



# WSTA Route Study

December 2024 Public Works Cmte Meeting



**WSTA**


## Today's Presentation

- Night Service returning to WSTA
- Proposed Vision for future WSTA service
- Early 2025 Service Changes to Move Towards the Vision
- Technology Improvements coming in Early 2025
- Discussion

# Night Services Returning

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- Night service returned on **November 11<sup>th</sup>** 
- Routes that NOW have night service after November 11<sup>th</sup>:  
80, 81, 82, 83, 84, 85, 86, 87, 89  
90, 91, 92, 93, 94, 96, 97  
101, 103, 104, 105, 106, 107, 108, 109
- Routes that operate without night service after November 11<sup>th</sup>:  
88, 95, 98, 99, 100, 102, 110

The public  
spoke.

We  
listened.

# A New Vision for WSTA

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- **“BE BOLD”**
- Develop a transit network designed to foster economic mobility
- Create a modern system that is user-friendly, high-tech, and used by a wide variety of Winston-Salem residents
- Address the long travel times from the “Bus Stop Jobs” documentary



**WSTA**

## **Bus Stop Jobs Documentary**

*Bus Stop Jobs* is an 11-minute film about the challenges a mother faces in working full time and getting her son to school and to work on time – using the WSTA bus system.

*“[my son] is a trooper to be able to get up at 5:00 in the morning...sometimes his days are 14 to 16 hours long...”* - Brittany Marshall

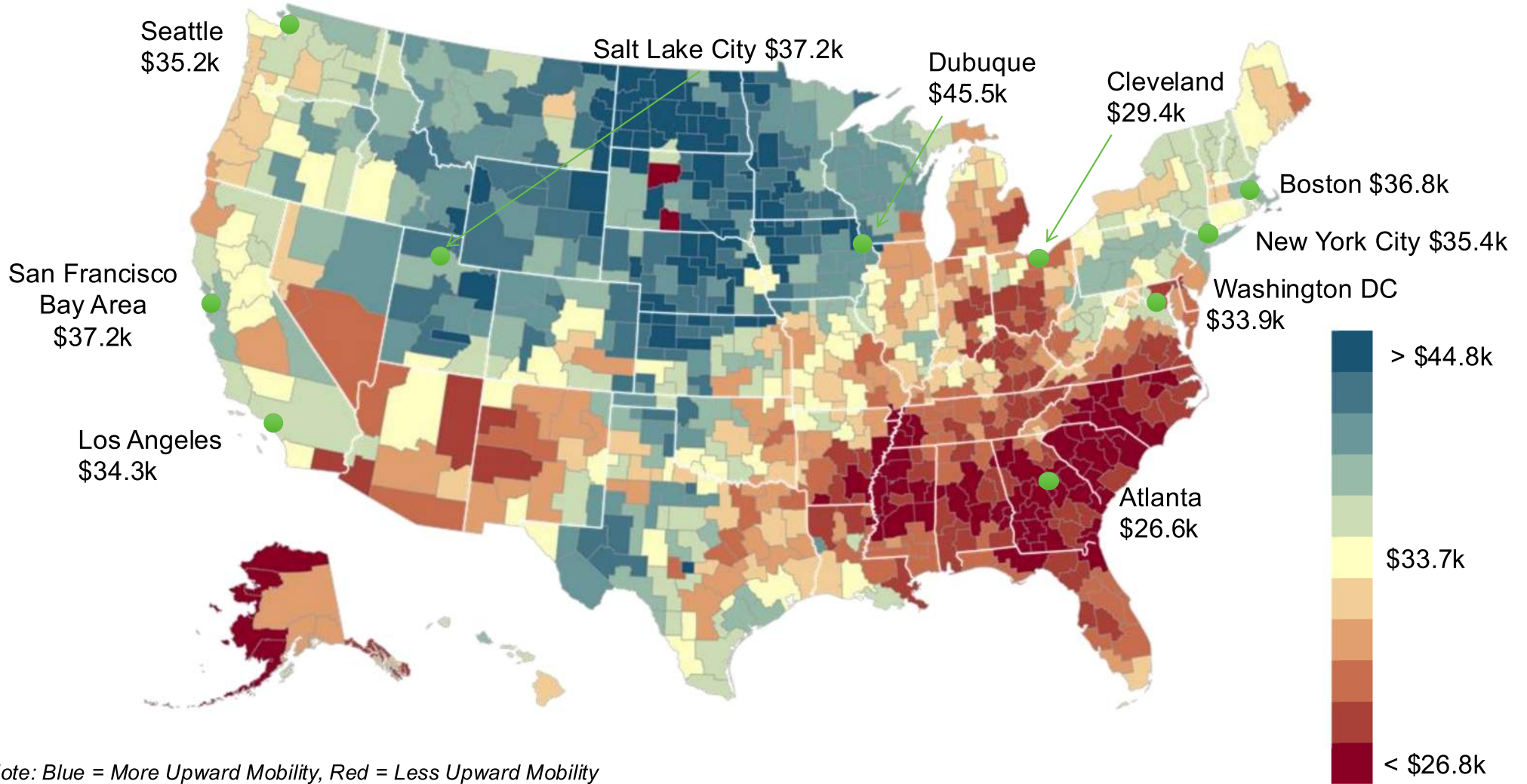
When transit is slow, riders are limited in how many job opportunities they can reach in an hour of commuting, which also limits their economic mobility.

*Bus Stop Jobs*: <https://www.youtube.com/watch?v=scVU9LHmjxQ>



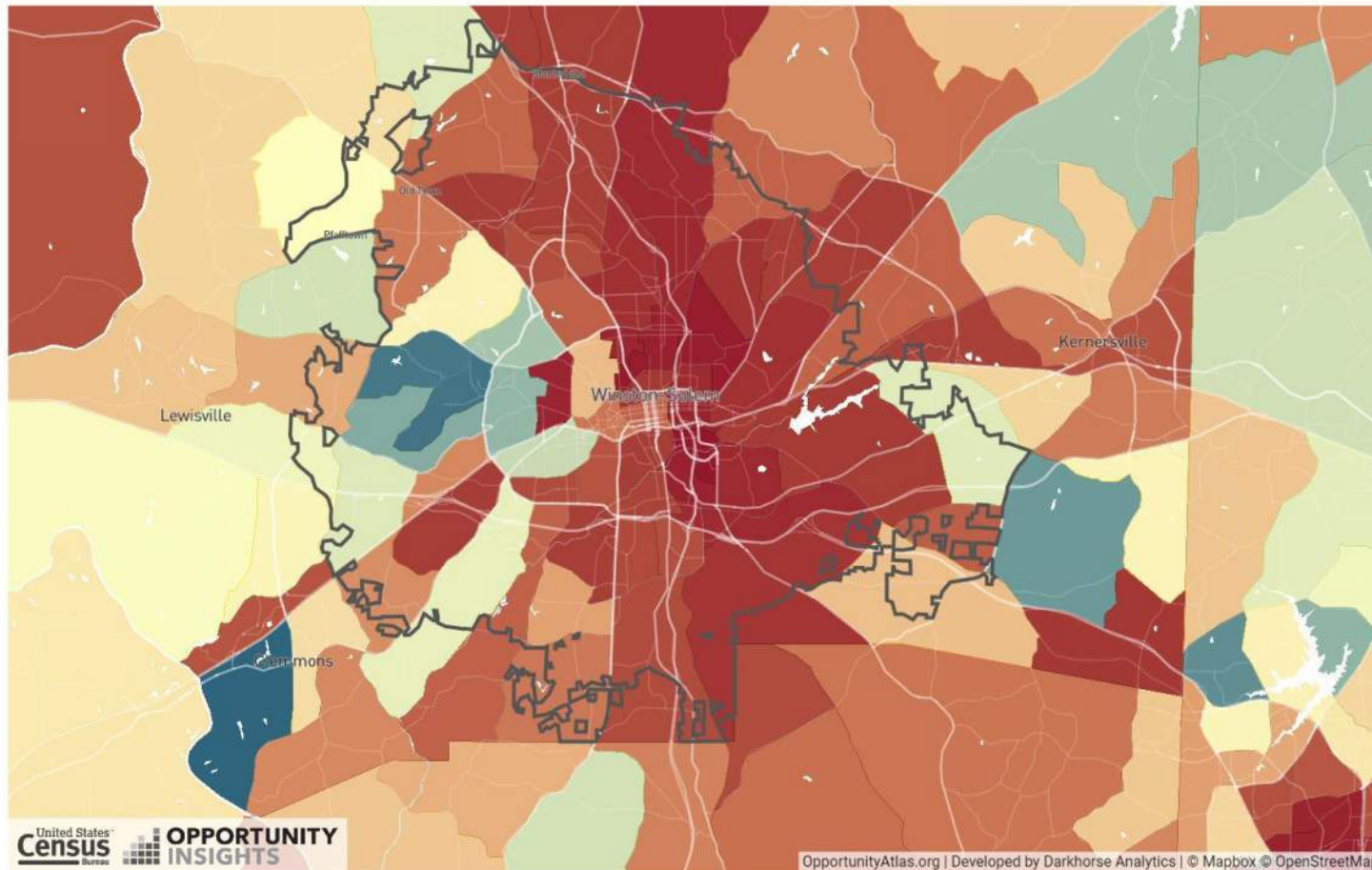
# The Geography of Upward Mobility in the United States

Average Household Income for Children with Parents Earning \$27,000 (25<sup>th</sup> percentile)





Household Income at Age 35  
for Children of Low Income Parents





**WSTA**

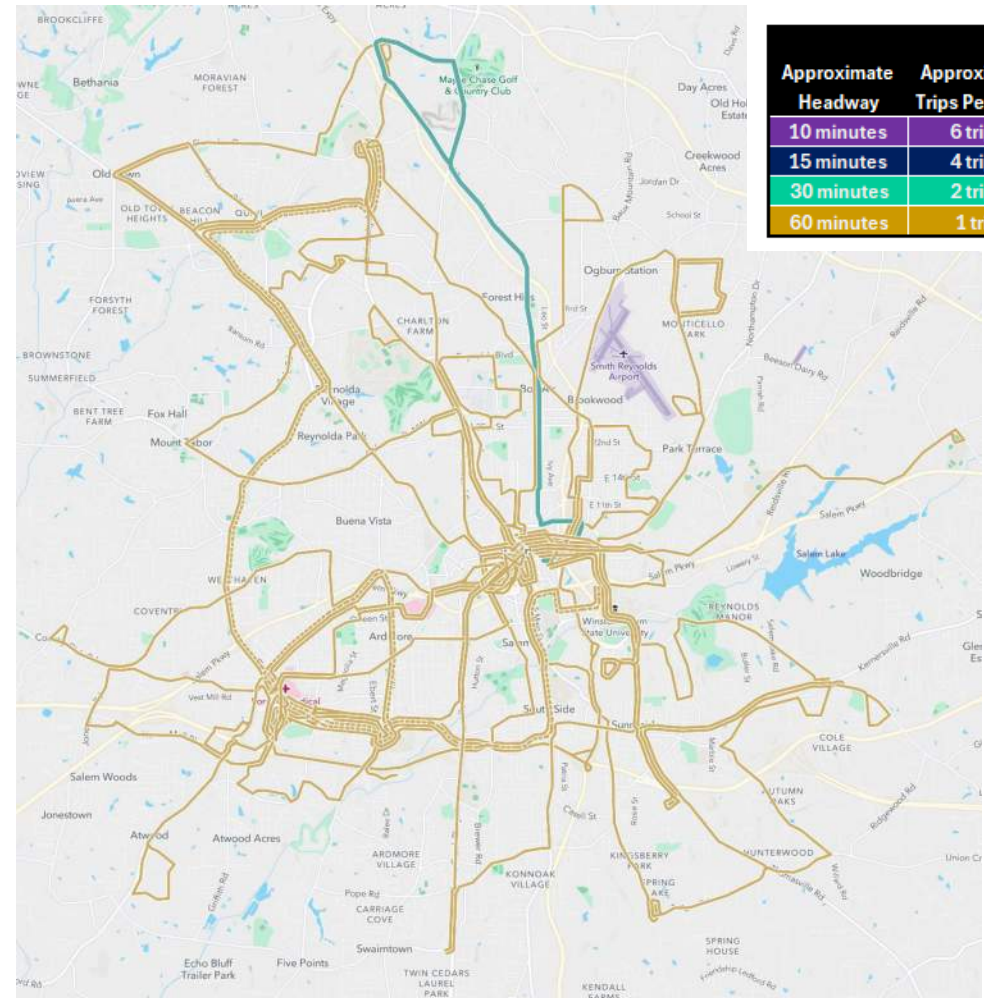
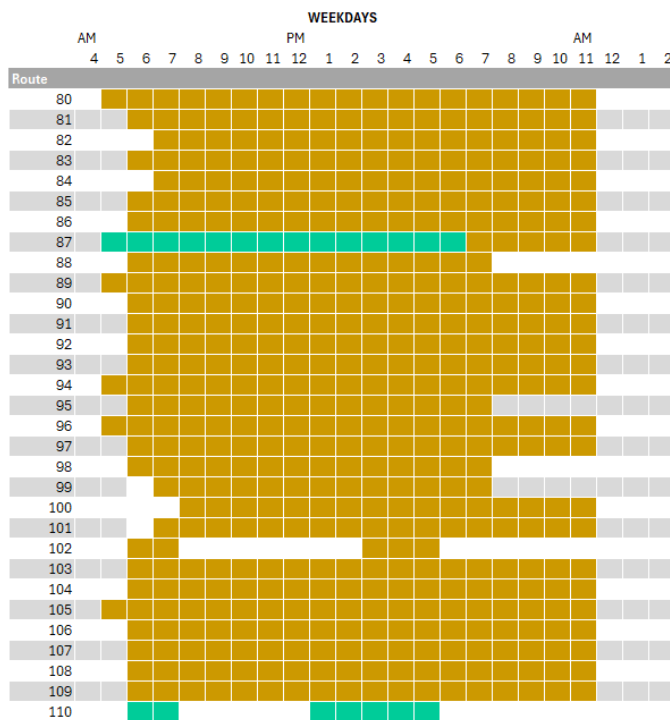
## How can WSTA make bus travel faster?

- Total bus travel times involve two kinds of time:
  - Time when riders are on the bus and the bus is moving
  - Time when riders may get off at one bus stop and wait to transfer to another bus
- Time **on the bus** can be shortened by making routes more direct
- Time **waiting to transfer** can be shortened by running buses more frequently
- Time can be saved transferring if there are **more places to transfer outside of downtown**



# Existing Service Frequency After Nov 11th

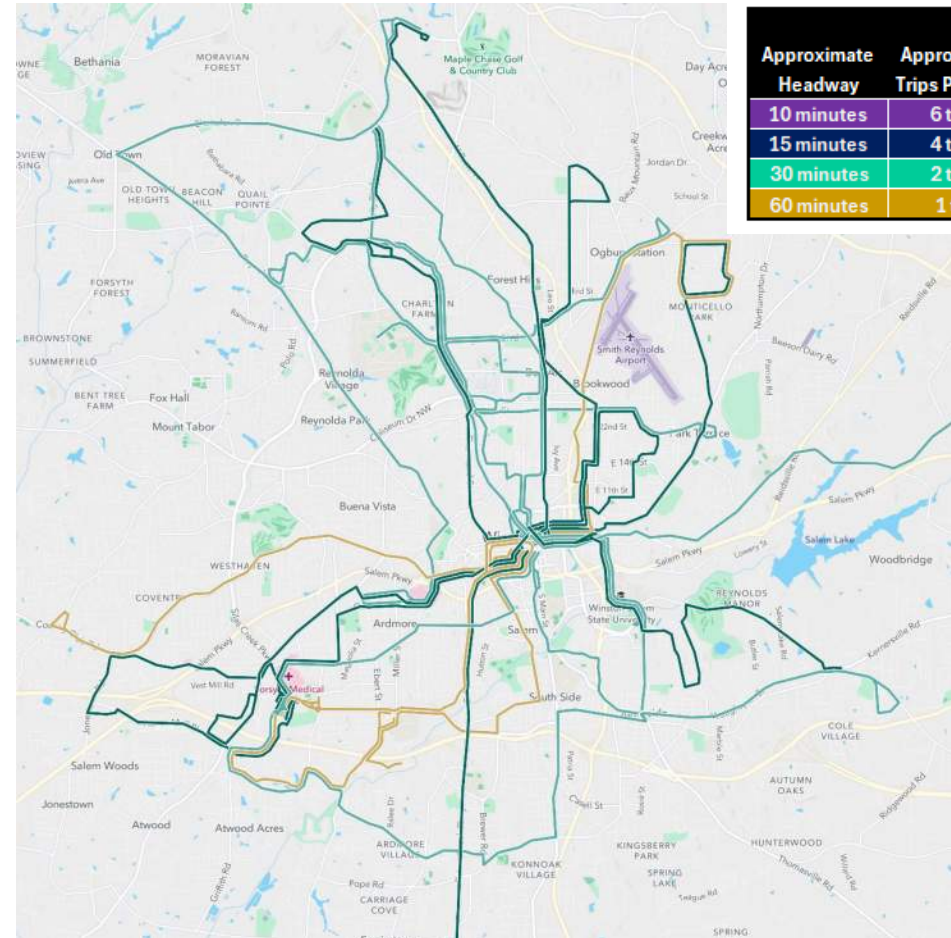
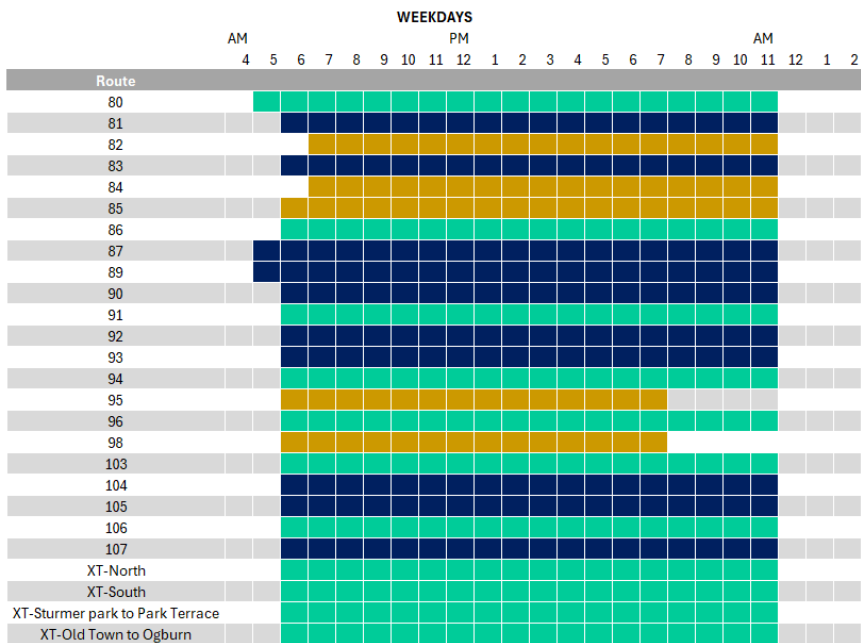
- 31 routes
- 29 with 60-minute headways
- 2 routes with 30-minute headways for part of the day





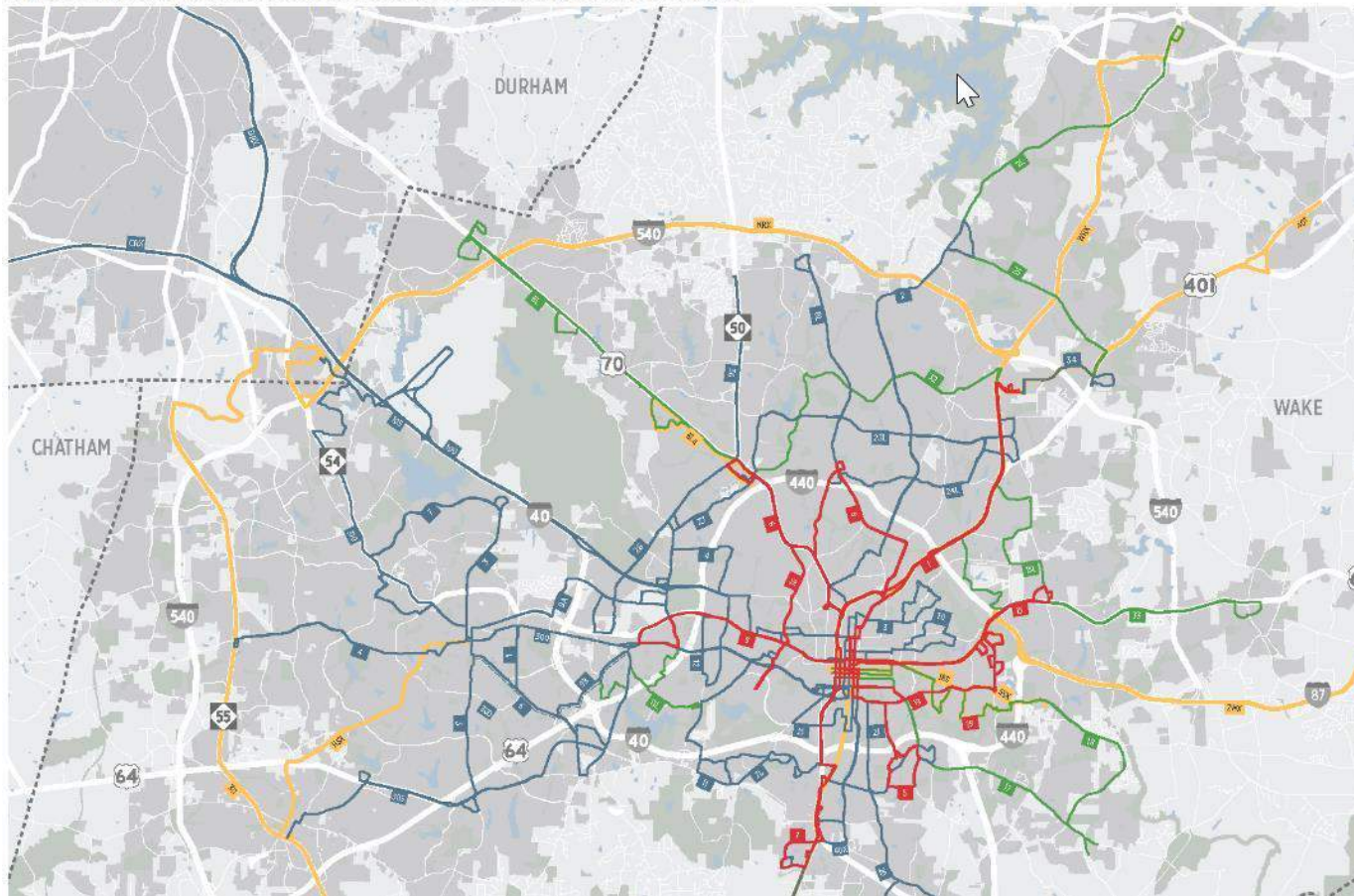
# Proposed WSTA Vision Frequency (Future)

- 26 routes
- 10 with 15-minute headways
- 11 with 30-minute headways
- 5 with 60-minute headways



# Raleigh has 83 Miles of Frequent Bus Service (Red)

Figure 3 2024 Wake Bus Network (Colors Refer to Service Frequency in Peak Periods)



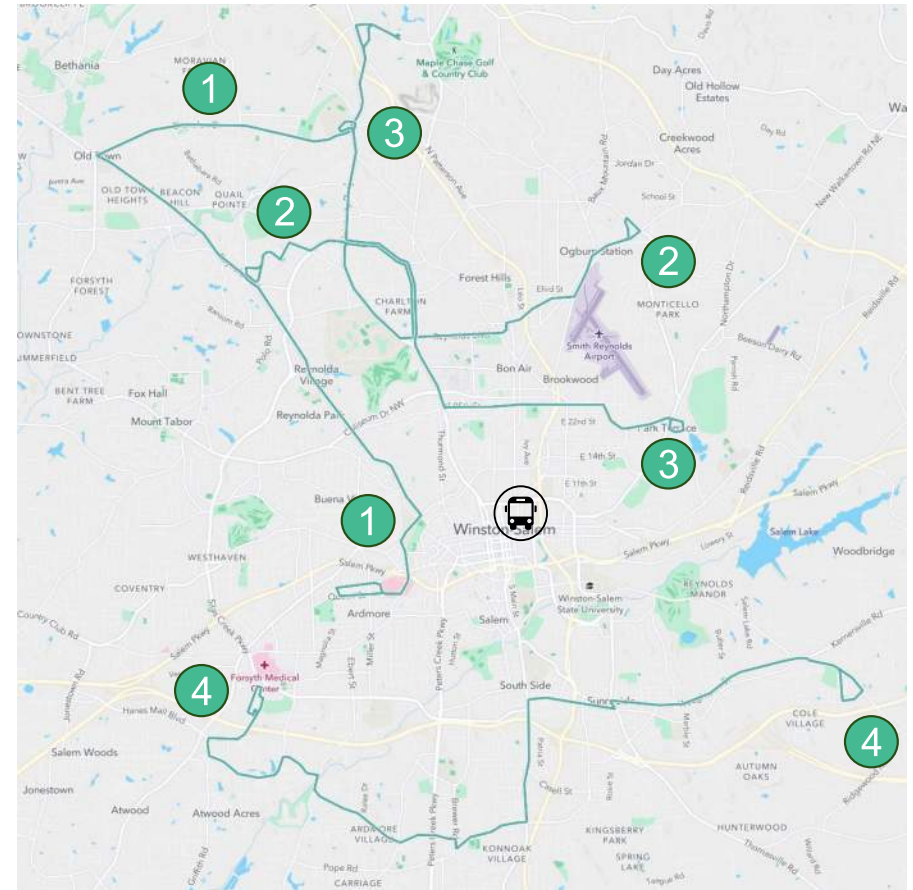


# Proposed WSTA Vision Crosstown Routes

## Proposed Crosstown Services

1. Hanes Mill Rd to Atrium Wake Forest Baptist
2. Old Town to Ogburn
3. Sturmer Park to Park Terrace
4. Hanes Mall to Plaza Hollow Drive

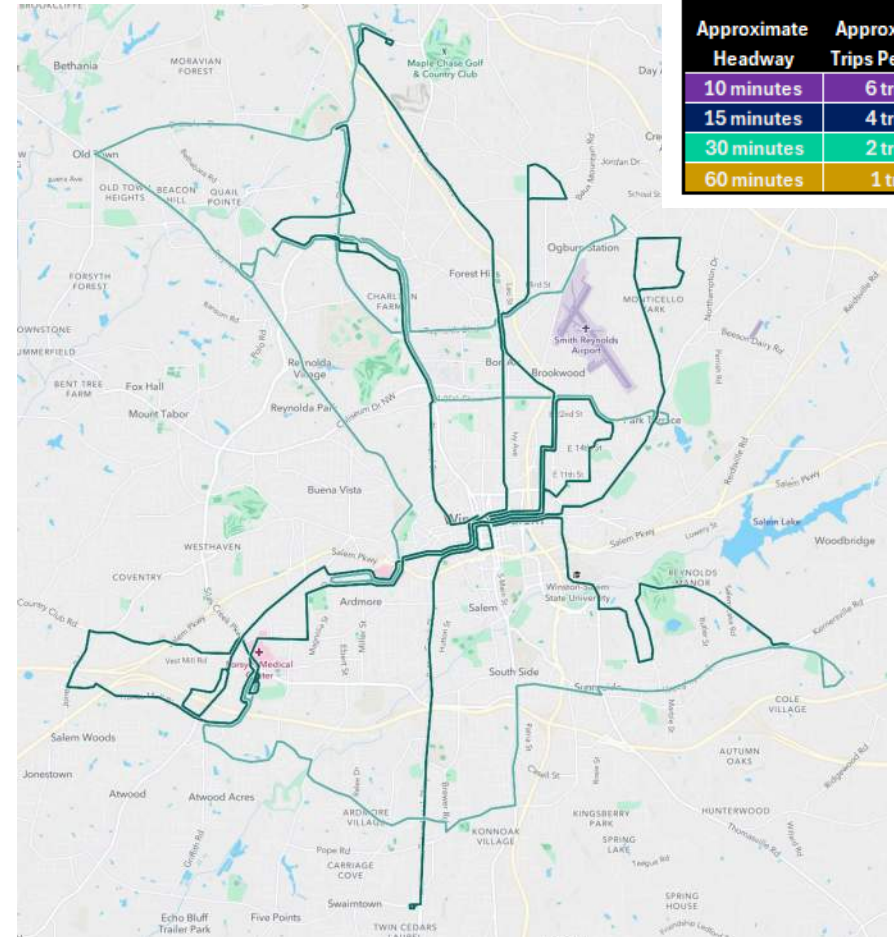
None of the Crosstown Routes would go to Clark Campbell Transportation Center in Downtown





# Proposed WSTA Vision Crosstown Routes

- Each crosstown touches multiple 15-minute headway lines for easy transfers
- Crosstown service began in Greensboro in 2024



# Vision Network Performance

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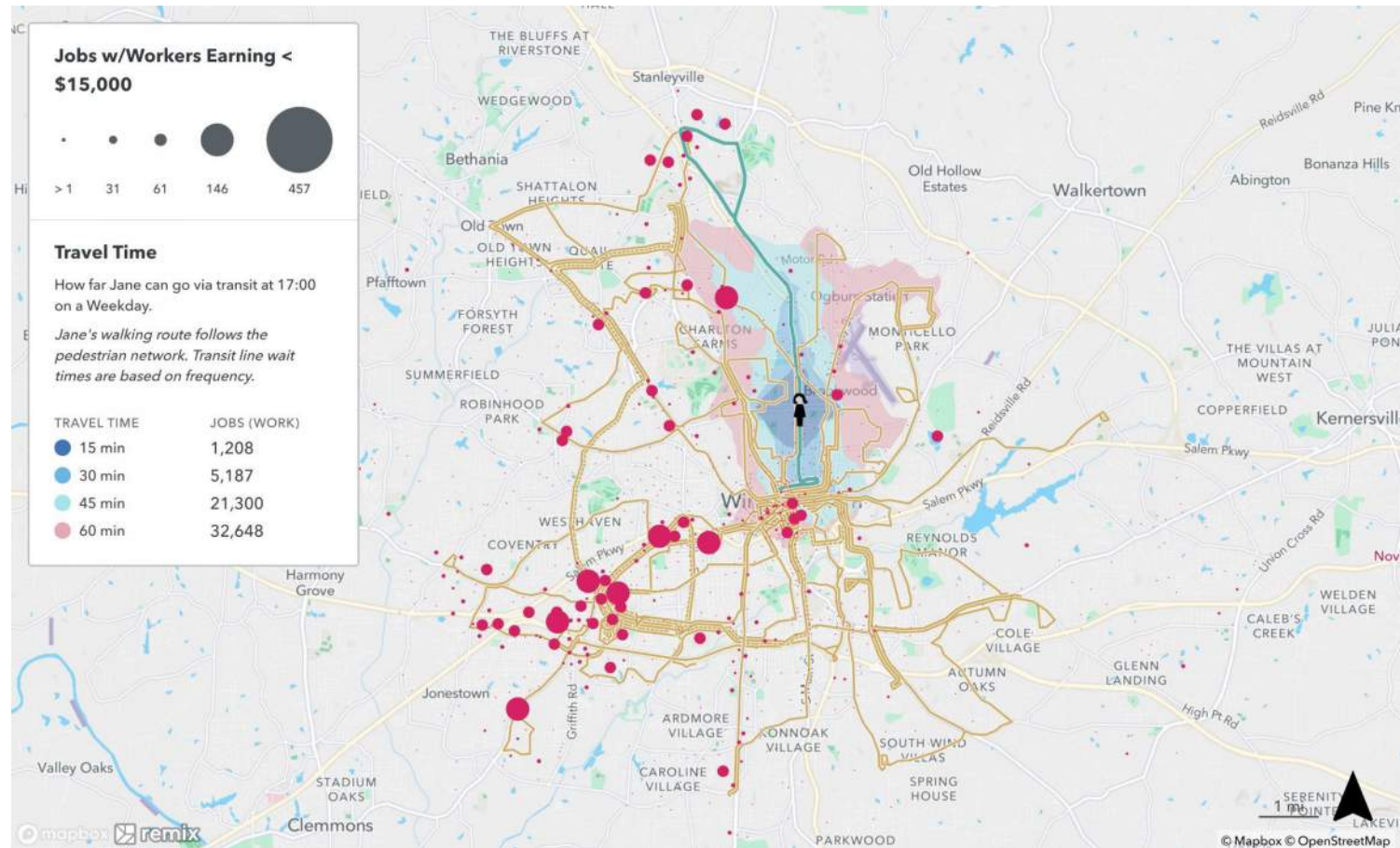
How much does the WSTA Vision Network expand access to jobs in Winston-Salem?



- There were roughly 155,000 jobs in Winston-Salem in 2021.

## How many jobs can you reach using the current WSTA bus network?

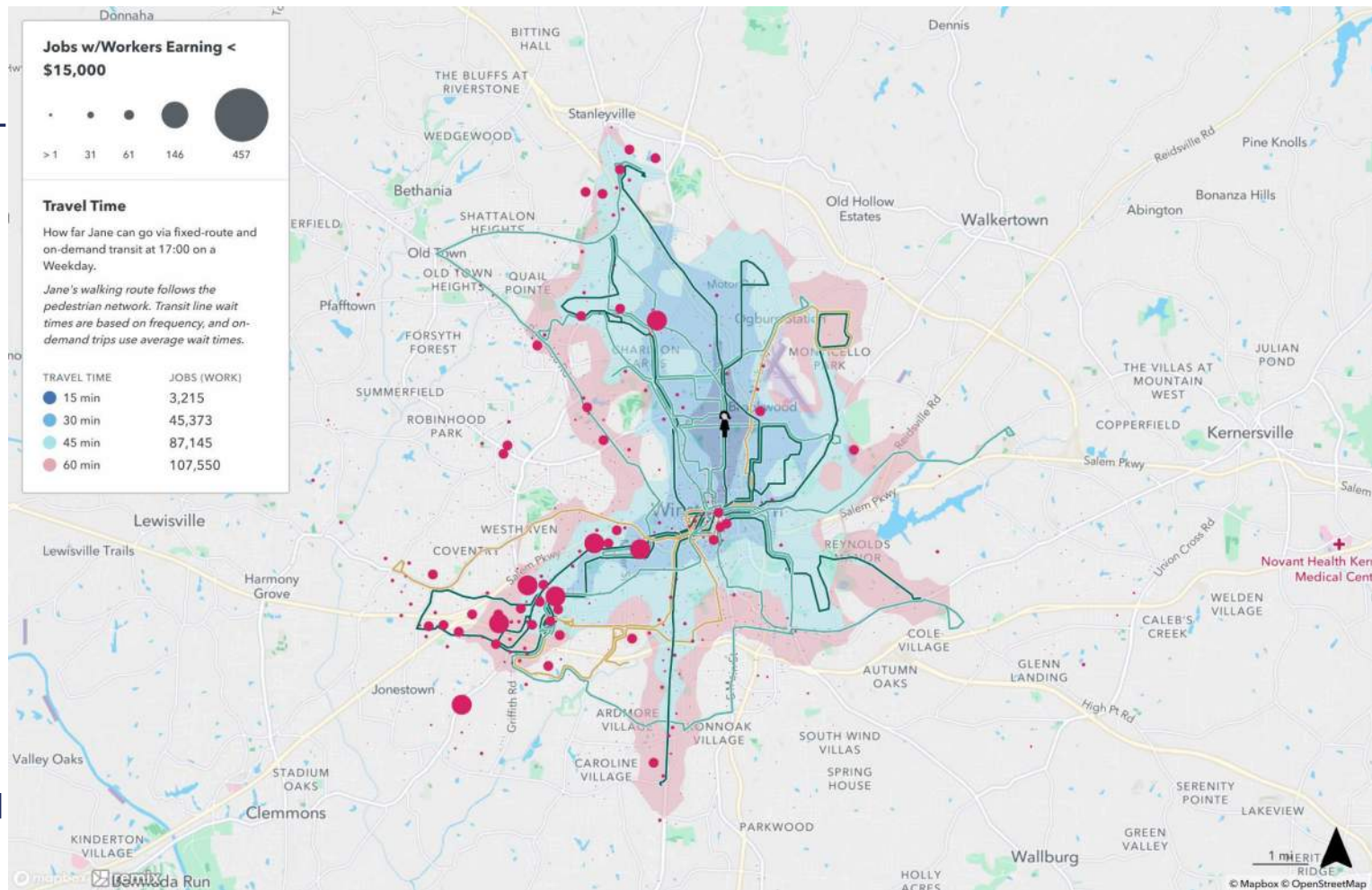
- Access to 1,200 jobs in 15 minutes
- Access to 5,200 jobs in 30 minutes
- Access to 21,300 jobs in 45 minutes
- Access to 32,600 jobs in 60 minutes (21% of all jobs)



- There were roughly 155,000 jobs in Winston-Salem in 2021.

## How many jobs can you reach using the current WSTA bus network?

- Access to 3,200 jobs in 15 minutes
- Access to 45,400 jobs in 30 minutes
- Access to 87,100 jobs in 45 minutes
- Access to 107,600 jobs in 60 minutes (69% of all jobs)



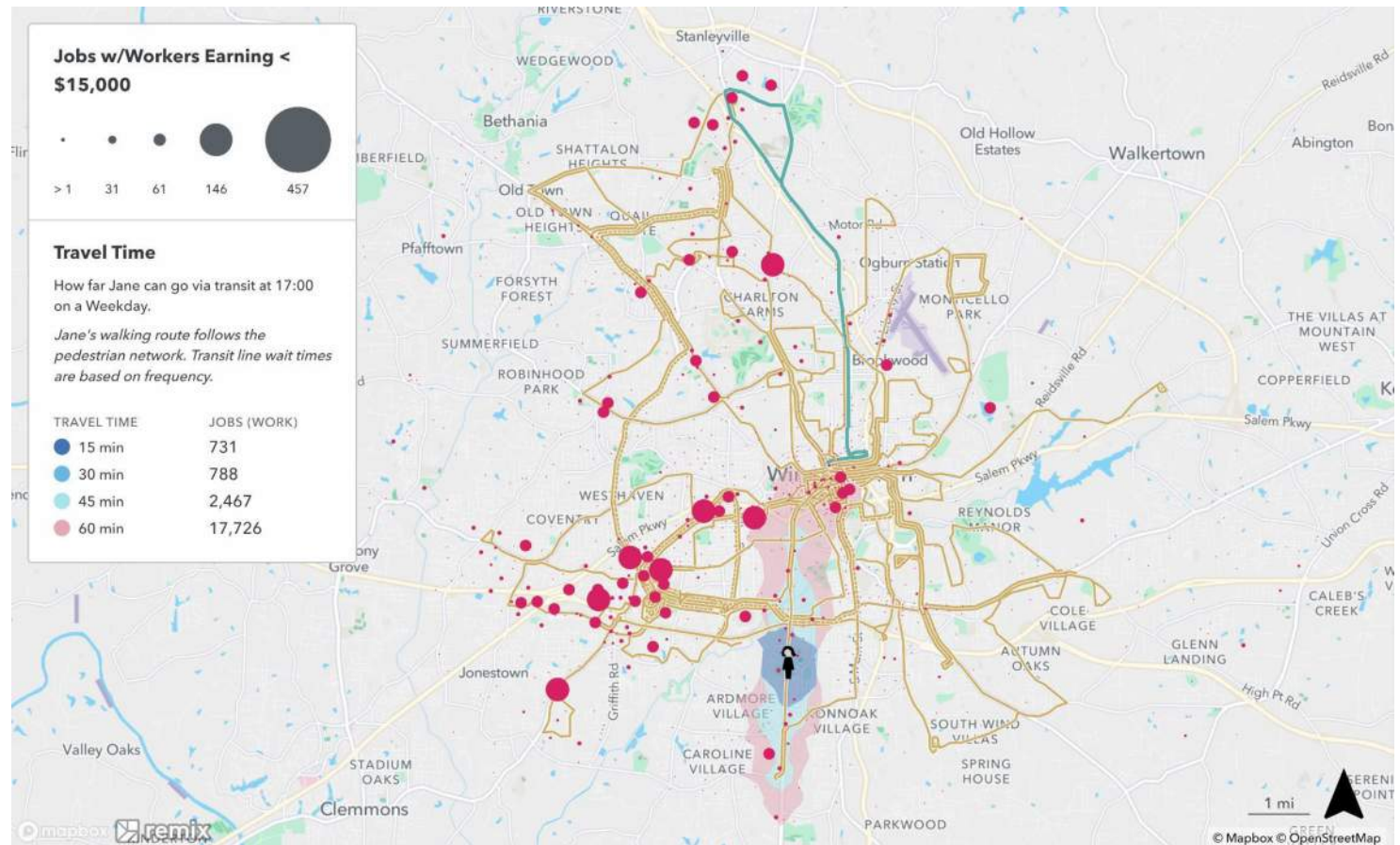


# Job Access from Peters Creek Pkwy & Brewer Rd: Existing

- There were roughly 155,000 jobs in Winston-Salem in 2021.

## How many jobs can you reach using the current WSTA bus network?

- Access to 700 jobs in 15 minutes
- Access to 800 jobs in 30 minutes
- Access to 2,500 jobs in 45 minutes
- Access to 17,700 jobs in 60 minutes (11% of all jobs)

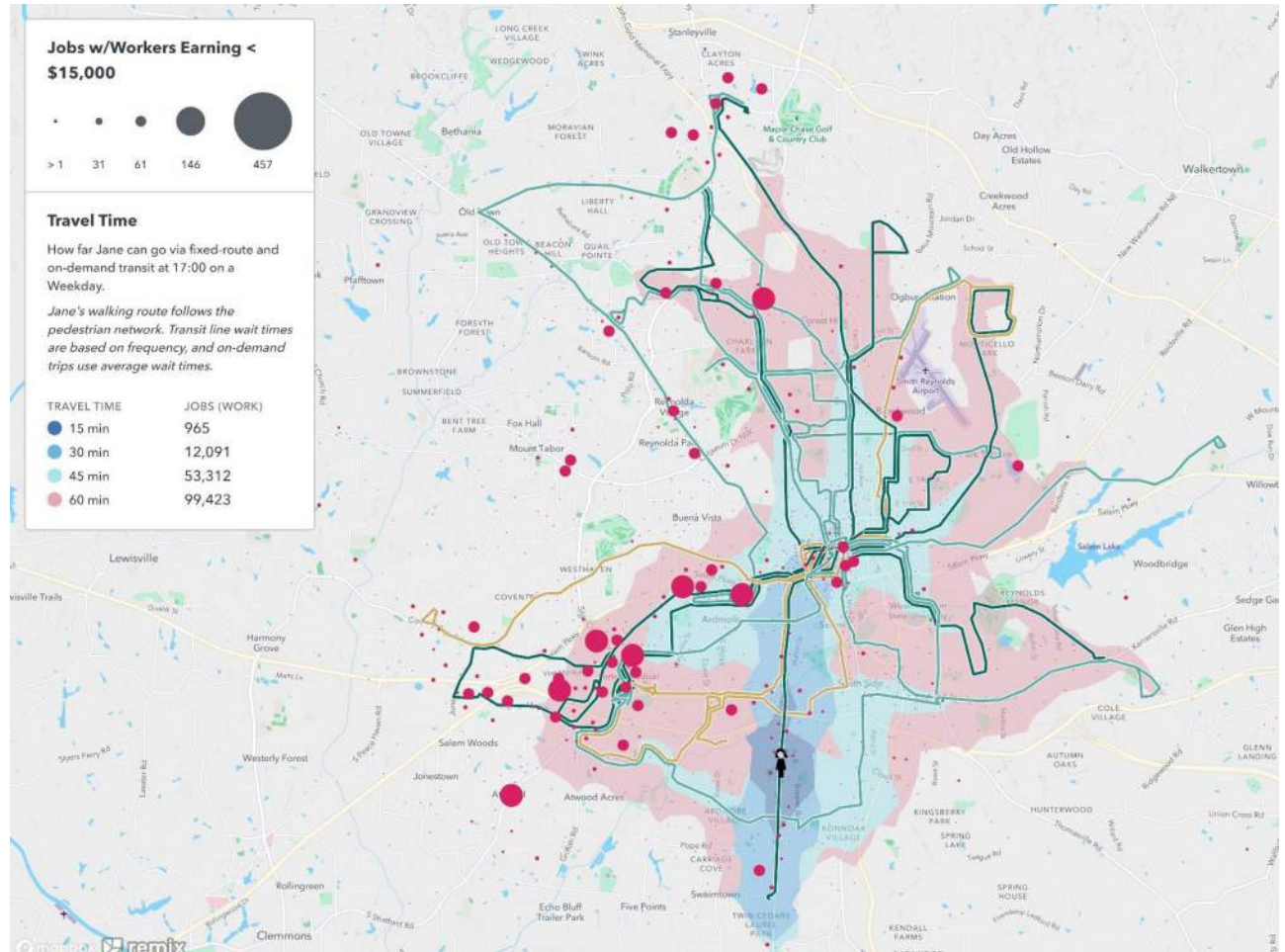


# Job Access from Peters Creek Pkwy & Brewer Rd: WSTA Vision

- There were roughly 155,000 jobs in Winston-Salem in 2021.

## How many jobs can you reach using the WSTA Vision bus network?

- Access to 1,000 jobs in 15 minutes
- Access to 12,000 jobs in 30 minutes
- Access to 53,300 jobs in 45 minutes
- Access to 99,400 jobs in 60 minutes (64% of all jobs)





**WSTA**

## The WSTA Vision Network Performs Well

- The WSTA Vision network drastically expands the number of jobs accessible to residents within 60 minutes of time on the bus, and performs well in meeting the job access and travel time goals of the vision planning work.
- However, WSTA does not presently have the funding to operate this level of service.
- But WSTA can begin moving towards a system like the WSTA Vision network by making changes to the existing routes using current funding.

# Proposed Geography Changes

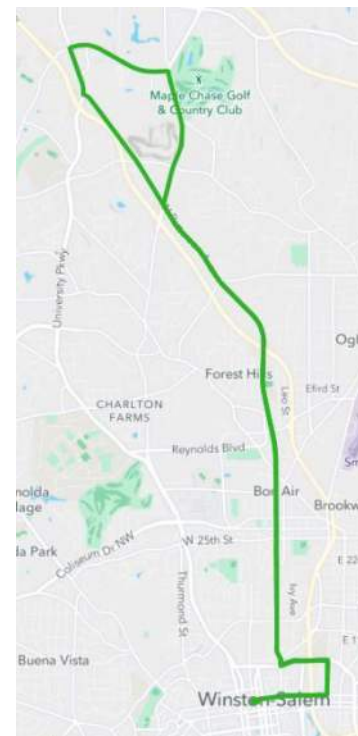
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Adjusting routes to speed them up

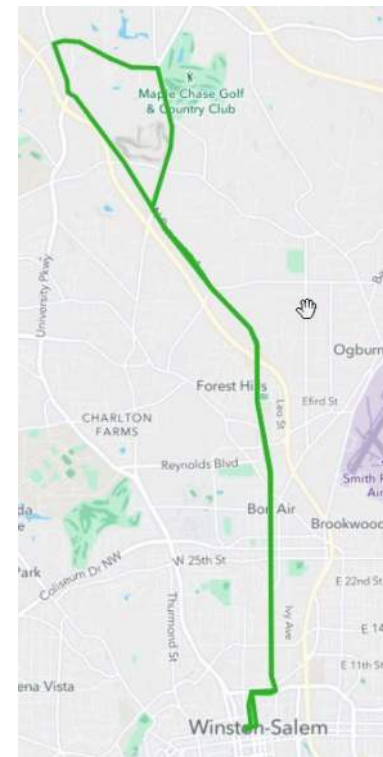
- Route 87 Straighten Route – Remove service from Highland Ave

- Speeds up WSTA's top-performing route
- Helps with on-time performance
- Other routes will still serve Department of Social Services

**CURRENT**



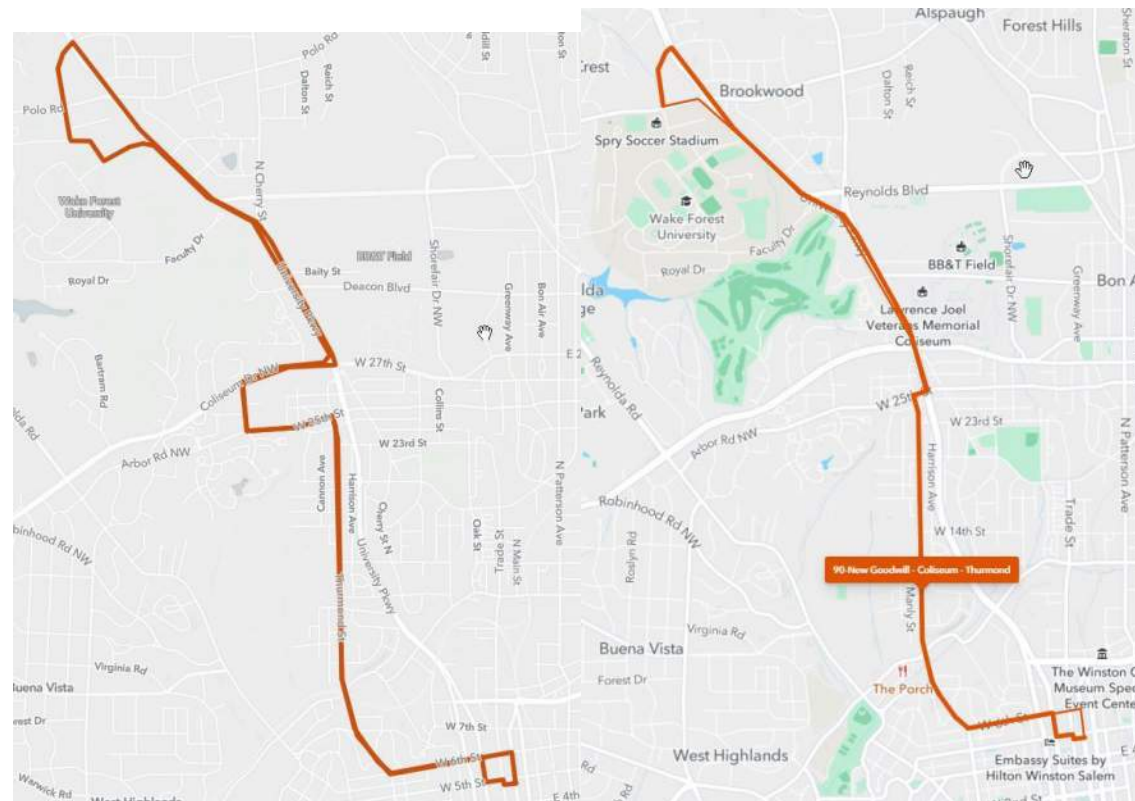
**PROPOSED**



- Route 90
  - Proposed to no longer serve Arbor Acres, staying on University Pkwy & Thurmond St
  - Use Polo Rd instead of entering Wake Forest University
  - Take advantage of saved time
  - Introduce 30 min headway

CURRENT

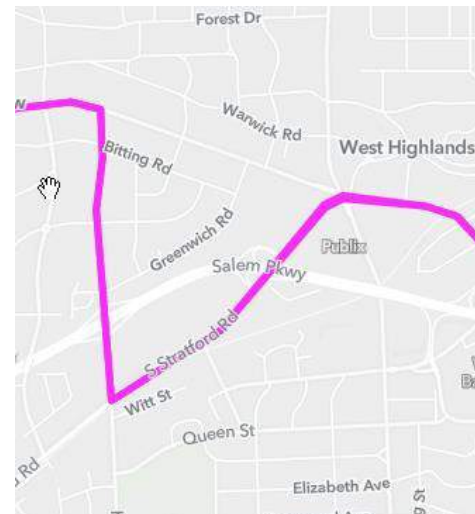
PROPOSED



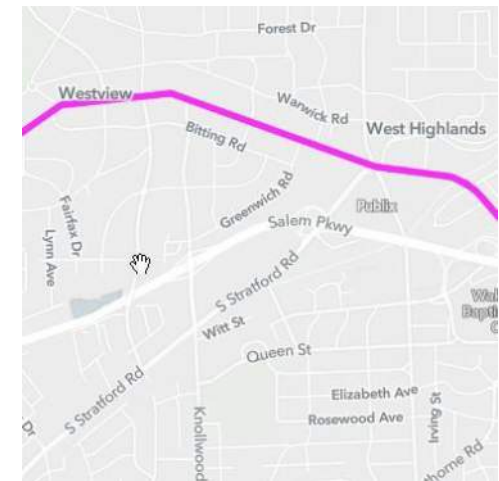


- Route 95 Remove Service from Knollwood St
  - Very low ridership
  - Helps with on-time performance
  - Shortens passenger travel times

**CURRENT**



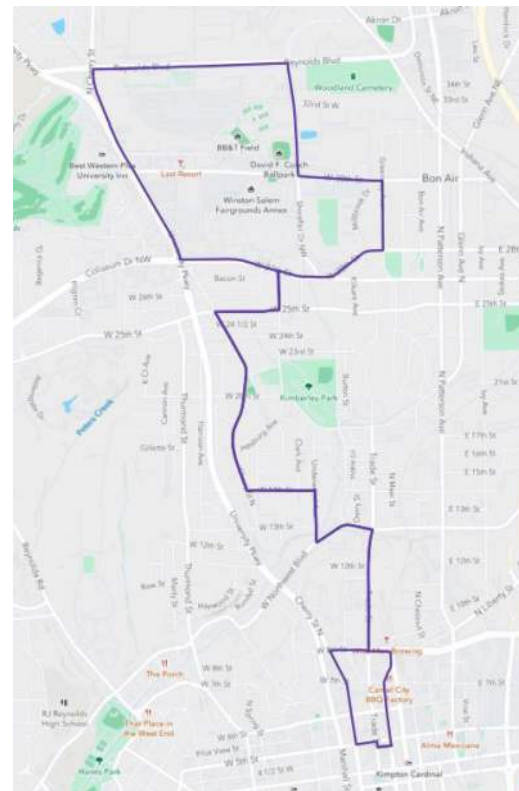
**PROPOSED**



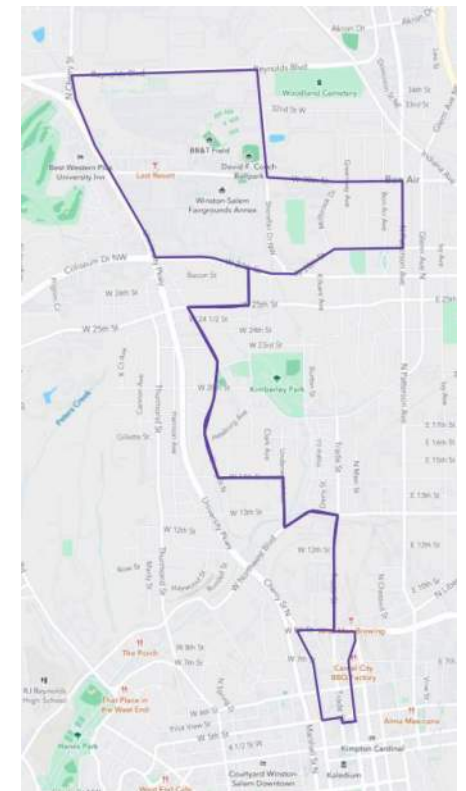
- Route 106

- Proceed south on N Patterson Ave instead of Greenway Ave
- Creates Connection with Route 87
- Speeds transit commutes to the north

CURRENT



PROPOSED



# Proposed Frequency Increases

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Adding frequency to high-performing routes to reduce waiting times for riders



- Change Frequency from 60 minute to 30 minute headways by adding a bus recycled from other routes **on weekdays.**
  - Route 83
  - Route 107
- Change Frequency from alternating 0:30/0:45 headways to alternating 0:15/0:30 headways by adding a bus from other routes on **weekdays AND Saturdays.**
  - Route 87
- Change Route 90 to from 60-minute to 30-minute headways by changing the geography of the route on **weekdays and Saturdays.**

# Routes Proposed For Elimination

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Lower-performing services to have their hours recycled onto higher-performing routes

Route	Boardings Per Hour October 2021	Boardings Per Hour August 2023
Route 83	24.3	20.0
Route 87	20.9	19.3
Route 92	19.1	17.4
Route 96	18.5	15.7
Route 103	18.4	14.3
Route 81	19.6	14.1
Route 89	17.8	13.8
Route 91	14.7	13.3
High Performance Threshold	16.2	13.0
Route 105	17.6	12.9
Route 86	14.9	12.6
Route 93	18.3	12.3
Route 84	13.3	12.1
Route 85	12.4	11.9
Route 107	14.7	11.6
Route 80	12.2	10.7
System Average	13.0	10.0
Route 95	7.4	9.3
Route 106	14.0	9.1
Route 90	10.1	8.5
Route 94	12.7	8.4
Route 97	6.3	8.3
Route 104	9.2	7.6
Route 101	10.1	7.5
Low Performance Threshold	9.7	6.2
Route 109	6.6	6.2
Route 88	5.3	5.6
Route 98	5.1	4.8
Route 82	5.9	4.6
Route 102	5.6	3.5
Route 108	5.1	3.5
Route 99	2.3	2.8
Route 110	3.4	2.7
Route 100	1.0	0.6

## Service Evaluation: Last 3 Years

WSTA defined service standards in July 2022, with the primary measure of route success being **boardings per hour**.

It costs the same amount of money to run the bus for one hour anywhere. The **more people who board** per hour, the **more lives WSTA positively impacts** per dollar spent.

Tracking performance over time shows the same four routes to be consistently the lowest performers: 108, 99, 110, and 100.

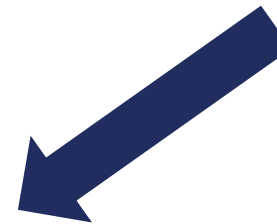


## Route 108 to Remain for Now

In 2023, WSTA proposed the four routes at the right for elimination.

There was limited concern expressed over Routes 99, 100, and 110, but there was **significant concern expressed by many members of the public** about the potential impact of eliminating Route 108.

Route	Boardings Per Hour October 2021	Boardings Per Hour August 2023
Route 108	5.1	3.5
Route 99	2.3	2.8
Route 110	3.4	2.7
Route 100	1.0	0.6



**The public  
spoke.**

**We  
listened.**

While Route 108 remains one of WSTA's lower-performing routes, Route 108 will not be changed as part of the early 2025 service changes. More study is needed to determine the best transit service format for this area.

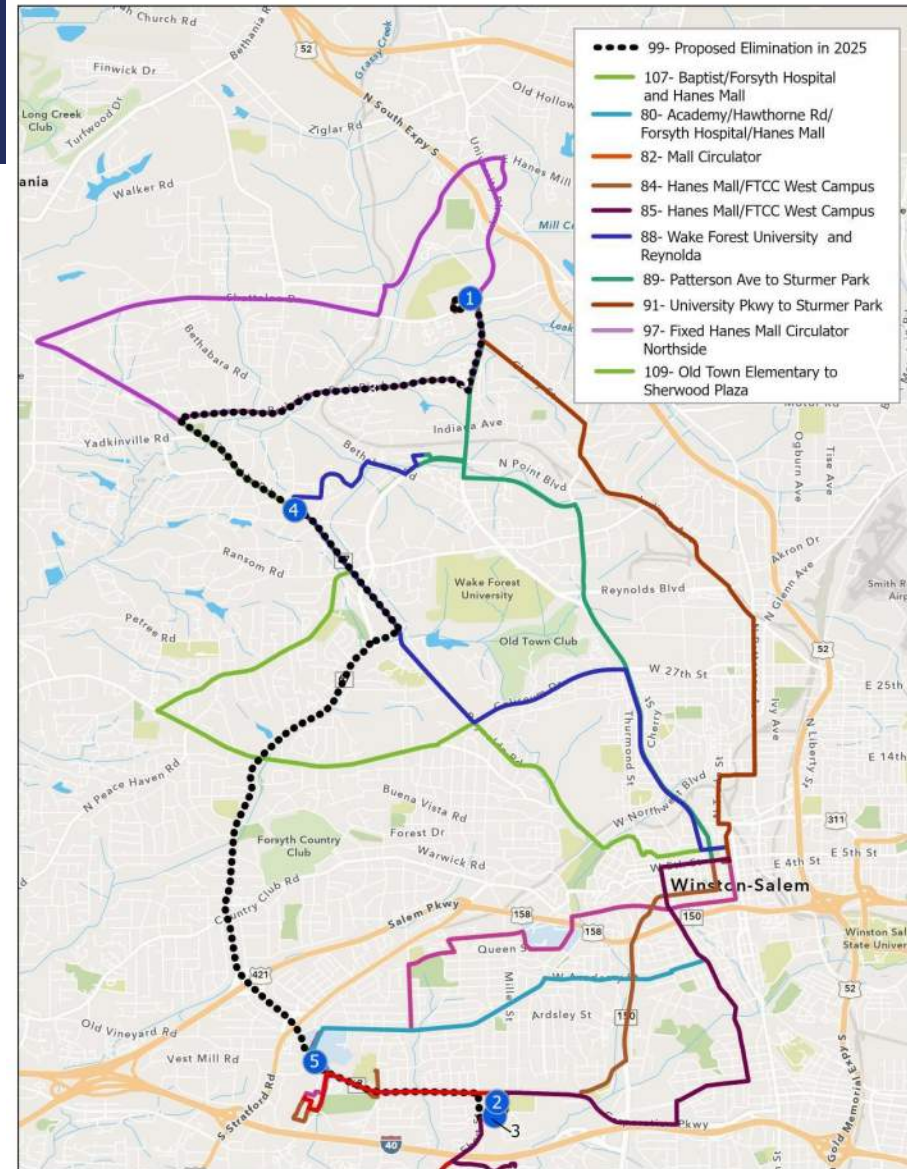
# WSTA Route 99 Elimination

Route 99 is shown in black - - - - -

There are several alternate routes available along most of Route 99's path.

The five busiest Route 99 stops are served by other WSTA routes.

Stop #	Stop Name	Total Daily On/Offs	Alternate Route Nearby
1	STURMER PARK	35	89, 91, 97
2	MILLER STREET AT FORSYTH	7	82, 84, 85
3	OAK GROVE ROAD & MARTIN S	5	82, 84, 85
4	REYNOLDA ROAD & OLD TOWN	5	88, 109
5	SILAS CREEK PARKWAY AT HA	4	80, 81, 82, 100, 107





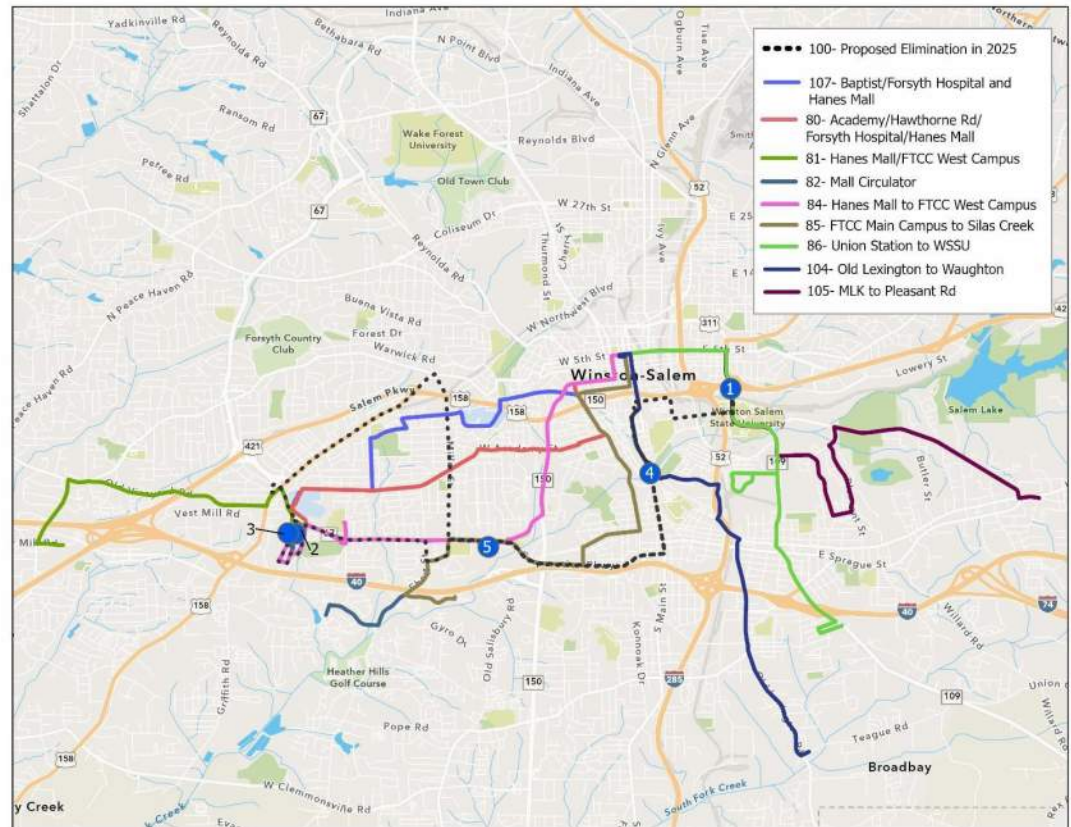
# WSTA Route 100 Elimination

Route 100 is shown in **black - - - - -**

There are several alternate routes available along most of Route 100's path.

The five busiest Route 100 stops are served by other WSTA routes.

Stop #	Stop Name	Total Daily On/Offs	Alternate Route Nearby
1	MARTIN LUTHER KING JR DRI	14	86, 105
2	HANES MALL BOULEVARD & SI	11	80, 81, 82, 84, 107
3	HANES MALL	10	80, 81, 82, 84, 107
4	MAIN STREET & GIANNINI DR	4	104
5	SILAS CREEK PARKWAK AT DR	3	84, 85



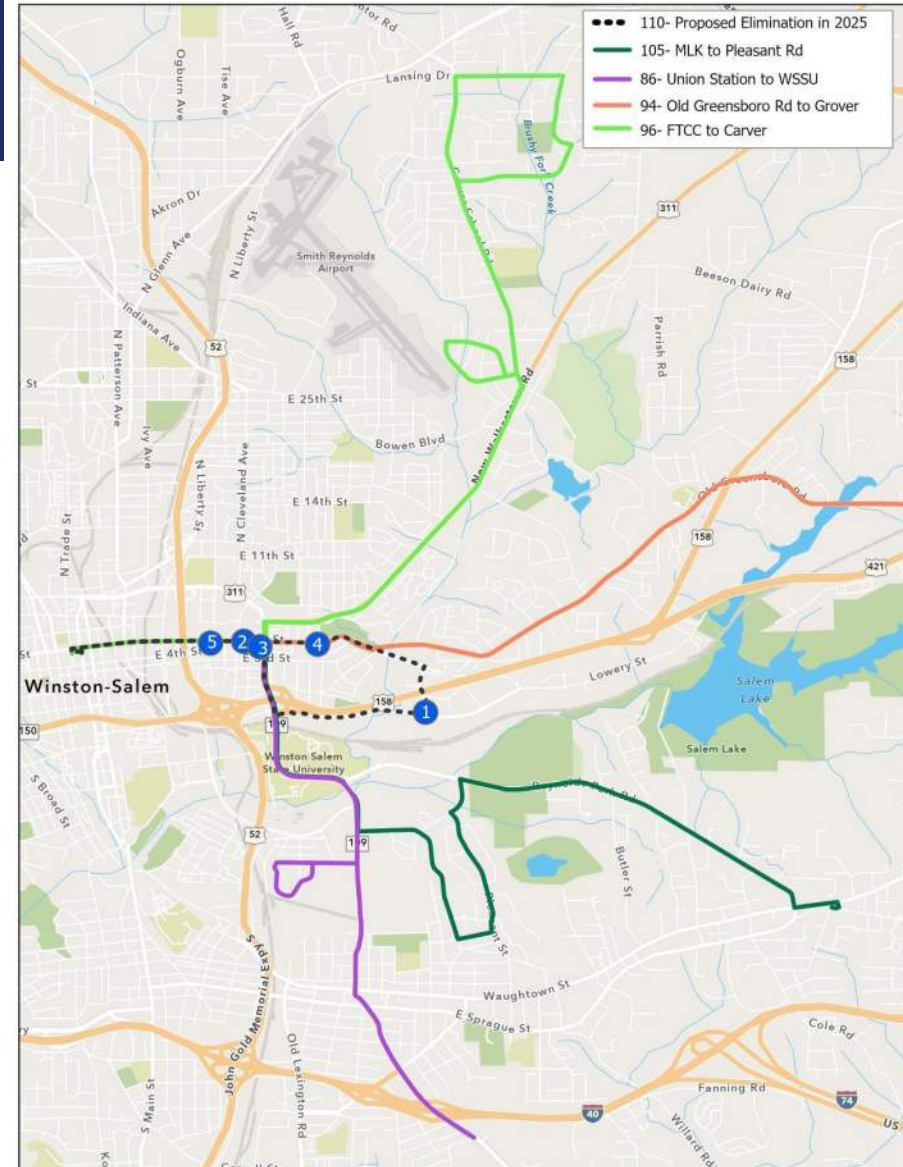
# WSTA Route 110 Elimination

Route 110 is shown in **black** - - - - -

There are several alternate routes available along most of Route 110's path.

Four of the five busiest Route 110 stops are served by other WSTA routes.

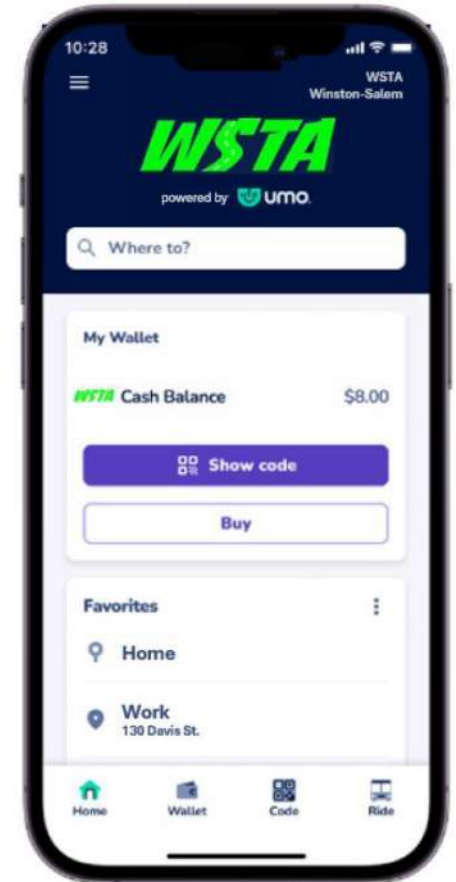
Stop #	Stop Name	Total Daily On/Offs	Alternate Route Nearby
1	LOWERY STREET & LOWERY C - EOL	11	none
2	5TH STREET & CLEVELAND AV	4	86, 94, 96, 105
3	5TH STREET & MARTIN LUTHE	3	86, 94, 105
4	5TH STREET & CAMERON AVEN	3	94
5	5TH STREET & HIGHLAND AVE	2	86, 94, 96, 105,





# Coming Technology Innovations

- New WSTA app with mobile ticketing, trip planning, and real-time bus tracking
- Text stop # to track your bus
- Date TBD in early 2025



# Public Feedback on Proposed Service Changes

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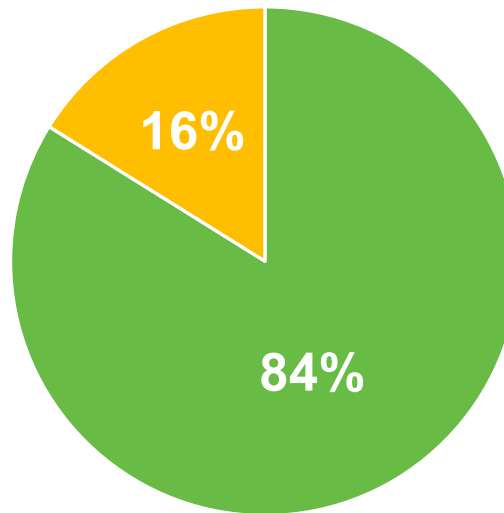
What the community has told WSTA



- **The public strongly agrees** that increased frequency and more direct services will help residents reach more jobs in less time.
- **More than 50% of residents** are willing to walk further to their bus stop to have faster, more direct services, but there is more varied opinion on walk distances.
- On routes proposed for elimination, **41% to 43% of riders will likely be able to use another route** at a nearby stop
- **The public is extremely supportive** of all the proposed technology enhancements.

## Question Detail: Night Service

Will you or someone you know benefit from the return of Night Service?

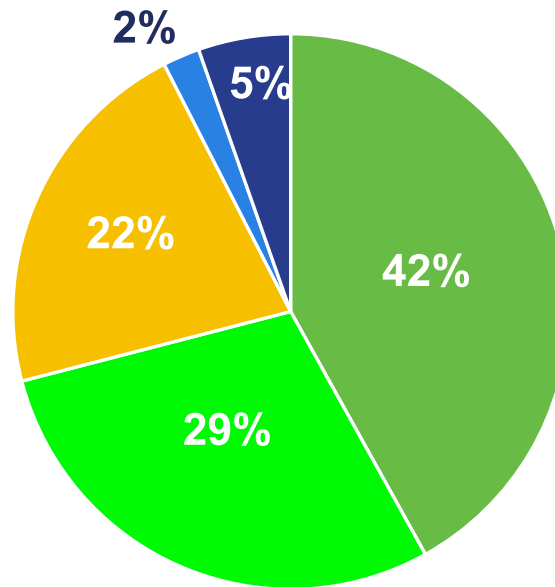


■ Yes ■ No

A series of horizontal dotted lines, representing a list of responses or a form for data entry.

## Question Detail: More Direct Routes

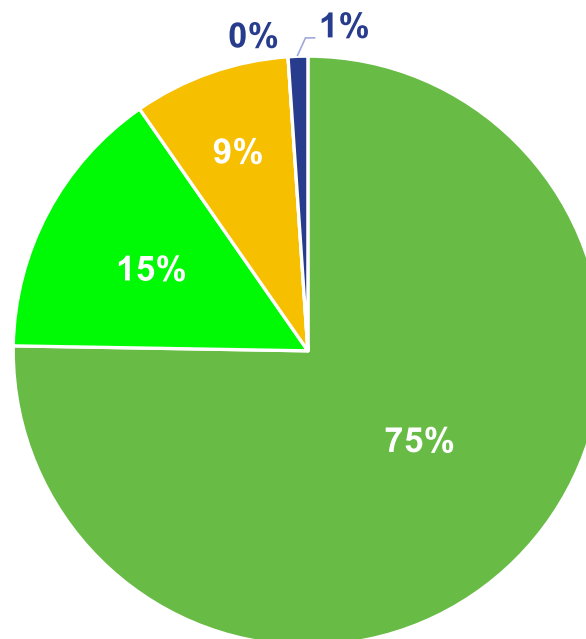
Having routes that are more direct, with more travel time on major streets and less time in neighborhoods, will help me or someone I know get to more jobs in less time.



■ Strongly agree ■ Somewhat agree ■ Neither agree nor disagree ■ Somewhat disagree ■ Strongly disagree

## Question Detail: More Frequent Routes

Having routes that are more frequent, with buses coming every 30 minutes in general, and every 15 minutes on the busiest routes, will help me or someone I know get to more jobs in less time.

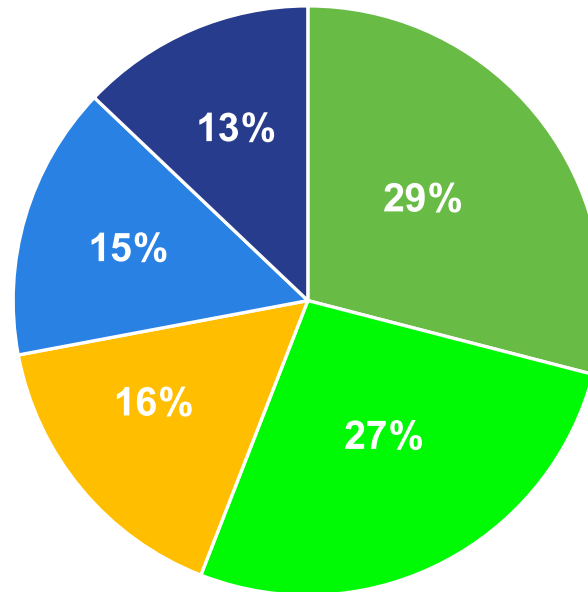


■ Strongly agree ■ Somewhat agree ■ Neither agree nor disagree ■ Somewhat disagree ■ Strongly disagree



## Question Detail: Support for Longer Walks In Return for Faster Job Access

Routes that are made more direct and spend less time on neighborhood streets may take a little longer to walk to but getting to my destination faster in total walking and bus-riding time makes the longer walk worth it.



■ Strongly agree ■ Somewhat agree ■ Neither agree nor disagree ■ Somewhat disagree ■ Strongly disagree

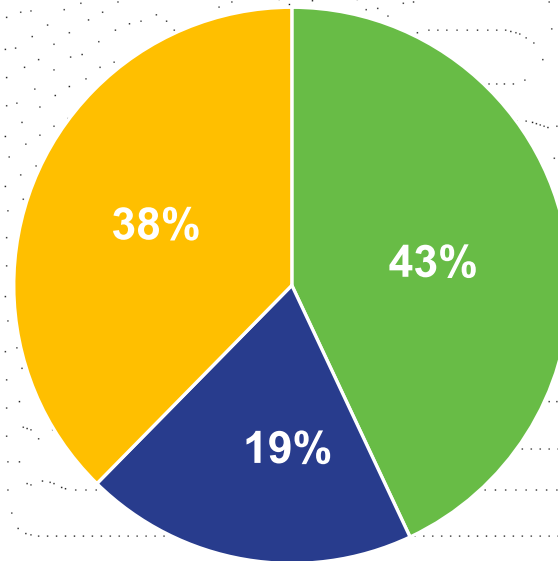
# Public Feedback on Proposed Route Eliminations

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What the community has told WSTA

## Question Detail: Route 99: Will other WSTA routes work for you?

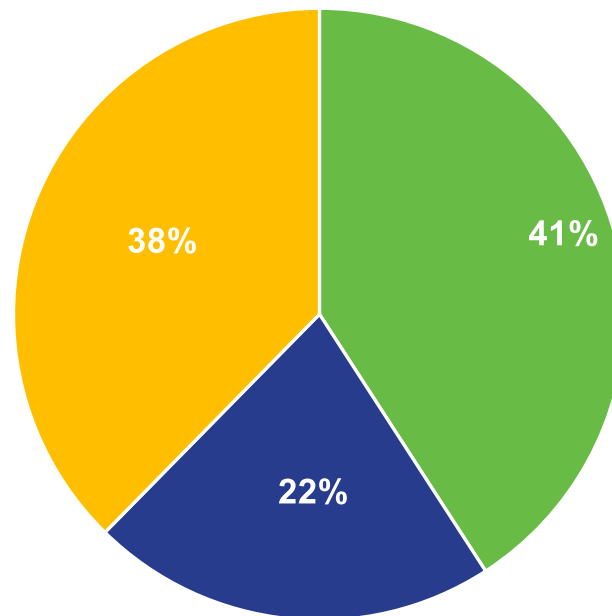
If you currently ride Bus Route 99, which is planned to be eliminated in early 2025, will the alternative routes shown below be helpful to you?



■ Yes   ■ No, these alternative routes will not be helpful   ■ No Reply

## Question Detail: Route 100: Will other WSTA routes work for you?

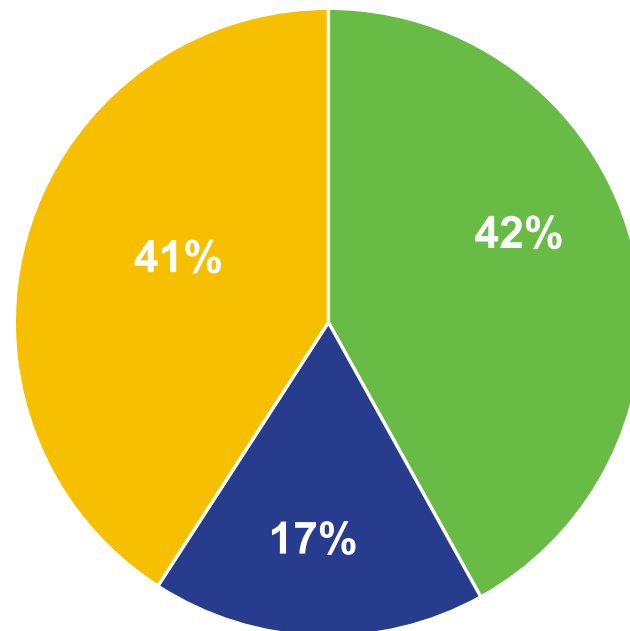
If you currently ride Bus Route 100, which is planned to be eliminated in early 2025, will the alternative routes shown below be helpful to you?



■ Yes   ■ No, these alternative routes will not be helpful   ■ No Reply

## Question Detail: Route 110: Will other WSTA routes work for you?

If you currently ride Bus Route 110, which is planned to be eliminated in early 2025, will the alternative routes shown below be helpful to you?



■ Yes   ■ No, these alternative routes will not be helpful   ■ No Reply

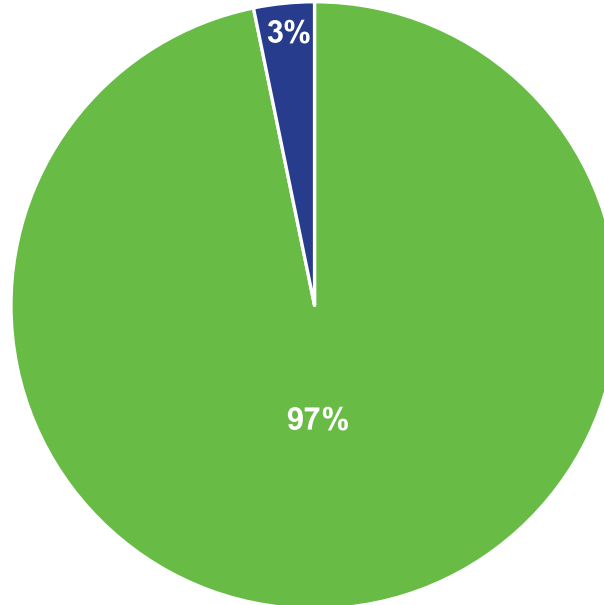
# Public Feedback on Technology Enhancements

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What the community has told WSTA through October 29, 2024

## Question Detail: Will you benefit from real time information?

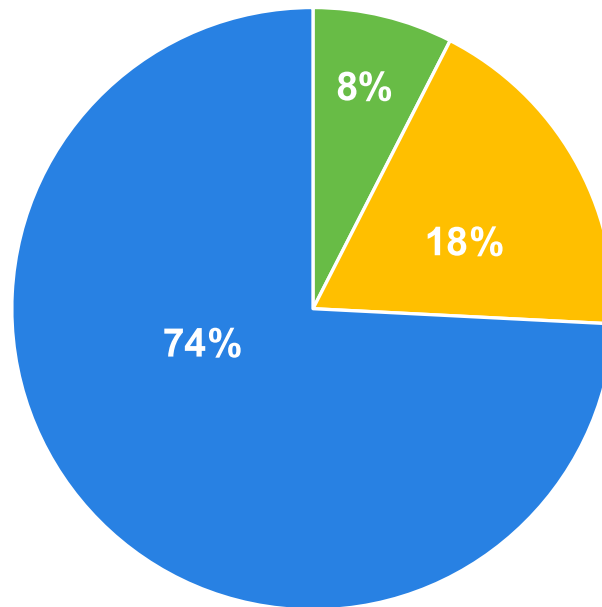
Will you or someone you know benefit from “real-time” information for bus arrival times?



■ Yes ■ No

## Question Detail: Which method will you be most likely to use to access real-time information?

Once the real-time information system is up and running, are you more likely to get bus arrival information for your route:

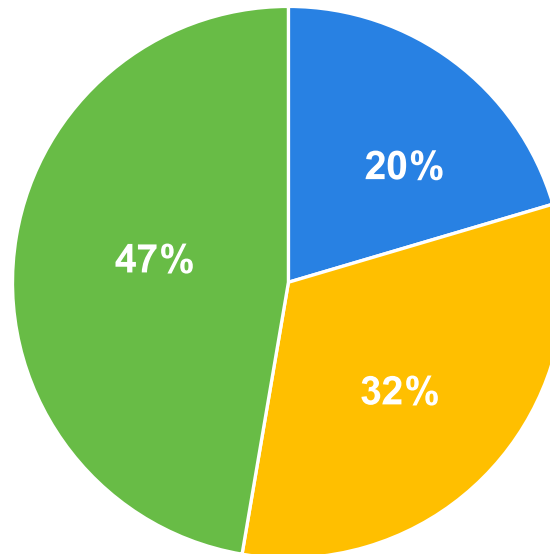


- By calling the WSTA phone number
- By texting
- By using an app on your phone



## Question Detail: Which fare payment method are you most likely to use in the future?

Will you or someone you know be more likely to pay using the mobile ticketing app in the future, pay using a day, weekly, or monthly pass - or will you be more likely to continue to pay with cash?

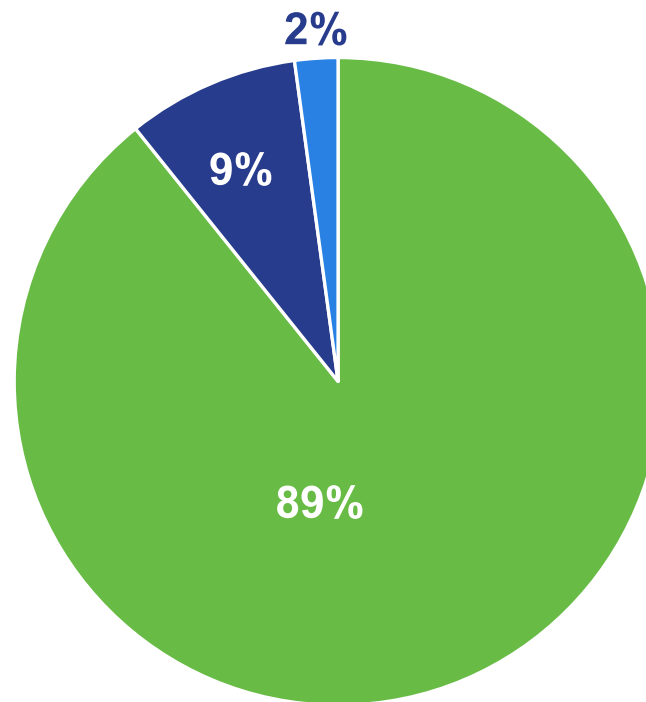


- Will likely continue to pay with cash
- Will likely use the mobile ticketing app

- Will likely use a day, weekly, or monthly pass

## Question Detail: Will the new technology enhancements be helpful to you?

Will the new technology, like mobile ticketing and real-time tracking of the bus, be helpful to you?



■ Yes ■ No ■ No Reply

# Title VI Analysis

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Analyzing service changes for disproportionate impacts to low-income and minority residents

The Goal of Title VI is to make sure that decisions about transit service are informed by knowledge of the benefits and impacts that a service change will have to low-income and minority residents.

- Analysis completed using Remix Software’s Title VI Analysis Engine
  - Two primary questions:
    - Is the amount of service increasing or decreasing along any given street?
    - What is the proportion of low-income and minority residents living along the streets where service is changing...compared to the community at large?

- Results

Analysis indicates the service changes:

- Are likely to increase ridership
- Expand trip-making opportunities for both low-income and minority residents

BEFORE SERVICE CHANGES			
Population (within 1/4 mi)	Low Income	Minority	Trips (Annually)
117,250	47.5%	64.6%	324,813
AFTER SERVICE CHANGES			
Population (within 1/4 mi)	Low Income	Minority	Trips (Annually)
113,994	47.9%	65.2%	348,215



- Night service returns November 11<sup>th</sup>
- Routes 87, 90, 95 and 106 have geography changes to speed travel or make transfers easier
- Frequency improves from 60 minutes to 30 minutes on Routes 83, 90, and 107.
- Frequency improves from 0:30/0:45 to 0:15/0:30 on Route 87.
- Routes 99, 100, and 110 are eliminated, recycling their hours to make the frequency improvements.

# Discussion

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