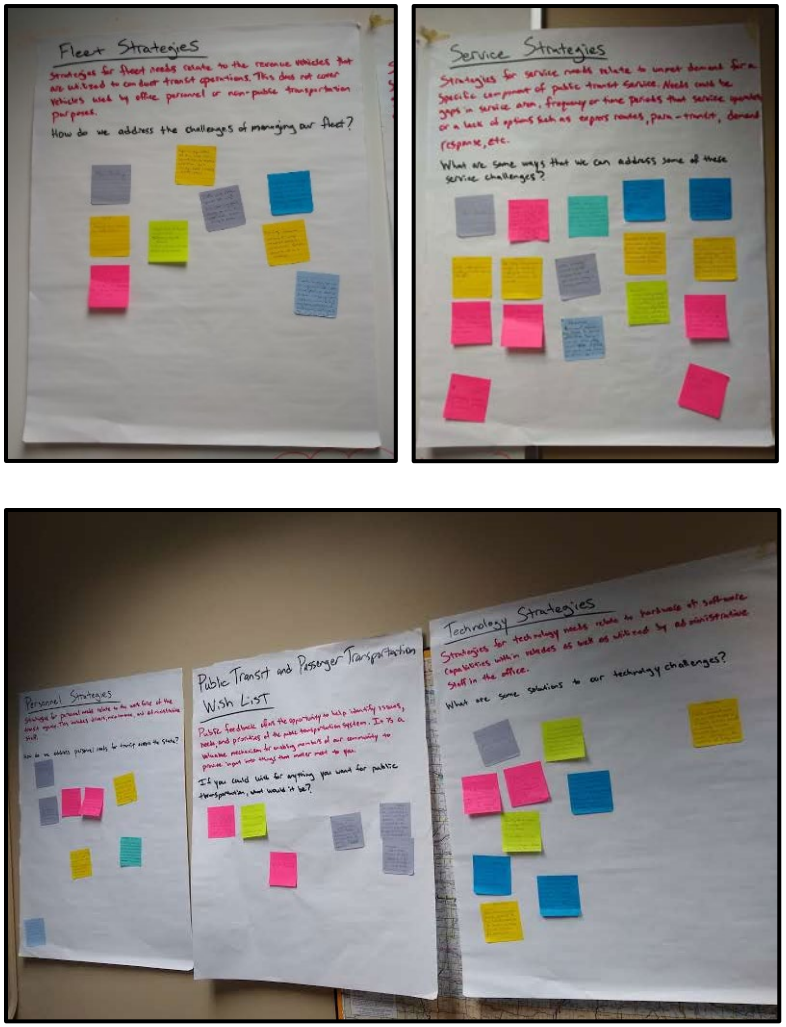
Strategy identification and development

The result of the transit needs assessment was initially presented to transit agencies at the IPTA Legislative Conference and the Passenger Transportation Summit. After sharing the aggregated results from the transit needs survey, a brainstorming exercise was introduced to the group to solicit feedback and begin accumulating ideas and possible strategies for addressing those needs.

The result was an initial list of 30 strategies to be considered for inclusion into the Plan and used as a basis to formulate the overall vision and goal areas of the plan. At the 2024 Passenger Transportation Summit, the assessment and strategies were re-introduced and validated.

Key themes were extracted from the strategies to determine the frequency of their use and organized into general categories or goal areas for the plan. These goal areas, and the strategies contained within them, nest under the overall vision for the future of public transit in Iowa.

Figure 3.9: Photos from brainstorming exercise



Iowa's Transit Mission

The mission of the Iowa DOT's Modal Transportation Bureau Public Transit Team is to **advocate and deliver services that support and promote a safe and comprehensive public transit system in Iowa to help support the overarching efforts of the department**. To help translate the overall mission into meaningful actions, a structure has been established featuring a broad system vision statement and four goal areas that reflects the overall vision for Iowa's future public transit system. See Figure 3.10.

Figure 3.10: Iowa's Transit Vision

Source: Iowa DOT

Figure 3.11: Iowa DOT's system objectives

Source: Iowa DOT

Department Alignment

Additionally, each strategy that has been identified supports the overarching goal of the department, defined as "mobility" in some way. The four pillars of mobility include safety, sustainability, accessibility and flow. The icon preceding each strategy shows which of the four system objectives it supports.

Iowa's Transit Strategies

Goal Area 1: Service

Iowa's public transit system spans across the entire state and offers a variety of transit service types. This includes metropolitan areas that have fixed route service with bus stops, regional on-demand service that is scheduled, and paratransit that accommodates users with disabilities. The service strategies involve actions that could enhance, expand, or otherwise augment transit service in Iowa.

Each of these strategies will be expanded on in Section 5, defining who exactly would lead efforts pursuing each strategy and a proposed timeline of completing these efforts.

Service strategies

- Examine the effects of offering fare-free statewide bus service.
- Examine bus service hours for people who work nights and weekends.
- Prioritize funding applications for communities that improve transit service or access.
- Examine the effects of creating more urban transit services in areas that are currently covered by regional transit services.
- Continue existing services and establish new interregional services along commuter routes.
- Start a subscription price service that works across all bus services in Iowa and includes bikes, scooter sharing, and parking facilities.
- Enable all buses and transit agencies in the state to accept digital fares or electronic payment formats, while still allowing for cash payments.
- Improve accessibility of all transit information, service notifications, and bus route information to ensure they are easy to understand for older adults, multilingual riders, and riders with audio, visual, or cognitive impairments.
- Establish standardized data collection and reporting requirements to better understand ridership.
- Study how to most effectively implement intercity transit bus systems in Iowa.
- Study and define a statewide minimum level of essential transit service necessary to meet critical needs, particularly in the event of severe and sustained disruptions to demand or service.

Goal Area 2: Partnering

By establishing partnerships with other public and private entities, a more diverse array of resources can be leveraged across a much wider area. Partnerships enable organizations to offer more services that would otherwise not be available. The partnership strategies involve multiple entities working together to enhance transit options.

Each of these strategies will be expanded on in Section 5, defining who exactly would lead efforts pursuing each strategy and a proposed timeline of completing these efforts.

Appendix E in this document includes a comprehensive list of partnering opportunities across the state with major employers and other activity centers. All of these opportunities are derived from the Passenger Transportation Plans from the local planning agencies.

Partnering strategies

- Improve bus transfers between regions and counties to support longer and more efficient trips across the state.
- Partner with companies (such as taxis, Uber, Lyft) to support city bus routes and provide more transportation options.
- Improve workforce development by partnering with businesses to help employees get to work.
- Partner with non-profit organizations (such as American Cancer Society, Veteran's Affairs, and hospitals) to help people get to their medical appointments on time.
- Partner with other government organizations to increase the number of transportation options for traveling long distances.
- Work with businesses to create transportation options for their employees by offering subsidies, bus passes, or incentives such as tax breaks.
- Improve sidewalks and connecting infrastructure by working with state agencies, local government, and private organizations to improve access to bus stops and transit services.

Goal Area 3: Facility, Fleet, and Personnel

Facility, fleet, and personnel strategies may take the form of facility construction and maintenance activities, which do not directly impact transit service, but indirectly influence a transit agency's ability to effectively administer it. Some direct impacts of capital improvements can be seen in the age or condition of buses. As capital assets such as the bus fleet increase in age, their maintenance costs increase, which can negatively impact services. The facility, fleet, and personnel-related strategies would help make sound investments for the agencies that operate public transit.

Each of these strategies will be expanded on in Section 5, defining who exactly would lead efforts pursuing each strategy and a proposed timeline of completing these efforts.

Facility, Fleet, and Personnel strategies

- Develop a right-sizing strategy for transit agency bus fleets to decrease costs and better match vehicle sizes to the number of people taking the bus.
- Decrease fuel costs for transit agencies by adopting electric, hybrid, or flex-fuel efficient vehicles.
- Prioritize transit facilities that are evaluated as being in marginal or poor condition for reconstruction or repair.
- Save costs by encouraging transit agencies and local governments to share facilities and staff.
- Address the bus driver shortage by targeting non-traditional candidates to expand the pool of potential applicants.
- Increase training for bus drivers to better serve mobility, hearing or visually impaired riders, children, older adults, immigrant, and refugee populations.
- Identify minimum technology needs for all transit agencies and develop a technology implementation plan.
- Update the park and ride system plan to determine ideal locations for carpooling and ridesharing to support commuting activities.
- Improve the coordination of transportation services between transit agencies and other transportation providers by promoting and hiring mobility manager positions to provide statewide coverage.

Goal Area 4: Funding

The costs associated with nearly all aspects of public transit, particularly capital assets and operations, typically increase over time due to factors like inflation. Compounding this issue is the fact that traditional funding revenue streams have remained relatively stagnant over time. Agencies are faced with dilemmas such as cutting staff or services to replace or maintain aging buses, or reducing the number of active buses in operation, which reduces the number of routes or their frequency. The funding strategies are aimed at improving transit operators' choices for effectively serving the public.

Each of these strategies will be expanded on in Section 5, defining who exactly would lead efforts pursuing each strategy and a proposed timeline of completing these efforts.

Funding strategies

- Decrease maintenance costs by focusing resources on replacing transit vehicles that are beyond their useful life.
- Examine alternative ways of funding public transit that do not rely only on existing federal and/or state sources.
- Conduct a benefit-cost analysis or economic impact study of transit services and projects to measure the impact and overall benefit to social welfare.