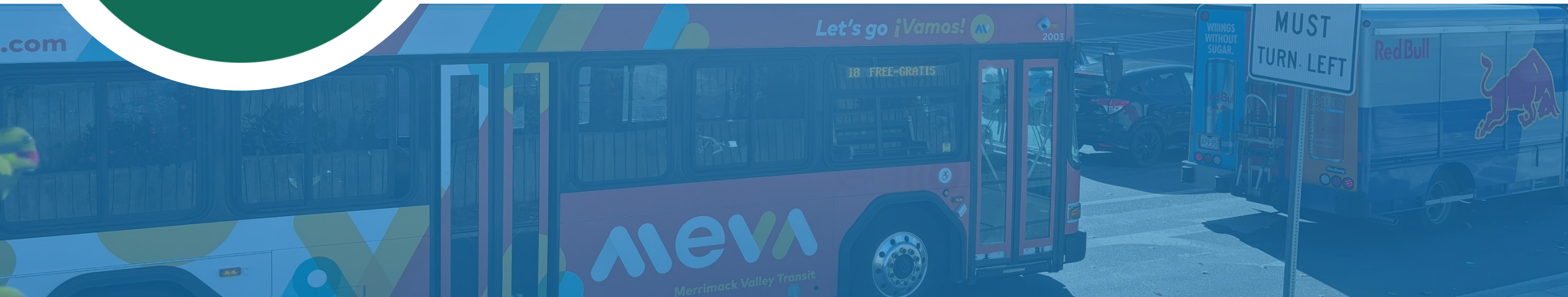




MeVa Fare-Free Evaluation and Business Case

Final Report





Acknowledgements

Commissioners of the Merrimack Valley Planning Commission

Project Contributors

Merrimack Valley Planning Commission

Jenifer Dunlap, Deputy Director/Finance Director
Patrick Reed, Transportation Program Manager
Elizabeth Maldari, Regional Mobility Planner
Jonah Williams, Regional Mobility Planner

Merrimack Valley Regional Transit Authority (MeVa)

Merrimack Valley Regional Transit Authority Advisory Board
Noah Berger, Administrator
Niorka Mendez-Almonte, Deputy Administrator
Christina Minicucci, Development Director
Dan Flaherty, Assistant GM of Maintenance
Jaymi Swarbrick, Director of Human Resources
Lionel Metet, Lead Operations Supervisor
Bus driver focus group participants

Project Consultants

Stantec
Rivera Consulting

Rider focus group and interview participants
Rider survey respondents

Anna Jaques Hospital
Lawrence Mayor's Health Task Force
Lawrence General Hospital
AgeSpan
Northern Essex Community College
Haverhill Public Private Partnership
Greater Lawrence Community Action Council
City of Amesbury Council on Aging



Table of Contents



5	<u>Introduction</u>
16	<u>Ridership</u>
25	<u>Operational Efficiency</u>
30	<u>Rider Experience</u>
35	<u>Driver Experience</u>
40	<u>Health Impact</u>
45	<u>Economic Impact</u>
50	<u>Transit and the Community</u>
55	<u>Social and Neighborhood Life Impact</u>
60	<u>Environmental Impact</u>
62	<u>Business Case</u>
68	<u>Conclusion</u>
71	<u>Appendix</u>



Executive Summary

MeVa's fare-free program has fostered a **multitude of operational, environmental, and social benefits**, accomplishing all of its goals in various ways.

Together, the monetary value of those benefits **supports a business case for the fare-free program**, as they well exceed the costs of lost fare revenue.

Beyond quantifiable benefits, highlights of the program's impact include:

- **More people are patronizing more businesses in the Merrimack Valley**, benefiting both tax revenue and job access
- The time that it takes people to get on the bus has been **cut in half**, reducing idling and allowing buses to run more efficiently
- People are driving less, **reducing emissions and improving safety**
- People report **high satisfaction with bus service, increased access to medical care, and decreased social isolation**

Operational Efficiency
Buses absorbed more riders with limited impact; staff have more time

Ridership
Ridership is higher than ever and continues to grow

Rider Experience
Riders are highly satisfied with service, although concerned about crowding

Driver Experience
Drivers are having a better experience with far fewer conflicts

Health Impact
More people are making more healthcare related trips on the bus

Economic Impact
Riders are saving money, and more riders are visiting more businesses

Transit & The Community
Perceptions of MeVa are positive

Social & Neighborhood Life Impact
More people can access opportunities for leisure and recreation

Environmental Impact
People are opting for the bus, cutting emissions equivalent to taking over 200 cars off the road

Business Case

The quantifiable financial benefits of the fare-free program are over \$2,000,000 annually, exceeding the amount previously collected from fares



Introduction



What is the fare-free program?

In March 2022, MeVa suspended fares across the system. All rides on fixed-route buses and paratransit have now been **free to all passengers for almost three years.**

This program was originally funded through federal COVID-19 relief funds and has been sustained using state funding from the Fair Share Amendment.

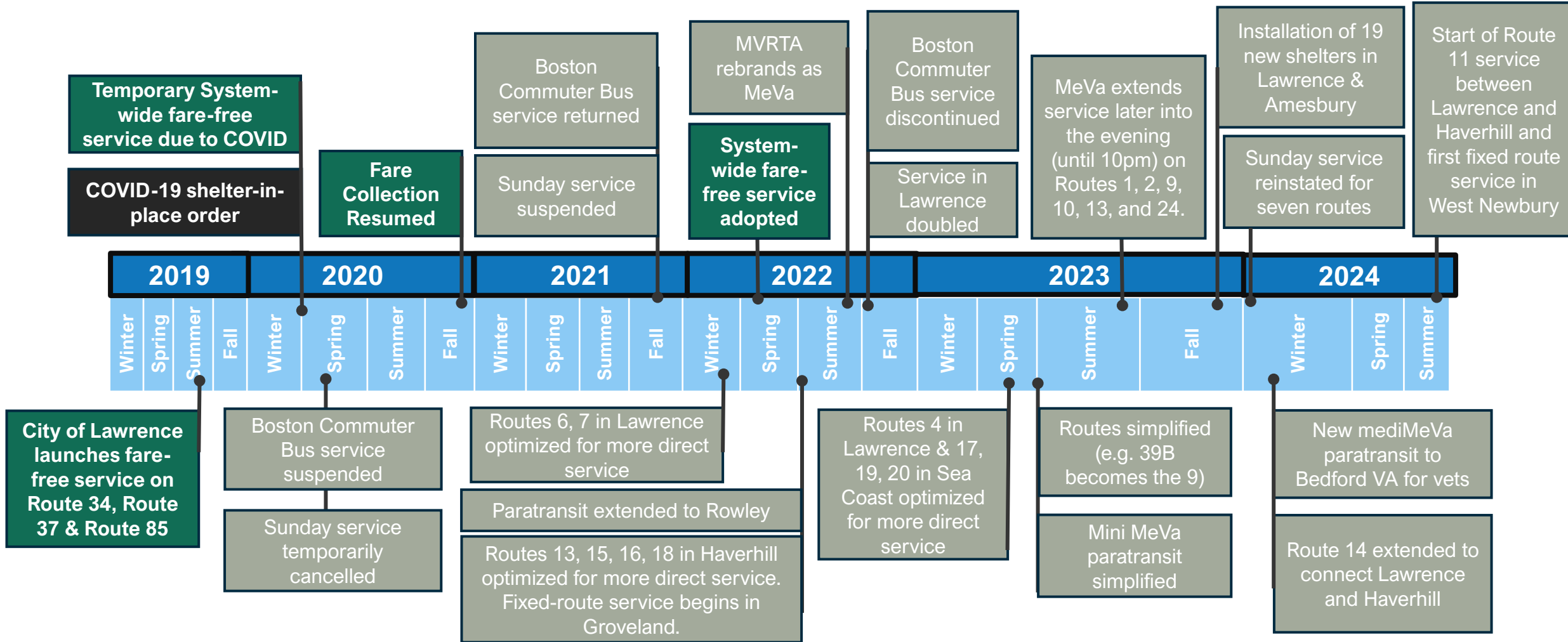




MeVa has a lot going on, including going fare-free!

These service changes are likely also responsible for some of the benefits that the fare-free program supports.

- = General Service Change
- = Fare Policy Change
- = External Change

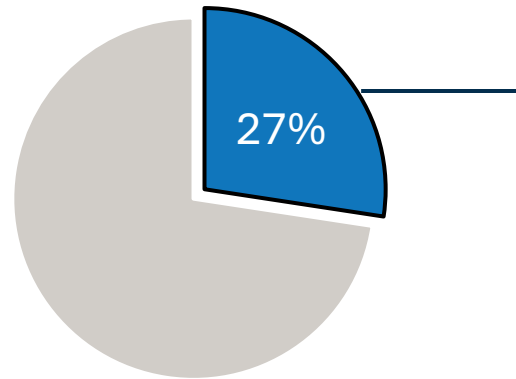




Fares were expensive to collect and comprised a small part of total operating costs.

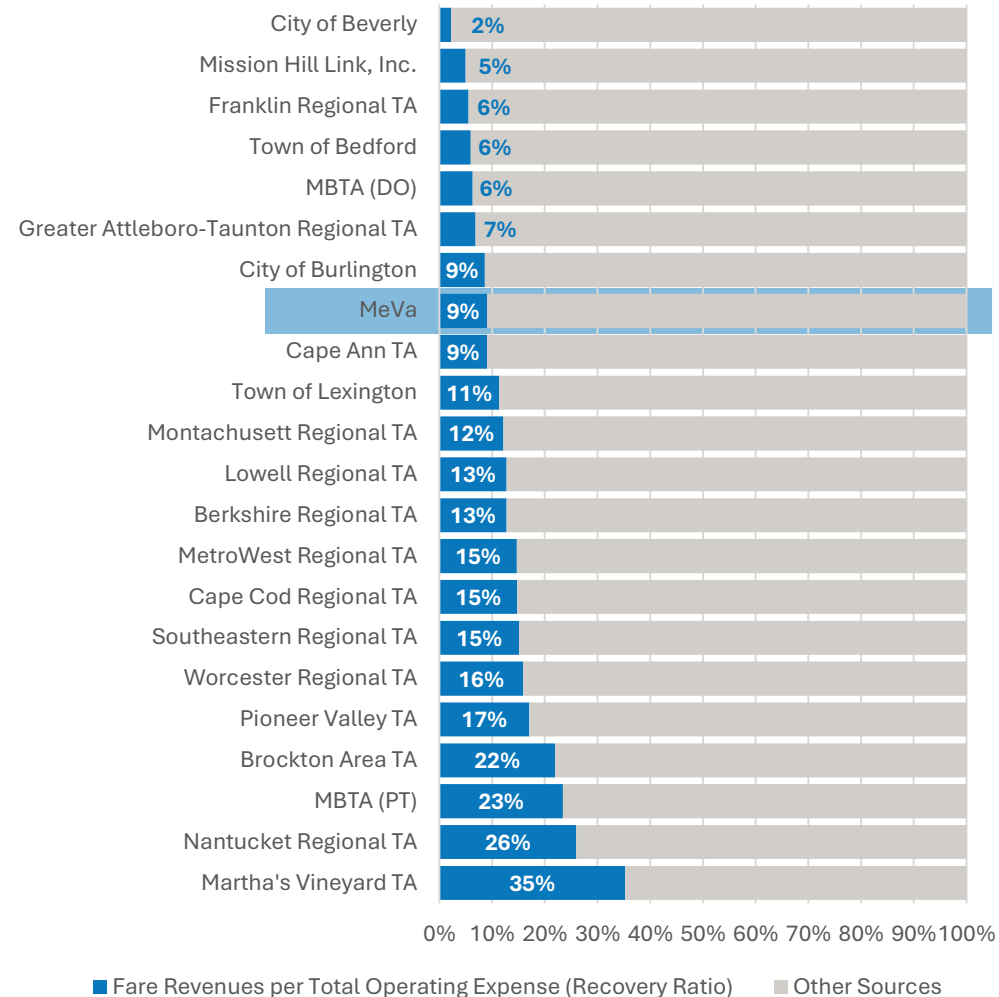
- It cost MeVa **\$0.27 of every dollar collected** to collect fares on its fixed route buses in 2019. However, this includes only the direct costs of fare collection, and not ancillary costs resulting from increased dwell time and other impacts and externalities outlined in this report.
- Bus fares made up about only 9% of the agency's operating expenses for bus service. This ratio is known as the "farebox recovery ratio (FRR)."
- This FRR was in line with other RTAs in Massachusetts.

Cost of MeVa Fare Collection as Proportion of Fare Revenue (2019)



Insurance
 Armored car services
 Farebox maintenance / equipment fees
 Labor: Money room, maintenance, etc.

Fare Revenue vs. Operating Expenses (Bus, NTD, 2018)








What is this report?

This report evaluates MeVa's fare-free program with the intent of **informing future service and justifying future operational funding support requests.**

The evaluation uses a variety of tools to measure how the program is performing relative to established goals. These include traditional transit performance metrics such as ridership and on-time performance, as well as the full range of benefits and costs associated with the fare-free program. Where possible, the report quantifies benefits in terms of dollars.

Look for these symbols to understand the source of information throughout the report:

-  In-person surveys
-  Focus Groups and one-on-one interviews
-  Quantitative data such as bus operations, Census data, and MeVa administrative operations data

Additional information on metrics and methodology can be found in the Appendix section of this report.





Fare-Free Program Goals

Operational Efficiency

Reduce travel times and improve reliability; streamline administrative operations

Rider Experience

Improve rider safety, satisfaction, and comfort while reducing crowding

Ridership

Increase overall ridership for new and existing riders; increase rider diversity; improve rider retention, including on paratransit

Driver Experience

Reduce conflicts between riders and drivers; boost driver satisfaction; provide labor cost savings

Health Impact

Positively impact rider health by providing increased connectivity to medical care

Economic Impact

Provide savings to riders; improve access to training and employment opportunities; increase local tax revenue; provide a boost to the local economy

Transit & The Community

Positively impact community satisfaction with transit and overall happiness; boost market awareness

Social & Neighborhood Life Impact

Facilitate improved social connectivity, including for seniors and people with mobility challenges

Environmental Impact

Contribute to mode shift from vehicles to buses (including from rideshare); reduce GHG emissions and increase energy efficiency; make living car-free or car-light more feasible and attractive

Business Case

Provide a total bundle of benefits with greater value than the cost of the program



Fare-Free Program Findings

Operational Efficiency

Buses absorbed more riders with limited impact; staff have more time

Rider Experience

Riders are highly satisfied with service although concerned about crowding

Ridership

Ridership is higher than ever and continues to grow

Driver Experience

Drivers are having a better experience with far fewer conflicts

Health Impact

More people are making more healthcare related trips on the bus

Economic Impact

Riders are saving money; more riders are visiting more businesses

Transit & The Community

Perceptions of MeVa are positive

Social & Neighborhood Life Impact

More people can access opportunities for leisure and recreation

Environmental Impact

People are opting for the bus, cutting emissions equivalent to taking over 200 cars off the road

Business Case

The financial benefits of the fare-free program exceed the amount previously collected from fares



Data Sources

This fare-free Business Case Analysis assembled quantitative and qualitative data from a wide variety of sources, ranging from a public survey, focus group discussions, one-on-one interviews with riders, and staff interviews to ridership, operational, and economic datasets.



In-Person and Online
Rider Survey

Focus Groups and 1-on-1
Interviews with Riders,
Drivers, and Service
Organizations

MeVa Staff Interviews

MeVa Operational
Data

Additional Context and
Datasets Related to
MeVa and the
Merrimack Valley

We are grateful to all those who contributed to this report, including all survey participants, focus group and interview participants, MeVa staff members, Merrimack Valley Planning Commission staff members, and the MeVa Advisory Board.



Survey Administration

Administration Methods

- For the survey, **surveyors rode bus routes or stood at transfer centers**, asking people to participate in the survey on an iPad. Riders had the option to answer in English or Spanish.
- Surveyors distributed business cards with a website and **QR code** to the online survey.
- Riders also heard about the survey through emails from MeVa and MVPC, communications from community partners, and online via social media.
- Dispatchers asked paratransit riders to participate in the survey **when they called in to make a reservation**.




Administration Details

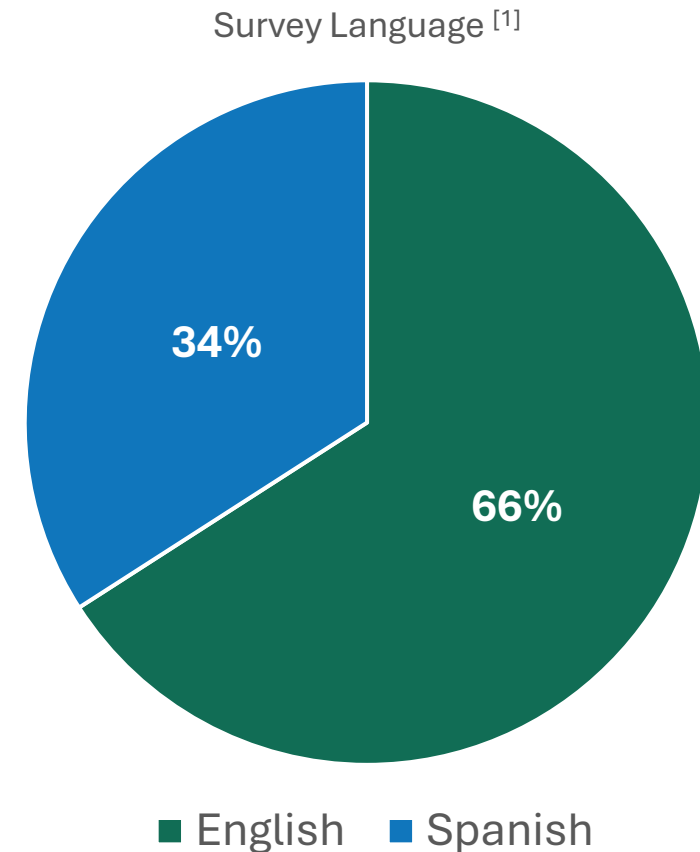
- ▶ Release Date: June 2024
- ▶ Methodology: Rode each route at least once; rode more popular routes more than once
- ▶ Time Spent: +70 hours in the field
- ▶ Response Rate: 663 responses, 34% in Spanish






Survey Responses

-  The survey exceeded a validity target of 370 with **663 total responses**.
-  The survey was available in both English and Spanish. One third of survey responses were in Spanish, however many riders who responded in English possess bilingual proficiency.
-  Many Spanish speakers may have answered in English, as around half of all transit riders who speak Spanish in the MeVa service area also speak English. ^[2]





Evaluation Focus Groups

 The evaluation held three focus groups, offering input from diverse perspectives.

1. MeVa Riders

- Recruited from survey respondents
- **20 riders of the MeVa Buses & Mini MeVa**
 - 5 Spanish-speaking riders
 - 2 paratransit riders

2. MeVa Drivers

- Recruited in collaboration with MeVa staff
- **12 bus drivers**

3. External Service Providers

- Recruited from a list from the MeVa Community Relations Team
- **6 service providers**
 - 2 Healthcare Providers
 - 1 Education Provider
 - 1 Economic Development Organization
 - 2 Senior Support & Service Provision



Rider Focus Group Demographics

- ▶ 20% aged 16-20 years
- ▶ 15% aged 65+
- ▶ 80% with less than a bachelor degree for education
- ▶ 35% identified as Hispanic or Latino
- ▶ 20% identified as African American or Black





Ridership

Program Goals

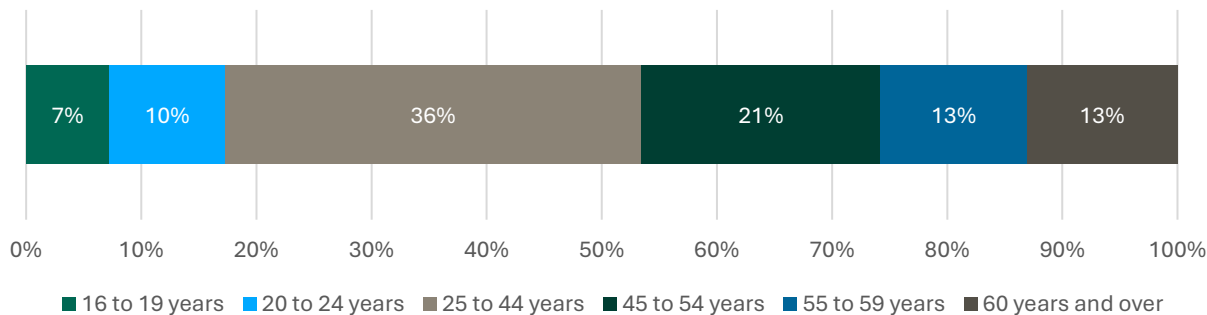
- Increase overall ridership for new and existing riders
- Increase rider diversity
- Improve rider retention, including on paratransit



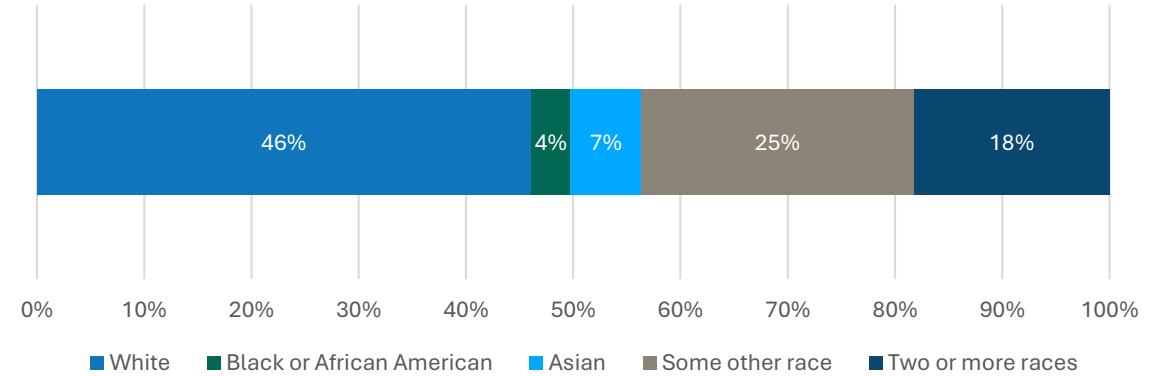
MeVa riders are diverse.

- The fare-free program is sustaining a diverse rider base.
- MeVa riders identify as a variety of races. **Half (50%) of riders are of Hispanic or Latino origin.**
- There are more female riders (63% of total) than male.
- Rider ages are nearly evenly distributed across working age categories.

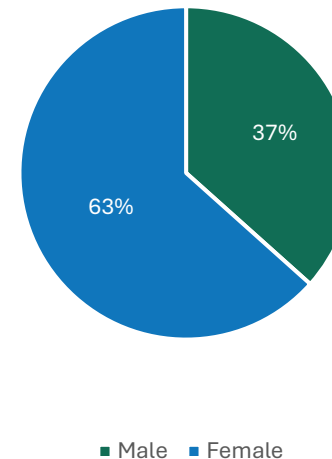
Age [3]



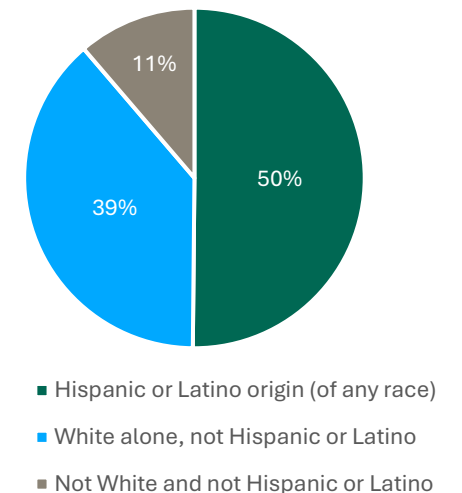
Race [4]



Sex [5]



Hispanic Ethnicity [6]





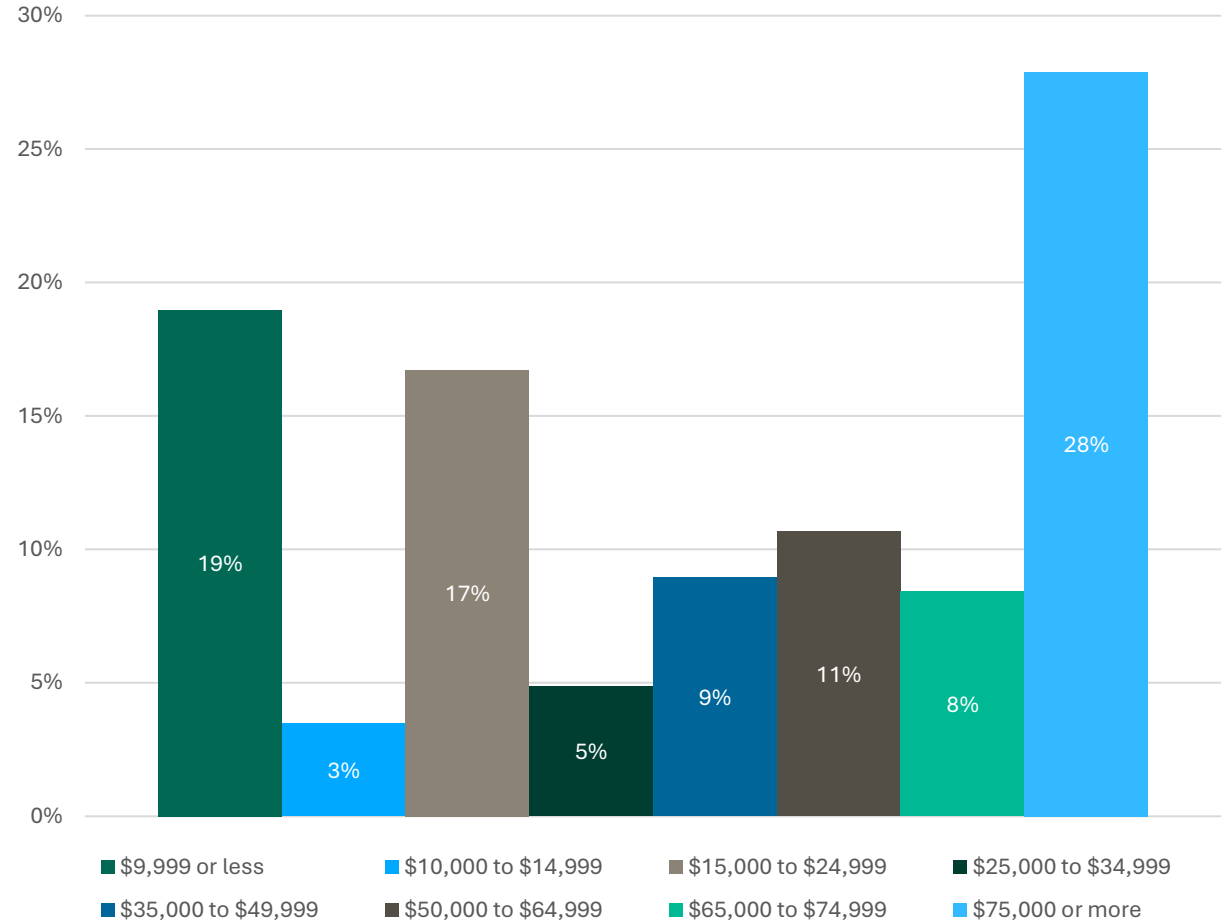
MeVa serves New Americans and lower-income households.

One third of riders (33%) were born outside the U.S.

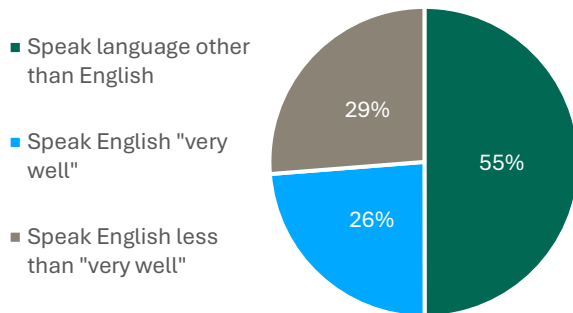
One in five MeVa riders (19%) make less than \$10,000, nearly 40% make less than \$25,000 and 72% make less than \$75,000.

Over a quarter of riders (29%) speak English less than "very well."

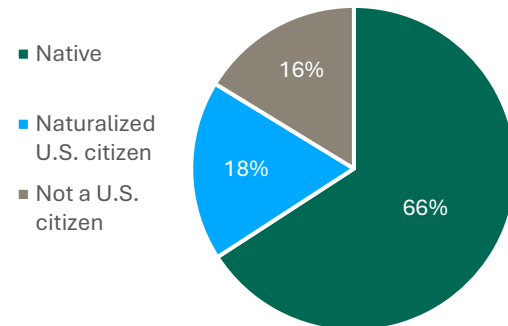
Q: What is your annual income? ^[9]



Ability to Speak English ^[7]





Citizenship Status ^[8]



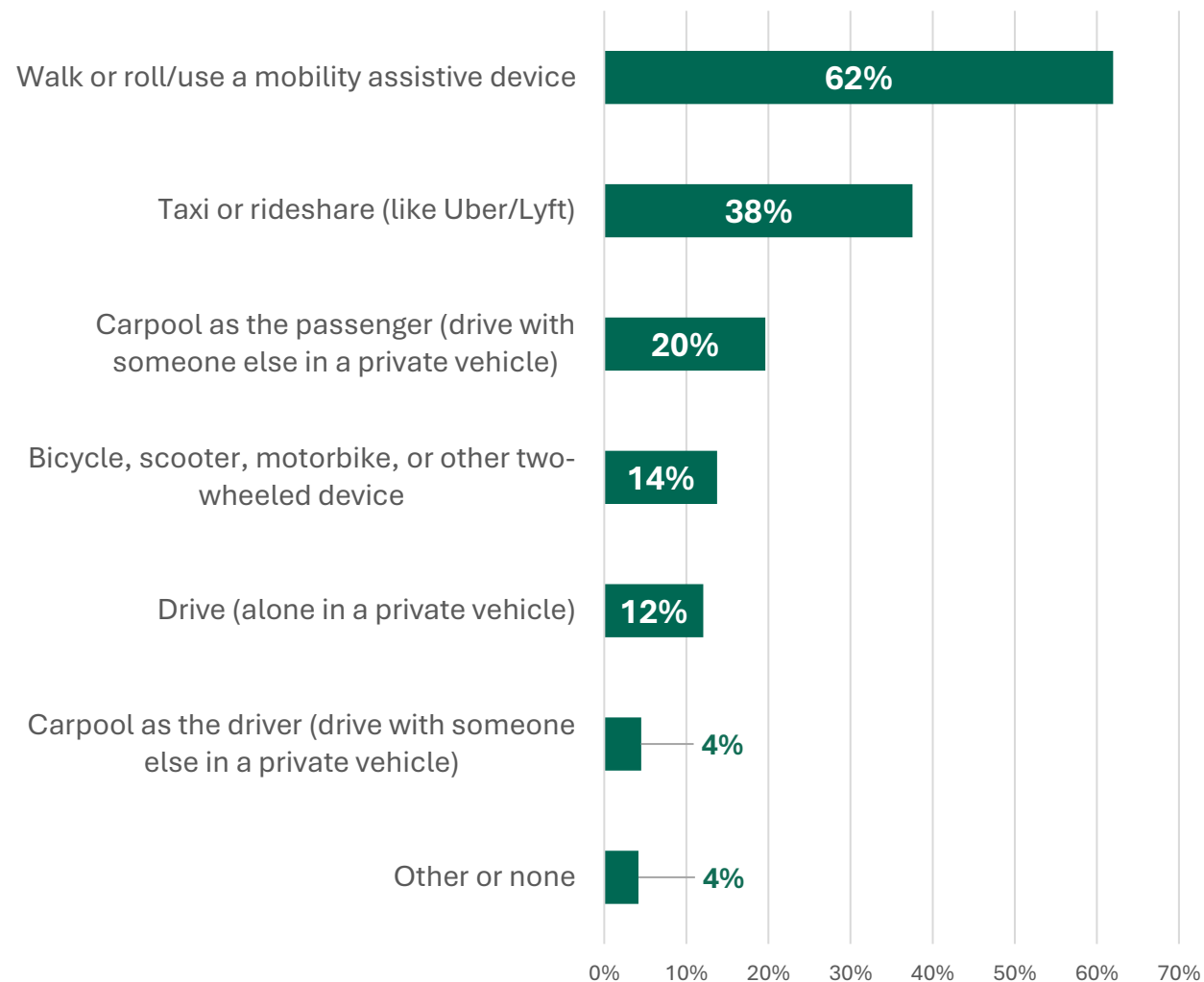


Many riders rely on MeVa for all transportation.

-  The vast majority of MeVa riders rely on the bus for transportation – and have only walking/rolling as an alternative.
-  Only 12% of riders said they had **access to a private vehicle**.



Q: What other transportation options do you have available to you, besides the bus? (select all that apply) ^[10]

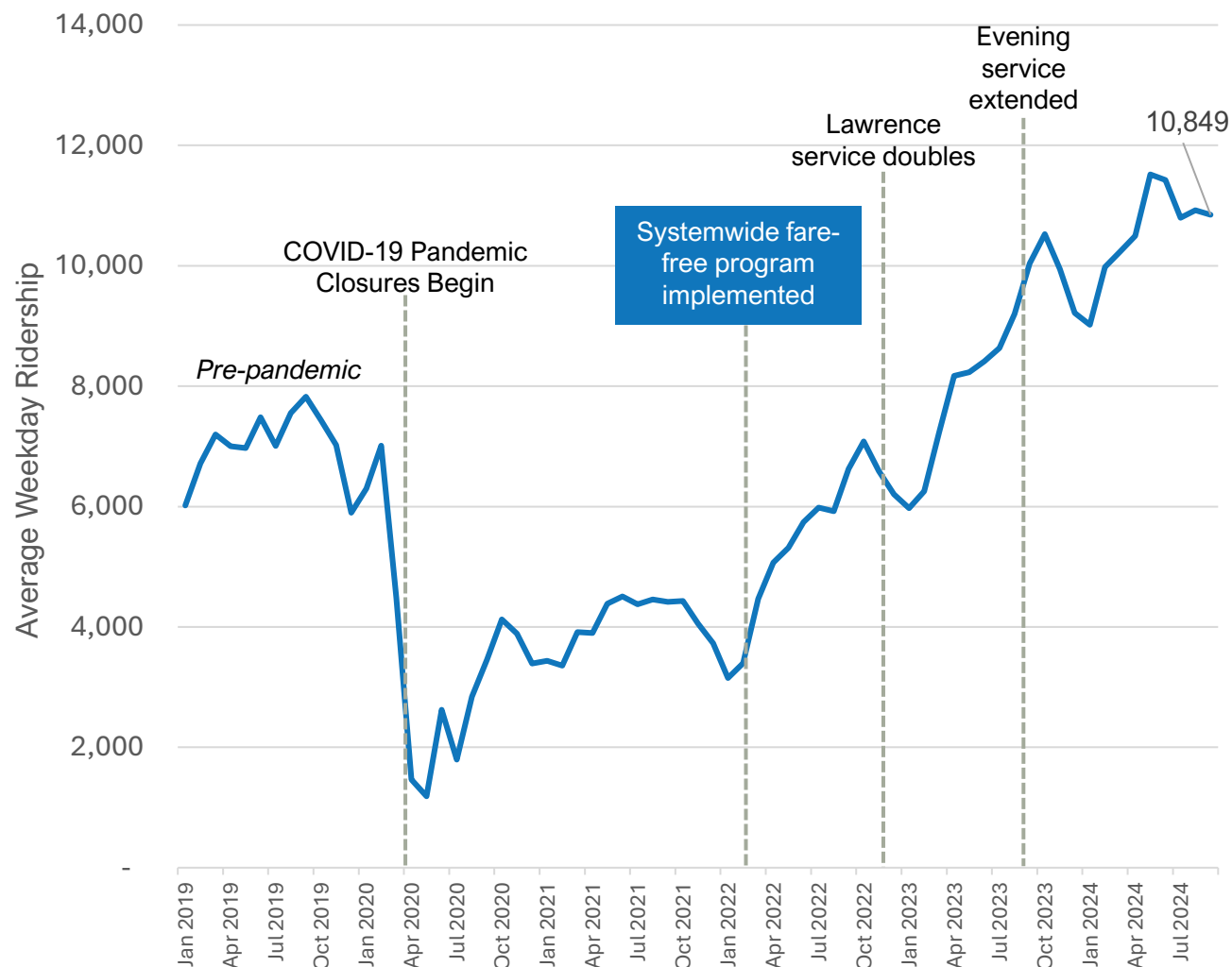




Ridership is high and continues to grow.

-  Ridership is high and trending up, **exceeding pre-pandemic totals** by nearly 60%. [11]
-  The fare-free program occurred alongside increases to MeVa service, including greater frequency, span, and days of operation. It is important to note that **service improvements were a separate initiative** complementing the fare-free program.
-  Growth has primarily occurred where MeVa had existing capacity, so there is effectively **zero additional cost to carry more riders.**
-  **Ridership per revenue mile of service increased from 1.55 to 1.76** from 2019 to 2024, indicating buses are better utilized even considering additional service. [11]

Average Weekday Ridership - All Fixed Routes [11]

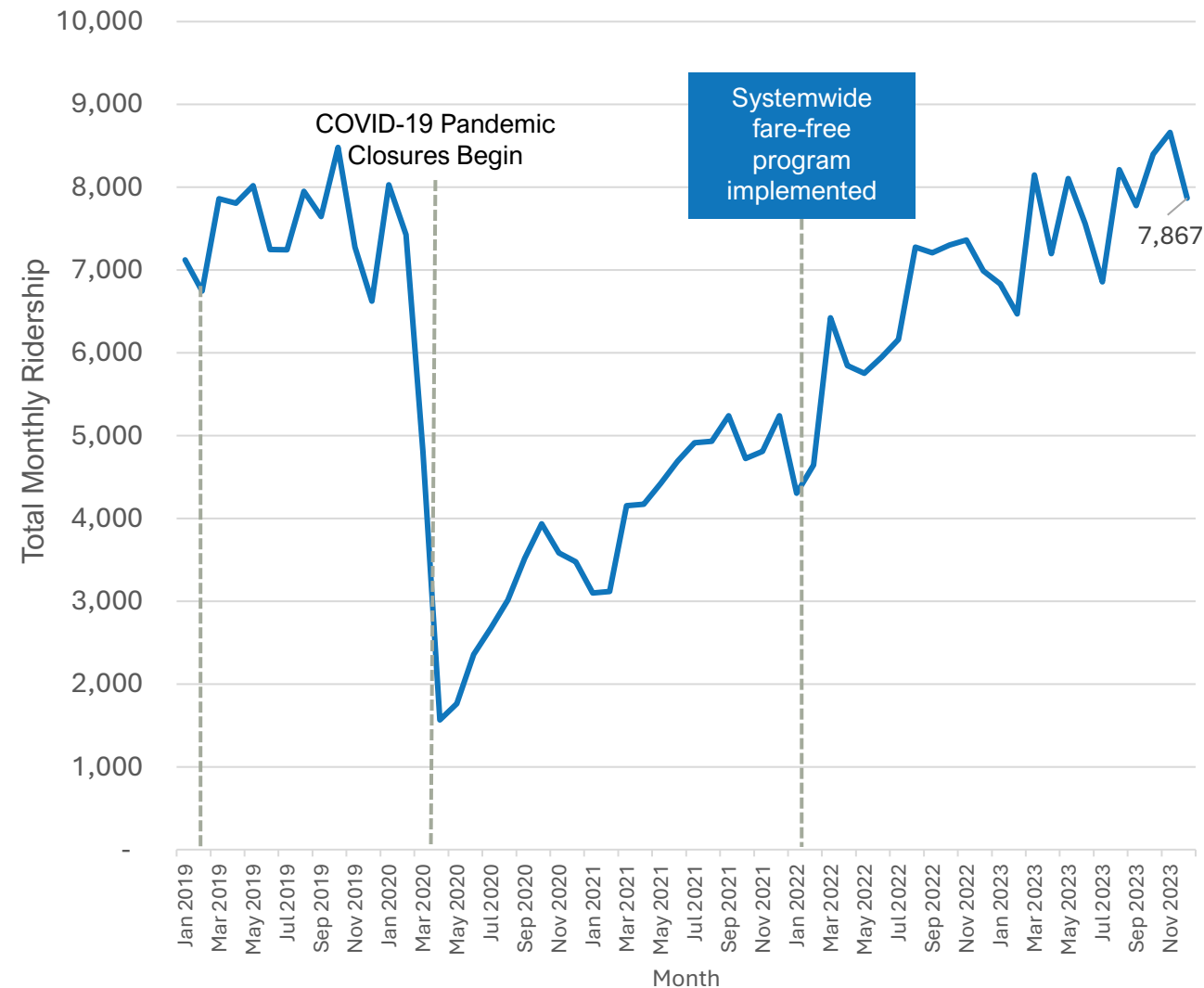




Paratransit ridership grew, but not excessively.

- Paratransit ridership **grew significantly** immediately after the fare-free program was implemented and continues to grow.
- Ridership is exceeding pre-pandemic levels by 2%; however, **fixed-route ridership growth has well outpaced paratransit.** [11]
- Demand for paratransit is **manageable and has not increased so much as to require new service.**
- Paratransit ridership growth over this period may also be attributable to expanded outreach and a simplification of service offerings which occurred simultaneously to the fare-free program.

Total Monthly Ridership – All Paratransit Services [12]

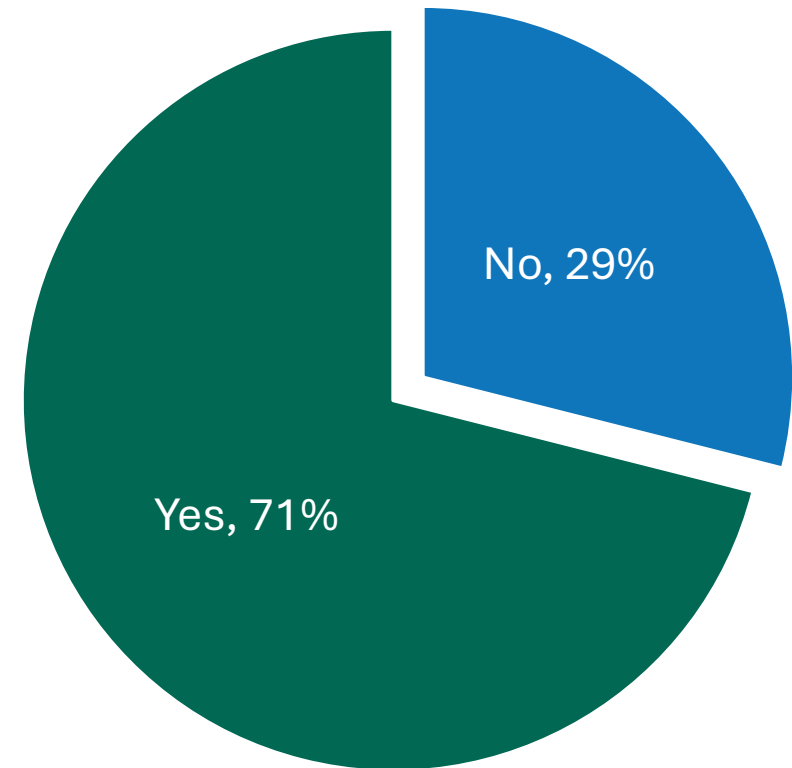




Many riders have never paid a fare on MeVa.



- 📋 Nearly **30% of riders have never paid a fare on MeVa buses**, equating to about 3,250 daily riders.
- 📋 These riders in particular would **poorly perceive fare re-introduction**.
- 📋 Many of these respondents were initially **attracted to the bus because it is free**, while others moved to the area or had other changing life circumstances since 2022.
- 📋 Around **30% of riders who would have taken rideshare** (if they were not taking the bus) are new to the MeVa system. Rideshare is more expensive than both free and most paid transit.

Q: Did you use the bus before it was free? [13]



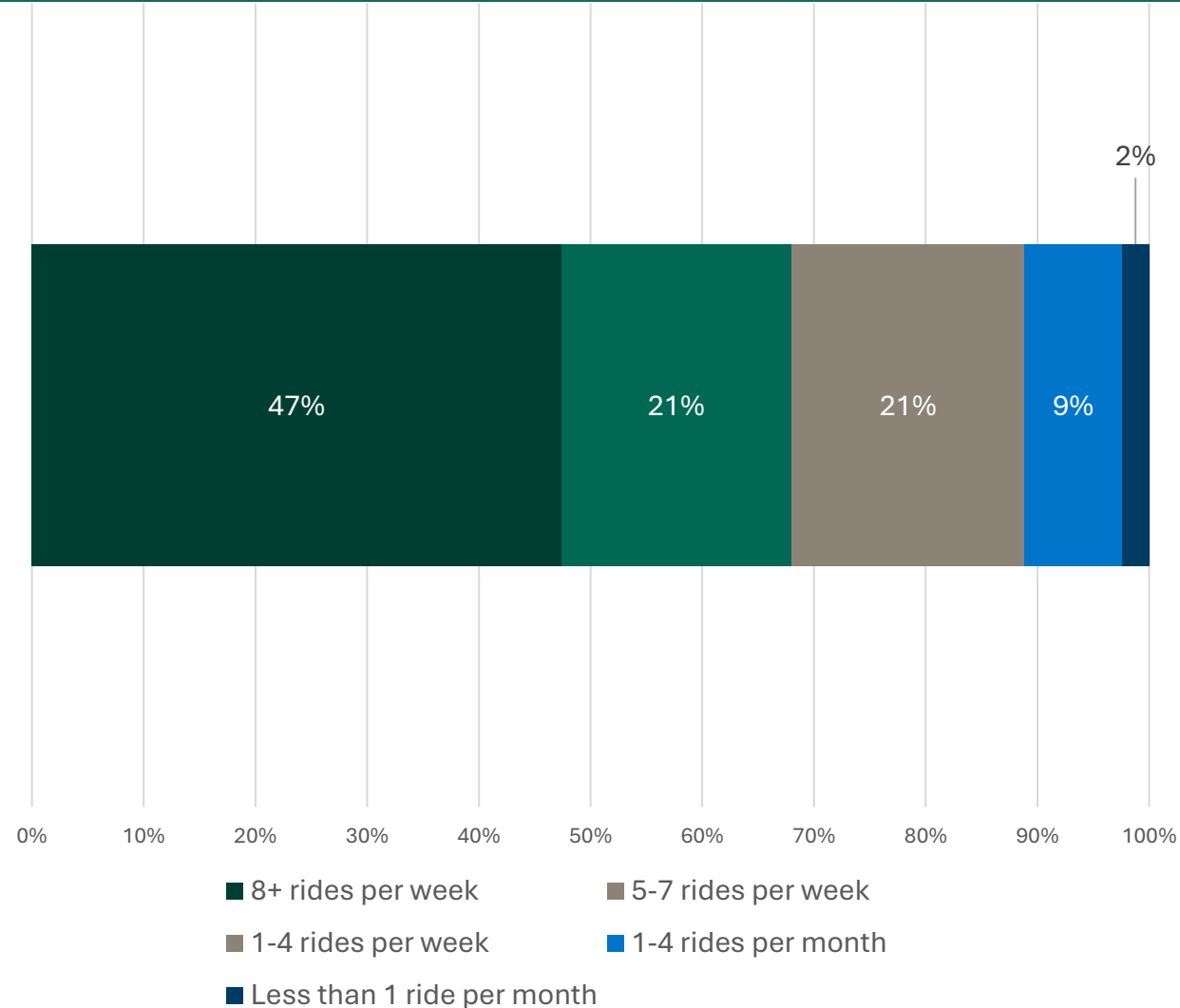


MeVa is retaining regular riders and gaining more.

-  **New riders are becoming frequent riders.** Half of those who started riding after the start of the fare-free program now take the bus eight times per week or more.
-  **Around half of all riders take MeVa buses nearly every day, and nearly 90% ride at least once per week.**






**Q: How often do you ride the bus?
(1 ride is a one-way trip) ^[14]**

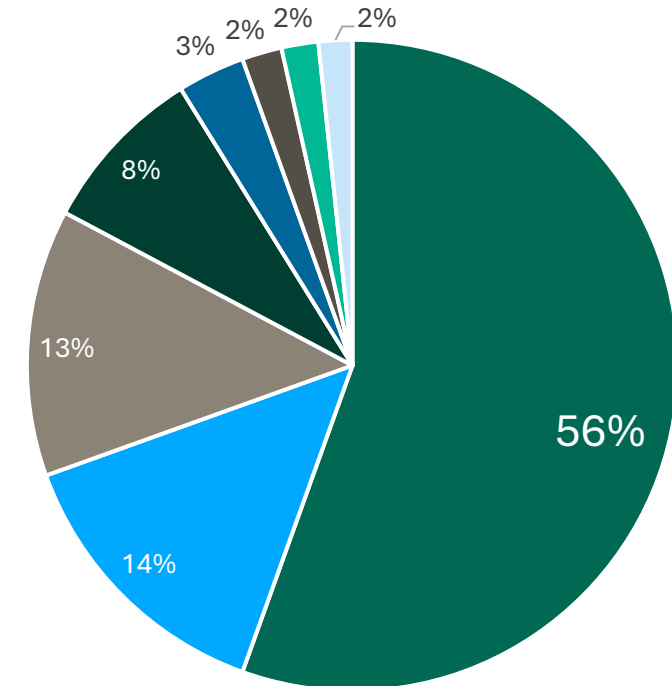




People are shifting modes and taking new trips.

-  The fare-free program is inducing mode shift, resulting in fewer trips by private vehicle and rideshare. Nearly **20% of all trips on MeVa buses would have occurred by vehicle** if the bus was not free.
-  **Eight percent (8%) of trips are newly generated** due to the fare-free program.
-  Riders are taking new trips for shopping and leisure (38%), but also to go to work or school (32%), access healthcare (13%), and to run errands (13%).

Q: How would you have made this trip (or your most recent trip) if the bus were not free? ^[15]



- I would still take this bus
- Walk or roll/use a mobility assistive device
- Taxi or rideshare (like Uber/Lyft)
- I would not make this trip at all
- Drive (alone in a private vehicle)
- Carpool (drive with someone else in a private vehicle)
- Bicycle, scooter, motorbike, or other two-wheeled device
- Other



Operational Efficiency

Program Goals

- Reduce travel times and improve reliability
- Streamline administrative operations



Staff resources can support new things. ^[16]




Labor Category	Staff	Time Before Fare-Free Program	Time After Fare-Free Program	Total Hours Saved / week
Maintenance	<ul style="list-style-type: none"> Maintenance Supervisors Mechanics 	<ul style="list-style-type: none"> Vaulting buses (transferring cash and coins from buses to the vault) Farebox maintenance (diagnosing problems, removing parts, submitting tickets online, tagging, and shipping) 	<ul style="list-style-type: none"> Engine repair Non-farebox maintenance Cleaning diesel particulate filters 	80 hours vaulting buses & 30 hours maintaining fare collection equipment
Operations	<ul style="list-style-type: none"> Road Supervisors 	<ul style="list-style-type: none"> Real-time maintenance & troubleshooting when fareboxes failed in service Replacing buses removed from service when fareboxes failed 	<ul style="list-style-type: none"> Repair of vans/paratransit vehicles No service adjustments required due to farebox issues 	6 hours troubleshooting farebox failure
Administrative	<ul style="list-style-type: none"> Senior level staff HR Management Payroll Management Reservationists 	<ul style="list-style-type: none"> Counting and bundling with multiple staff required Staff pulled abruptly from work to cover money room due to uncertainty around armored car arrival time 	<ul style="list-style-type: none"> Responses to rider calls Paratransit scheduling Outreach 	12 hours counting and bundling in the money room

Financial Impact:

▶ *Staff time saved under the fare-free program is the equivalent of **three full-time employees.***



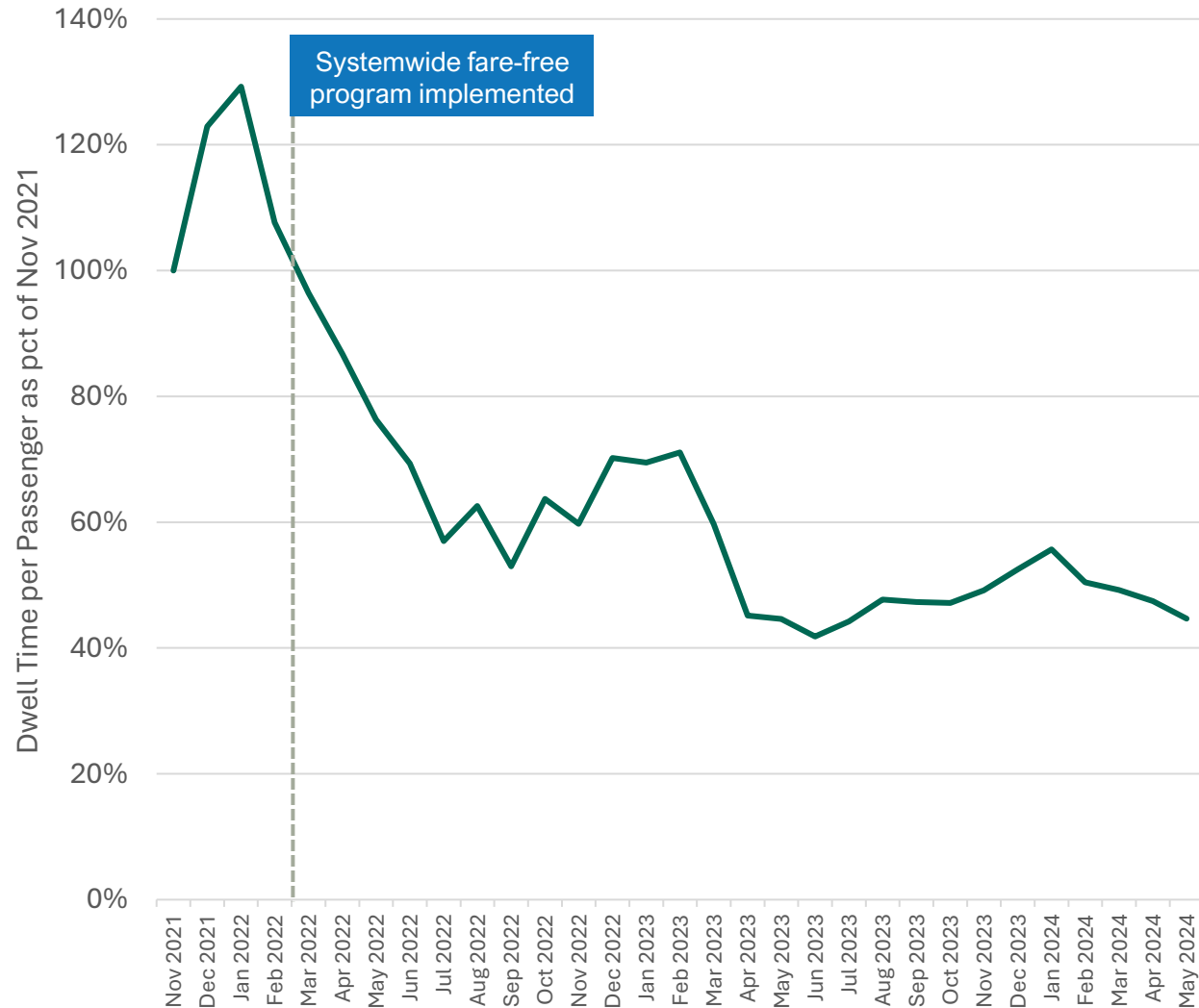
It is faster to get on the bus.

-  Dwell time per passenger **decreased by half** immediately after buses became fare-free.
-  On average, each passenger is boarding twice as fast without the need to pay a fare.
-  Additionally, **drivers emphasize that the elimination of fareboxes has created faster boarding processes and helps to reduce traffic on the streets** as vehicles are not blocked by the bus for a long time.

Financial Impact:


▶ *Not enough data*


Dwell Time per Passenger [17]



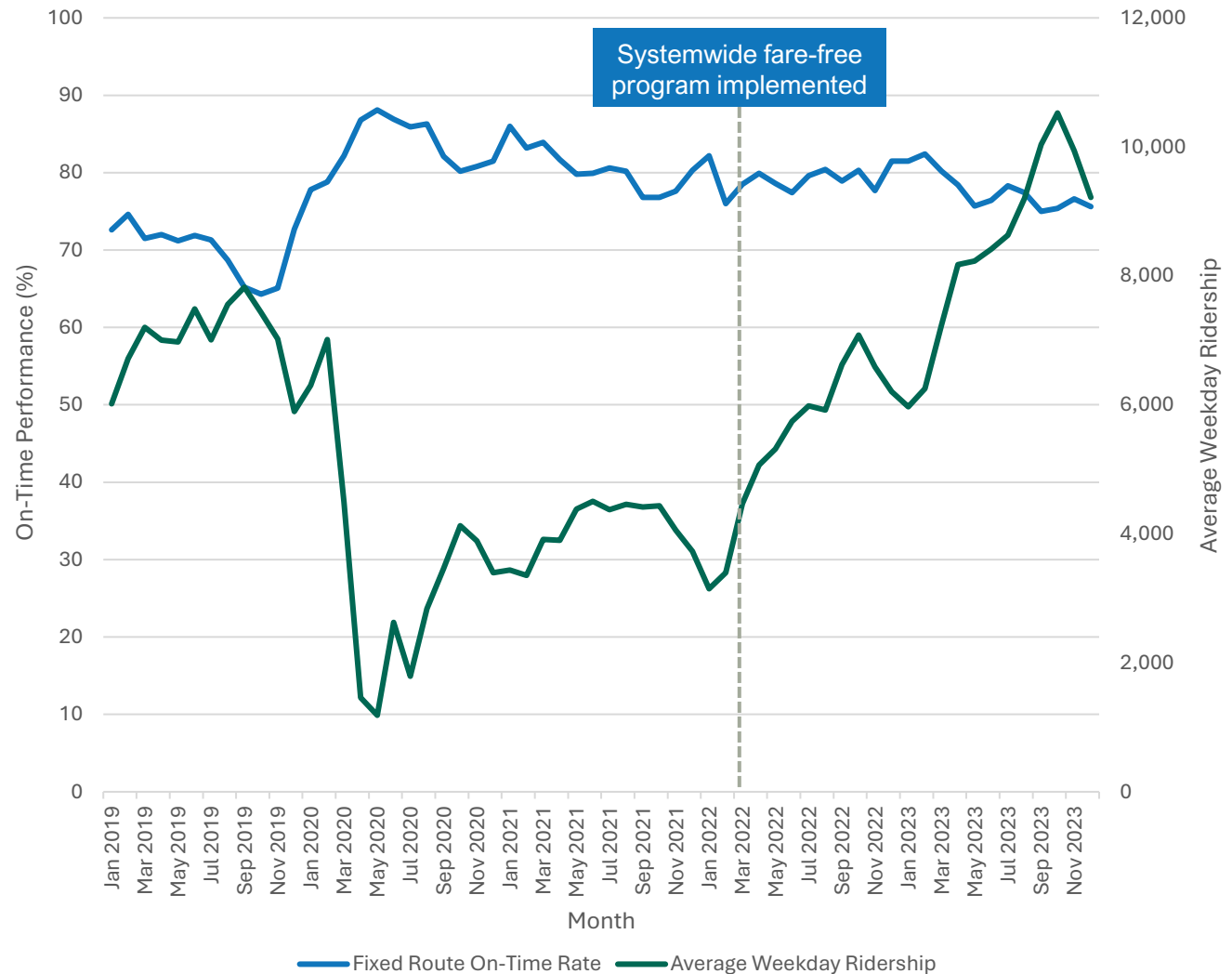


Despite ridership gains, on-time performance has not changed significantly.

 **On-time performance has remained relatively consistent** since the beginning of the fare-free program. This means that although buses may be stopping more frequently due to increased ridership, on-time performance has not been negatively impacted.

 While MeVa does not currently allow all-door boarding, other fare-free bus services have reduced passenger boarding times at high-ridership stops[†] by allowing rear-door entry, which could potentially further reduce dwell times.

Fixed-Route On-Time Performance and Ridership [18]





Paratransit on-time performance has also been consistent.

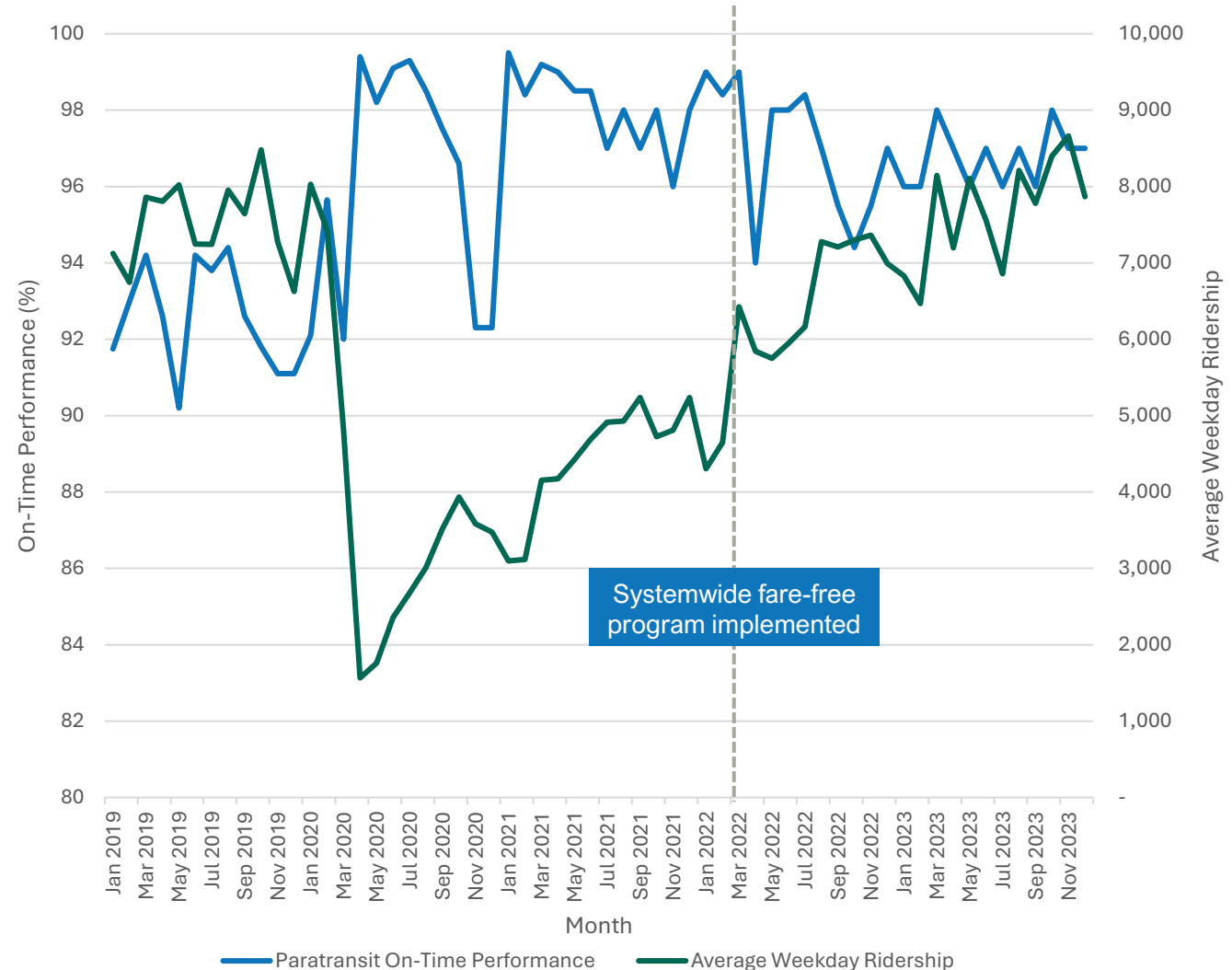


Paratransit on-time performance has not changed considerably since the start of the fare-free program **despite continued ridership growth.**

“Having the bus be free now is better for us because it runs smooth - **you save more time.** We used to have to wait for the ticket to come out, call the supervisor to fix the machine, etc., now we don't have to deal with all of that.”

- *MeVa Driver* [17]

Paratransit On-Time Performance and Ridership [19]








Rider Experience

Program Goals

- Improving safety, comfort, and rider satisfaction
- Reducing crowding



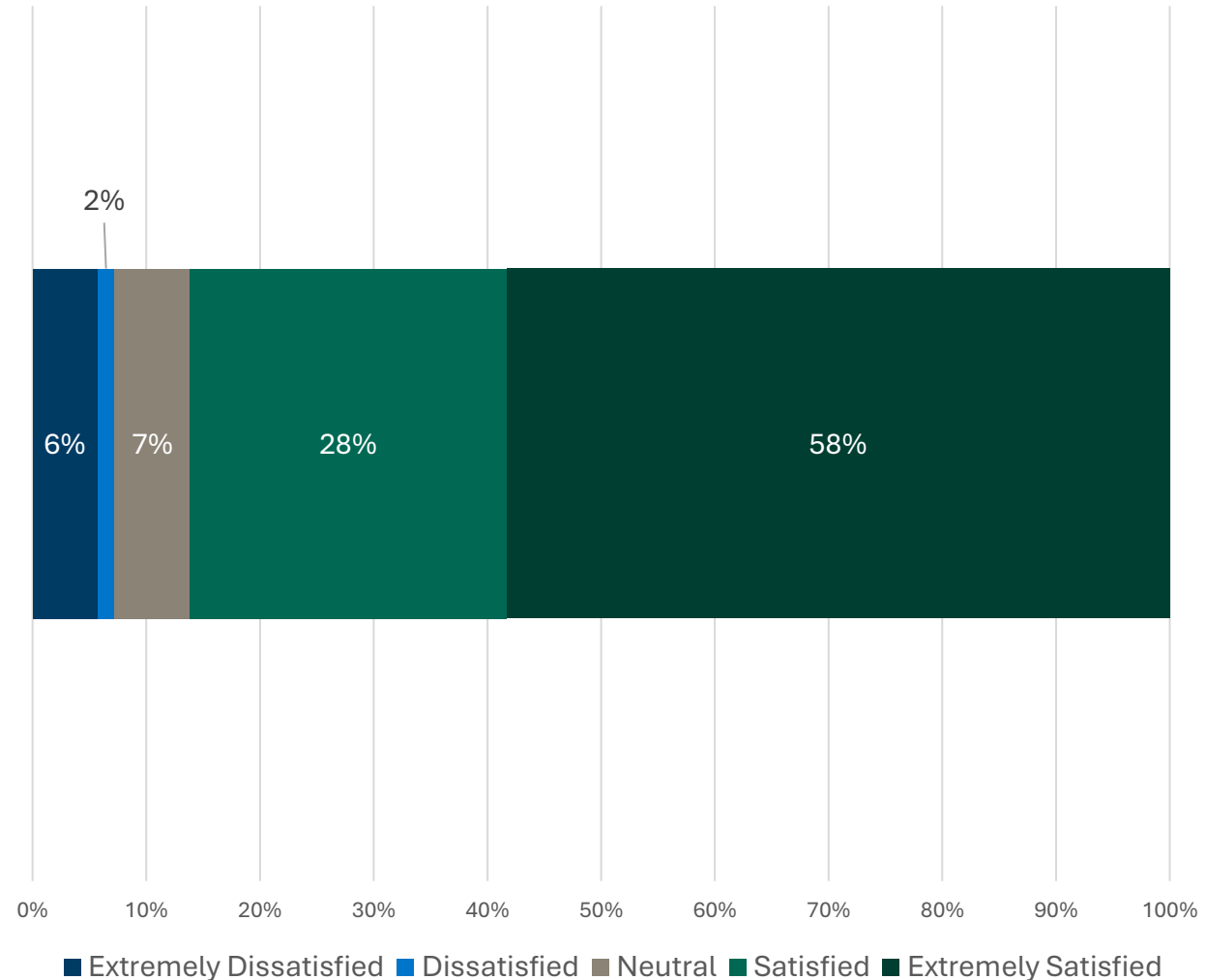
Riders overwhelmingly approve of MeVa's service.

-  **Eighty-six percent of MeVa riders were either satisfied or extremely satisfied with their bus routes.**
-  Approval of MeVa service **exceeds typical levels seen at transit agencies** across the country. ^[20] Nearly 60% of MeVa riders are extremely satisfied with service, compared to 40% at other agencies.
-  As ridership has increased, riders indicate that **they feel safe despite busier buses.**

“I really don't know too much of anything that they could do to make it better. What they have available is **absolutely amazing** with the service working as well as it does.”



- *MeVa Bus Rider* ^[21]

Q: In the past month, how satisfied have you been overall with this free bus route? ^[22]





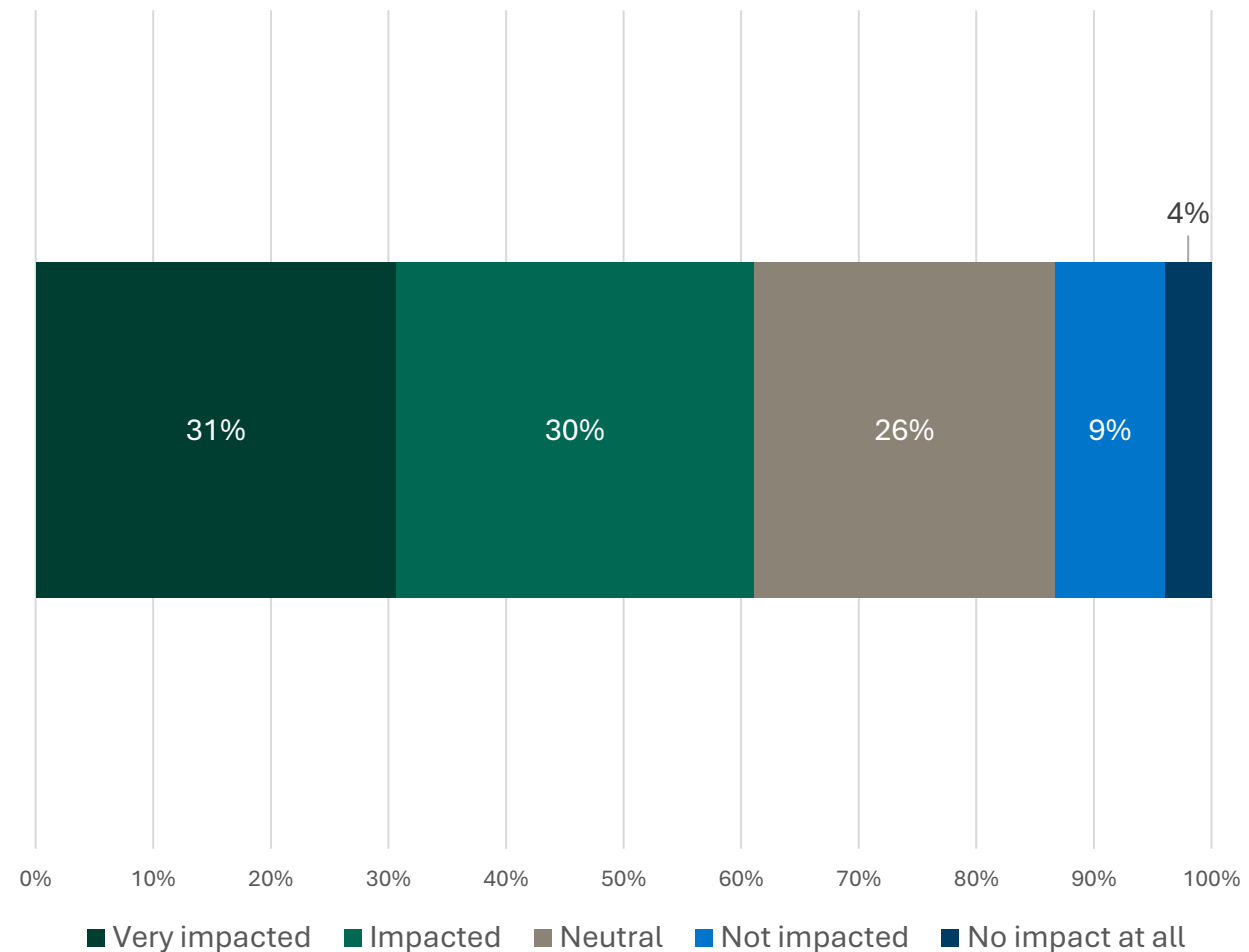
Paying a fare again would be inconvenient for riders.

-  Riders indicated they would face significant logistical impacts – from the **need to add additional time to their trip, to remembering the fare, to general hassle associated with payment.**
-  Around **two-third of riders indicated that they would be logistically impacted** and nearly a third would be very impacted.

“It is easier for everyone to not have a fare because it's not like I have to get out now, check if I have to find the money, or I have to refill my card. **I can get out easier from the bus.** I can get out quicker, knowing the fact that I don't have cash. I can just get on and get to my destination as soon as possible.”

- MeVa Bus Rider [23]

Q: How much would you be logistically impacted if you had to pay for the bus? [24]





Riders find some routes overcrowded.

- ③ Although overall riders are very satisfied with MeVa service, their **main concern was crowding**.
- ③ Riders only mentioned overcrowding for specific routes that serve larger populations or are hubs of economic activity. Route 1 came up most frequently.
- ③ **Drivers did not express concerns about overcrowding.**
- ③ Paratransit riders mentioned **needing to book their ride far in advance**, especially during peak hours.

“I work at the Merrimack Plaza, so sometimes I **know which buses are crowded** on the way back, and I am semi handicapped, so I have a knee problem and a back problem. I **will wait an extra half hour** to take 24 home.”



- MeVa Bus Rider [25]

“They only had the hour buses on Saturday. It used to get packed on Saturday because everybody would go out Saturday. **That's why they added the half hour on Saturdays now, because it's been so packed.**”

- MeVa Bus Rider [26]



Removing fares creates more consistency and clarity for riders.

-  Inconsistent enforcement of fare collection produced a varied experience which differed route to route and day to day – **the fare-free program ensures a consistent experience** for all.
-  The **transfer process was often tedious** and confusing for riders, leading to delays, potential conflict with drivers and potential overpayment.



*The transfer experience was **unreliable and confusing for riders** and was **difficult for drivers to explain**.*

To transfer, riders needed to request a printed paper ticket from the driver when paying for their first fare. This was also the process if someone overpaid for a fare.

*These tickets were **not available at all locations** and **sometimes became unreadable** if wet or damaged. These issues left some riders to pay another full fare (or forfeit any money paid above the price of the fare). When redeeming paper tickets, riders were also limited to only one per ride. [26]*





Driver Experience

Program Goals

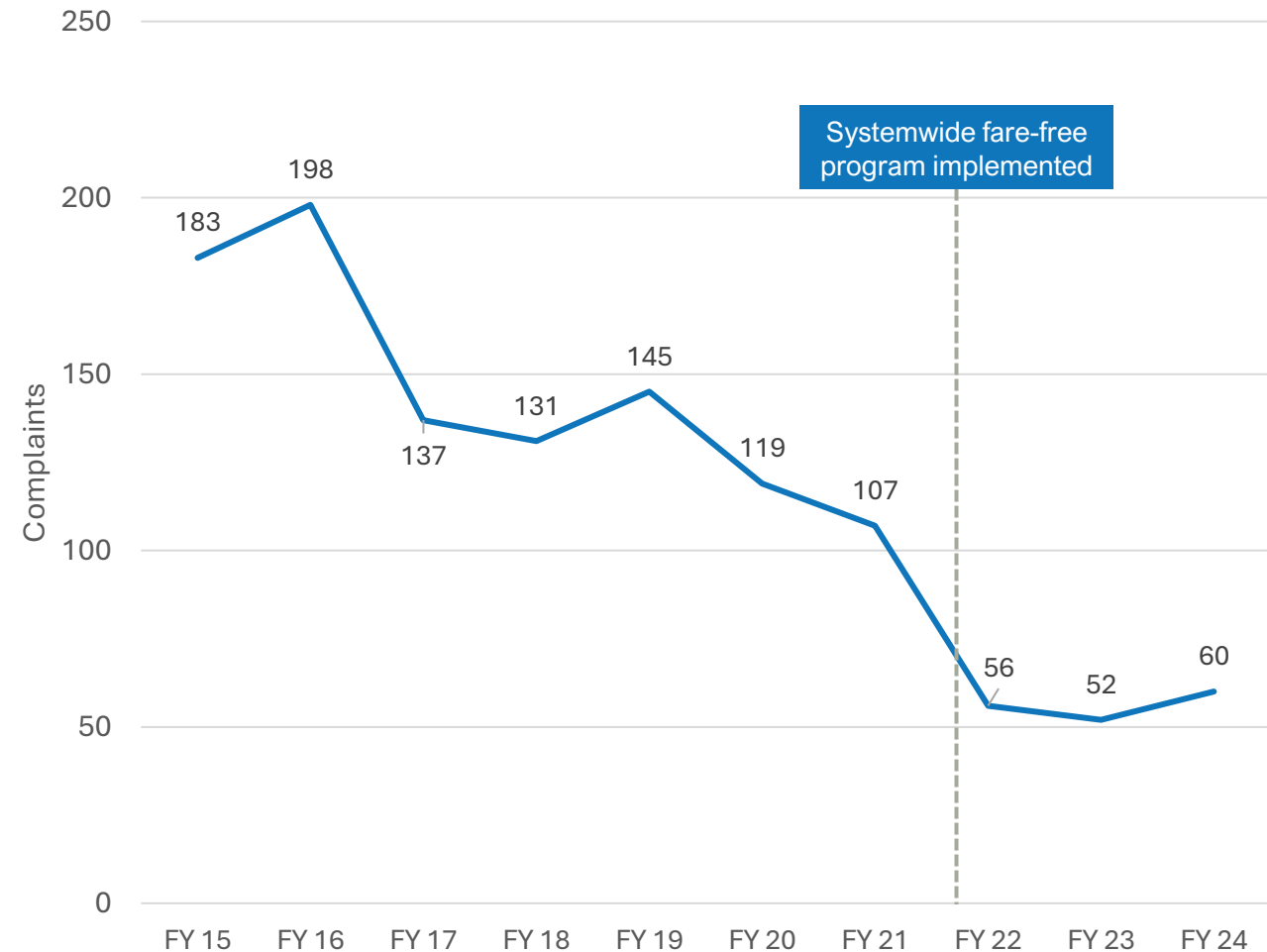
- Reduce conflicts between riders and drivers
- Boost driver satisfaction
- Provide labor cost savings



Rider complaints have plummeted.

-  **Rider complaints decreased by nearly half in the year the fare-free program was enacted and have since remained low, even as ridership almost tripled.** [27]
-  The reduction in complaints has **boosted workforce morale**, as administrative staff experience less stress and spend less time receiving, logging, and investigating complaints.

Total Rider Complaints by Fiscal Year [28]





There are fewer rider/driver conflicts.

- 👤 Riders and drivers mention that eliminating fares has **reduced conflicts** during rides.
- 👤 With less conflict, riders and drivers have a **more pleasant experience**.
- 👤 Riders noted that **free access to transit emphasizes the idea of public transit as being “accessible to all.”** One reported effect of this was that **people are more understanding of their fellow riders**.

“When people had to pay and didn't have the money, they would argue with you. But now that people don't have to pay it's less of a headache.”

- *MeVa Driver* [29]

“They have previously banned people from the buses for doing stupid things and harassing the bus drivers. But you can't kick people off for no reason, because it is public transportation. **Everybody has a right to ride.**”

- *MeVa Bus Rider* [30]



Drivers are more satisfied, which translates to customer goodwill.

- ③ Removal of fares, in parallel with other improvements to operations, has **significantly improved driver satisfaction**.
- ③ Drivers **act as the spokespeople for MeVa service**. If drivers are happier, so are riders.
- ③ The fare-free program has also **eliminated conflicts between drivers** originating from differing attitudes towards enforcement of fare collection. Drivers who had been stricter about enforcing fare policy previously resented more lenient drivers. The suspension of fare collection eliminated this source of tension.

“This place (MeVa) has done a 360 since I started working here. I was working more than 60 hours per week. 70 hours sometimes. Now we don't feel tired. **It's fun to come to work now!**”

- MeVa Driver^[31]

“After we started running for free, they started adding more runs every half hour. One thing brings to the other things, because they had to hire more drivers, so more opportunity for work from more people.”

- MeVa Driver^[32]



Drivers are better able to serve riders.

- Drivers feel that MeVa has been able to place a stronger emphasis on training and safety **by shifting the focus away from fare collection.** This additional training is improving reliability and the customer experience.

“I think that the drivers are more courteous now because they used to feel kind of rushed doing the fare boxes.”

- MeVa Bus Rider [33]








Health Impact

Program Goals

- Positively impact rider health by providing increased connectivity to medical facilities and improving overall access to care



People report that MeVa provides important access to healthcare.

-  Riders pointed to **healthcare services as among the most common destinations**. Both Lawrence General Hospital and health clinics in downtown Haverhill were mentioned as the most popular stops[†].
-  The convenience of not needing a fare and the frequency of buses was noted as a key support for riders **reaching doctors appointments on time**.
-  The analysis also uncovered mental health benefits. The **sense of freedom and independence is a significant emotional benefit for paratransit riders and seniors** who take pride in taking care of themselves without the need to be dependent on family.

“Lots of people go to Lawrence General. We got a lot of people to go to church and the clinic on 34 Haverhill Street. Those are pretty popular stops.”




- MeVa Bus Rider ^[34]

“A lot of elderly now go to their doctor's appointments via the bus. I've dropped them off right at the clinic. People who work at hospitals and clinics, they've been taking the bus more too.”

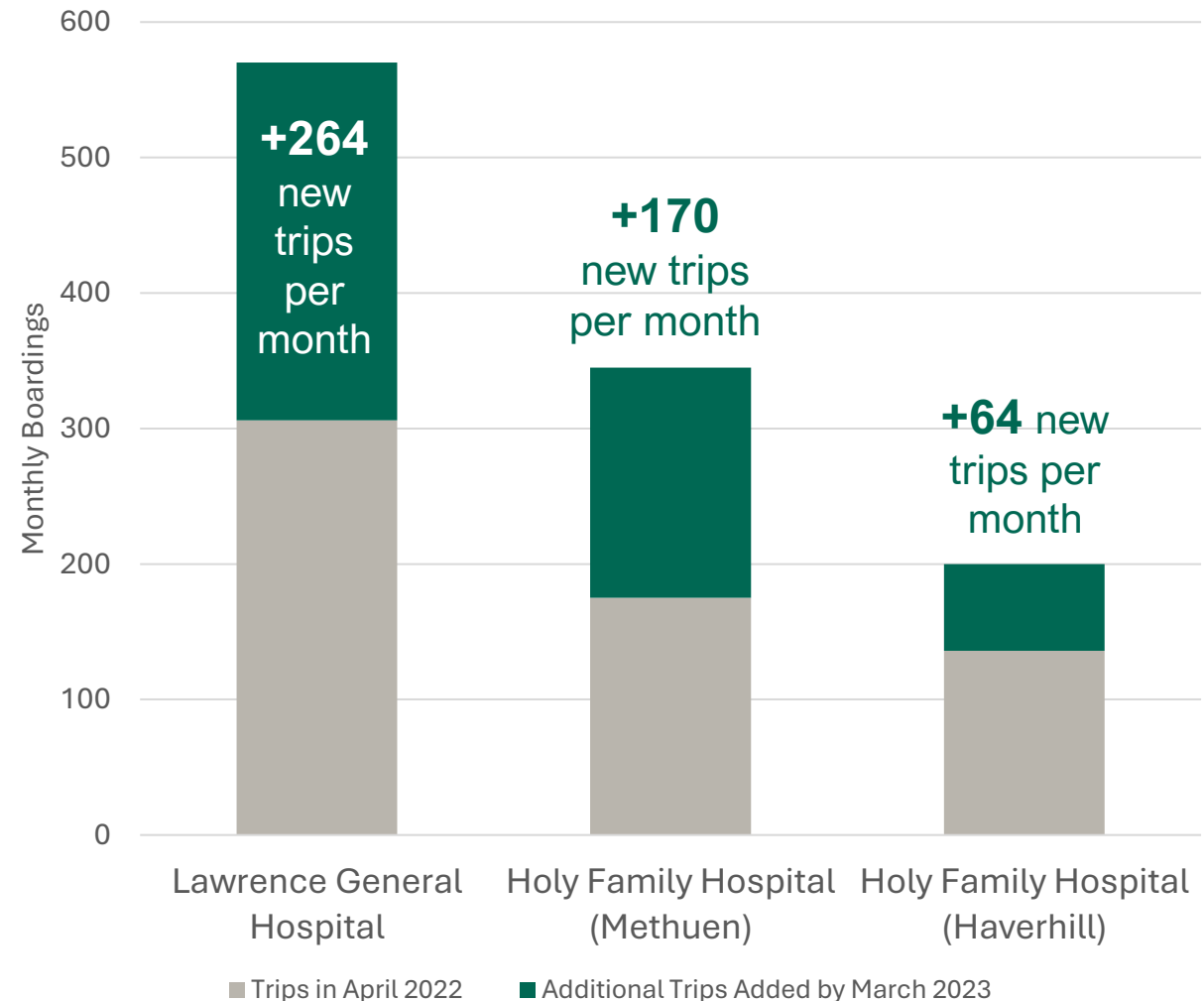
- MeVa Driver ^[35]



People are making more trips to medical centers on the bus.

-  In the first year of the fare-free program, more riders began using **MeVa buses to access hospitals and medical centers**; this generated over 500 additional trips to these locations per month.
-  **Trips to Lawrence General and Holy Family Hospital in Methuen nearly doubled** in the first year of the program. This is especially notable given the drop in available appointments at both Holy Family Hospitals due to ongoing financial and legal issues surrounding Steward Health Care, which owned both hospitals at the time. [36]
-  The Lawrence General Hospital 2019 Community Health Needs Assessment identifies access to transportation as a barrier to access to healthcare, and this program targets that issue.

Ridership at Key Medical Stops⁺
(April 2022 – March 2023) [37]





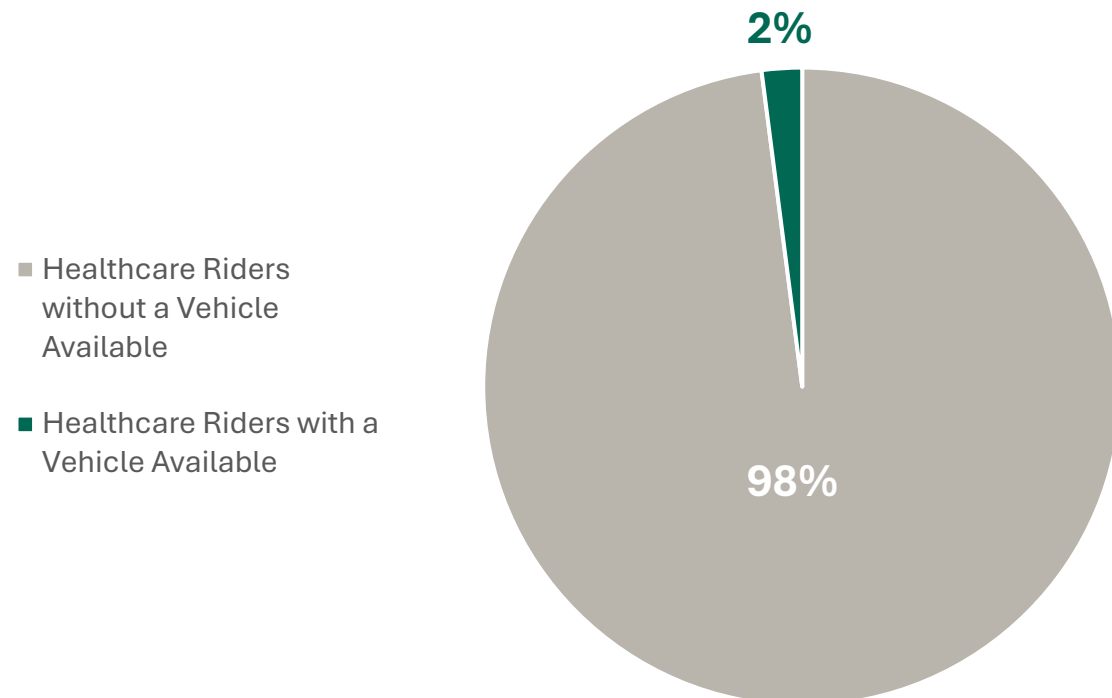
People who use MeVa for healthcare rely on transit.

- 📋 **People using MeVa for healthcare rely on transit**, as nearly all riders who indicated they use MeVa for healthcare appointments do not have a car.
- 📋 **Forty-three percent of riders use the bus for healthcare** related travel.
- 📋 For 8% of riders, healthcare is their primary bus trip purpose.

Q: What is the primary purpose of the trip that you are currently making or most recently made on the MeVa bus?
Filtered to healthcare-related trips only^[38]





Compared to:

Q: What other transportation options do you have available to you, besides the bus? (select all that apply)





More people on the bus means safer roads.

-  **No one on a MeVa bus was injured** in a roadway crash in the past few years.
-  However, between 2019 and 2023 there were 34,700 crashes on roads in the Merrimack Valley Planning Commission area resulting in nearly 11,000 injuries and fatalities. ^[39]
-  Therefore, **mode shift from vehicle trips results in an increase in roadway safety.**
-  There is a **financial benefit associated with this increased safety** given the societal costs of damage to vehicles, injuries to people, and fatalities, even conservatively including documented injuries associated with people who are walking to the bus.

Financial Impact:

- ▶ *Crashes averted from people choosing to take the bus over driving or rideshare due to the fare-free program saved the equivalent of **\$140,000** per year.*






Economic Impact

Program Goals

- Provide savings to riders, improve access to training and employment opportunities
- Increase local tax revenue
- Provide a boost to the local economy



On average, people are saving \$230 a year.


-  The average MeVa bus rider is saving **\$230 per year**.
-  Riders applied their savings to cover the cost of **internet and cell phone connectivity costs, taking their family out for a meal, or buying a gift for a loved one.**
-  Riders mentioned most **commonly using the money they save on food.** These users specifically noted that they could now afford healthier and fresher food options.

Amount Saved by Rider Type ^[40]		
Rider Type	Trips per Week	Amount Saved per Year
Daily rider, non-passholder	10	\$650
Daily rider, passholder	10	\$360
Occasional rider, non-passholder	2	\$130

MeVa Fare Policy Prior to the Fare-Free Program				
Fare Type	Adult	Senior/Disabled/Students	Beach Bus	Children Ages 5 and Under
Cash Fares	\$1.25	\$0.60	\$2.00 - \$3.00	Free
Charlie Card Fares	\$1.00	\$0.50	\$2.00 - \$3.00	
Monthly Passes	\$30.00	\$15.00	N/A	
Transfers	Free			



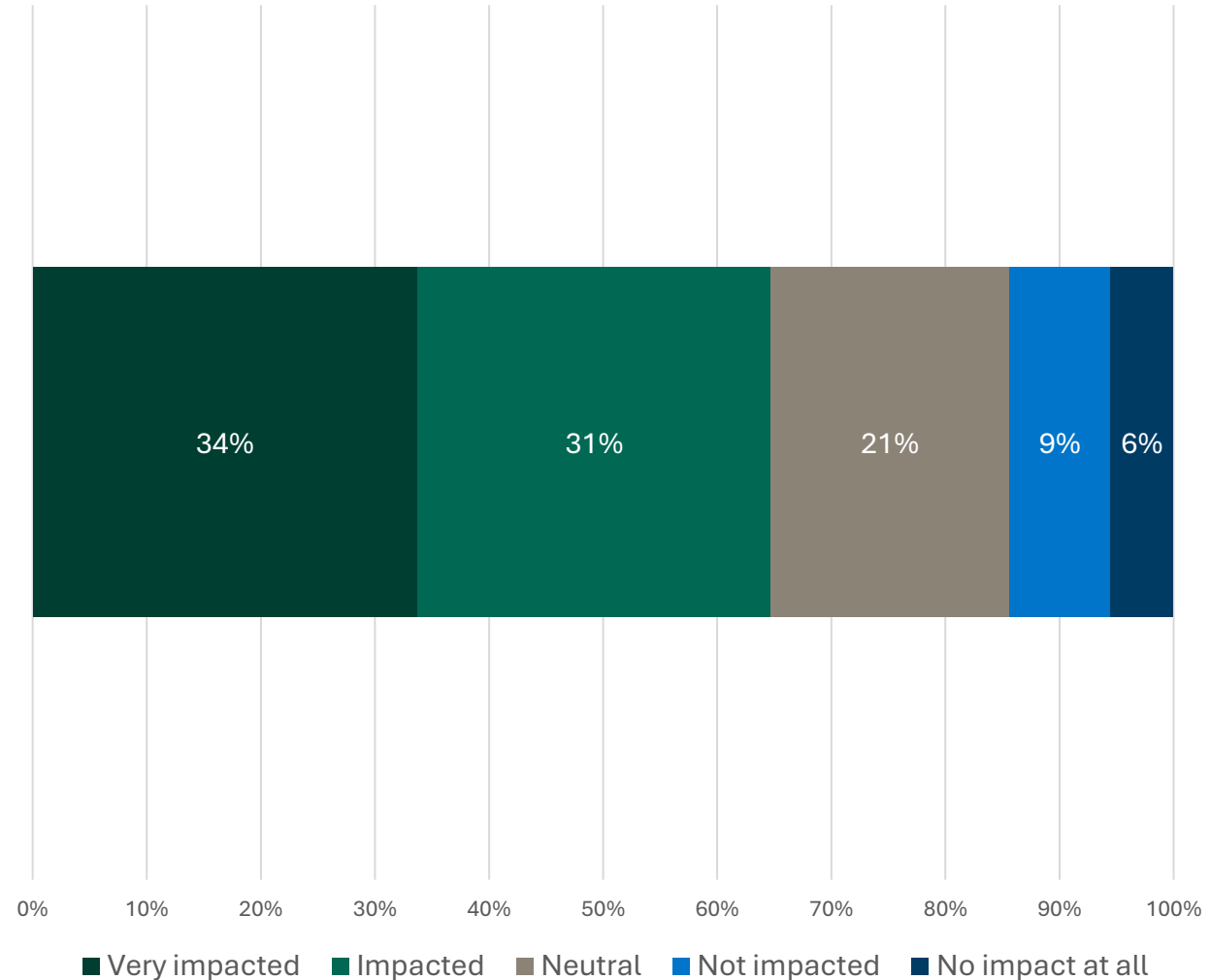
It would be financially challenging for people to start paying for the bus.

 **Two-thirds (65%) of riders indicated that they would experience financial hardship if fares were to return, with over a third (34%) of respondents indicating they would be “very impacted” financially.**

“If I was paying for all the rides you're looking at \$80 a month, that's pretty much my grocery bill. But now we're saving. Certainly, that's more I can use for my groceries.”





- MeVa Bus Rider ^[41]

Q: How much would you be financially impacted if you had to pay for the bus? ^[42]





Riders use the bus to shop and dine.

-  **More than half of MeVa riders report shopping as one of their trip purposes.**
-  Some riders also mentioned that **the money saved can be used for additional shopping and dining.**^[43]
-  The lack of fare enables people to make **multiple trips** to these places, which better suits most people's complex lives that often involve needing to trip-chain.
-  Some riders also mentioned how the bus routes going to shopping centers in Lawrence are more crowded on Saturdays as **families make their way shopping.**

“The Market Basket in Lawrence. Every Market Basket is gonna have an issue if the fare-free program is no longer there. Ridership to every Market Basket has been increasing in the last two years.”

- MeVa Driver ^[44]

“I like to go to Savers and plaza, or I like to go to Walmart, you know. I like to take my niece out for lunch and stuff. **So that extra money helps me so I can get the things I need.**”

- MeVa Bus Rider ^[45]



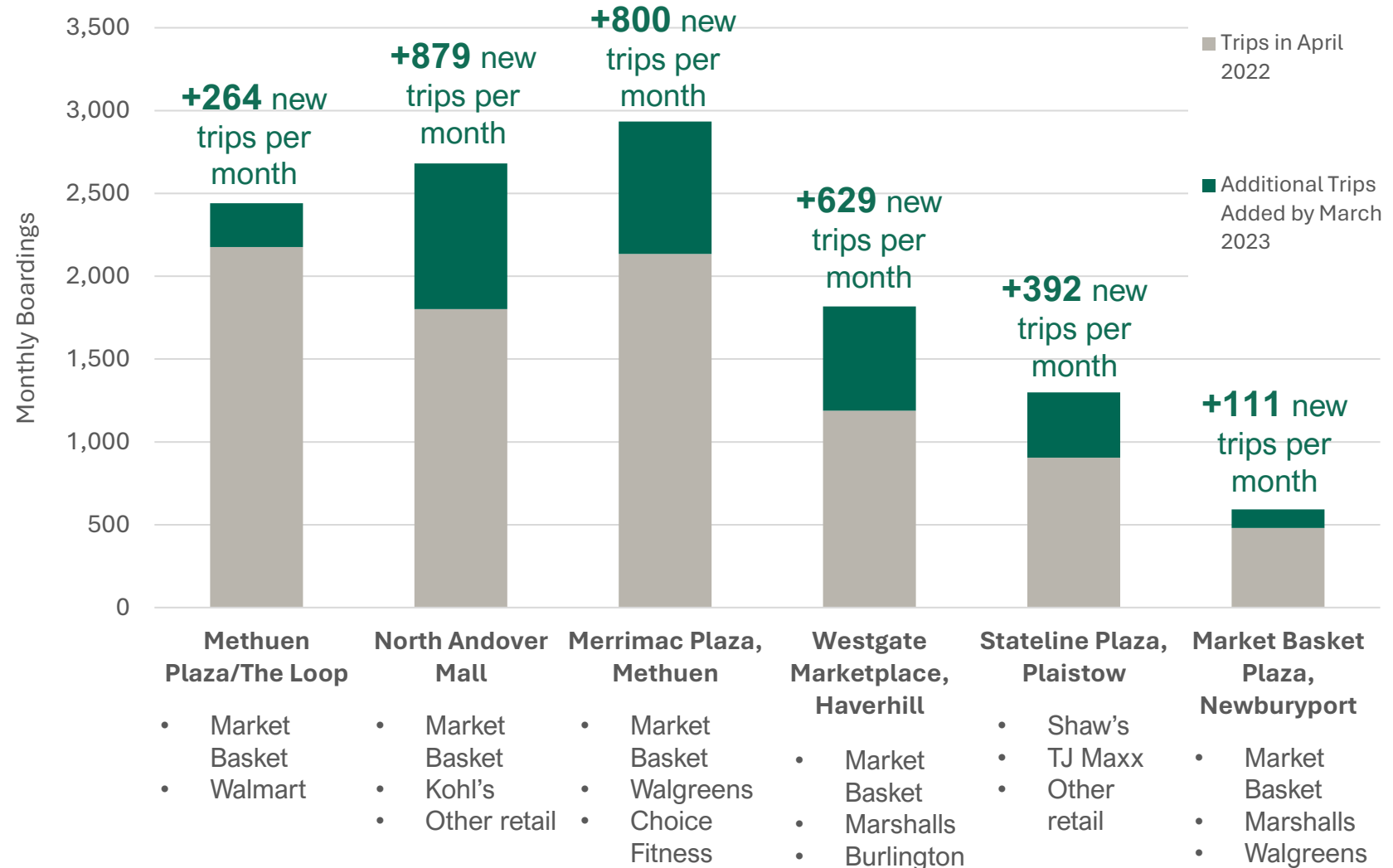
MeVa brought more people to businesses to spend money and/or for work.

In the first year of the fare-free program, more **riders used MeVa buses to access shopping centers and businesses**, with thousands of new trips every month.

This also represents **greater employee access**; a 2021 survey (prior to the fare-free program) showed that transportation was the third biggest barrier to work. [46]

This analysis also sought to quantify local tax revenue impacts, but findings were inconclusive. [47]

Ridership at Key Business Centers (April 2022 – March 2023) [48]





Transit and the Community

Program Goals

- Positively impact community satisfaction with transit and overall happiness
- Boost market awareness



Positive impacts of the fare-free program reverberate to transit in general.

- MeVa has created **good will in the community**; through free fare and outreach efforts, **people are excited about the bus and MeVa**.
- Riders **previously felt embarrassed or self conscious when they were not able to pay a fare**. Therefore, many avoided taking the bus and either walked more, relied on family or friends, or did not make the trip at all.
- Free fare and increased frequency has fostered a degree of trust with MeVa in the community. Several riders noted that **they are now able to rely on the bus** as their primary means of transportation.

“I think MeVa really works hard to make it as easy as possible. And I think the free fare is just a contributing factor to that. **They have brought an excitement that busing has never had before.**”




- *Service Provider, Economic Development* ^[49]

“During the week, it's Monday through Friday, all buses, all launch buses are ... every half hour. Majority of the buses run every hour on Saturday ... so that **makes it really easy to get to places.**”

- *MeVa Bus Rider* ^[50]



Service providers see fare-free as essential in the community.

-  **Service providers view the fare-free program as an essential resource** to support growing populations, especially in gateway cities such as Lawrence.
-  Service providers view **access to affordable transit as a source of intergenerational access to resources**, with the free bus having far reaching impacts on the culture and long-term economic development of the region.
-  **Service providers feel that the fare-free program supports their efforts**, because it makes it easier for people to reach their facilities, offers an easy solution for people with transportation needs, and complements their existing programming.

“Immigrants are not going to stop coming here. This is a gateway city. We are also an age friendly community so having this bus system, **it's intergenerational access to resources, to jobs, healthcare, education, entertainment.** It is one less thing people have to worry about.”

- Service Provider, Healthcare ^[51]

“I think **MeVa really works hard to make it as easy as possible.** And I think the free fare is just a contributing factor to that. They have brought an excitement that busing has never had before.”

- Service Provider, Senior Programming ^[52]



Drivers are the main line of communication to riders.

- ① Drivers act as important representatives for MeVa, serving as the **main source of information for community members**.
- ① Drivers act as the spokespeople for MeVa service, so **if they are happier, this is passed on to customers**.
- ① New immigrants find it difficult to access information on bus routes, including fare policy and how to pay, as they often do not have access to the internet on their mobile phones. These communities **rely on community word of mouth or drivers**. Determining how to pay for the bus was another intimidating barrier for new riders unfamiliar with the system.

“What I would like MeVa to do is advertise more. I think that when we spoke for those few minutes yesterday, I mentioned that once upon a time, I had a low vision group at the Senior Center, and I had a **representative come from MeVa with applications and paperwork so that people could understand what it was about.**”

- Mini MeVa Rider ^[53]

“It would be good to provide information to the newly arrived. They usually don’t know which door to board or deboard from. Maybe **providing information in both languages.**”

- MeVa Bus Rider interviewed in Spanish ^[54]



Riders trust drivers' ability to provide a safe ride.

- Riders **trust and depend on the driver's ability** when navigating unfamiliar situations.
- With drivers freed from having to enforce fare policy, **riders expressed trust and comfort in how drivers have handled challenging situations.** When navigating an unsafe scenario involving another passenger, a rider said, **“If I feel unsafe, I go and stand near the driver.”**
- Increased ridership on buses **improves riders' sense of safety.** Busy MeVa buses offer “safety in numbers”.

“I just try to stay away from people like that who could harm me. I **either stand next to or sit up front, next to the driver, you know, you can't stop people.**”

- *MeVa Bus Rider* ^[55]






Social and Neighborhood Life Impact

Program Goals

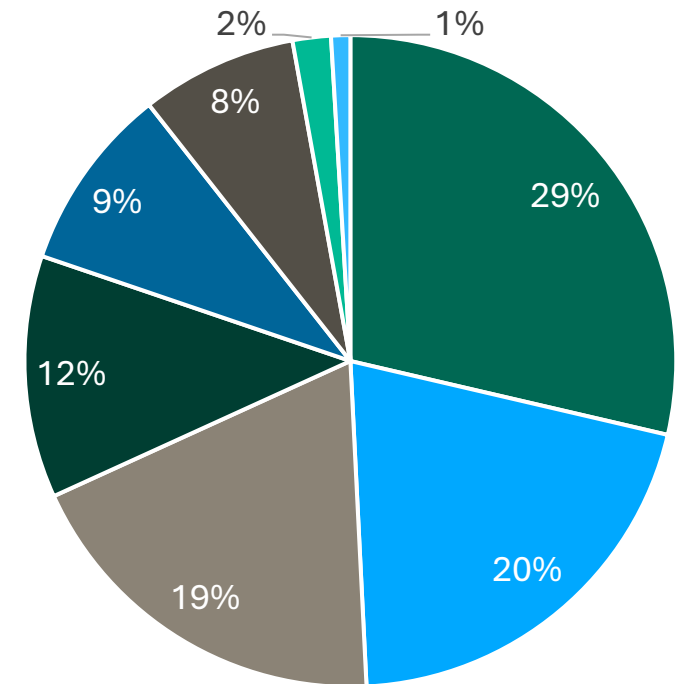
- Facilitate improved social connectivity, including for seniors and people with mobility challenges



MeVa is not only for work or school.

-  Riders use MeVa for many other purposes – including for **errands, shopping, leisure, and to access healthcare.**
-  **MeVa does not see traditional “work commute” peaks.** Trips to various types of destinations occur throughout the day.
-  Two-thirds of people use the bus for **multiple trip purposes.**




Q: What is the primary purpose of the trip that you are currently making or most recently made on the MeVa bus? (choose one) ^[56]



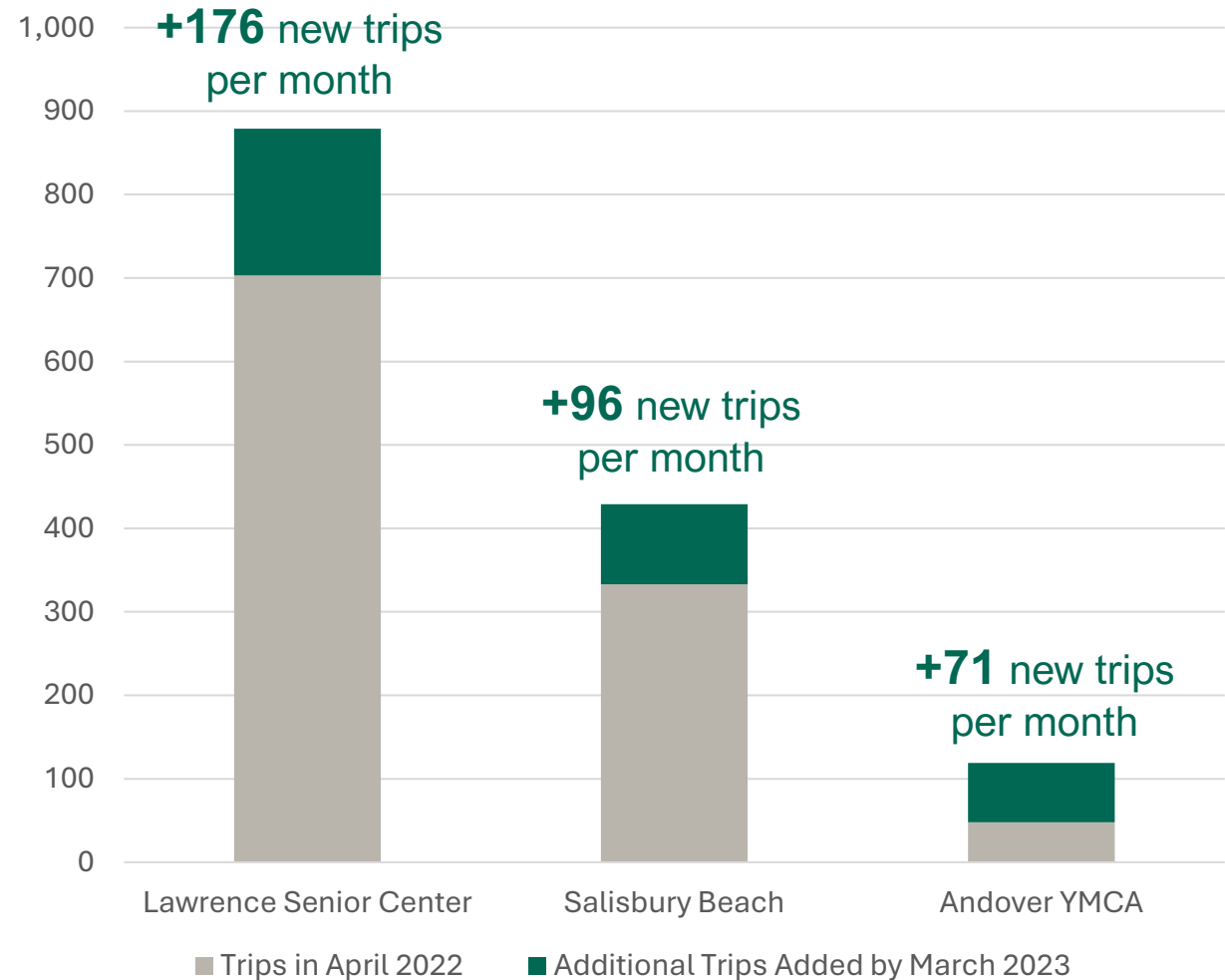
- Work
- Errands (post office, bank, etc.)
- Shopping (groceries, clothing, pharmacy, other retail)
- School
- Leisure travel (entertainment, social, etc.)
- Healthcare (an appointment, etc.)
- Other (Please specify):
- Senior Center



There are new trips on the bus to community destinations.




-  New trips occurring only because the bus is fare-free are more likely to be **for healthcare and leisure** than other destinations.
-  Riders also made more trips to key **social and recreational destinations**, including Lawrence Senior Center (the Center), Salisbury Beach, and the Andover/North Andover YMCA.
-  **Paratransit riders can access community spaces** such as senior centers more frequently, which plays a significant role in their wellbeing.

Ridership at Community Destinations (April 2022 – March 2023) ^[57]

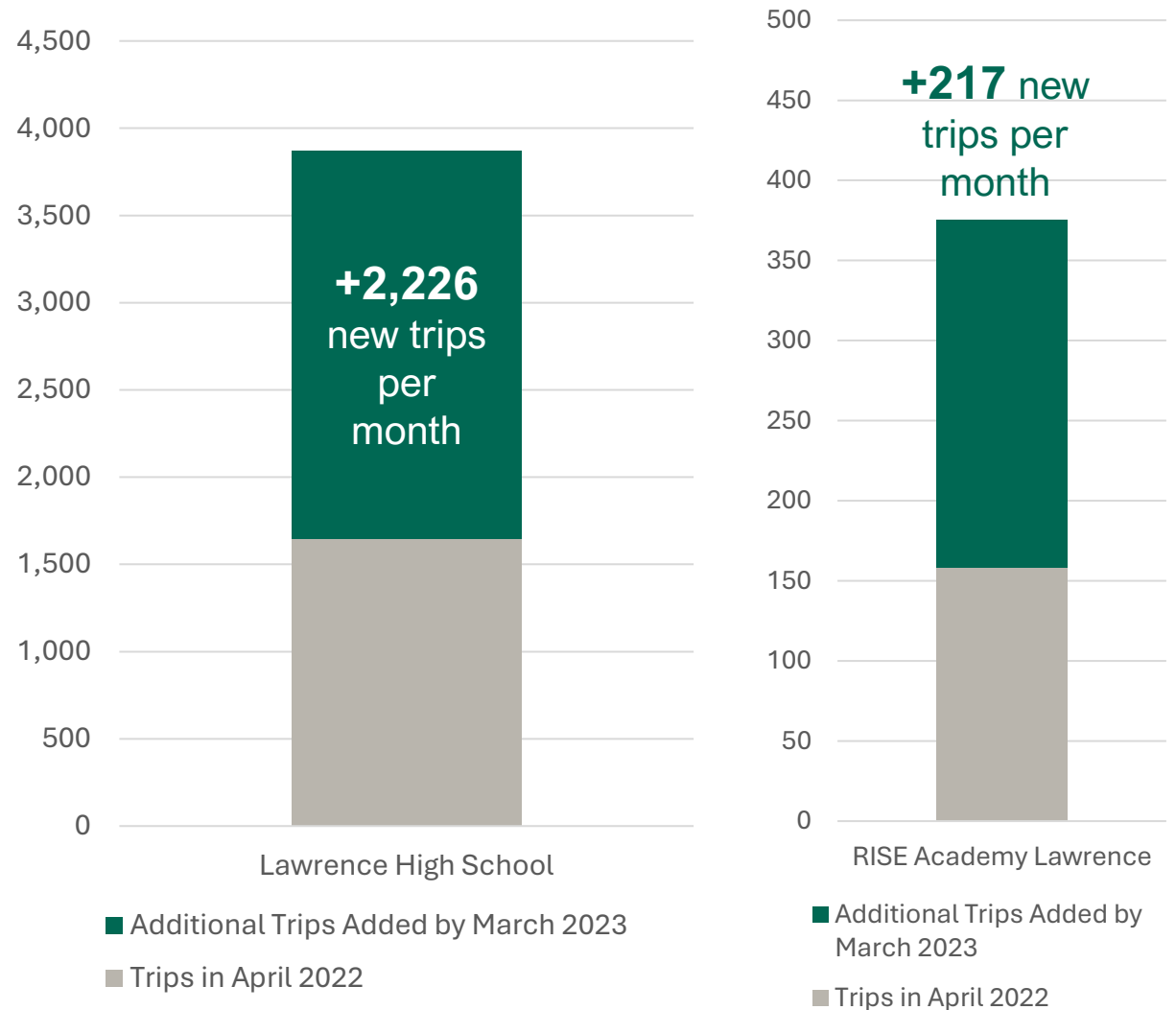




There are new trips on the bus to schools.





-  In the first year of the fare-free program, riders made **thousands of new trips to Lawrence High and RISE Academy**, an alternative public school in Lawrence.
-  **Students also use the bus** to get to afterschool activities and early college programs.
-  Students report the lack of fare **lowers barriers and increases accessibility to new locations beyond school and home.**

Ridership at Schools (April 2022 – March 2023) [58]





The fare-free program has improved access, reducing social isolation.

-  **People are using the bus for more types of trips, improving community and personal wellbeing.**
-  Including community and recreational spaces such as Salisbury Beach, libraries, senior centers, and the gym, **riders are accessing key community spaces via transit more frequently than before the bus was fare-free.** Such anecdotes highlight the importance of having access to affordable transport as a way of avoiding social isolation.
-  A senior Mini MeVa rider with impaired vision mentioned **that they are able to easily meet their friends for a meal because the service is so easy to use.**
-  Another rider shared that **because of the multiple bus route options, they are able to visit family and friends more often.**

“I have people who are now going to the gym because **it is so convenient to get there, and they also don’t have to pay for it.**”

- MeVa Driver ^[59]

“I’m pretty involved spiritually and there’s a place nearby for yoga classes and healing sessions [...] **it keeps me alert, up to date, aware, and always making new friends.**”

- MeVa Bus Rider ^[60]




Environmental Impact



Program Goals



- Contribute to mode shift from vehicles to buses (including from rideshare)
- Reduce GHG emissions and increase energy efficiency
- Make living car-free or car-light more feasible and attractive



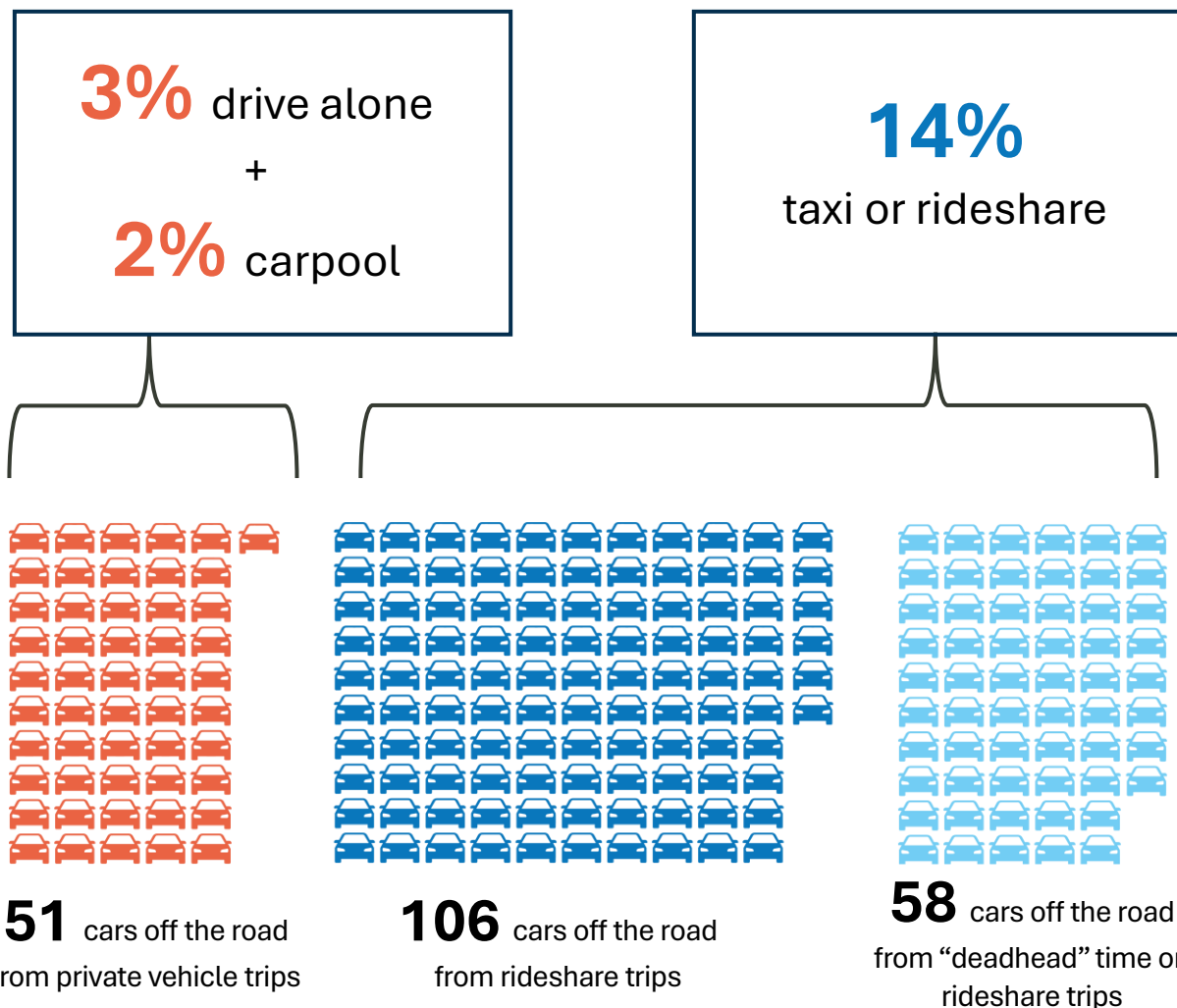
The fare-free program is reducing GHG from driving and rideshare.

 **Nearly 20% of all trips on MeVa buses would have occurred by vehicle** (drive alone, carpool, or rideshare) if not for the fare-free program.

  From June 2023 to May 2024, the fare-free program cut 176 tons of CO2 per year from drive alone and carpool trips, equal to **the emissions of 51 vehicles** in a year. ^[61]

  From June 2023 to May 2024, the fare-free program cut 369 tons of CO2 per year from rideshare trips, equal to the emissions of 106 vehicles in a year. ^[61] Including “deadhead” time – the time between trips when a rideshare driver has no passenger – this number increases to removing **164 vehicles in a year.** ^[62]

Q: How would you have made this trip (or your most recent trip) if the bus were not free? ^[63]





Business Case

Program Goals

- Provide a total bundle of benefits with greater value than the cost of the program



Financial Benefits to the Community

This report estimates the total monetary value of benefits of MeVa's fare-free program, including benefits to the agency and benefits to community.

In 2019, the final full year of fare collection, MeVa collected just over \$1.5 million in fare revenue after adjustment for inflation. **The inflation-adjusted sum of all benefits resulting from the fare-free program total \$2.02 million, well exceeding the revenue lost from not collecting fares.**^[64] A breakdown of benefits and associated values is shown on page 65, with additional detail on methodology located in the appendix. This total does not include additional benefits which could not be readily quantified, which are described on page 66.




MeVa would **incur additional costs to reinstitute fares, including procuring and installing a new system,** as described on page 64.





Financial Benefits: MeVa Operational Dollars

The cost to collect fares for MeVa is multi-faceted and **exceeds \$300,000 per year**. Key components include:

-  When fareboxes broke, **buses came out of service for repairs**.
-  **Staffing the money room is a logistical challenge**. For safety, armored cars cannot pick up on a schedule. When the armored cars arrive, two MeVa staff must adjust their work schedules to access the money room.
-  MeVa also **paid fees and provided significant labor** to support the farebox infrastructure.

All benefits adjusted for inflation and expressed in 2022 dollars.

Category	Benefit Details	Annual Amount	Source
Fare Collection Direct Costs	Insurance cost associated with fareboxes and fare collection system	\$5,000	World Insurance Associates (MeVa estimate)
	Armored car services	\$15,870	MeVa financial records (2017-2019)
	Farebox maintenance and equipment fees	\$77,267	MeVa financial records (2017-2019)
Fare Collection Labor Costs	Labor associated with money room counting and bundling	\$20,155	MeVa staff interview
	Labor associated with maintenance of fare collection equipment	\$50,388	MeVa staff interview
	Labor associated with vaulting buses	\$134,368	MeVa staff interview
	Labor associated with real time troubleshooting of farebox failure	\$10,078	MeVa staff interview
Subtotal – MeVa Fare Collection Costs		\$313,126	



Financial Benefits to the Community

- Quantifiable community benefits associated with the fare-free program exceed **1.7 million dollars**.
- Adding the total value of the program's community benefits to MeVa's savings on fare collection indicates that the fare-free program provides an **overall benefit of over \$2,000,000**.
- These include emissions reductions from people using the bus instead of rideshare or driving.

All benefits adjusted for inflation and expressed in 2022 dollars.

Category	Benefit Details	Annual Amount	Source
Emissions Reduction	Total societal cost of emissions averted	\$204,762	USDOT BCA Guidance (2024)
Noise	Total cost of noise pollution averted	\$3,636	USDOT BCA Guidance (2024)
Pavement Damage	Total cost of pavement damage averted	\$95,683	Victoria Transport Policy Institute (2023)
Congestion Cost	Total cost of congestion averted	\$264,085	USDOT BCA Guidance (2024)
Vehicle Operating Cost	Reduced vehicle operating cost due to mode shift	\$995,103	USDOT BCA Guidance (2024)
Safety	Total cost of crashes averted	\$140,446	USDOT BCA Guidance (2024)
Subtotal – Community Benefits		\$1,703,715	
Subtotal – MeVa Fare Collection Costs		\$313,126	
Total		\$2,016,841	



Additional Benefits to MeVa and The Community

Category	Benefit Details
Access to Medical Care	Given the increase in ridership to medical facilities, the fare-free program has had a positive impact on people seeking treatment as well as preventive care. Individuals who have been impacted by the policy are among those most vulnerable to barriers to healthcare and delayed diagnosis and treatment. Health clinics along MeVa routes overwhelmingly serve people who are 200% or more below the federal poverty line.
Increased Funding Opportunities	Many transit funding sources – including State, Federal, and private philanthropic – allocate funding based primarily on ridership or passenger miles. MeVa is positioned to receive significantly greater funding as a result of ridership growth since the system became fare-free. If fares were reinstated, a ridership decrease would threaten funding.
Social Connectivity	Many new trips generated as a result of the fare-free program are trips to social destinations, including senior centers, community centers, and recreational facilities. fare-free buses enable and encourage community members to access these destinations more frequently. As many MeVa riders are lower-income (39% of riders make under \$25,000 per year), the fare-free program provides access to community destinations for those would not otherwise have the means to attend. This improved access and connectivity reduces social isolation and loneliness.
Access to Employment	Prior to the start of the fare-free program, transportation was identified as a notable barrier to employment opportunities in the Merrimack Valley. Riders are better able to access jobs when the need to pay a fare is eliminated.
Access to Education	Schools in the Merrimack Valley, including Lawrence High School, experience high levels of chronic absenteeism. Significant ridership growth at schools in the region following the start of the fare-free program has correlated with reduced levels of absenteeism and potentially enabled students to attend school more consistently. See page 57 for additional detail.



The (Financial) Cost of Reinstating Fares

- ④ Fare collection has many components beyond just fareboxes, shown in the diagram to the right.
- ④ Previous fare collection equipment procurement by MeVa and other Massachusetts RTAs indicates an inflation-adjusted cost of \$19,000 per validator. For MeVa's 74 buses, **this would amount to cost of over \$1.4 million to purchase new fareboxes.**^[65]
- ④ Other organizations would experience a cost as well. **Service providers reported that if the fare-free program ceased, they would need to resume programs that connected people with reduced fare programs,** a significant financial and administrative undertaking. The fare-free buses have been key in bridging resource gaps for service providers.

Components of a Fare Collection Program ^[66]





Conclusion



Fare-Free Program Key Findings

MeVa's fare-free program has fostered a **multitude of operational, environmental, and social benefits**, accomplishing the majority of its goals.

Together, the monetary value of those benefits **supports a business case for the fare-free program**, as they will exceed the costs of lost fare revenue.

The program has increased ridership, improved riders' and drivers' experiences, and reduced emissions. This assessment's focus groups and surveys allude to additional benefits beyond those described in this report. Detail on additional potential benefits to consider in future study is included in the appendix.

Operational Efficiency
Buses absorbed more riders with limited impact; staff have more time

Ridership
Ridership is higher than ever and continues to grow

Rider Experience
Riders are highly satisfied with service, although concerned about crowding

Driver Experience
Drivers are having a better experience with far fewer conflicts

Health Impact
More people are making more healthcare related trips on the bus

Economic Impact
Riders are saving money, and more riders are visiting more businesses

Transit & The Community
Perceptions of MeVa are positive

Social & Neighborhood Life Impact
More people can access opportunities for leisure and recreation

Environmental Impact
People are opting for the bus, cutting emissions equivalent to taking over 200 cars off the road

Business Case

The quantifiable financial benefits of the fare-free program are over \$2,000,000 annually, exceeding the amount previously collected from fares



Data Gaps and Potential Future Analysis

Fare-free transit has potential linkages to a number of additional impacts beyond those described in this report that may further expand the basket of benefits and solidify the program's business case.

At present, data gaps prevent effective study of these potential impacts. Data surrounding these topics is generally unavailable or is not available at the necessary geographic or temporal specificity to enable analysis in relation to a fare-free bus program.

Future evaluations may consider these topics should the necessary data become available.

Operational Efficiency

Reduction in dwell times and increased bus MPG

Data Needed: Stop-level dwell times, Bus MPG controlled for traffic and other external factors

Driver Experience

Reduced driver turnover and increased staff retention

Data Needed: Turnover rates across a larger sample size

Health Impact

Improved local health outcomes and increased preventive care

Data Needed: Medical facility appointments and attendance, population health data

Economic Impact

Increased business sales and local tax revenue

Data Needed: Sales and tax data by individual business or corridor

Social & Neighborhood Life Impact

Increased school attendance

Data Needed: School attendance data across a larger sample size or specific to transit riders

Environmental Impact

Reduced regional traffic and improved air quality

Data Needed: Air quality and traffic with greater geographic specificity and controlled for external factors

Rider Experience

Reduced crowding

Data Needed: Bus crowding data



Appendix



Methodology

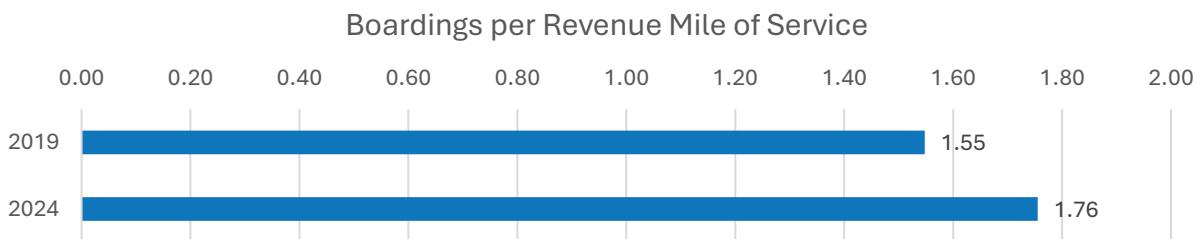


Systemwide Ridership

Methodology

The demographic profile of MeVa riders was developed using the most recent ACS census data available (2023). Findings reflect the demographics of people who answered “public transit” when asked to list their primary commute option and live within the MeVa service communities of North Andover, Amesbury, Andover, Haverhill, Lawrence, Methuen, Newburyport, and Salisbury (total of 3,373 respondents). While some respondents may use the MBTA Commuter Rail, this analysis relies on an assumption that MeVa is the primary transit service in the region and this data primarily reflects MeVa users. Findings related to whether riders have paid a fare, rider retention, and mode shift are based on the project’s online and in-person survey with a total of 663 responses.

Systemwide ridership analysis relied on monthly boardings for all fixed-routes and paratransit from January 2019 to present to include pre-pandemic totals as well as all shifts in ridership before and after the start of the fare-free policy. Systemwide ridership data was available across the entirety of this period, enabling a full analysis across six years. A proportion of the observed increase in ridership is likely due to increased service frequency over the past three years. As a result, this analysis involved normalization of ridership by revenue miles of service on a yearly basis for 2019 and 2024. Results of this analysis are shown below.



Input Data

- Monthly MeVa systemwide boarding totals for all fixed routes, January 2019 – September 2024
- Monthly systemwide MeVa paratransit boardings, January 2019 – September 2024
- MeVa revenue miles of service, 2019 and 2024
- American Community Survey 5-year (2019-2023) estimates



- Rider survey
 - Q: Did you use the bus before it was free?
 - Q: What other transportation options do you have available to you, besides the bus? (select all that apply)
 - Q: How often do you ride the bus? (1 ride is a one-way trip)
 - Q: How would you have made this trip (or your most recent trip) if the bus were not free?





Stop-Level Ridership

Methodology

Stop-level⁺ ridership totals were compiled to support health, economic, and social metric analyses. Ridership at specific stops⁺ adjacent to key destinations became available starting in April 2022, the second month of the fare-free policy.

These analyses compare ridership on a monthly basis in April 2022 to the end of the first year of the fare-free policy in March 2023. This time period was selected due to data availability limitations and as one year serves as an ideal increment for comparison. Ridership data from April 2022 is reasonable to consider as a “pre-program” benchmark as travel patterns shifted gradually as riders became aware of the fare-free program.

The difference in trips between March 2023 and April 2022 is considered the number of “new trips” occurring each month following the start of the fare-free policy.

Ridership figures are supported by findings from focus group outreach.

Input Data

- Monthly MeVa stop-level⁺ boarding totals at key locations, April 2022 and March 2023
- MeVa Bus Rider focus group discussion





Operational Efficiency

Methodology

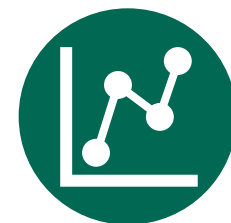
Organizational efficiency takeaways were generated based on interviews with key senior MeVa staff members who were in their roles prior to the start of the fare-free policy. Staff identified the tasks no longer necessary, the staff involved, the number of hours saved, and if relevant, the additional work staff may perform with that time. Staff time was quantified using the general hourly value (\$32.30) for labor published by USDOT in Benefit-Cost Analysis guidance.

Dwell time per passenger was calculated by identifying the total amount of dwell time at all stops[†] which were not timepoint stops (i.e., stops where the bus may stand by to realign with scheduled departure times) and had at least one passenger boarding. Total dwell time was then divided by total ridership at these stops[†] to estimate the average dwell time for a single passenger. This analysis considered dwell times and boardings from November 2021 and May 2024, the full time period for which data was available. Dwell time data as reported may be higher than true dwell times due to data collection limitations, however, relative shifts and trends in dwell times were considered meaningful. On-time performance was evaluated from January 2019 to December 2023 to include pre-pandemic performance as well as all shifts before and after the start of the fare-free policy.

Input Data

- Dwell times at non-timepoint stops † with passenger boardings, November 2021 – May 2024, fixed-routes only
- Total boardings at non-timepoint stops † with passenger boardings, November 2021 – May 2024, fixed-routes only
- On-time performance, January 2019 – September 2024, fixed-routes and paratransit
- USDOT Benefit-Cost Analysis Guidelines (2024)
[67]

- MeVa Bus Driver focus group discussion
- MeVa Bus Rider focus group discussion
- Staff interviews
 - Assistant General Manager of Maintenance
 - Director of Human Resources
 - Lead Road Supervisor





Economic Impact

Methodology

This analysis compared the number of trips per week taken by the average MeVa rider (as determined from the survey results) to the total number of passenger trips over the course of a year to estimate the average amount of money saved by a MeVa rider as a result of the fare-free policy. By dividing these two numbers – after converting the weekly trip total to yearly – an estimate of the total number of unique MeVa riders in a year was generated.

The total fare revenue collected by MeVa in 2019 was then divided by this unique rider total to derive the average amount saved by a rider, \$231. Other potential amounts saved were calculated based on an assumed number of trips per week, and an assumption that those riders would pay the full cash fare of \$1.25 for each trip if they did not purchase a pass.

This analysis used the year 2019 for passenger trips and fare revenue due to the impacts of COVID-19 on ridership and fare collection. MeVa ridership has increased significantly since 2019. However, had fares been collected, fare revenue would have increased alongside ridership. Ridership increases are therefore unlikely to have impacted the results of this analysis.

Input Data

- MeVa systemwide total number of unlinked passenger trips, 2019 CY, National Transit Database ^[68]
- MeVa total fare revenue, 2019 CY, National Transit Database ^[69]



- Rider survey
 - Q: How often do you ride the bus? (1 ride is a one-way trip)



Trips per Week, MeVa Rider Survey (2024)	Percent Of Total
8	47%
6	21%
2.5	21%
0.5	9%
0.1	2%



Crash Analysis

Methodology

This analysis determined the financial benefit of reduced vehicle crashes as a result of the fare-free policy by estimating the number of property damage only, injury, and fatal crashes averted and calculating the associated financial benefit. Vehicle- and bus-involved crashes from the MassDOT IMPACT database within the MeVa service area were totaled across a five-year period from 2019 to 2023 to include pre-pandemic totals, totals before and after the start of the fare-free policy covering all full years for which data was available. The total number of vehicle person trips across that period were determined using Replica trip volumes on a weekly basis, including all trips made in a vehicle as the driver or passenger. Using the total number of crashes and total vehicle person trips, a 'crash per person trip' rate was determined for each crash type. The rider survey indicates that 19% of all trips on MeVa would have occurred by vehicle if the fare-free policy were not in effect. Multiplying this number by the total number of MeVa boardings in 2023, the last full year for which data was available, indicates the number of person trips by vehicle averted. Applying these totals to the 'crash per person trip' rates for each crash type yields the number of crashes averted.

These totals were reduced by a 'crash per person trip' rate for bus travel based on bus-involved crashes and the total number of MeVa boardings in 2023. We note that this approach may be conservative, as bus-related crashes did not necessarily injure people on the bus. The results of this calculation, in total crashes averted, are shown in the table to the right. Crashes averted are negative for fatal crashes due to a fatality which potentially occurred while a pedestrian was walking to a bus stop. These totals were then compared to USDOT assumptions to generate a financial benefit.

Input Data

- Vehicle crashes within the MeVa service area, 2019-2023, MassDOT IMPACT ^[70]
- Total vehicle person trips within MeVa service area, Replica, 2019-2023
- MeVa systemwide total number of unlinked passenger trips, 2023 CY, National Transit Database ^[71]
- USDOT Benefit-Cost Analysis guidelines (2024) ^[72]
- Rider survey
 - Q: How would you have made this trip (or your most recent trip) if the bus were not free?



Crashes Averted (2023)

Crash Type		Crashes Averted
PDO Crash	\$9,100	3.90
Injury Crash	\$313,000	1.53
Fatal Crash	\$14,022,900	-0.03



Environmental Impact

Methodology

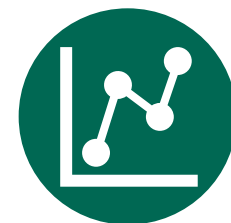
The environmental impact of the fare-free policy was assessed from the perspective of mode shift and the total number of vehicle trips – including drive alone, carpool, and rideshare – averted. This followed the following steps:

1. For each month during the most recent 12-month period for which data was available (June 2023 to May 2024), systemwide average daily boardings were multiplied by the proportion of survey respondents who indicated they would have made their trip by either driving alone (3%), carpool (2%) or rideshare (14%).
2. This number of 'person trips' was then converted to vehicle trips, assuming an average vehicle occupancy of 1.00 for private vehicle trips, 1.67 for rideshare trips, and 2.00 for carpool trips.
3. Vehicle trips were converted to vehicle miles traveled using the average trip length for vehicle trips in the Merrimack Valley. This VMT number was averaged across the twelve months studied and annualized.
4. Carbon dioxide averted was determined using a per mile emissions standard from the EPA. These totals were converted from tons of carbon dioxide to vehicles using EPA assumptions of metric tons of CO₂ emitted per vehicle per year. Rideshare trip lengths include an additional 55% scaling to account for 'deadhead' time when drivers are traveling without a passenger (in between trips).

This analysis does not account for increased emissions from buses due to additional ridership. We note this assumes that there is not a notable amount of additional greenhouse gas emissions on buses that carry more people.

Input Data

- Average daily systemwide MeVa boardings, monthly, June 2023 to May 2024
 - EPA CO₂ per mile and per vehicle emissions standards^[73]
 - Research on rideshare 'deadhead' time as a proportion of total trip length, Transportation Research: Transport and Environment (2019)^[74]
 - Average vehicle occupancy, National Household Travel Survey (2017)^[75]
 - Median vehicle trip length within MeVa service area, average of Spring and Fall 2023 Replica
- Rider survey
 - Q: How would you have made this trip (or your most recent trip) if the bus were not free?





Additional Financial Analysis

Methodology

The conversion of staff time saved into a financial benefit is described in the Operational Efficiency section. Emissions reduction benefits, noise benefits, pavement damage benefits, congestion benefits, and vehicle operating cost benefits are all a function of VMT reduction calculated from mode shift reducing driving and rideshare trips. The process for calculating VMT is described in the Environmental Impact section. Vehicle miles traveled averted are then quantified in financial terms using USDOT Benefit-Cost Analysis guidance.

Input Data

- USDOT Benefit-Cost Analysis guidelines (2024)
[76]



Program Financial Benefits and Source

Category	Benefit Details	Yearly Amount	Source
Fare Collection Direct Costs	Insurance cost associated with fareboxes and fare collection system	\$5,000	World Insurance Associates MeVa estimate
	Armored car services	\$15,870	MeVa financial records (2017-2019)
	Farebox maintenance and equipment fees	\$77,267	MeVa financial records (2017-2019)
Fare Collection Labor Costs	Labor associated with money room counting and bundling	\$20,155	MeVa staff interview (Jaymi Swarbrick)
	Labor associated with maintenance of fare collection equipment	\$50,388	MeVa staff interview (Dan Flaherty)
	Labor associated with vaulting buses	\$134,368	MeVa staff interview (Dan Flaherty)
	Labor associated with real time troubleshooting of farebox failure	\$10,078	MeVa staff interview (Lionel Metet)
Emissions Reduction	Total societal cost of emissions averted	\$204,762	See Environmental Impact analysis
Noise	Total cost of noise pollution averted	\$3,636	See Environmental Impact analysis
Pavement Damage	Total cost of pavement damage averted	\$95,683	See Environmental Impact analysis
Congestion Cost	Total cost of congestion averted	\$264,085	See Environmental Impact analysis
Vehicle Operating Cost	Reduced vehicle operating cost due to mode shift	\$995,103	See Environmental Impact analysis
Safety	Total cost of crashes averted	\$140,446	See Crash Analysis



Considered but Inconclusive Metrics

Fare-free transit has been linked to many additional potential impacts, from efficiencies within the transit agency to broader social and economic benefits. As the study team developed this report, several additional metrics of interest were identified. After investigation, several metrics were dismissed due to a lack of robust data or inconclusive analysis results. These methodologies are included here as future studies may find this information useful or may possess the data necessary to more fully pursue these analyses. These include:

- Retail Spending
- School Attendance
- Bus Driver Turnover
- Regional Traffic Trends
- Bus MPG



Retail Spending

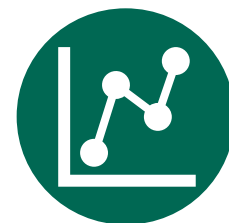
Considered but Inconclusive

Analysis of stop-level[†] ridership trends indicated that ridership outside key retail destinations had grown considerably. The goal of this analysis was to further investigate this apparent trend to identify whether increased trips to these locations impacted in-person retail spending in the Merrimack Valley, including whether a statistically-significant increase in retail spending had occurred following the start of the fare-free policy in March 2022. To evaluate this, this analysis produced a linear mixed-effects statistical model to compare changes in retail spending over time within the MeVa service area to non-fare-free municipalities including Montachusett Regional Transit Authority and Greater Attleboro Taunton Regional Transit Authority. These two transit agencies were selected as comparison groups due to their service areas sharing general similarities with the MeVa service area. This model controlled for changes to income and population as well as typical seasonal shifts.

Findings indicated no statistically-significant increase in retail spending throughout the entirety of the Merrimack Valley. Many additional factors may have a larger effect on regional spending patterns and obscure the impact of fare-free bus policy.

Input Data

- In-person retail spending data within MeVa, Montachusett RTA, and GATRA service area municipalities, January 2019 – August 2024, Replica
- American Community Survey 5-year (2018-2022) median household income estimates
- Population by municipality, 2019 – 2022, Massachusetts Department of Revenue ^[77]





School Attendance

Considered but Inconclusive

Analysis of stop-level [†] ridership also indicated a notable increase in the number of boardings adjacent to schools, including Lawrence High School, following the start of the fare-free policy. To determine whether this ridership increase translated into a statistically-significant increase in school attendance, a difference-in-difference statistical model was created to evaluate changes to chronic absenteeism (students absent 10%+ of school days) over time at schools 1) within walking distance (¼ mile) of a MeVa bus stop and 2) not within walking distance of a MeVa bus stop. In total, 31 public middle and high schools were considered. This analysis controlled for any changes to childhood poverty rate.

Comparing 2021 (pre-fare-free) to 2023 (post-fare-free), no statistically-significant change to chronic absenteeism was observed at schools within walking distance of MeVa stops [†]. As with retail spend, many additional factors may have a larger effect on school attendance and obscure the impact of fare-free bus policy. However, MeVa's fare-free program has been a key component of maintaining school attendance following the effects of COVID-19.

Input Data

- Chronic absenteeism rates at MeVa service area schools, 2021 and 2023, Massachusetts Department of Elementary and Secondary Education ^[78]
- American Community Survey child poverty rate estimates 2021 and 2022





Bus Driver Turnover

Considered but Inconclusive

In interviews and focus group discussions, many MeVa bus drivers and administrative staff indicated support for the fare-free policy and indicated ways in which the policy improves their day-to-day work.

To explore whether the fare-free policy may have an impact on staff turnover at MeVa (i.e. fewer drivers and administrative staff leaving MeVa due to fare collection-related issues), this analysis considered staff termination data from 2020 to present.

Analysis was limited to voluntary terminations which were unrelated to promotions, medical issues, or personal reasons not related to work. Excluding 2020 due to the impacts of the COVID-19 pandemic, voluntary staff turnover has remained low and relatively consistent (4 or fewer departures per year). This accounts for 1-3% of all MeVa staff.

While turnover has decreased by only a small number of staff since the start of the fare-free policy, the number of voluntary terminations was already very low. Voluntary terminations in 2023 and 2024 were fewer than prior to the start of the fare-free program, even as the number of total MeVa staff increased.

Input Data

- MeVa staff count and terminations, 2020 - 2024



Voluntary Terminations, not including maintenance/service staff, promotions, medical reasons, or other personal reasons not related to work

Year	Total Non-Maintenance/Service Staff	Voluntary Terminations	
2020	121	9	7% of all staff
2021	119	4	3%
2022	125	4	3%
2023	144	1	1%
2024	156	3	2%



Additional Analyses and Data Sources

Considered but Inconclusive

Additional metrics considered included:

- Regional Traffic Trends

Regional traffic volumes within the MeVa service area were considered to determine whether a notable shift had occurred following the start of the fare-free policy. Replica vehicle trip volumes indicated no notable change from Fall 2021 to Fall 2023. Given the data available, it is difficult to isolate the impact of the fare-free program. However, mode shift and associated vehicle miles traveled reductions are assessed elsewhere in this report using data from the rider survey.

- Bus MPG

MeVa bus MPG was also considered given the impacts to dwell time identified in the Operational Efficiency section. However, no notable change to bus MPG was observed.

Potential additional data sources such as Replica transit trip volumes (and associated trip characteristics) as well as Streetlight volumes were considered but unavailable due to concerns regarding data validity or gaps in data availability. Data on MeVa bus crowding was not available.

Input Data

- MeVa systemwide yearly average MPG, 2017 – 2024
- Vehicle trips within MeVa service area municipalities, Fall 2021 – Fall 2023, Replica



Unused Data Sources

- Transit trips (volumes, locations, trip taker characteristics), Replica
- Streetlight vehicle and transit trip volumes





References (1 of 3)

ID	Citation/Notes
†	Stops refer to everywhere passengers are picked up and dropped off, including flag and designated stops
1	Based on (95% confidence interval / 5% margin of error / ~10,000 daily riders. MeVa Fare-Free Rider Survey – June 2024. N = 663
2	American Community Survey 2019 -2023, 5-Year Estimates. Universe: Workers who Speak Spanish at Home and Speak English “very well”
3	
4	American Community Survey 2019 -2023, 5-Year Estimates. Universe: Workers 16 years and Over who Primarily Use Public Transit to Commute (North Andover, Amesbury, Andover, Haverhill, Lawrence, Methuen,
5	Newburyport, Salisbury).
6	
7	
8	American Community Survey 2019 -2023, 5-Year Estimates. Universe: Workers 16 years and Over who Primarily Use Public Transit to Commute. N = 3373
9	
10	MeVa Fare-Free Rider Survey – June 2024. N = 647
11	MeVa Fixed Route Systemwide Ridership Totals January 2019 – September 2024; MeVa Revenue Miles of Service, yearly, 2019 and 2024; Pre-Pandemic calculation compares Spring 2019 to Spring 2024.
12	MeVa Paratransit Ridership Totals January 2019 – December 2023; Pre-Pandemic calculation compares Fall 2022 to Fall 2023.
13	MeVa Fare-Free Rider Survey – June 2024. N = 653
14	MeVa Fare-Free Rider Survey – June 2024. N = 656
15	MeVa Fare-Free Rider Survey – June 2024. N = 632
16	MeVa staff interviews with Assistant GM of Maintenance Dan Flaherty, Director of Human Resources Jaymi Swarbrick, and road supervisor Lionel Metet
17	GMV MeVa/MVRTA Bus Dwell Time and Stop-Level [†] Ridership Nov 2021 – May 2024. Includes only non-timepoint stops and stops with passenger boardings; Dwell time per person calculated by dividing total dwell time by boardings at selected stops
18	MeVa Fixed Route Systemwide Ridership Totals January 2019 – September 2024
19	MeVa Fixed Route Systemwide Ridership Totals January 2019 – September 2024
20	Demographic Breakdown of Transit Rider Satisfaction, Transportation Research Record: Journal of the Transportation Research Board (2024)
21	Rider Focus Group, Summer 2024
22	MeVa Fare-Free Rider Survey – June 2024. N = 655
23	Rider Focus Group, Summer 2024
24	MeVa Fare-Free Rider Survey – June 2024. N = 655
25	
26	Rider Focus Group, Summer 2024
27	Rider Focus Group, Summer 2024. MeVa Fixed Route Systemwide Ridership Totals January 2019 – September 2024
28	MeVa Fixed Route Systemwide Ridership Totals January 2019 – September 2024
29	Driver Focus Group, Summer 2024
30	Rider Focus Group, Summer 2024
31	
32	Driver Focus Group, Summer 2024



References (2 of 3)

ID	Citation/Notes
33	Rider Focus Group, Summer 2024
34	Rider Focus Group, Summer 2024
35	Driver Focus Group, Summer 2024
36	Community Health Needs Assessment, 2022, Greater Lowell Health Alliance
37	MeVa Fixed Route Ridership by Stop [†] . April 2022 – March 2023
38	MeVa Fare-Free Rider Survey – June 2024. N = 49
38	MassDOT IMPACT Crash Data, 2019-2023, Crashes within MeVa Service Area (excludes Lowell)
40	Merrimack Valley Regional Transit Authority Monthly Reports (FY 2019), MeVa fare structure prior to fare-free program– 1,841,509 total trips (not including transfers), \$1,463,829.39 total fare revenue; 5.59 trips per rider per week derived from MeVa Rider Survey 2024
41	Rider Focus Group, Summer 2024
42	MeVa Fare-Free Rider Survey – June 2024. N = 652
43	See Appendix Page for Retail Spending Findings.
44	Driver Focus Group, Summer 2024
45	Rider Focus Group, Summer 2024
46	Workforce Survey Results of Merrimack Valley Employers, MVPC
47	Merrimack Valley Regional Transit Authority Monthly Reports (FY 2019) \$1,463,829.39 total fare revenue; MARC Kansas City Zero Fare Impact Analysis
48	MeVa Fixed Route Ridership by Stop [†] . April 2022 – March 2023
49	Service Provider Focus Group, Summer 2024
50	Rider Focus Group, Summer 2024
51	
52	Service Provider Focus Group, Summer 2024
53	
54	Rider Focus Group, Summer 2024
55	Rider Focus Group, Summer 2024
56	MeVa Fare-Free Rider Survey – June 2024. N = 613
57	MeVa Fixed Route Ridership by Stop [†] . April 2022 – March 2023; Paratransit Rider Interviews
58	MeVa Fixed Route Ridership by Stop [†] April 2022 – March 2023; Lawrence High School Post Grad Student Video
59	Driver Focus Group, Summer 2024
60	Rider Focus Group, Summer 2024
61	Calculation relies on EPA Emissions standards and an MeVa service area-specific average vehicle trip length assumption from Replica (4.4 mi), Carpool vehicle occupancy estimated at 2 persons per vehicle.
62	Research indicates that rideshare drivers travel an additional distance equal to 55% of the actual ride trip length while in between trips. Travel and energy implications of ridesourcing service, Transportation Research Part D: Transport and Environment (2019)
63	MeVa Fare-Free Rider Survey – June 2024. N = 632
64	MeVa total fare revenue, 2019 CY, National Transit Database
65	Joint Farebox Procurement, Massachusetts Regional Transit Authorities, 2012
66	Total Cost of Ownership Analysis, May 2022, Consult Hyperion



References (3 of 3)

ID	Citation/Notes
67	Benefit-Cost Analysis Guidance for Discretionary Grant Programs US Department of Transportation
68	https://www.transit.dot.gov/ntd/transit-agency-profiles/merrimack-valley-regional-transit-authority
69	https://www.transit.dot.gov/ntd/transit-agency-profiles/merrimack-valley-regional-transit-authority
70	https://apps.impact.dot.state.ma.us/cdv/
71	https://www.transit.dot.gov/ntd/transit-agency-profiles/merrimack-valley-regional-transit-authority
72	https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-guidance
73	https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle
74	https://www.sciencedirect.com/science/article/abs/pii/S1361920918309878?via%3Dihub
75	2017_nhts_summary_travel_trends.pdf
76	https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-guidance
77	https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=Socioeconomic.Population.population_main
78	https://profiles.doe.mass.edu/statereport/attendance.aspx

Memorandum

TO: Noah Berger, Administrator, Merrimack Valley Transit (MeVa).

CC: Liza Cohen, Principal, Stantec

FROM: Patrick Reed, Transportation Program Manager, Merrimack Valley Planning Commission (MVPC)

DATE: January 13, 2025

SUBJECT: Fare Free Evaluation Focus Groups – Methodology Documentation

BACKGROUND/CONTEXT: In the spring of 2024, MVPC engaged consultant firm Stantec for the purpose of evaluating Merrimack Valley Transit's (MeVa) fare free policy. The intent of the evaluation includes the consideration of both quantitative and qualitative metrics as well as the development of a business case for the policy. Stantec subcontracted with Rivera Consulting to execute focus groups and interviews related to the policy. This memo details Rivera's methodological approach to qualitative data collection for the purposes of documentation.

DISCUSSION: Rivera Consulting developed the methodological approach discussed herein for Stantec and MVPC's approval. Following approval, Rivera facilitated data collection.

Central Research Question

Rivera employed the following central research question to guide focus group/interview planning and preparation: *"How effectively does the fare-free bus program enhance the region's environmental, economic, operational, and quality-of-life goals for its residents and the overall transportation system?"*

Research Approach

Initially, Rivera proposed three focus groups with 6-7 members per group. Rivera proposed that the three groups should be separated to optimize conversations. The first group included riders, the second group included drivers, and the third group included service providers. Rivera intended to include paratransit riders as a separate group; however, based on needs physical identified during the recruitment process, Rivera adjusted its process to instead hold one-on-one phone interviews to better accommodate this population.

Recruitment

Rivera recruited riders using Stantec's on-bus and online quantitative surveys, contacting riders who provided their email information for recruitment. Beyond the survey, Rivera also contacted Spanish-speaking riders

who were referred by other riders. MeVa assisted Rivera regarding recruitment of paratransit riders and drivers by providing contact lists of potential candidates. For the eservice provider focus group, Rivera developed a topical list of service provider types (e.g. healthcare, education, etc.). Merrimack Valley Planning Commission (MVPC) and MeVa staff coordinated to provide options to Rivera to contact for recruitment.

The rider group (including paratransit one-on-ones) ultimately included 20 riders, including five Spanish-only speakers and two paratransit riders. It is important to note that Rivera did not differentiate bilingual riders from English-only riders, and that a significant portion of MeVa's ridership is bilingual. As such, it is likely the case the some number of the 15 riders spoke more than one language; however, the research team did not document this. 20 percent of the recruited riders were between the age of 16 and 20. 15 percent identified as age 65 or older. In terms of education, 80 percent of the recruited riders identified as having less than a bachelors degree. 35 percent self-identified as Hispanic/Latino/Latinx, and 20 percent identified as African American or Black.

The service provider group included two healthcare workers, one education provider, one representative from an economic development organization, and two senior support/service providers.

Facilitation

Rivera facilitated focus groups and interviews, using three separate facilitation guides. Facilitators encouraged open-ended conversations to ensure collected data reflected the perspectives of participants. Staff from Rivera transcribed participant interactions. Attachment A

Following the focus groups and interviews, Rivera mapped the qualitative data using an asset-mapping coding approach. Rivera developed qualitative codes based on a review of the transcripts' common subjects. Rivera then assigned coded data to one of five broad topics: Rider Experience and Interaction, Benefits and Use Cases, Operations, Rider Safety, and Overall Impact. Rivera also designated each coded data item as an asset, barrier, or recommendation.

CONCLUSION: Qualitative research clarifies, highlights, contextualizes, supports, and occasionally raises questions about the findings of quantitative research. Rivera's focus groups and interviews accomplish these ends. MVPC understands that Stantec will use Rivera's qualitative data to contextualize findings in its fare free evaluation and business case. In particular, focus group and interview findings will help extend the reach of quantitative findings by answering questions that are challenging to address in a brief quantitative survey (e.g. How have rider-driver interactions changed since the policy was introduced? How have drivers' experiences changed since the policy was introduced?). Additionally, MVPC believes that direct rider, driver, and service provider quotes will help improve the interest and readability of the final report. MVPC shared MeVa's interest in Stantec's findings, and looks forward to review of the final report.

Attachment:

Attachment A. Rivera Consulting Facilitation Guides

Attachment A. Rivera Consulting Facilitation Guides

MEVA Fare-Free Bus Program Bus Drivers Focus Group Facilitation Guide Rivera Consulting | May 2024

Research Purpose:

This research seeks to evaluate the impact of the Merrimack Valley’s fare-free bus program on the region’s **environmental, economic, operational, and quality-of-life goals**. Per the project’s [Request for Proposal](#), the primary goals of this evaluation are to 1) inform the future service provided by the fare-free program and 2) justify potential future operational funding support requests. The core metrics that drive focus group facilitation include an assessment of driver satisfaction, rider experience, mode shift, and accessibility to the provision of key community services. Additionally, this research will be key in highlighting narratives and user stories that will continue to shape the program design and service delivery going forward.

Research Question:

The central question this research seeks to answer is “How effectively did the fare-free bus program enhance the region’s environmental, economic, operational, and quality-of-life goals for its residents and the overall transportation system?”

Research Approach:

A focus group is a semi-structured conversation in which a group of participants express views about a topic. Focus groups are facilitated by one or more moderators/facilitators, but a key element of their value is that participants have the opportunity to guide the conversation. Facilitating participant-driven conversations makes focus groups a vital tool for understanding emerging themes in participant responses.

Rather than seeking to extract specific pieces of information from each participant, evaluative focus groups seek to prompt open discussions between participants that yield insights into our core metrics. Each proposed prompt aligns with one or more of the evaluation topics outlined in this framework. It is important to note that these prompts are **not a script** for focus groups. Rather, they are intended to kick-start a conversation between participants and to let that conversation evolve organically.

Since the Focus Groups with drivers are intended to be in person, the prompts below are made interactive, and facilitators are encouraged to create space for activities. In addition to understanding key outcomes such as ridership patterns, rider safety, etc., the discussion will also explore the program's impact on driver well-being.

Focus Groups With Bus Drivers

Recruitment Approach:

Rivera Consulting will work closely with the MEVA's driver-facing team to engage drivers and secure an appropriate time and venue that aligns with existing schedules. Drivers in the group will need to have a range of tenure with MEVA, with a majority of them having been on the job before March 2022, when the Fare Free Program was put in place. The inclusion of newer operators is encouraged but should be a minority. A small number of the participants will also be paratransit drivers serving priority resident groups and driving vans. The size of the focus group will be 7-8 drivers.

Recording and Privacy:

Rivera Consulting facilitators will ask the drivers for consent at the start of the session to record the discussion. All responses will remain anonymous, and the recording will be solely for qualitative research analysis and documentation by the Rivera Consulting team.

Focus Group Introduction Script:

Thank you all for being here today. We're going to be talking for about 90 minutes today about the bus lines in the Merrimack Valley that have recently become fare-free. Basically, we're going to ask a few questions about what you think about the bus and what your experience operating it has been like. We want this conversation to be as open as possible, so feel free to say whatever the question brings to mind for you, even if it's not directly in response, and feel free to respond to what other people are saying, whether you agree or disagree.

Focus Group Questions for Bus & Paratransit Drivers

Part 1: Ridership Experience & Interaction (30 mins)

In this section, we want to understand the current state of ridership in the Merrimack Valley. We specifically want to understand how ridership has changed since the implementation of the fare-free bus program and how that has influenced drivers' interactions with riders.

The materials needed for this section are a large 24X36 printout of the Merrimack Valley map, pencils, post-its, and stickers.

For facilitator: On the following questions, we are going to ask drivers to identify the characteristics of each line in relation to their comfort level. We are going to prompt them to identify the routes in which they feel more comfortable driving in, areas that they don't like driving in, and areas in which they don't feel safe before and after the implementation of the fare-free bus program. Present them with the map of the area and provide them with [stickers](#), post-its, and pencils to write on it. Access the map [here](#).

1. Can you give us an overall view of how ridership has changed since the fare-free program was implemented in early 2022? *Facilitators to provide some time-based prompts to gauge memory*
 - a. Prompt for facilitators:
 - i. Increase/decrease in Crowdedness - ***please mark on the map the routes you think are more crowded after the implementation of the program***
 - ii. Types of riders who are using the bus the most (seniors, service workers, students, etc.) - ***please mark on the map the routes/ areas where you notice a high demand for your services by seniors or people with disabilities***
 - iii. Friction between/ with riders
 - iv. Road accidents - ***Please mark on the map areas that you think are more accident prone***
2. Reflecting on your responses above, how would you say your interactions with riders have changed after the implementation of the program?
 - a. What are some challenges in your interaction with riders and what are some ways in which interactions have improved since the program implementation?
3. How have your interactions with non-destination riders changed since the implementation of the program? (By non-destination drivers, we refer to typically unhoused individuals who often use public transit as temporary shelter.)

Part 2: Operations (20 mins)

In this section, we want to understand the day-to-day operations of the Merrimack's Valley Bus Transit System and understand how the implementation of the fare-free bus program impacted management and operations.

1. Tell us about how the implementation of the program has changed the operating procedures for you during a trip? Eg: Changes to how people board the bus, changes to stops and frequency of stops etc.
2. How do you think the reliability, frequency and predictability of service has changed since the implementation of the program?

3. What factors usually cause delays or changes in the frequency of buses? How much do these factors impact service after the implementation of the program?

Part 3: Benefits & Use Cases (15 mins)

In this section, we want to understand the various benefits that drivers have experienced since the implementation of the fare-free bus program and better grasp how bus uses have changed since then. The focus in this interview will be to gather driver's observations about felt benefits and payoffs for people using the fare free program however it will be explored and articulated in more detail during the rider focus groups.

1. What are some changes you have noticed about how people ride the bus?
 - a. Prompt for facilitators:
 - i. Longer and/or shorter rides
 - ii. New popular stops
 - iii. Types of riders they are seeing more of
 - iv. Changes in increase/decrease travel times for riders
2. Tell us about a time when you thought your service and the implementation of the fare free program were really able to make an impact in people's lives?
3. How has the implementation of the program changed your day to day satisfaction with your job?

Part 4: Rider Safety (15 mins)

In this section, we want to highlight conditions created by fare-free that improve driver well-being at their job.

1. How has traffic movement changed since the implementation of the fare-free program?
 - a. Prompt for facilitator:
 - i. Less traffic, more safety? Mode shift because of the program?
2. What were some of the things you learned during training to ensure rider safety?
 - a. How (if at all) has the implementation of the fare free program helped you in practicing this learning?

Part 5: Overall Impact (10 mins)

In this section we are going to gather any final thoughts or insight before we conclude the session.

1. If you could choose between working on two similar routes in which one is fare-free and one is not, which would you choose? Why?
2. Is there anything else you'd like to say that we haven't talked about yet?

**MEVA Fare Free Bus Program
Rider Focus Group Guide
Rivera Consulting | June 2024**

Research Purpose:

This research seeks to evaluate the impact of Merrimack Valley Transit (MeVa)'s fare-free bus program on the region's **environmental, economic, operational, and quality-of-life goals**. Per the project's [Request for Proposal](#), the primary goals of this evaluation are to 1) inform the future service provided by the fare-free program and 2) justify potential future operational funding support requests. The rider focus groups will unpack rider experience, understand trip purpose, comfort, and ease of use. At the same time, the conversations will give insight on aspects of rider safety, connectivity to essential and non-essential services, and economic benefits from free public transport. Additionally, this research will be key in highlighting narratives and user stories that will continue to shape the program design and service delivery going forward.

Research Question:

The central question this research seeks to answer is “How effectively did the fare-free bus program enhance the region’s environmental, economic, operational, and quality-of-life goals for its riders and the overall transportation system?”

Research Approach:

A focus group is a semi-structured conversation in which a group of participants express views about a topic. Focus groups are facilitated by one or more moderators/facilitators, but a key element of their value is that participants have the opportunity to guide the conversation. Facilitating participant-driven conversations makes focus groups a vital tool for understanding emerging themes in participant responses.

Rather than seeking to extract specific pieces of information from each participant, generative focus groups seek to prompt open discussions between participants that yield insights into our core metrics. Each proposed prompt aligns with one or more of the evaluation topics outlined in this framework. It is important to note that these prompts are **not a script** for focus groups. Rather, they are intended to kick-start a conversation between participants and to let that conversation evolve organically.

Focus Groups With Riders

Recruitment Approach:

There will be three rider focus groups of 60 minutes each. Two of three sessions will focus on the city hubs of Lawrence and Haverhill while one will be a miscellaneous with people across cities and towns. The universe of participants will be developed based on the quantitative survey responses collected as part of this project. As part of that survey dissemination, points of contact have been collected amongst survey participants for further focus group participation.

The goal with each focus group will be to have a diverse mix of participants across gender and age spectrum, as well as priority resident groups such as seniors and people with disabilities. Preference will be given to an in-person focus group with the intent of maximizing interaction. However, schedule constraints amongst participants will likely mean that focus group execution will be conducted virtually.

Recording and Privacy:

Rivera Consulting facilitators will ask participants for consent at the start of the session to record the discussion. All responses will remain anonymous, and the recording will be solely for qualitative research analysis and documentation by the Rivera Consulting team. If we plan to use specific quotes in reports or other public-facing materials, we will seek specific consent from the quoted participant.

Focus Group Introduction Script:

Thank you all for being here today. We're going to be talking for about 60 minutes today about your experiences with the free public bus service you now have access to. We're going to ask a few questions about what you think about the bus and what your experience riding it has been like. We want this conversation to be as open as possible, so feel free to say whatever the question brings to mind for you, even if it's not directly in response, and feel free to respond to what other people are saying, whether you agree or disagree.

Focus Group Questions for Riders

Part 1: Ridership Experience and Interaction (15 mins)

We want to start by unpacking some of your experiences while using the free bus service. What is the experience of getting in and out of the bus, what are the kind of interactions you have when riding the bus and more.

1. When and how did you learn that the bus service is free?
2. If you were to score your experience of riding the bus out of 10, how would you rate it and why?
3. What are your interactions with drivers and other riders in the bus now that the service is free? How is it different from when you paid for the bus? (More pleasant/ less pleasant)
 - We have heard in other focus groups that there are fewer conflicts on bus rides, what would you say to that? Is there a change in how you experience this during your rides now that the bus is free?

Part 2: Operations (10 mins)

In this section, we want to understand your view on how the bus actually runs. Think about topics such as speed, reliability, boarding, the frequency of stops, etc.

1. What is the route you use most often? If you were to score the route based on reliability what score would you give it on a scale of 1 to 10 and why?
2. At what time of the day would you usually use the bus and how crowded does it get?
 - a. What are some locations that you think are very popular, - A lot of people get on and off the bus?... why?
 - b. How easy or difficult is it to board the bus? Has this experience changed since the implementation of the fare-free program?

Part 3: Benefits and Use Cases (15 mins)

We want to learn about the benefits you associate with having free public transport infrastructure. We specifically want to hear about why you use the bus, how your purpose for using the bus has changed since it became free, your experience while riding the bus, and more.

1. What would you say are some changes in your everyday routine since you started since the bus became free?

Prompts for facilitators:

- a. Reducing dependence on driving
- b. Reduce taxi/ uber rides
- c. Being driven by family or friend
- d. Less walking
- e. Meeting/ talking to people on the bus
- f. Taking new trips/ making existing trip more easy
2. What are some reasons why you use the bus? Are there places that you visit more often now that the bus is free?
 - a. Office/ Work/ School (**facilitator to focus more on this option**)

- b. Accessing healthcare and other essential services
 - c. Visiting community hubs- eg. libraries, community centers, senior centers etc.
3. In what ways (if any) has the free bus service helped you save money?... And what have you used that money for instead?

After initial answers, prompts for facilitators:

- a. Groceries
 - b. Leisure activities
 - c. Education/ Skill development opportunities
4. Five years from now, how would you like to see the free bus service evolve?
- a. More routes to new locations
 - b. Tech-based solutions such as arrival boards/ timing monitors
 - c. Bus stop locations and designs

Part 4: Congestion and Safety (10 mins)

Next we would love to hear from you about your views on safety on the bus as well as road safety and how it impacts your experience.

1. What do you think MeVa can do to make you feel safer during the rides? ***Feel free to send us a response as a DM if you are not comfortable speaking in the group***
2. On your usual route are there specific parts of your journey where you experience delay because of traffic and congestion on the road? Where do you see this?

Part 5: Overall Impact (10mins)

As we wrap up, we want to give you a minute for any final questions or thoughts you have about our discussion today.

1. Apart from the bus being free, what are some other reasons for you to keep using the bus?
2. If a new reduced fare option replaces the free bus program, based on income or other factors, what would be your opinion on that?
3. Fill in the blank: Public transportation should/ should not be free because _____
4. Is there anything else you'd like to say that we haven't talked about yet? sounds good

Facilitation Approach:

- After reading the introductory script, pose the first question and then let the conversation flow freely and organically until it loses momentum, or until people start making the same points

repeatedly. Then introduce follow-ups as appropriate to guide the conversation, or move on to the next question set.

- After the first few question sets, use active listening tools to encourage quieter participants to contribute to the conversation (e.g. “what do you think about that, ___” or “How does that relate to the experience that you shared of ____?”)
- Remember that not every focus group needs to touch on every prompt—the prompts are there to start an open conversation about the focus topic

Analysis Approach:

- After each focus group, final transcripts will be produced by Rivera’s AI transcription service, developing an index of respondents and properly attributing each response
- Rivera Consulting will analyze responses in Dedoose using two rounds of qualitative coding. In the first round, RC will conduct a descriptive code noting each topic and theme discussed in the focus group. In the second round after all focus groups are complete, RC will conduct a second round of analytic coding to categorize topics and themes into assets, barriers, and recommendations for the fare-free bus program in each of the four core evaluation areas
- Rivera Consulting will develop a memo detailing assets, barriers, and recommendations for each of these four core evaluation areas based on this analysis

**MEVA Fare Free Bus Program
1:1 Interview Guide
Rivera Consulting | Aug 2024**

Research Purpose:

This research seeks to evaluate the impact of Merrimack Valley Transit (MeVa)’s fare-free bus program on the region’s environmental, economic, operational, and quality-of-life goals. Per the project’s Request for Proposal, the primary goals of this evaluation are to 1) inform the future service provided by the fare-free program and 2) justify potential future operational funding support requests. The rider interviews will unpack rider experience, understand trip purpose, comfort, and ease of use. At the same time, the conversations will give insight into aspects of rider safety, connectivity to essential and non-essential services, and economic benefits from free public transport. Additionally, this research will be key in highlighting narratives and user stories that will continue to shape the program design and service delivery going forward.

Research Question:

The central question this research seeks to answer is “How effectively did the fare-free bus program enhance the region’s environmental, economic, operational, and quality-of-life goals for its riders and the overall transportation system?”

Research Approach:

An interview is a semi-structured conversation in which an interviewer engages a participant to express their views about a topic. Interviews are facilitated by one or more interviewers, but a key element of their value is that participants have the opportunity to share their perspectives in depth. Facilitating participant-driven responses makes interviews a vital tool for understanding emerging themes in participant feedback.

Rather than seeking to extract specific pieces of information from each participant, generative interviews seek to prompt open discussions that yield insights into our core metrics. Each proposed question aligns with one or more of the evaluation topics outlined in this framework. It is important to note that these questions are not a strict script for interviews. Rather, they are intended to initiate a conversation with the participant and to allow that conversation to evolve organically.

Interviews With Riders

Recruitment Approach:

We aim to conduct a total of five interviews, each 30 minutes long. Participants will be from all the cities and towns that receive services from MeVa. The universe of participants will be developed based on the quantitative survey responses collected as part of this project. As part of that survey dissemination, points of contact have been collected among survey participants for further interview participation.

The goal with each interview will be to have a diverse mix of participants across gender and age spectrum, as well as priority resident groups such as seniors and people with disabilities. Preference will be given to in-person interviews with the intent of maximizing interaction. However, schedule constraints among participants will likely mean that the interviews will be conducted by phone. The conversations will be with Spanish-speaking residents to understand their experiences.

Recording and Privacy:

Rivera Consulting facilitators will ask participants for consent at the start of the session to record the discussion. All responses will remain anonymous, and the recording will be solely for qualitative

research analysis and documentation by the Rivera Consulting team. If we plan to use specific quotes in reports or other public-facing materials, we will seek specific consent from the quoted participant.

Interview Introduction Script:

"Thank you for being here today. We're going to be talking for about 30 minutes about your experiences with the free public bus service you now have access to. We're going to ask a few questions about what you think about the bus and what your experience riding it has been like. We want this conversation to be as open as possible, so feel free to say whatever the question brings to mind for you, even if it's not directly in response.

Please note that all interviews will be confidential, and you are not required to answer any questions you don't feel comfortable answering. Your participation is entirely voluntary, and you can choose to skip any question or stop the interview at any time."

Interview Questions for Riders

Part 1: Operations (10 mins)

In this section, we want to understand your view on how the bus actually runs. Think about topics such as speed, reliability, boarding, the frequency of stops, etc.

1. What are the routes you use most often?
Paratransit: When do you usually opt in for a Mini Meva service and for what?
Paratransit: How long is your ride usually?
2. What are some of the barriers that you encounter when you ride these routes/ Mini Meva?
 - a. Prompt for not adequate signage
 - b. **Paratransit:** Onboarding onto a mini Meva
 - c. **Paratransit:** Booking a mini Meva
 - d. Information not being provided in Spanish, etc.
3. Paratransit: Has there been any change in the availability of the service since
4. What are the most pressing needs you experience when riding the bus/ Mini Meva?
 - a. Formal bus stops
 - b. Information being provided in Spanish
5. Now that the fare does not exist, has it changed your experience with public transportation and in what ways?

Part 2: Benefits and Use Cases (15 mins)

We want to learn about the benefits you associate with having free public transport infrastructure. We specifically want to hear about why you use the bus, how your purpose for using the bus has changed since it became free, your experience while riding the bus, and more.

1. What are some reasons why you use the bus? Are there places that you visit more often now that the bus is free?
 - a. Office/ Work/ School (**facilitator to focus more on this option**)
 - b. Accessing healthcare and other essential services
 - c. Visiting community hubs- eg. libraries, community centers, senior centers etc.
2. In what ways (if any) has the free bus service helped you save money?.. And what have you used that money for instead?

After initial answers, prompts for facilitators:

- a. Groceries
- b. Leisure activities
- c. Education/ Skill development opportunities
3. **Paratransit:** If it wasn't for Mini Meva what kind of transportation would you have chosen/ would have helped you?
4. Five years from now, how would you like to see the free bus service evolve?
 - a. More routes to new locations
 - b. Tech-based solutions such as arrival boards/ timing monitors
 - c. Bus stop locations and designs

Part 3: Overall Impact (10mins)

As we wrap up, we want to give you a minute for any final questions or thoughts you have about our discussion today.

1. If a reduced fare program replaces the current free bus program, based on income or other factors, what would your opinion on that be?
2. How would you feel if you had to pay for the service you are getting currently?

Facilitation Approach:

- After reading the introductory script, pose the first question and then let the conversation flow freely and organically until it loses momentum, or until people start making the same points repeatedly. Then introduce follow-ups as appropriate to guide the conversation, or move on to the next question set.
- Remember that not every interview needs to touch on every prompt—the prompts are there to start an open conversation about the focus topic

Analysis Approach:

- After each interview, final transcripts will be produced by Rivera's AI transcription service, developing an index of respondents and properly attributing each response

- Rivera Consulting will analyze responses in Dedoose using two rounds of qualitative coding. In the first round, RC will conduct a descriptive code noting each topic and theme discussed in the interview. In the second round after all interviews are complete, RC will conduct a second round of analytic coding to categorize topics and themes into assets, barriers, and recommendations for the fare-free bus program in each of the four core evaluation areas.
- Rivera Consulting will develop a memo detailing assets, barriers, and recommendations for each of these four core evaluation areas based on this analysis.

MeVa Fare-Free Bus Evaluation Focus Group Guide
Service Providers in Merrimack Valley
Rivera Consulting | Aug 2024

Research Purpose:

This research seeks to evaluate the impact of the Merrimack Valley’s fare-free bus program on the region’s **environmental, economic, operational, and quality-of-life goals**. The primary goals of this evaluation are to 1) inform the future service provided by the fare-free program and 2) justify potential future operational funding support requests. The core metrics that drive focus group facilitation include an assessment of driver satisfaction, rider experience, mode shift, and accessibility to the provision of key community services. Additionally, this research will be key in highlighting narratives and user stories that will continue to shape the program design and service delivery going forward.

Research Question:

The central question this research seeks to answer is “How effectively did the fare-free bus program enhance the region’s environmental, economic, operational, and quality-of-life goals for its residents and the overall transportation system?”

Research Approach:

This research is part of a mixed-methods approach led by Stantec and Rivera Consulting, which seeks to offer both quantitative and qualitative insights into the role of the fare-free program in making public transportation accessible and advancing quality of life goals. This research framework discusses the role of qualitative focus groups with Service Providers in this broader research plan.

A focus group is a semi-structured conversation in which a group of participants express views about a topic. Focus groups are facilitated by one or more moderators/facilitators, but a key element of their value is that participants have the opportunity to guide the conversation. Facilitating

participant-driven conversations makes focus groups a vital tool for understanding emerging themes in participant responses.

Rather than seeking to extract specific pieces of information from each participant, evaluative focus groups seek to prompt open discussions between participants that yield insights into our core metrics. Each proposed prompt aligns with one or more of the evaluation topics outlined in this framework. It is important to note that these prompts are **not a script** for focus groups. Rather, they are intended to kick-start a conversation between participants and to let that conversation evolve organically.

Given that this is a focus group with service providers in the Merrimack Valley from municipal organizations, employers, healthcare providers, and social infrastructure providers it is intended to build an ecosystem view of how improving access to public transportation impacts provision of other public services and access to jobs.

Participants:

- Janel D'Agata-Lynch, Anna Jaques Hospital
- Elicia Miller, Lawrence Mayor's Health Taskforce
- Elaine Davey, Lawrence Public Schools
- Christina Penna, AgeSpan
- Giselle Peguero, Northern Essex Community College
- Allison Heartquist, Haverhill Public Private Partnership
- Vilma Martinez Dominguez, Greater Lawrence Community Action Council
- Doreen Arnfield, City of Amesbury Council on Aging

Focus Group Introduction Script:

Thank you all for being here today. We're going to be talking for the next 75 mins about the fare-free bus service in Merrimack Valley. We want to understand how you think free public transport has impacted the community at large? How has it impacted your programming and service provision? What are economic, educational, social or health impacts on residents and who may still be left out and why? We would also love to hear your point of view on how it has impacted local businesses and communities? Finally we are interested in your perspectives on the impact of cost savings on your constituencies.

We want this conversation to be as open as possible, so feel free to say whatever the question brings to mind for you, even if it's not directly in response, and feel free to respond to what other people are saying, whether you agree or disagree.

Focus Group Prompts:

Intro

- Please introduce yourself and share a bit about your organization or role in the community

Part 1: Ridership Experience & Interaction (20 mins)

- Are any of you users of the MeVa public buses or services and how would you describe your overall experience?
- Who do you think utilizes the free public bus service and benefits from it the most?
 - Who are the people the service is yet to reach?
- Do you think making the buses free, makes other services such as Healthcare or Education services more accessible to people? How so?
- We have heard a range of answers when it comes to the benefits of the free fare bus programs....
 - What do you think are some of the benefits for your constituent groups?
- **Important question:** Have you heard anecdotes or stories from residents you interact with about their usage of the fare free routes to visit local businesses or access services?

Part 2: Benefits & Use Cases (20 mins)

- Based on your interactions with businesses/ other service providers in different towns and cities, how is increased ridership benefiting them?
- Have you noticed a change in the number of people driving? Say through the number of cars in your facility's parking lot at a given time or total number of persons accessing your service(s).
- How do you think the development of new businesses/ innovation hubs, housing, medical facilities is going to impact ridership in the coming years, what should MeVa consider on a programmatic level moving forward?
- Are there specific locations or areas that you think are particularly benefiting from increased ridership? Why?
 - **Important question:** Has the increase in ridership changed the way you are providing services or implementing your programs?
- Do your customers/patrons/target audience feel that the program is saving them money? Why do you think so?

- From the money saved on transportation, how do you think people are spending on services?

Part 3: Operations (15 mins)

- Have you heard anything from your constituents or community partners about changes to bus reliability since the buses became fare-free?
- From your interactions with people with disabilities, what might be some hesitations of using public transportation that they still experience?
- Have you had to educate people or spread awareness about the free bus service? And how have you done that?
- Apart from the service being free, what might be some of the other reasons why people prefer taking the public transport?
- Based on your observations, have you noticed a change in parking availability in neighborhoods?
 - Wait times at restaurants?
 - Crowd at shopping complexes?
 - Use of public libraries?

Part 4: Rider Safety (10 mins) -

- ***From the research thus far we have heard that there is an increase in non-destination riders since the buses have become free?*** What are some other types of collaborative interventions that need to be considered to enhance rider safety?
- What are measures or training requirements that need to be added to ensure safety of paratransit riders?

Part 5: Overall impact (15 mins)

- In summary, how would you say the fare free program is making a difference for your constituents? - should I ask this question? - no
- Is there anything that you wish MeVa and other authorities knew about the fare-free buses and the role that it plays in people's lives?
-
- Is there anything else you'd like to say that we haven't talked about yet? -go for it

Facilitation Approach:

- After reading the introductory script, pose the first question and then let the conversation flow freely and organically until it loses momentum, or until people start making the same points repeatedly. Then introduce follow-ups as appropriate to guide the conversation, or move on to the next question set.
- After the first few question sets, use active listening tools to encourage quieter participants to contribute to the conversation (e.g. “what do you think about that, ___” or “How does that relate to the experience that you shared of ____?”)
- Remember that not every focus group needs to touch on every prompt—the prompts are there to start an open conversation about the focus topic

Analysis Approach:

1. After each focus group, Rivera Consulting will transcribe the recording, responses will be analyzed based on contingency group in order to keep responses anonymous
2. Rivera Consulting will analyze responses in Dedoose using two rounds of qualitative coding. In the first round, RC will conduct a descriptive code noting each topic and theme discussed in the focus group. In the second round after all focus groups are complete, RC will conduct a second round of analytic coding to categorize topics and themes into assets, barriers, and recommendations for the fare-free bus program in each of the four core evaluation areas
3. Rivera Consulting will develop a memo detailing assets, barriers, and recommendations for each of these four core evaluation areas based on this analysis