

**CHATTANOOGA AREA REGIONAL TRANSPORTATION AUTHORITY
AND
THE CHATTANOOGA PARKING AUTHORITY
BOARD MEETING AGENDA**

October 19, 2023

CALL TO ORDER

QUORUM CALL

INVOCATION

ADOPTION OF MINUTES

OPERATING REPORTS:

Finance and compliance Committee Report: Patricia McKoy

- Finance Committee Review
- Financial Report: Sonja Sparks
- Statistical Report: Philip Pugliese

HR and Workforce Relations Committee Report: Charita Allen

- Staffing Updates: Jeff Smith

Revenue Committee Report: Corey Evatt

Compensation Committee Report: Arcie Reeves

Operations Committee Report: Johan de Nysschen

- Service Planning Update (follow-up to Jarett Walker and Associates' Transit Study): Phil Pugliese

Procurement Committee Report: Jenny Park

Action needed:

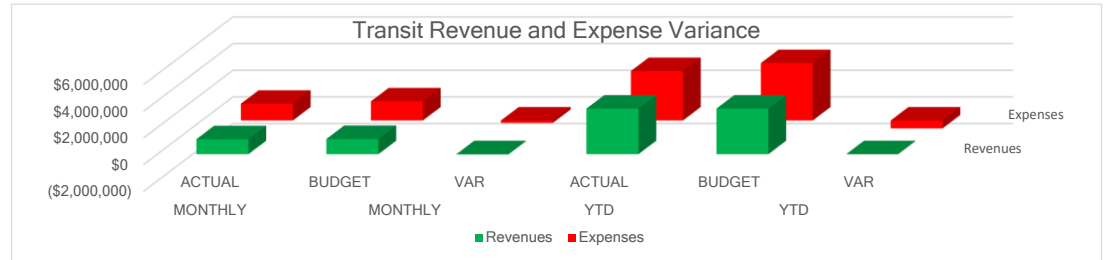
None

CARTA
Variance Report
For the Three Months Ending Saturday, September 30, 2023

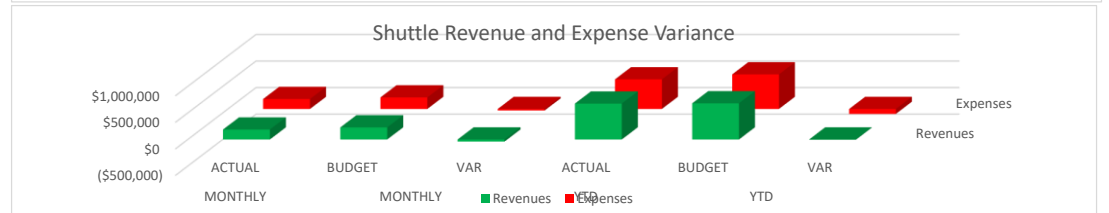
	MONTHLY ACTUAL	MONTHLY BUDGET	VARIANCE	YTD ACTUAL	YTD BUDGET	VARIANCE
TRANSIT						
Revenues	\$1,120,542	\$1,138,932	(\$18,389)	\$3,415,131	\$3,416,795	(\$1,664)
Expenses	1,255,484	1,434,111	(178,627)	3,707,818	4,302,332	(594,515)
NET	(134,941)	(295,179)	160,238	(292,686)	(885,537)	592,851
SHUTTLE						
Revenues	\$187,247	\$226,935	(\$39,688)	\$675,681	\$680,806	(\$5,125)
Expenses	187,534	216,931	(29,397)	557,733	650,793	(93,059)
NET	(287)	10,004	(10,292)	117,948	30,013	87,934
INCLINE						
Revenues	\$332,549	\$340,173	(\$7,624)	\$1,102,635	\$1,095,519	\$7,117
Expenses	226,292	213,314	12,979	680,792	639,942	40,850
NET	106,256	126,859	(20,603)	421,843	455,577	(33,734)
CARE-A-VAN						
Revenues	\$97,895	\$80,849	\$17,046	\$263,551	\$242,546	\$21,005
Expenses	250,272	211,797	38,475	739,540	635,390	104,150
NET	(152,377)	(130,948)	(21,429)	(475,989)	(392,845)	(83,144)
PARKING						
Revenues	\$306,313	\$299,558	\$6,755	\$970,466	\$898,674	\$71,793
Expenses	180,336	202,944	(22,608)	552,582	608,832	(56,250)
NET	125,977	96,614	29,363	417,884	289,842	128,043
CARTA - Total						
Revenues	\$2,044,545	\$2,086,446	(\$41,901)	\$6,427,464	\$6,334,339	\$93,125
Expenses	2,099,918	2,279,096	(179,178)	6,238,465	6,837,289	(598,824)
NET	(55,373)	(192,650)	137,277	188,999	(502,950)	691,950

CARTA
Variance Report
For the Two Months Ending September 30, 2023

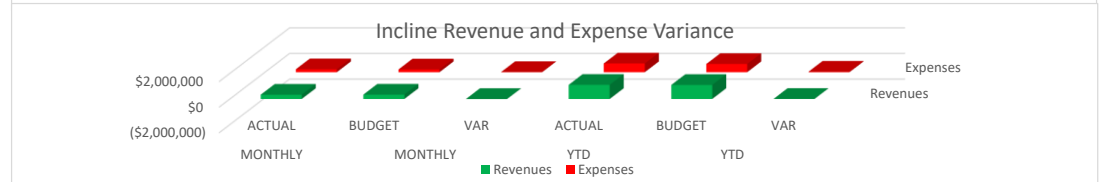
	MONTHLY ACTUAL	MONTHLY BUDGET	VAR	VAR(%)	YTD ACTUAL	YTD BUDGET	VAR	VAR(%)
TRANSIT								
Revenues	\$1,120,542	\$1,138,932	(\$18,390)	-1.6%	\$3,415,131	\$3,416,795	(\$1,664)	0.0%
Expenses	1,255,484	1,434,111	(\$178,627)	-14.2%	3,707,818	4,302,332	(\$594,514)	-16.0%
NET	(134,942)	(295,179)	\$160,237		(292,687)	(885,537)	\$592,850	



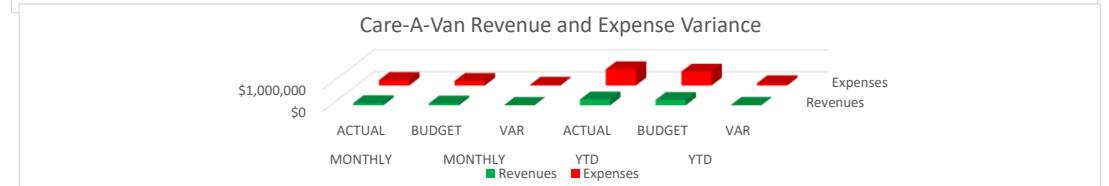
SHUTTLE								
Revenues	\$187,247	\$226,935	(\$39,688)	-21.2%	\$675,681	\$680,806	(\$5,125)	-0.8%
Expenses	187,534	216,931	(\$29,397)	-15.7%	557,733	650,793	(\$93,060)	-16.7%
NET	(287)	10,004	(\$10,291)		117,948	30,013	\$87,935	



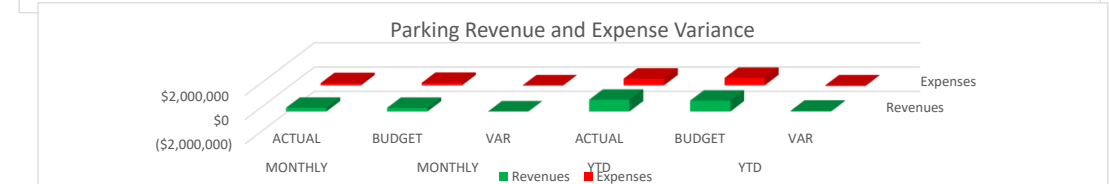
INCLINE								
Revenues	\$332,549	\$340,173	(\$7,624)	-2.3%	\$1,102,635	\$1,095,519	\$7,116	0.6%
Expenses	226,292	213,314	\$12,978	5.7%	680,792	639,942	\$40,850	6.0%
NET	106,257	126,859	(\$20,602)		421,843	455,577	(\$33,734)	



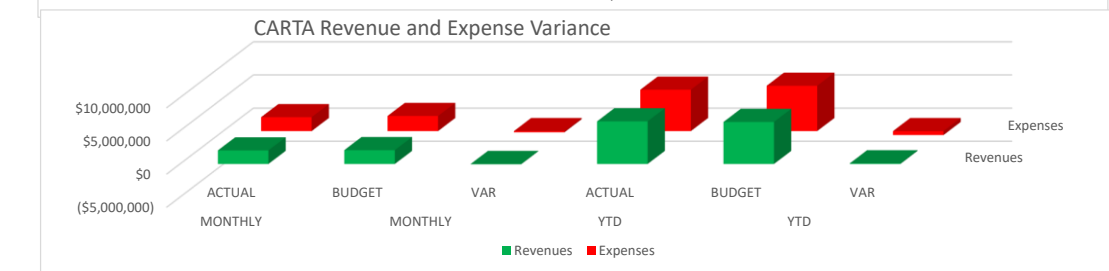
CARE-A-VAN								
Revenues	\$97,895	\$80,849	\$17,046	17.4%	\$263,551	\$242,546	\$21,005	8.0%
Expenses	250,272	211,797	\$38,475	15.4%	739,540	635,390	\$104,150	14.1%
NET	(152,377)	(130,948)	(\$21,429)		(475,989)	(392,844)	(\$83,145)	



PARKING								
Revenues	\$306,313	\$299,558	\$6,755	2.2%	\$970,466	\$898,674	\$71,792	7.4%
Expenses	180,336	202,944	(\$22,608)	-12.5%	552,582	608,832	(\$56,250)	-10.2%
NET	125,977	96,614	\$29,363		417,884	289,842	\$128,042	



CARTA - Total								
Revenues	\$2,044,546	\$2,086,447	(\$41,901)	-2.0%	\$6,427,464	\$6,334,340	\$93,124	1.4%
Expenses	\$2,099,918	\$2,279,097	(\$179,179)	-8.5%	\$6,238,465	\$6,837,289	(\$598,824)	-9.6%
NET	(55,372)	(192,650)	\$137,278		188,999	(502,949)	\$691,948	



SEPTEMBER 2023 PARKING REPORT

	<u>Meters</u>	<u>Shuttle</u>	<u>Lots</u>	<u>Garages</u>
Revenues	\$ 135,606.00	\$ -	\$ 99,128.00	\$ 144,153.00
Enforcement	\$ 84,989.00	\$ -	\$ -	\$ -
Donations	\$ -	\$ 756.00	\$ -	\$ -
Advertising	\$ -	\$ 1,000.00	\$ -	\$ -
Rental	\$ -	\$ 800.00	\$ -	\$ 10,426.00
Fed/State Grants	\$ -	\$ 30,112.00	\$ -	\$ -
	<hr/>	<hr/>	<hr/>	<hr/>
Total Revenue	\$ 220,595.00	\$ 32,668.00	\$ 99,128.00	\$ 154,579.00
Onstreet Enforcement Expenses	\$ 168,982.00	\$ -	\$ -	\$ -
Shuttle Expenses	\$ -	\$ 150,671.00	\$ -	\$ -
Lot Expense	\$ -	\$ -	\$ 31,029.00	\$ -
Garage Expense	\$ -	\$ -	\$ -	\$ 36,863.00
	<hr/>	<hr/>	<hr/>	<hr/>
Total Expense	\$ 168,982.00	\$ 150,671.00	\$ 31,029.00	\$ 36,863.00
Net Revenue	\$ 51,613.00	\$ (118,003.00)	\$ 68,099.00	\$ 117,716.00
Net Meters & Shuttle	\$ (66,390.00)			
Total Parking	<u>\$ 119,425.00</u>			

NOTE: Meters and Shuttle are combined because expenses of both are recognized as parking expenses by city code.

meter expense = management expense, rent expense, salaries, meetings, travel, bank and c.c. fees, taxes, property insurance, etc.

garage fees = management fees plus security fees plus insurance

Incline lot revenue and expenses are reported in Incline which will create a difference

Chattanooga Area Regional Transportation Authority
Statistical Report
For the Period Ending September 30, 2023

	<u>This Month</u>	<u>Month YR Ago</u>	<u>YTD</u>	<u>Prior YTD</u>
<u>TRANSIT</u>				
Ridership	84,825	85,921	245,606	244,913
Weekday Average - with Mocs	3,505	3,572	3,241	3,251
Weekday Average - without Mocs	3,265	3,199	3,133	3,085
Saturday Average	2,248	2,036	2,188	2,075
Sunday Average	873	694	831	761
Miles	155,235	140,788	470,608	414,660
Passengers/Mile	0.55	0.61	0.52	0.59
Accidents	2	3	5	5
Operating Cost/Rider	9.33	9.01	9.30	9.61
<u>SHUTTLE</u>				
Ridership	23,315	19,234	72,384	58,447
Weekday Average	770	653	793	646
Saturday Average	816	720	948	789
Sunday Average	767	496	580	425
Miles	16,973	12,031	45,952	38,502
Passengers/Mile	1.37	1.60	1.58	1.52
Accidents	1	1	2	1
Operating Cost/Rider	3.43	3.12	3.10	3.26
<u>INCLINE</u>				
Ridership	41,838	37,192	157,470	146,172
Net Revenue/Passenger	2.54	2.51	2.68	3.11
Days Down	0	0	0	0
<u>CARE-A-VAN</u>				
Ridership	4,226	4,272	12,979	12,541
Miles	49,789	46,570	152,639	140,094
Turndowns	6	0	7	0
Accidents	0	0	0	3
Operating Cost/Rider	47.30	42.43	45.69	42.51
Passengers/Hour	1.26	1.30	1.25	1.29
<u>TOTAL CARTA</u>				
Ridership	154,204	146,619	488,439	462,073

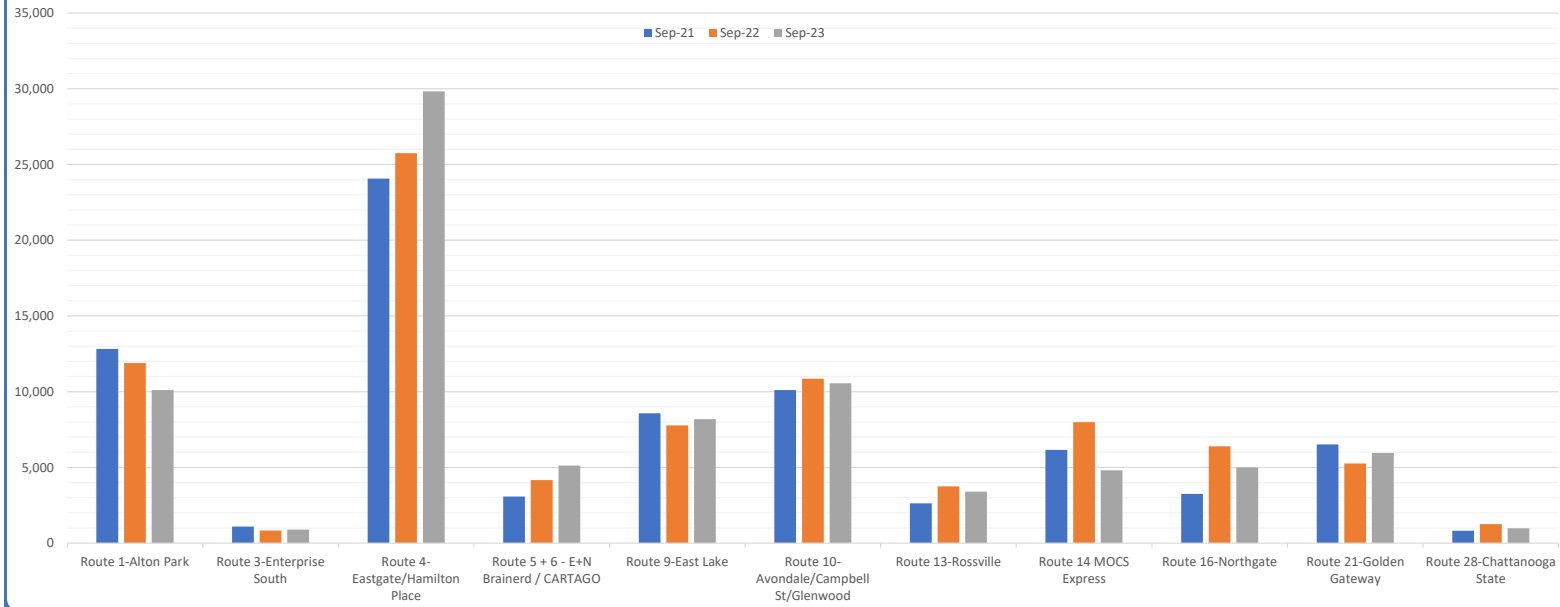
*** Notes to the Statistical Report:**

North Shore Shuttle	2,469	2,054	7,935	6,761
MOCS Express	4,804	7,832	6,767	10,578
Bicycles Carried	1,790	1,703	4,918	4,981
Wheelchairs Carried	1,382	1,035	4,138	4,278
St.Elmo/Incline	2,047	1,497	6,582	3,992

Days of Operation Transit

Number of Weekdays	20	21
Number of Saturdays	5	4
Number of Sundays	4	4
	<u>29</u>	<u>29</u>

Year to Year comparison of ridership by route September 2021/September 2022/September 2023

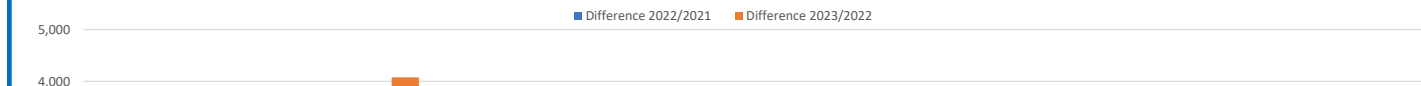


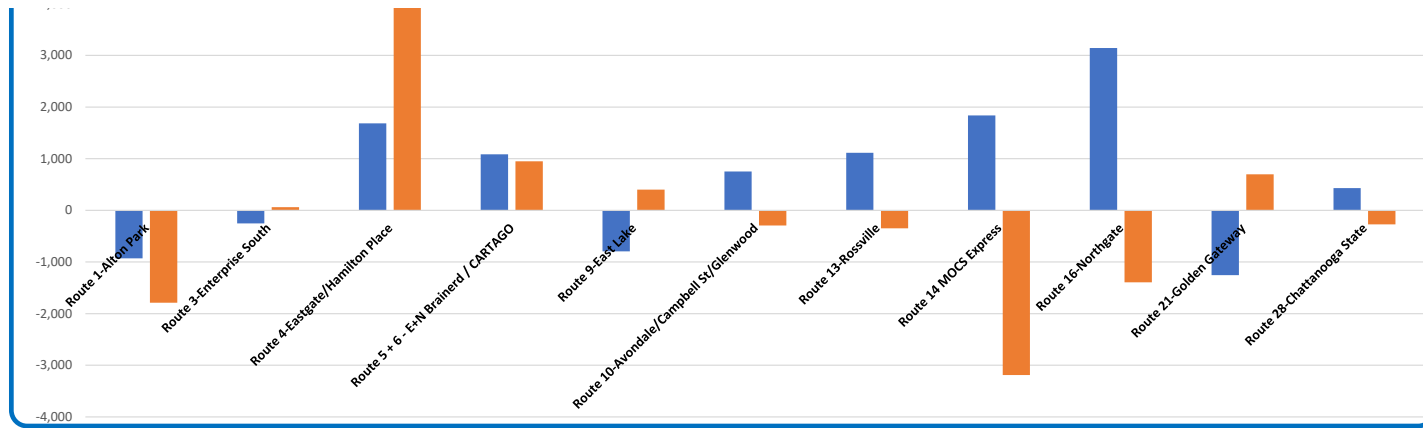
	Sep-21	Sep-22	Sep-23
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Route 1-Alton Park	12,821	11,892	10,103
Route 3-Enterprise South	1,091	837	900
Route 4-Eastgate/Hamilton Place	24,063	25,747	29,822
Route 5 + 6 - E+N Brainerd / CARTAGO	3,081	4,167	5,117
Route 9-East Lake	8,573	7,781	8,183
Route 10-Avondale/Campbell St/Glenwood	10,101	10,852	10,558
Route 13-Rossville	2,629	3,745	3,398
Route 14 MOCS Express	6,153	7,991	4,804
Route 16-Northgate	3,249	6,394	5,000
Route 21-Golden Gateway	6,514	5,259	5,956
Route 28-Chattanooga State	824	1,256	984

Totals: 79,099 85,921 84,825

Year to Year comparison of ridership by route Difference September 2022/September 2021 - September 2023/September 2022





	Difference 2022/2021	Difference 2023/2022
Route 1-Alton Park	-929	-1,789
Route 3-Enterprise South	-254	63
Route 4-Eastgate/Hamilton Place	1,684	4,075
Route 5 + 6 - E+N Brainerd / CARTAGO	1,086	950
Route 9-East Lake	-792	402
Route 10-Avondale/Campbell St/Glenwood	751	-294
Route 13-Rossville	1,116	-347
Route 14 MOCS Express	1,838	-3,187
Route 16-Northgate	3,145	-1,394
Route 21-Golden Gateway	-1,255	697
Route 28-Chattanooga State	432	-272

6822 -1,096

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

AND

THE CHATTANOOGA PARKING AUTHORITY

September 21, 2023

The regular meeting of the Board of Directors of the Chattanooga Area Regional Transportation Authority (CARTA) and the Chattanooga Parking Authority was held Thursday, September 21, 2023, 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 September 03, 2023. The following Board members were in attendance and constituted a quorum: Johan de Nysschen, Chairman; Patricia McKoy, Treasurer; Charita Allen, Corey Evatt, Bill Nye, Stephen Culp, Jenny Park, and LeAndrea Sanderfur. The following persons were also in attendance: Jeff Smith, interim Executive Director; Sonja Sparks, Chief Financial Officer; Philip Pugliese; Transportation System Planner; Allen McCallie, Legal Counsel, Miller & Martin; Rachael Ruiz, Legal Counsel, Miller & Martin; Dena Franklin, Payroll & A/R Administrator; Starla Reidel, Human Resource Coordinator; and various media and guests. At Mr. de Nysschen's request, Ms. Rachael Ruiz called the meeting to order and declared a quorum present. Ms. Ruiz then called on Ms. McKoy to give the invocation.

Ms. Ruiz stated that all members had been sent a copy of the August 17, 2023, Board meeting minutes and asked if there were any additions or corrections. Mr. de Nysschen

requested updates regarding the Board's decision on the Town of Lookout Mountain's request for a payment in lieu of taxes on ticket sales at the Upper Station. Mr. McCallie advised that the press reported on a recent Lookout Mountain Town Council meeting during which the Town Commissioners discussed proposing legislative changes that could result in a mandatory tax payment at the Upper Station. After Board members' comments, Mr. de Nysschen directed Mr. Smith and CARTA's leadership to contact representatives of the Town of Lookout Mountain to proactively engage and revisit the issue to find an amenable solution. Continuing with his comments to the minutes, Mr. de Nysschen requested that Mr. Evatt's summary of revenue opportunities with See Rock City Inc. (SRC) as presented at the August 17, 2023 board meeting be postponed.

There being no further questions or corrections, a motion was made by Mr. de Nysschen and seconded by Ms. Allen, followed by a vote to approve the minutes. The motion was unanimously approved.

Ms. Ruiz next called on Ms. McKoy to give an update from the Finance and Compliance Committee. No update was presented.

Ms. Ruiz next called on Ms. Sparks to present the Financial Reports for August 2023. Ms. Sparks noted that for the month of August, total CARTA revenue from all divisions generated a favorable variance of \$20,550, and expenses showed a favorable variance of \$76,442, resulting in a net favorable variance to budget of \$96,992.

Ms. Sparks indicated that the total favorable variance through August is a net \$554,672, with much of the positive variance in expenses (totaling \$419,646) continuing to come from CARTA's budget for full staffing, which CARTA has not accomplished, while revenues have exceeded budget (by \$135,026) mainly due to good numbers from parking

CARTA Board Meeting Minutes 9.21.2023

(from both meter revenue and surface lots), Incline attendance, and the timing of receipt of grant funding.

Ms. Sparks noted that the Parking Report reflected a positive net revenue from all parking operations totaling \$172,657, generated from on-street meters, surface lots, garages, and enforcement, as offset by the costs of parking management and downtown shuttle operational costs. Parking operations continue to provide a critical positive piece of CARTA's overall budget.

Ms. Ruiz next called Mr. Pugliese to present the Statistical Report. Mr. Pugliese stated that the service changes may have impacted this month's statistical reporting, including a 3% productivity increase with CARTA GO, and reallocating service period. Mr. Pugliese then advised that on a year-to-year comparison for August, transit ridership was up 1.8%; Shuttle ridership was up 21.8%; Incline ridership declined 13.0%; and Care-A-Van ridership was up 9.4%, with one (1) turndown. North Shore Shuttle ridership was up 12.4%; the number of bicycles carried was down 1.7%; and the number of wheelchairs carried was down 14.1%, Shuttle and Care-A-Van each had zero (0) preventable accidents for the month, and Transit had three (3).

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

Ms. Ruiz next called on Ms. Allen to give the update on HR and the Workforce Relations Committee. Ms. Allen reported that the committee did not meet this month, and that the committee has been vetting and virtually interviewing candidates for the Executive Director

position. Mr. de Nysschen then reported that a second round of interviews were scheduled for the following week with Mr. Culp taking part in the interview process. The top candidates will interview with the full Board.

Ms. Ruiz next called on Mr. Smith to give a staffing update. Mr. Smith reported that CARTA has seventy-five (75) full-time fixed-route drivers, three (3) in training, one (1) out on workers compensation, and two (2) out on long-term illness. Since the last Board meeting, CARTA has hired two (2) fixed route drivers, and five (5) left the company.

Ms. Ruiz next called on Mr. Evatt to give an update from the Revenue Committee. Mr. Evatt presented a proposal to increase on-street parking rates. Mr. Evatt advised that the last rate increase was in 2015 and the comparable market rate for on-street parking rates for cities the size of Chattanooga is \$1.72. The maximum hourly rate preauthorized by the City Council is \$2.00 with proceeds from parking meters to be used to fund parking and shuttles. Mr. Evatt proposed a \$1.50 incremental increase noting that it would be fiscally responsible for both the public and CARTA and that the rate increase take place October 1, 2023. At the conclusion of Mr. Evatt's presentation, Mr. de Nysschen proposed a vote to raise the on-street parking meter rates from \$1.00 to \$1.50 per hour to be effective as of October 1, 2023. A motion was made by Ms. McKoy, seconded by Ms. Park, and followed by a unanimous vote to approve.

Ms. Ruiz next called on Mr. de Nysschen to give an update on the Operations Committee. Mr. de Nysschen advised he met with Dr. Mina Sartipi of UTC to discuss hybrid public transit as it relates to the feasibility of a downtown transit facility. Mr. de Nysschen requested Mr. Smith to arrange a meeting with Dr. Sartipi the first week of October to discuss CARTA's future needs, her study, and the Chattanooga Smart City Collaborative.

the City's microtransit study that was led by Jarrett Walker, a public transit design and policy consultant.

Mr. de Nysschen called on Mr. Pugliese to present CARTA's updated Title VI program. Mr. Pugliese stated that CARTA's Title VI program is updated every three (3) years. Mr. Pugliese then reviewed Title VI federal regulations and provided CARTA performance measurements showing that CARTA is compliant with Title VI requirements. Mr. de Nysschen directed the Board to provide CARTA leadership a desirable service level and recommendations on how to achieve it. Mr. de Nysschen further instructed CARTA leadership and Board members to develop strategies for increasing CARTA's performance measurements by the 2027 Title VI update. A motion was made by Ms. Allen and seconded by Ms. Park, followed by a vote to approve Resolution #599 verifying receipt, review, and approval of the CARTA Title VI Program. A motion was made by Mr. Evatt and seconded by Mr. Nye, followed by a vote to approve Resolution #600 verifying receipt, consideration, awareness, and approval of the results of the CARTA Title VI monitoring program for the 2023 update. Both resolutions were unanimously approved.

Ms. Ruiz next called on Ms. Park to provide an update on the Procurement Committee. Ms. Park stated that CARTA's next monthly capital-needs staff meeting is scheduled for October 11, 2023, and an invitation has been sent. She further advised that these meetings are held on the second Wednesday of each month should fellow Board members wish to attend, and that a spreadsheet listing upcoming capital needs can be found in the Board shared folder.

Ms. Ruiz advised that a vote was required to adopt the updated CARTA by-laws to gender neutral language. A motion was made by Mr. Culp and seconded by Ms. Allen, followed by a vote to approve. The motion was unanimously approved.

Ms. Ruiz 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.



CARTA Board Update

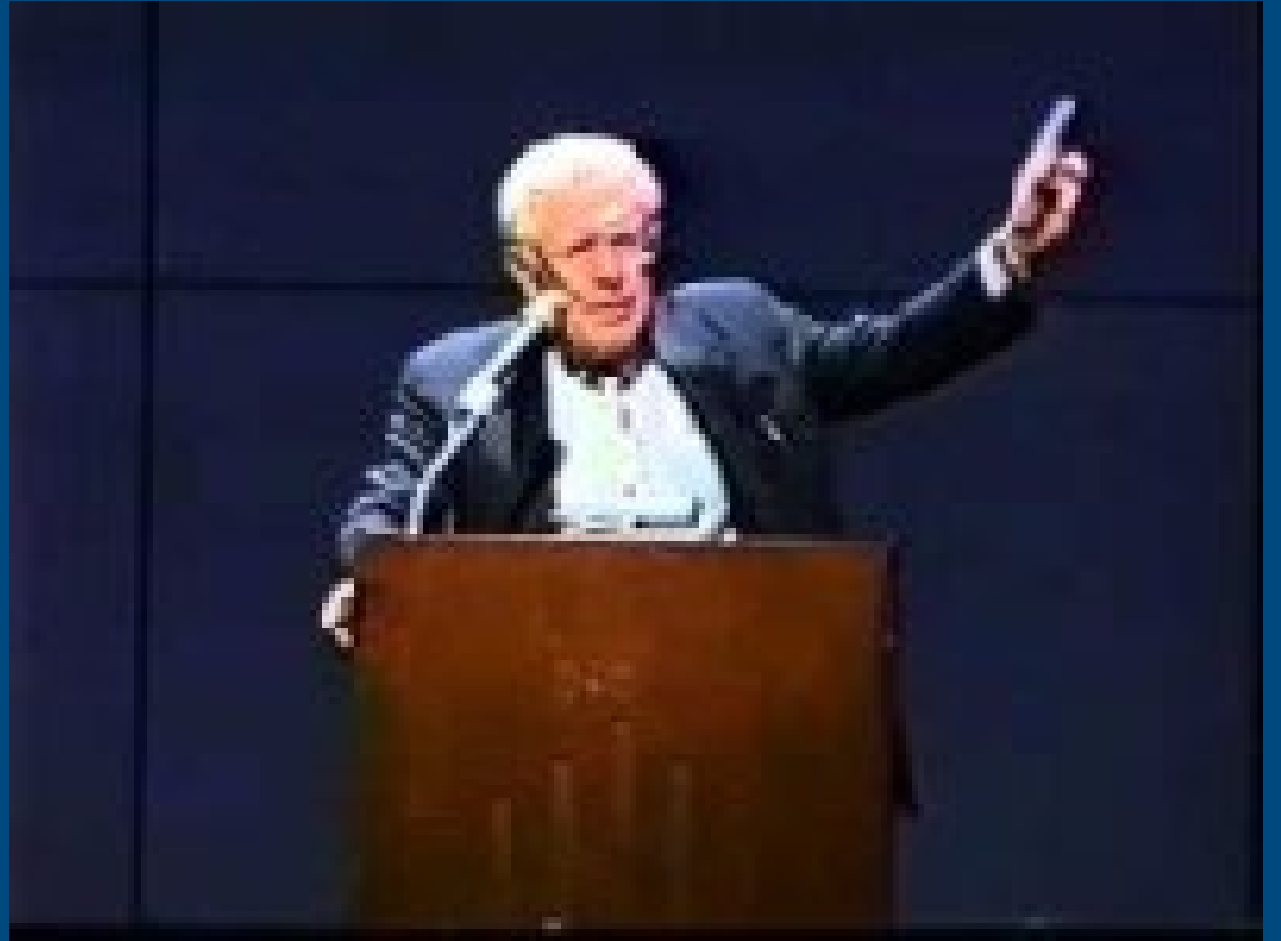
Philip Pugliese, General Manager Planning & Grants
October 19, 2023

Ongoing Analysis

- CARTA ReDesign – Jarrett Walker & Associates
- CITY/RPA – On-Demand Study – Via Mobility
- CARTA Department of Energy and National Science Foundation Research and Application

Dr. Russell Ackoff Systems Thinking

**"In any system, when one improves the performance of the parts taken separately:
the performance of the whole does not necessarily improve, and frequently gets worse."**



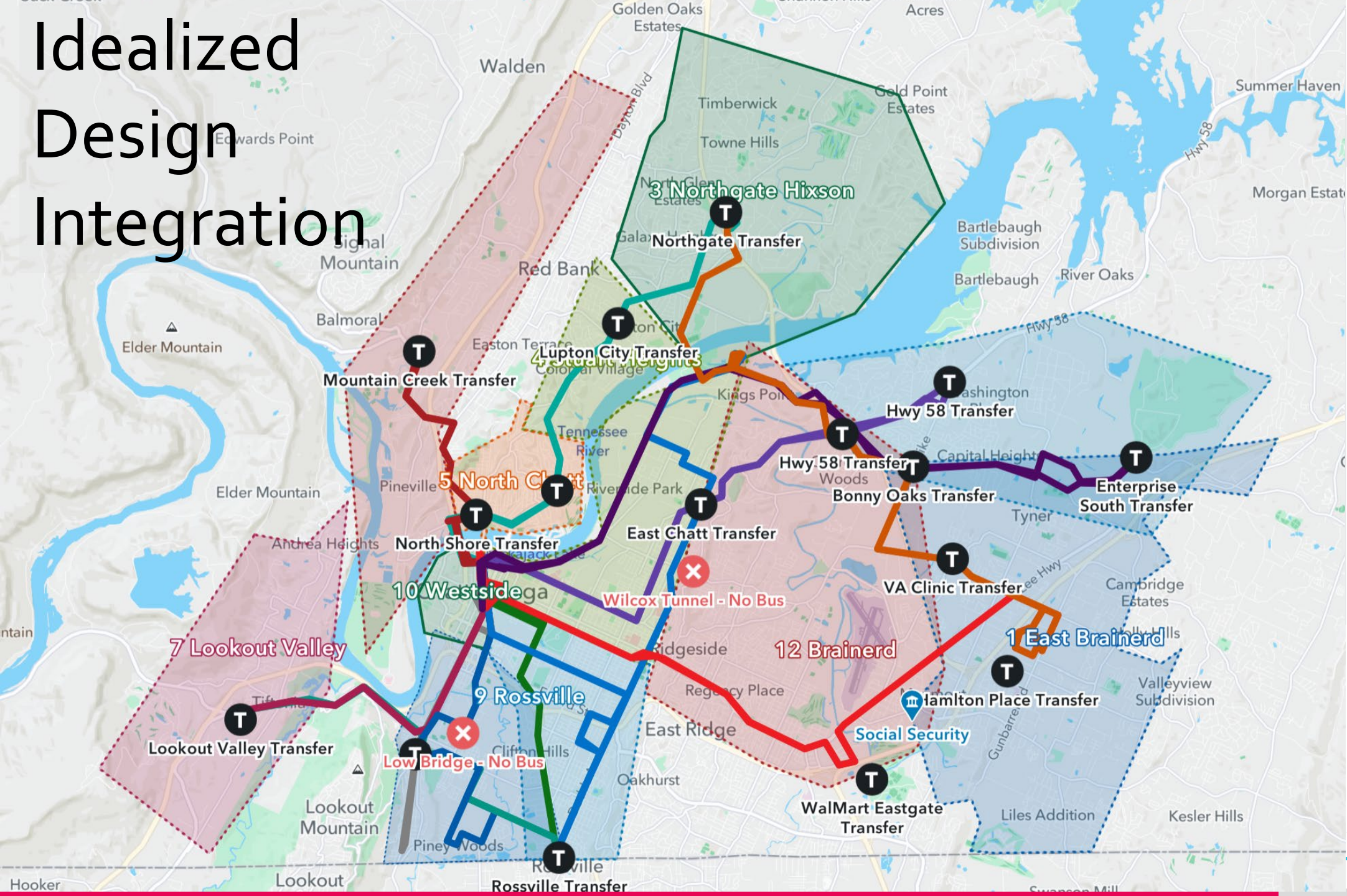
If the CARTA system was destroyed last night, what would you design today?

What would be your primary objective?

POLICY ISSUE: Equity and Fairness

- Free Electric Shuttle Vs Fixed Route
- Selection of Demand Responsive Zones
- Fare Policy
- Technology, AI, and Privacy Concerns

Idealized Design Integration



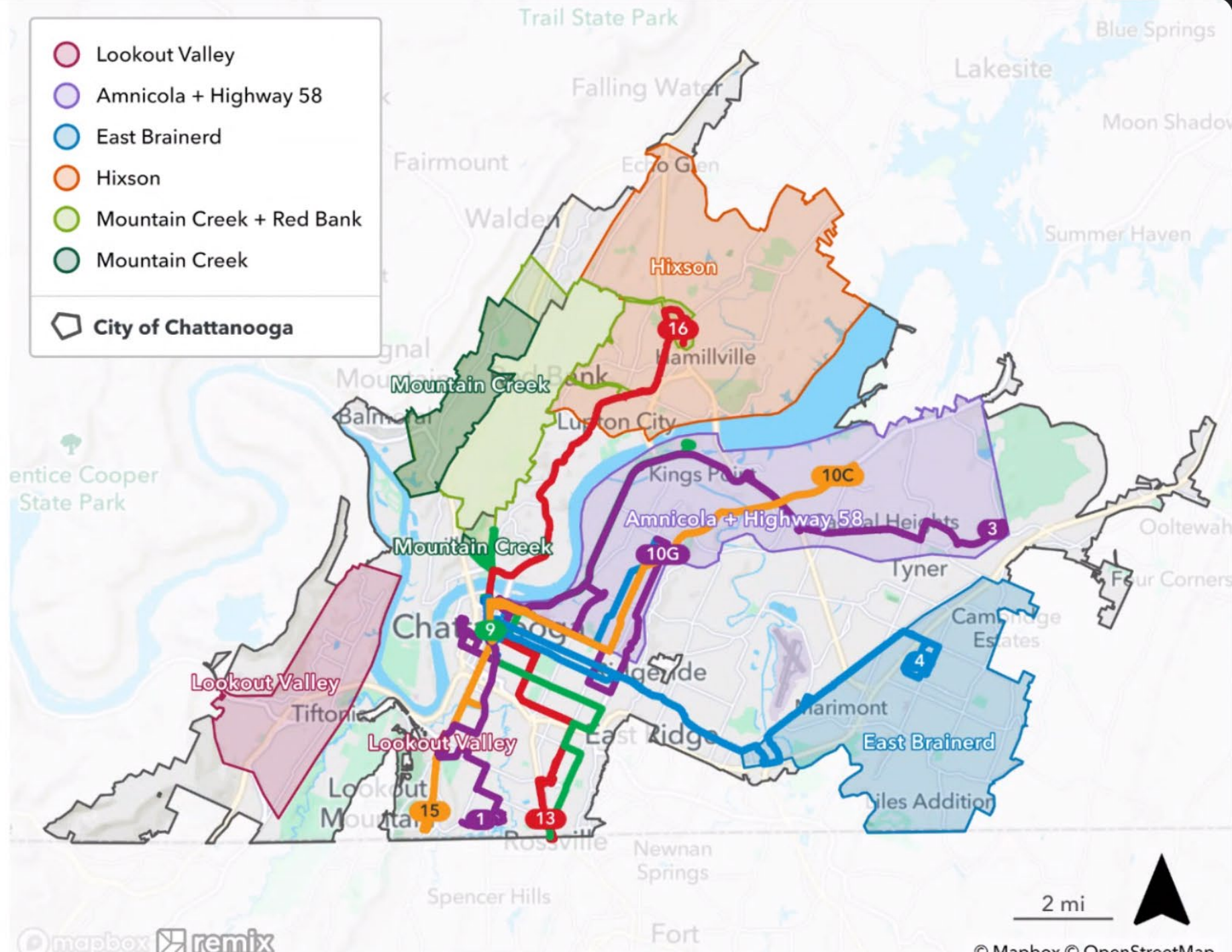
- 1 East Brainerd
- 2 Hwy 58
- 3 Northgate Hixson
- 4 Stuart Heights
- 5 North Chatt
- 6 Mountain Creek
- 7 Lookout Valley
- 8 Alton Park
- 9 Rossville
- 10 Westside
- 11 East Chatt
- 12 Brainerd

Potential Microtransit Zones

Initial Zone List

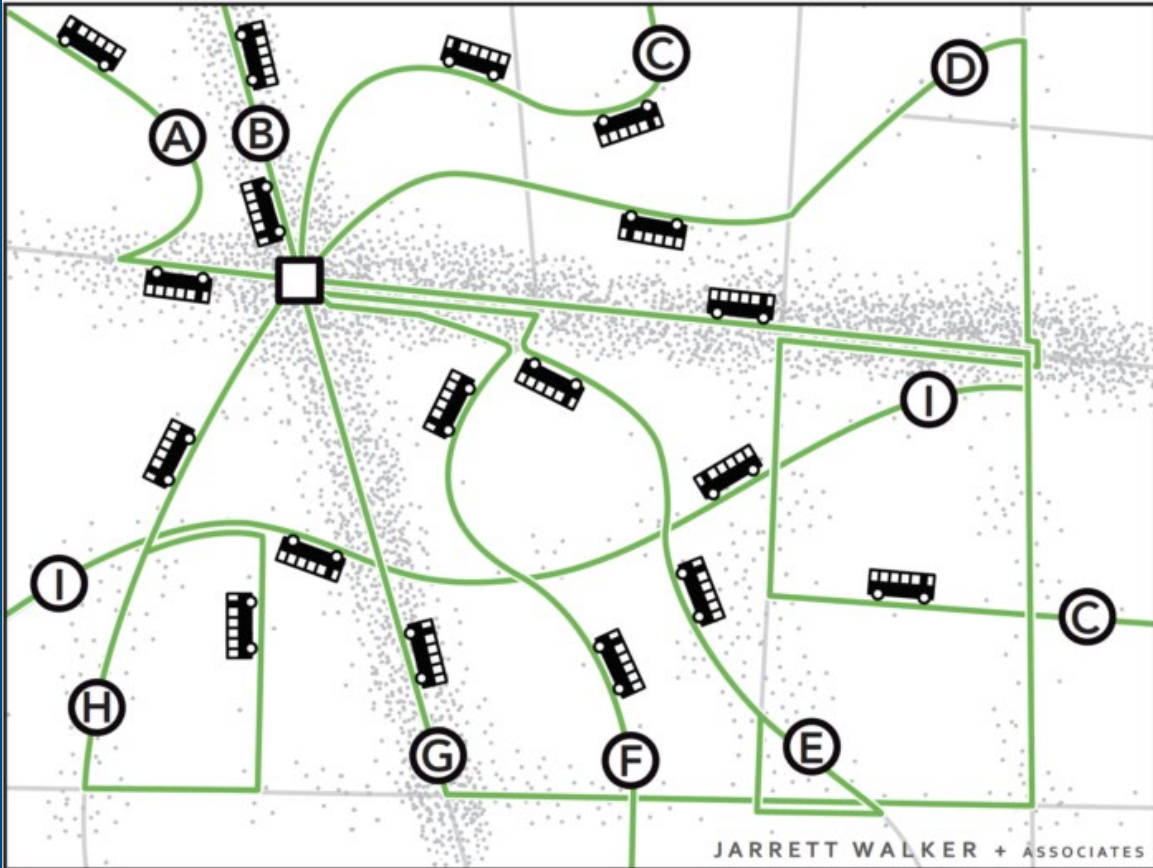
An initial group of six zones was identified based on the existing conditions analysis and stakeholder feedback:

- **Hixson**
- **Mountain Creek**
- **Mountain Creek & Red Bank**
- **Lookout Valley**
- **Amnicola Hwy. & Hwy. 58**
- **East Brainerd**

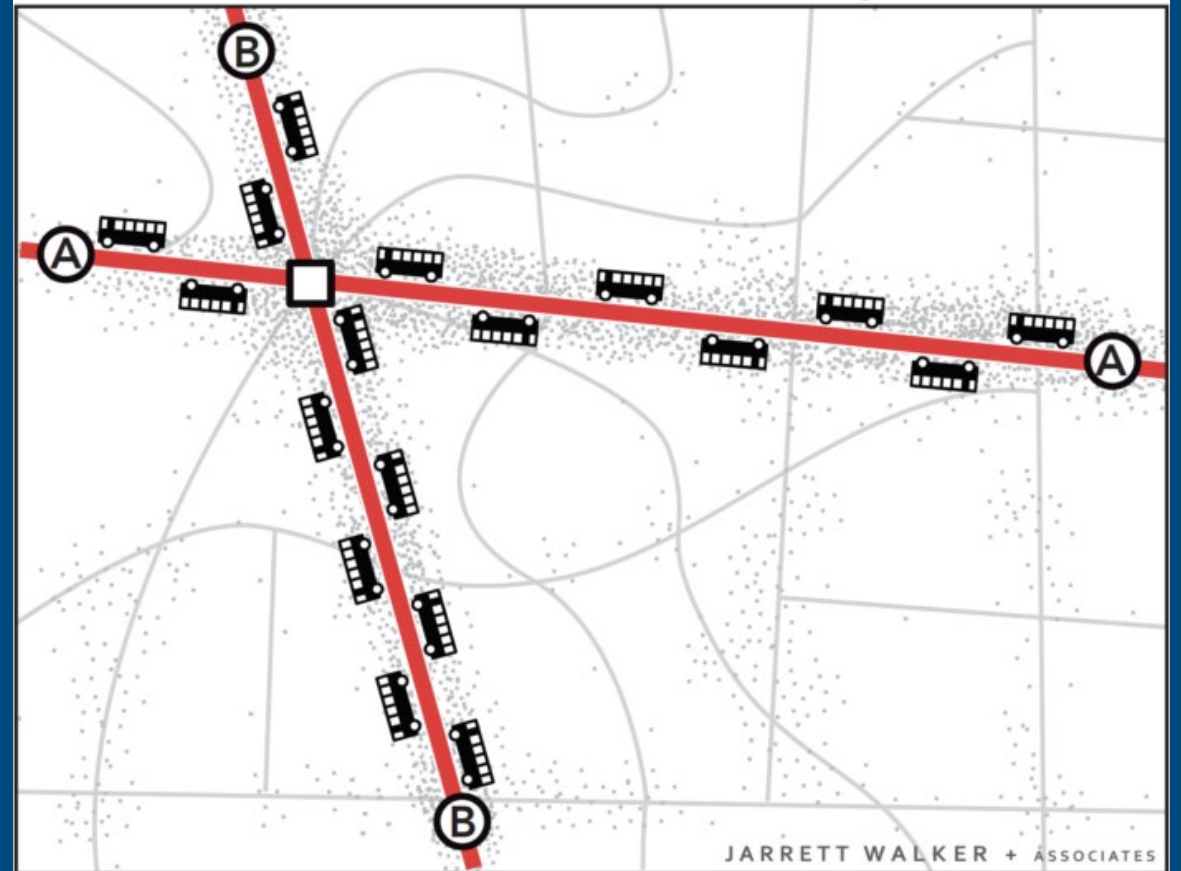


Planning Fixed Lines – Suggested Paradigm

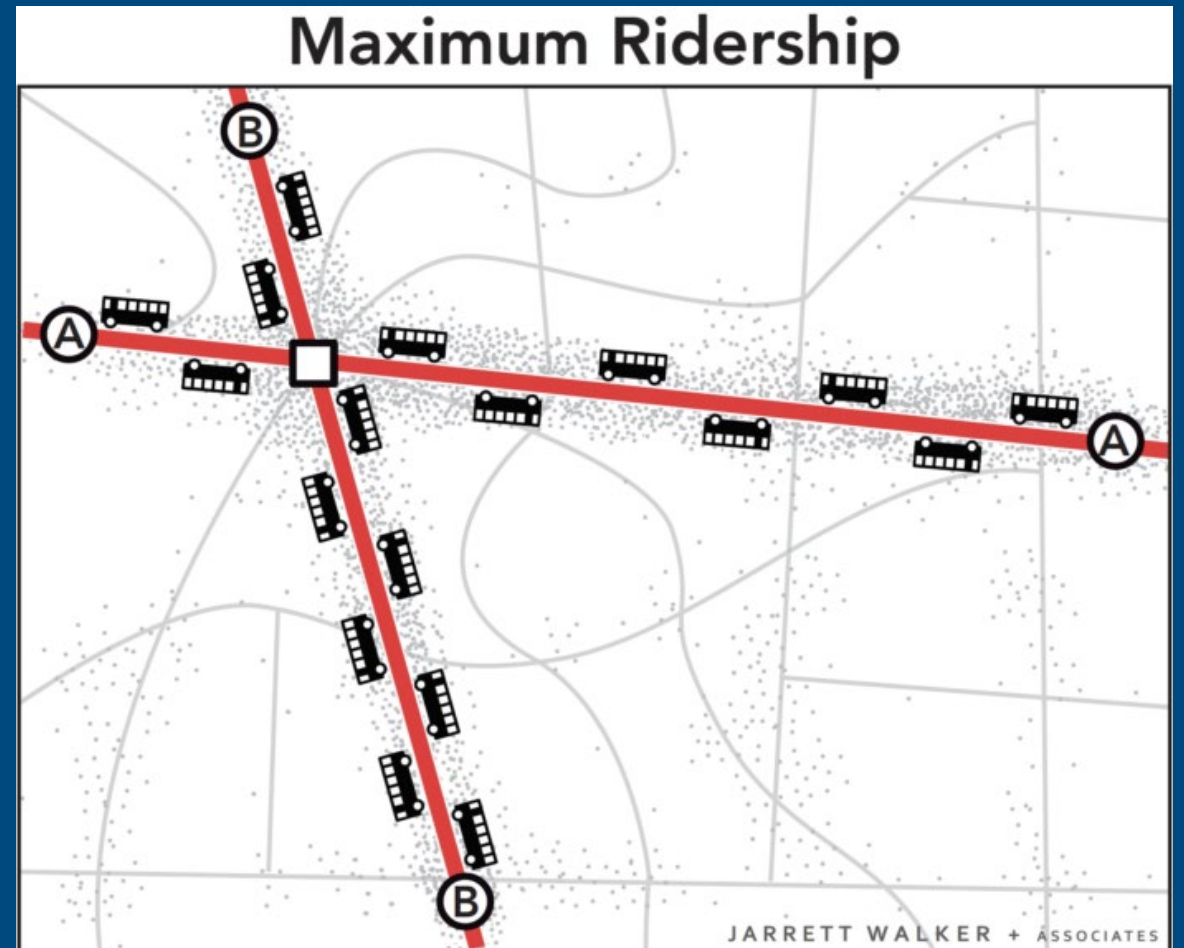
Maximum Coverage



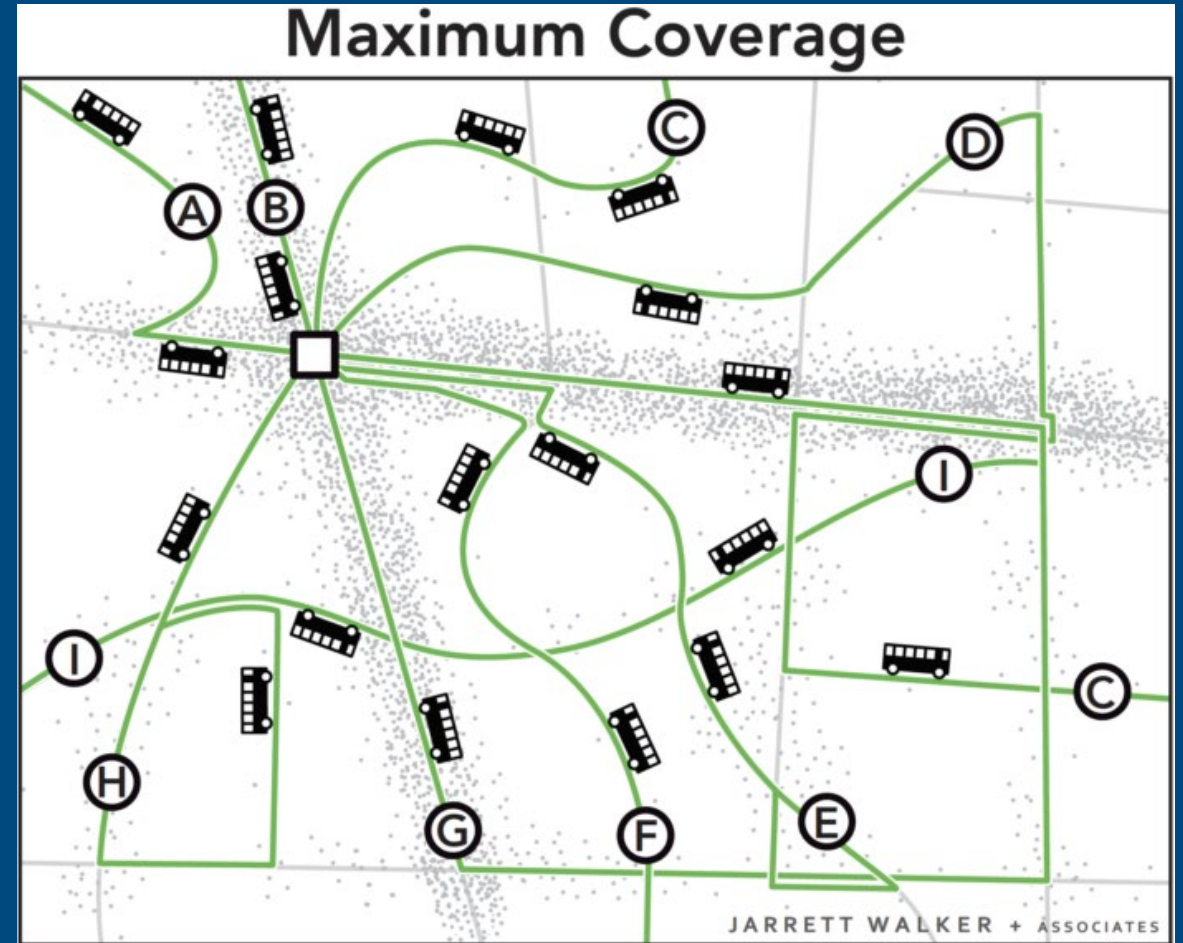
Maximum Ridership



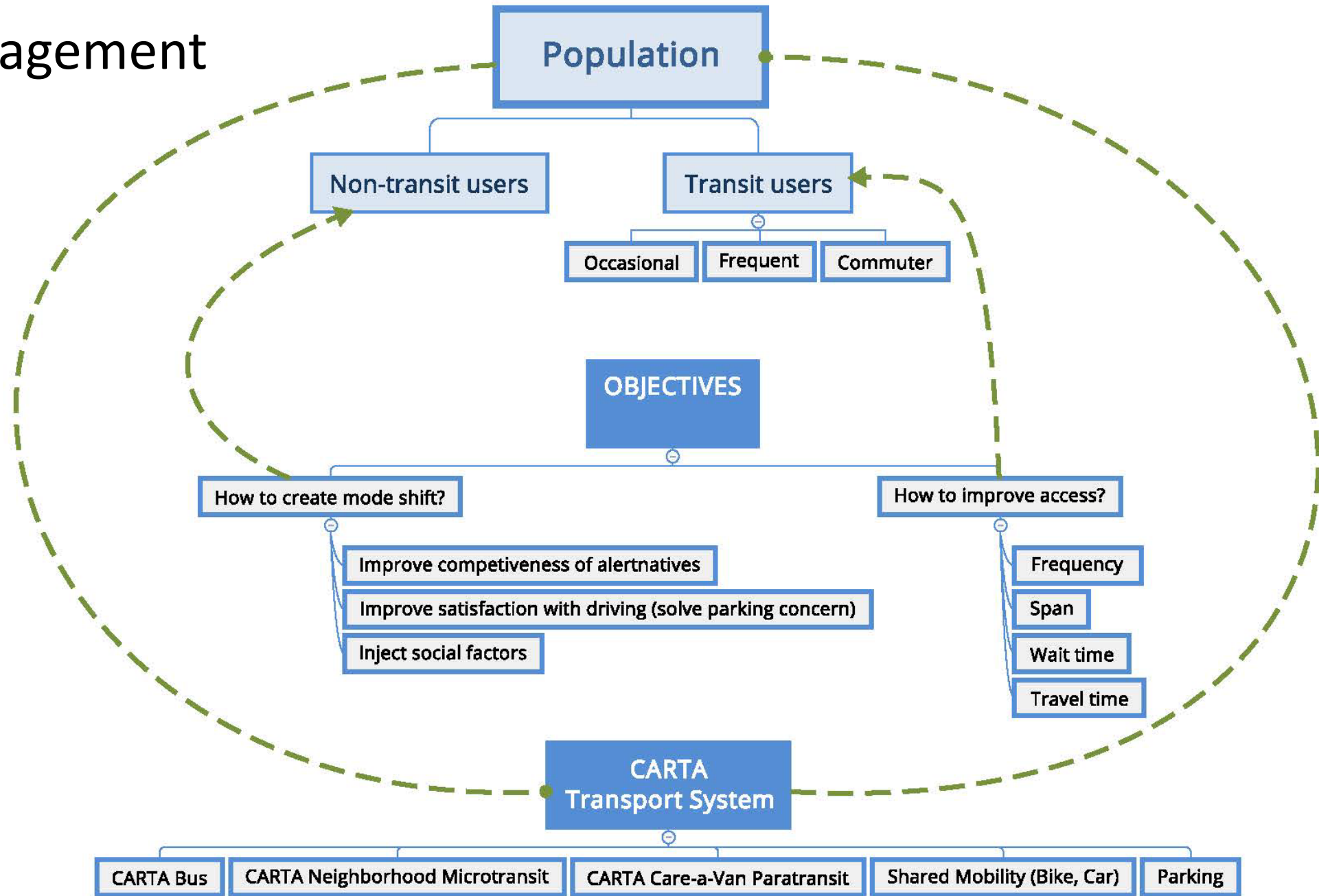
- What is the magic number?
- If you are successful, what happens next?
- New bus or new route?



- If you start with full coverage, then any future resources go toward improved service span and frequency.
- You start with an achieved policy that is improved upon



Community Engagement



DE-EE008467

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

Chattanooga Area Regional Transportation Authority

Philip Pugliese, PI

Abhishek Dubey, PI

Aron Laszka, PI

Yuche Chen, PI



DE-EE0009212

AI-Engine for Optimizing Integrated Service in Mixed Fleet Transit Operations

Chattanooga Area Regional Transportation Authority

Principal Investigators

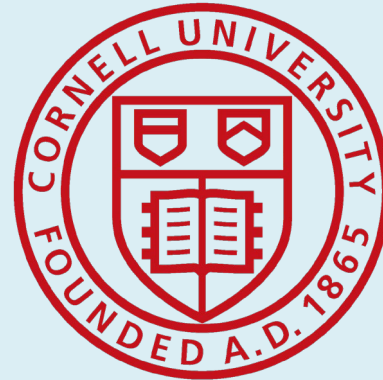
- Philip Pugliese, CARTA
- Abhishek Dubey, Vanderbilt
- Aron Laszka, Houston
- Samitha Samaranayake, Cornell
- Mina Sartipi, UTC
- Chandra Ward, UTC
- Malini Ghosal, PNNL
- Shashank Shekhar, Siemens



Mobility for all - Harnessing Emerging Transit Solutions for Underserved Communities

Abhishek Dubey, Aron Laszka, Paul Speer, Ayan Mukhopdhyay, Chandra Ward, Himanshu Neema, Mina Sartipi, Philip Pugliese, Dan Freudberg, Samitha Samaranayake, Siddhartha Banerjee, Lillian Ratliff.

Jordan Jurinsky, Sayyed Vazirizade, Michael Wilbur, Amutheezan Sivaganam, Afiya Ayman, Geoffrey Pettet, Juan Martinez, Daniel Gui, Ruxiao Sun.



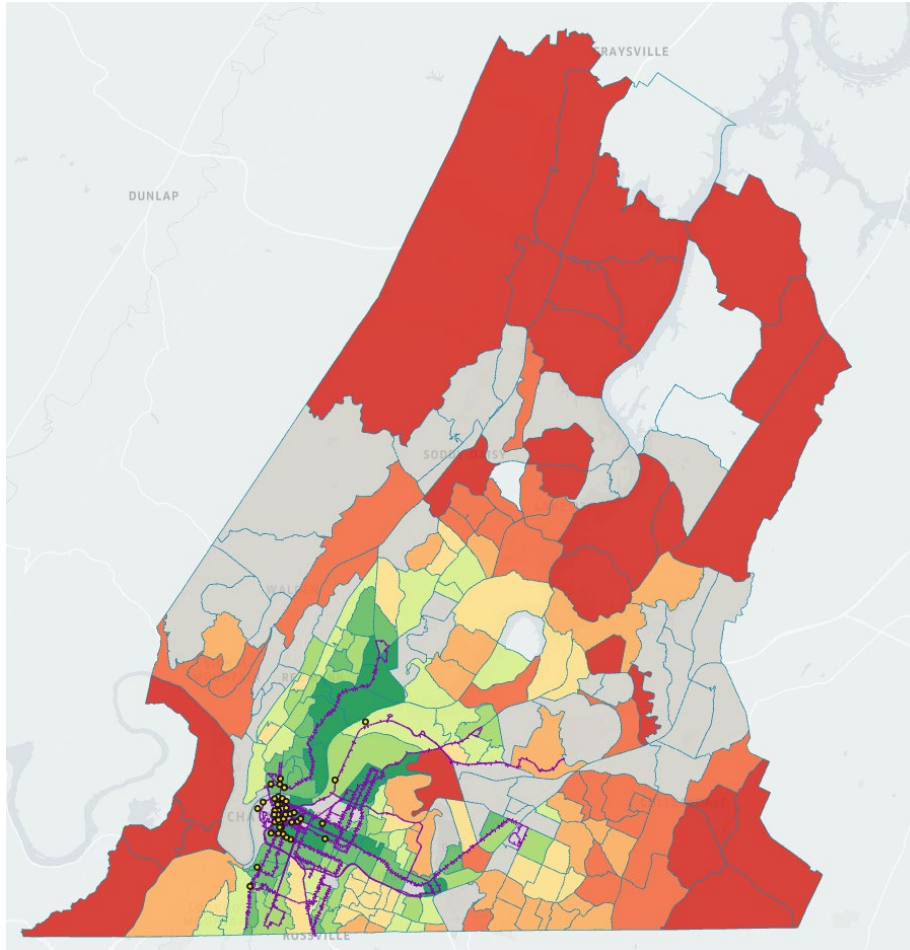
<https://smartrtransit.ai>

This work is supported in part by the National Science Foundation under award CNS: 1952011



Challenge: Provide Wide Coverage while Ensuring that the Service is Economical, Efficient, and Equitable

- Available Modes of Transportation in the city are **personal cars, personal bikes, bike shares, fixed line buses, paratransit vehicles.**
- We are working to **introduce microtransit** and integrate it efficiently with the rest of the public transportation systems.
- The challenge is to provide a means of transportation for daily activities to everyone who needs it while **prioritizing access to the people who need it most.**



- CARTA transit line
- Bike sharing stations
- Census block groups w/o info



Synthetic trips generated from job access data
[US Census Survey]

Multimodal Choice Analysis

Simulation Engine —

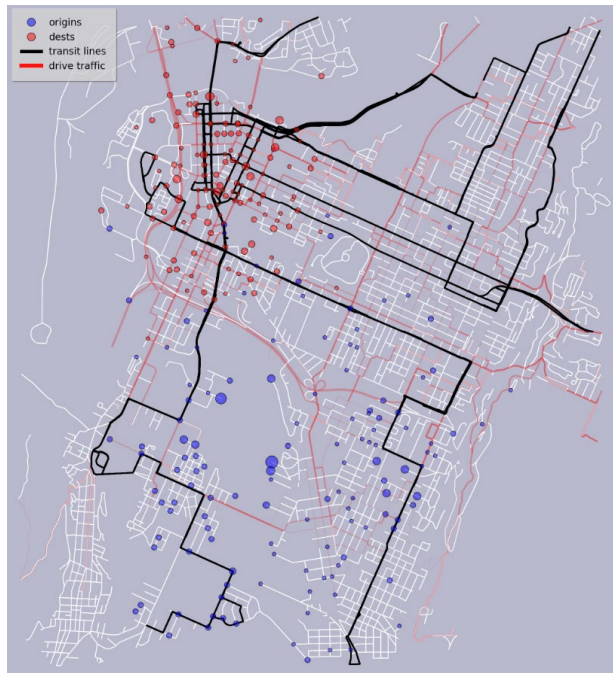
- Models populations travel preferences (time, money, convenience, etc)
- Computes network equilibrium

Use —

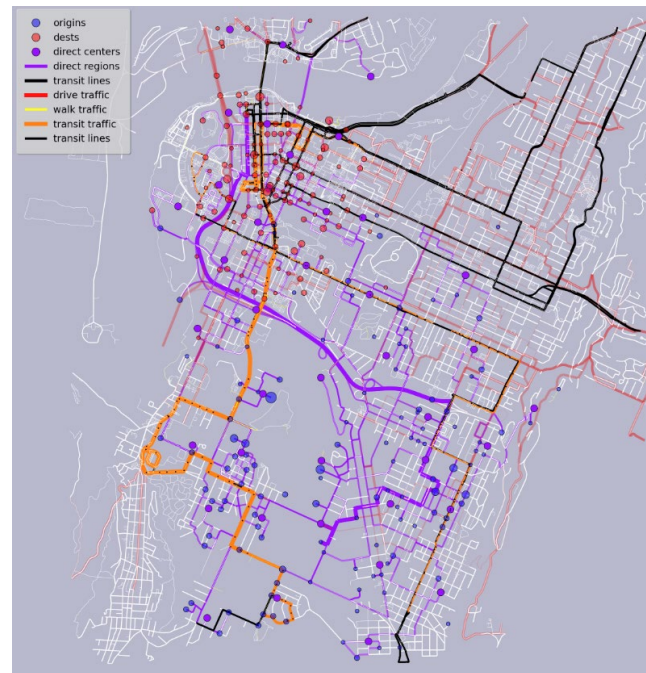
- Test efficacy of on demand services
- Test effect of modifying fixed line transit

Preliminary Simulations

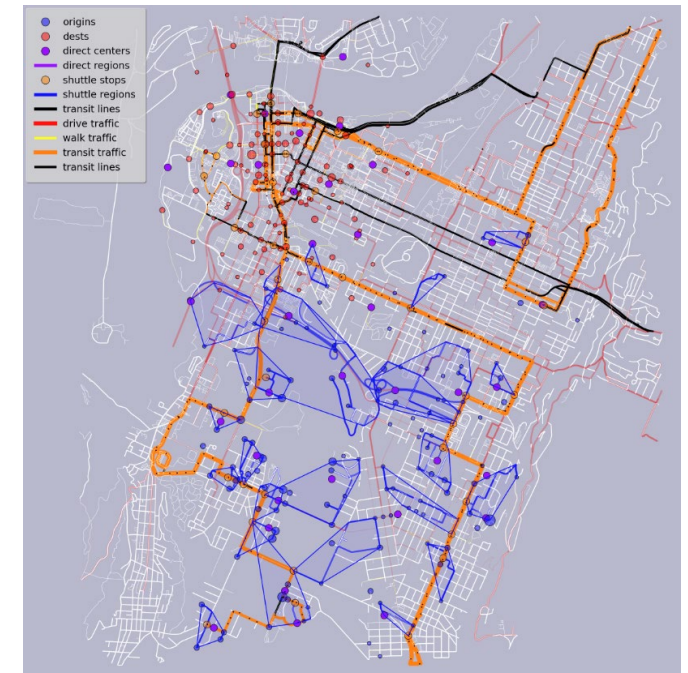
CARTA Transit Lines



Ondemand Service



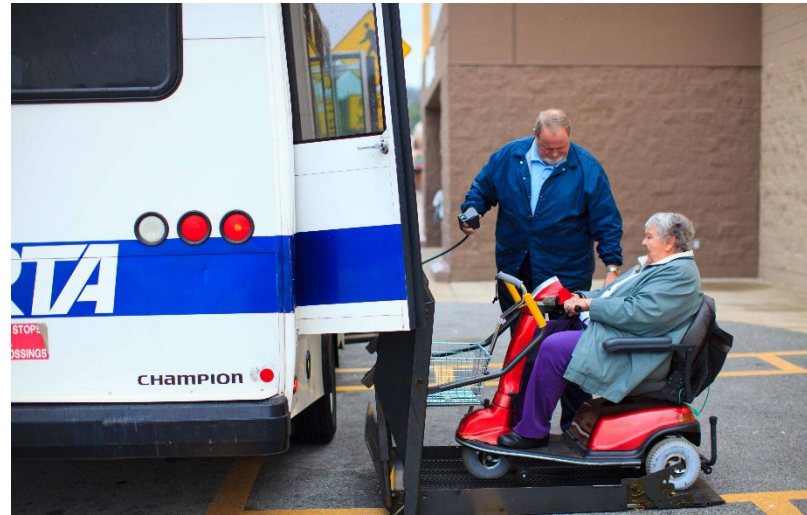
Ondemand Shuttle Service



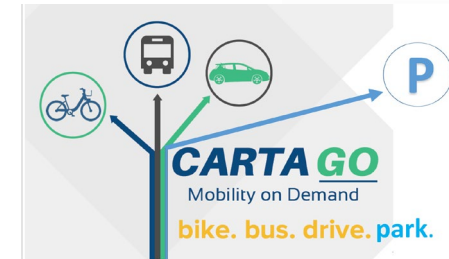
CARTA



Fixed line Transit



Paratransit



Microtransit

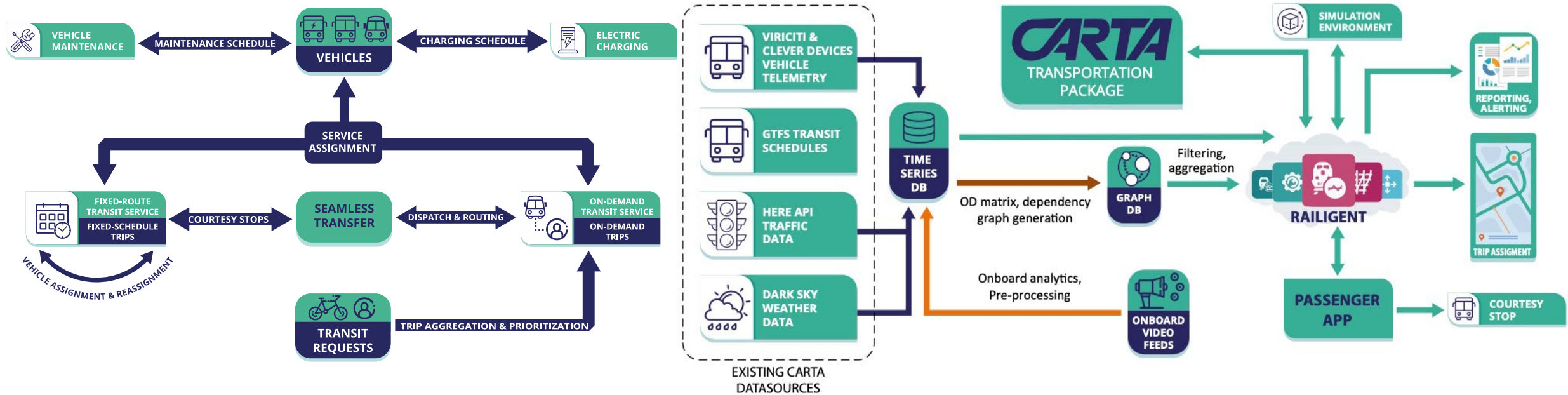


BikeShare



Park and Ride

Integrated Vision



Our approach is to design a microtransit system which can serve some routes on-demand and integrate it with the fixed line system of the city. Designing this system, we must consider the operating region and think about the areas where we can transfer between the on-demand trip and the fixed line trips



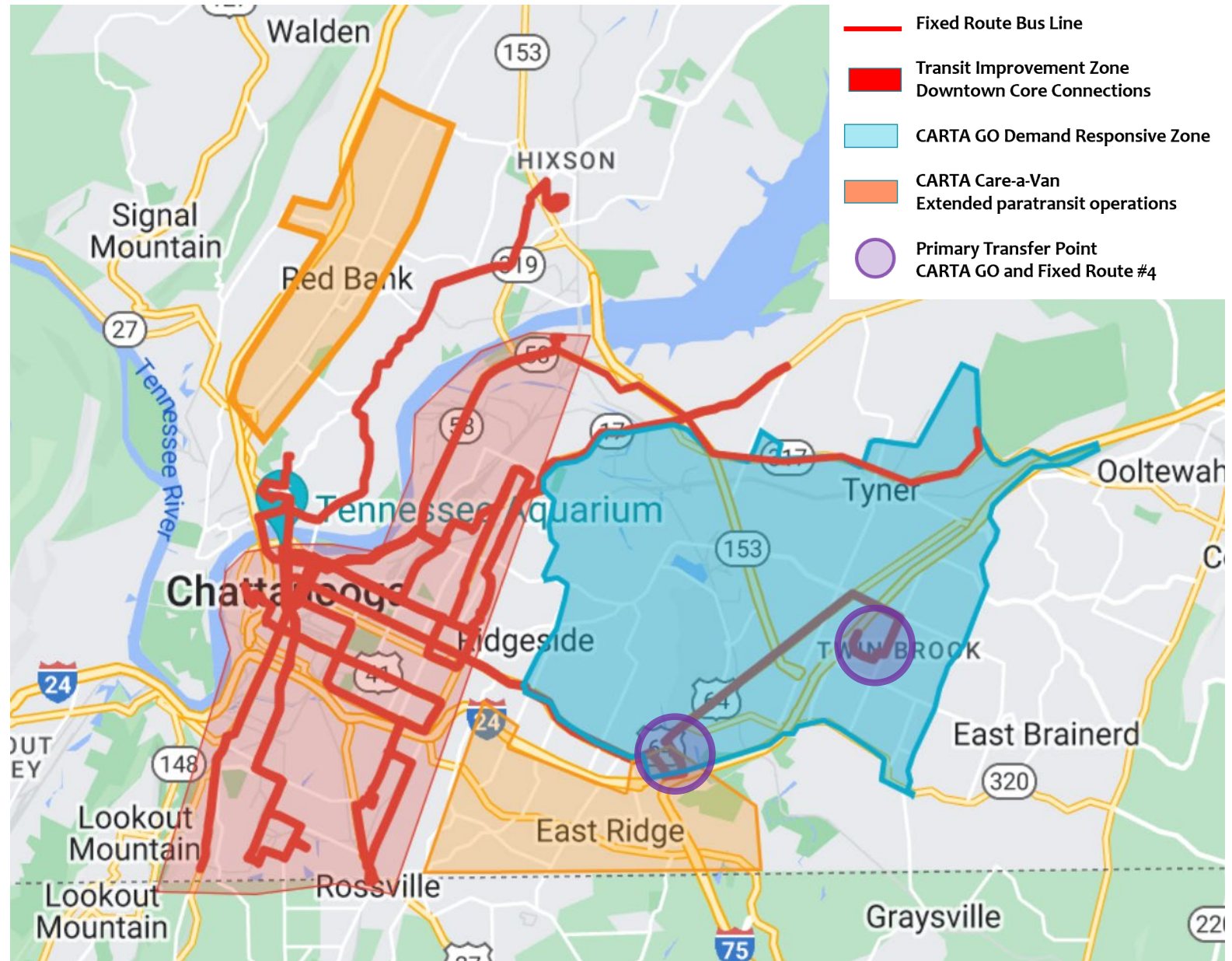
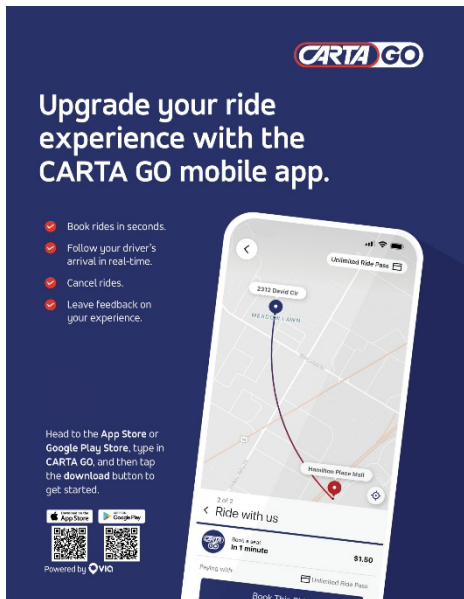
Pilot Operations

Led by Philip Pugliese, Abhishek Dubey

Implementation



App-based demand responsive service launched in expanded service zone on August 22, 2022, using commercial software as a service to provide baseline data.



Community Outreach



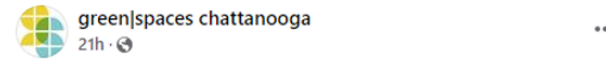
Featured in local organization newsletters and social media and through CARTA social media platforms: Facebook, Twitter, and LinkedIn.

Survey Collection

In-person collection at key transit stops and downtown corridors. QR code survey link posted at bus shelters and on all buses

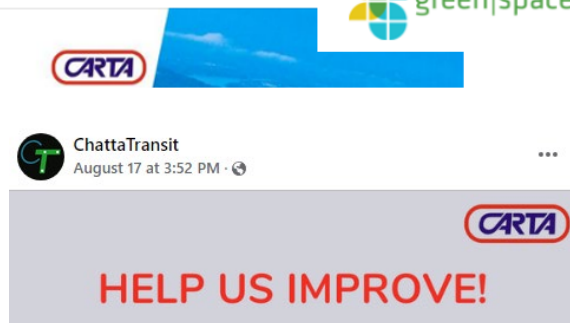


We tried out the new CARTA GO app to visit Food Truck Friday! Learn about this new micro transit option, its service area, and how you can support public transportation!
[#chattatransit](#)



CARTA wants your input! Complete this 5-minute survey and CARTA and help shape the future of public transit in Chattanooga.

Survey available via QR code or visit <https://www.surveymonkey.com/r/Chattsurvey>



TAKE OUR SURVEY

FREE PARKING? MORE BIKE LANES?

Are you looking for options?

Let's work together!



Chattanooga
Housing
Authority



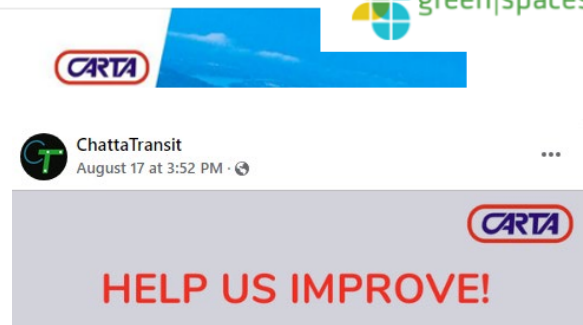
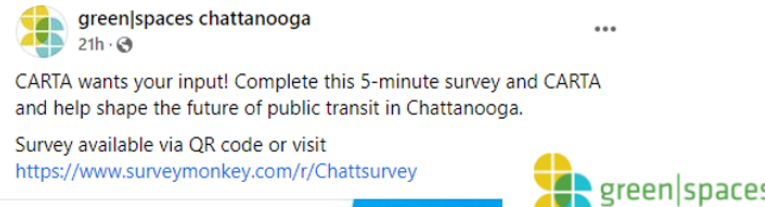
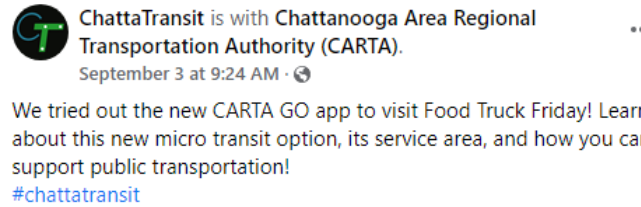
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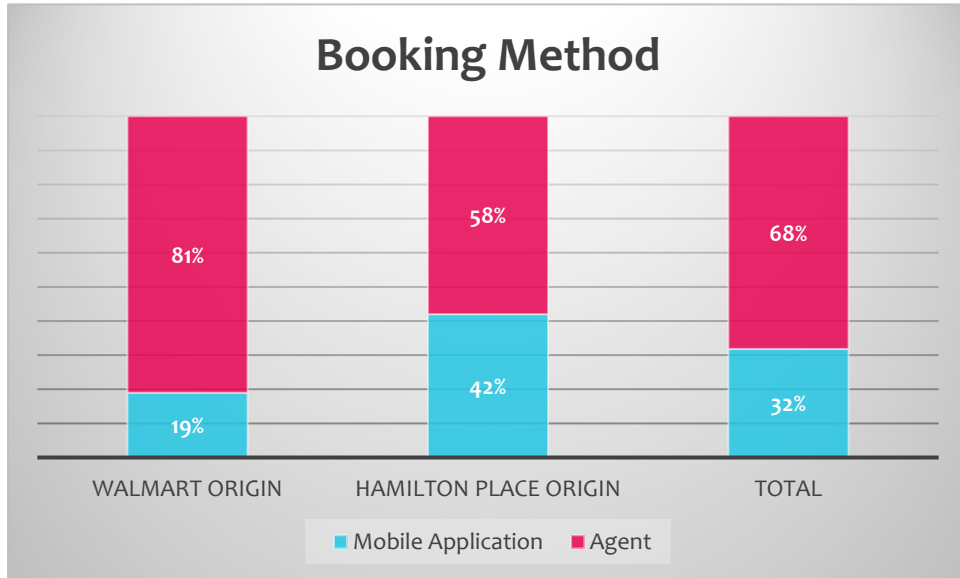
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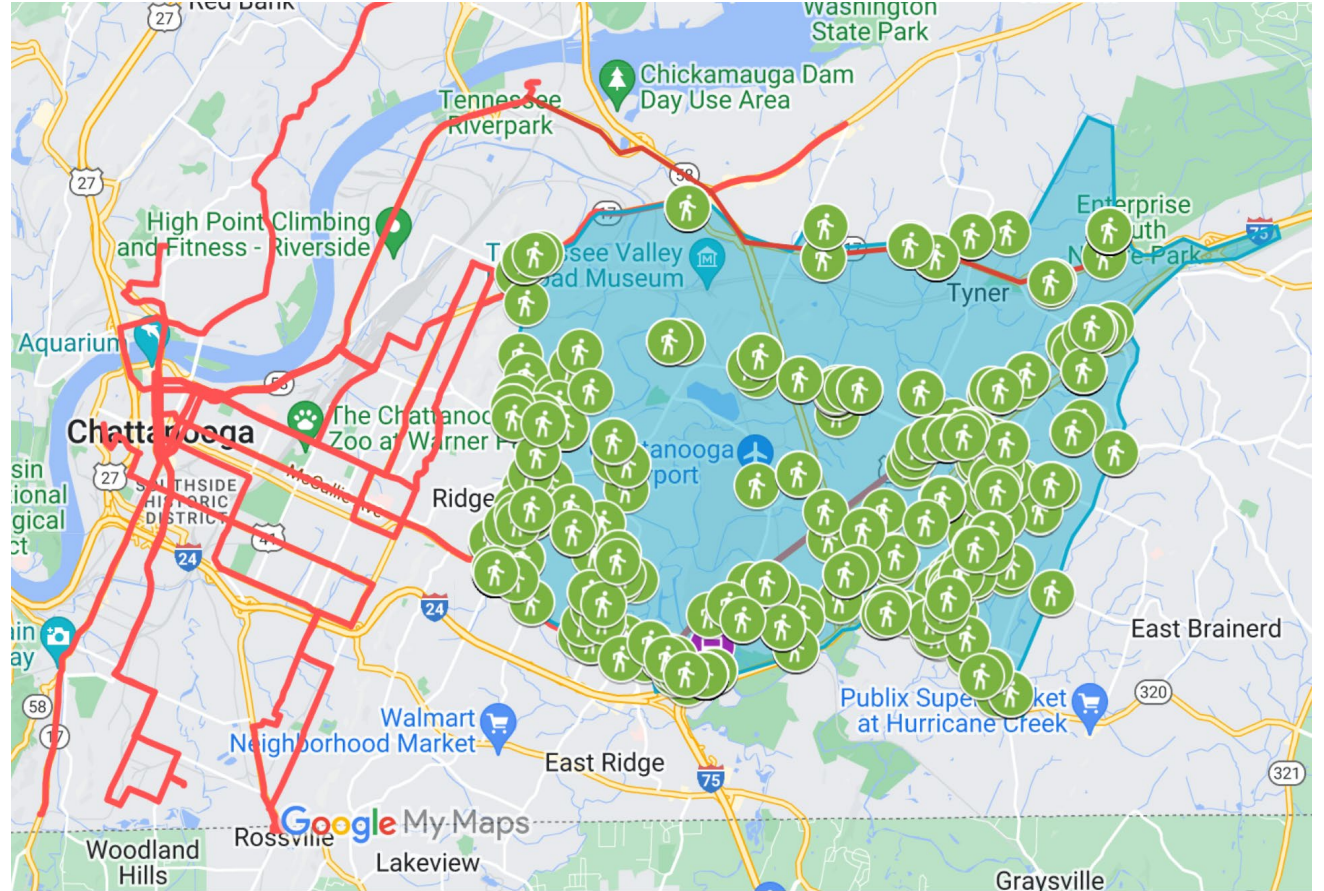


CARTA GO Connections

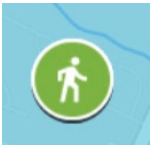
CARTA GO Trips
(Week of 9/12 to 9/16)

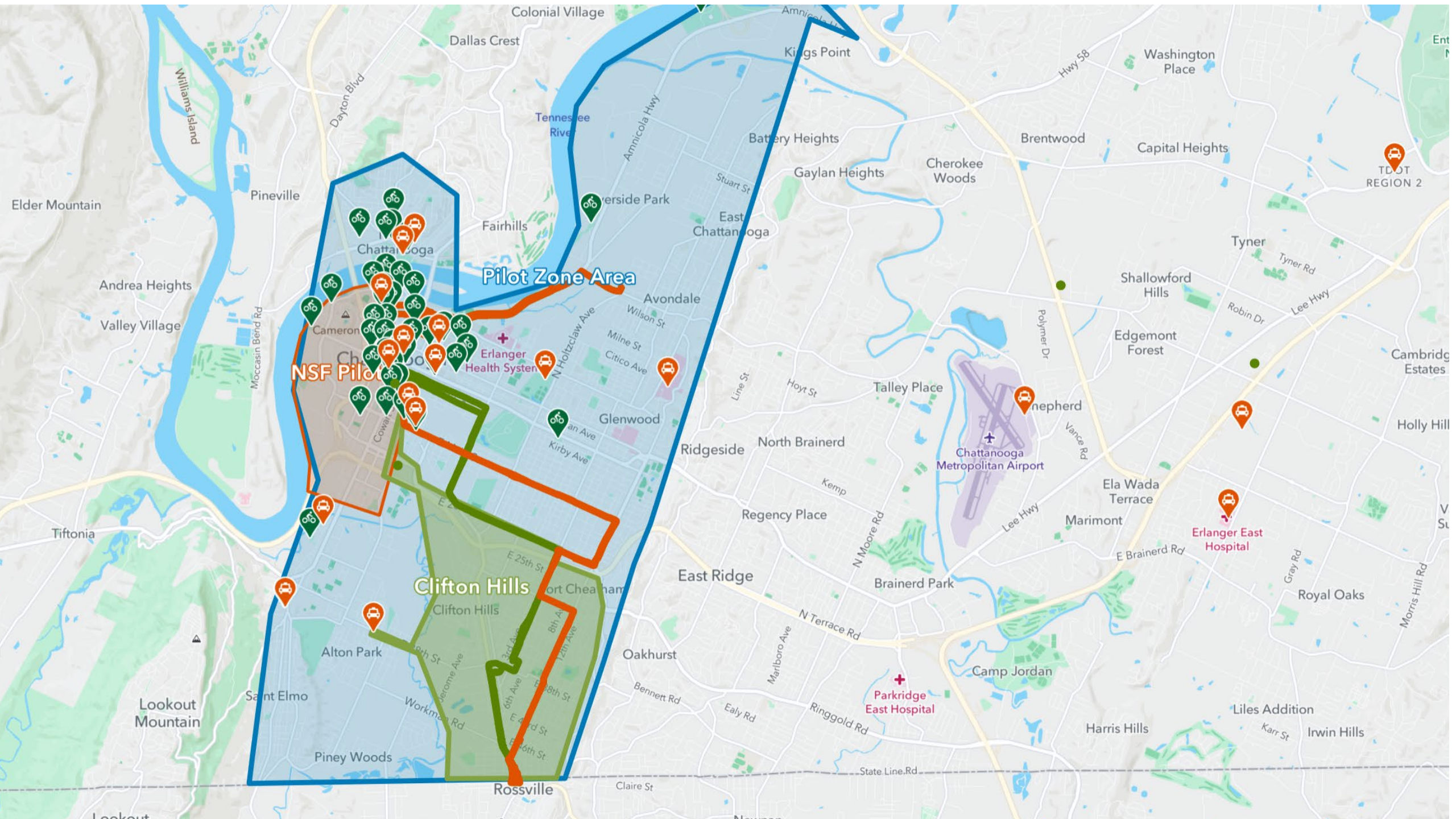


Walk on Customers at Transfer Sites assisted by CARTA staff with application download and bookings.



Passenger Destinations from All Origins





Pilot Zone Area

NSF Pilot

Clifton Hills

TDOT REGION 2

Erlanger East Hospital

Chattanooga Metropolitan Airport

Parkridge East Hospital

Erlanger Health System

Millman's Island

Dallas Crest

Colonial Village

Kings Point

Washington Place

Pineville

Tennessee River

Amnicola Hwy

Hwy 58

Brentwood

Capital Heights

Battery Heights

Gaylan Heights

Cherokee Woods

Tyner

Lee Hwy

Shallowford Hills

Edgemont Forest

Robin Dr

Andrea Heights

Valley Village

Dayton Blvd

Fairhills

Chattanooga

East Chattanooga

Avondale

Wilson St

Milne St

Citico Ave

Cameron

Erlanger Health System

N Holtzclaw Ave

Kirby Ave

Glenwood

Ridgeside

North Brainerd

Talley Place

Shelpherd

Ela Wada Terrace

Marimont

E Brainerd Rd

Tiftonia

East Ridge

Brainerd Park

Royal Oaks

Clifton Hills

Clifton Hills

Alton Park

Saint Elmo

Piney Woods

Rossville

Claire St

State Line Rd

Harris Hills

Liles Addition

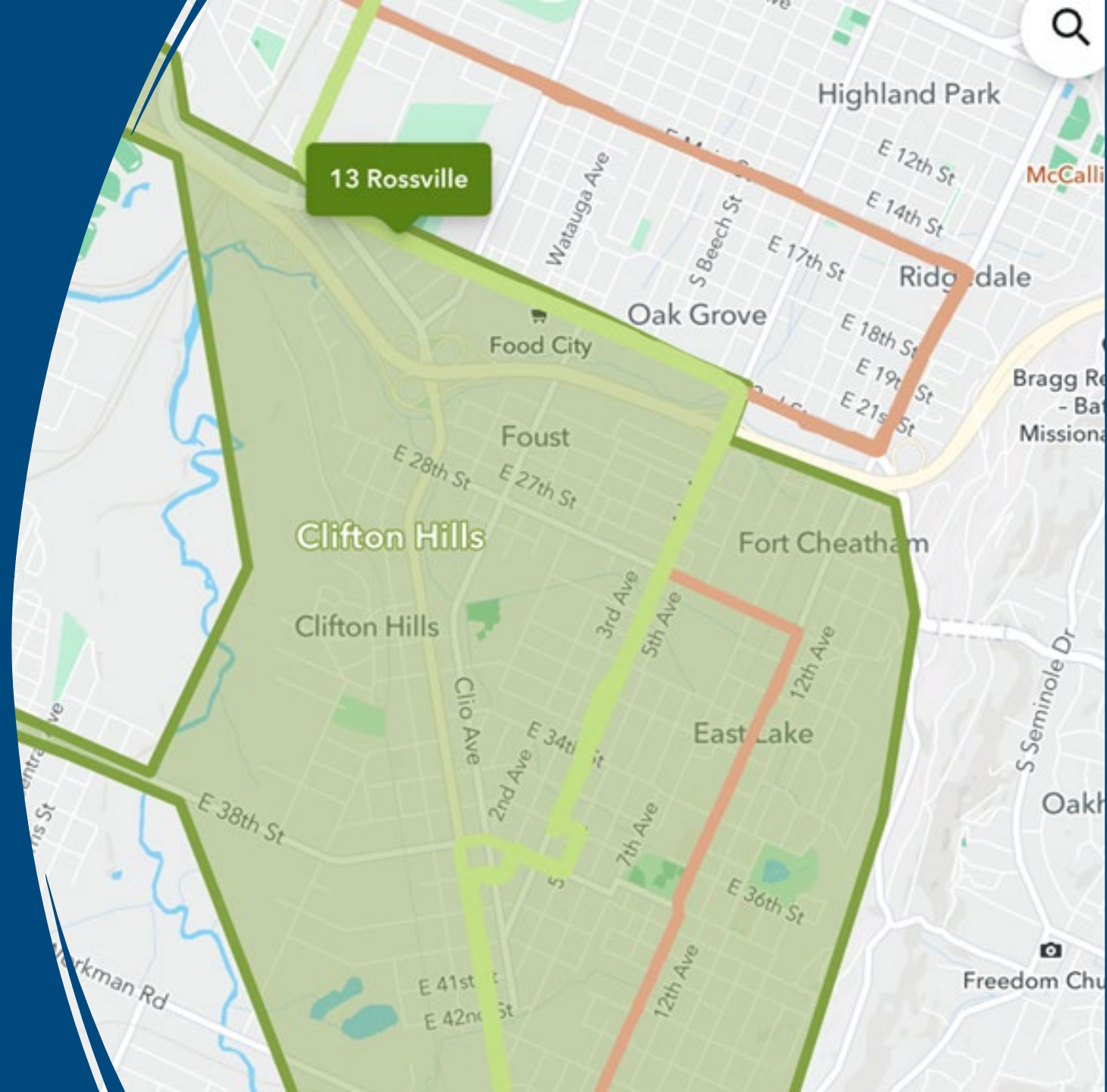
Irwin Hills

Lookout Mountain

Lookout

Clifton Hills - 37407

- Total pop: 9,779
- Employment rate: 50.9%
- Poverty rate: 40.7% (13.3% TN)
- Public transit use by pop: 5.5%
 - Walk: 1.8%
 - Bike: 1.2%
 - Other: .2%
- Black: 30%
- Latin: 42%
- White: 28%



Goals

- Efficiency Measures (VMT/PMT)
- Service Accessibility Measures
- Service Satisfaction Measures
- Service Hour Metrics
- Relational Approach Test
- New immigrant and cultural differences.

Ongoing Analysis

- Vanderbilt University – Paratransit Optimization
- Penn State University – Advance Booking / Offline Microtransit Optimization
- Cornell University – Dynamic Booking / Online Microtransit Optimization
- University of Washington – Mode Shift Decision Framework
- University of Tennessee at Chattanooga – Transit Simulation Environment
- University of Tennessee at Chattanooga/Vanderbilt – Community Engagement

Recommendations*

- **Multimodal Transportation Center – Transfer Facility**
 - Enable route optimization and pulsed transfer operations
 - Centralized information and ticketing
 - Passenger amenities
 - Operator amenities
- **Microtransit Zone Evaluation/Expansion – Fixed Route Connectivity**
 - Potential for 100% City coverage
 - Potential for County expansion - East Ridge, Red Bank, Collegedale, Soddy
- **Mobility Hubs**
 - Enhanced super stops to facilitate microtransit-fixed route transfers
 - Support neighborhood micromobility expansion

**While some of these concepts have been publicly evaluated in prior planning documents, these recommendations have not been formally reviewed nor approved by the CARTA Board of Directors.*

Recommendations*

- **Transportation Demand Management Programs (TDM)**
 - Commuter Tax Benefit
 - Van Pooling
 - Ride Sharing
- **CARTA Bike-Bus-Drive-Park Initiative**
 - Mobility-as-a-Service Packages
 - Improve parking availability
 - Promote alternative transport
- **Congestion Free Transit**
 - Transit Signal Priority
 - Bus Only Lanes

**While some of these concepts have been publicly evaluated in prior planning documents, these recommendations have not been formally reviewed nor approved by the CARTA Board of Directors.*



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