



CHATTANOOGA AREA REGIONAL TRANSPORTATION AUTHORITY
THE CHATTANOOGA PARKING AUTHORITY

BOARD MEETING AGENDA

April 18, 2024, 10:00 AM ET

1. **Call to Order**
2. **Quorum Call**
3. **Invocation & Pledge of Allegiance**
4. **Public Comment**
5. **Adoption of Minutes** [\(page 2\)](#)
6. **Employee Recognition**: Jeff Smith
7. **CEO Report**: Charles D. Frazier
8. **Finance Committee**
 - a. Financial Report: Sonja Sparks [\(page 12\)](#)
 - b. Statistical Report: Phillip Pugliese [\(page 15\)](#)
9. **Compensation and HR Committee Report**: Director Charita Allen
10. **Operations Committee Report**: Vice Chairman Evann Freeman
11. **New Business**
 - a. May Service Update (Information): Veronica Peebles [\(page 19\)](#)
 - b. MSTPA Meeting (Information): Brent Matthews [\(page 20\)](#)
12. **Old Business**
 - a. Research Grants – Project (Information): Phillip Pugliese [\(page 22\)](#)
13. **Adjournment**

MINUTES OF THE BOARD OF DIRECTORS MEETING OF
THE CHATTANOOGA AREA REGIONAL TRANSPORTATION AUTHORITY

AND

THE CHATTANOOGA PARKING AUTHORITY

March 21, 2024

The regular meeting of the Board of Directors of the Chattanooga Area Regional Transportation Authority (CARTA) and the Chattanooga Parking Authority was held Thursday, March 21, 2024, starting at 10:00 a.m., at the Board Building, 1617B Wilcox Blvd. Chattanooga, TN 37406. The meeting was held in accordance with Section 4, Paragraphs 1 and 2 of the ordinances creating the Authority and pursuant to the notice advertised in the Chattanooga Times Free Press on March 03, 2024. The following Board members were in attendance and constituted a quorum: Johan de Nysschen, Chairman; Patricia McKoy, Treasurer; Stephen Culp, Corey Evatt, Bill Nye, Daniela Peterson, and LeAndrea Sanderfur. The following persons were also in attendance: Charles Frazier, Chief Executive Officer; Sonja Sparks, Chief Financial Officer; Jeff Smith, Chief Operating Officer; Philip Pugliese; Transportation System Planner; Rachael Ruiz, Legal Counsel, Miller & Martin; Dena Franklin, Payroll & A/R Administrator; and various media and guests. Mr. de Nysschen called the meeting to order and declared a quorum present. Mr. de Nysschen then called on Ms. McKoy to give the invocation and lead the Pledge of Allegiance. Mr. de Nysschen next opened the meeting for public comments regarding board action items.

Mr. Daniel Carr, resident of District 1, requested information on CARTA's route development and offerings. Mr. Frazier advised a productivity and health assessment policy

is currently being developed and will be presented as a best practice model for Board approval. Mr. Carr next stated CARTA does not have Chattanooga Metropolitan Airport route. Mr. Pugliese advised that CARTA Go is available 5:00 a.m. – 8:00 p.m. to reach this destination. Mr. de Nysschen advised that the future CARTA service footprint is currently under development and requested that Mr. Frazier include information on the route determination process when presenting.

Mr. de Nysschen next stated that all members had been sent a copy of the February 15, 2024, board meeting minutes and asked if there were any additions or corrections. There being no questions or corrections, a motion was made by Ms. McKoy and seconded by Mr. Nye, followed by a vote to approve the minutes. The motion was unanimously approved.

Mr. de Nysschen then called on Mr. Frazier to present the CEO report. Mr. Frazier reported investing time strategically over the last several weeks and making a point to continue getting to know CARTA's employees and the rich history of public service they bring to the community. He further reported introducing himself to CARTA's current external partners and potential partners in the region. Mr. Frazier attended a meeting with Ms. Strickland, ATU Local 1212 president, and Ms. Allen, CARTA board member, where Eliseo Acosta, ATU workforce development coordinator, presented mentoring programs. Mr. Frazier advised that CARTA is currently working with Ms. Strickland to formalize a pilot mentoring program to be presented for board approval.

Mr. Frazier next reported that he presented the initial vision of CARTA's mobility ecosystem and strategic imperatives to the Chattanooga City Council and advised this presentation will be made internally to CARTA staff during the month of April, 2024. Mr.

Frazier further reported meeting with Dr. Justin Robertson and his team at Hamilton County School District; the Kiwanis Club of Ooltewah-Collegedale; Virginia Anne Sharber, Executive Director of the Hunter Museum; County Mayor, Weston Wamp; Mayor Hollie Berry and City Manager Martin Granum from The City of Red Bank; Stacy Johnson, Executive Director of La Paz; District 8 Councilwoman Marvene Noel; CARTA's State Safety Oversight Officer, Mr. Christopher Broach; and several city department administrators.

Mr. Frazier next reported that CARTA is in discussions with City Library Director, Will O'Hearn, to collaborate with the library to support a summer pilot project in support of the library's annual Make.Play.Read.Learn ("MPRL") Program. The MPRL initiative is a summer learning program designed for youth K-12 that will run for 2 months from June 1st through the end of July with activities taking place at different locations throughout the City of Chattanooga. During the two (2) month pilot program, CARTA would allow fare-free transportation on fixed route services for registered participants ages 6-18. For participants between the ages of 6 and 11, an adult chaperone would also ride fare-free. The specific logistics of the program are currently under development, and the board will be provided an update when the project is finalized.

Mr. Frazier next reported that Savannah Ward, CARTA's Community Outreach Coordinator, organized a tour with a class from Tyner Middle School, showcasing an electric bus and visiting two (2) bus shelters to allow the students to select a shelter to wrap as part of the Design Your Neighborhood Project in collaboration with the Chattanooga Design Studio. Through this innovative program, teachers integrate a curriculum emphasizing sustainability

and transportation into their lessons. This is CARTA's third partnership with a Hamilton County School, offering educational tours and opportunities for students to design shelters.

Mr. Frazier then introduced Ms. Cynthia Stevenson and Lolita Blackmon congratulating them on their recent retirement and thanking Ms. Stevenson for thirty (30) years and Ms. Blackmon for thirty-two (32) years of CARTA service. A motion was made by Mr. Culp, seconded by Ms. McKoy, and followed by a vote to accept the CEO Report as information.

Mr. de Nysschen next called on Ms. McKoy to provide an update from the Finance Committee. Ms. McKoy stated that there was nothing to report.

Mr. de Nysschen advised that due to committee dormancy, a schedule for subcommittee meetings is under development which will allow for a more structured approach balancing committee members' level of engagement. Mr. Frazier advised the schedule is close to completion. The schedule will be distributed to board members and posted on CARTA's website upon completion.

Mr. de Nysschen next called on Ms. Sparks to present the Financial Reports for February. Ms. Sparks reported that for the month of February, revenue was \$1,857,232 compared to the budgeted \$1,912,466. Transit revenue was under budget \$70,488 from an under-budget variance in passenger revenue of \$10,477 and federal revenue billing for preventative maintenance of \$50,536 due to a reduction of maintenance expense during the month. Ms. Sparks noted the February Parking Report indicated receipts from parking meter and enforcement reflected net positive revenue of \$64,627 and when combined with net shuttle costs of (\$152,382), created a net of (\$87,755). Total net parking revenue for the

month (adding in surface lot and garage revenues and expenses) reflected a positive net revenue of \$47,016.

Ms. Sparks further reported expenses for the month were \$2,220,619 compared to the budgeted \$2,311,561. Transit expense was under budget \$125,887 due to a wage and benefit variance of \$80,323 due to vacancies, software maintenance of \$16,413 due to the timing of annual purchases, fuel of \$217,132, maintenance \$5,119 and professional services of \$14,468 which consists of a reduction in maintenance related services such as towing, glass, etc. Parking expense over budget variance of \$47,654 was due to an increase in parking meter expenses due to an increase in Duncan fees. Duncan fees are higher than the previous software used due to improved technology which recognizes more features to enable cost reduction and increased revenue such as tag readers, time recognition, etc. The fees are also based on usage and increased expenses due to collection efforts of prior period fines we are experiencing more expense.

Ms. Sparks reported that Care-A-Van expenses were over budget \$36,602 due to an over budget variance in wages and benefits in the amount of \$36,881 from customer service covering after hours and weekend shifts for CARTA GO. Parking revenue reflected a net positive revenue of \$64,627 from parking meters and enforcement. When combined with net Shuttle costs, surface lot revenue, and garage revenue and expenses, total parking reflected a positive net revenue of \$47,016 for the month of February.

Mr. de Nysschen requested an update on recovery of funds from parking violations. Mr. Frazier advised the second round of collection letters have gone out. Mr. Frazier further advised the violation data has been analyzed, and CARTA is aware of repeat violators. Mr.

Frazier advised notice of parking violation enforcement should be made public, should include and engage the City Council, and include an amnesty period prior to enforcement.

Mr. de Nysschen requested Ms. Sparks to present the fiscal forecast. Ms. Sparks advised that as a result of the pandemic, the Federal Transportation Agency (FTA) provided grant funds to large and small urban transit agencies to support capital, operating, and other expenses generally eligible under formula grant funding programs to prevent, prepare for and respond to COVID-19. CARTA was provided \$10,784,808 in America Rescue Plan Act (ARPA) funds to help navigate through the pandemic, and the majority of these funds have been used since 2020 to provide essential services to the community with no significant reductions in service, despite rising costs and no additional contributions from local sources for at least five (5) years. CARTA relies on local funding from municipalities to balance the budget and to prevent reduction in services. The preliminary suggested budget of \$31,033,092 represents a 12.67% increase from last year and utilizes \$1,126,523 of ARPA funds. The fiscal forecast estimates CARTA will expend all ARPA funds by the first quarter of year ending 6/30/2027 with an increase in local funds. Without an increase in local contributions, ARPA funds will be expended by the fiscal year ending 6/30/2026.

Ms. Sparks further advised that the remaining ARPA funds of \$4,048,415 will be expended by the first quarter of the fiscal year ending 6/30/2027 with the suggested preliminary budget of \$31,033,092, conservative increases for subsequent years, and an increase in local contributions. Without an increase in local contributions, ARPA funds will be expended by the fiscal year ending 6/30/2026.

Mr. de Nysschen stated that CARTA is facing a fiscal cliff and reiterated that local contributions from the City and County have remained flat with CARTA making up the deficit by utilizing ARPA funds held in reserves. Mr. de Nysschen further stated that without an increase of contributions from the City and County, CARTA will run out of operating funds by the end of 2026, and advised that CARTA should ask for contribution increases beginning with the FY2025 budget. Ms. Peterson inquired if CARTA was the only agency facing these challenges. Mr. Frazier advised that comparable transit industry members prepare for funding challenges through dedicated funding sources, increased local contributions, price increases, and developing direct revenue generating opportunities. Mr. Culp stated CARTA is currently generating additional revenue through Incline and parking operations, which is unique in the industry. Mr. Frazier advised that all transit agencies are different with CARTA being uniquely positioned by having the Incline, parking revenue, and the Electric Shuttle assets. Mr. de Nysschen noted that CARTA covers thirty-five percent (35%) of its expenses by revenue generated but the board and CARTA leadership must remain focused on revenue optimization.

Mr. de Nysschen next requested that Ms. Sparks present the preliminary FY2025 operating budget. Ms. Sparks advised that annually, staff develops the operating budget based on the prior year's activity and planned areas of improvement. The preliminary suggested budget of \$31,033,092 represents a 12.67% increase from last year and utilizes \$1,126,523 of ARPA funds. This budget includes the following areas of improvements and revenue increases: Incline revenue increase of 25% which is \$804,633; governmental affairs expense of \$150,000; workforce development of \$174,790; management efficiencies of \$93,487; infrastructure improvements of \$212,573; service quality of \$716,889; innovation of

\$218,137; and safety and security enhancements of \$40,000. The existing budget includes service expansion on Route 4; and a to be determined microtransit expansion, which is budgeted in the expense amount of \$504,136. Ms. Sparks further advised CARTA has budgeted \$31,033,092 in a balanced budget for the fiscal year ending 6/30/2025 with substantial improvements and two microtransit expansions, ARPA funds of \$1,126,523, and \$1,107,261 of increased revenue from Incline ticket sales, of which \$302,628 will be restricted for future consideration of a capital fee of \$1.25 per ticket for local grant matching funds.

Mr. de Nysschen asked what would change for the customer with the new budget. Ms. Sparks advised the service expansion on Route 4, microtransit expansions, customer service, quality of service and expansion, bus cleanliness, and shelter repairs. Mr. Frazier advised in addition; the budget will allow for a robust mobility app to enhance the customer experience.

Mr. de Nysschen next called on Ms. Powell to present the capital budget. Ms. Powell advised that capital budget has been developed, identifying funded capital projects for FY 2025 of \$4,393,913 and unfunded capital projects in the amount of \$35,730,000. On March 8, 2024, CARTA submitted a request for \$1,500,000 in local capital match funds from the City of Chattanooga to align with the City of Chattanooga's capital budget submission process. This amount includes funds of \$658,850 in already awarded grant projects, with the remaining \$841,150 to be utilized as capital match for competitive grant opportunities that are currently available. For fiscal years 2026-2029, CARTA has budgeted \$17,526,390 in capital projects that are projected to be funded.

Mr. de Nysschen asked if there were any additional comments or questions regarding the preliminary budgets. There being none, a motion was made by Mr. Culp, seconded by Ms.

Peterson, and followed by a vote to accept approve the Operating and Capital budget for FY2025. The motion was unanimously approved.

Mr. de Nysschen called on Ms. Powell to present Resolutions 601 and 602. Ms. Powell advised approval of these resolutions will authorize staff to apply for and administer awarded grants. Resolution 601 authorizes the Chief Executive Officer (CEO) or his designee, the Director of Grants, Technology, and Research, and the General Manager of Planning and Grants to apply for, execute, and amend FY 2023 Department of Energy (DOE) Vehicle Technologies Office Program grant entitled, "AI-Powered Autonomy-Aware Neighborhood Mobility Zones: Equitable Solutions and Business Models for Revamping Transportation." Resolution 602 authorizes the CEO or his designee and the Director of Grants, Technology, and Research to apply for, execute, and amend FY 2024 Federal Transit Administration (FTA) formula grants for section 5307, 5337, 5339, and 5310 funds.

Mr. de Nysschen asked if there were any additional comments or questions regarding the resolutions. There being none, a motion was made by Mr. Culp, seconded by Ms. Sanderfur, and followed by a vote to approve the resolutions. The motion was unanimously approved.

Mr. de Nysschen next called Mr. Pugliese to present the Statistical Report. Mr. Pugliese reported that on a year-over-year comparison for February, transit ridership was up 9%; CARTA GO was up 34%; shuttle ridership was up 42%; Incline ridership was down 31%; and Care-A-Van ridership increased 17%, with 1.32 passengers per hour. The number of bicycles carried was up 17%; and the number of wheelchairs carried increased by 36%. UTC boardings remain low. Parking at Engel Stadium remains very low per consultation with David Seidel,

UTC Director of Parking Services. He anticipates that parking at Engel Stadium will rebound in the fall as major construction projects will affect on-campus lots. CARTA Community Outreach has been working with the UTC Sociology Club to engage with students to identify transit issues to better inform CARTA operations.

Mr. Frazier stated that a CARTA GO driver focus group is scheduled for Sunday, March 24th. Information gathered from the focus group will be used to analyze CARTA GO services and fees.

Mr. de Nysschen asked if there were any additional comments or questions regarding the Statistical Report. There being none, a motion was made by Ms. Peterson, seconded by Mr. Culp, and followed by a vote to accept the Financial and Statistical Reports as information. The motion was unanimously approved.

Under "Old Business" Mr. de Nysschen called on Mr. Frazier to provide an update on the employee appreciation program. Mr. Frazier advised the program will begin in April, and the first employee appreciation certificate will be awarded at the board meeting in April.

Mr. de Nysschen inquired if there were any other business items that need to be addressed. There being no further business, a motion was made to adjourn, and the meeting was adjourned.

TO: CARTA Board of Directors
Finance & Compliance Committee

FROM: Sonja Sparks
Chief Financial Officer

SUBJECT: Financial Report

RECOMMENDED ACTION

Staff recommends that the Board approve CARTA's financial reports for the month ending March 2024.

HIGHLIGHTS, ANALYSIS AND CONCLUSIONS

March, 2024

- Revenue for the month was \$2,197,947 compared to a budgeted \$2,106,446.
 - Transit revenue was under budget \$78,739 from an under budget variance in passenger revenue of \$2,836 and federal revenue billing for preventative maintenance of \$71,688 due to a reduction of maintenance expense during the month.
 - Incline revenues were over budget \$63,360. Although the Incline was closed February 21st through March 8th, \$137,659 was received from See Rock Ctiy (SRC) for the annual variable fee of 10% of the amount by which SRC exceeds gross receipts of \$700,000.
- Expenses for the month were \$2,169,456 compared to a budgeted \$2,311,561.
 - Transit expense under budget variance of \$146,460 is due to a wage and benefit under budget variance of \$123,481, we budget for full staffing and due to vacancies, we have an underbudget variance and fuel was under budget \$22,981.
- The March Parking Report indicates receipts from parking meter and enforcement reflected net positive revenue of \$84,489 and when combined with net shuttle costs of (\$148,830), created a net of (\$64,341). Total net parking revenue for the month (adding in surface lot and garage revenues and expenses) reflected a positive net revenue of \$161,533.

RECURRING VARIANCES

- Parking revenue was over budget \$86,065 due to meter increase from \$.50 per half hour up to two hours to \$1.00 effective October, 2023.
- Care-A-Van expenses were over budget \$34,605 due to an over budget variance in wages and benefits in the amount of \$39,211 from customer service covering after hour and weekend shifts for CARTA GO.

CARTA
Variance Report
For the Nine Months Ending Sunday, March 31, 2024

	MONTHLY ACTUAL	MONTHLY BUDGET	VARIANCE	YTD ACTUAL	YTD BUDGET	VARIANCE
TRANSIT						
Revenues	\$1,114,193	\$1,192,932	(\$78,739)	\$10,259,472	\$10,466,384	(\$206,912)
Expenses	1,294,379	1,440,839	(146,460)	11,746,303	12,927,181	(1,180,878)
NET	(180,186)	(247,907)	67,721	(1,486,830)	(2,460,796)	973,966
SHUTTLE						
Revenues	\$167,677	\$132,474	\$35,204	\$1,629,424	\$1,664,571	(\$35,147)
Expenses	196,630	218,055	(21,425)	1,757,719	1,955,751	(198,032)
NET	(28,953)	(85,582)	56,629	(128,295)	(291,180)	162,885
INCLINE						
Revenues	\$445,533	\$382,173	\$63,360	\$2,947,048	\$2,894,556	\$52,492
Expenses	193,444	214,352	(20,908)	1,852,265	1,922,940	(70,675)
NET	252,089	167,821	84,268	1,094,783	971,616	123,167
CARE-A-VAN						
Revenues	\$84,922	\$99,310	(\$14,388)	\$818,541	\$801,484	\$17,057
Expenses	269,847	235,241	34,605	2,360,204	1,976,504	383,700
NET	(184,925)	(135,931)	(48,994)	(1,541,663)	(1,175,021)	(366,642)
PARKING						
Revenues	\$385,622	\$299,558	\$86,065	\$3,147,377	\$2,696,021	\$451,356
Expenses	215,156	203,073	12,082	1,937,111	1,826,883	110,228
NET	170,467	96,485	73,982	1,210,266	869,138	341,128
CARTA - Total						
Revenues	\$2,197,947	\$2,106,446	\$91,501	\$18,801,862	\$18,523,016	\$278,846
Expenses	2,169,456	2,311,561	(142,105)	19,653,601	20,609,260	(955,658)
NET	28,491	(205,114)	233,605	(851,739)	(2,086,244)	1,234,505

MARCH 2024 PARKING REPORT

	<u>Meters</u>	<u>Shuttle</u>	<u>Lots</u>	<u>Garages</u>
Revenues	\$ 204,823	\$ -	\$ 121,283	\$ 159,084
Enforcement	\$ 80,699	\$ -	\$ -	\$ -
Donations	\$ -	\$ 638	\$ -	\$ -
Advertising	\$ -	\$ -	\$ -	\$ -
Rental	\$ -	\$ 800	\$ -	\$ 7,155
Fed/State Grants	\$ -	\$ -	\$ -	\$ -
Total Revenue	\$ 285,522	\$ 1,438	\$ 121,283	\$ 166,239
Onstreet Enforcement Expenses	\$ 201,033	\$ -	\$ -	\$ -
Shuttle Expenses	\$ -	\$ 150,268	\$ -	\$ -
Lot Expense	\$ -	\$ -	\$ 15,286	\$ -
Garage Expense	\$ -	\$ -	\$ -	\$ 46,362
Total Expense	\$ 201,033	\$ 150,268	\$ 15,286	\$ 46,362
Net Revenue	\$ 84,489	\$ (148,830)	\$ 105,997	\$ 119,877
Net Meters & Shuttle	\$ (64,341)			
Total Parking	<u>\$ 161,533</u>			

TO: CARTA Board of Directors
FROM: Philip Pugliese
SUBJECT: Statistical Report

RECOMMENDED ACTION

Staff recommends that the Board accept CARTA's statistical report for the month ending February, 2024 as information to the Board.

HIGHLIGHTS, ANALYSIS AND CONCLUSIONS

Ridership continues steady growth with routine variation on individual routes in general. Shuttle ridership has rebounded very strongly from winter slowdown but this visitor growth was not reflected at the Incline. CARTA GO operations continue growth but slowing somewhat as system nears capacity limits.

- March, 2024
 - Fixed Route ridership is up 3.1% year-over-year with two fewer weekdays this year.
 - CARTA GO is up 27% year-over-year and 7% March vs. February 2024 as we see our growth level off as we reach vehicle capacity.
 - Saturday CARTA GO ridership however is up 64% per day over prior year and 19% vs February 2024. This may indicate that we are still capturing demand where capacity is available.
 - March vs February 2024
 - Weekday fixed route up 9%
 - Saturday fixed route up 4%
 - Sunday fixed route up 31% (10% March vs Feb) – most likely due to first was on Friday in March 2024.
 - Shuttle ridership is up 31% year-over-year, a much stronger spring rebound over 2023.
 - Incline ridership down 11% year-over-year with 8 shut-down days.
 - CAV ridership up stable year-over-year.
 - Bikes on Board down 6% year-over-year
 - Wheelchair boardings down 12% year-over-year

Chattanooga Area Regional Transportation Authority**Statistical Report****For the Period Ending March 31, 2024**

	<u>This Month</u>	<u>Month YR</u>		<u>Prior YTD</u>
		<u>Ago</u>	<u>YTD</u>	
<u>TRANSIT</u>				
Ridership	80,820	78,396	717,951	699,812
Weekday Average - with Mocs	3,197	2,924	3,184	3,089
Weekday Average - without Mocs	3,118	2,816	3,080	2,935
Saturday Average	2,061	2,096	2,057	1,961
Sunday Average	845	692	785	736
Miles	160,036	153,989	1,421,547	1,283,848
Passengers/Mile	0.51	0.51	0.51	0.55
Accidents	0	6	13	16
Operating Cost/Rider	9.44	10.49	9.84	10.26
<u>SHUTTLE</u>				
Ridership	27,595	21,803	201,952	164,532
Weekday Average	984	748	775	631
Saturday Average	903	784	857	722
Sunday Average	483	369	470	358
Miles	17,583	12,883	148,813	113,687
Passengers/Mile	1.57	1.69	1.36	1.45
Accidents	0	0	5	1
Operating Cost/Rider	2.69	2.19	3.27	3.03
<u>INCLINE</u>				
Ridership	48,500	54,713	361,851	362,283
Net Revenue/Passenger	5.20	5.16	3.03	2.99
Days Down	8	0	12	0
<u>CARE-A-VAN</u>				
Ridership	4,427	4,514	38,791	37,007
Miles	49,426	51,568	444,385	418,522
Turndowns	0	0	14	0
Accidents	0	0	5	4
Operating Cost/Rider	49.77	42.85	48.35	44.65
Passengers/Hour	1.29	1.27	1.27	1.27
<u>TOTAL CARTA</u>				
Ridership	161,342	159,426	1,320,545	1,263,634

*** Notes to the Statistical Report:**

North Shore Shuttle	2,249	2,630	19,927	20,803
MOCS Express	1,662	2,477	19,762	29,681
Bicycles Carried	1,289	1,368	13,720	12,726
Wheelchairs Carried	1,026	1,168	10,627	10,558
St.Elmo/Incline	1,842	1,703	18,194	12,997

Days of Operation Transit, Care-A-Van

Number of Weekdays	21	23
Number of Saturdays	5	4
Number of Sundays	4	4
	<u>30</u>	<u>31</u>

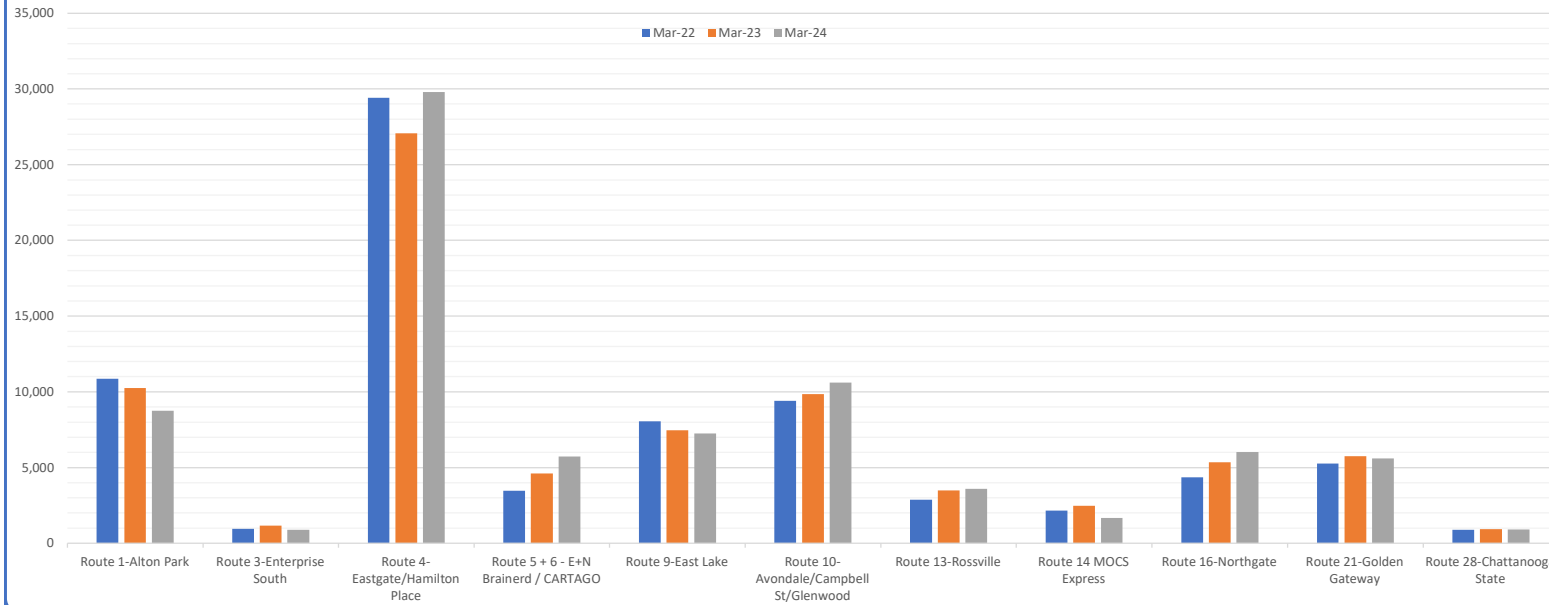
Days of Operation Incline

Number of Weekdays	15	23
Number of Saturdays	4	4
Number of Sundays	4	4
	<u>23</u>	<u>31</u>

Days of Operation Shuttle

Number of Weekdays	21	23
Number of Saturdays	5	4
Number of Sundays	5	4
	<u>31</u>	<u>31</u>

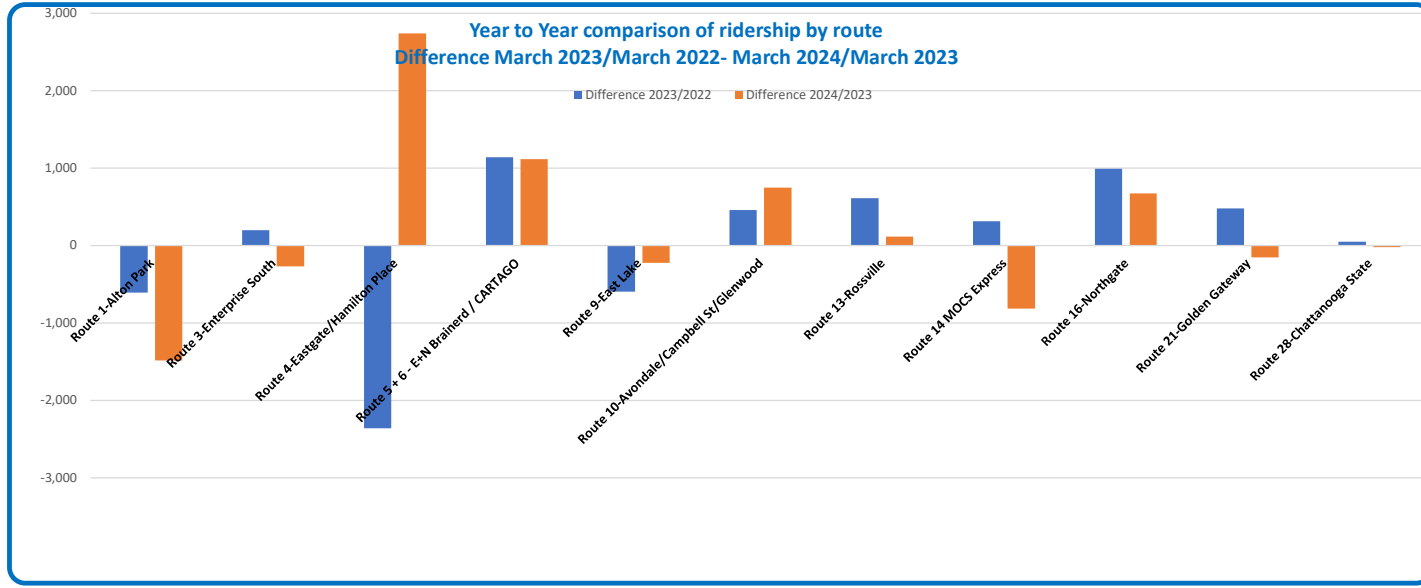
Year to Year comparison of ridership by route March 2022/March 2023/March 2024



	Mar-22	Mar-23	Mar-24
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Route 1-Alton Park	10,850	10,243	8,760
Route 3-Enterprise South	955	1,152	884
Route 4-Eastgate/Hamilton Place	29,422	27,063	29,803
Route 5 + 6 - E+N Brainerd / CARTAGO	3,463	4,604	5,718
Route 9-East Lake	8,062	7,464	7,242
Route 10-Avondale/Campbell St/Glenwood	9,406	9,863	10,609
Route 13-Rossville	2,882	3,492	3,605
Route 14 MOCS Express	2,163	2,477	1,662
Route 16-Northgate	4,362	5,354	6,028
Route 21-Golden Gateway	5,272	5,749	5,595
Route 28-Chattanooga State	886	935	914

Totals: 77,723 78,396 80,820



	Difference 2023/2022	Difference 2024/2023
Route 1-Alton Park	-607	-1,483
Route 3-Enterprise South	197	-268
Route 4-Eastgate/Hamilton Place	-2,359	2,740
Route 5 + 6 - E+N Brainerd / CARTAGO	1,141	1,114
Route 9-East Lake	-598	-222
Route 10-Avondale/Campbell St/Glenwood	457	746
Route 13-Rossville	610	113
Route 14 MOCs Express	314	-815
Route 16-Northgate	992	674
Route 21-Golden Gateway	477	-154
Route 28-Chattanooga State	49	-21

673 2,424

TO: CARTA Board of Directors

FROM: Veronica Peebles
Director of Communications and Planning

SUBJECT: May Service Update

RECOMMENDED ACTION

N/A Information Only

HIGHLIGHTS, ANALYSIS AND CONCLUSIONS

CARTA's spring and summer general markup will go into effect on Sunday, May 5, 2024. The general markup is a semi-annual occurrence of route modifications and time adjustments made to the schedules of our fixed route and shuttle bus services. The general markups typically occur in May and August each year, to coincide with the University of Tennessee at Chattanooga's fall and spring semesters for the Mocs Express shuttle service.

We have collaborated with our bus operators and based on the feedback received and the ridership demand that justifies the necessary updates, the specific changes that will be made to the May schedules include:

- Time adjustments to all the bus routes to improve service efficiency and on-time performance by providing adequate trip travel time.
- Modifications to route #4 Eastgate/Hamilton Place on two evening trips to serve the Enterprise South Industrial Park (ESIP) on weekdays and Saturday to provide service to the 2nd and 3rd shift employees of the ESIP employers, and to route #21 Golden Gateway to serve the new Food City on Broad Street to help alleviate the food desert concerns for those residents.
- Extended service hours on the St. Elmo/Incline Shuttle to accommodate the summer operating hours of the Lookout Mountain Incline Railway.

It is also at the general markups that our fixed route and shuttle bus operators choose their schedules. The general markups are inclusive of the Collective Bargaining Agreement between CARTA and ATU Local 1212.

Our customers will be notified of the changes on the CARTA website, our social media accounts, and text message alerts, and flyers will be placed on all fixed route vehicles. The new printed passenger bus schedules will be available to customers on all fixed route vehicles to include the CARTA GO vehicles, at various locations throughout the city that have our bus schedule racks, and on the CARTA website.

TO: CARTA Board of Directors

FROM: Brent Matthews
Director of Parking and Special Projects

SUBJECT: 2024 MSTPA Conference

RECOMMENDED ACTION

N/A Information Only

HIGHLIGHTS, ANALYSIS AND CONCLUSIONS

In celebration of its 25th anniversary, the Chattanooga Parking Authority (CPA) and CARTA will be hosting the 2024 Mid-South Transportation and Parking Association's (MSTPA) annual conference in Chattanooga Monday, May 6th – Thursday, May 9th at the Westin Hotel on Pine Street.

MSTPA is the regional transportation and parking association comprised of cities, universities, and airports throughout the states of Tennessee, Georgia, Kentucky, Mississippi, Alabama, and Louisiana. The MSTPA's mission is to provide professional growth, development, and interaction among persons involved in the operation of transportation and parking programs within the Mid-South region. CPA/CARTA has been a member of the association for 14 years and Brent Matthews, Director of Parking and Special Events, served as the MSTPA President for four years (2014 - 2018). Mr. Matthews currently serves as Secretary for the Executive Committee.

Like the two prior times that the annual meeting has been held in Chattanooga, the conference will be an economic catalyst for the city bringing more than 250 parking and transportation professionals from across the nation to this region. For CPA/CARTA, the conference will provide an opportunity to showcase our expertise in several areas. Phil Pugliese, Manager of Planning, and Annie Powell, Director of Grants, Procurement and Technology, will facilitate a presentation of CARTA's Battery Electric Bus (BEB) program, followed by a tour of our new inductive in-ground charging technology, which will be debuted later this year. Additionally, Jack Skelton, Principal & Owner of PCI Municipal Services, LLC, and I will present attendees with an update on mobile pay parking and meter free zones and how it benefits CPA, CARTA, and the City. Finally, CARTA will be front and center to help transport attendees via BEB from downtown to the Riverboat on Tuesday evening,

As the host, CARTA is responsible for transportation of the attendees to the Riverboat and back to the Westin which will cost approximately \$1,200.00. This expense was funded for and approved during the FY2024 budget process. All board members are invited and encouraged to attend and should coordinate with me directly.



[Summary](#) [Fees](#) [Schedule](#) [Speakers](#)
[Exhibitors/Sponsors](#) [Contact Us](#)

[Register Here](#)

[Already Registered?](#)



Photo Credit: Owned by Chattanooga Tourism Co. | Photos taken by Kelly Lacy

CONFERENCE OVERVIEW

May 7 - 9 2024

The Westin Chattanooga

The Mid-South Transportation and Parking Association Annual Conference and Trade Show will provide you and your co-workers with an affordable opportunity to network with and learn from your colleagues and leaders in the industry.

The three-day conference registration includes all educational seminars, networking and social events, tours, and meals listed on the agenda.

Conference Highlights

- [FULL AGENDA](#)
- [Chattanooga Operations Tour](#)

EVENT DETAILS

WHEN

May 6, 2024 – May 9, 2024

[Add to Calendar](#)

WHERE

The Westin Chattanooga
801 Pine St
Chattanooga, TN 37402

[MSTPA Board of Directors](#)

WEBSITE

[MSTPA Website](#)

[Contact MSTPA](#)

TO: CARTA Board of Directors
FROM: Philip Pugliese
General Manager Planning & Grants
SUBJECT: Research Grants – Project

RECOMMENDED ACTION

N/A Information Only

HIGHLIGHTS, ANALYSIS AND CONCLUSIONS

Since the introduction of the Electric Shuttle program in 1992, CARTA has been actively engaged in research and development of technology and processes to improve public transportation. More recently, with direct awards from the Department of Energy, National Science Foundation, Federal Transit Administration, and Tennessee Department of Transportation, these efforts have created a foundation and support structure to resolve challenges in operations, accessibility, and equity for public transit. This process positions CARTA for continued savings and investment in facilities, labor, and technology.

Our primary goal of this research and implementation effort is the creation of a competitive, sustainable, and equitable public transportation system that can serve as an example for other cities. The rapid disruption of transportation and introduction of Connected, Autonomous, Shared, and Electric vehicle technologies combined with concerns for our climate and environment, have led to significant challenges for public transit agencies and invited policy guidance and investment in research at the federal, state, and local level. Highlights of this process for CARTA include the following:

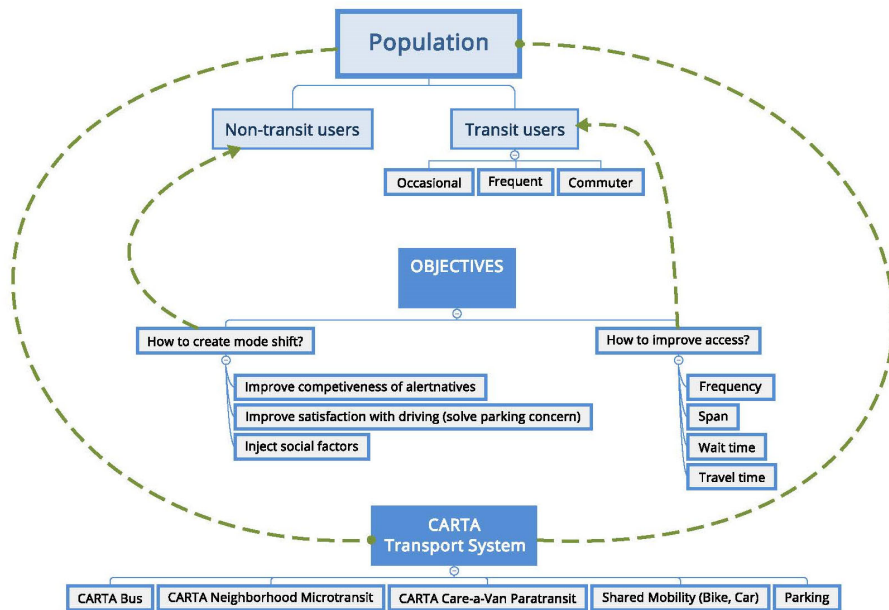
- **Department of Energy: High-Dimensional Data-Driven Energy Optimization for Multi-modal Transit Agencies, HD-EMMA**
 - Energy Assessment and Dashboard of CARTA fixed-route fleet
 - Optimization algorithm for daily schedule
 - Implementation to reduce fuel expense by up to 7% - \$150,000 per year
- **Department of Energy: Artificial Intelligence for Optimizing Integrated Service in Mixed Fleet Transit Operations**
 - Development of SmartTransit Paratransit/Microtransit vehicle routing system
 - 21% tested improvement in Care-a-Van operations – used as benchmark for future implementation or commercial vendor selection
 - Engaged with ATU Local 1212 and drivers for continued development and pilot testing
- **National Science Foundation Smart and Connected Communities: Mobility for All – Harnessing Emerging Transit Solutions for Underserved Communities**
 - Community and Internal engagement – surveys, focus groups, driver interviews to inform adoption of technical changes for microtransit operations.
 - Equity analysis for fixed route design and microtransit deployment
 - County-wide transit simulation for microtransit analysis
- **Staff development and organizational relationships**
 - Federal investments recognize CARTA's and City of Chattanooga role in developing new transit paradigms and positions us for future investment in facilities and operations. CARTA was selected as 1 of only 4 transit investment projects nationwide by DOE.
 - Established extensive network of partners to provide guidance and support



Research Grants

April 18, 2024

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CARTA Transportation Ecosystem

Fixed Route Operations

Paratransit – Care-a-Van

Electric Shuttle + Parking Garages

Chattanooga Parking Authority

Bike Chattanooga Bicycle Transit System

Electric Vehicle Car Share

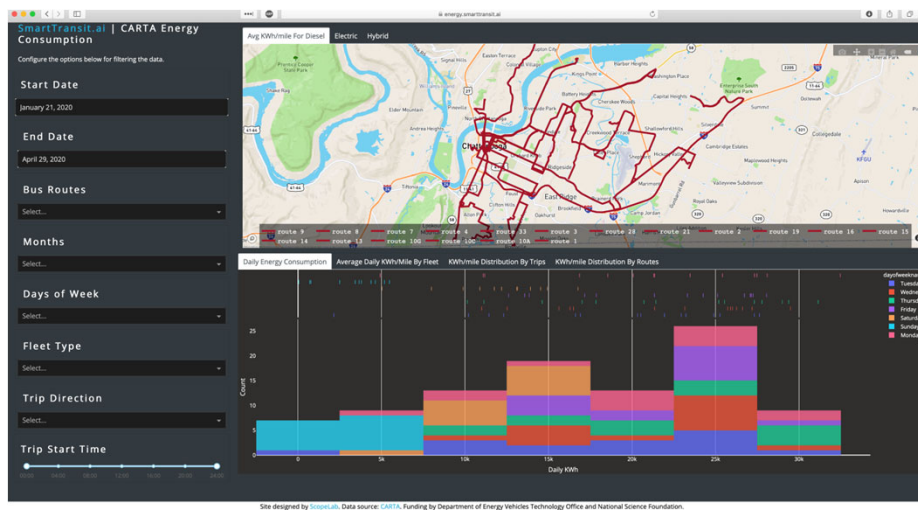
Bike Bus Drive Park Pilot

CARTA GO Microtransit

3

Department of Energy: HD-EMMA

High-Dimensional Data-Driven Energy Optimization for Multi-modal Transit Agencies



4

Department of Energy: HD-EMMA

Results

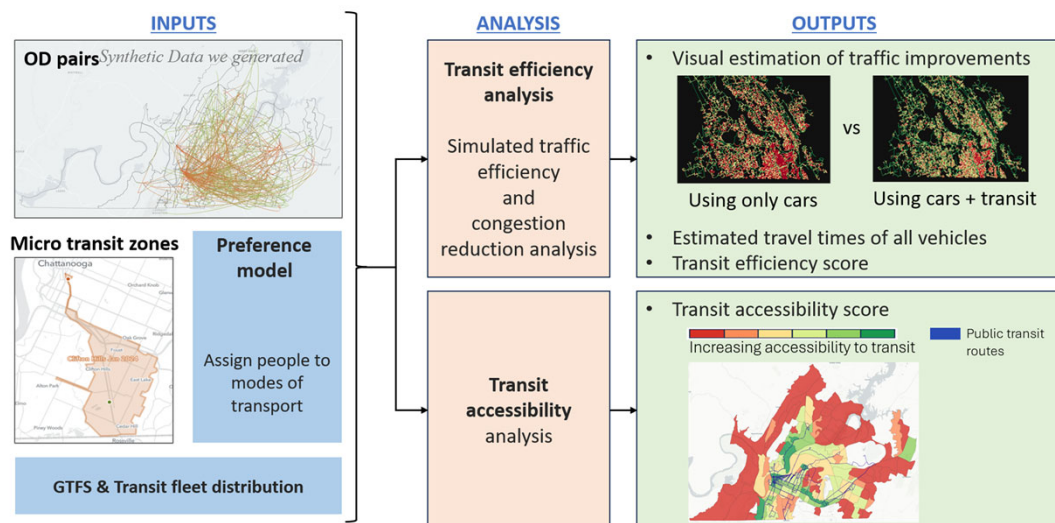
- Development of vehicle data and energy map
- Vehicle Optimization Dashboard and Assignment
- Implementation savings of 7% of fuel cost

Bus	Type	Block/Trip assign	Start time	End time	Distance_miles	Byd_kwh	Gillig_kwh	Diesel_kwh	From	To
bus8	Diesel	6302	05:41:00	14:10:00	114.04	202.23	288.52	870.55		
bus9	Diesel	4402	05:51:00	08:40:00	42.93	76.13	108.62	327.72		
bus9	Diesel	move	08:40:00	14:17:00	0 days 00:04:14	1.2	1.71	5.16	4402	1302
bus9	Diesel	1302	14:17:00	20:20:00	73.14	129.71	185.06	558.37		
bus0	Electric	3602	04:46:00	06:50:00	41.75	74.04	105.63	318.71		
bus0	Electric	move	06:50:00	08:00:00	0 days 00:00:01	0.01	0.01	0.04	3602	('cp0', 14, 'q0')
bus0	Electric	('cp0', 14, 'q0')	08:00:00	08:30:00						
bus0	Electric	move	08:30:00	08:31:00	0 days 00:00:01	0.01	0.01	0.04	('cp0', 14, 'q0')	9602
bus0	Electric	9602	08:31:00	11:10:00	53.63	95.1	135.68	409.37		
bus0	Electric	move	11:10:00	13:30:00	0 days 00:00:01	0.01	0.01	0.04	9602	('cp0', 25, 'q0')
bus0	Electric	('cp0', 25, 'q0')	13:30:00	14:00:00						
bus0	Electric	('cp1', 26, 'q0')	14:00:00	14:30:00						

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Department of Energy: AI Engine

Artificial Intelligence for Optimizing Integrated Service in Mixed Fleet Transit Operations



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Grant Funded CARTA Staffing Support

Personnel Supported	Position	Funding Provided
Annie Powell	Director of Grants, Research & Technology	Partial 2018 – present
Philip Pugliese	General Manager Planning & Grants	Partial 2018 – present
Isaac Mercer	Project Analyst (FT)	Full – 2022 – present
Savannah Ward	Community Outreach Coordinator (FT)	Full – 2023 – present
Arsen Martyshchuk	Planning Intern (PT)	Full – 2023 Summer
Abubakr Ziedan, PhD	Planning Intern (PT)	Full – 2017 – 2019
Heather Barry	Panning Intern (PT)	Full – 2017 – 2019

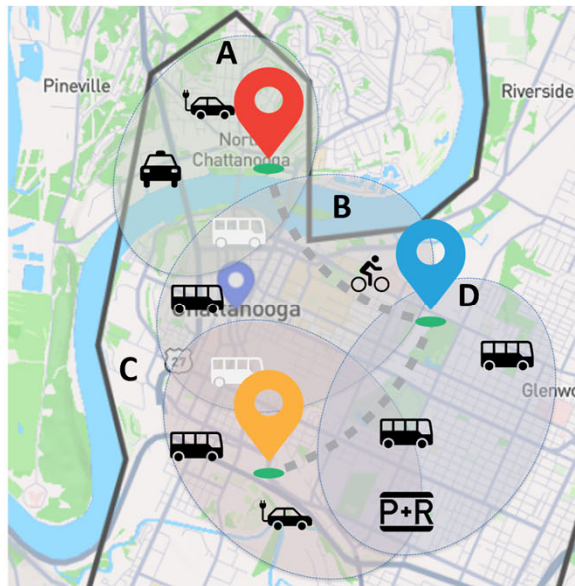
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Grant Supported Organizational Partnerships

- City of Chattanooga
- University of Tennessee at Chattanooga
 - Center for Urban Informatics and Progress
- Chattanooga Housing Authority
- East Tennessee Clean Fuels Coalition
- University of Houston
- Pennsylvania State University
- University of Washington
- Department of Energy
- Federal Transit Administration
- Pacific Northwest National Laboratory
- The National Renewable Energy Laboratory
- Transportation Research Board
- Vanderbilt University
 - Institute for Software Integrated Systems
- The Enterprise Center
 - Smart Communities Collaborative Group
- Chattanooga Design Studio
- Hamilton County Department of Education
- University of South Carolina
- Cornell University
- WeGo Public Transit
- National Science Foundation
- Joint Office of Energy and Transportation
- Oak Ridge National Laboratory

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Planning Tools and Analysis



Per Zone Metrics

- Ridership
- Operational costs
- Vehicle miles traveled
- Passenger miles traveled
- Fuel
- Electricity
- Accessibility scores
- Required man-power
- Feasible Routes
- CO2 emissions
- Customer Satisfaction

Per Mode Metrics



Overall Scores

- Equity
- Accessibility
- Total Ridership
- Improvement

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Future Grant Investments

- ❖ Department of Energy - AI-Powered Autonomy-Aware Neighborhood Mobility Zones: Equitable Solutions and Business Models for Revamping Transportation - \$3.3 million awarded.
 - Development of neighborhood mobility zones with car share and shuttle operations
- ❖ USDOT Advanced Transportation Technology and Innovation (ATTAIN) Program - PATH-TN: Partnership for AI-driven Multimodal Transportation Services Integration in Tennessee Cities – Applied - \$10.2 million.
 - Statewide consortium – CARTA implements real-time parking inventory for Chattanooga Parking Authority with demand response shuttle service.
- ❖ US Economic Development Administration – Recompete Finalist
 - Development of mobility hubs, microtransit operations, and enhanced fixed route service. Pending application – up to \$50 million over 5 years.

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