

A close-up photograph of a person's hands, wearing a white long-sleeved shirt, checking the oil level in a car engine. The person is holding a yellow-handled dipstick and is in the process of pulling it out of the engine. The engine compartment is visible, showing various components like hoses, a white reservoir, and a yellow oil cap. The background is slightly blurred, focusing attention on the hands and the dipstick.

●●● APPENDIX 3: TRANSIT NEEDS SURVEY

Appendix 3. Transit Needs Survey

This appendix documents results from the Transit Needs Survey discussed in Chapter 3 of the Iowa Public Transit Long Range Plan.

Background

Understanding the needs of the public transit system requires detailed knowledge of how it operates. For this reason, 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 effort in December 2018, the working group began drafting a set of questions for the transit agencies to answer through a survey. The purpose of this survey was to identify gaps or needs in public transit services throughout the state. These needs were then analyzed and incorporated into the Plan.

An online platform was utilized to conduct the needs assessment and the survey was open from February 1 through March 29, 2019. All 35 Iowa transit agencies responded to the survey, with a median completion time of 37 minutes.

When possible, results were aggregated by transit agency type: large urban, small urban, or regional (see Figure A3.1).

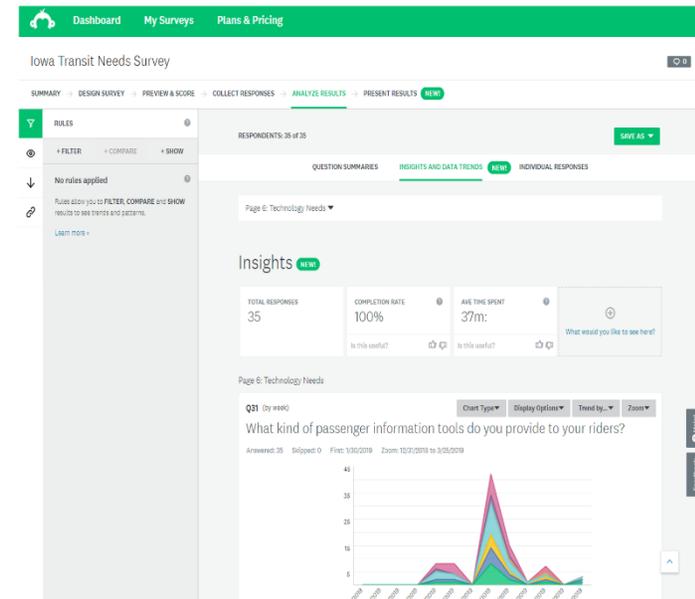
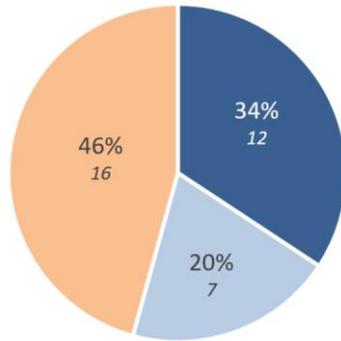


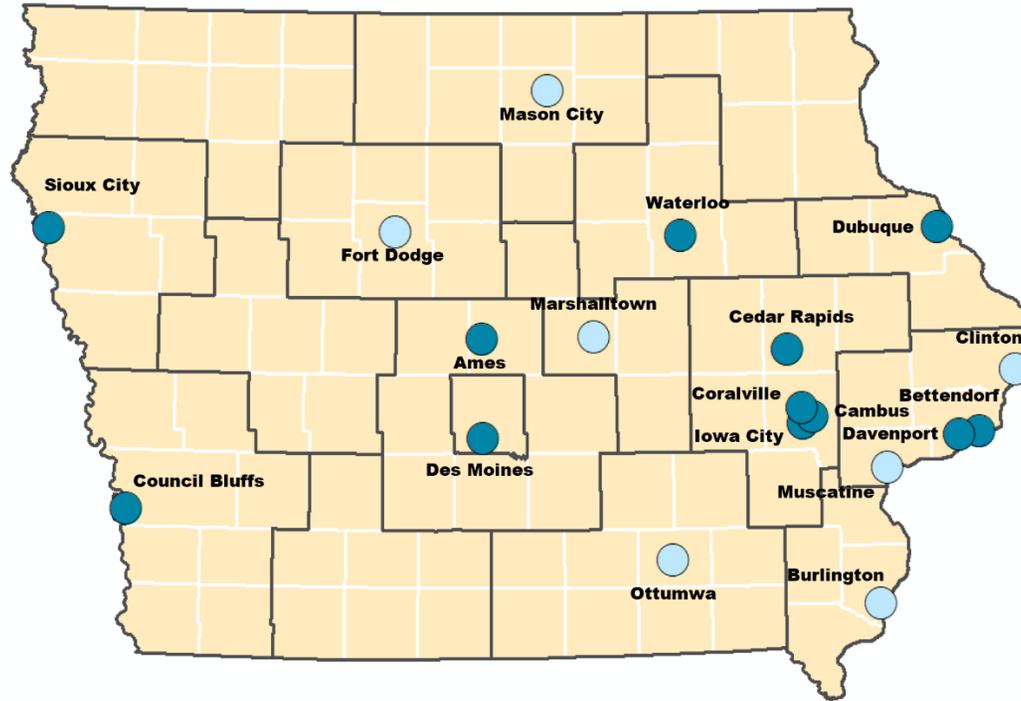
Figure A3.1: Transit agencies by type

Transit Agencies by Type



■ Large Urban ■ Small Urban ■ Regional

Large Urban: greater than 50,000 population
Small Urban: 20,000 - 49,999 population
Regional: Rural areas outside Urban



Source: Iowa DOT

Survey Format

The survey was conveyed to the transit agencies in Survey Monkey using the ‘One Question at a Time’ survey format. The survey questions were organized into several different sections based on the type of need with the initial, leading section covering general agency-side questions such as marketing and outreach. At the end of each section, an open-ended comment box was provided for the respondent to write anything of note or elaborate on some of the supplied data. Figures A3.2 through A3.7 depict the questions and survey format of the Transit Needs Survey.

The sections of the survey include:

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

Figure A3.2: Transit Needs Survey pages 1 & 2

Iowa Transit Needs Survey

Agency Information

The purpose of this survey is to identify gaps or needs in the public transit services throughout the state. These needs will then be analyzed and incorporated into the Iowa DOT's Public Transit Plan.

The first section is to validate information regarding your transit agency and to provide a contact name in case there are any questions. There will be a comments question at the end of each section in order to record any additional thoughts you may have regarding that particular topic.

* 1. Agency name

* 2. What is a good contact email address to reach your agency?

* 3. Has your transit agency conducted any strategic planning efforts?
 Yes
 No

4. If you have a published strategic plan and are willing to share it, please include a hyperlink to it in the space provided. If your plan is not posted online, please send it via email to joseph.drahos@iowadot.us.

* 5. Do you have an active, sustained marketing campaign for your transit agency?
 Yes
 No

* 6. Who is responsible for your agency's marketing and promotion efforts?
 Staff specialist
 Group effort
 Marketing/consulting firm
 No one
 Other (please specify)

1

* 7. How do you engage with riders to discover their feelings about transit?
 In-person surveys
 Social media
 Community events
 Telephone surveys
 Other (please specify)
 Online polls
 Focus groups
 Direct mail surveys

* 8. What are the main ways riders provide feedback to your agency?
 Telephone
 Email
 Social media/Website
 Other (please specify)
 In person
 Online forms
 Direct mail

2

Sources: Iowa DOT, Survey Monkey

Figure A3.3: Transit Needs Survey pages 3 & 4

Iowa Transit Needs Survey

Service Needs

Service Need is defined as an unmet demand for a specific component of public transit service. Needs could be gaps in service area, frequency or time periods that service operates, or lack of options such as express routes, para-transit, demand response, etc.

* 9. How are ridership statistics tracked by your agency?

Number of total passengers by stop Number of students by hour

Number of total passengers by hour Point of origin and destination by passenger

Number of para-transit riders by stop Pick-up and drop time by passenger

Number of para-transit riders by hour Number of total passengers by route

Number of students by stop

Other (please specify)

* 10. Enter total yearly ridership forecast numbers for 2030. Please estimate if official forecasts have not been formalized.

Para-Transit

Fixed Route

Demand Response

* 11. Enter total yearly ridership forecast numbers for 2050. Please estimate if official forecasts have not been formalized.

Para-Transit

Fixed Route

Demand Response

12. (Optional) Please enter any additional Service-related comments, concerns or information you wish to share.

3

Iowa Transit Needs Survey

Fleet Needs

Fleet Needs relate to the revenue vehicles that are utilized to conduct transit operations. This does not cover vehicles used by office personnel or non-public transportation purposes.

* 13. What percentage of your revenue vehicles are stored in a location where they are directly protected (inside or covered)?

None 100%

* 14. What is the average pre-trip and warm-up time for your revenue vehicles in the summer?

0 minutes 30 minutes 60 minutes or more

* 15. What is the average pre-trip and warm-up time for your revenue vehicles in the winter?

0 minutes 30 minutes 60 minutes or more

* 16. For which vehicle types do you track vehicle occupancy-to-capacity statistics?

Minivan Medium Duty Bus

Standard Van Heavy Duty Bus

Conversion Van None

Light Duty Bus

Other (please specify)

4

Sources: Iowa DOT, Survey Monkey

Figure A3.4: Transit Needs Survey pages 5 & 6

* 17. This question is meant to understand your existing fleet and whether you anticipate needing additional or fewer vehicles in the years 2030 and 2050. For each vehicle type, please respond with an answer of "We have X, need X in 2030, and need X in 2050." For example, a response for the light duty bus category could be "We have 20, need 22 in 2030, and need 23 in 2050."

Sedan	<input type="text"/>
Minivan	<input type="text"/>
Standard Van	<input type="text"/>
Conversion Van	<input type="text"/>
Light Duty Bus	<input type="text"/>
Medium Duty Bus	<input type="text"/>
Heavy Duty Bus	<input type="text"/>
Medium Trolley	<input type="text"/>
Heavy Trolley	<input type="text"/>
Administrative Sedan (non-revenue)	<input type="text"/>
Administrative Van (non-revenue)	<input type="text"/>
Maintenance Pick-up Truck (non-revenue)	<input type="text"/>
Maintenance Service Van (non-revenue)	<input type="text"/>
Station Wagon (non-revenue)	<input type="text"/>
Tractor (non-revenue)	<input type="text"/>

* 18. Please provide any additional information related to anticipated make-ready needs, particularly as it may relate to supporting first/last mile transportation modes (i.e. bicycle racks, electric scooter storage, etc.).

19. (Optional) Please enter any additional Fleet-related comments, concerns or information you wish to share.

Iowa Transit Needs Survey

Facility Needs

Facility Needs include maintenance areas (including wash racks, wash bays), revenue vehicle storage areas, administrative/offices (include internal needs such as office/storage space as well as site needs such as parking spaces and walkways), and park & ride facilities.

* 20. If you need additional facility space, how much more may be necessary between today and 2030?

Administrative Office/Internal Space (sq ft)

Administrative Parking/External Space (sq ft)

Vehicle Maintenance (sq ft)

Vehicle Storage (sq ft)

Park & Ride (# locations)

Bus Shelters (# locations)

* 21. If you need additional facility space, how much more may be necessary between 2030 and 2050?

Administrative Office/Internal Space (sq ft)

Administrative Parking/External Space (sq ft)

Vehicle Maintenance (sq ft)

Vehicle Storage (sq ft)

Park & Ride (# locations)

Bus Shelters (# locations)

22. (Optional) Please enter any additional facility-related comments, concerns or information you wish to share.

Sources: Iowa DOT, Survey Monkey

Figure A3.6: Transit Needs Survey pages 9 & 10

30. (Optional) Please enter any additional personnel-related comments, concerns or information you wish to share.

Iowa Transit Needs Survey

Technology Needs

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

* 31. What kind of passenger information tools do you provide to your riders?

<input type="checkbox"/> Vehicle tracking websites	<input type="checkbox"/> Printed schedules
<input type="checkbox"/> Vehicle tracking mobile apps	<input type="checkbox"/> Recorded voice schedule
<input type="checkbox"/> SMS (text alerts)	<input type="checkbox"/> None
<input type="checkbox"/> Other (please specify)	

* 32. What kind of transit technology is on your vehicles?

<input type="checkbox"/> CAD/AVL	<input type="checkbox"/> Accessibility (lifts)
<input type="checkbox"/> On-board announcements	<input type="checkbox"/> LED signage
<input type="checkbox"/> Automatic passenger counters	<input type="checkbox"/> LCD monitors
<input type="checkbox"/> Rich-media infotainment	<input type="checkbox"/> Smart device payment for transit fares
<input type="checkbox"/> Mobile data terminals	<input type="checkbox"/> Wi-Fi
<input type="checkbox"/> Mobile video security	<input type="checkbox"/> None
<input type="checkbox"/> Farebox	
<input type="checkbox"/> Other (please specify)	

9
10

Sources: Iowa DOT, Survey Monkey

Figure A3.7: Transit Needs Survey page 11

* 33. What types of technology does your transit agency anticipate having additional needs for?

	GIS							
	AVL (Automatic Vehicle Location)	(Geographic Information Systems)	Dispatching Software	Route Optimization Software	Mobile Apps	Website Development	Voice Annunciators	Security Cameras
None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Already Have	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By 2030	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By 2050	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

* 34. What kinds of barriers prevent your agency from being able to acquire or leverage technology?

- Funding
- Training or knowledge
- Compatibility with existing technology
- None
- Other (please specify)

35. (Optional) Please enter any additional technology-related comments, concerns or information you wish to share.

Sources: Iowa DOT, Survey Monkey

Survey Results

Results from Survey Monkey were downloaded and are summarized in the following sections. Some of the questions from the original survey were combined to form a more comprehensive picture and narrative in order to better describe the needs that the transit systems reported. Additionally, some data was added to the results for the purpose of providing context such as historic ridership numbers and existing vehicle fleet sizes.

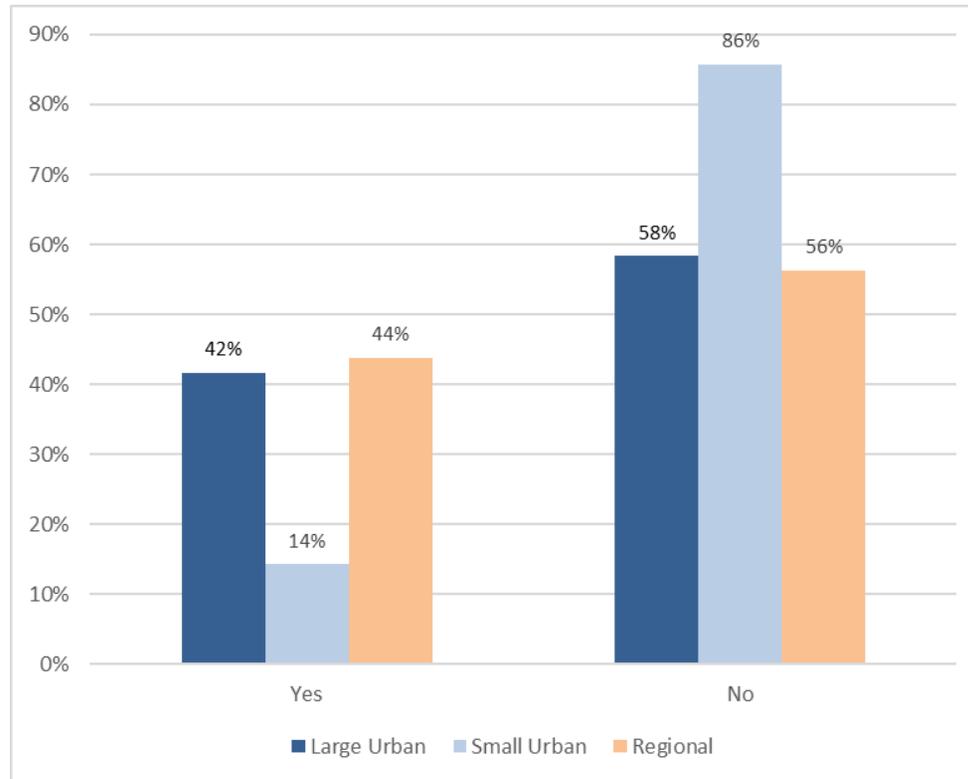
Section 1: Agency Information

The first section of the survey was intended to validate agency contact information, as well as to ask a series of general questions about the agency itself. These questions were useful information to gather as they provided additional context for understanding how the transit agencies operate and communicate.

One fact that quickly became clear was a general lack of long-range or strategic planning efforts. As seen in Figure A3.8, 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.

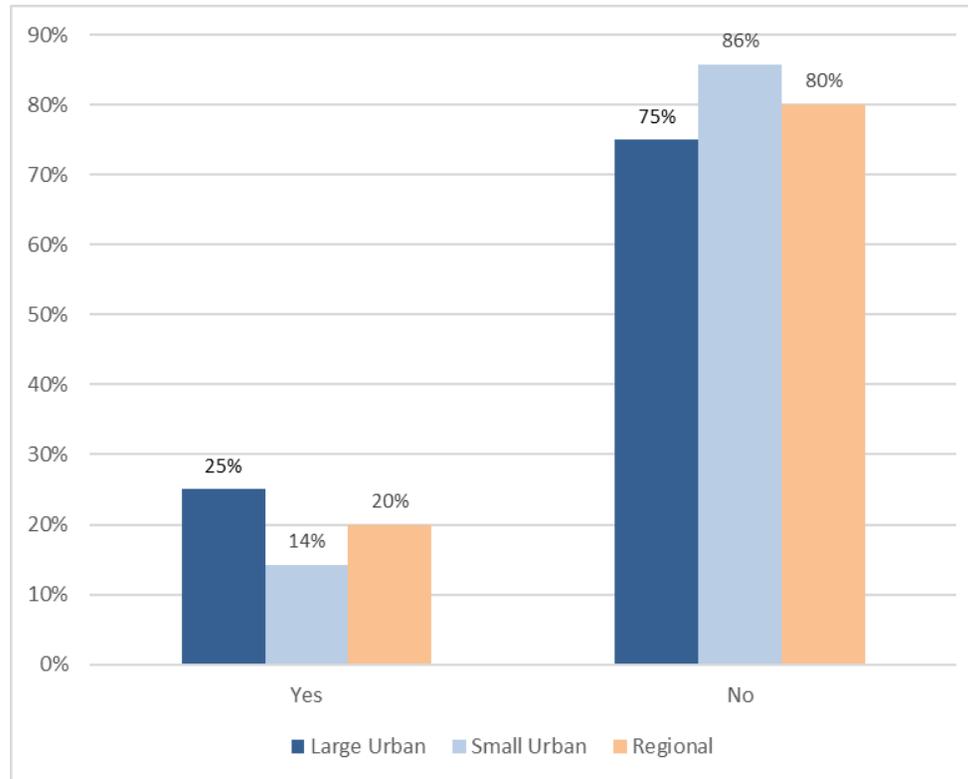
Figures 3.9 – 3.13 provide the remaining survey results from the agency information section.

Figure A3.8: Has your transit agency conducted any strategic planning efforts?



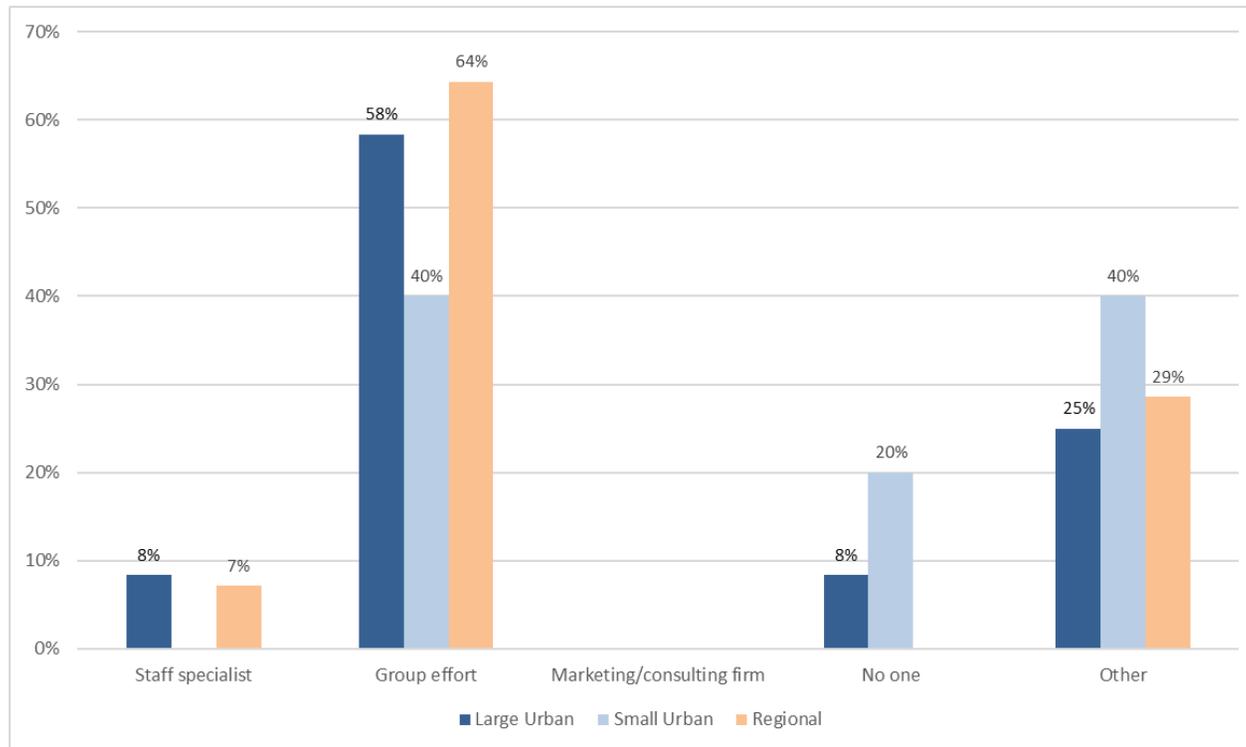
Source: Iowa DOT

Figure A3.9: Do you have an active, sustained marketing campaign for your transit agency?



Source: Iowa DOT

Figure A3.10: Who is responsible for your agency’s marketing and promotion efforts?



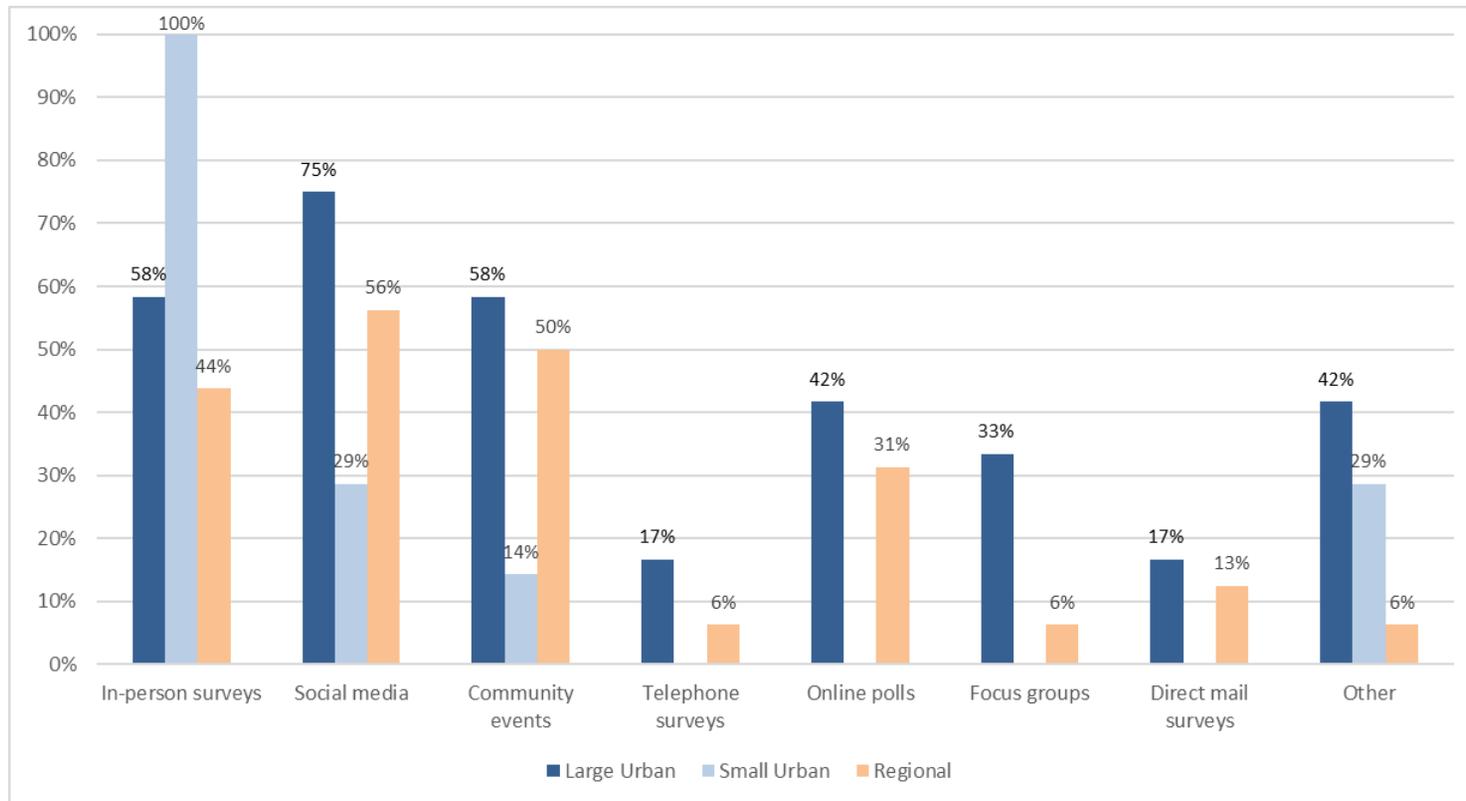
Source: Iowa DOT

(Other) responses:

- No one at this time, we are working towards building a sustained marketing campaign
- Transit Manager
- Transit Director
- Started with Mobility Coordinator. Once position was eliminated due to funding, the Executive Director has taken over the project.
- Transit Manager
- Transportation Director
- Transit Supervisor
- Transit Director
- The City contracts with [AGENCY 1] for fixed route service and with the [AGENCY 2] for paratransit service. [AGENCY 1] markets their service and the City has information on both the fixed route and paratransit services on the City’s website.¹
- Transit Director
- Transit Administrator
- Transit administrative staff
- Transit Administrators, City Communications Specialist, Transit Advisory Board

¹ Redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.11: How do you engage with riders to discover their feelings about transit?



Source: Iowa DOT

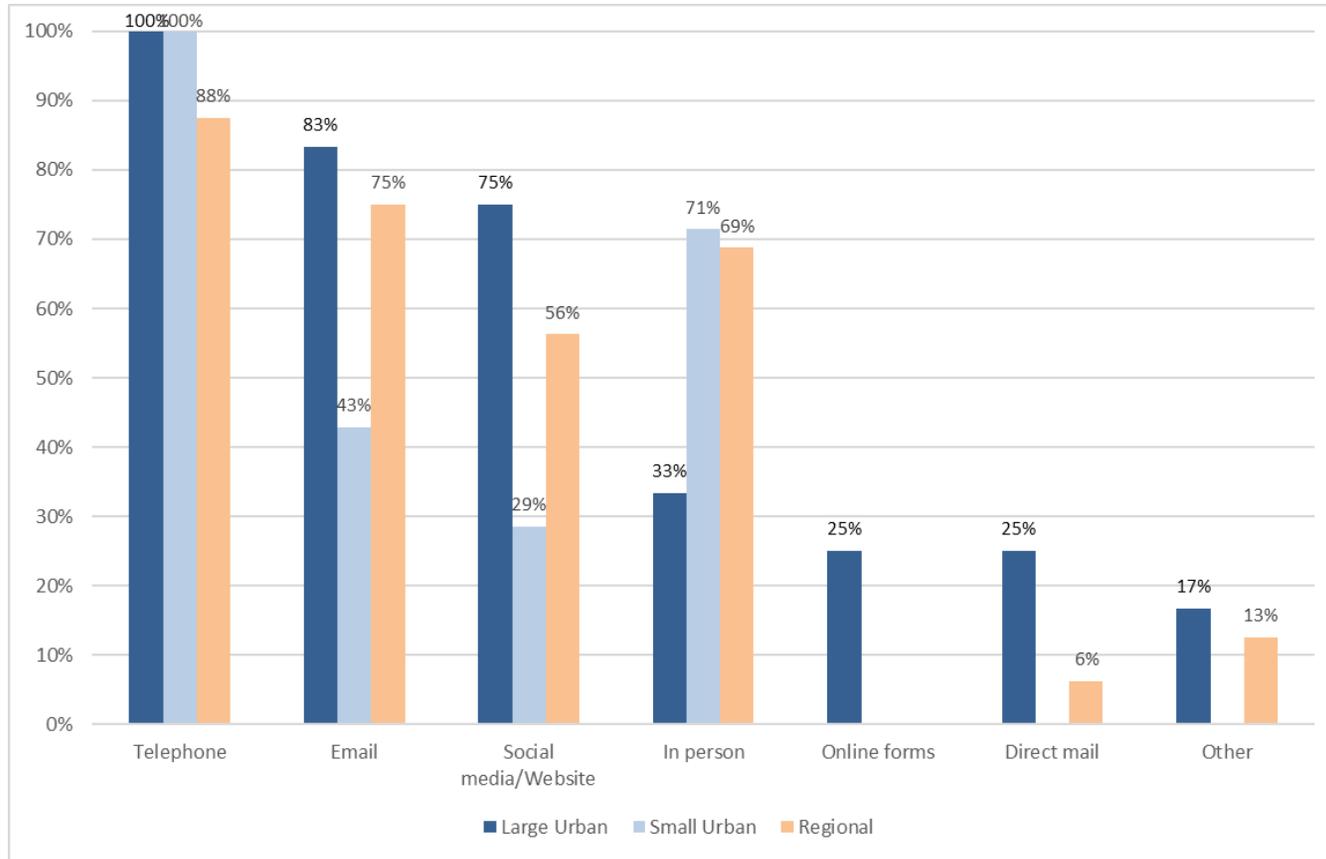
(Other) responses:

- Public meetings (in person and virtual)
- We have done surveys with riders while they are on the bus.
- Public engagement efforts from the [PLANNING AGENCY]²
- Pop-Up meetings around town
- The in person surveys are limited.
- [AGENCY 1] does periodic surveys of fixed route riders. Paratransit riders contact [AGENCY 2] or [NAME], with comments and/or concerns.³
- Transportation advisory group meetings, part of the Passenger Transportation Plan process
- With our upcoming transit study we will be utilizing these strategies to understand our customers feelings about transit.
- Transit Advisory Board, an MPO Transportation Advisory Group (TAG)

² Response redacted with [PLANNING AGENCY] for privacy

³ Response redacted with [AGENCY 1], [AGENCY 2], and [NAME] for privacy

Figure A3.12: What are the main ways riders provide feedback to your agency?



Source: Iowa DOT

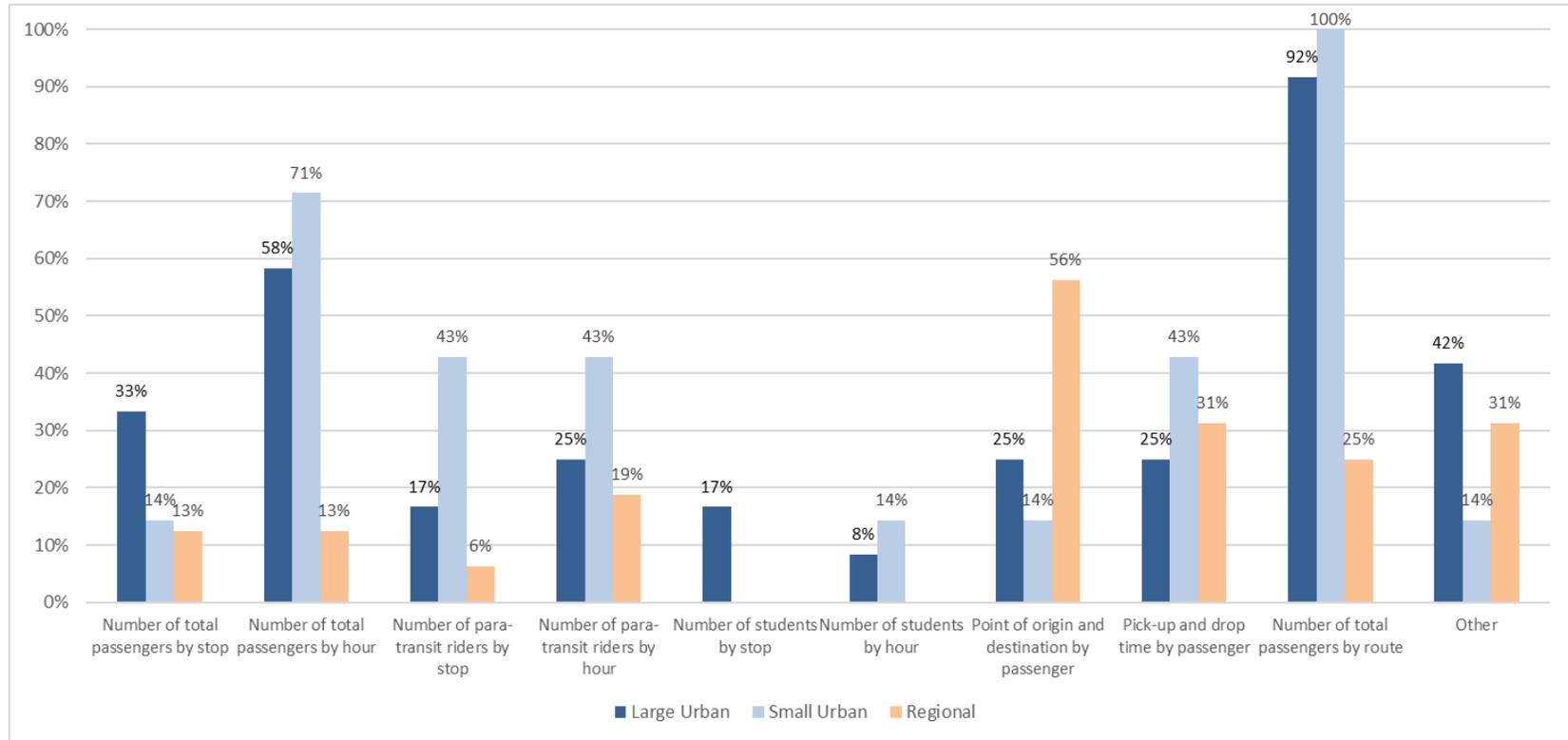
(Other) responses:

- [CITY] also uses an app called [APP] – riders can interact with staff through this application.⁴
- [AGENCY 1] does periodic rider surveys. Paratransit riders generally contact the City. Complainers are referred to either [AGENCY 1] or [AGENCY 2], with follow-up call to the rider.⁵
- standard mail
- Contact Us option on the City's Transit website
- Ridership surveys. Public meetings. Policy Council. Transit Advisory Committee

⁴ Response redacted with [CITY] and [APP] for privacy

⁵ Response redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.13: How are ridership statistics tracked by your agency?



Source: Iowa DOT

(Other) responses:

- Clarification – Point of origin and destination by passenger for paratransit ONLY, Pick-up and drop-off time by passenger for paratransit ONLY
- We do not have stop level data unfortunately. Our current standard is to track passengers by route. That said, we have the potential to passengers by hour, and paratransit riders by stop/hour and by origin/destination should we request that information
- Dispatch Software
- Total number of passengers per day and per route
- Para-transit. Number of riders per day per bus
- Dispatch Software for Para-Transit and Demand Response
- Number of riders per day
- Driver’s log each passenger on a county log.
- We use RouteMatch scheduling and dispatch software.
- Every 3 Years a Passenger Miles Traveled (PMT) Survey must be conducted. This sample provides detailed passenger counts (boarding & alighting) by stop, by hour, by day of the week on each route. Numbers are extrapolated to evaluate efficiency of routes, and locations for stops.

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).

Figure A3.14 represents historically reported ridership numbers and projected future ridership levels based on survey responses. This clearly shows a decrease of ridership from its peak around 2015 through the present. There are multiple factors that may help explain this decline. During that time period, Transportation Network Companies (TNCs) such as Uber and Lyft began expanding in Iowa's urban areas, which attracted some ridership from public transit. Additionally, changes in how Medicare medical transportation is contracted through Iowa's Managed Care Organization (MCO) providers resulted in a significant number of riders being diverted from public transportation to private or alternative means of transportation. Despite the recent decreases in public transit ridership, transit agencies are projecting long-term growth in ridership. Agencies were asked to estimate their ridership in 2030 and in 2050; as shown on Figure A3.14, agencies are projecting slightly higher growth in ridership from now to 2030 compared to 2030 to 2050. This may represent some of the long-term uncertainty regarding the relationship of public transit to TNCs and other possible transportation developments, such as autonomous vehicles.

Open-ended comments regarding service needs:

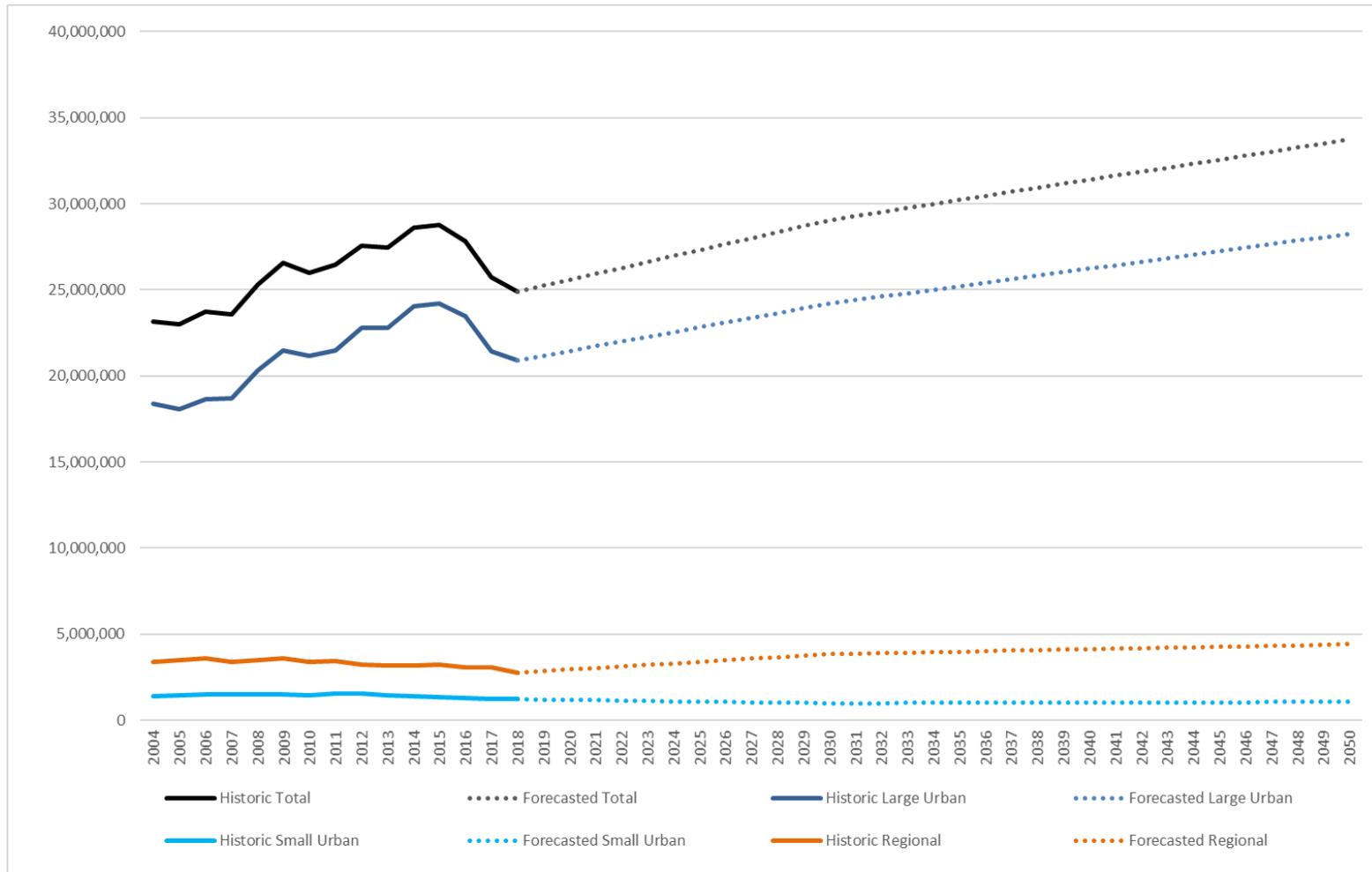
- The demand response ridership numbers in questions 10 and 11 are for [AGENCY'S] vanpool program. Much of the growth will depend on the adoption of MaaS and how [AGENCY'S] role changes in providing service versus coordinating mobility in the metro.⁶
- Numbers are estimate, not official forecast
- Where [AGENCY] is situated in the state, we feel we move to more fixed route types of service in our area. Also feel changing needs will dictate less paratransit and demand response. These are complete estimates. We have not yet done any studies, but we do anticipate doing that within the next 2 years.⁷
- State needs to find a way to increase state assistance so that more service can be provided in its communities.
- Convenience is becoming more important to riders. How will current and future means of transportation effect the role and use of the bus.

⁶ Response redacted with [AGENCY'S] for privacy

⁷ Response redacted with [AGENCY] for privacy

- Estimating out 10 years is understandable, however the estimate for 30 years out seems unreasonable considering the number of influences that impact transit ridership and us having no understanding of their future.
- Forecasting ridership 30 years from now is very challenging with how fast technology and the transportation industry is changing. There is a likelihood public transit as we currently know it will no longer exist. Estimates for our region are based off of past trends.
- Forecasts assume very little total population change. Some demographic groups will shift. Service may be impacted by legislation that mandates universal basic mobility; or a significant shift in demographics that fosters electric scooter/bicycle use; or a major change that provides free rides. The latter change would only be feasible through service efficiencies such as fewer employees, some sort of additional transit tax levy, a congestion tax on cars, etc.
- Estimates based on 3% annual growth. Will change depending on what DHS changes occur with Medicaid programs and MCO contracts

Figure A3.14: Transit agency ridership forecast



Source: Iowa DOT

Section 3: Fleet Needs

Fleet needs relate to revenue vehicles, which are a transit agency's bus and van fleet that is utilized 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 represent a constant challenge as this includes replacing existing vehicles that are beyond their useful lives, as well as projecting future needs for additional vehicles. In general, transit agencies are exploring the "rightsizing" of their fleet in order to have an appropriately-sized vehicle for the likely number of riders. In some situations, there may only be one or two riders, so it would not make as much practical sense to utilize a heavy-duty bus to transport them. Instead, a smaller van would be a more appropriate and comfortable fit. On the other hand, fixed-route services or contracted employee transportation services may require a bus that can hold 20 or more people at once. Figure A3.15 shows the varying vehicle needs between the different types of transit agencies. Note that Large Urban systems typically focus on fixed-route service which transports larger numbers of people for shorter distances, while Regional systems generally transport fewer numbers of people over longer distances. Additionally, many systems are exploring the use of vans to augment or replace larger buses.

Figures 3.16 – 3.18 provide the remaining survey results from the fleet needs section.

Open-ended comments regarding fleet needs:

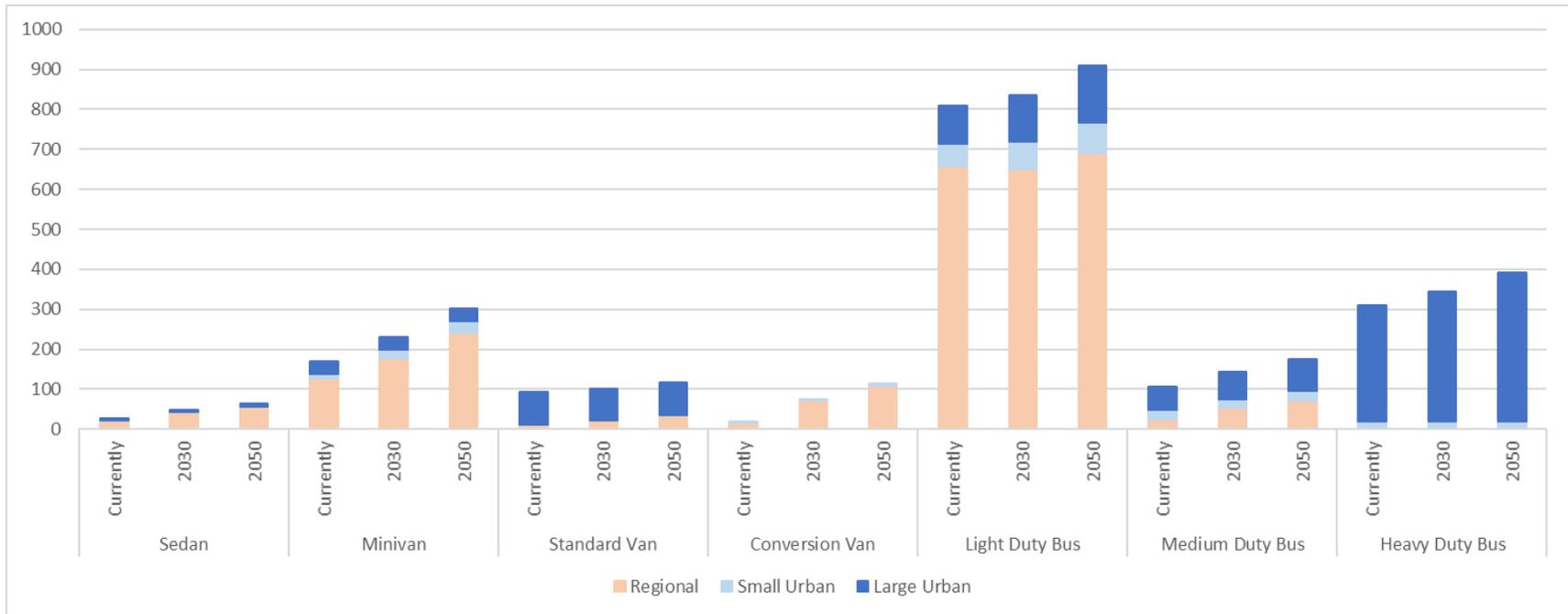
- [AGENCY] is currently exploring a transition over time to electric buses. [AGENCY] currently has seven 40-ft electric buses on order.⁸
- [CITY'S] climate action plan indicates a need to significantly reduce greenhouse gas emissions, therefore pursuing increasing transit mode share (which could result in increased rolling stock needs) and evaluating the purchase cleaner running technology such as electric buses.⁹
- n/a
- Iowa DOT needs to increase the funding per bus to accommodate all make-ready costs not just some. This includes travel costs for inspection at the plant as well, which are required by the federal government.

⁸ Response redacted with [AGENCY] for privacy

⁹ Response redacted with [CITY'S] for privacy

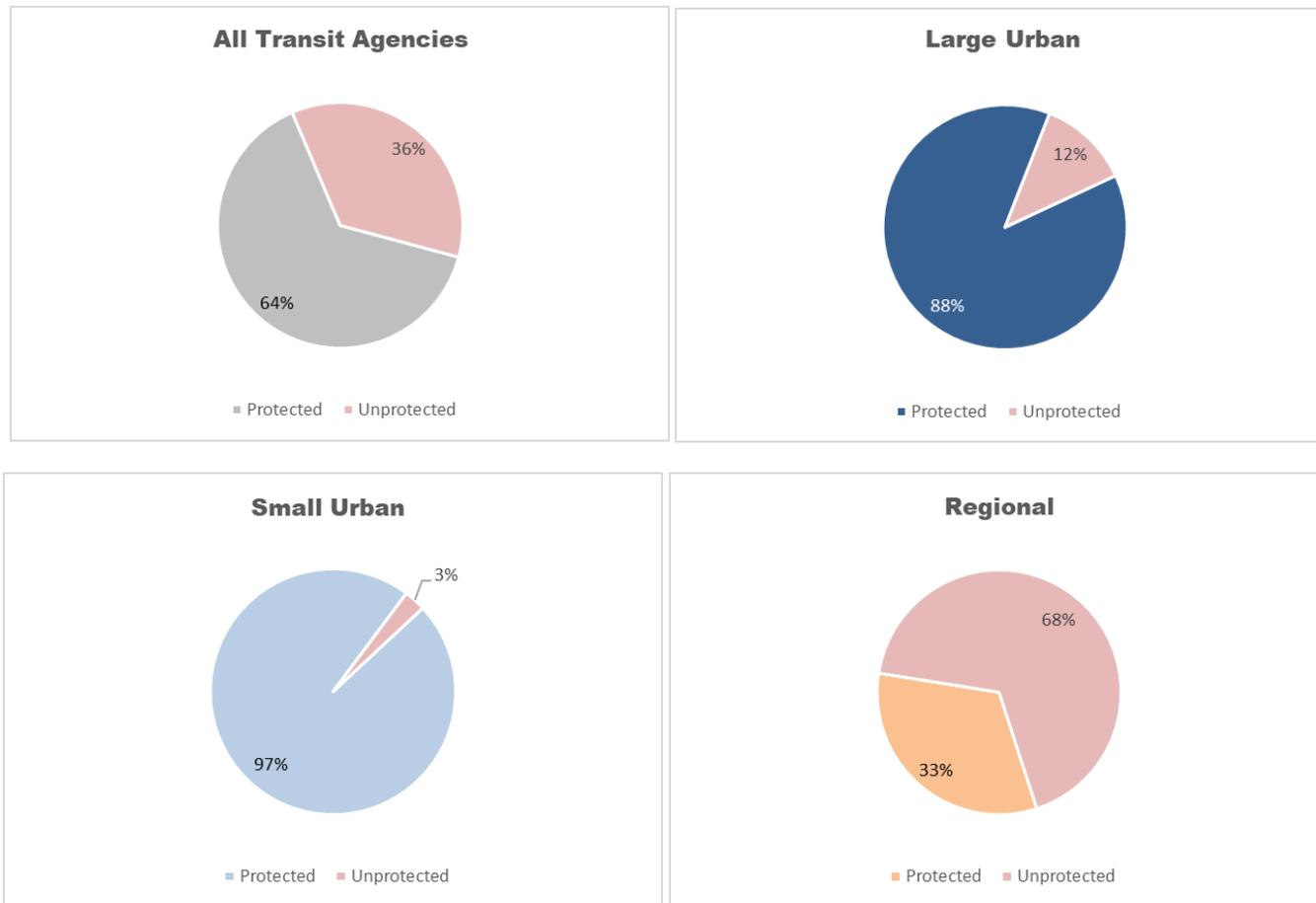
- Engine & transmission replacement costs have grown dramatically. Maintenance of emission control equipment is expensive. Use and maintenance of “smart bus” technologies has added to complexity and expense of maintaining vehicles. As the trend towards all electric buses continues, concerned with cost to replace fleet.
- We see our need for LD buses declining significantly in the next 10 years with the need for MD workroute buses and min-vans increasing significantly. We see this busing driven by the millennial generation who tends to have a greater desire to utilize public transit than previous generations.
- Fleet & vehicle capacities are projected upon the assumption that the service area will not grow much; that the demographic groups will remain close to the same; and that legislation will not mandate specific changes – i.e. battery electric buses due to air quality non-compliance.

Figure A3.15: Transit agency fleet needs



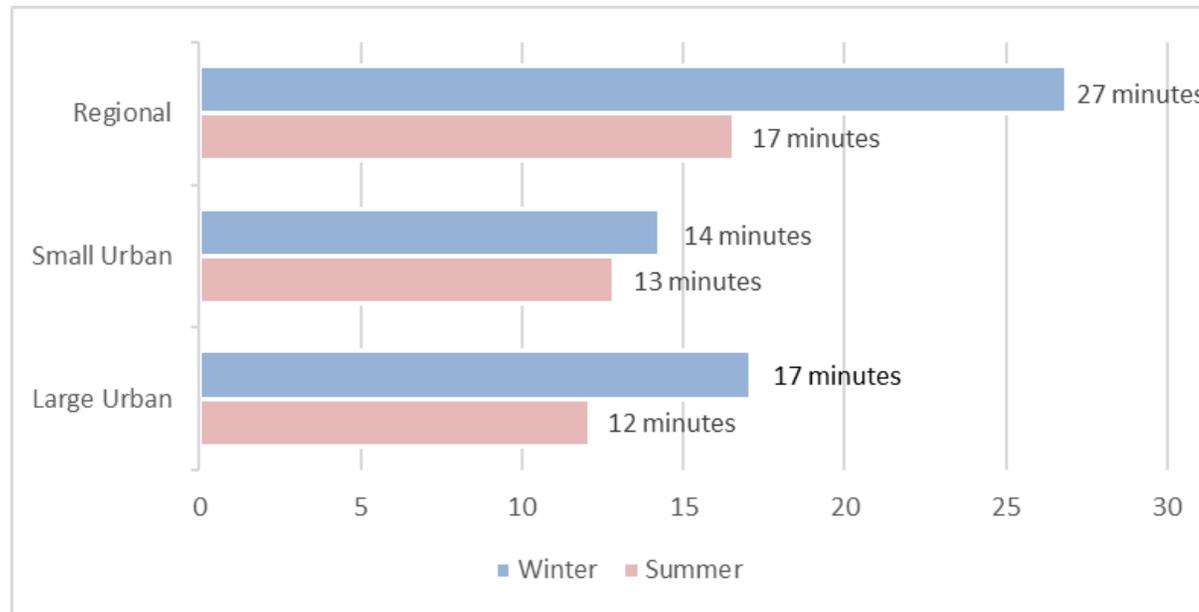
Source: Iowa DOT

Figure A3.16: What percentage of your revenue vehicles are stored in a location where they are directly protected (inside or covered)?



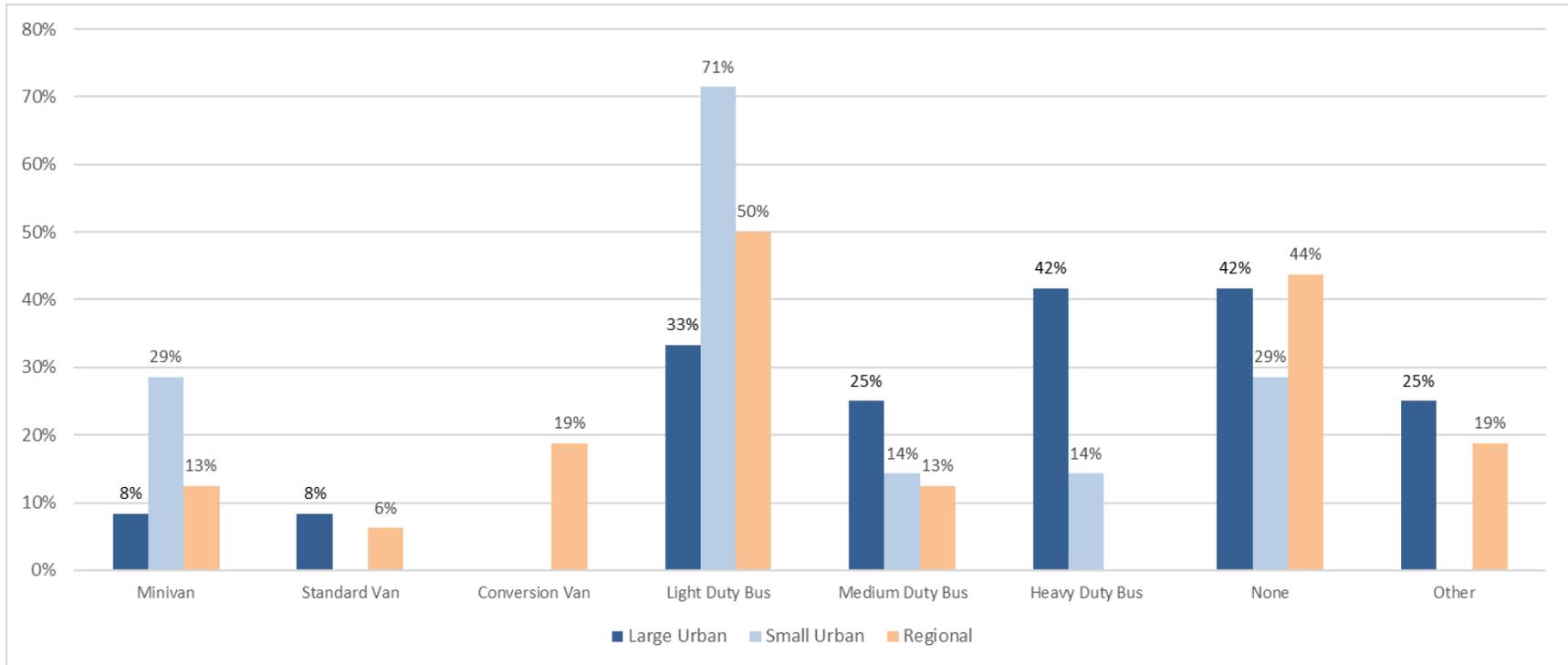
Source: Iowa DOT

Figure A3.17: What is the average pre-trip warm-up time for your revenue vehicles?



Source: Iowa DOT

Figure A3.18: For which vehicle types do you track vehicle occupancy-to-capacity statistics?



Source: Iowa DOT

(Other) responses:

- By vehicle assigned to route
- MV-1
- This is only done for vehicles that provide service for our work routes as ridership tends to fluctuate. We use LD/MD buses on these routes.
- We do not track this statistic
- Annual NTD report tracks and calculates a load factor for para transit service statistics. The passenger miles traveled (PMT) Survey provides figures that can be used to evaluate occupancy to capacity per vehicle.
- The City keeps statistics on passengers per hour and per mile on both the fixed route and the paratransit service

Section 4: Facility Needs

Facility needs include maintenance areas (including wash racks and wash bays), revenue vehicle storage areas, administrative/office (including internal needs such as office/storage space and site needs such as parking spaces and walkways), and park & ride facilities.

Typically, the larger the vehicle size, the more expensive it is to fix and replace. In order to extend the lives of these expensive vehicles, it is best to protect them to reduce maintenance costs and wear-and-tear of the buses. Extending the longevity of the bus fleet was reflected as one of the more significant needs for additional revenue vehicle storage. Maintenance facilities for the fleet was also identified as a need; however, it was significantly lower compared to storage needs. Administrative/office and parking facilities were also notably lower in need compared to other types of facilities.

Besides the need for particular types of facilities, the time period in which they are needed displayed another trend as shown in Figure A3.19. Nearly all facility needs were identified in the short-term planning horizon of 2030, with facility needs significantly lower in the long-term by 2050. This shows that new facilities, particularly for vehicle storage, is a higher priority and a more immediate need.

Open-ended comments regarding facility needs:

- [AGENCY] is in the process of completing a programming exercise for a facility to accommodate today's needs and future needs.
- Our facility is reaching the end of its useful life, and expansion is required as our community is growing. Unfortunately, due to site specific conditions (built on top of an old landfill) expanding at this location is not feasible and therefore a new transit facility at a new location is required. We have a site identified that is currently City owned. We are now in search of funds for the new facility.¹⁰
- In question 20 for vehicle storage; 2 buildings 3600 sq ft each
- When our Admin and Maintenance Facility was constructed in 2012 the City's direction was to plan for growth for the next 20 years. Do not anticipate additional park and ride sites but a possible addition to our current park and ride (Intermodal)
- This is difficult since we currently have no building for Administrative, bus storage or maintenance. And due to our service area it is not logical to have 1 facility so we need more than one and this isn't something we have thought through yet. Now that we will be providing all direct service as of FY20, we will be able to look at what the future could look like for our agency
- [AGENCY] will need to operate from two facilities as its current site is land-locked and adjacent land is not available for expansion. 25 buses parked outside and almost every areas of [AGENCY] facility is undersized after [AGENCY'S] growth period.¹¹

¹⁰ Response redacted with [AGENCY] for privacy

¹¹ Response redacted with [AGENCY] and [AGENCY'S] for privacy

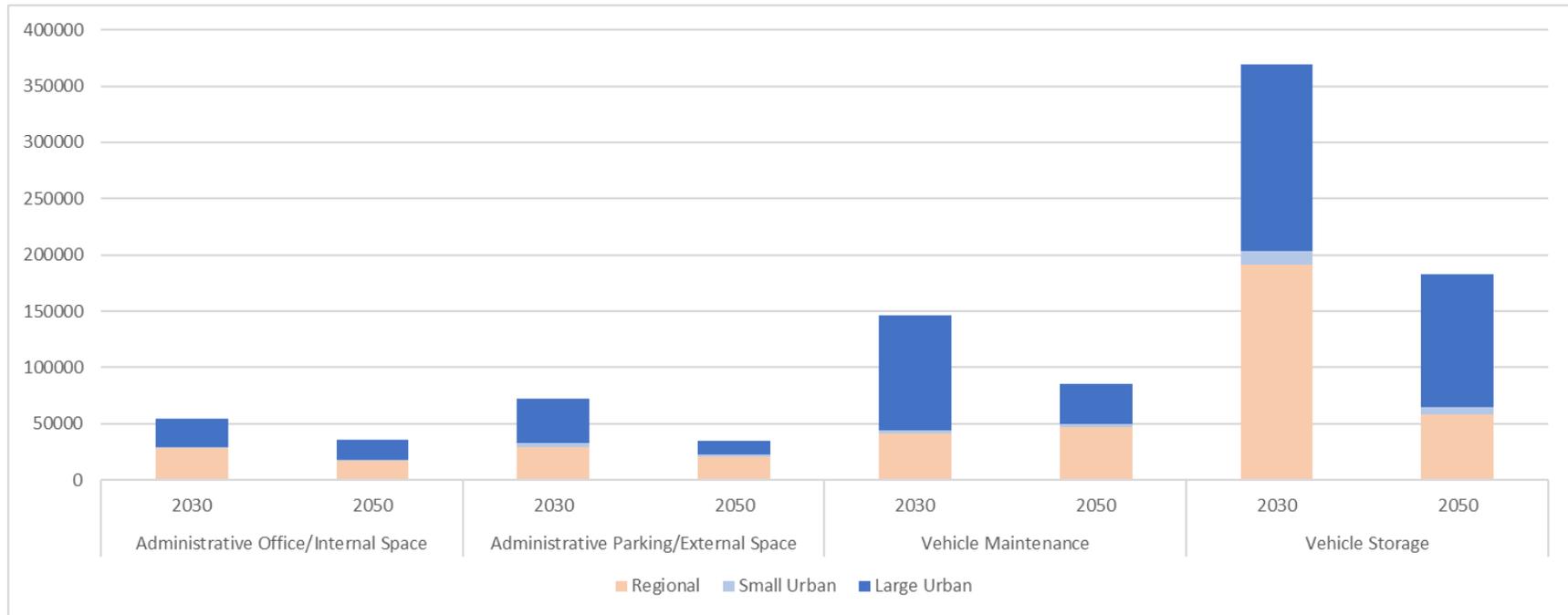
- Parking provided by the [INSTITUTION]. In addition to space, maintenance facility needs modernized (dedicated maintenance bays' bus washer, hoists).¹²
- I see additional facility needs being a direct result of a greater need for public transit throughout the area as well as a drastic change in the way we will need to operate in the future to better serve the needs of aging generations as well as meeting the experience expectations of the younger generations.
- Leased building had leaking roof which has caused mold issue in ceiling tiles.
- [AGENCY] will strive to build a new stand-alone facility by 2030, possibly a shared facility with City Field Services Department, School District, or the [AGENCY].¹³
- [AGENCY 1] stores their vehicles and [AGENCY 2] stores the City's paratransit vehicles.¹⁴
- We have been awarded a \$7 million BUILD grant from USDOT for a new facility to be completed by 2025 which will match the needs listed in question 20

¹² Response redacted with [INSTITUTION] for privacy

¹³ Response redacted with [AGENCY] for privacy

¹⁴ Response redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.19: Transit agency facility needs (square feet)



Source: Iowa DOT

Each type of transit agency had different needs for bus shelters and park & ride lots. Regional systems had a slight need that increased very little between 2030 and 2050, as shown in Figure A3.20. Large urban systems showed the greatest change between 2030 and 2050, with much more need for both types of facilities. Small urban systems saw an increase for bus shelters in the short-term by 2030 with a similar need by 2050, but saw no need for additional park & ride facilities.

Figure A3.20: Bus shelter and park & ride needs (number of shelters/lots)

	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. This includes drivers, maintenance, and administrative staff. All types of transit agencies expressed current personnel needs as well as ongoing needs for additional drivers, maintenance staff, and administrative or office staff (see Figure A3.21). However, the need 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 personnel, 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 a given region. It does not matter how many buses or vans are available if there are not sufficient numbers of 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 handicap the agency's ability to conduct public outreach, market its services, or perform strategic planning or analyses.

One of the most common personnel-related needs across all types of transit agencies is a shortage of qualified bus drivers. Low unemployment, decreasing population in rural areas, and difficulty in acquiring Commercial Driver's Licenses (CDLs) are some of the underlying circumstances contributing to this. Some of the manually inputted comments supplied by the responding transit agencies describe how the retiree demographic has traditionally been sought to fill the need for qualified drivers. This demographic is generally accepting of limited, part-time hours and may already have a CDL. However, in recent years, this demographic has been harder to recruit due to a variety of reasons from delayed retirement due to financial circumstances to different choices in how a retiree wishes to spend their time. Additionally, competition for CDL drivers is tight with the private sector trucking industry willing and able to pay wages that are nearly \$10,000 - \$12,000 a more per year than most transit drivers. Figures A3.22 – A3.28 provide the remaining survey results from the personnel needs section, including some of the personnel challenges noted by transit agencies.

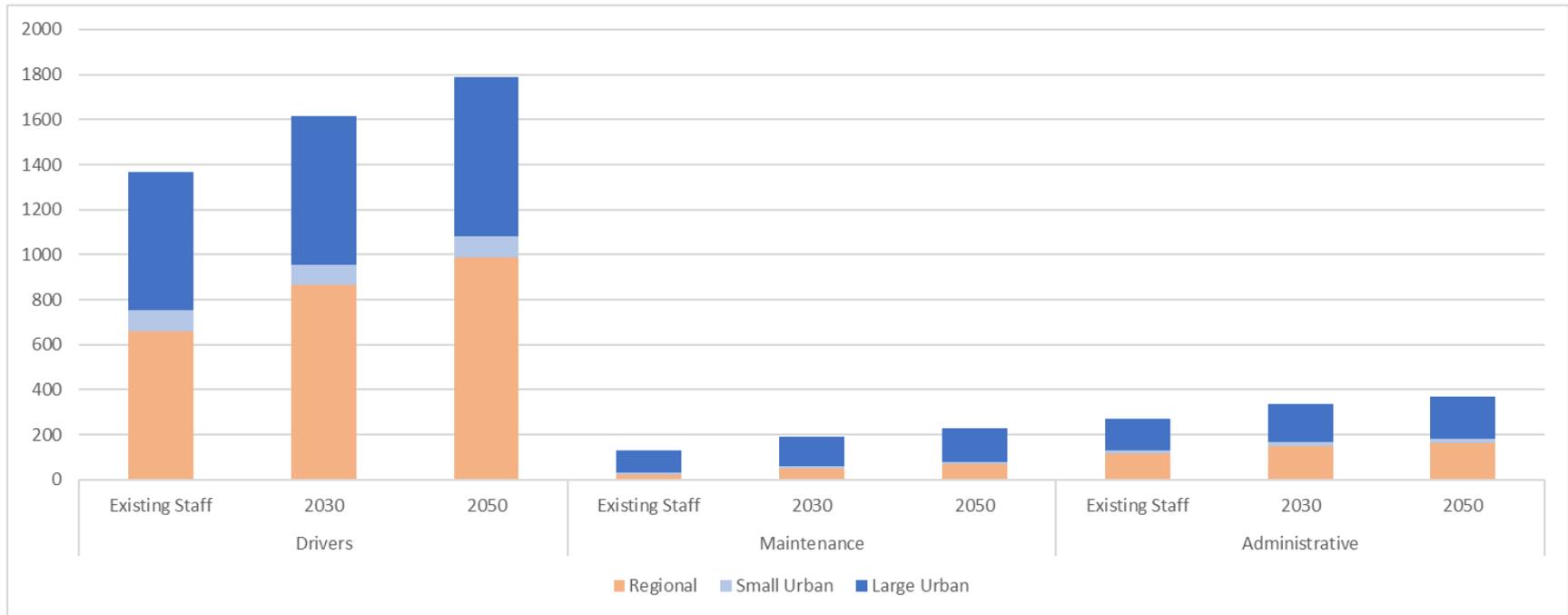
Open-ended comments regarding personnel needs:

- [AGENCY'S] role in the future may change by not providing as much service but serving a coordination role to ensure seamless mobility for the region. The role of the maintenance technician will change drastically in the future based on new technology.¹⁵
- Finding drivers
- Most of our drivers are retired and now working a 2nd or 3rd career to earn extra spending money
- FTE's often end with decimals. I rounded a few answers up. For instance, 11.16 for drivers and .2 for administrative staff.
- I think there would be more people riding rural transit if we had more staff, such as outreach and marketing staff, but unlike our Urban counterparts, we don't have departments of people who can do everything that needs to be done – we are stretched thin, which is another issue with hiring. Our staff is expected to do much more for less pay than Urban areas that receive much more funding dollars.
- Drivers, mechanics and lane workers are difficult to find and retain.
- Concerned with growing regulations related to CDL's and training requirements. Maintaining adequate staffing levels becoming more difficult over time.
- The number of Transit FTE's is dependent upon adoption of technology, operating performance, and continued, & unchanged revenue streams.
- [AGENCY 1] and [AGENCY 2] provide employees, so the only City employee is the Resource and Program Coordinator.¹⁶

¹⁵ Response redacted with [AGENCY'S] for privacy

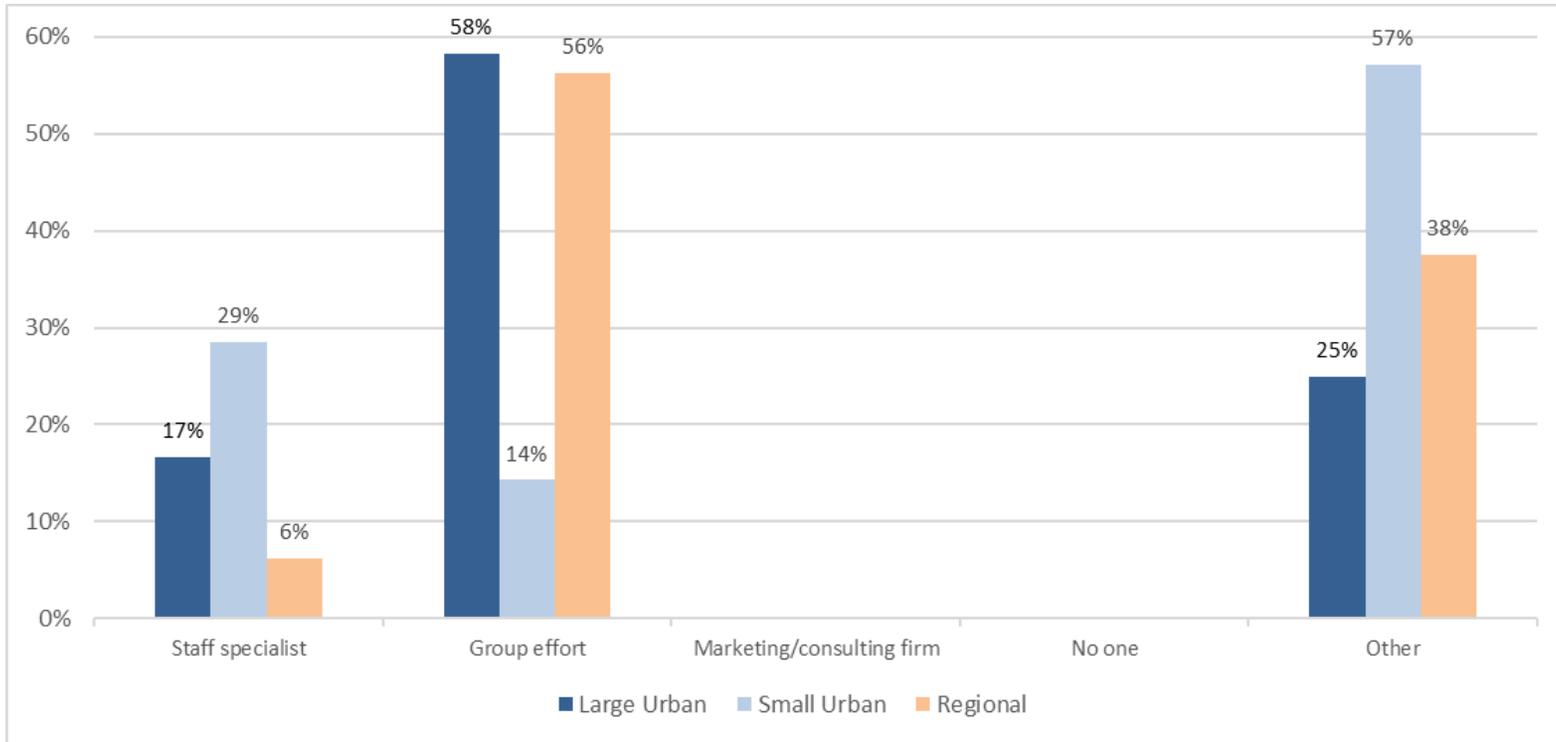
¹⁶ Response redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.21: Transit agency personnel needs



Source: Iowa DOT

Figure A3.22: Who is responsible for your agency’s recruiting and hiring efforts?



(Other) responses:

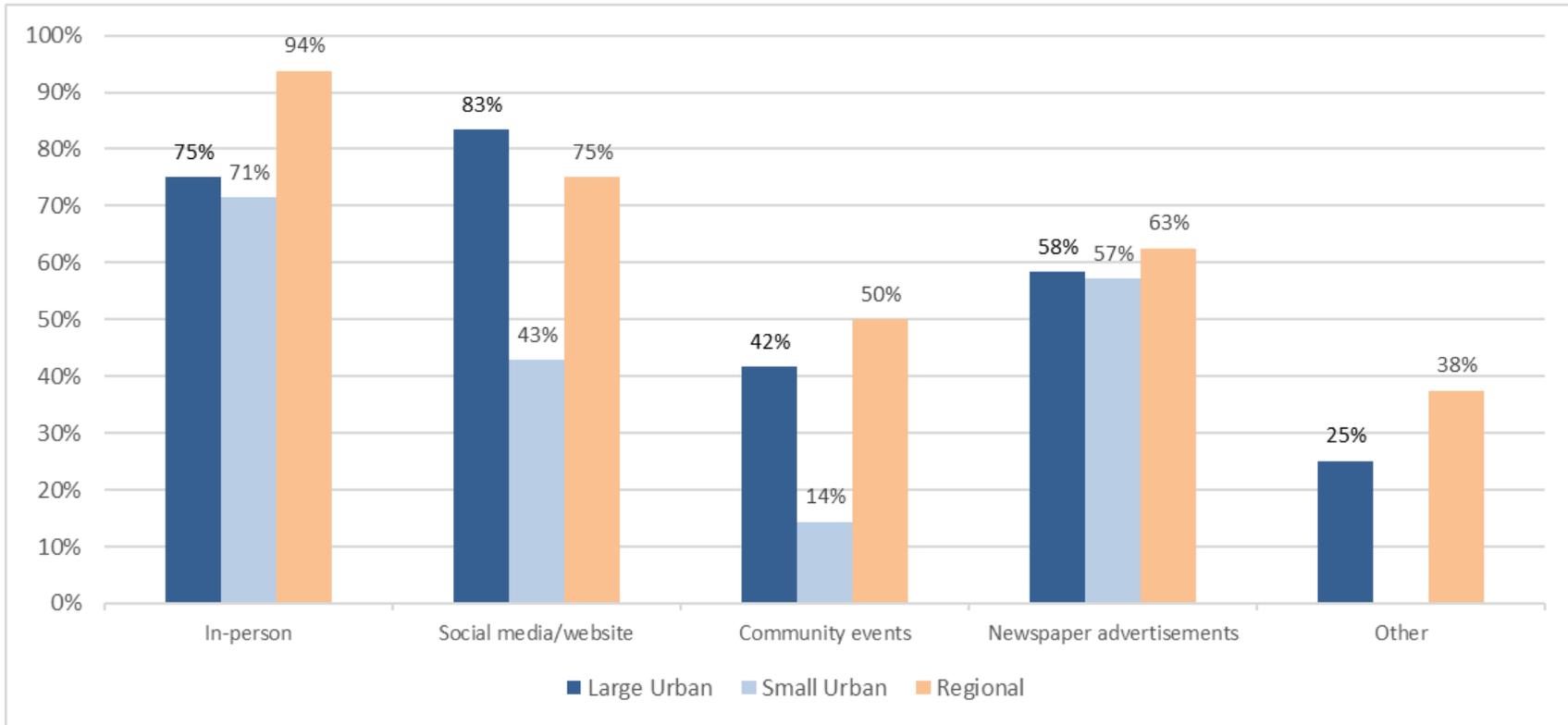
- Transit Manager
- Human Resources and Transit Director
- CEO and the COO
- HR for City
- Human Resources Dept.
- Transit Manager
- Transit Supervisor

Source: Iowa DOT

- Transit Director
- Director is responsible
- Multiple transit administrators, City Human Resource Department
- [AGENCY 1] and [AGENCY 2] provide the workforce as part of their agreements with the City.¹⁷
- Transit director, and operations supervisor
- Transit administrative staff

¹⁷ Response redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.23: How do you engage with potential job candidates?



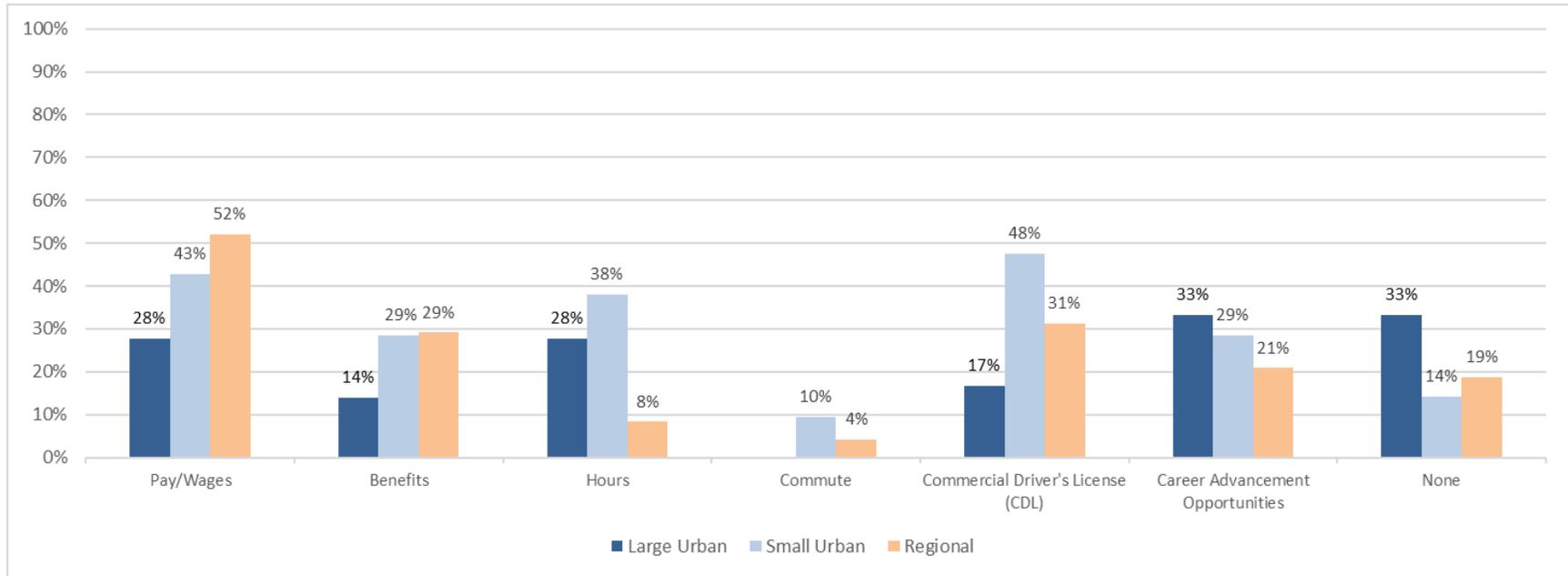
Source: Iowa DOT

(Other) responses:

- Direct placement recruiters
- Email lists for job availability/opportunities within the City
- Employment Application Software
- creatively designed posters promoting hiring – placed in the communities where we have services
- Buses parked with help wanted banners.
- advertise on buses, vans
- [AGENCY 1] and [AGENCY 2] engage with potential job candidates.¹⁸
- Use Indeed website as primary
- radio ad

¹⁸ Response redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.24: What kinds of barriers does your agency currently experience?



Source: Iowa DOT

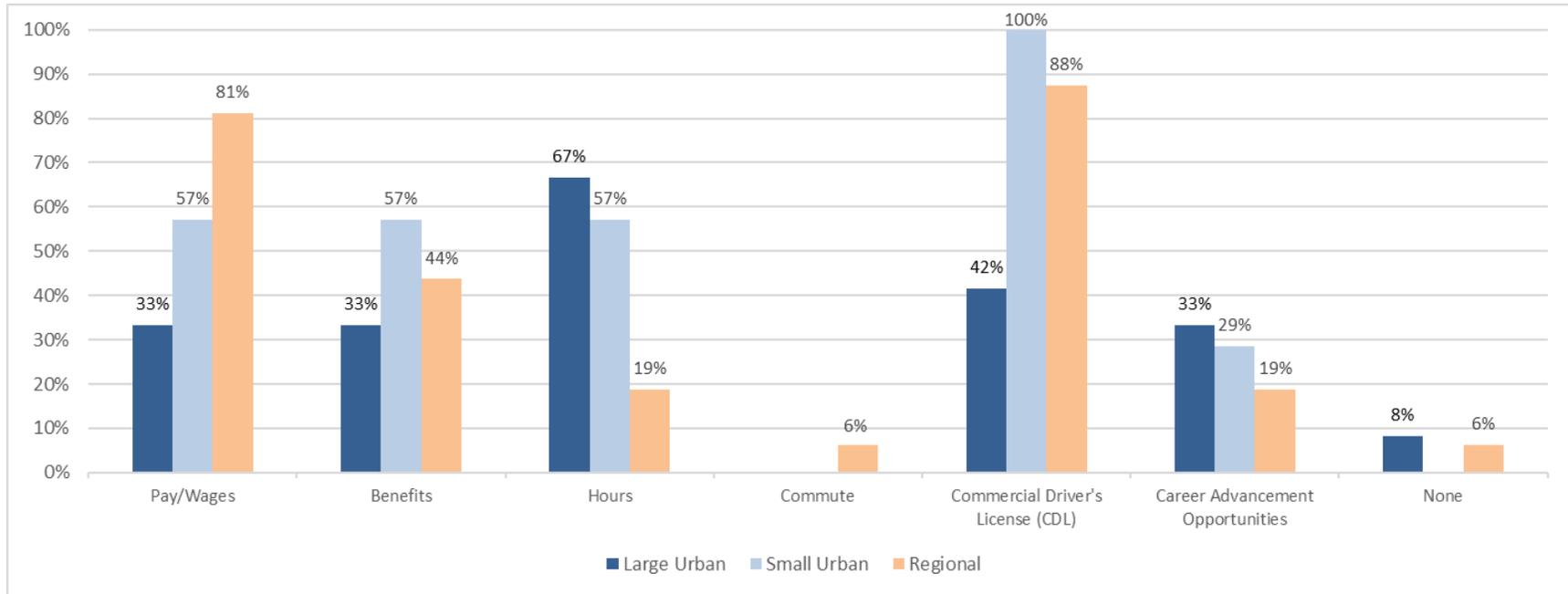
Note: this chart is an aggregation of the responses for barriers for all employee types. Individual breakouts specific to drivers, maintenance, and administrative staff are depicted in the following figures.

(Other) responses:

- Part-time operator benefits are a barrier as all drivers start in a part-time capacity.
- Low unemployment, people working at career longer before semi-retiring
- Part-time opportunities are not as appealing as Full-time especially in the more rural areas.
- [AGENCY 1] and [AGENCY 2] handle their employees, so the City doesn't experience any barriers.¹⁹
- Failure to pass pre-employment D&A test, failure to pass background checks, and past convictions for DUI.

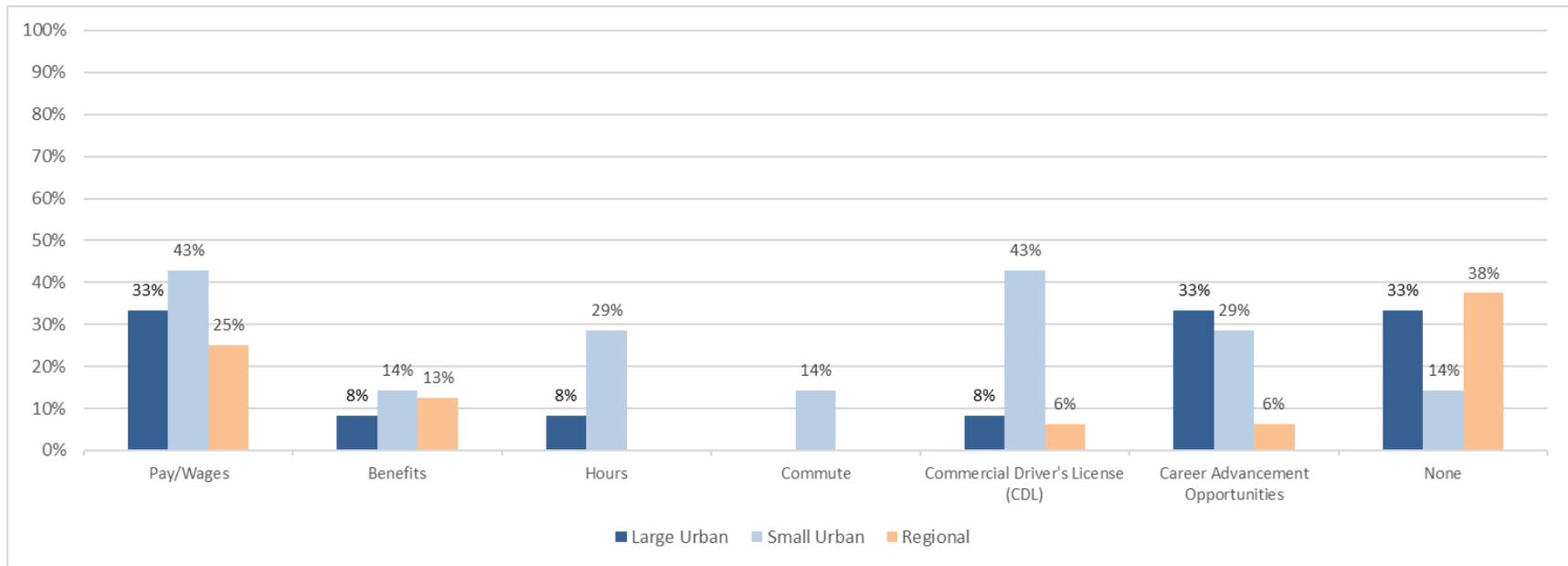
¹⁹ Response redacted with [AGENCY 1] and [AGENCY 2] for privacy

Figure A3.25: What kinds of barriers does your agency currently experience? (Drivers)



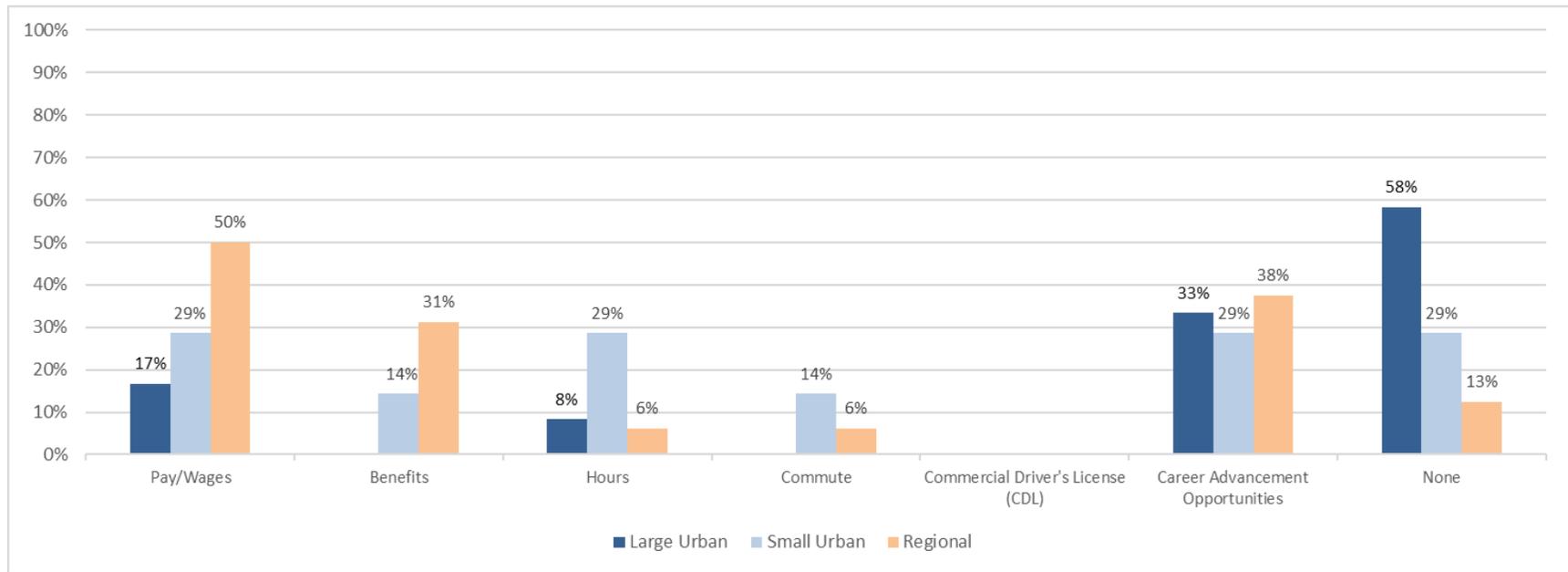
Source: Iowa DOT

Figure A3.26: What kinds of barriers does your agency currently experience? (Maintenance)



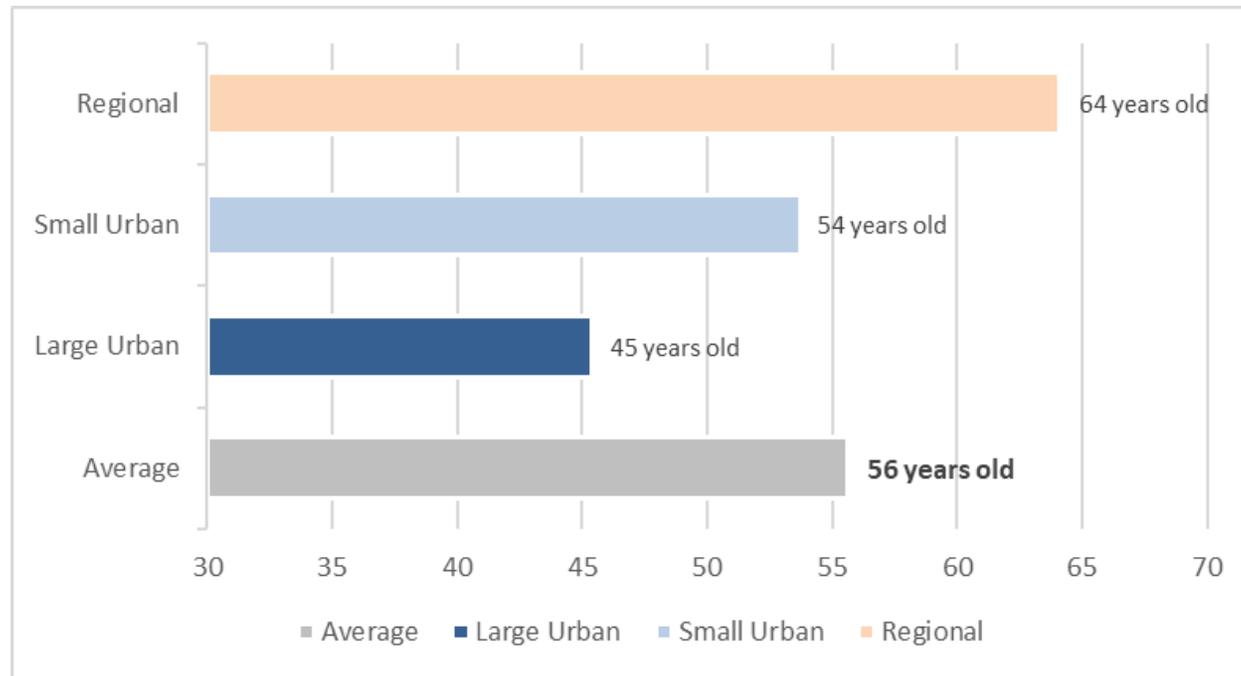
Source: Iowa DOT

Figure A3.27: What kind of barriers does your agency currently experience? (Administrative)



Source: Iowa DOT

Figure A3.28: What is the average age of your drivers?



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 different tools and technologies in order to keep the transit system operating. From dispatching, to route optimization software, hybrid buses, and live geolocating services and apps, there are many different aspects of running transit operations that are impacted by the rapid pace of changing technology. Along with that, 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.

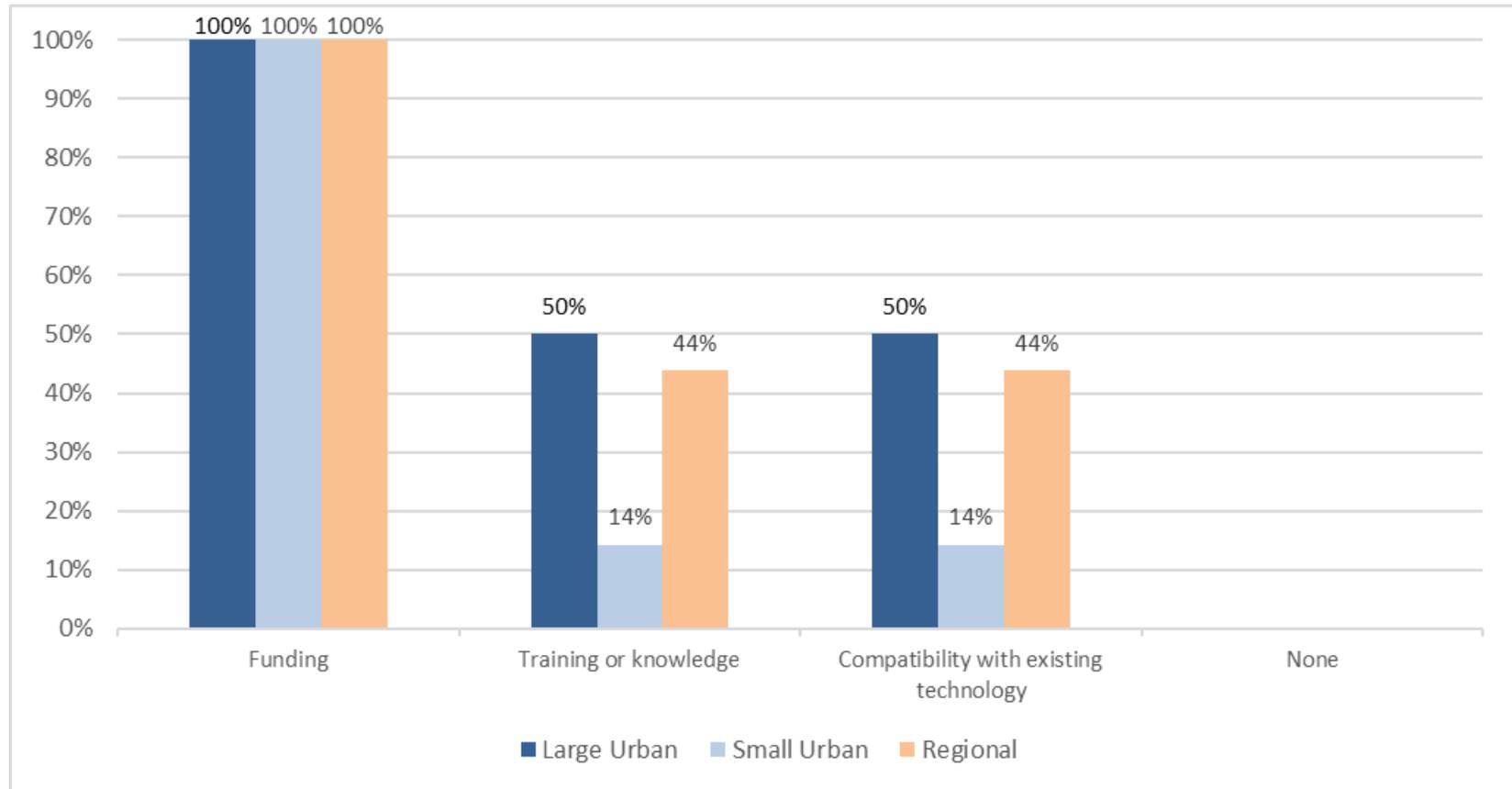
As shown in Figure A3.29, it is clear that the most significant barrier to implementing new technology is funding. Some of the comments from the agencies provided additional context to this. Several made mention of the difficulty in determining the overall cost of technology, such as predicting training 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.

Figures A3.30 – A3.35 provide the remaining survey results from the technology needs section.

Open-ended comments regarding technology needs:

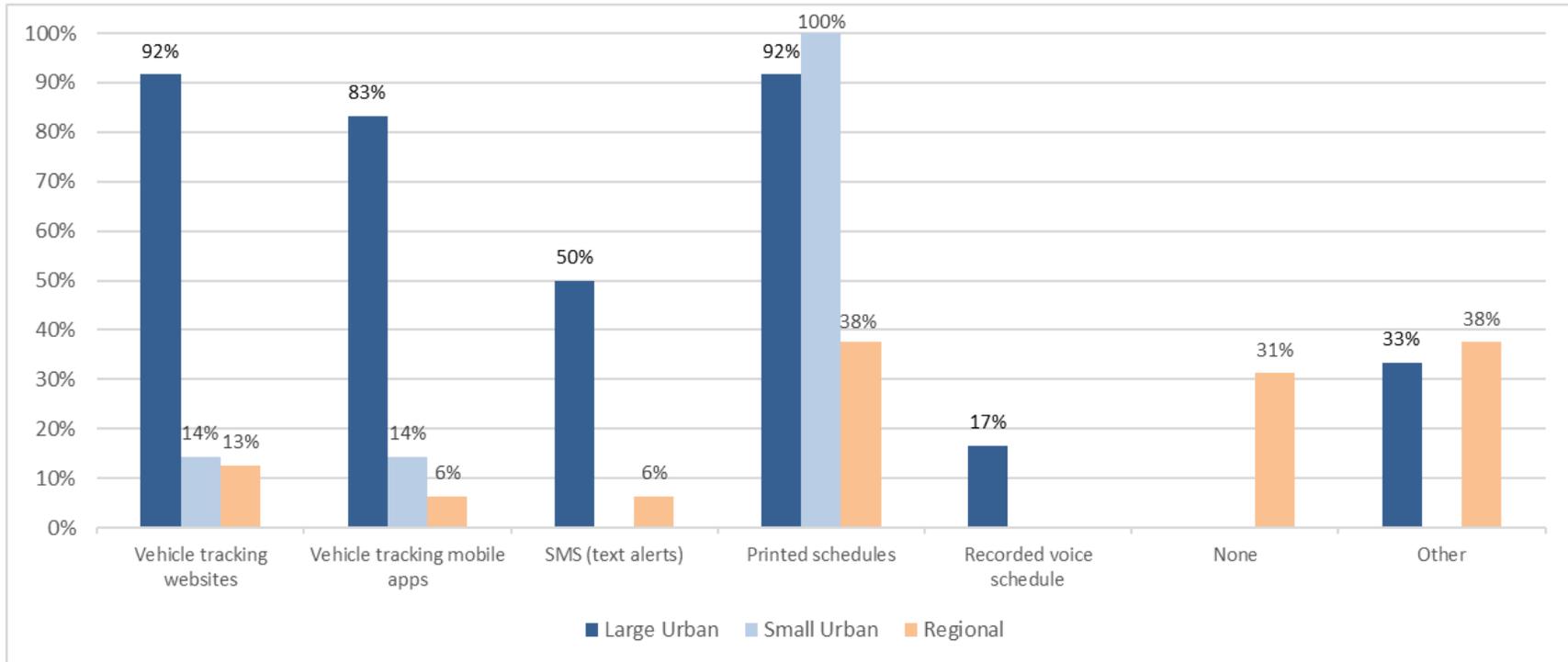
- We definitely are moving into the high-tech era of transit, figuring out how to provide *very* accurate predictions of arrival time is still a challenge. Leveraging our GIS technology for planning and operations is something we need to do more of. Providing accurate transit arrival information on a variety of app platforms (in tandem with say, bike share or scooter share availability) is something we need to be thinking about. Also, automated vehicle technologies are on the horizon and we need to begin thinking now about how to leverage the technology to improve transit service.
- Maintenance and replacement of technology consumes significant resources. Reliability is paramount as become dependent upon technologies. Difficult to evaluate and keep up on developing technologies.
- I think as an industry transit is behind the curve in technology. In the next year our system is going to start moving to really get on par as far as technology.
- Because of the preponderance of low-income passengers (85% +), eliminating fares would be highly desirable. Technology may assist with cost effective operations that make that goal feasible.
- Would like to add Cradlepoint modems on all buses but can't due to budget restraints.

Figure A3.29: What kinds of barriers prevent your agency from being able to acquire or leverage technology?



Source: Iowa DOT

Figure A3.30: What kind of passenger information tools do you provide to your riders?



(Other) responses:

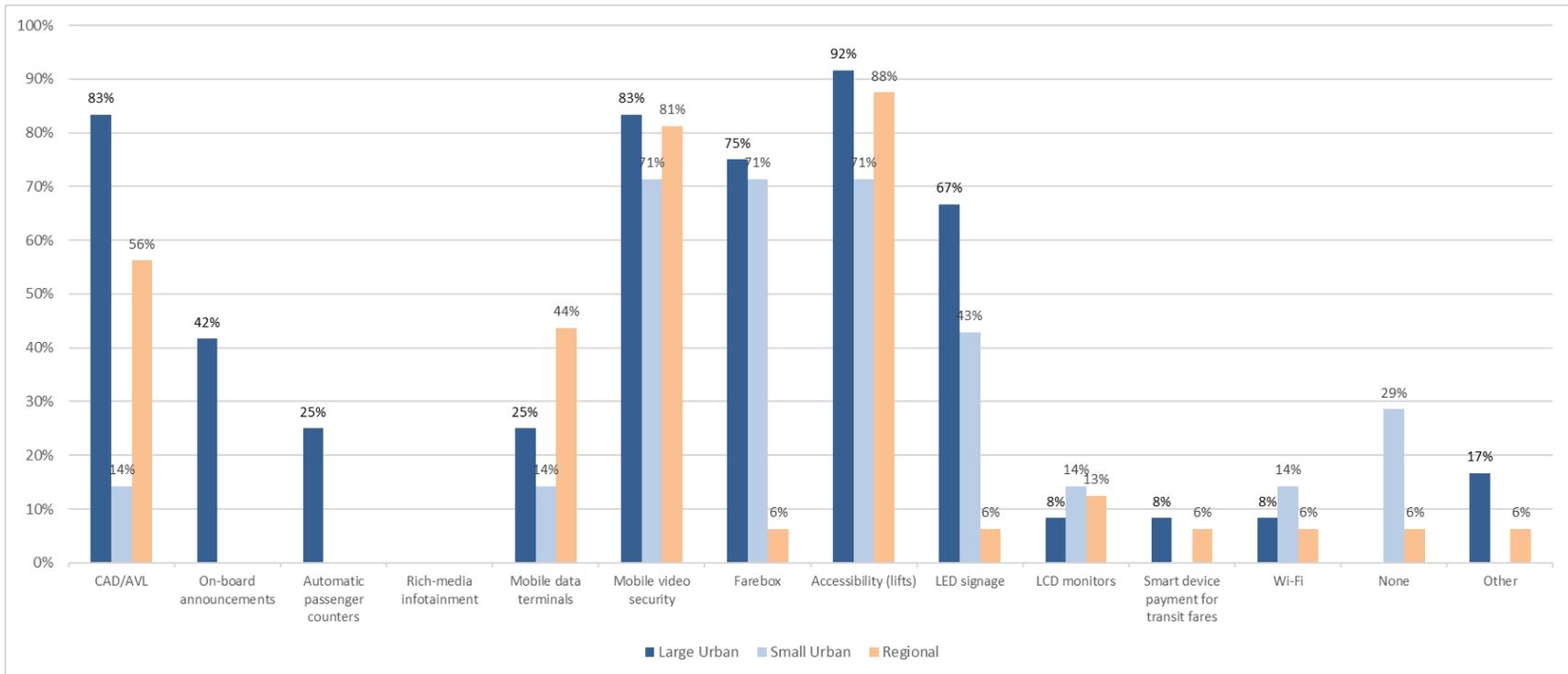
- Mobile payment application
- Phone calls
- Broachers
- Notifications of trips, App to schedule/manage trips, online payment option
- Schedule information via telephone and email.

Source: Iowa DOT

- AVAS
- Rider's Guide printed booklets
- [AGENCY] provides a vehicle tracking mobile app.²⁰
- website information for schedules, reservations, and rates
- calling cards

²⁰ Response redacted with [AGENCY] for privacy

Figure A3.31: What kind of transit technology is on your vehicles?

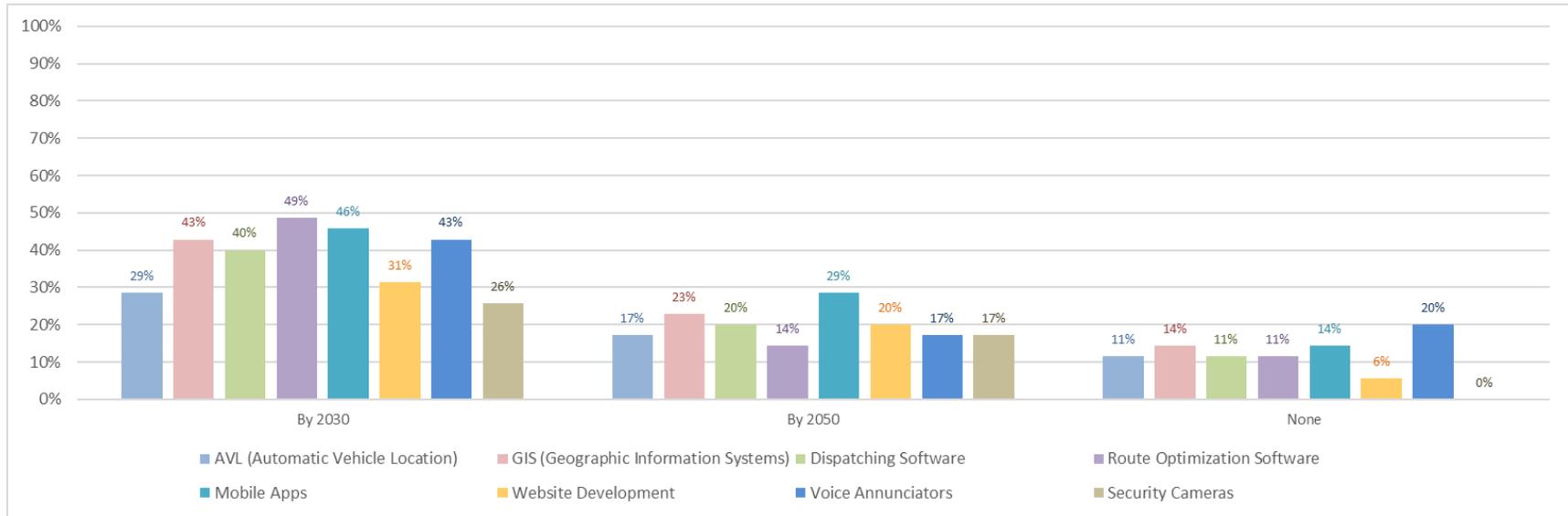


(Other) responses:

Source: Iowa DOT

- Within the next year will have automatic passenger counters and and on-board announcements.
- Routing software via tablet
- The City's paratransit vehicles are equipped with Excels cameras.

Figure A3.32: What types of technology does your transit agency anticipate having additional needs for? (All respondents)

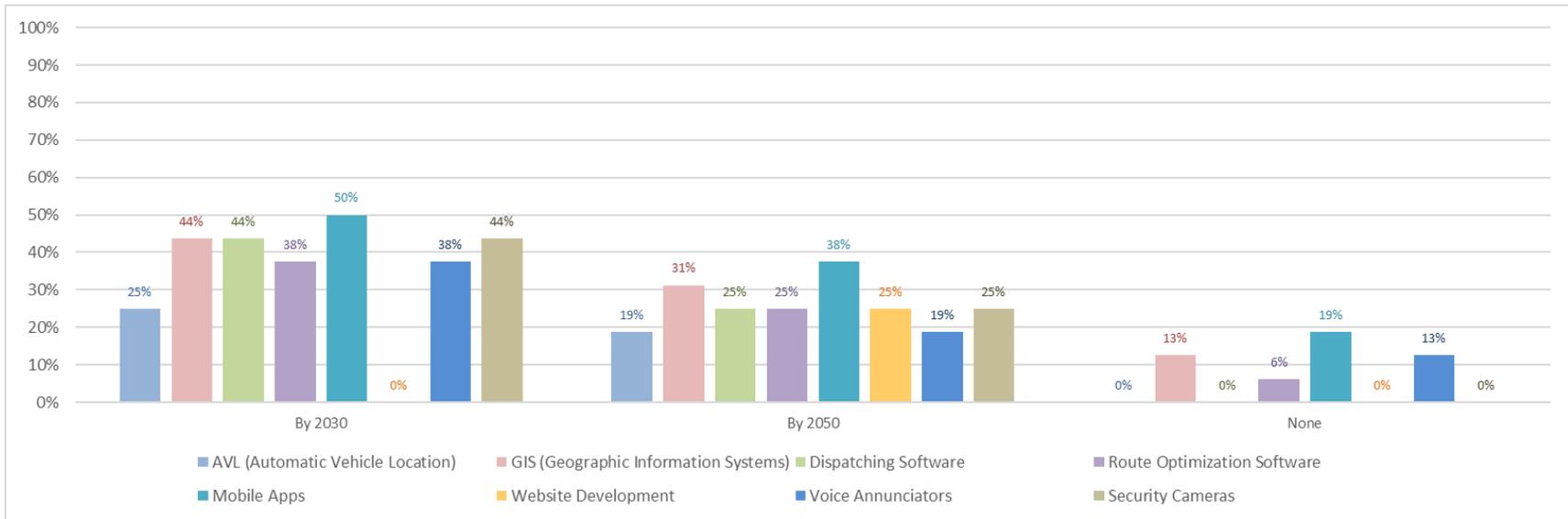


(Other) responses:

Source: Iowa DOT

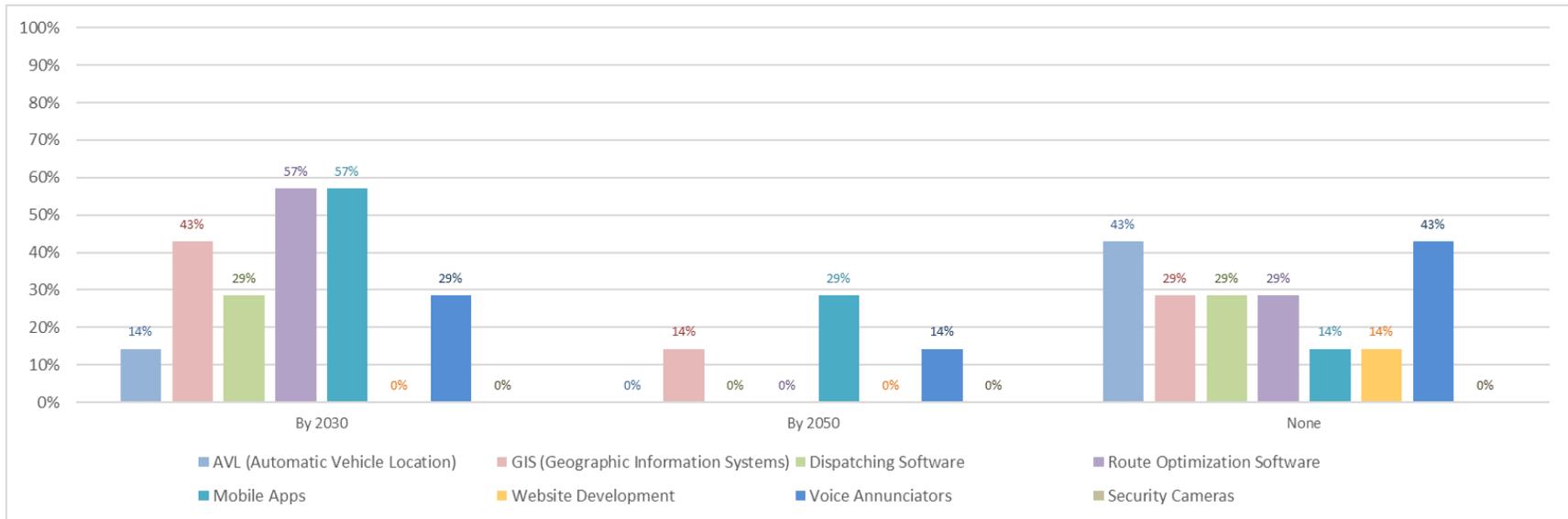
- Enhanced radio system to allow for interoperability, integrated mobile payment application, LCD monitors
- We have GIS, but need more technical staff training on how to use the software for planning and operations purposes.
- would like an immediate way to translate other languages for our English speaking drivers
- Electronic Fare
- Need to replace existing software, replace security cameras and add Route optimization by 2030

Figure A3.33: What types of technology does your transit agency anticipate having additional needs for? (Regional)



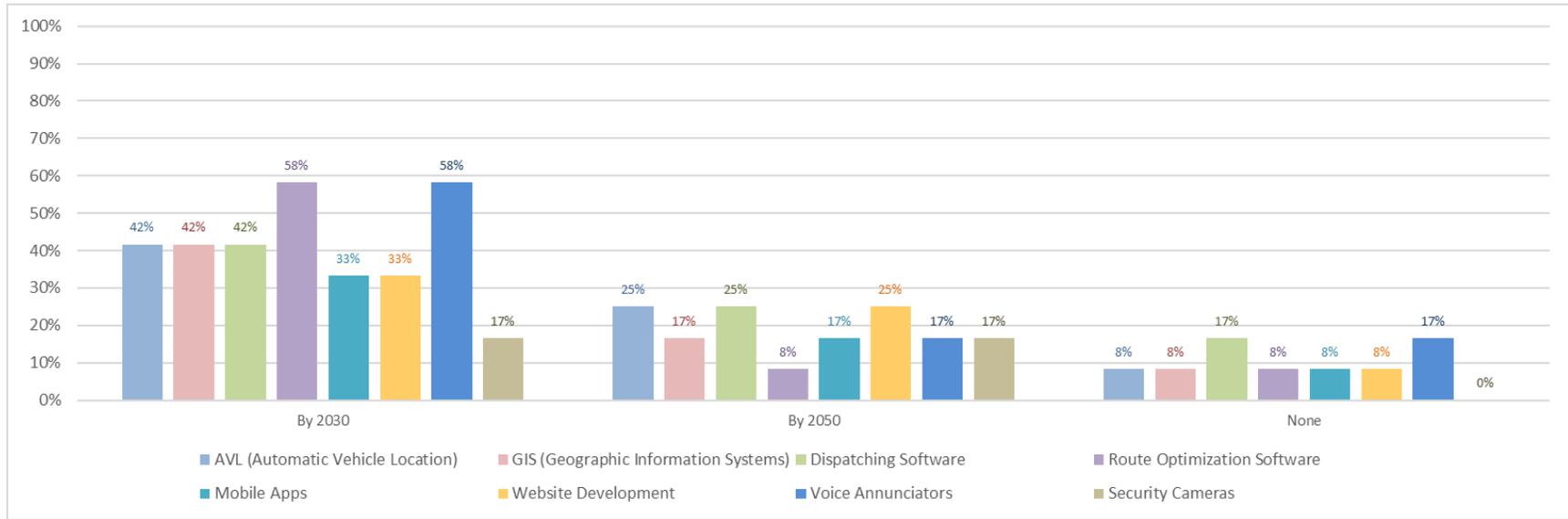
Source: Iowa DOT

Figure A3.34: What types of technology does your transit agency anticipate having additional needs for? (Small Urban)



Source: Iowa DOT

Figure A3.35: What types of technology does your transit agency anticipate having additional needs for? (Large Urban)



Source: Iowa DOT



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