



RTA

REGIONAL
BUSINESS
LEADERSHIP



RTA GOLD MEMBERS

AECOM

AMGEN

 **DUKE
ENERGY®**

EDGE 

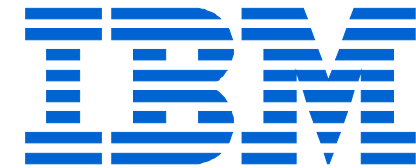
 **First
Citizens
Bank**

Google

RTA Richmond Quicktour - June 18, 2024



RTA GOLD MEMBERS

A background image of a road at night, with a blue and orange gradient overlay. The road is illuminated by streetlights, and there are trees and buildings in the background.

RTA Richmond Quicktour - June 18, 2024



RTA GOLD MEMBERS



RTA Richmond Quicktour - June 18, 2024



RTA GOLD MEMBERS



RTA Richmond Quicktour - June 18, 2024

RTA SILVER MEMBERS



RTA Richmond Quicktour - June 18, 2024

RTA SILVER MEMBERS



RTA Richmond Quicktour - June 18, 2024

RTA SILVER MEMBERS



RTA Richmond Quicktour - June 18, 2024



RTA MEMBER CHAMBERS OF COMMERCE

Angier
Apex
Benson Area
Cary
Chatham
Chapel Hill-Carrboro
Clayton
Durham
Franklin County
Fuquay-Varina Area

Garner
Hillsborough/Orange
County
Holly Springs
Knightdale
Moore County
Morrisville
Raleigh
Rocky Mount Area
Rolesville Area

Roxboro Area
Sanford Area Growth
Alliance
Triangle East
Wake Forest
Wayne County
Wendell
Wilson
Zebulon

RTA Richmond Quicktour - June 18, 2024



RTA SENIOR REGIONAL PARTNERS

Capital Area MPO

Durham-Chapel Hill-
Carrboro MPO

City of Durham

Chapel Hill Transit/
Town of Chapel Hill

Central Pines Regional
Council

GoRaleigh/City of
Raleigh

GoTriangle

Raleigh-Durham
Airport Authority

Town of Cary

Town of Holly Springs

Town of Morrisville

Town of Wake Forest

The background of the slide is a photograph of a highway interchange at night, illuminated by streetlights. The image is split diagonally from the top-left to the bottom-right. The upper-left portion is a solid dark teal color, and the lower-right portion is a solid orange color. The text is overlaid on these colored sections.

RTA BRONZE MEMBERS

Alfred Benesch &
Company

Atkins

AT&T North Carolina

Biogen

Clancy & Theys
Construction Company

CPL Architecture and
Engineering, PC

Dewberry

Gregory Poole Equipment
Company

Highwoods Properties

McKim & Creed

PNC

Strada Architecture PLLC

WakeMed Health &
Hospitals



RTA Event Sponsors

WSP

Kimley-Horn

Town of Cary

William Mullen

RTA Richmond Quicktour - June 18, 2024



RTA

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HNTB

KANAWHA PLAZA

Tuesday, June 18

AGENDA

01

KANAWHA PLAZA HISTORY

- ▶ Introduction
- ▶ Location
- ▶ Zion and Breen Associates
- ▶ HNTB | RMTA History
- ▶ Concert History

02

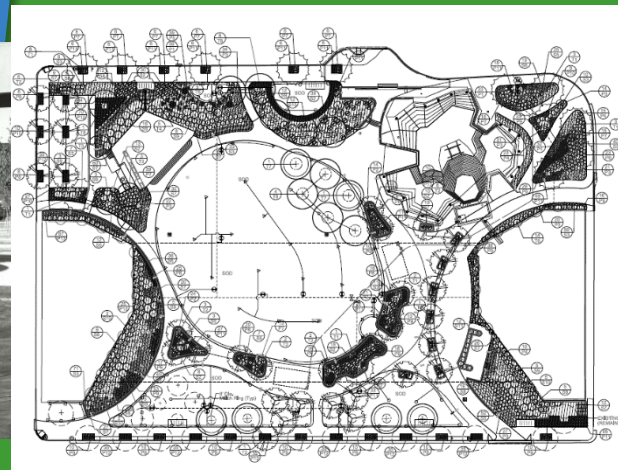
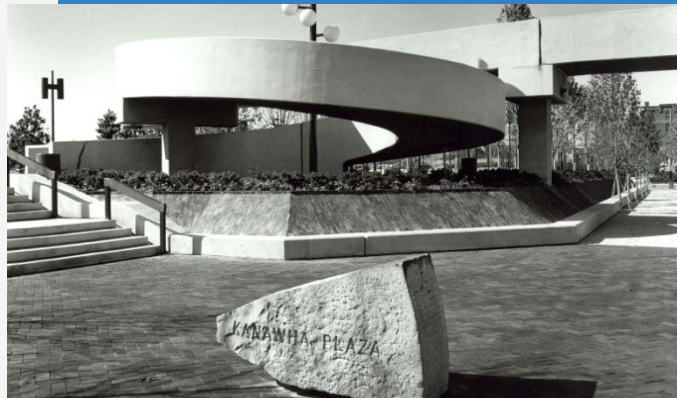
RENOVATIONS

- ▶ Plaza Challenges
- ▶ Reimagining Kanawha Plaza
- ▶ Kanawha Plaza Today

03

LESSONS LEARNED

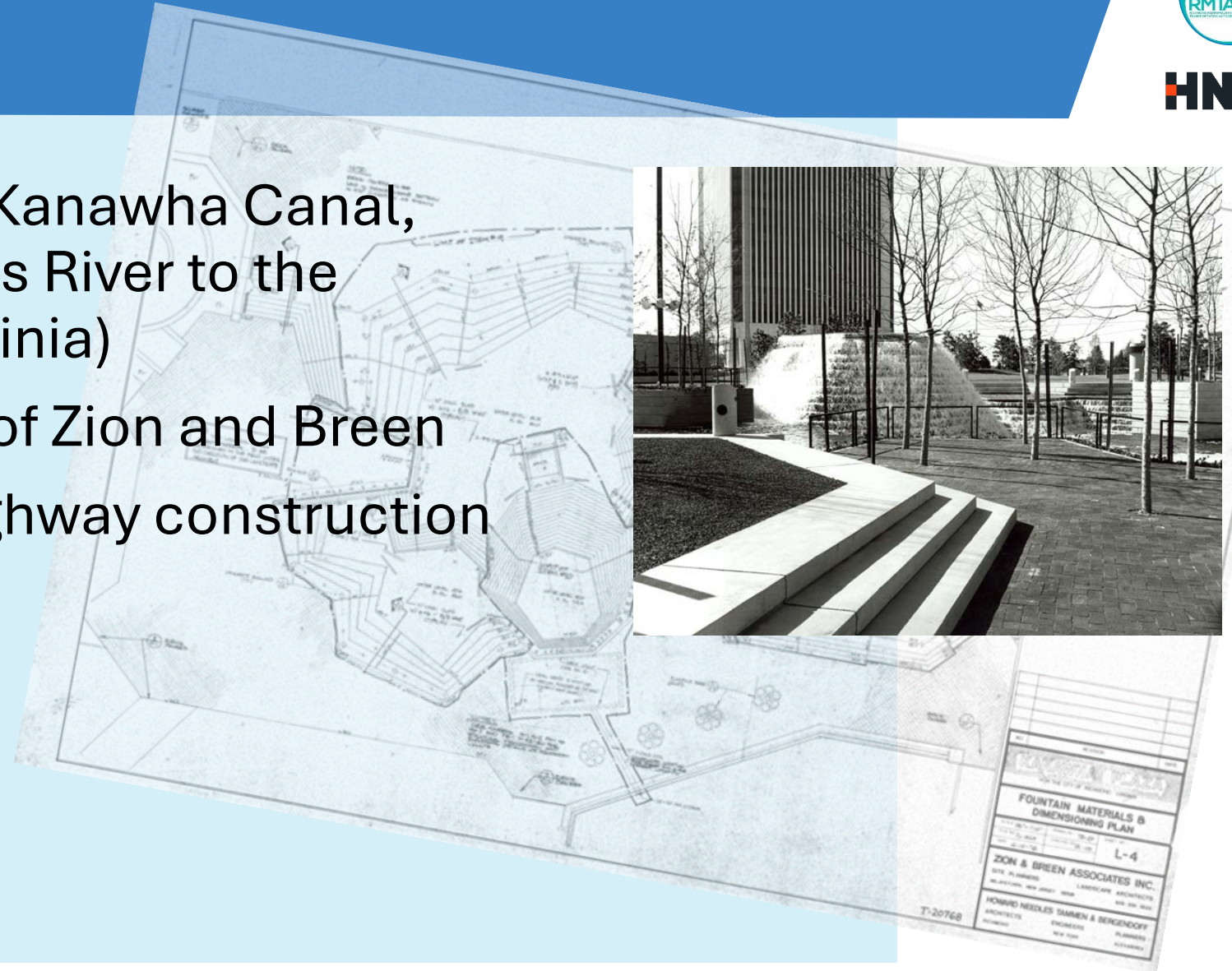
- ▶ Takeaways



Introduction



- Named after the historic Kanawha Canal, which connects the James River to the Kanawha River (West Virginia)
- Designed by Robert Zion of Zion and Breen
- Bridges the gap left by highway construction
- Built from 1972 to 1980

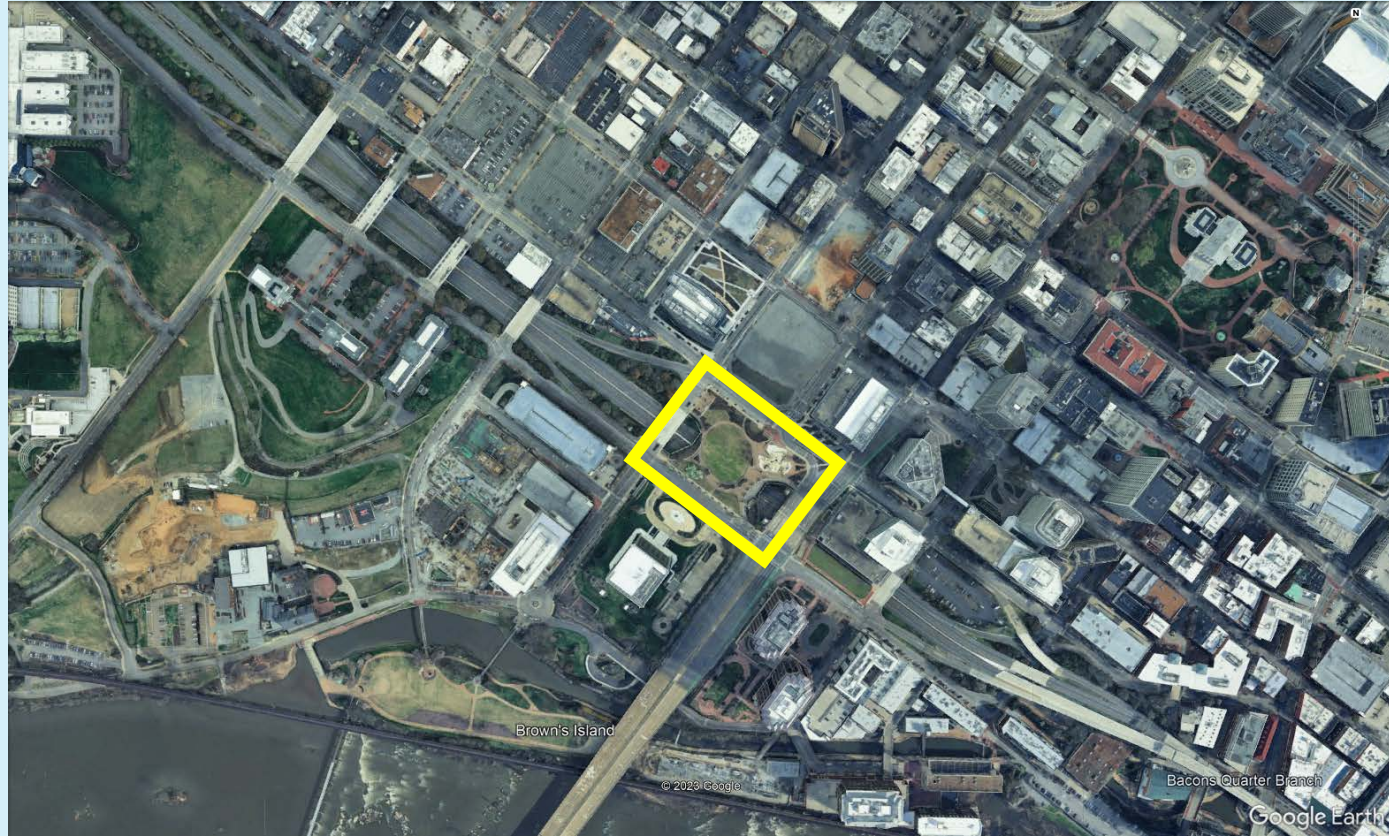


Location

- Above the Downtown Expressway
- Separates Canal St and Byrd St



Location



Zion and Breen Associates (1957-2001)



HNTB

- Firm designed many projects but is most well known for its public parks “landmarks of civic design”

Significant Commissions

- Paley Park
- New York’s Museum of Modern Art sculpture garden
- Philip Morris Corporate Offices and Tech Center

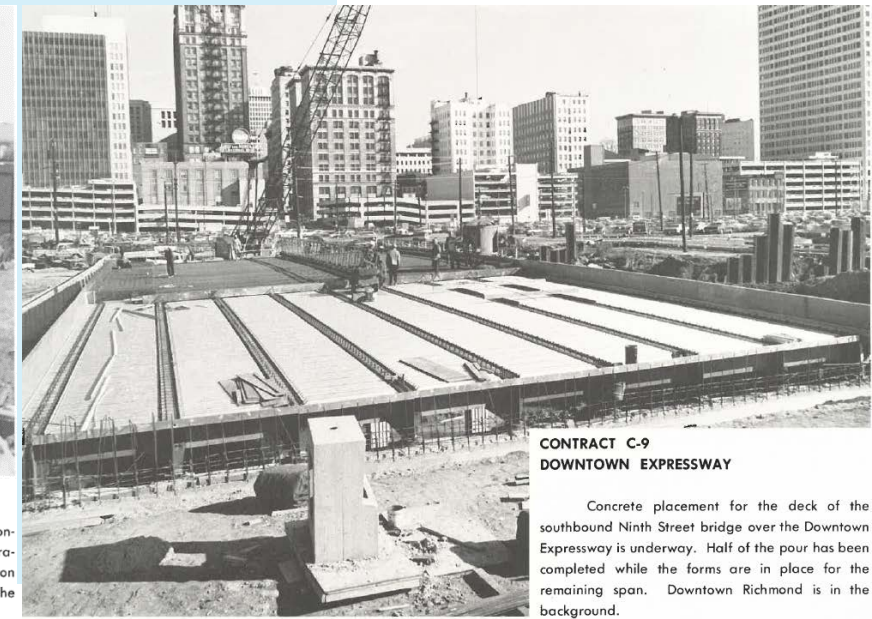
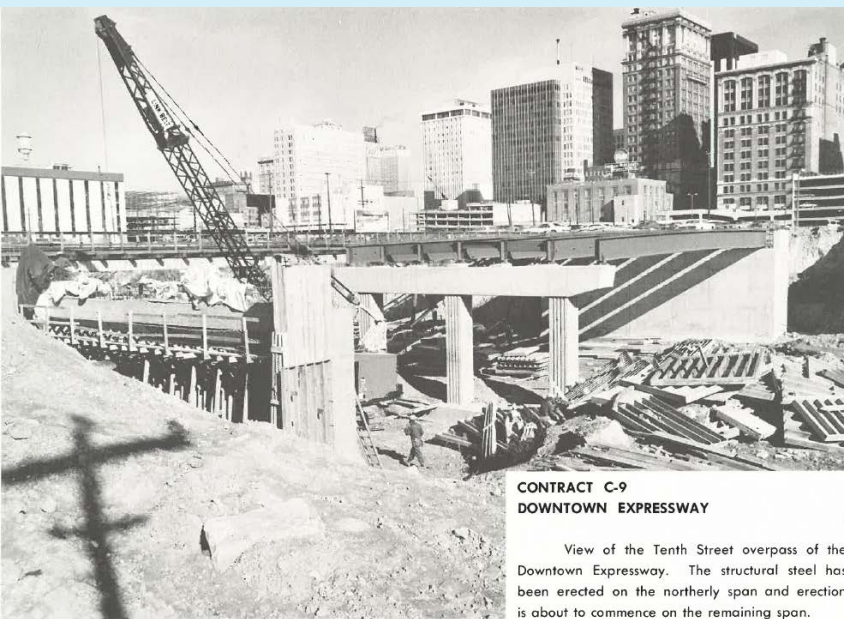


HNTB | RMTA History



HNTB

- General engineering consultant to RMTA since they were formed in 1966
- Designer of the RMTA expressway system



Fridays at Sunset Concert Series



HNTB

- LL Cool J (2006)
- Natalie Cole (2007)
- Boyz II Men (2008)
- Corinne Bailey Rae (2010)
- Wale (2010)
- Robin Thicke (2010)
- George Clinton and Parliament Funkadelic (2010)



Plaza Challenges



HNTB

- Surrounded by wide streets creating accessibility concerns
- Fiscal constraints



Reimagining Kanawha Plaza



- Landscaping improvements
- New seating areas
- Lighting and safety enhancements



Kanawha Plaza Today



HNTB



Takeaways



HNTB

- Public / Stakeholder Engagement
- Contextual Design
- Sustainable



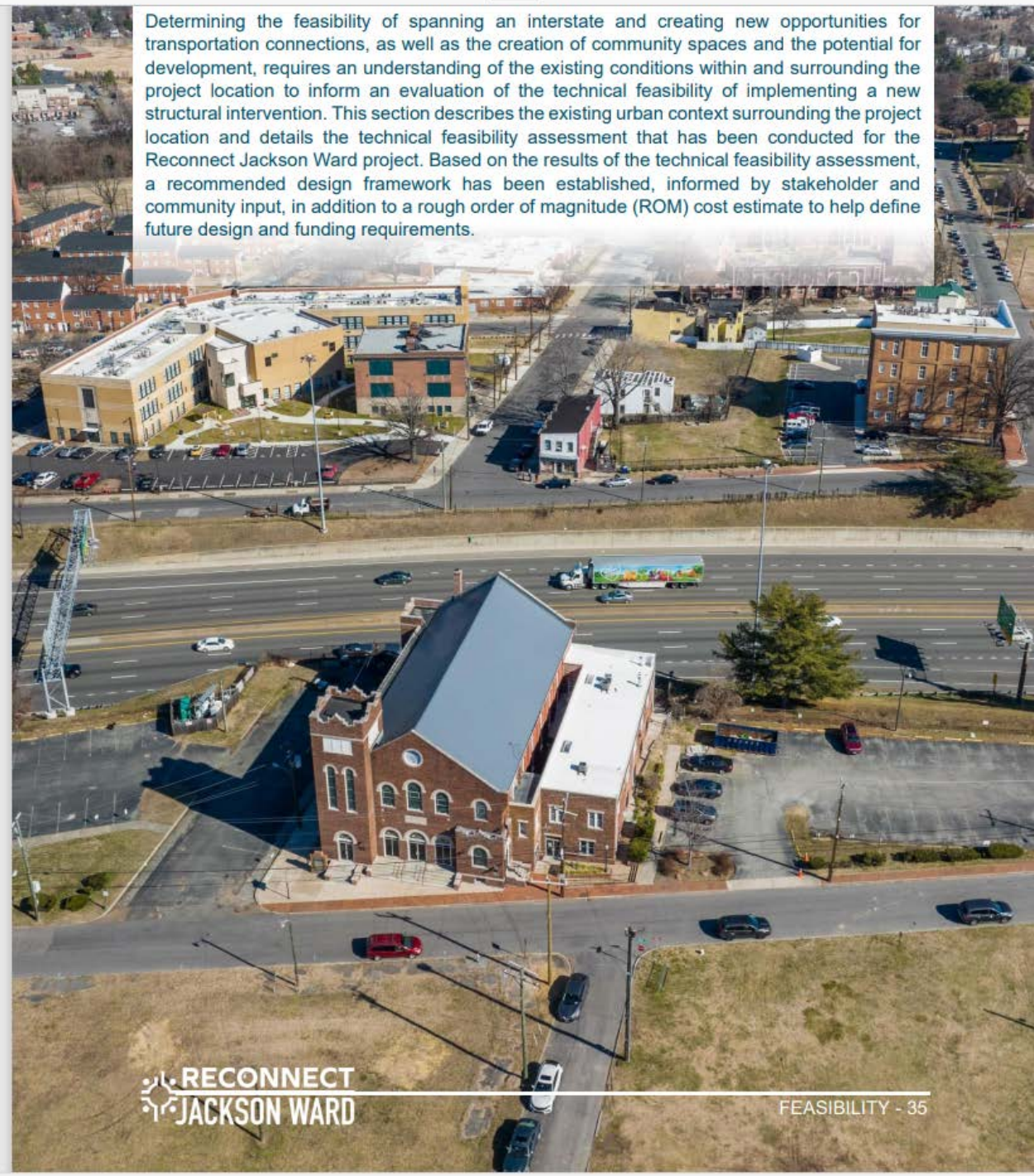


RECONNECT JACKSON WARD

FEASIBILITY STUDY | SEPTEMBER 2022



Determining the feasibility of spanning an interstate and creating new opportunities for transportation connections, as well as the creation of community spaces and the potential for development, requires an understanding of the existing conditions within and surrounding the project location to inform an evaluation of the technical feasibility of implementing a new structural intervention. This section describes the existing urban context surrounding the project location and details the technical feasibility assessment that has been conducted for the Reconnect Jackson Ward project. Based on the results of the technical feasibility assessment, a recommended design framework has been established, informed by stakeholder and community input, in addition to a rough order of magnitude (ROM) cost estimate to help define future design and funding requirements.



Phasing and Cost Analysis

Considering the substantial investment that would be anticipated to implement a new connection, the feasibility study assessment included an evaluation of the developable areas to identify potential opportunities to phase the implementation of a future project as a large, medium, or small connection. The most efficient delivery of the project would be to construct the large connection concurrently; however, opportunities for project phasing were explored that would allow for the design and implementation of more modest connections that still would provide opportunities to reconnect to the history of people and place, support economic vitality and growth, and increase connectivity to community facilities. Three phasing plans were identified: large connection (approximately 204,000 square feet - shown in the figure on the top right), medium connection (approximately 119,000 square feet), and a small connection (approximately 59,000 square feet).

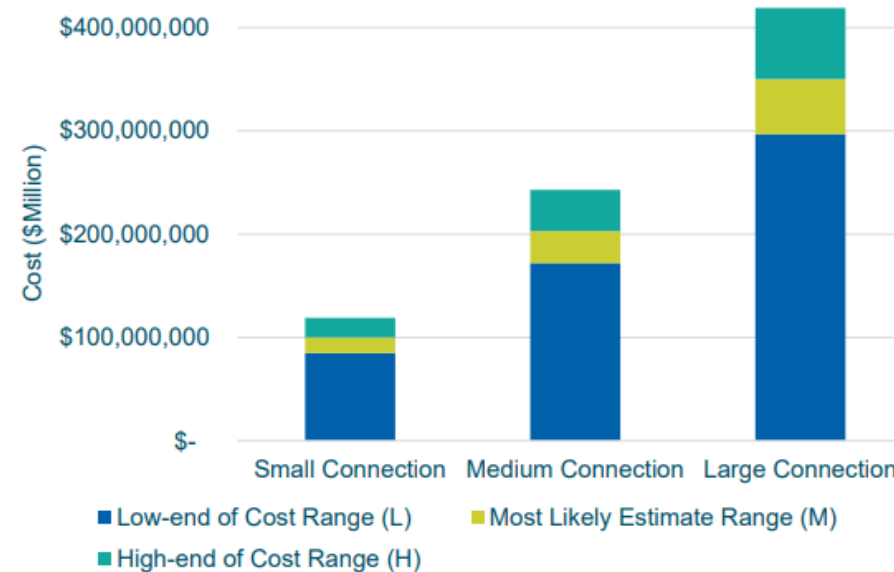
A Rough Order of Magnitude (ROM) cost analysis was conducted to provide a cost range that represents the reasonable construction and programming cost related to project development but is not specific to design or programmatic elements. The range of implementation costs for these phasing opportunities is identified in the below right table. The ROM cost identifies a low-end cost estimate, most likely estimate, and high-end cost estimate for each option. These cost estimates are not specific but are estimations that are to be used to guide future project implementation.

Design Area Plan Concept – Large Connection



LEGEND

- Possible Park Area
- Possible Gateway Area
- Possible Buildings
- Community Landmarks
- Multimodal Connection (vehicle, bike, and/or pedestrian, as indicated by icon)
- Pedestrian Connection (at or near grade)
- Stepped Pedestrian Connection (requires grade transition with steps and ramps)
- Significant Edge (significant grade elevation change)
- Lid/Covered Highway Area





My pulse is Rising
in Richmond VA!!

MICHAEL B. SAWYER, PE

CITY TRANSPORTATION ENGINEER

JUNE 18, 2024





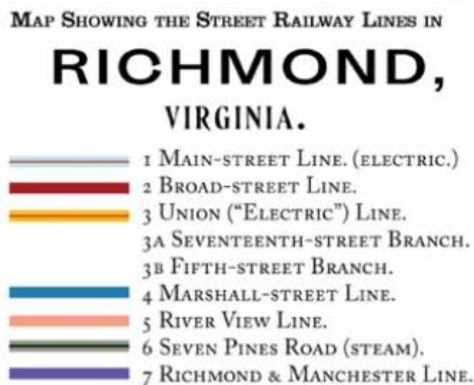
1 Electric street car.

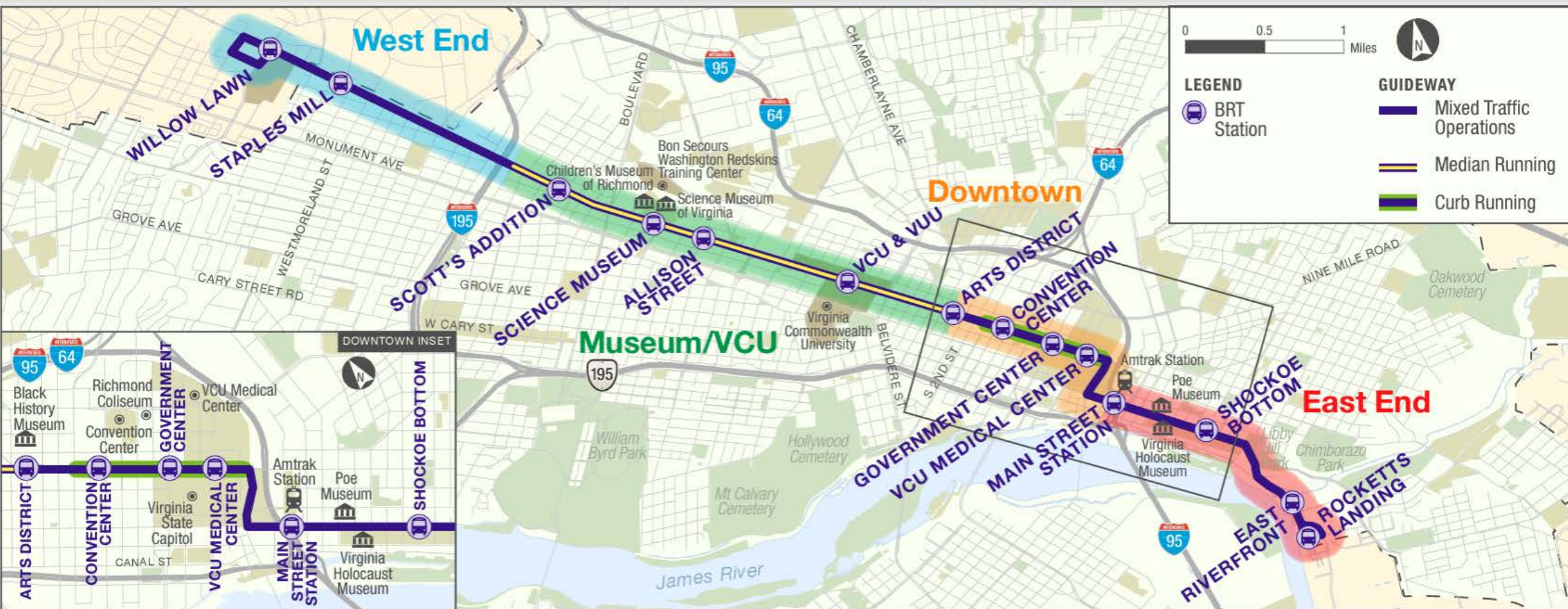
3A Electric street car branch line.

7 Horse car.

6 Line operated by steam.

Jake Berman, July 2019
After W. D. Chesterman & G. W. Baist.







More Time For Life.



High Frequency

Buses every 15 minutes (or better)
6:00–9:00 am & 4:00–7:00 pm, seven days a week

	AM PEAK 6:00–9:00 am	MIDDAY 9:00 am–4:00 pm	PM PEAK 4:00–7:00 pm	OFF PEAK Night	LATE NIGHT 11:30 pm–1:00 am
Weekday 5:30 am – 1:00 am	10 MIN	15 MIN	10 MIN	15 MIN	30 MIN
Weekends 6:00 am – 1:00 am	15 MIN	30 MIN	15 MIN	30 MIN	30 MIN

Sponsored By:





45% 

In Severe Crashes
With PULSE BRT





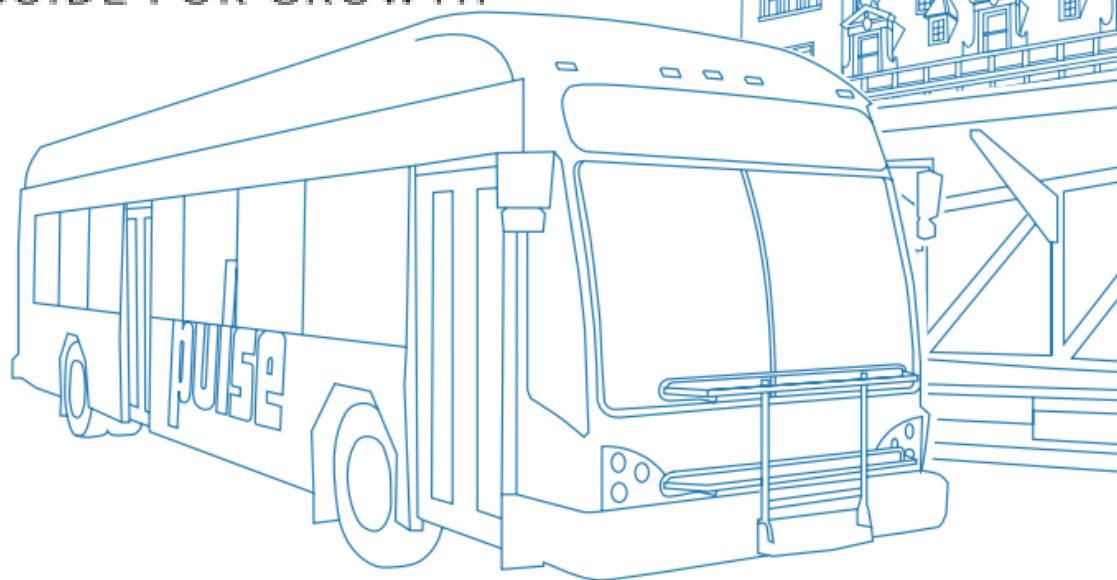
Credit: GRTC Transit Systems



RICHMOND

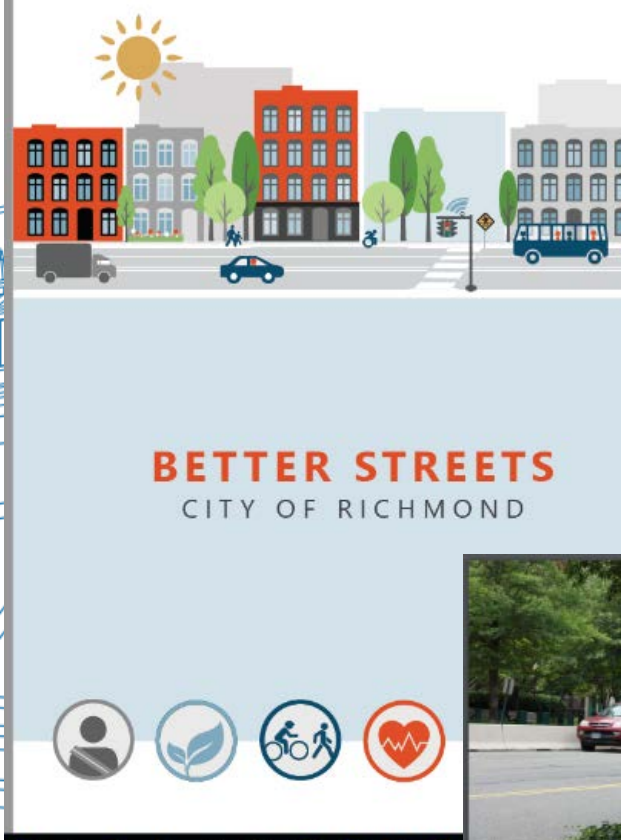
300

A GUIDE FOR GROWTH



THE PULSE CORRIDOR PLAN

JULY 2017



City of Richmond

Bicycle and Pedestrian Network Improvement Study

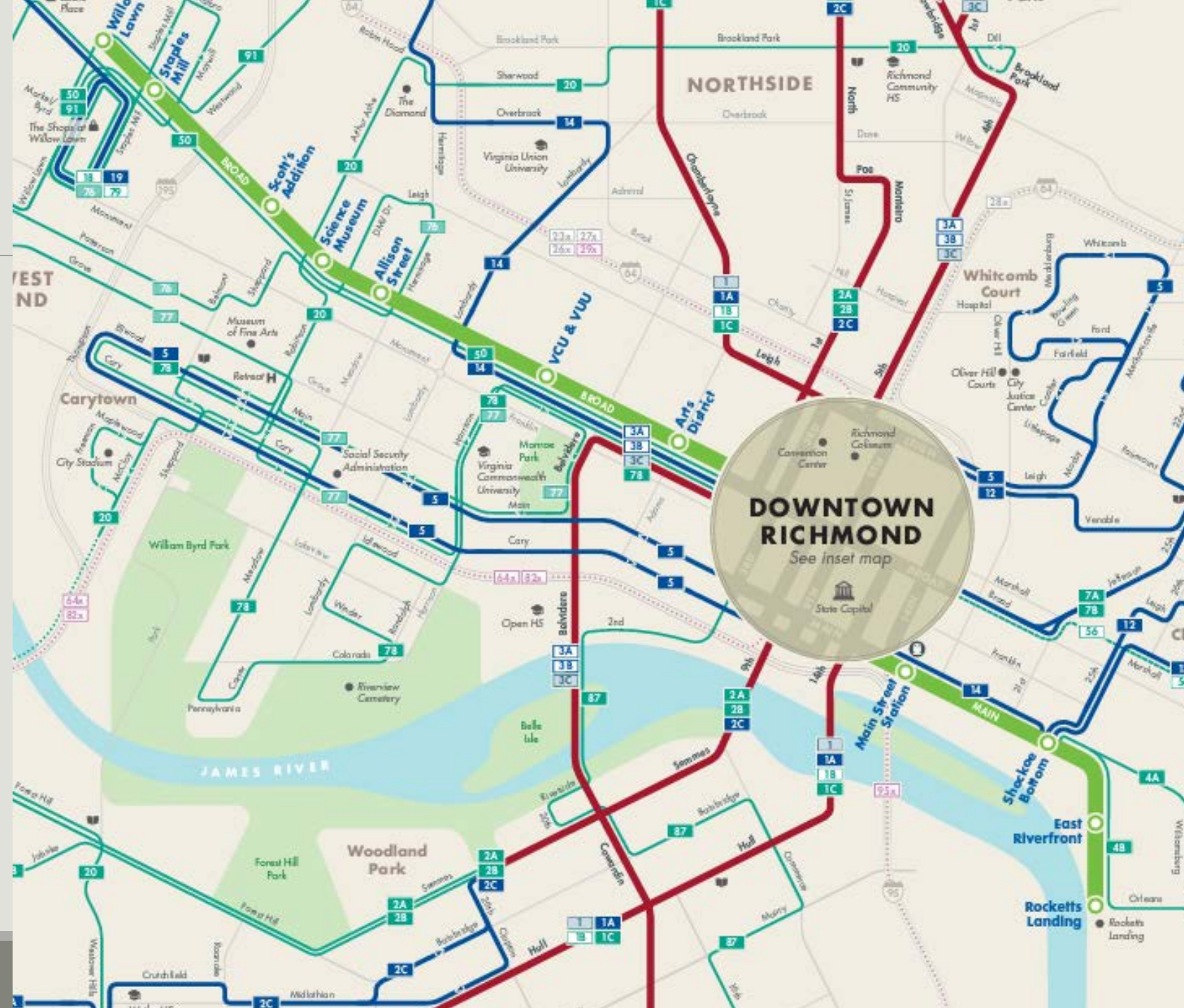






Credit:STV / Kimley Horn









Source: City of Richmond





Broad Street Gateway & Corridor Improvements
Spring 2022-Fall 2023
Pardon the disruption, we are working to make Broad Street better.

DEPARTMENT OF PUBLIC WORKS

PROJECTS

- PAVING & PULSE BRT RED PAVEMENT
- STREETSCAPE PROJECT
- SIGNAL SYSTEM PHASE III
- TREE INVESTMENTS
- DPU WATERLINE

We are Building ONE Richmond

Brought to you by
*Mayor Levar Stoney
&
Richmond City Council

rva.gov/public-works/broad-street-project | Call: 3-1-1 or Email: AskPublicWorks@rva.gov

BEFORE

BUS ONLY







Source: City of Richmond





DEPARTMENT OF
**PUBLIC
WORKS**

PROJECTS

PAVING & PULSE BRT
RED PAVEMENT

STREETSCAPE
PROJECT

SIGNAL SYSTEM
PHASE III

TREE
INVESTMENTS

DPU
WATERLINE

We are Building
ONE Richmond

Broad Street Gateway & Corridor Improvements

Spring 2022-Fall 2023

Pardon the disruption, we are working to make Broad Street better.



rva.gov/public-works/broad-street-project | Call: 3-1-1 or Email: AskPublicWorks@rva.gov



Brought to you by:
**Mayor Levar Stoney
&
Richmond City Council**







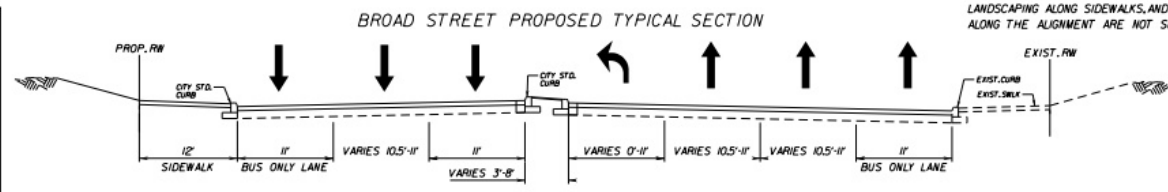
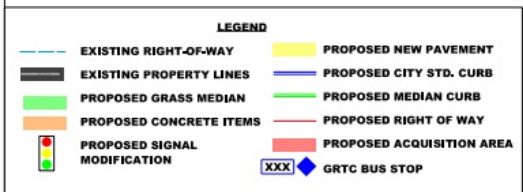
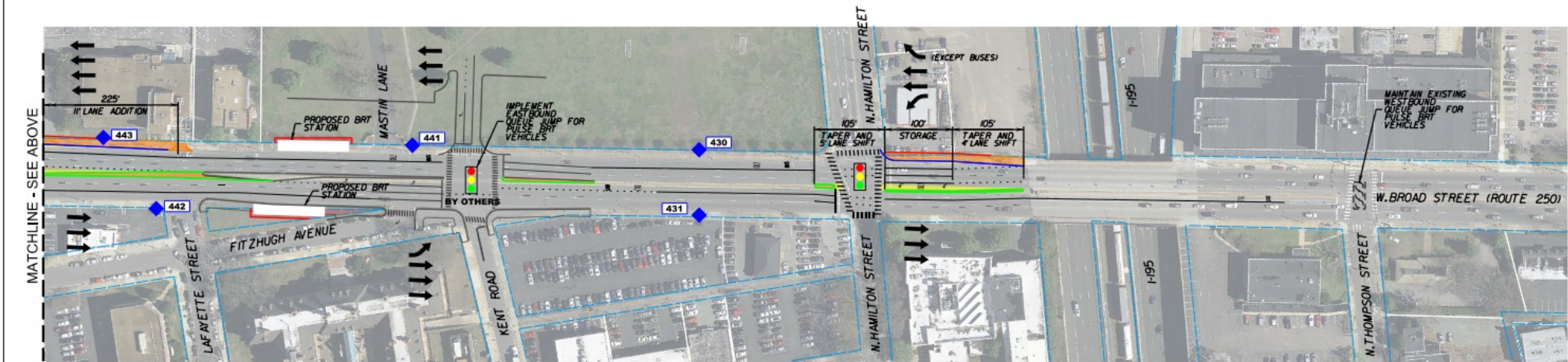
Credit: Science Museum of Virginia



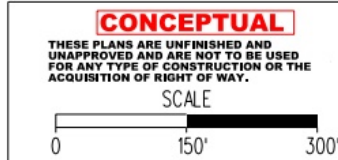


BROAD STREET STREETSCAPE WITH PULSE BRT EXPANSION PHASE 1

04/02/2020



NOTE: PEDESTRIAN AND BIKE SCALE HARDSCAPE ELEMENTS INCLUDING LIGHTING, BENCHES, LANDSCAPING ALONG SIDEWALKS, AND TRANSIT SHELTERS AT SELECT STOP LOCATIONS, PROPOSED ALONG THE ALIGNMENT ARE NOT SHOWN IN ABOVE DRAWING.



A Scott's Addition BRT Station Pedestrian Safety/Streetscape

Project Id: 3713

This project will address pedestrian access and safety to the Scott's Addition BRT Stations by constructing sidewalk, ADA accessible ramps and other pedestrian and streetscape amenities within the half-mile walkshed of the BRT station.

Submitting Entity: Greater Richmond Transit Company (GRTC)
Preliminary Engineering: Not Started
Right of Way: Not Needed
Construction: Not Started
Eligible Fund Program: Statewide High Priority
VTRANS Need: Regional Network
(click [here](#) for details)



B Shockoe Bottom BRT Station Pedestrian Safety/Streetscape

Project Id: 3725

This project will address pedestrian access and safety to the Shockoe Bottom BRT Stations by constructing sidewalk, ADA accessible ramps, and other pedestrian and streetscape amenities within the half mile walkshed of the BRT station.

Submitting Entity: Greater Richmond Transit Company (GRTC)
Preliminary Engineering: Not Started
Right of Way: Not Started
Construction: Not Started
Eligible Fund Program: Statewide High Priority
VTRANS Need: Regional Network
(click [here](#) for details)



I Boulevard Shared Use Path to Science Museum BRT Station

Project Id: 3432

To provide a paved shared use path from the Robinson St BRT Station to Scott's Addition, create a future bridge tie-in connection to the Blvd Ecom Development Site, and provide a future connection for residents of Northside to access BRT facilities.

Submitting Entity: Richmond City
Preliminary Engineering: Not Started
Right of Way: Not Started
Construction: Not Started
Eligible Fund Program: Both
VTRANS Need: Regional Network
(click [here](#) for details)



C Rvrfront/Orleans BRT Station Pedestrian Safety/Streetscape

Project Id: 3726

This project will address pedestrian access and safety to the East Riverfront and Orleans BRT Stations by constructing sidewalk, ADA accessible ramps, and pedestrian and streetscape amenities within the half mile walkshed of the stations.

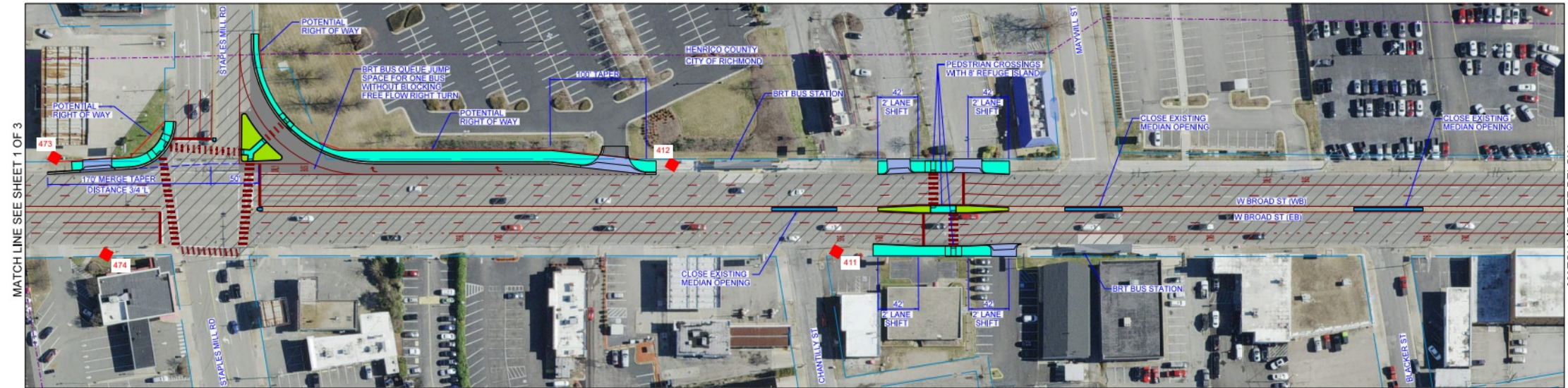
Submitting Entity: Greater Richmond Transit Company (GRTC)
Preliminary Engineering: Not Started
Right of Way: Not Started
Construction: Not Started
Eligible Fund Program: Statewide High Priority
VTRANS Need: Regional Network
(click [here](#) for details)

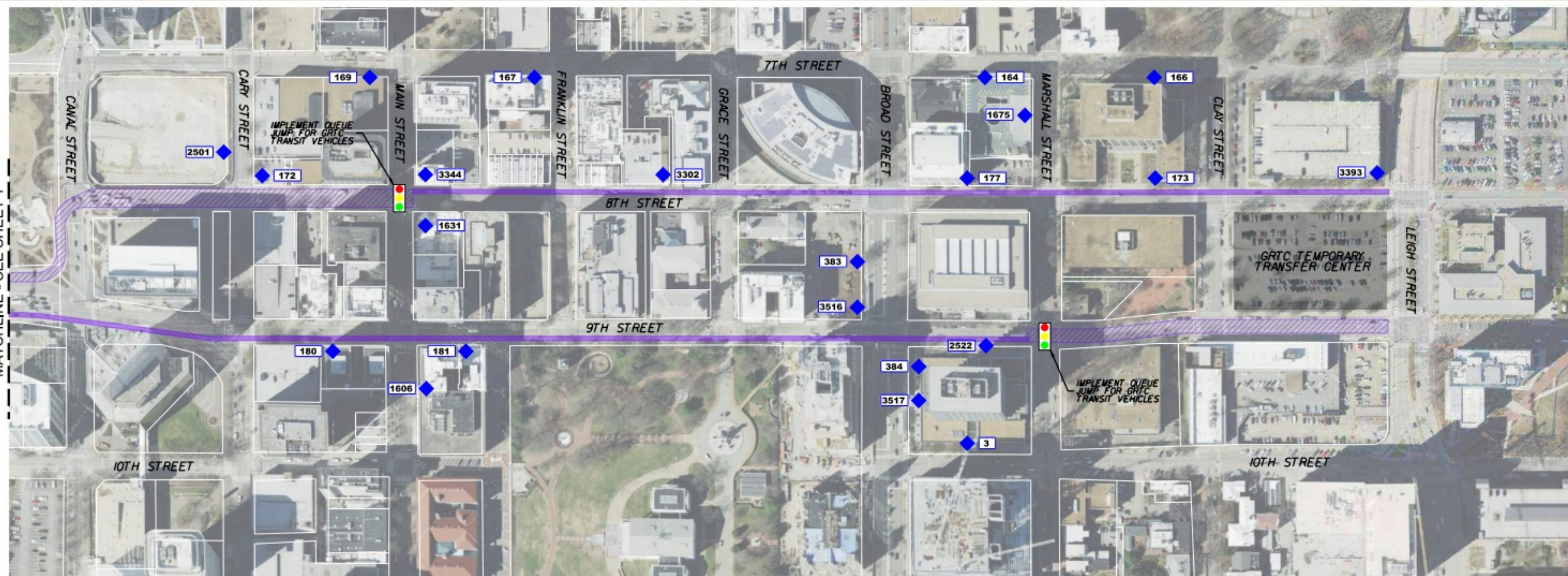


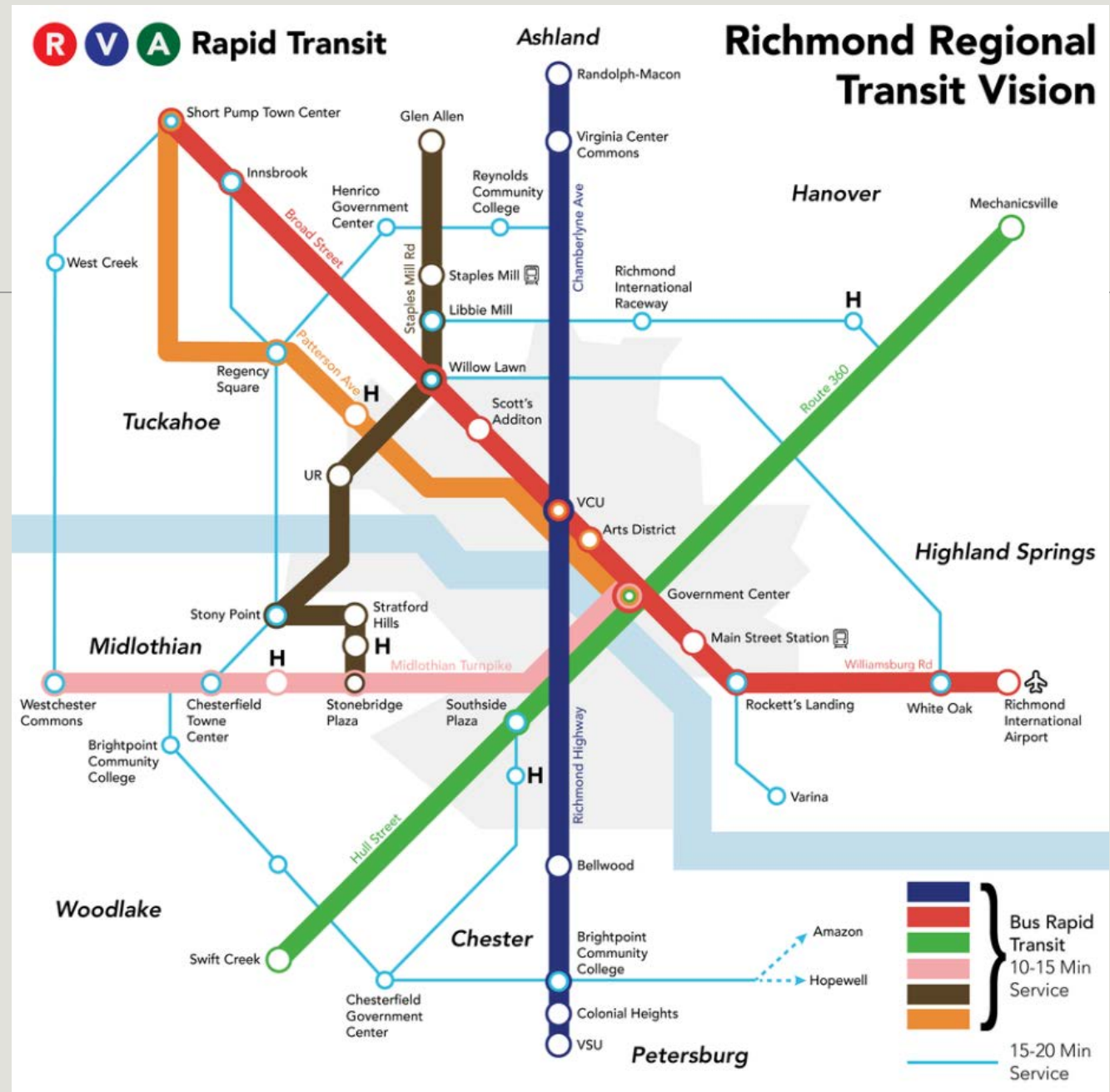


Route 250 West Broad Street Study - Phase 2

Sheet 2 of 3: from Willow Lawn Dr. to Westwood Ave. / Malvern Ave.









Credit: Kimley Horn





Pulse Bus Rapid Transit (BRT) Overview And Zero Fare



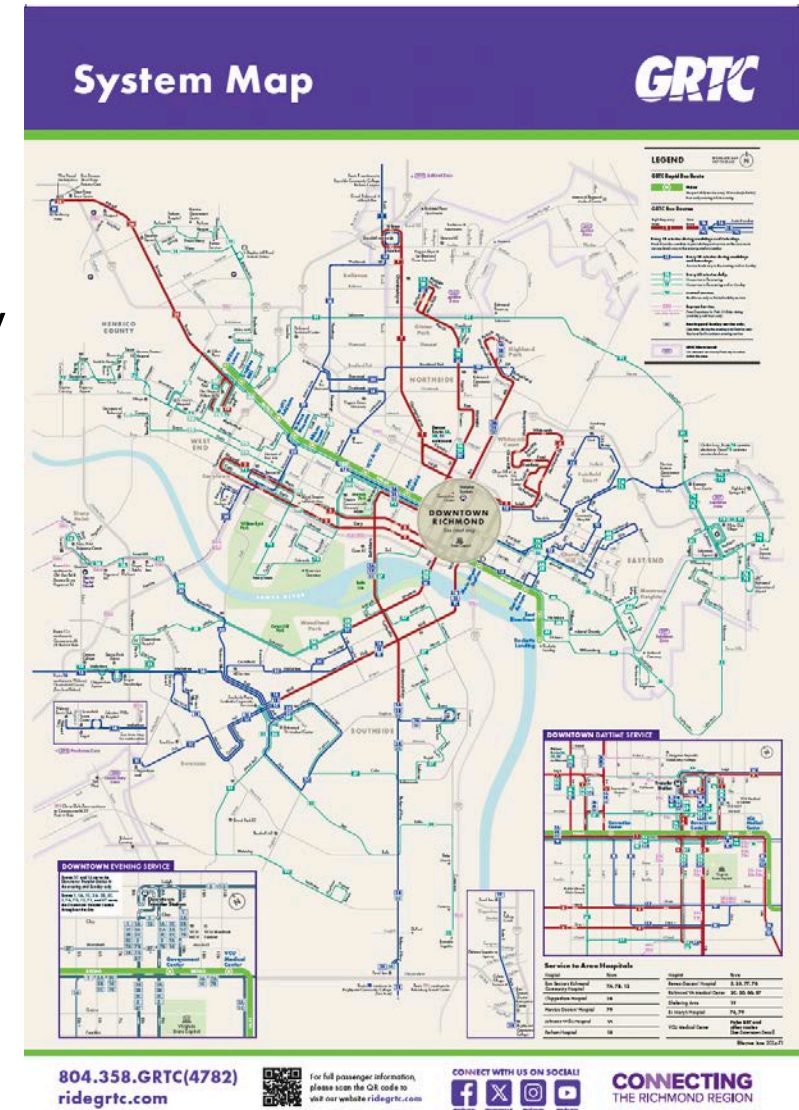
June 18, 2024

Adrienne Torres
Chief of Staff

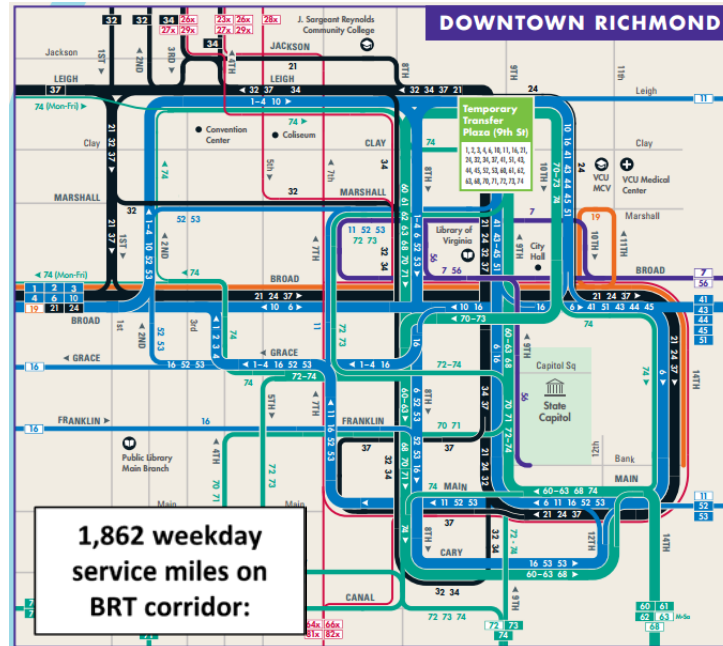
Steve McNally
Capital Project Manager

GRTC | OVERVIEW

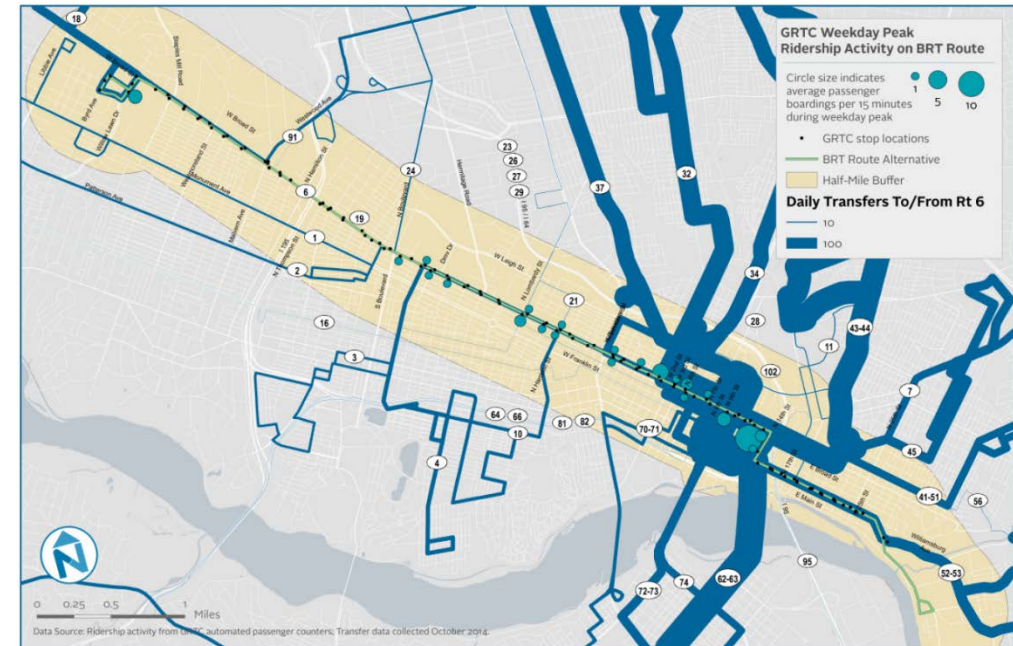
- Public Transportation Services
- Co-owned by the City of Richmond and Chesterfield County
- Board Member Jurisdictions: Richmond, Henrico and Chesterfield
- Local and Bus Rapid Transit Services
- Express and Extended Express Services
- Paratransit / Specialized Transportation Services
- LINK Microtransit



GRTC PULSE | PROJECT BACKGROUND



- 23 Local Routes on Broad Street Downtown
- 11 Express Routes on Broad Street Downtown
- 7 Local Routes Crossed Broad Street Downtown
- 2 Local Routes on Main Street Downtown



- Heavy transfers from all directions to Route 6 on Broad Street to travel E/W

GRTC PULSE | PROJECT BACKGROUND

- 2010 – Broad Street Rapid Transit Study Begins
- 2014 – Broad Street Rapid Transit Study Complete
- 2014 – Awarded TIGER Grant
- 2015 – PE/Design
- 2016 – Construction Began
- 2016 – System Redesign Study Began
- 2018 – Launch of Pulse and New System
- Lots of Outreach



GRTC PULSE | OVERVIEW



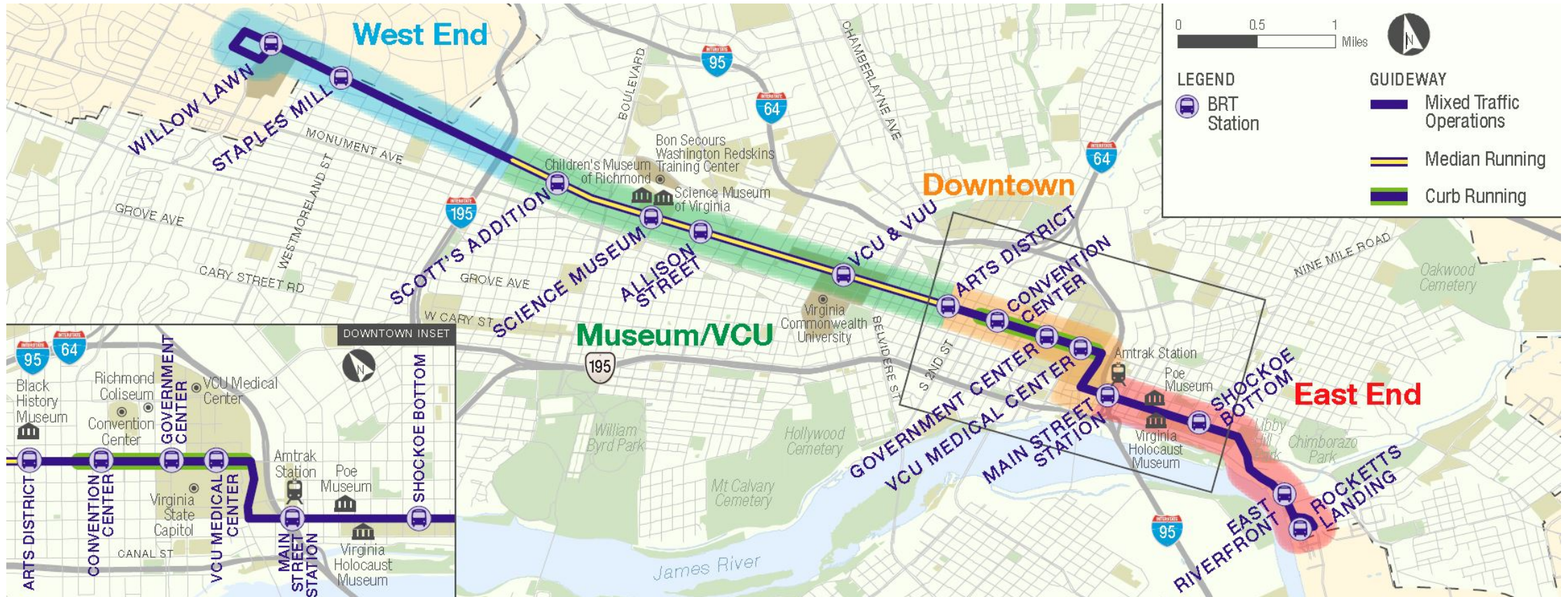
Sean Baucum



DRPT

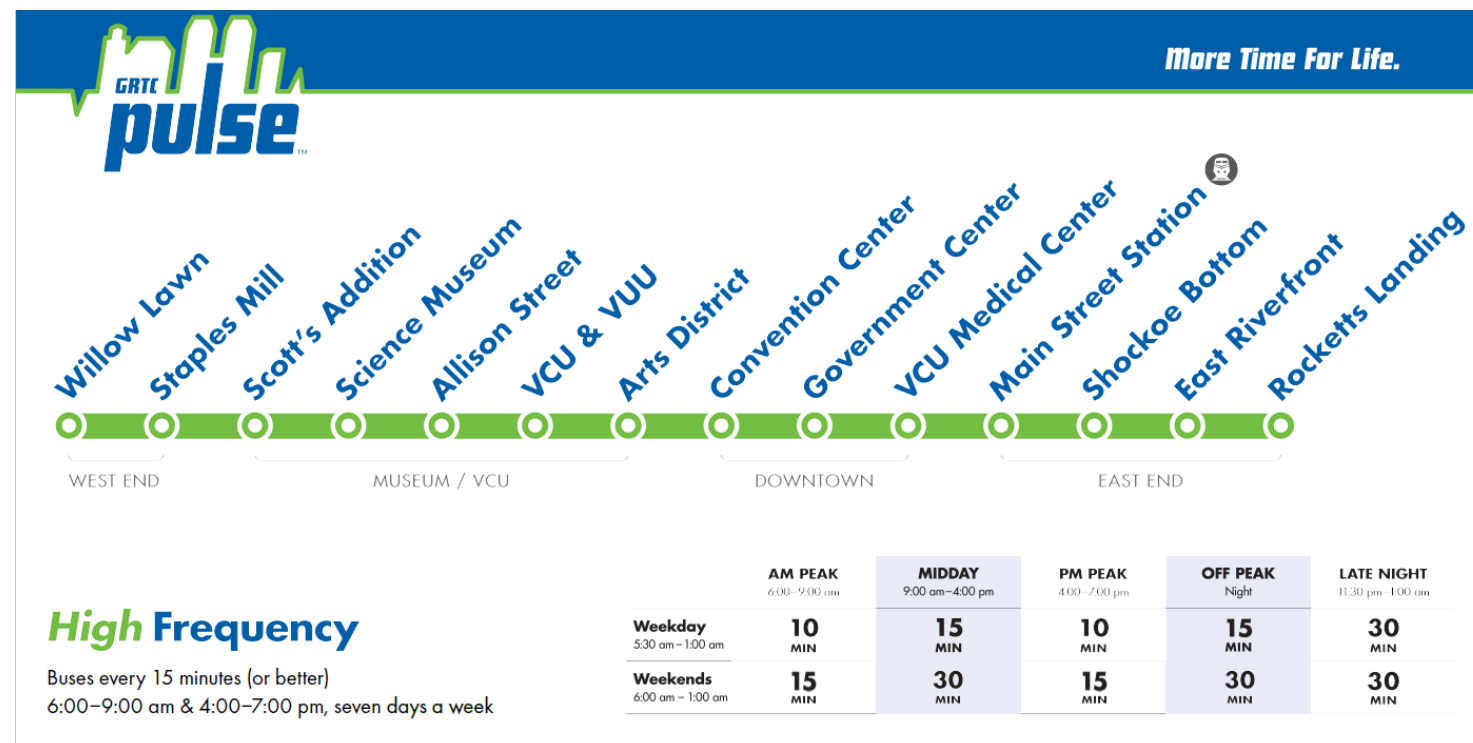


GRTC PULSE | OVERVIEW



GRTC PULSE | OVERVIEW

- Travels east/west - Henrico County through City of Richmond
- Frequency: 10 minutes weekdays (6 AM – 7 PM), 15 minutes off-peak, 30 minutes late-night
- Designed for off-board fare collection
- 14 station pair locations: 5 median, 9 curbside
- 3.2 miles of dedicated bus-only lanes
- Transit-signal priority along 7.6-mile route



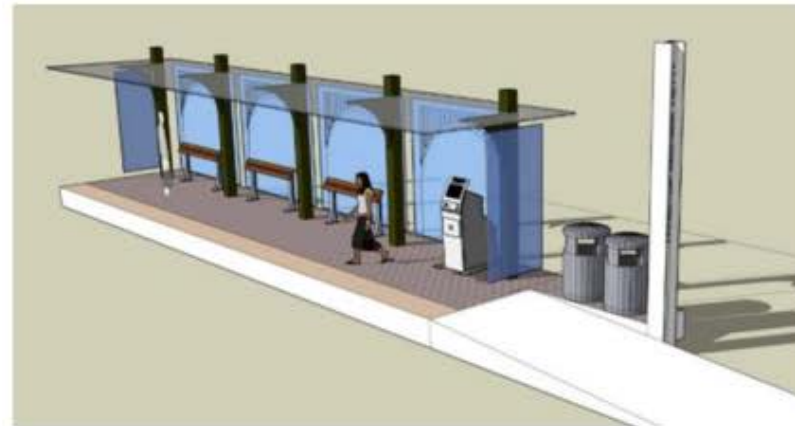
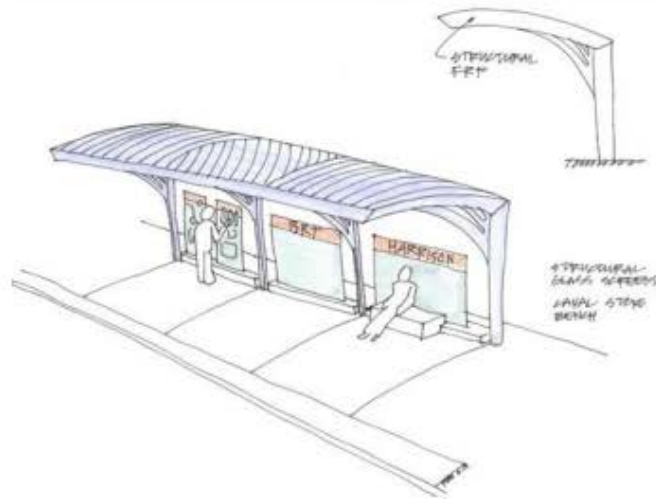


GRTC PULSE | PROJECT COST

GRTC Pulse final design and construction work occurred 2016-2018, with funding from local, state and federal sources:

- TIGER (FTA/USDOT): \$24,900,000
- City of Richmond: \$7,600,000
- Henrico County: \$400,000
- DRPT/VDOT (Commonwealth of Virginia): \$32,016,000
- **Total Contributions: \$64,916,000**

GRTC PULSE | STATION DESIGN - PROPOSED



GRTC PULSE | STATION



GRTC PULSE | STATION - MEDIAN



Photo Credit:
Kimley-Horn

GRTC PULSE | PEDESTRIAN CROSSINGS

Push-button ADA crossings at stations, median gaps, and signalized intersections.



GRTC PULSE | TRANSIT SIGNAL PRIORITY

TSP: Bus talks to traffic signal network, which keeps bus on time or permits an early jump through an intersection when entering/exiting Bus Only Lane.



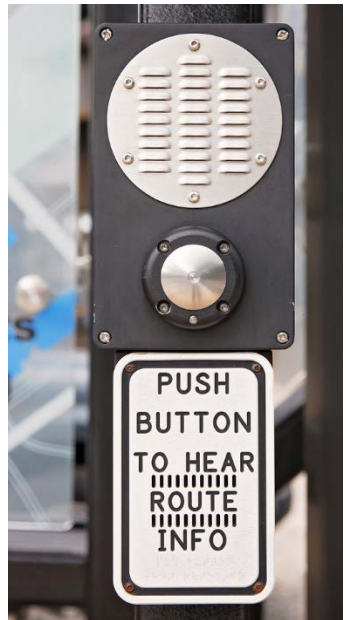
Pulse average speed: 12-13mph (faster than the scheduled 11mph)

GRTC PULSE | REAL-TIME ARRIVAL

Station totems: 5-minute count-down



Overhead display and audio announcements



GRTC PULSE | OTHER STATION FEATURES

- Interactive map (scan the QR codes)
- Emergency Call Box
- Security cameras
- Adaptive lights
- Seating and lean-rails



GRTC PULSE | BICYCLE CONNECTIVITY

- Bike racks at front (3 bikes per bus)
- Bike parking at stations
- Bike ramp to street level



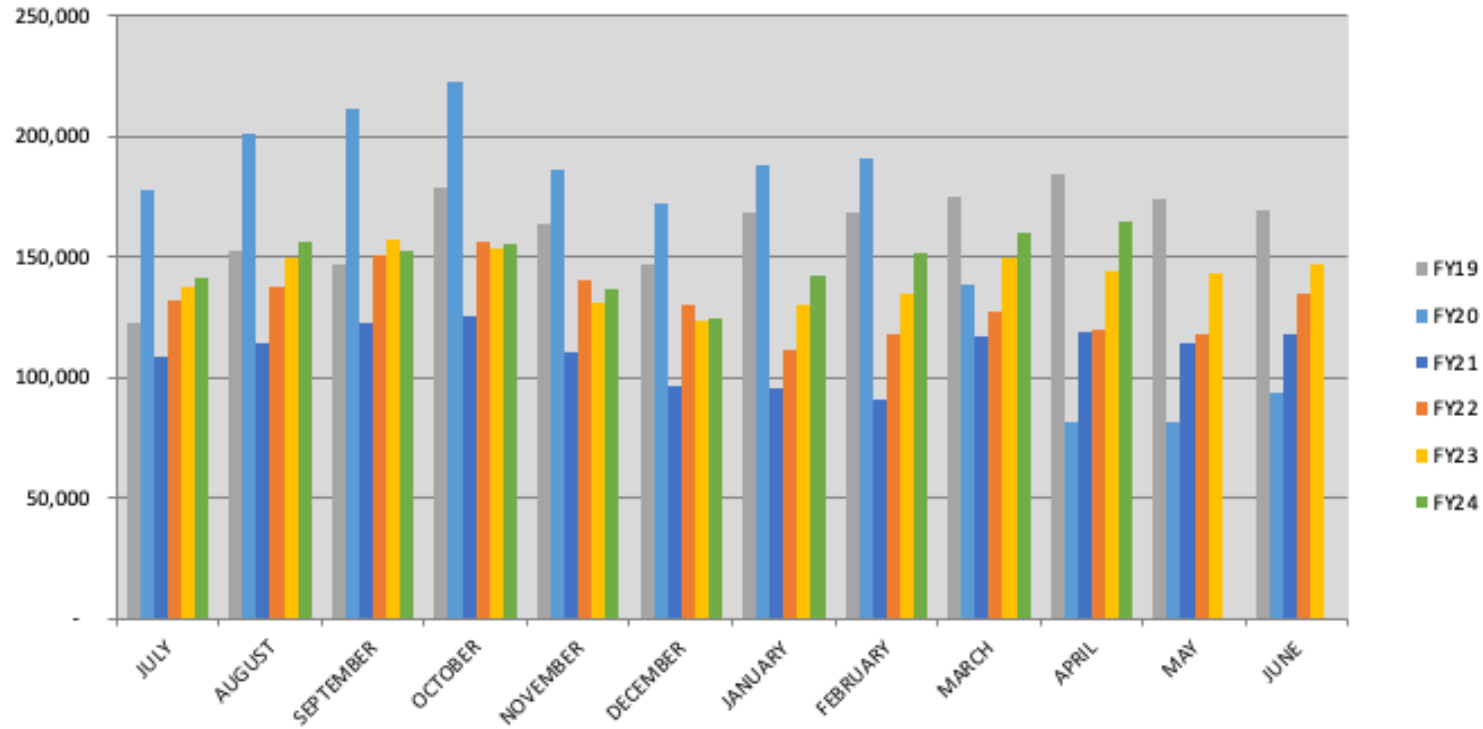
GRTC PULSE | TRAINING PLATFORM



GRTC PULSE | SUCCESS - RIDERSHIP

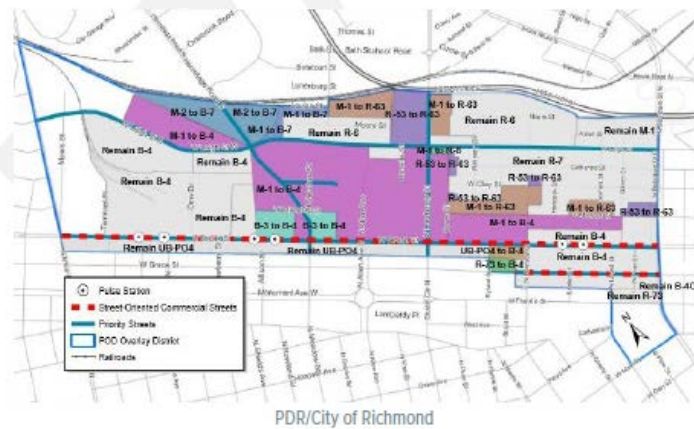
Pulse Ridership Six Year Comparison

Source: RideCheck Plus APC Data

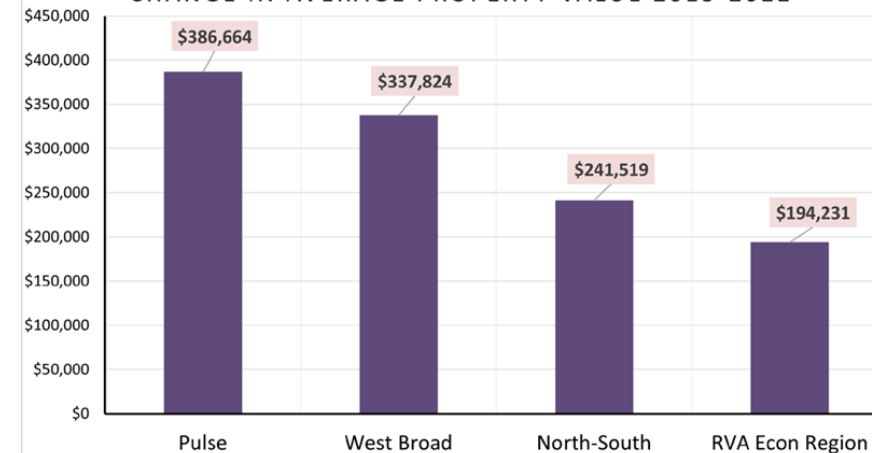


SUCCESS - TOD

**PULSE CORRIDOR PLAN REZONING —
SCIENCE MUSEUM, ALLISON STREET, VCU & VUU STATION AREAS**



CHANGE IN AVERAGE PROPERTY VALUE 2013-2022



GRTC PULSE | SUCCESS – REGIONAL PARTNER

- Local route expansion in Henrico County (Fall 2019)
- VCU six (6) year contract for students, employees, and contractors on Pulse and fixed routes
- Dedicated funding source from regional sales and use tax and gas and diesel tax - General Assembly establishment of Central Virginia Transportation Authority (CVTA) for transportation investments - GRTC receives 15% of funds (Summer 2020)
- Local route expansion and microtransit implementation across the region
- Support for BRT expansion



What's Next for PULSE?

GRTC PULSE | ARTICULATED VEHICLES

Articulated Vehicles



- Current funding for 12 60-foot vehicles
- Construction for Pulse Station Modifications to be complete by June 2025

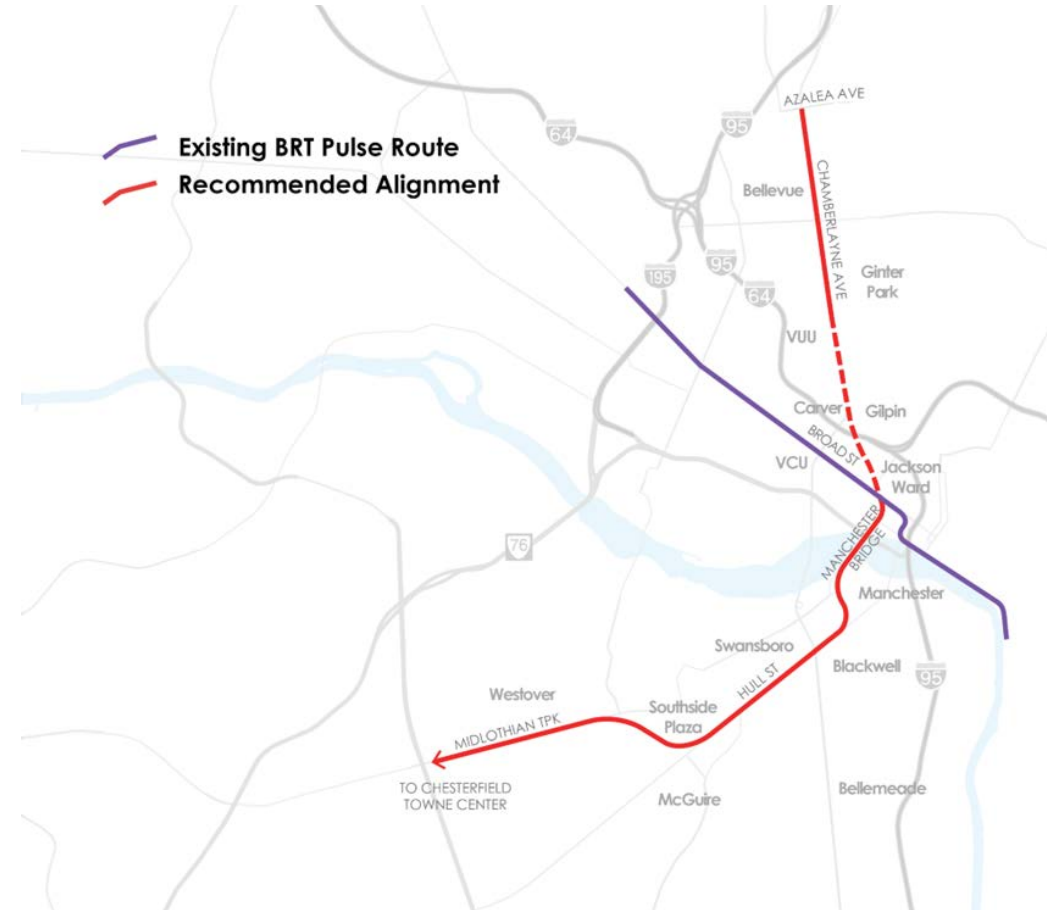
GRTC PULSE | EXPANSION WEST

- 2023 – Study complete to identify a minimum operable extension West
 - Survey
 - Transit Propensity
 - Traffic Analysis
 - MOS Options
 - Economic Impact
 - Park and Ride Potential
- 2024 - NEPA/0-30% Design
 - Detailed traffic/ridership analysis
 - Environmental clearance
 - Design
- 2026 – Design/Construction



GRTC PULSE | EXPANSION NORTH/SOUTH

- 2023 - Phase one study identified a Locally Preferred Alternative (LPA)
 - Variety of eligibility factors
 - Transit Connectivity
 - Diversity and Land Use
 - Multimodal Connectivity
 - Jobs and population density
 - Public feedback
- 2024 - NEPA, Station Locations
- 2025 - 0-30% Design
- 2026 - Design/Construction

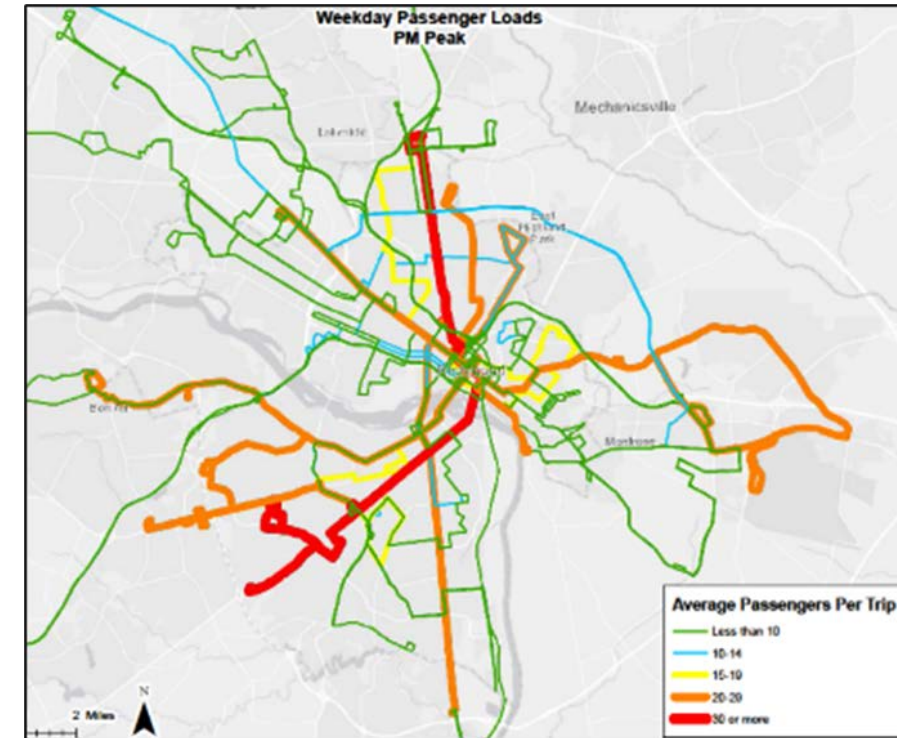


The image shows the interior of a bus with several passengers seated. Safety signs are visible, including "WATCH YOUR STEP" and "BE COURTEOUS TO EACH OTHER. WE'RE IN THIS TOGETHER. GRTC". A digital display shows "GARY + L. WEL". The text "Zero Fare Policy" is overlaid in the center.

Zero Fare Policy

ZERO FARE

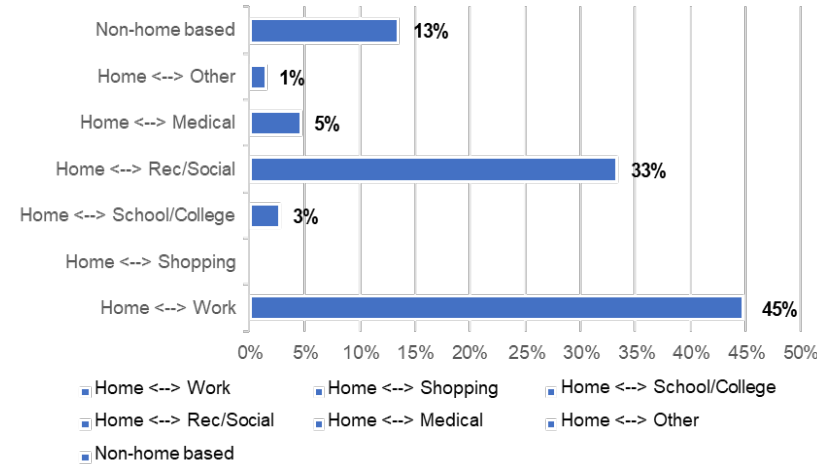
- March 2020 GRTC become Zero Fare as the front door of the vehicles were only accessible to ADA passengers as a safety to operators during the pandemic
 - Net fare revenue (\$6.8M) subsidized with COVID relief dollars
- Ridership during the pandemic did not decrease lower than 22% for local routes and quickly recovered demonstrating that GRTC is an essential service benefiting the lowest income residents
- GRTC was awarded DRPT TRIP grant to support zero fares for an additional three years (FY23 - FY25)
 - Grant matched with funds from VCU and operating dollars
- Sustainability: GRTC developed Transit Access Partnership (TAP) Program (tax-deductible donations to support zero fare) and revamping Advertising Program to support zero fares.



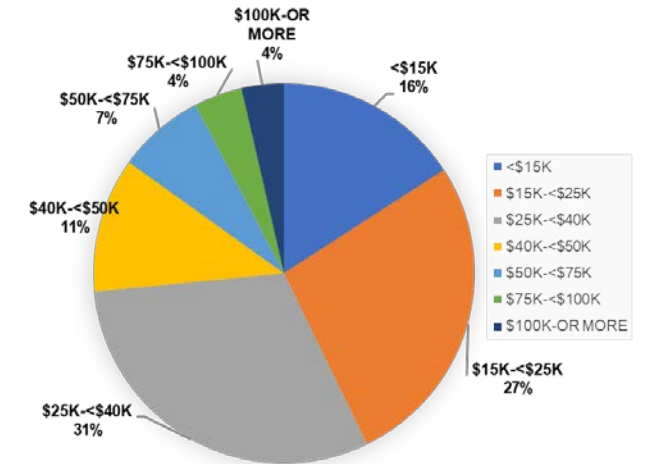
ZERO FARE



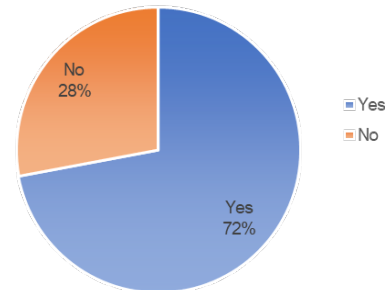
2023 O+D: Reason for Trip



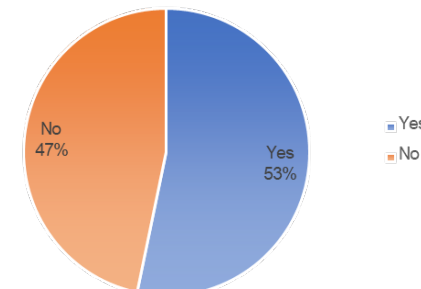
2023 O+D: Household Income



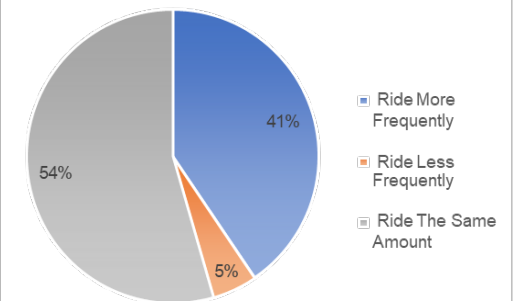
Did You Ride GRTC Before Free Fares Were Implemented In March 2020?



Did Free Fares Impact Your Decision To Start Riding GRTC?



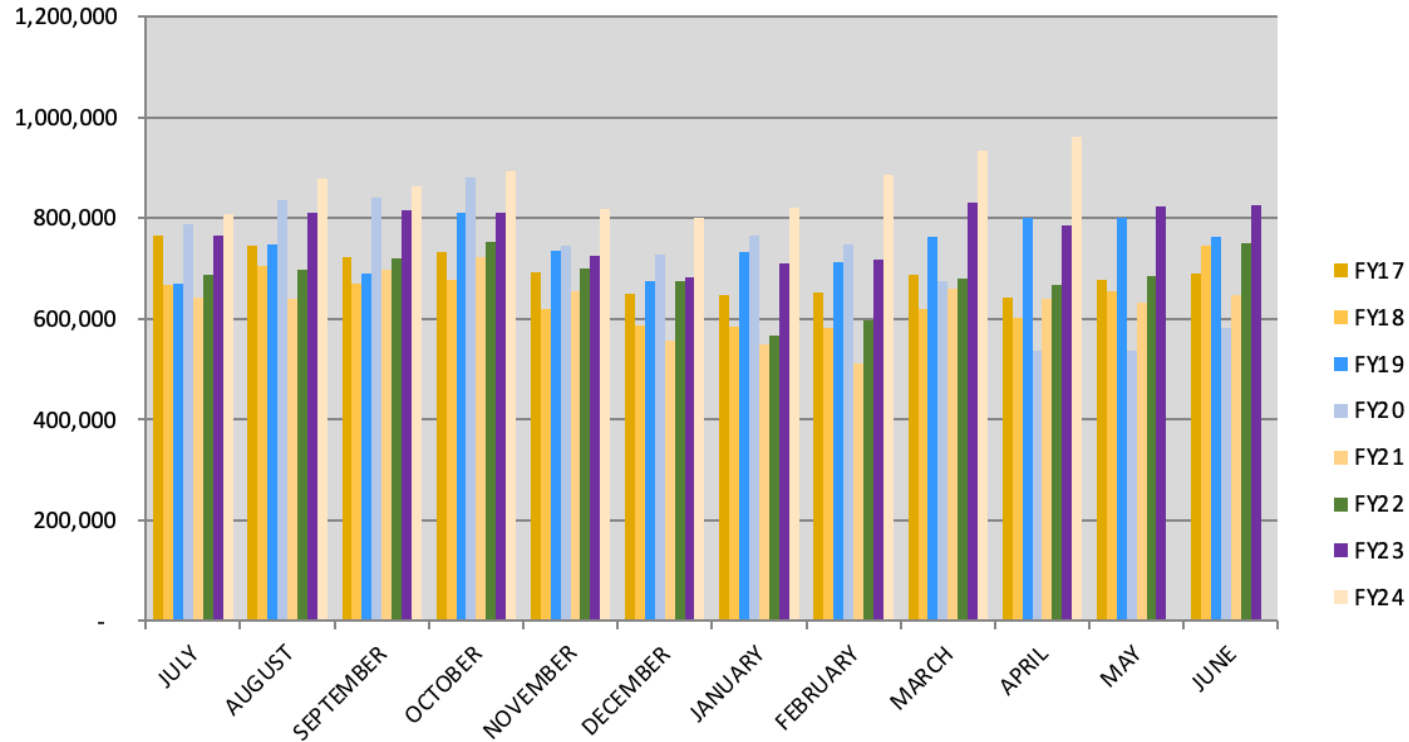
How Did Free Fares Impact How Often You Ride GRTC?



ZERO FARE

Systemwide Ridership Eight Year Comparison

Source: RideCheck Plus APC Data



Ridership Benefits of Zero Fare

- 6th fastest growing Ridership in U.S.
- FY19 - 8,897,828
- FY23 - 9,308,802
 - *full service not yet restored
- FY24 – Over 10M YTD

ZERO FARE

Overall Benefits

- Eliminates burden of transportation fees on lowest income residents
- Investment dollars from transportation riders into local GDP rather than farebox
- Encourages workforce to use the system and signal to business community on investment in the region for workforce accessibility
- Increase in ridership and supporting overall regional accessibility, congestion mitigation, and air quality
- Ridership a factor in state and federal formula funding
- More efficient bus operations
- Decrease operator transactional interaction at the farebox and potential disputes

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CITY OF
RICHMOND

Richmond Connects Lessons on Equitable Engagement

City of Richmond



Context of equity & previous equitable engagement in City of Richmond



Richmond prioritizes the movement of people over the movement of vehicles through a safe, reliable, equitable, and sustainable transportation network.

– Vision for Equitable Transportation from Richmond 300, the city’s Master Plan, adopted in 2020.

The city’s definition of true equity is to “empower people and communities that have experienced past injustices by removing barriers to access and opportunity”

– Equity Agenda, Adopted 2021



Named 10 ‘equity factors’ that describe what transportation should do to address past injustices and remove barriers to access and opportunity” – rva.gov/public-works/pathtoequity



- 1. Neighborhood Dissection***
- 2. Redlining***
- 3. Suburbanization of poverty***
- 4. Urban Renewal***
- 5. Transportation Planning***



Policy Guide
for Richmond
Connects



Improve access to housing, jobs, services, recreation, and education, addressing remaining inequities created by redlining.



Reconnect and revitalize communities to address inequities created by the highway system's dissection of neighborhoods.



Improve neighborhood connectivity and revitalize the fabric of the communities negatively impacted by urban renewal.



Improve access to housing, jobs, services, and education to address the isolation of low-income inner ring suburbs where families are pushed.



Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.



Equitably increase the safety and comfort of cyclists and pedestrians, connecting communities of concern to opportunities



Improve reliability of transit and other non-car services to increase access and remove barriers to opportunities for communities of



Prioritize the needs of socially vulnerable users and address climate and environmental equity as identified in RVAGreen



Prioritize densely populated areas of communities of concern including communities of color, low-income communities, senior and limited mobility populations, families traveling with children, and



Focus on improving climate resiliency for the most impacted communities.

Equitable
Transportation
investments will:



Strategies Used in Richmond Connects & Path to Equity

Equitable Outreach Foundations

OUTreach

Engagement TO the community, not community to us.



Targeted, Accessible

Inclusive

Multiple formats, meeting people where they are, Simplify language and questions



Compensation

Time commitments = money
Paid Ambassadors, Paid community members for focus Groups and advisory committee attendance, Gift Cards for CofC survey participation





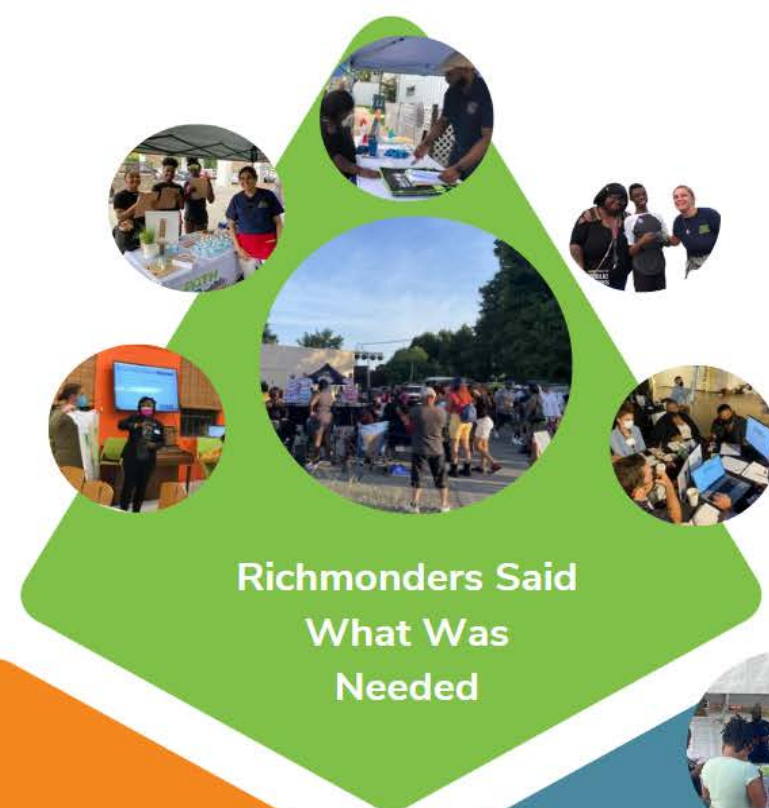
Outcomes in Richmond Connects

- Paper & Online Surveys
- Focus Groups
- Website Updates
- Advisory Committee
- Text-Messages
- Paid Community Ambassadors
- Flyers & E-Blasts
- Gift Card Incentives
- Telephone Town Halls
- Videos & Facebook Lives

20k+ Richmonders Involved

ALL IN Multimedia, multi-prong approach

OVER 75 Community events and pop-ups in targeted locations



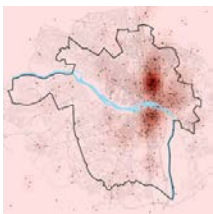
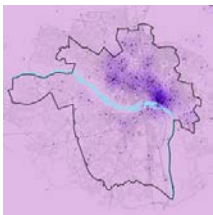
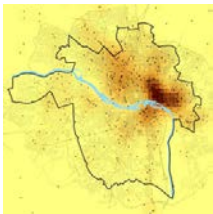
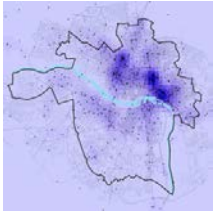
3,390 Previous Path-to-Equity & Richmond300 Surveys Used

1,102 'What is Needed' Surveys

8,591 'Rank the Projects' Surveys

626 In-Person Surveys in Phase 4

17 of 17 Areas Met 1% Population Target or More!!



Trends in barriers included:

- Pedestrian: missing sidewalks, high traffic speeds, and a lack of pedestrian consideration during construction
- Bicycle: absent bicycle lanes and erratic drivers
- Transit: low frequency, circuitous routes, and lack of service to certain areas or at certain times
- Automobile: lack of parking, congestion, and poor road condition
- Access to Services: Grocery stores and entertainment are the services participant listed the most as lacking



Next Steps

- Continue to engage the community in meaningful ways through a Lighter, Quicker, Cheaper program to implement quickly some of the most pressing items the Communities of Opportunity highlighted