

SORTA PLANNING AND OPERATIONS COMMITTEE MEETING

TUESDAY, APRIL 18TH 2023 - 9:30 A.M.
SORTA/METRO AT HUNTINGTON CENTER,
SORTA BOARD ROOM (6TH FLOOR)
525 VINE STREET,
CINCINNATI, OHIO 45202

General Items:

Call to order
Pledge of Allegiance

1. Approval of Planning and Operations Committee Minutes: March 21st, 2023

Briefing Items

2. Good News! (*John Ravasio*)
3. WSP Report: Alternative Fuel Strategy/Transition Plan (*Andy Aiello*)
4. 2023 Service Quality & Ridership Initiatives: Q1 (*Andy Aiello*)
5. Ridership Report as of March 31st, 2023 (*Matt Moorman*)

Action Items:

6. Proposed Resolution: Approval of Contract No. 54-2023 Diesel Exhaust Fluid (*John Edmondson, Jeff Mundstock*)
7. Proposed Resolution: Approval of Modification to Contract No. 00-2018 40' Gillig Buses (*John Edmondson, Jeff Mundstock*)

Other Items:

New Business

Adjournment

The next regular meeting of the Planning & Operations Committee has been scheduled for
May 16th, 2023, at 9:30 a.m.

PLANNING AND OPERATIONS COMMITTEE
TUESDAY, MARCH 21ST, 2023 – 9:30 A.M.
SORTA/METRO AT HUNTINGTON CENTER
6th FLOOR SORTA BOARD ROOM
525 VINE STREET
CINCINNATI, OHIO 45202

COMMITTEE MEMEBERS APPOINTED: *Blake Ethridge (Chair), Tony Brice Jr, Trent Emeneker, Robert Harris, Pete Mets, Gwen Robinson, and Sara Sheets*

COMMITTEE/BOARD MEMBERS PRESENT: Dan Driehaus, Kreg Keesee, Sara Sheets and *Pete Metz*

COMMITTEE MEMBERS ABSENT: Blake Ethridge, Robert Harris, Gwen Robinson

STAFF MEMBERS PRESENT: Darryl Haley, Steve Anderson, Andy Aiello, John Edmondson, Pat Giblin, Adriene Hairston, Mary Huller, Brandy Jones, Maria Jones, Natalie Krusling, Pat LaFleur, Troy Miller, Matt Moorman, Jeff Mundstock, Amy Rasmussen, John Ravasio, Ruth Reed, Jason Roe, Shannel Satterfield, Khaled Shammout and Tara Walker

OTHERS PRESENT: Kim Schaefer (Legal Counsel-Vorys)

1. **Call to Order**

Ms. Sheets called the meeting to order.

2. **Pledge of Allegiance**

The Pledge of Allegiance was recited.

3. **Approval of Minutes of February 28th, 2023**

Ms. Sheets made a motion and Mr. Driehaus second the motion to approve the minutes of the February 28th, 2023, meeting. By voice vote the committee approved the minutes.

4. **Good News!**

The Executive Team presented the Good News report. Ms. Hairston announced the January Silver Award recipients. Mr. Ravasio thanked the Metro Staff for hosting CPS students with the Adopt a Class program from Westwood Elementary and AWL schools; he also shared thirty-seven (37) new bus benches were installed throughout the county. Mr. Shammout shared the 2nd Round of TIF Grants was hosted on March 8th, Metro awarded \$39.2 million to 36 transit infrastructure related projects. Mrs. Jones shared Transit Appreciation Week was March 13-18th; Board and Executive staff attended the APTA Legislative Meeting in Washington, DC; and Metro was featured on the nationally syndicated show, Military Makeover, on Friday, March 17th on the Lifetime network. Mr. Ravasio covered the 2nd Annual Golden Bus Awards and the Access Operator Career Fair schedule for the month of March. He then concluded the report.

The Committee accepted the report as presented.

5. **Metro's Information Technology (IT) Roadmap**

Mr. Giblin presented the Metro's Information Technology (IT) Roadmap presentation. This report included: IT's overview of staff levels and area focus of Operations, Enterprise Systems, Business

Technology and Cybersecurity and the 2023 capital budget plan of technology related investment (\$17.6M).

The Committee accepted the report as presented.

6. **Ridership Report as of February 28th, 2023**

Mr. Anderson presented the February 2023 ridership reports. Total ridership for the month of February was 1,003,540 or 156,047 above budget.

Mr. Anderson presented the February 2023 ridership for Access. Total ridership for the month of February was 13,815 or 2,303 above budget.

The Committee accepted the report as presented.

7. **Proposed Resolution: Approval of Modification for Contract No. 47-2022 for Financial Software as a Service**

Mr. Aiello requested approval of a modified five (5) year contract with OpenGov for additional software services, at a cost not to exceed 763,668, increasing the total contract value up to \$985,868.

The Committee agreed to recommend the resolution to the full Board for approval.

8. **Proposal Resolution: Approval of Modification for Contract No. 91-2022 for Paratransit Vehicles**

Mr. Aiello requested approval of a modified five (5) year contract with TESCO for installation of video surveillance equipment and Metro branding (vehicle wrapping), at a total cost not to exceed \$411,936, increasing the total contract value up to \$2,778,958.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

9. **Proposed Resolution: Approval of Contract No. 100-2022 for Right of Way Appraisal Services**

Mr. Aiello requested approval of a six-month contract with AECOM for right of way consultant services, at a total cost not to exceed \$466,203.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

10. **Proposal Resolution: Approval of Contract No. 02-2023 for A&E Services for Government Square Redesign**

Mr. Aiello requested approval of a one (1) year contract with MSA Design for design services, at a total cost not to exceed \$135,855.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

11. **Proposal Resolution: Approval of Contract No. 09-2023 for Pressure Washing Services**

Mr. Aiello requested approval of a five (5) year contract with Roth Pressure Cleaning Services, Inc., for pressure washing services, at a total cost not to exceed \$352,660.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

12. **Proposed Resolution: Approval of Contract No. 28-2023 for Bus Washer Installation**

Mr. Aiello requested approval of a two (2) contract with Westmatic, Inc. for full bus washer systems replacement, at a cost not to exceed \$1,998,740.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

13. **Proposed Resolution: Approval of Contract No. 50-2023 for Non-revenue Support Vehicles**

Mr. Aiello requested approval of a 1.75-year contract Montrose Ford for the purchase of twenty (20) non-revenue vehicles, at a cost not to exceed \$ 736,902.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

14. **Proposed Resolution: Approval of Contract No. 62-2023 for Transit Master Software Renewal**

Mr. Aiello requested approval a five (5) year contract with Trapeze/Vontas for software/hardware installation, at a cost not to exceed 2,789,298.

The Committee agreed to recommend the resolution to the full Board for approval on the consent agenda.

15. **New Business**

The next regular meeting of the Planning and Operations Committee has been scheduled for **Tuesday, April 18th, 2023, at 9:30 A.M.**

16. **Adjournment**

The meeting adjourned at 10:40 A.M.

PLANNING & OPERATIONS: GOOD NEWS April 23, 2023





February Silver Award Recipients



Access/BH Maintenance
Employee of the Month
Robin Webb



Leadership
Employee of the Month
Renita Wilson



Queensgate Maintenance
Employee of the Month
Kyle Deaton



February Silver Award Recipients



Access/BH
Operator of the Month
Adam Scott



Administrative & Support
Employee of the Month
June Han



Queensgate
Employee of the Month
Douglas McCray



Happy Retirement, Sharon!

Farewell and all the best to Operator Sharon Shaw-Terry!

Sharon is retiring after serving the community for more than 16 years. Her bright smile and warm personality will be missed by her customers and team members.





Happy Retirement, Darryle!

Farewell and all the best to Maintenance team member, Darryle McDonald!

Darryle retired after 22 years of service and held various positions within the maintenance department, most recently as a Unit Rebuilder in the Main Shop.

He will certainly be missed!





Employee Strategic Plan Town Hall Meetings

Twelve organization-wide town hall meetings were held between March 27- April 3 to share updates on Metro's Strategic Plan, as well as the priorities and initiatives being put into place to help us achieve them. This also offered an opportunity for team members to ask questions and provide suggestions.



Community Project Funding Press Conference



U.S. Congressman Greg Landsman invited CEO Darryl Haley to speak during a press conference announcing the 15 community-led projects selected for Community Project Funding submission, including Metro's Bus Stop Enhancements project. Metro is hoping to receive \$3.2M to help improve bus stops throughout the county.



Extra, Extra...Read All About it!

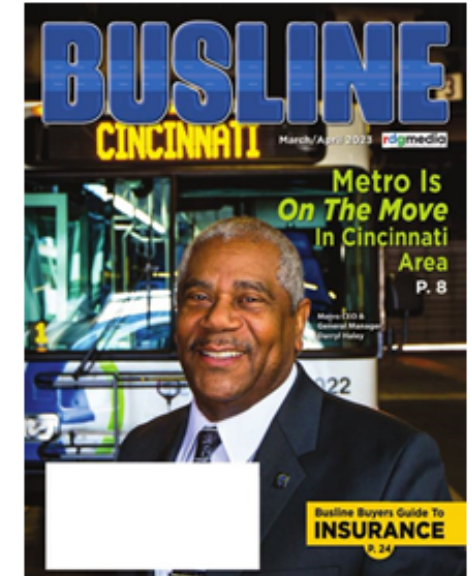
Metro was featured this month on the cover of the National trade publication, Busline Magazine, and the cover of the Business Courier. The features focused on the upcoming BRT service and the impact it will have on the community and the economic development of the county among other topics including our 50 years of service and *MetroNow!* service launching this spring.

Darryl was also featured on the Business Courier's above the Fold podcast segment this month.



Cincinnati Metro's \$300 million rapid bus bet aims to spark ridership, development

Cincinnati Business Courier - April 7, 2023



Metro Is On the Move in the Cincinnati Area

Busline Magazine - April 4, 2023





Go Reds, Go Metro!



42,546. That's how many trips were taken on Metro to the ball game on Opening Day.

As part of Metro's current promotion, anyone showing a same day Reds ticket can ride free on Metro during home weekend games in April & May. Thanks to the new weekend service improvements going out to the ball game is easier than ever.



MetroNow! Ready When You Are

The first *MetroNow!* vehicle has arrived!





Metro's Wins Think Transit Award



Metro was recognized with the 2023 Award of Excellence for Innovation during the recent Think Transit Conference.

Sr. Manager of Enterprise Systems Robert Switzer is pictured receiving the award from Trapeze's Enterprise Account Executive Sylvia Tejerina. Congrats to Metro's IT department on receiving this honor.



...and That's the News!





2023 Alternative Fuels Update

April 2023 | Andrew Aiello





Agenda

- Context
- Summary WSP Study Results
 - State of the Practice
 - Peer Agency Experience
 - Fleet and Operations
 - Facilities
 - Lifecycle Costs
 - Risks
 - Financing
- Metro's Alternative Fuels Approach / Playbook
- Next Steps



Context

- Rapid Acceleration of Zero Emissions Transportation
- Federal Interest and Investment (e.g. “Low-No” Grants)
- What Should Metro Do?
- Need to Understand True Costs
 - Capital, Operating, Environmental
- Need to Understand Inputs and Constraints
- Need to Learn From Early Adopters
- Need to Understand Risks
- Inform a Comprehensive, Eyes Open, Path Forward



Alternative Fuels Study

- Regional Approach
 - Metro, TANK, BCRTA
- Consultant Team
 - Local PM
 - National Experts
- Metro Team
 - Grants
 - Planning & Development
 - Operations
 - Fleet & Facilities



Alternative Fuels Study

The Study Is:

- A **framework** that applies current industry data/practices/planning into Metro's broad fleet, facility, and operational context
- A lifecycle costing tool that helps us weigh the **big-picture** capital, operating, and environmental costs
- An articulation of known **risks** associated with any path forward, including our existing path

The Study Is Not:

- A highly detailed engineering study of facility capabilities
- A guarantee that markets/technologies will not change
- A final, 25-year, inflexible plan



Study Results – State of the Practice

- **Battery Electric Buses (BEB)**
 - ~\$1.1M ea.
 - Infrastructure
 - Charging Cabinet
 - Transformer
 - Switchgear
 - Requires Space in Garage
 - Potential for In-Route Chargers
 - Range
 - Less than Diesel or Fuel Cell
 - COTA limits to 13 hours, 170 miles
 - 65% of Metro's blocks < 12 hours





Study Results – State of the Practice

- **Fuel Cell Electric Buses (FCEB)**
 - ~\$1.4M ea.
 - Infrastructure
 - Lane for Fuel Delivery
 - Hydrogen Storage
 - Fueling Equipment
 - Typically Outdoor
 - Requires Facility Electrical and Ventilation Accommodations
 - Range
 - Equal to Diesel

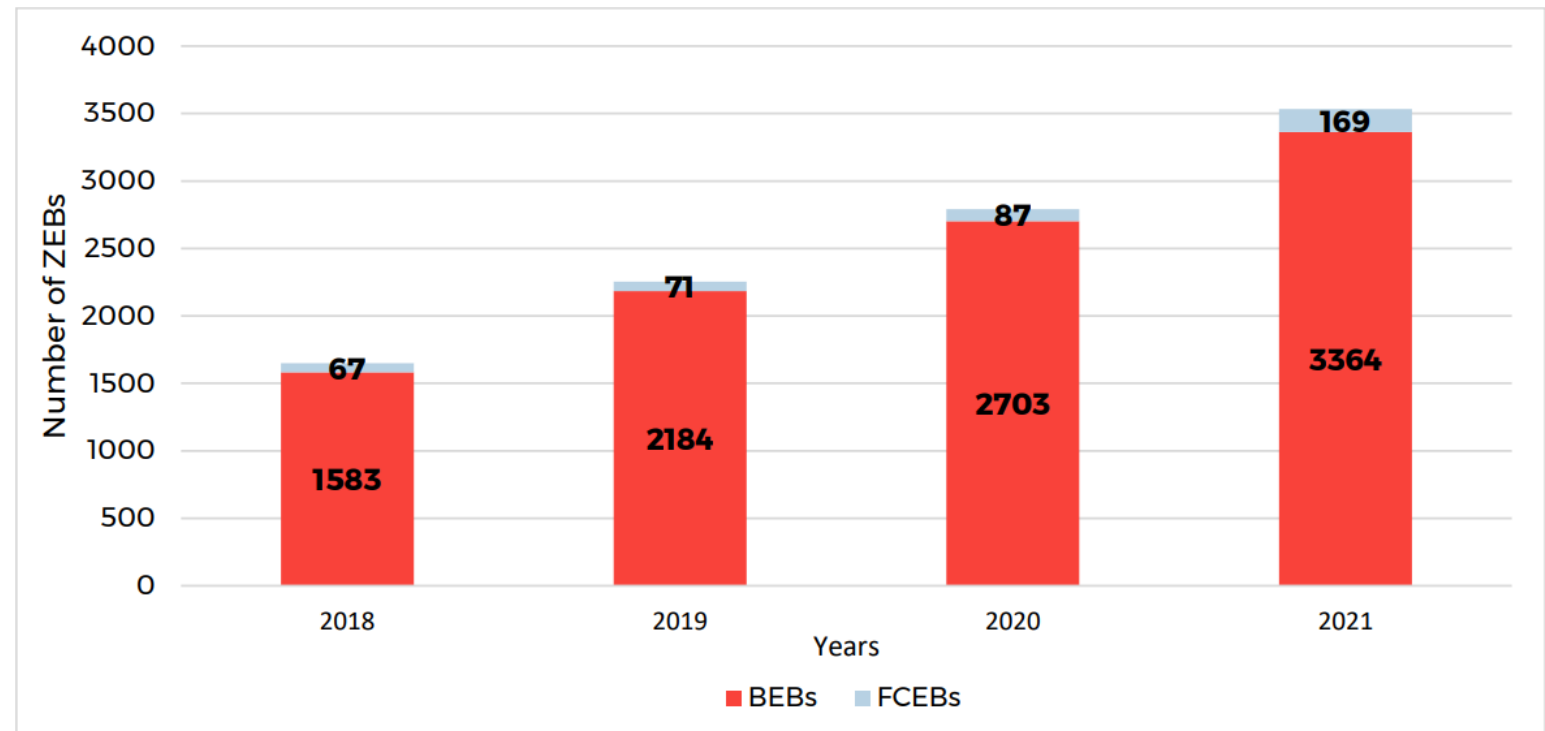




Study Results – Peer Agency Experience

- Battery Electric Buses
 - Most prevalent
 - Technology evolving
 - 95% of ZEB market
- Fuel Cell Electric Buses
 - Less prevalent
 - Technology tested
 - 5% of ZEB market

Figure 3-1. ZEBs on Order or in Use in the U.S., 2018-2021



Source: SmartCitiesDive, CALSTART



Study Results – Fleet & Operations

- Metro has 309 fixed-route buses in active fleet
- Plan to replace buses after 12 years, approx. 25 per year
- 65% of Metro's blocks can be operated within current range of Battery Electric Buses
- 100% of Metro's blocks can be operated within current range of Fuel Cell Buses
- **Queensgate Facility** – capacity for 300 Diesel Buses
 - Can support Battery Electric Buses by reducing total capacity
 - Cannot support FCEBs without significant modification due to lack of land for fueling station and code requirements
- **Bond Hill Facility** – capacity for 150 Diesel Buses
 - Can support Battery Electric Buses by reducing total capacity
 - Planned renovation (2027) would allow for BEB/FCEB charging/fueling, more capacity, and code-related improvements



Study Results – Lifecycle Cost Analysis

Cost Type	Cost Category	Cost Variable
Cash Costs	Capital	Vehicle
		Vehicle modifications and contingency
		Facility costs for charging or fueling Infrastructure
		Major component replacement
	O&M	Vehicle maintenance, tools, training, and equipment
		Tire replacement costs
		Vehicle fuel/energy costs
		Charging and fueling infrastructure maintenance costs
		Training costs
	Disposal	Bus disposal costs or salvage value
Non-Cash Costs (Benefits)	Environmental	Vehicle emissions (including tire and brake wear)
		Upstream emissions
		Noise impacts



Study Results – Life Cycle Costs Scenarios

- **Baseline Scenario** - Continued operation of the current diesel and diesel-electric hybrid vehicles with replacement by similar models at the end of the assumed vehicle service life
- **BEB Scenario (1:1 Replacement Ratio)** - Replacement of current vehicles with BEBs at the end of the assumed vehicle service life
- **BEB Scenario (1:1 – 1:1.2 Replacement Ratios)** – Replacement of current vehicles with BEBs at a higher ratio to meet service requirements for operating blocks exceeding current estimated battery range in the outer years
- **FCEB Scenario** - Replacement of vehicles with FCEBs at the end of the assumed vehicle service life
- **Mixed BEB-FCEB Scenario** – Replacement of vehicles with a mix of BEBs and FCEBs

Table 6-13. Lifecycle Cost Analysis Results (2022\$ Millions)



Scenario		BASELINE	BEB (1:1 REPLACEMENT RATIO)	BEB (1:1 - 1:1.2 REPLACEMENT RATIO)	FCEB	MIXED BEB-FCEB
Capital	VEHICLE PURCHASE PRICE	\$168	\$270	\$283	\$345	\$302
	MODIFICATIONS & CONTINGENCY	\$2	\$33	\$35	\$42	\$43
	CHARGING/FUELING INFRASTRUCTURE	\$2	\$86	\$90	\$15	\$66
	COMPONENT REPLACEMENT	\$18	\$2	\$2	\$18	\$8
	TOTAL CAPITAL COSTS	\$190	\$392	\$410	\$421	\$418
Operating	VEHICLE MAINTENANCE	\$112	\$209	\$219	\$144	\$183
	VEHICLE TIRES	\$9	\$10	\$11	\$10	\$10
	VEHICLE FUEL COSTS	\$96	\$43	\$45	\$115	\$72
	CHARGING/FUELING INFRASTRUCTURE	\$4	\$14	\$14	\$34	\$23
	TRAINING COSTS	\$0	\$19	\$20	\$19	\$19
	TOTAL OPERATING COSTS	\$222	\$294	\$308	\$321	\$306
Disposal	BATTERY DISPOSAL	\$0	\$0	\$0	\$0	\$0
	BUS DISPOSAL	-\$1	-\$1	-\$2	-\$1	-\$1
	TOTAL DISPOSAL COSTS	-\$1	-\$1	-\$2	-\$1	-\$1
Total Cash Costs		\$411	\$684	\$717	\$740	\$723
Comparison to Base	DOLLARS	\$0	\$274	\$307	\$329	\$312
	PERCENT	-	67%	75%	80%	76%
Total Cash Cost per Mile		\$2.38	\$3.96	\$3.95	\$4.29	\$4.19
Environmental	EMISSIONS - TAILPIPE	\$29	\$7	\$7	\$7	\$7
	EMISSIONS - REFINING/UTILITY	\$34	\$8	\$8	\$18	\$12
	NOISE	\$9	\$7	\$8	\$10	\$8
	TOTAL ENVIRONMENTAL COSTS	\$72	\$21	\$22	\$34	\$27
Total Cash and Non-Cash Costs		\$482	\$706	\$739	\$774	\$749
Comparison to Base	DOLLARS	\$0	\$223	\$257	\$292	\$267
	PERCENT	-	46%	53%	61%	55%
Total Cash and Non-Cash Costs per Mile		\$2.79	\$4.09	\$4.07	\$4.49	\$4.34
Total Mileage (million miles)		173	173	182	173	173

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Study Results – Summary of Risks

Diesel / Diesel Electric Hybrid	Battery Electric Buses	Fuel Cell Electric Buses
Contribution to climate change	Availability of buses due to high demand	Small number of buses in service, OEM's may not continue to produce vehicles or parts
Reduced funding for diesel buses	Use of lithium batteries propagates the unregulated mining of materials in developing countries	Limited number of hydrogen suppliers may impact supply reliability
Fuel price swings due to infrastructure issues, weather, international conditions, etc.	The increasing frequency of severe weather, such as flooding, high winds, and severe lightning, poses a threat to maintaining power supply	Limitation on adequate and safe location of fueling facilities may restrict the ability to convert 100% of the fleet to FCEB, resulting in a mixed fleet



Study Results – Summary of Risks

- Report's Risk Conclusion:

While there are several risks associated with both BEBs and FCEBs, the risk may be greater with FCEBs due to three basis conditions:

- The number of BEBs in service and on order far exceeds FCEBs.
- The number of OEMs producing BEBs exceeds FCEBs.
- Federal funding programs favor BEBs.



Study Results – Financing

- Federal Transit Administration
- Federal Highway Administration
- Other US Department of Transportation Programs
- US Department of Energy
- US Department of Treasury
- State Programs





Study Results – Financing

Table 9-1. Potential FTA Funding Sources Summary

FTA Funding Program	Program Type	Eligibility			Funding Amount (FY 22 – FY 26)
		Alt Fuel Vehicle/ZEB Purchase	Vehicle Charging Infrastructure	Facility Capital Investments	
Bus and Bus Facilities Program, both formula and discretionary	Formula and Discretionary	✓	✓	✓	\$ 5.1 B
Low or No Emission Vehicle Program	Discretionary	✓	✓	✓	\$ 5.6 B
Urbanized Area Formula Grants	Formula	✓	✓	✓	\$ 33.5 B
Capital Investment Grants (CIG) – Small Starts	Discretionary	✓	✓	✓	\$ 23 B
FTA Section 5310: Enhanced Mobility of Seniors & Individuals with Disabilities	Formula	✓	✓		\$ 2.2 B



Questions regarding WSP study?

Next up: Metro's Alternative Fuels Approach / Playbook



Study – Metro’s High-Level Takeaways

	Diesel / Diesel Hybrid	Battery Electric Buses	Fuel Cell Electric Buses
Capital Costs	Low	High	High
Operational Costs	Low	High	High
Environmental Costs	High	Low	Mid
Market Risk	Mid	Mid	High
Federal Funding Opportunities	Low	High	High
Potential for Mixed Fleet	Low	Mid	High
Range Limitations	Low	High	Low



Study – Metro’s High-Level Takeaways

- Moving to a Zero Emissions fleet will be very expensive
 - Costs not included in RIM plan
 - Costs to purchase and replace Zero Emissions buses and infrastructure will eventually contribute to the agency’s long-term cost structure and compete with dollars used to provide service
- Moving too quickly could set the stage for **significant failure / service interruption**
 - Ex: A fleet that cannot meet service range/operating requirements on cold days
 - Ex: A fleet that cannot be fueled due to lack of hydrogen suppliers



Study – Metro’s High-Level Takeaways

	Diesel / Diesel Hybrid	Battery Electric Buses	Fuel Cell Electric Buses
Capital Costs	Low	High	High
Operational Costs	Low	High	High
Environmental Costs	High	Low	Mid
Market Risk	Mid	Mid	High
Federal Funding Opportunities	Low	High	High
Potential for Mixed Fleet	Low	Mid	High
Range Limitations	Low	High	Low
Observations and Mitigation Opportunities	<ul style="list-style-type: none"> - Diesel Hybrid as bridge with marginal environmental benefits, marginally more costs, no operating or service risk - May be unable to obtain federal bus money in the future - Prepare for potential/likely shift to alternative fuels 	<ul style="list-style-type: none"> - Consider “funding gate”; only purchase BEB’s when able to obtain federal grant funds; protect local transit dollars for bus service - Consider “range gate”; only purchasing next round of BEB’s when they can fit into operation without risk of exceeding range needs 	<ul style="list-style-type: none"> - Consider “funding gate”; only purchase FCEB’s when able to obtain federal grant funds; protect local transit dollars for bus service - Prepare for potential market disruption (vehicle supply or fuel supply) - Delay investment in FCEB’s as market evolves



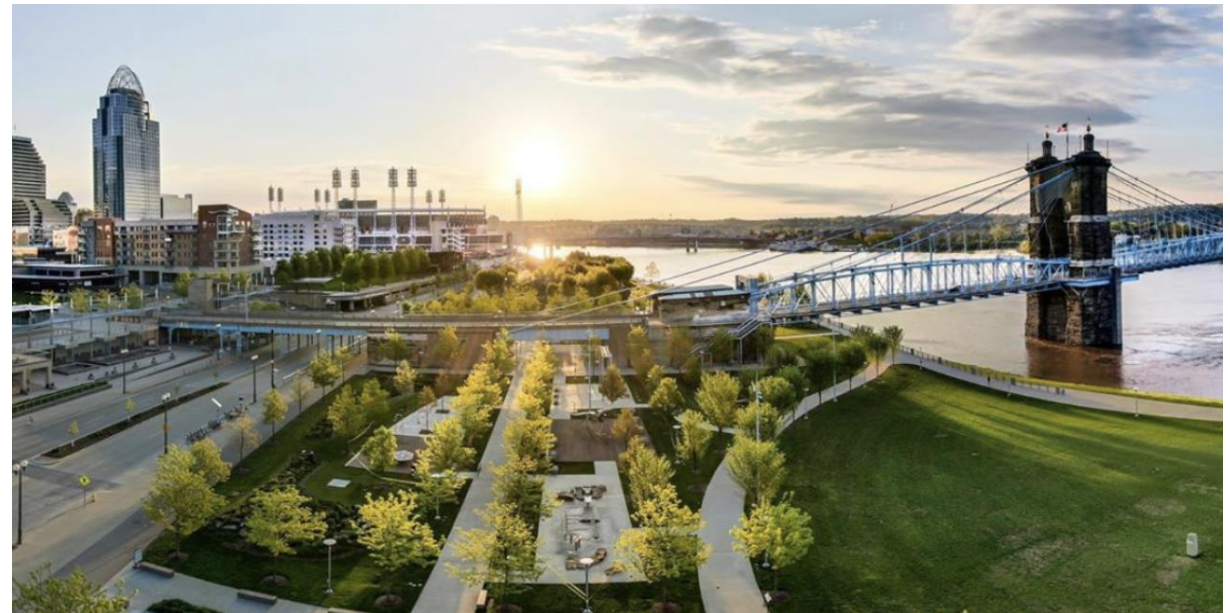
Metro's Alternative Fuels Approach / Playbook

- All options, including current path, have risks
- Keeping options open as long as possible has benefits
 - See how technology evolves (e.g. does vehicle range improve for battery buses?)
 - See how markets evolve (e.g. do fuel cell buses grab more of the market?)
- Preparing for new technology needs to happen now
 - 15 battery electric buses coming/funded, 2024-2026
- Critical path: planned rehab and expansion of Bond Hill facility in 2027
 - Design will need to accommodate (or not preclude) one or both technologies



Metro's Alternative Fuels Approach / Playbook

- **Metro Can Achieve a 100% Zero Emissions Fleet**
 - Approach allows for 100% BEB fleet or a mixed BEB/FCEB fleet
 - Will take until at least 2040 for full conversion





Metro's Alternative Fuels Approach / Playbook

- **First Step: Plan for Electric Buses at Queensgate**
 - Begin training maintenance staff
 - Begin coordination with utilities
 - Begin applying for federal funds
 - Plan for electric infrastructure “footprint”, scalable to support up to 200 BEB’s
 - Start with pilot buses: 15 to 40 BEB’s in next 2 to 3 years
- **Funding gate:** after pilot, only purchase next order when awarded federal funds to do so
- **Range gate:** after pilot, only purchase next order when the new BEB’s will not limit operation



Metro's Alternative Fuels Approach / Playbook

- **Second Step: Begin Design for Bond Hill Rehab / Expansion**
 - Plan is for facility expansion to be complete in 2027
 - Design should plan for up to 170 BEB's, but not preclude diesel or FCEB's (230)
 - "Footprint" reserved for electrical supply station or hydrogen fueling station
 - Proper ventilation and design to allow for interior parking of hydrogen buses
 - Flexibility in the design will result in additional costs (minor, short-term)
 - Will allow Metro to be adaptable to evolving markets for years to come (major, long-term)
- Begin applying for federal funds



Metro's Alternative Fuels Approach / Playbook

- **Third Step: Monitor, Learn, and Adapt**
- Queensgate will be first home to BEB technology
 - BEB maintenance training
 - BEB operational testing and monitoring
- Recalculate lifecycle cost, capital budget, and range requirements each year
- Adjust plans and approach as appropriate



Next Steps

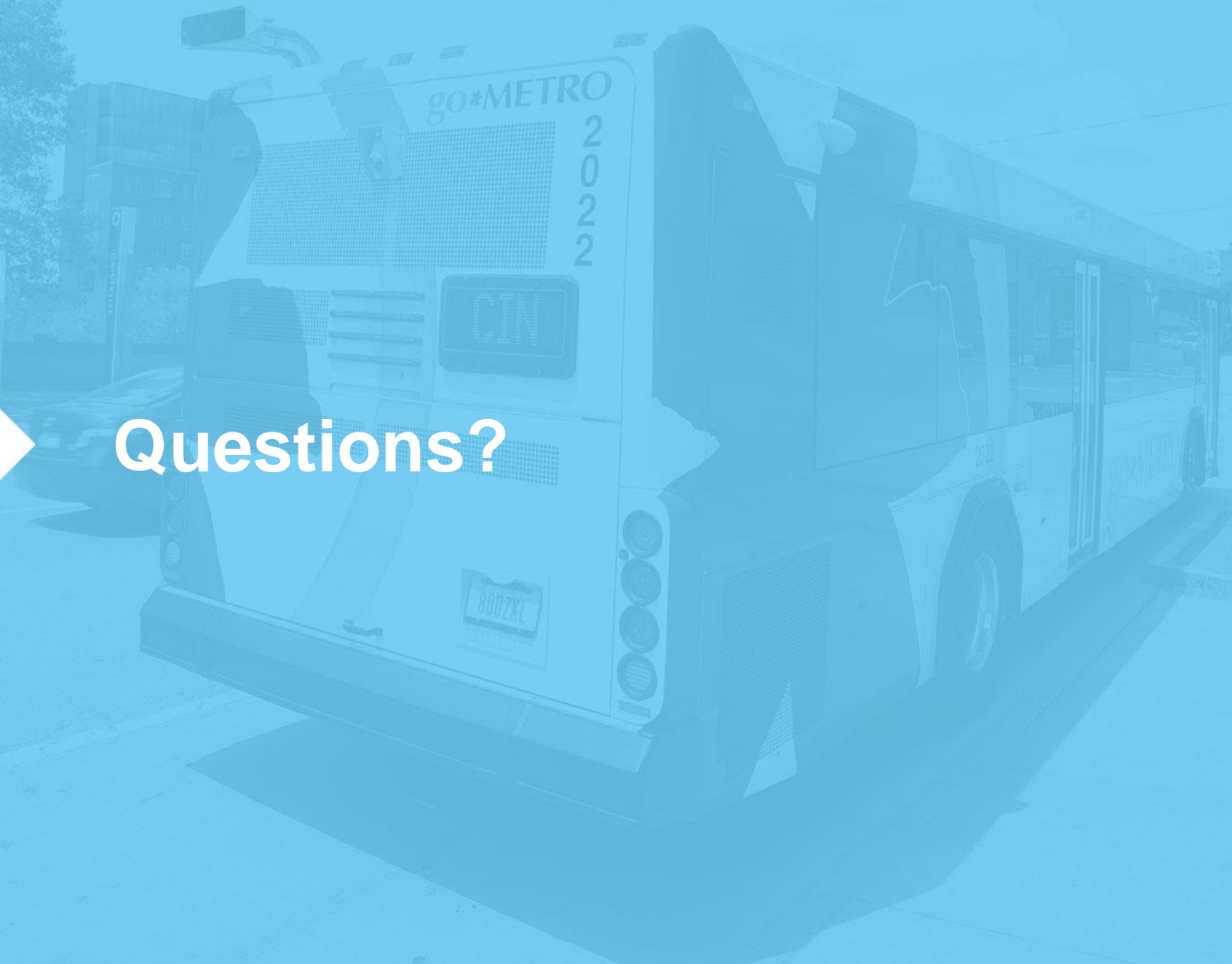
- Complete documentation of Metro’s Alternative Fuels Approach / Playbook
- Identify staff/team to maintain and monitor the Playbook
- Integrate into:
 - Metro’s Grants Planning strategy
 - Metro’s operating and capital budget
 - Metro’s Bus replacement schedule
- Report back to the Board on a regular basis

	Range Gate		Funding Gate		Renovated Bond Hill Opens													Facility Impacts	
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2047				
A Baseline - Diesel & Hybrid	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350				
Diesel & Hybrid Buses	350	344	344	335	335	335	335	335	335	335	335	335	335	335	335	350			
Battery Electric Buses		6	6	15	15	15	15	15	15	15	15	15	15	15	15	0			
Fuel Cell Buses																			
B 100% Battery Electric Bus	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350				
Diesel & Hybrid Buses	350	344	344	335	310	285	260	235	210	185	160	135	110	85	0				
Battery Electric Buses		6	6	15	40	65	90	115	140	165	190	215	240	265	290				
Fuel Cell Buses																			
C 100% Fuel Cell Electric Bus	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350				
Diesel & Hybrid Buses	350	344	344	335	335	310	285	260	235	210	185	160	135	110	120				
Battery Electric Buses		6	6	15	15	15	15	15	15	15	15	15	15	15	0				
Fuel Cell Buses						25	50	75	100	125	150	175	200	225	230				
D Lead with Battery - Not to Preclude Fuel Cell	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350				
Diesel & Hybrid Buses	350	344	344	335	310	285	260	235	210	185	160	135	110	85	5				
Battery Electric Buses		6	6	15	40	65	90	115	115	115	115	115	115	115	115				
Fuel Cell Buses									25	50	75	100	125	150	230				
E Lead with Fuel Cell - Balance with Electric	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350				
Diesel & Hybrid Buses	350	344	344	335	335	310	285	260	235	210	185	160	135	110	0				
Battery Electric Buses		6	6	15	15	15	15	15	15	15	15	15	15	15	120				
Fuel Cell Buses						25	50	75	100	125	150	175	200	225	230				

FACILITY IMPACTS		
Queensgate		
280 Diesel/Hybrid		Electric Infrastructure
200 Battery Electric		
0 Fuel Cell		
Bond Hill		
145 Diesel/Hybrid		Electric Infrastructure
109 Battery Electric		
0 Fuel Cell		
230 Diesel/Hybrid		Hydrogen Infrastructure
173 Battery Electric		
230 Fuel Cell		



Questions?





2023 Service Quality & Ridership

Initiatives & Metrics Update | April 2023





Agenda

- 2023 KPI Goals
- Approach
- Initiatives Update, Q1
- KPI Update, Q1





2023 KPI Goals

Metric	Baseline – 2022	Goal – end of 2023
Missed Trips (weekday avg.)	95	0
Ridership (per 2023 budget)	9,847,273	12,271,502
Total Fixed Route Operators	483	520
Operator Absenteeism	18.5%	15.0%
Operator Turnover (quarterly avg.)	17.0%	15.0%
On Time Performance	79.4%	86.5%
Miles b/w Mechanical Interruption	8,152	9,200
Preventable Accidents per 100k mi.	1.2	0.9
University Program Ridership	52,521	63,025
Business Partner Revenue	\$200,000	\$350,000



Approach

- Implement Defined Initiatives
- Tracked by
 - Department
 - Staff Lead
 - Implementation Date
- Continue to Develop Data & Analytical Approach in All Depts
- Report Progress to CEO / Board

REINVENTING METRO! With the passage of Issue 7 in 2020, Hamilton County voters approved a sales tax levy of 0.8 percent and a new funding source for Metro. With improved funding, Metro is bringing to life its *Reinventing Metro* plan, offering the Greater Cincinnati region bold, new transit innovations that will help grow the regional economy and better connect our community to jobs, education, health care and entertainment.

Level-One Implementation Tracking of Projects and Initiatives 2/15/23

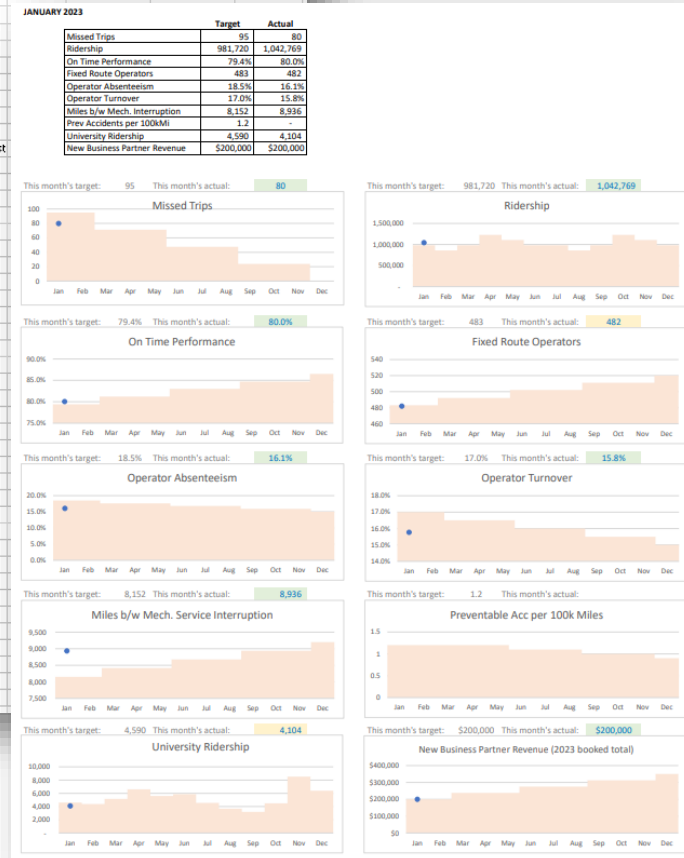
Service Quality & Ridership

Missed Trips and Interruptions
 Address clerk and vault puller attendance
 Suspend use of operators in sub roles (dispatch, vault, etc.)
 Post daily KPI's at garages
 Missed trip working group
 > initiatives to result from group determined by _____
 Opz KPI committee, regular report of data/trends to senior staff
 Review of repeat work order and QA checks
 On-board QR code to report bus defect
 Improve weekend maintenance coverage (2023 work pick)

Workforce
 Operator Recruitment Marketing
 Increase capacity of leave admin/oversight function
 Implement Exit / Stag Interviews, share findings
 Financial Wellness module in operator training program
 Better vending, healthy food in club rooms
 Club room renovations

Ridership
 Temporary positions in RCC to code service interruptions
 Repair customer alert for service interruptions
 Targeted promotion of new service improvements
 University (UC & Cincj State) Program Marketing
 B2B Ridership Development Engagement
 MetroNow! marketing campaign
 50th Anniversary promotion
 Summer outreach - RFP for street team, event selection

OTP, Safety, Cleanliness
 Weekly meetings with operators over 3% early
 Supervisory focus on routes with highest % late operation
 Address timepoint locations with early operation 10%
 Improve data reliability - audit geocodes
 Monthly SIP and Joint Safety meetings
 > initiatives to be determined by _____
 Report and monitor OTP of general clean work orders
 On-Board QR code for customer feedback
 Hire travel trainer - support Access customers on Metro
 Hire ambassadors to provide feedback



Initiatives Update

- **Implementation on Track**
- 14 initiatives up and running and/or complete
- Many involve system performance
 - Operator “Focus Group” monitoring/coaching
 - Posting daily KPI’s at garages
 - Weekly check-in for early operation
 - Supervisory focus on high % late routes
 - Joint safety meeting
 - General bus clean OTP monitoring



Level-One Implementation Tracking of Projects and Initiatives

4/5/2023

Service Quality & Ridership

Missed Trips and Interruptions	Dept	Date
Address clerk and vault puller attendance	Ops	complete
Suspend use of operators in sub roles (dispatch, vault, etc.)	Ops	
Ops supervisor performance monitoring of each "focus group"	Ops	complete / ongoing
Post daily KPI's at garages	Ops	complete / ongoing
Missed trip working group	Ops	
> initiatives to result from group determined by 2/28/2023	Ops	
Ops KPI committee, regular report of data/trends to senior staff	Ops	
Review of repeat work order and QA checks	Maint	complete / ongoing
On-board QR code for operator to report bus defect	Maint	
Improve weekend maintenance coverage (2023 work pick)	Maint	

Workforce

Increase capacity of leave admin/oversight function	HR	
Implement Exit / Stay Interviews, share findings	HR	
Operator Recruitment Marketing	ExtAff	ongoing
Financial Wellness module in operator training program	HR	
Better vending, healthy food in club rooms	Ops	
Club room renovations	Ops	

Ridership

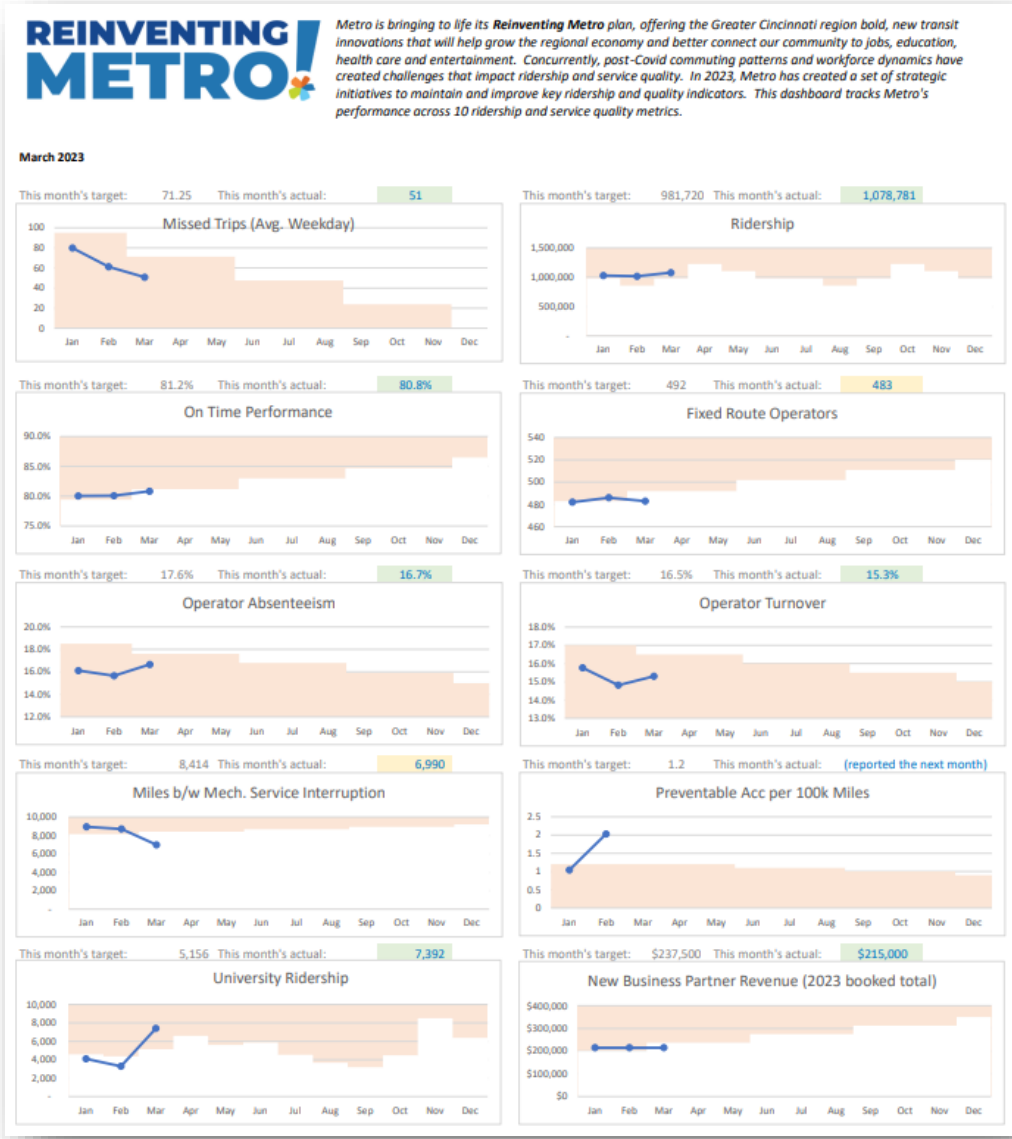
University (UC & Cincy State) Program Marketing	ExtAff	ongoing
B2B Ridership Development Engagement	ExtAff	ongoing
MetroNow! marketing campaign	ExtAff	ongoing
Repair customer alert for service interruptions	Ops	
Targeted promotion of new service improvements	ExtAff	
50th Anniversary promotion	ExtAff	ongoing
Summer outreach - RFP for street team, event selection	ExtAff	

OTP, Safety, Cleanliness

Weekly meetings with operators over 3% early	Ops	complete / ongoing
Supervisory focus on routes with highest % late operation	Ops	complete / ongoing
On-Board QR code for customer feedback	Access	
Address timepoint locations with early operation 10%+	Ops	
Improve data reliability – audit geocodes	Ops	
Monthly SIP and Joint Safety meetings	Ops	complete / ongoing
> initiatives to be determined by 3/31/2023		complete
Report and monitor OTP of general clean work orders	Maint	complete / ongoing
Hire travel trainer – support Access customers on Metro	Access	

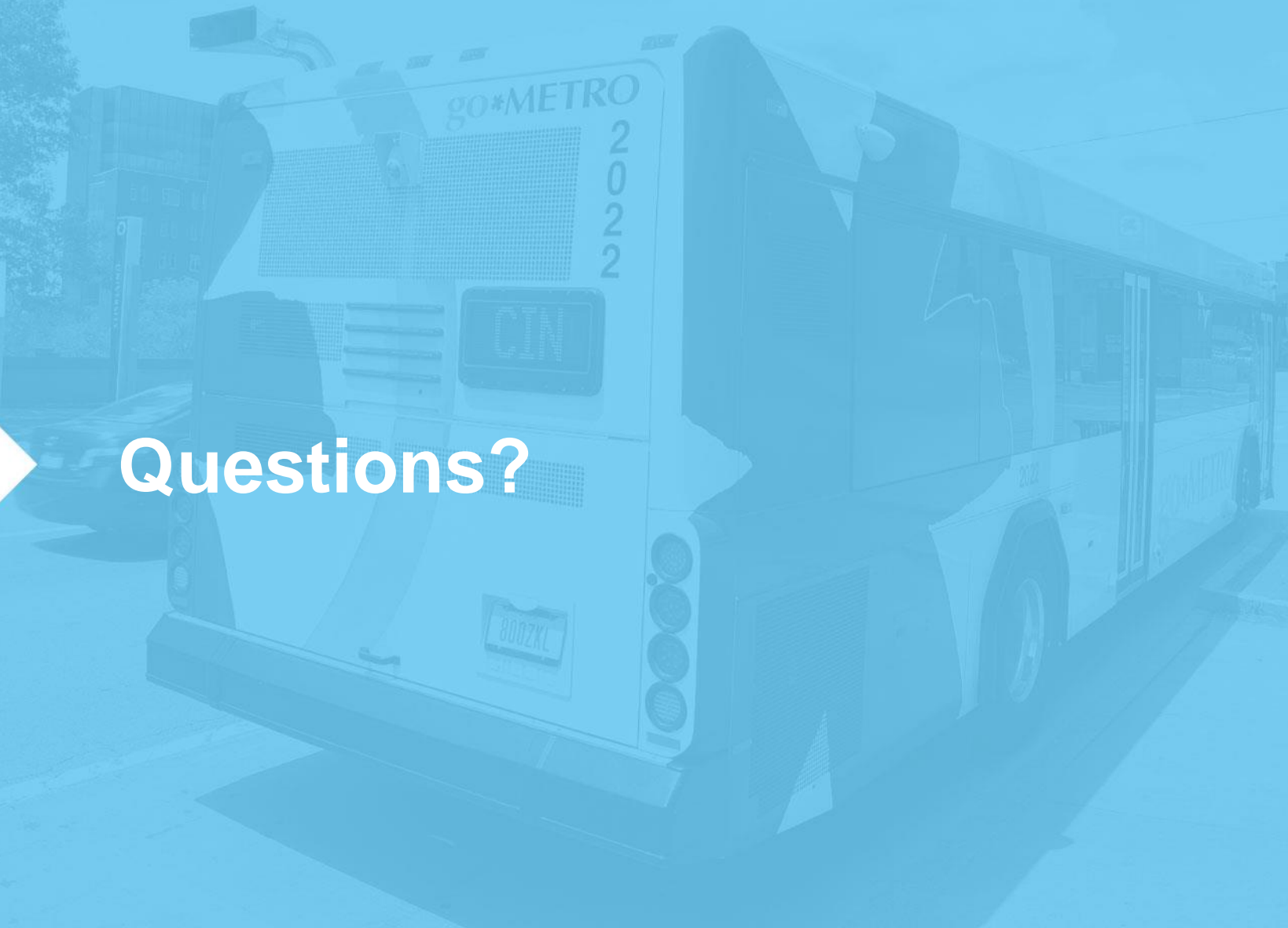
KPI Update

- **Most Metrics on Track**
- Missed Trips trending down
- Ridership trending up
- On Time Performance up
- Total Operator number flat
- Accident Rate up
- University Ridership up





Questions?





Level-One Implementation Tracking of Projects and Initiatives

4/5/2023

Service Quality & Ridership

Missed Trips and Interruptions	Dept	Status
Address clerk and vault puller attendance	Ops	complete
Suspend use of operators in sub roles (dispatch, vault, etc.)	Ops	
Ops supervisor performance monitoring of each "focus group"	Ops	complete / ongoing
Post daily KPI's at garages	Ops	complete / ongoing
Missed trip working group	Ops	
> initiatives to result from group determined by 2/28/2023	Ops	
Ops KPI committee, regular report of data/trends to senior staff	Ops	
Review of repeat work order and QA checks	Maint	complete / ongoing
On-board QR code for operator to report bus defect	Maint	
Improve weekend maintenance coverage (2023 work pick)	Maint	

Workforce

Increase capacity of leave admin/oversight function	HR	
Implement Exit / Stay Interviews, share findings	HR	
Operator Recruitment Marketing	ExtAff	ongoing
Financial Wellness module in operator training program	HR	
Better vending, healthy food in club rooms	Ops	
Club room renovations	Ops	

Ridership

University (UC & Cincy State) Program Marketing	ExtAff	ongoing
B2B Ridership Development Engagement	ExtAff	ongoing
MetroNow! marketing campaign	ExtAff	ongoing
Repair customer alert for service interruptions	Ops	
Targeted promotion of new service improvements	ExtAff	
50th Anniversary promotion	ExtAff	ongoing
Summer outreach - RFP for street team, event selection	ExtAff	

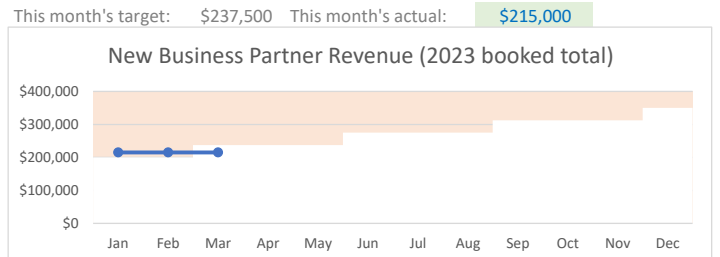
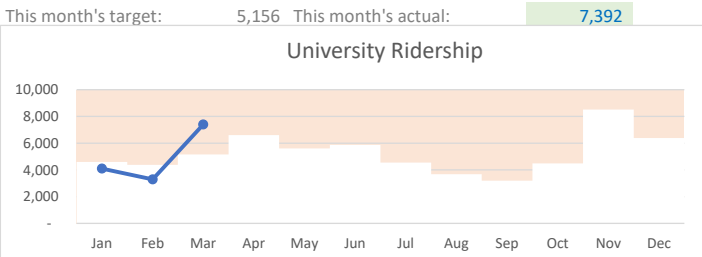
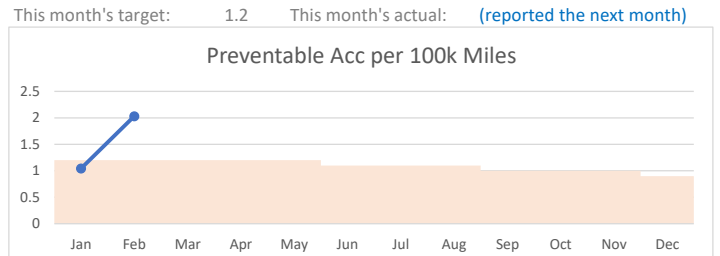
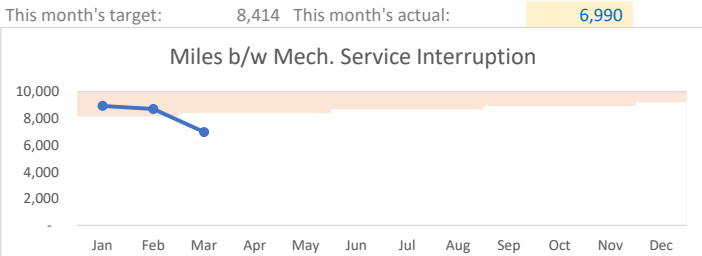
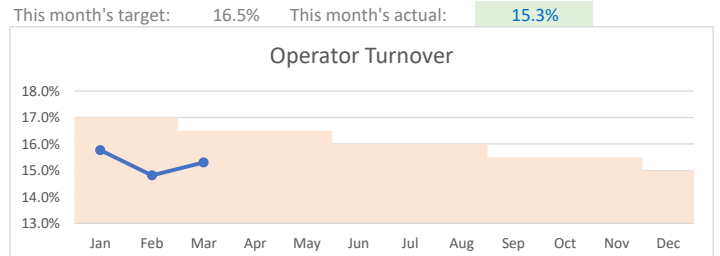
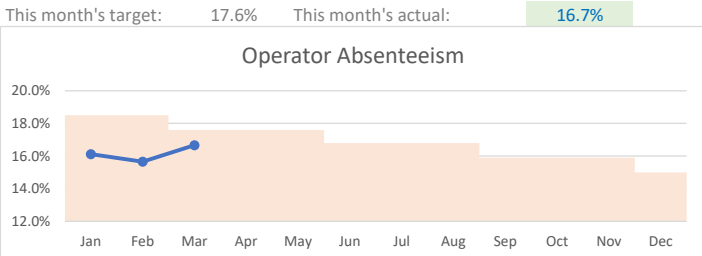
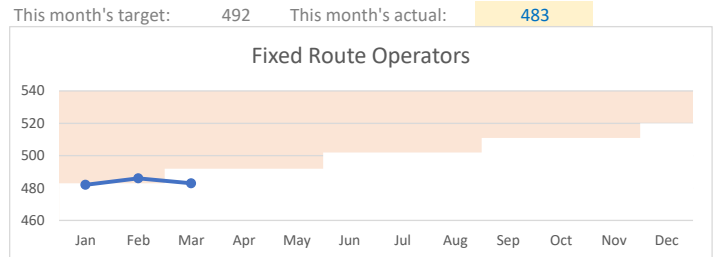
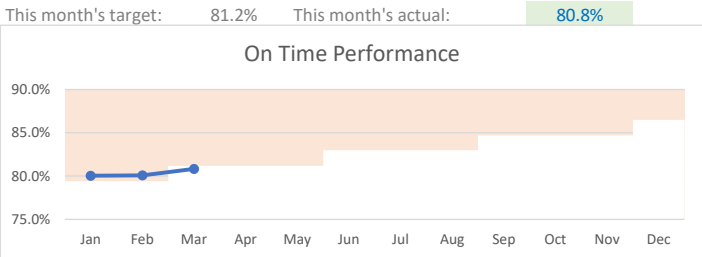
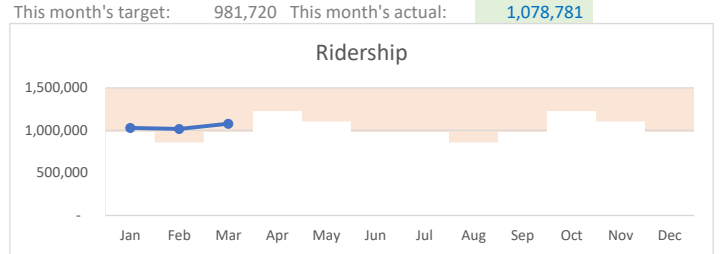
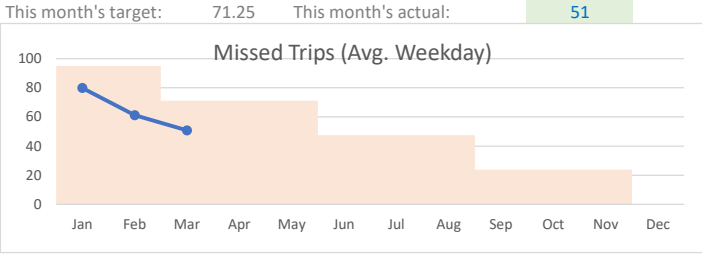
OTP, Safety, Cleanliness

Weekly meetings with operators over 3% early	Ops	complete / ongoing
Supervisory focus on routes with highest % late operation	Ops	complete / ongoing
On-Board QR code for customer feedback	Access	
Address timepoint locations with early operation 10%+	Ops	
Improve data reliability – audit geocodes	Ops	
Monthly SIP and Joint Safety meetings	Ops	complete / ongoing
> initiatives to be determined by 3/31/2023		complete
Report and monitor OTP of general clean work orders	Maint	complete / ongoing
Hire travel trainer – support Access customers on Metro	Access	



Metro is bringing to life its **Reinventing Metro** plan, offering the Greater Cincinnati region bold, new transit innovations that will help grow the regional economy and better connect our community to jobs, education, health care and entertainment. Concurrently, post-Covid commuting patterns and workforce dynamics have created challenges that impact ridership and service quality. In 2023, Metro has created a set of strategic initiatives to maintain and improve key ridership and quality indicators. This dashboard tracks Metro's performance across 10 ridership and service quality metrics.

March 2023





March 2023 Ridership Report

April 18, 2023 | Matt Moorman





Fixed-Route Ridership

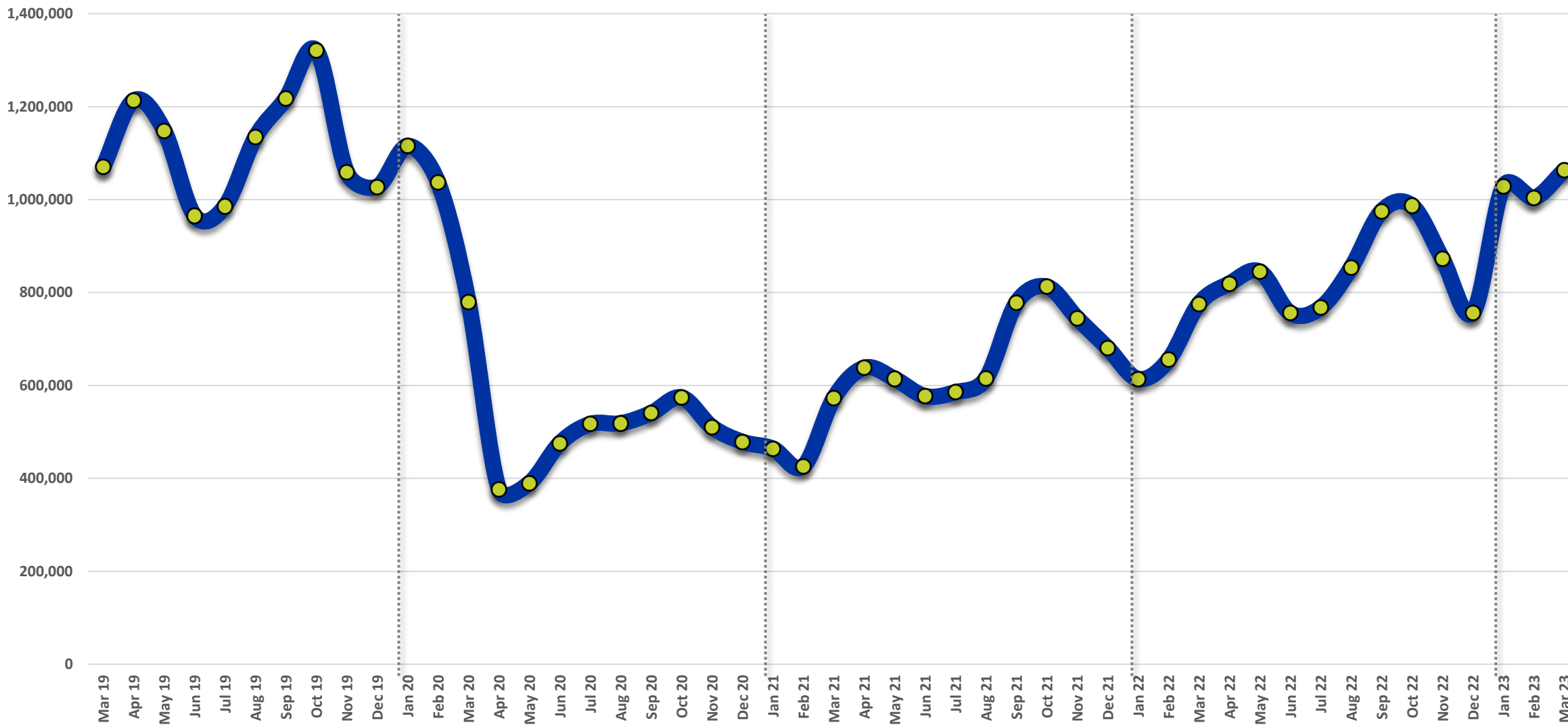
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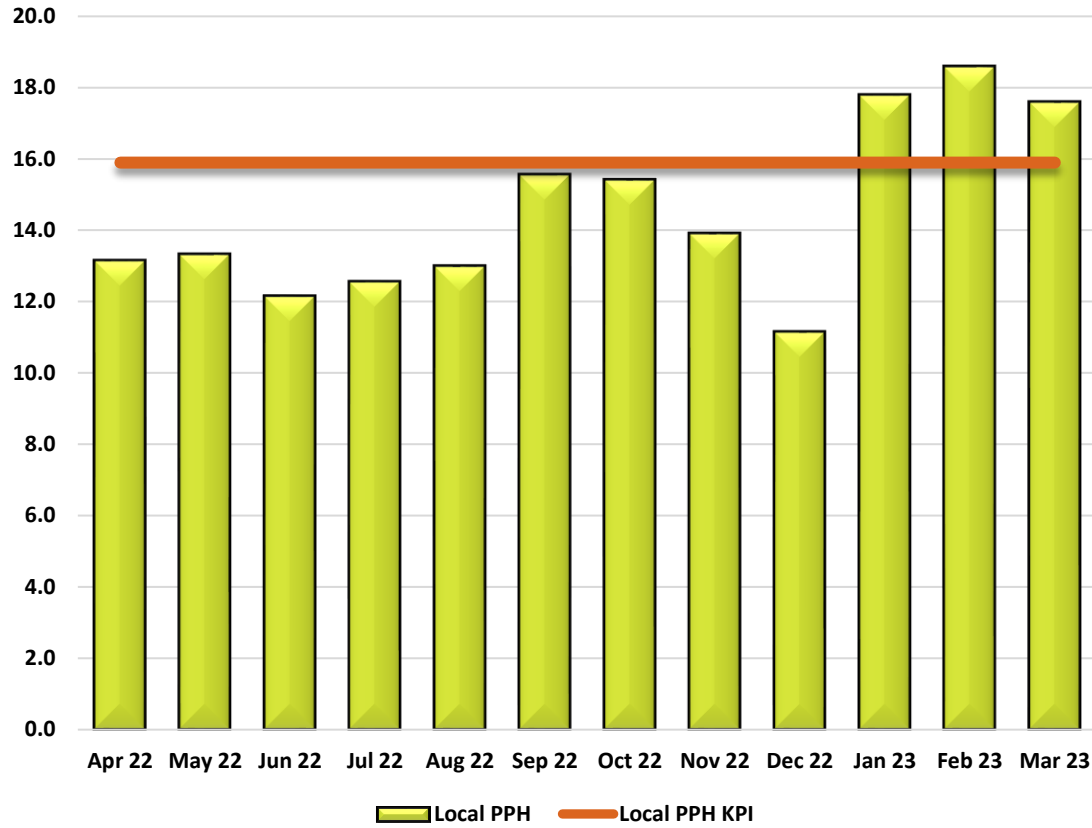
2021

2022

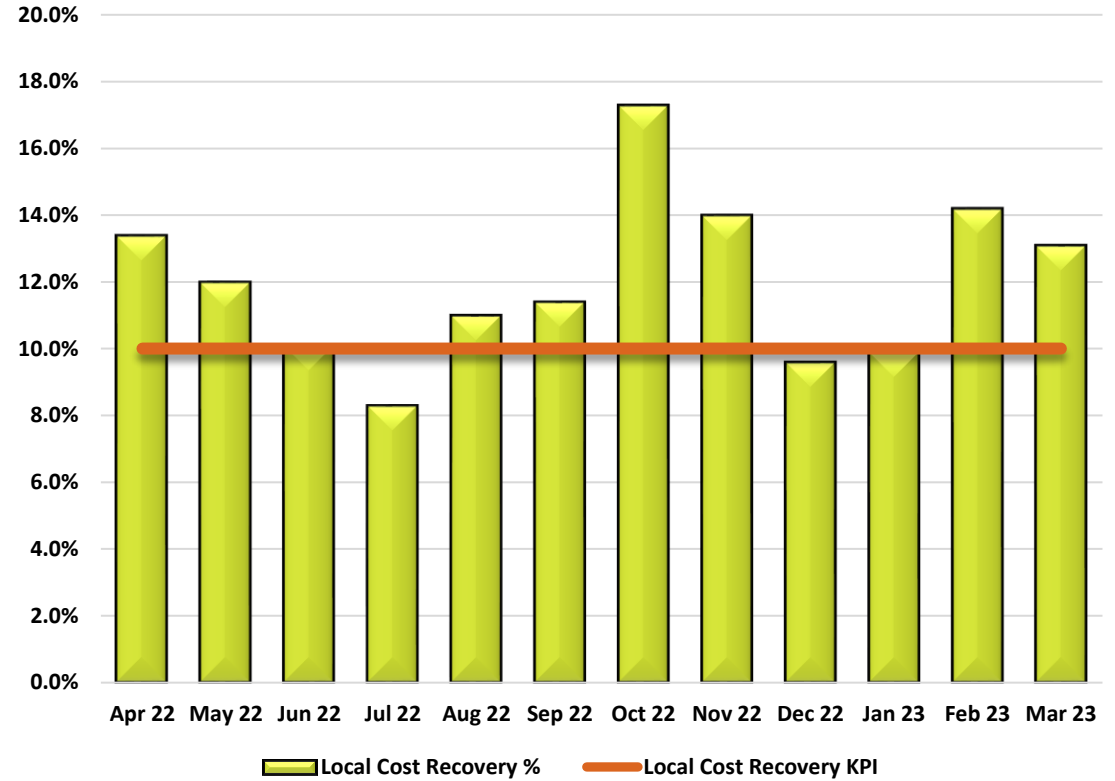
Total Fixed Route Ridership by Month



Local Service Productivity (Last 12 Months)



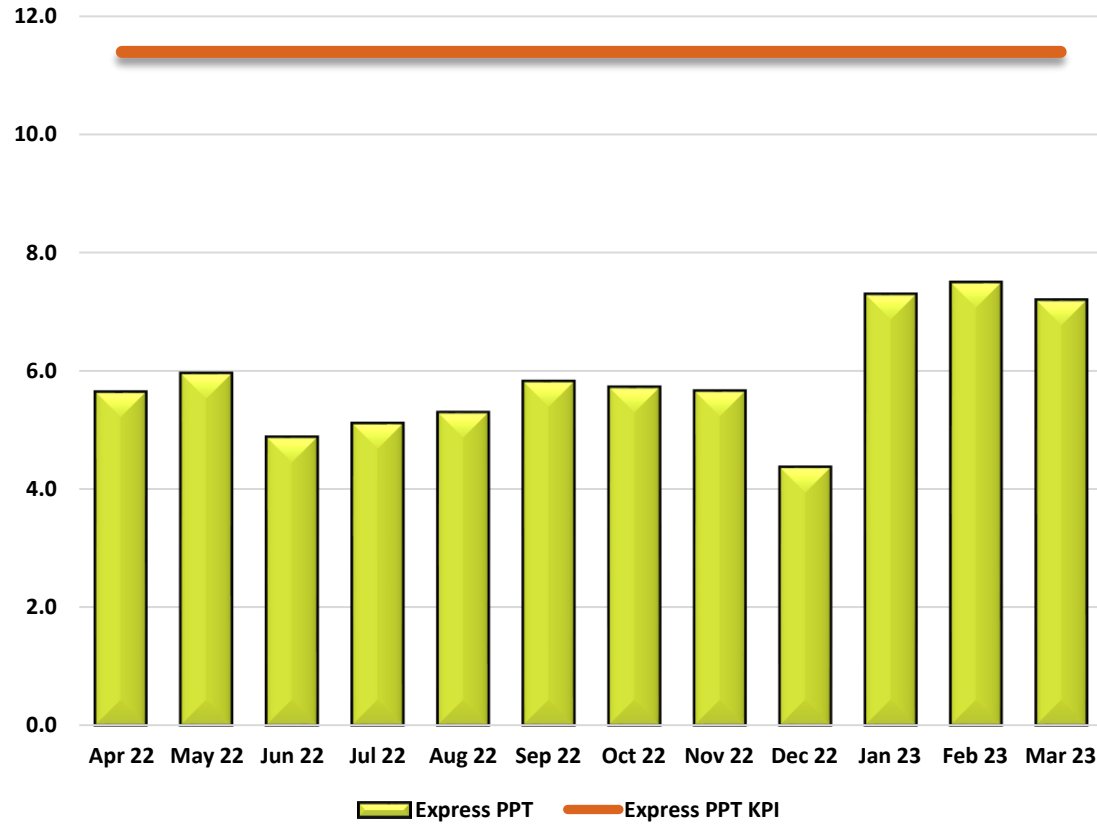
Local Service Cost Recovery & (Last 12 Months)



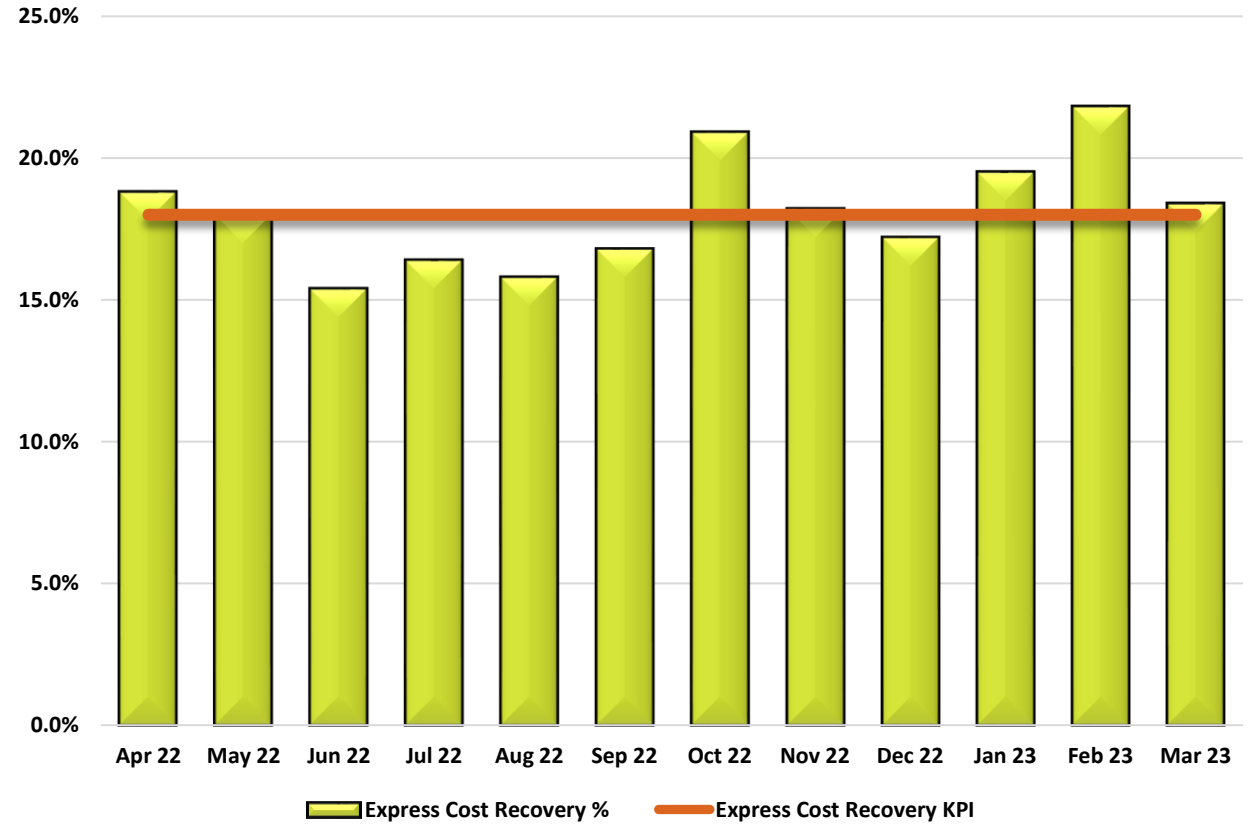
Local Service	Mar 23 Actual KPI	Mar 23 Budget KPI	Variance
Passengers Per Hour	17.6	15.9	1.7
Cost Recovery	13.1%	10.0%	3.1%

*percentage points

Express Service Productivity (Last 12 Months)



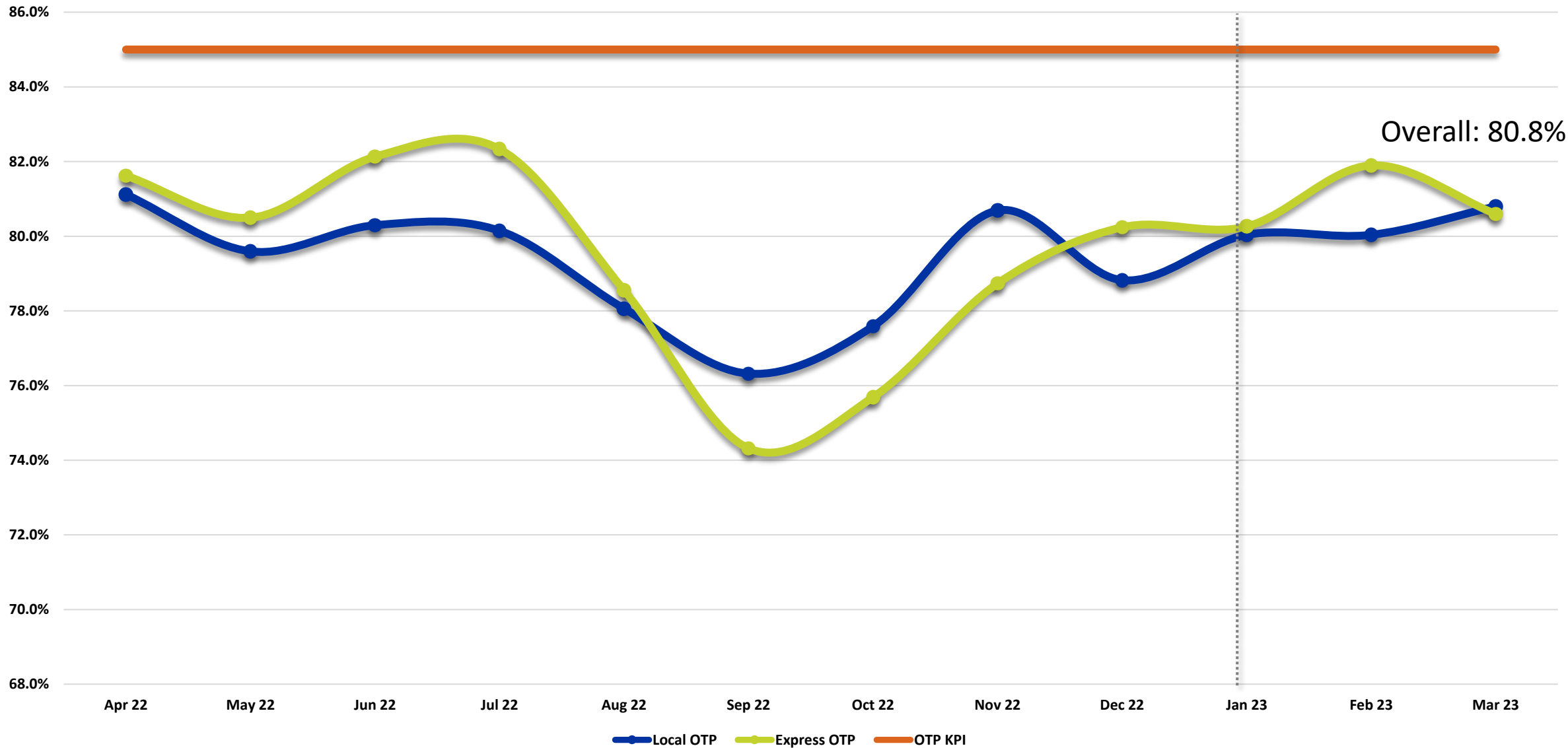
Express Service Cost Recovery % (Last 12 Month)



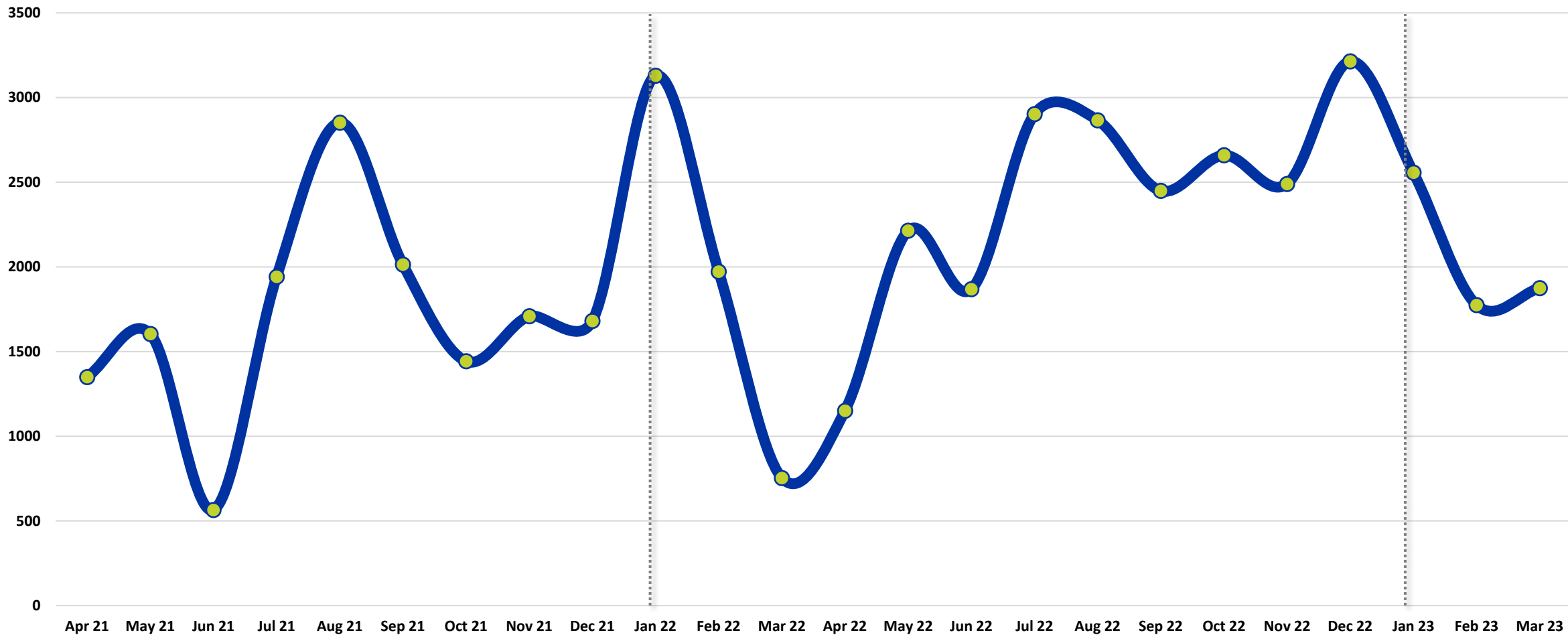
Express Service	Mar 23 Actual KPI	Mar 23 Budget KPI	Variance
Passengers Per Trip	7.2	11.4	-4.2
Cost Recovery	18.4%	18.0%	0.4%

**percentage points*

On-Time Performance Local & Express Service (Last 12 Months)

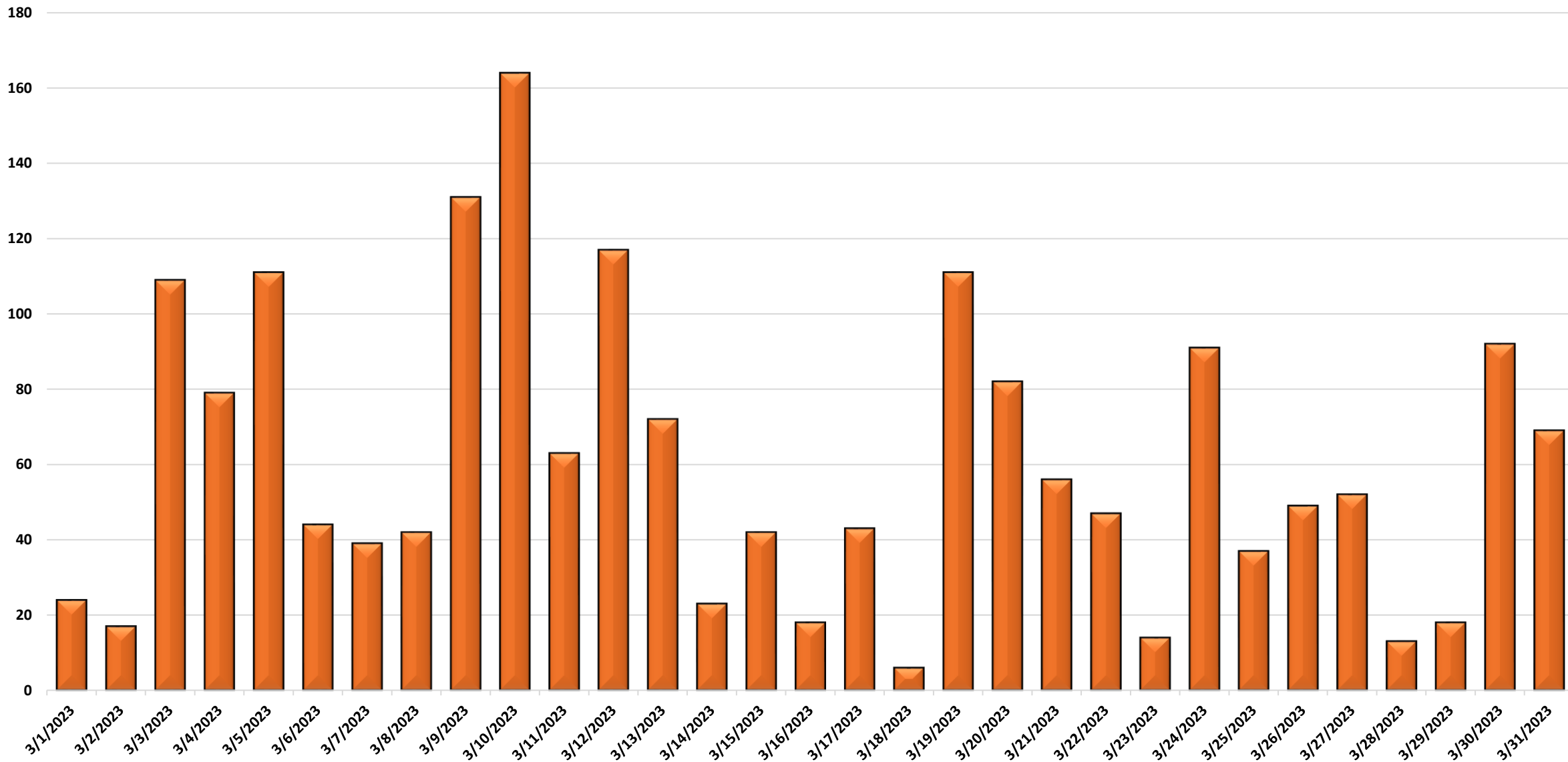


Fixed-Route Missed Trips by Month

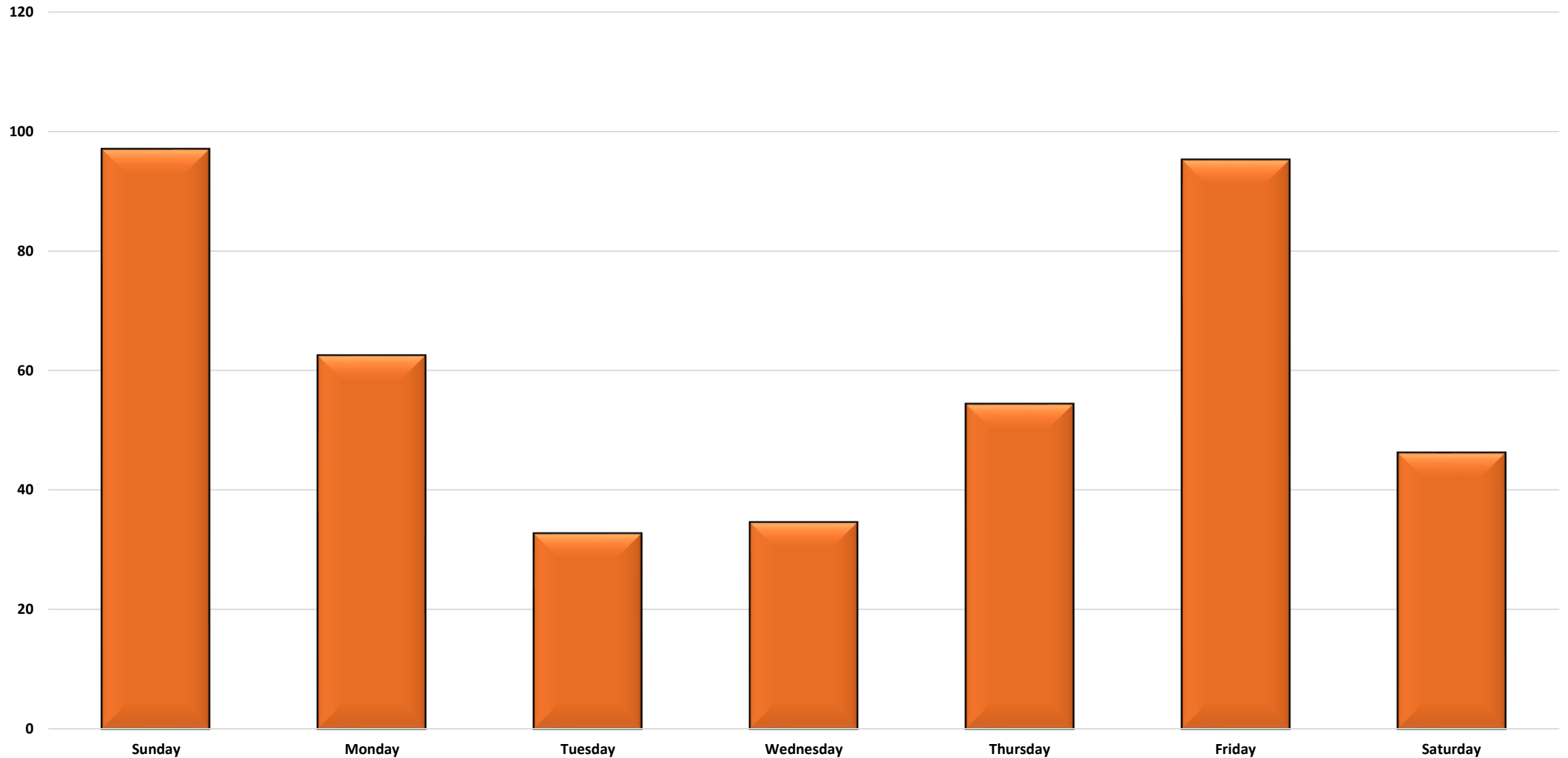


	Missed Trips	Total Trips Scheduled	% of Trips Operated
Mar 23	1,875	69,644	97.3%

March 2023 Daily Missed Trips Due to No Operator



March 2023 Average Daily Missed Trips by Day of Week

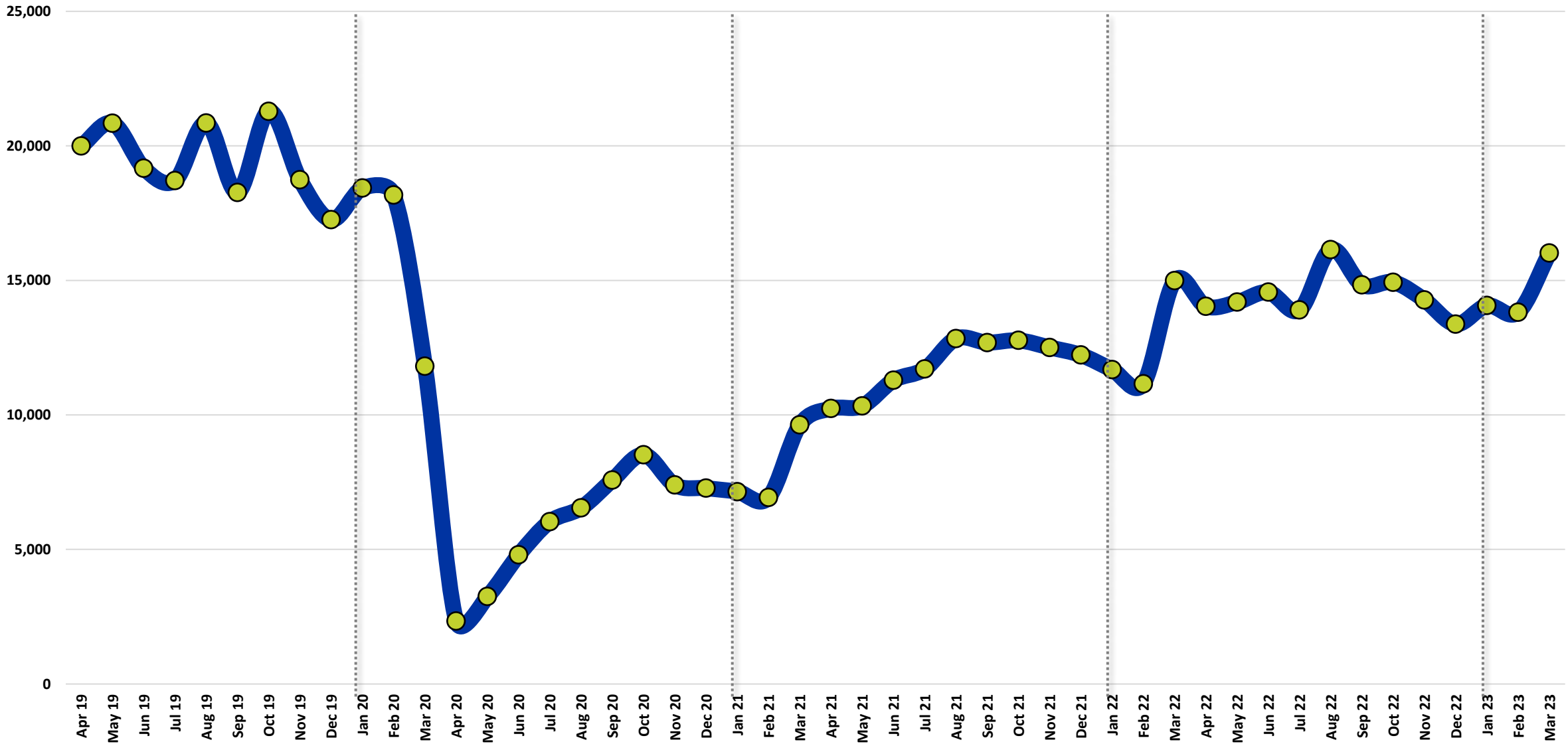




ACCESS Ridership



Total Access Ridership by Month

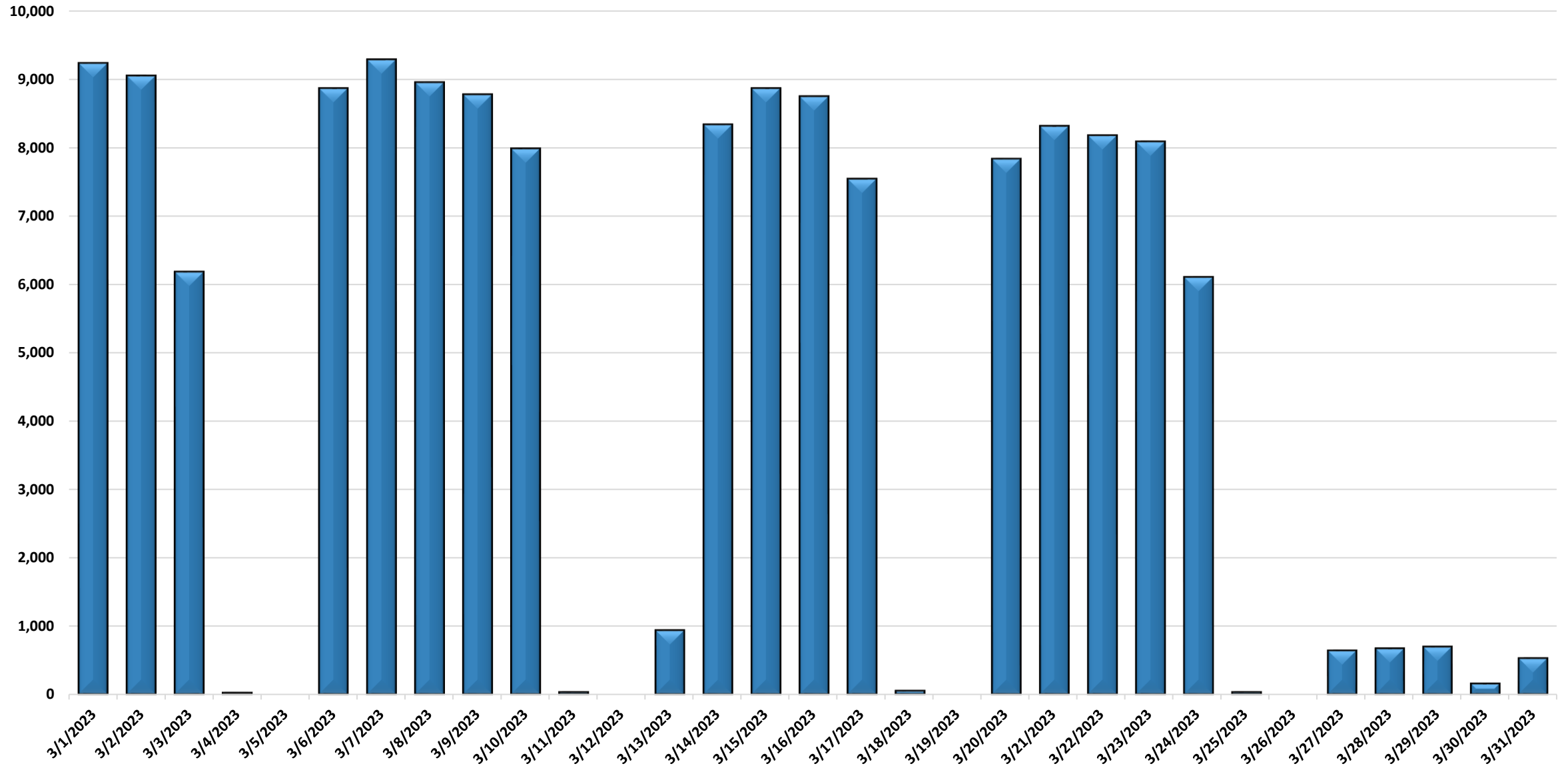




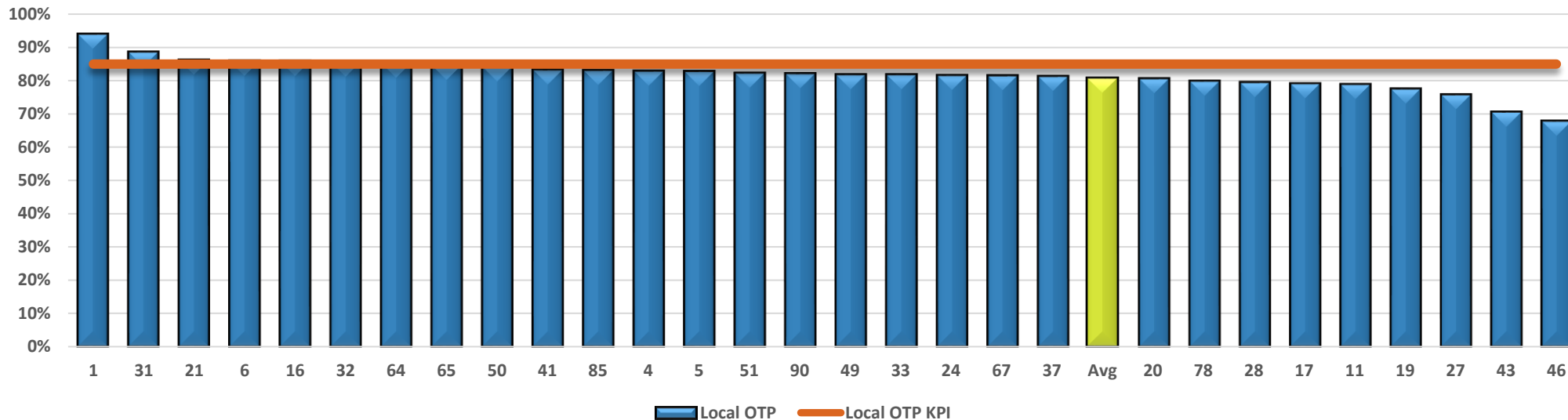
Route Level KPIs



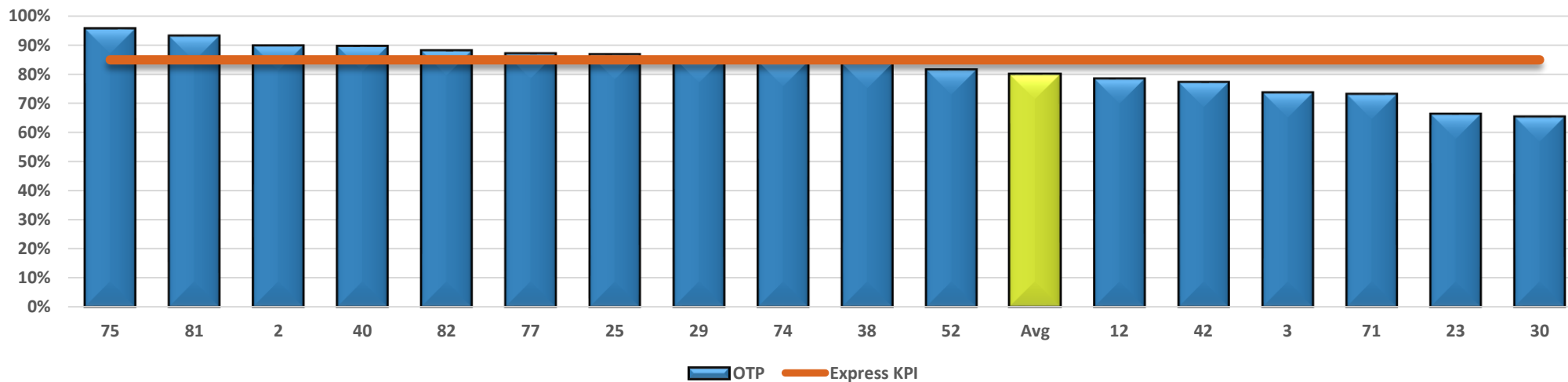
March CPS Ridership by Day



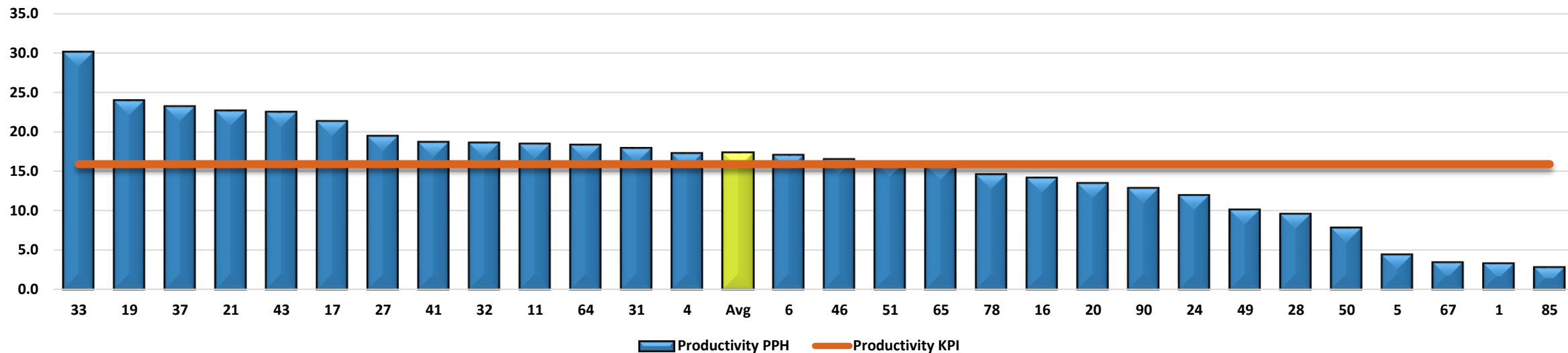
On-Time Performance - Local



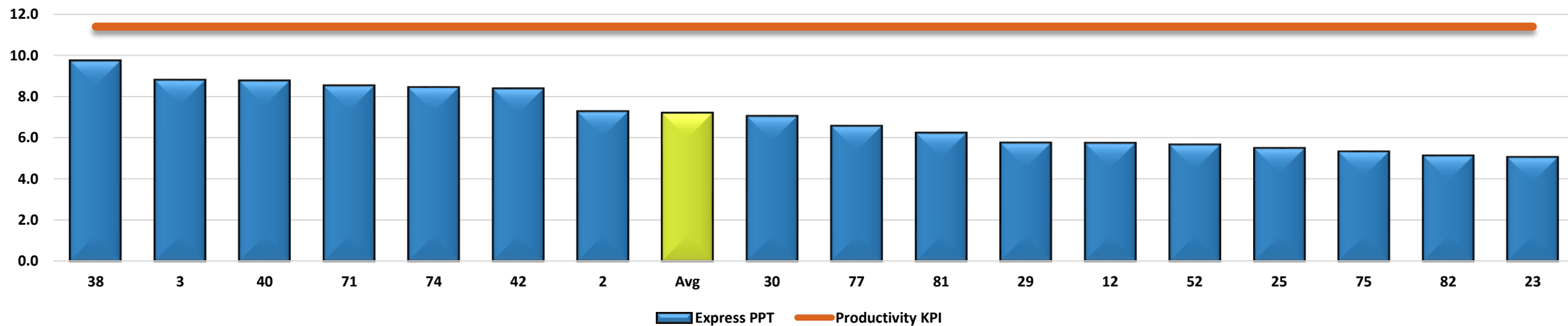
On-Time Performance - Express



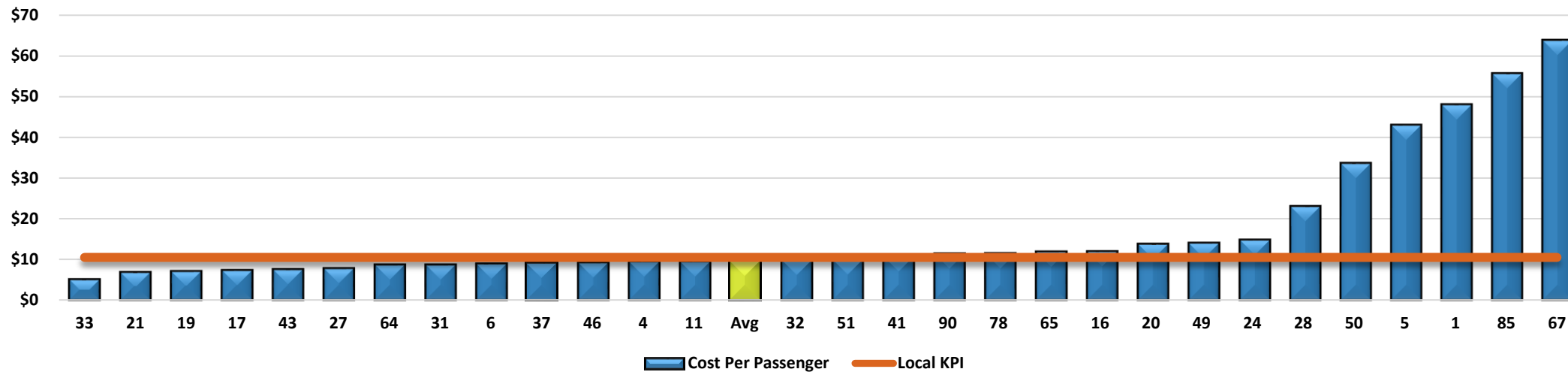
Productivity - Local



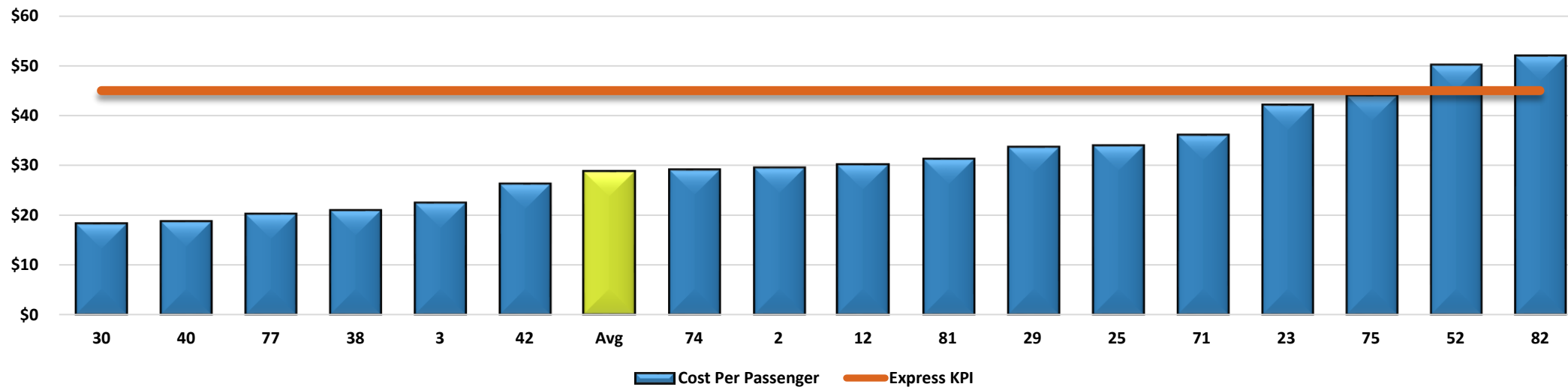
Productivity - Express



Cost Per Passenger - Local



Cost Per Passenger - Express



Project	Method	Vendor	Award	Term	Funding
00-2018 Gillig Bus Contract	Contract Modification	Gillig, LLC	\$31,168,830 (o) <u>\$14,718,476 (m)</u> \$45,887,305	5 Years Expires August 2023	Budgeted 63.6% Federal 3.8% State 32.6% Local
54-2023 Diesel Exhaust Fluid	Invitation for Bid	Next Generation Fuel, LLC	\$150,614 (M/WBE)	1 year Expires April 2024	Budgeted Local Operating

Total Awards for Month

\$14,869,090

YTD Diversity Spend
\$2.2M ↑



BOARD OF TRUSTEES
SOUTHWEST OHIO REGIONAL TRANSIT AUTHORITY
RESOLUTION NO. 2023-xx

APPROVAL OF CONTRACT NO. 54-2023 DIESEL EXHAUST FLUID

WHEREAS:

1. Diesel exhaust fluid is essential to SORTA's operation as modern diesel engines cannot operate without exhaust fluid. In addition, diesel exhaust fluid is an additive used to reduce the amount of air pollution created by a diesel engine.
2. An Invitation for Bid ("IFB") was sent to vendors via OpenGov for diesel exhaust fluid. More than two hundred (200) firms were notified of the opportunity, seven (7) vendors downloaded solicitation materials and four (4) submitted responses.
3. SORTA staff recommends the Board accept the bid submitted by Next Generation Fuel, Inc., for a one (1) year contract for diesel exhaust fluid at a total cost not to exceed \$150,614 as the lowest responsive bid from a responsible bidder.
4. This project will be funded with the FY23 operating budget.

THEREFORE, BE IT RESOLVED:

5. The Board hereby finds the bid of Next Generation Fuel, Inc., as recommended by the SORTA staff to be the lowest responsive bid from a responsible bidder, and awards to it a one-year (1) contract for diesel exhaust fluid, at a total cost not to exceed \$150,614.
6. The Board authorizes the CEO/General Manager/Secretary-Treasurer or the Senior Director of Procurement to execute a contract Next Generation Fuel, Inc., on behalf of SORTA.



BOARD OF TRUSTEES ACTION ITEM

DATE: April 18, 2023
FROM: John Edmondson, Sr. Director of Procurement
 Jeff Mundstock, Director of Fleet & Facilities
PROJECT NO.: 54-2023 Diesel Exhaust Fluid
REQUEST: Contract Award

BACKGROUND

Metro buses primarily run on diesel fuel. Diesel engines are a common propulsion system for 40' transit vehicles throughout the industry and are widely known for their ruggedness and fuel efficiency.

BUSINESS PURPOSE

Diesel engines produce nitrous oxide emissions that are harmful to breathe and damaging to the environment. Diesel exhaust fluid ("DEF") acts as a chemical catalytic converter and is required for the engine to function properly.

PROJECT FINANCING

The budget for the project is \$165,600 and was included in the approved FY2023 Operating Budget.

The contract award is for a single year with a not to exceed value of \$150,614; a **savings to budget of \$14,986**. The contract price per gallon is \$1.48 (rounded from \$1.4766) and is considered fair and reasonable based on competition and previous pricing.

PROJECT PROCUREMENT

The procurement methodology for commodities of this type is Invitation for Bid ("IFB"). The lowest responsive, responsible bidder is selected for contract award.

Staff targeted more than 20 firms capable of delivering the products, including 11 certified XBE firms. More than 200 firms were notified of the opportunity using our e-procurement platform.

Seven (7) vendors downloaded solicitation materials and four (4) submitted responses for our review. Two firms, PetroChoice and Valor Oil, were deemed nonresponsive due to missing required documentation.

The following table indicates the prices received from each interested vendor:

Next Generation Fuel	PetroChoice	Valor Oil	Atlantic Petroleum
\$150,614	\$168,300	\$243,780	\$317,220

Next Generation Fuel is considered to have the lowest responsive bid. The price is considered fair and reasonable based on competitive pricing from other vendors and contract pricing from previous years (\$1.95 per gallon in FY2022).

The contract is a firm fixed price and will expire on April 30, 2024.



PROJECT DIVERSITY

A diversity participation goal was not required for this contract since Metro financed the contract using local funding. However, calculations indicate that approximately 5% of local vendors are certified XBE firms capable of performing the work.

Staff targeted 11 certified XBE firms for this opportunity. Two certified firms responded with bid submissions.

Next Generation Fuel is a certified MBE/WBE organization, resulting in a 100% diversity award.

RECOMMENDED BOARD ACTION

Staff recommends the Board of Trustees approve a resolution authorizing the CEO/General Manager/Secretary-Treasurer or the Senior Director of Procurement to execute Contract No. 54-2023 on behalf of Metro with Next Generation Fuel, Inc., for a not to exceed value of \$150,614.



BOARD OF TRUSTEES
SOUTHWEST OHIO REGIONAL TRANSIT AUTHORITY
RESOLUTION NO. 2023-xx

APPROVAL OF MODIFICATION TO CONTRACT NO. 00-2018 GILLIG BUS

WHEREAS:

1. By Resolution No. 2018-36, the SORTA Board approved a 5-year contract with Gillig, LLC for the manufacture of 40' buses, which was a joint purchase with TANK to leverage pricing. The current contract expires August 2023.
2. The bus replacement schedule for 2023 calls for the replacement of twenty-five (25) aging vehicles, requiring Metro to issue a final purchase order to Gillig for 25 new vehicles.
3. Staff recommends the Board of Trustees approve a contract modification with Gillig, LLC, for the production and purchase of twenty-five (25) vehicles, at a cost not to exceed \$14,718,476, bringing the total contract value up to \$45,887,305.
4. This project will be funded with federal, state, and local capital funds.

THEREFORE, BE IT RESOLVED:

5. The SORTA Board of Trustees approves a modified contract with Gillig, LLC., at a cost not to exceed \$14,718,476, bring the total contract value up to \$45,887,305.
6. The Board authorizes the CEO/General Manager/Secretary-Treasurer or the Senior Director of Procurement to execute a contract with Gillig, LLC. on behalf of SORTA.



BOARD OF TRUSTEES ACTION ITEM

DATE: April 17, 2023
FROM: John Edmondson, Sr. Director of Procurement
 Jeff Mundstock, Director of Fleet & Facilities
PROJECT NO.: 00-2018 Gillig Bus Contract
REQUEST: Contract Modification

BACKGROUND

Metro routinely partners with regional transit providers on joint procurements to leverage collective purchasing when negotiating final prices. In 2018, Metro partnered with TANK to award a 5-year contract for the manufacture of 40' buses. TANK conducted a Request for Proposals, facilitated the evaluation of all received vendor submissions, and recommended final award. The award was issued to Gillig, LLC and is set to expire in August 2023.

BUSINESS PURPOSE

The contract with Gillig is an indefinite delivery, indefinite quantity (IDIQ) contract. Under such a contract, Metro specifies a minimum and maximum order quantity at the time of award, then issues individual purchase orders as funding is available for the delivery of finished products. The bus replacement schedule for 2023 calls for the replacement of twenty-five (25) aging vehicles, requiring that Metro issue a final purchase order to Gillig for 25 new vehicles.

PROJECT FINANCING

The budget for this project is \$19,114,195 and was approved as part of the FY2023 Capital Budget.

The final production unit cost for each bus is \$588,739. This is an increase of 7.8% from the 2018 contract production price of \$545,721 (final production unit costs will vary based on selected options). The root cause of the increase is the higher Producer Price Index ("PPI"), which is a measure of wholesale inflation and the prices paid to U.S. producers of goods and services. PPI is measured in terms of % of change in prices from year to year. The November 2022 PPI (7.3%) was used at the time the production price was set.

The modification will be funded as follows:

Federal Share (63.6%):	\$9,357,776
State Share (3.8%):	\$562,657
Local Share (32.6%):	<u>\$4,798,043</u>
Total:	\$14,718,476

The final extended cost of \$14,718,476 is a **savings to budget of \$4,395,719.**

PROJECT PROCUREMENT

The requested action is a modification to a contract executed in 2018. As such, no vendor outreach or solicitation activity has been performed.



The requested modification is the 4th order placed since execution. The table below illustrates the cumulative not to exceed value of the contract of \$45,887,305:

	Date	# Units	Unit Cost	Extended Cost	Cumulative NTE
Modification 1	April 2019	19	\$ 502,686	\$ 9,551,034	\$ 9,551,034
Modification 2	January 2020	10	\$ 518,389	\$ 5,183,890	\$ 14,734,924
Modification 3	February 2021	31	\$ 530,126	\$ 16,433,906	\$ 31,168,830
Modification 4	March 2023	25	\$ 588,739	\$ 14,718,475	\$ 45,887,305

The unit cost of \$588,738 is considered fair and reasonable based on the national average price of \$627,260 as published in the American Public Transit Associations 2020 Public Transit Vehicle Database.

The contract will expire on August 31, 2023. No options are available. Pursuant to FTA requirements, rolling stock contracts are limited to a maximum 5-year period of performance.

PROJECT DIVERSITY

Pursuant to FTA requirements, transit vehicle manufacturers are required to submit DBE programs to FTA for review and approval prior to bid submission for any transit vehicle purchasing solicitation. Gillig's current DBE goal for FY2023 is 0.65%, as approved by FTA.

RECOMMENDED BOARD ACTION

Staff recommends the Board of Trustees approve a resolution authorizing the CEO/General Manager/Secretary-Treasurer or the Senior Director of Procurement to execute a modification to Contract No. 00-2018, on behalf of Metro with Gillig, LLC, adding 25 vehicles for production and increasing the total not to exceed contract value by \$14,718,476 to \$45,887,305.