

What is Bus Rapid Transit?

Bus Rapid Transit (BRT) is a modern, high quality, high capacity rapid transit system that offers many of the advantages of rail transit but at a lower and more affordable cost. Instead of trains/trolleys and tracks, BRT invests in improvements to vehicles, stations, operations, roadways, rights-of-way, intersections and traffic signals to speed up bus transit service. BRT is not a uniform, turn-key transit technology, but represents a spectrum of service enhancements, which vary from region to region. BRT systems are constructed by choosing and integrating various BRT elements, such as dedicated lanes, signal priority for buses, branded vehicles and enhanced station amenities. The integration of these elements improves system performance and the experience for customers, with the overall goal of making the BRT line accessible, attractive, reliable and, above all, rapid.

What is the big picture, long term vision?

BRT is a new concept in the Richmond region and requires careful consideration and prudent planning. The GRTC Pulse, 7.6 mile line, is the first step to improved and expanded regional transit. To date, there are two studies examining transit in the area—the Greater RVA Transit Vision Plan and the Richmond Transit Network Plan. The Greater RVA Transit Vision Plan, which kicked off in the Fall of 2015, is currently examining the Greater Richmond Region. The Richmond Transit Network Plan (2016) is examining transit service within the City of Richmond and based on public feedback will provide recommendations for the future. The Pulse project is meant to serve as a starting point for regional improvements to the transit system, which can expand in future years to serve other major activity centers in the region. Regional transit advocacy groups are continuing the big picture conversation across jurisdictions.

Where are we now in the GRTC BRT project?

Project Timeline



The project team has completed the Preliminary Engineering Phase (conceptual 30% design) and Semi-Final Design. Construction will last in phases until 2017. GRTC expects to begin construction commitments by September 2016. Between August 2017 and October 2017, BRT operations will be tested and accepted. BRT passenger operations will begin by October 2017.

What role does VDOT play in the project?

VDOT (Virginia Department of Transportation) is the Project Administrator of the GRTC “Pulse” project. They will administer the project on behalf of GRTC and the Project Partners (Virginia Department of Rail and Public Transportation, City of Richmond and County of Henrico). VDOT performed Semi-Final Design from August 2015 to October 2015. VDOT will also manage the Design-Build construction process which includes developing and awarding contracts and ensuring the process is efficient. As one of the Project Partners, VDOT contributes award-winning construction management expertise with both cost-control and risk-mitigation.



What is Design-Build?

Design-Build (DB) is a type of project design and construction process in which a team of contractors (designers and builders) takes the existing design (in this project, the Semi-Final Design) and continues to design a project while simultaneously starting construction on the portion of the project that has been designed to 100%. This process reduces risk when dealing with utilities relocation and work in the right-of-way.

When will construction begin?

The “visible” start date of construction will be outlined and detailed by the successful DB bidder. However, the projected start date for roadway, signal and station construction work is September 2016. The projected end date for all construction is August 2017. GRTC Pulse operational service is projected to begin October 2017.

How will BRT construction affect local businesses?

GRTC expects that the project will be constructed entirely within existing right of way and therefore does not anticipate any acquisition of property. The Design-Builder and any subcontractors will work closely with businesses to both preserve and encourage access to businesses. This will include relevant signage guiding customers both pedestrian and in vehicles to the businesses. The estimated average construction time per station is three to four months. While BRT construction is expected to produce some noise impacts and marginal traffic delays, the impacts are not expected to substantially affect the local economy. Regardless, the City of Richmond is exploring opportunities to stimulate business along the route during construction. Once construction is complete, the BRT can help continue the current renaissance happening now as well as stimulate additional investment along the corridor.

How will the project affect parking?

As of October 13, 2015, the selected design concept will preserve approximately 401 parking spaces on Broad Street between Thompson Street and 4th Street that were initially projected to be lost. These spaces were preserved by working with local businesses and the City of Richmond. All on-street parking will be removed between 4th Street and 14th Street to accommodate curb-running exclusive BRT lanes. Currently, parking is prohibited in this section of the corridor between 4th Street and 14th Street during peak hours (7-9AM and 4-6PM). Parking in the eastern portion of the corridor will only be impacted at the Main Street Station, 24th Street, and Rocketts Landing platform locations. Currently there is no on-street Broad parking west of 195, therefore no change is anticipated.

In the locations where parking/loading spaces will be lost, the project partners are working with City staff from Parking, Planning and Development Review, Public Works, and Economic and Community Development to develop options for mitigating the loss of on-street parking. Additionally, Virginia Commonwealth University is also selecting paid parking spaces that will be open for public use in the Harrison through Pine Streets area of Broad Street.

Parking mitigation options will also consider safety of Pulse operations, road lane widths and median width (for pedestrian refuge), and accommodations of bicycle and pedestrian movements. The goal is to preserve nearly 60% of the on-street parking along Broad Street.



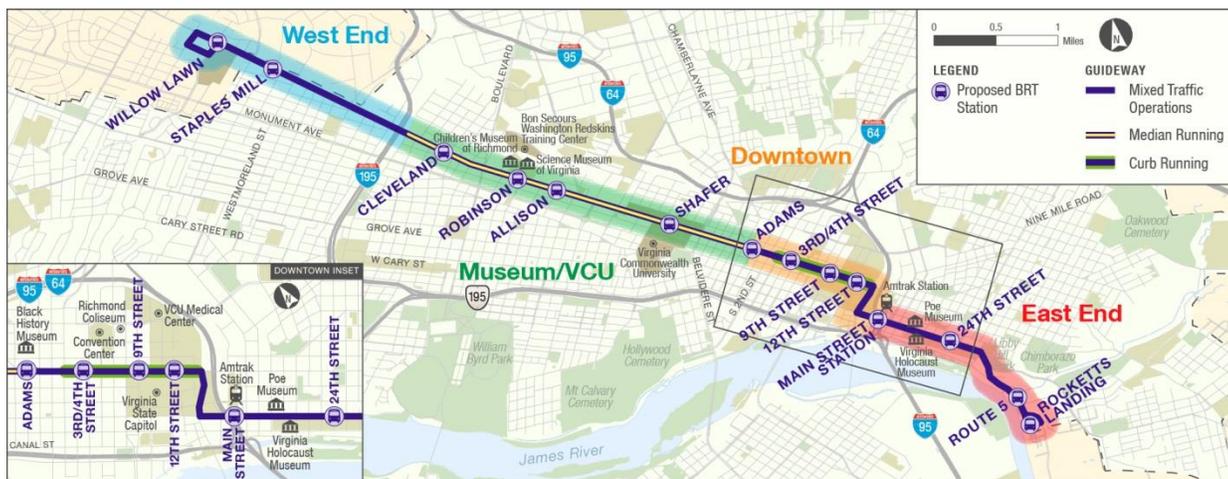
“GRTC Pulse” Bus Rapid Transit (BRT) Frequently Asked Questions (Rev 04/25/2016)

Directional parking signage is also being explored by the City of Richmond as part of their ongoing way-finding signage project. This would assist drivers on Broad Street to see how to access the off-Broad Street parking spaces nearby. There are approximately 1,015 existing on-street parking spaces on the side streets within one block (Grace and Marshall Streets) of Broad Street between Thompson Street and 14th Street. In the same section, there are more than 8,000 off-street parking spaces within one block of Broad Street. Of these spaces, 6,434 comprise short-term and long-term public and private off-street parking facilities. Implementation of BRT will neither change nor affect these off street parking spaces.

Some additional parking (six parking plus three loading zone spaces) is expected to be added to Pine Street south of Broad Street in a future conversion of that street from one-way north to one-way south.

How will the project affect general traffic?

The GRTC Bus Rapid Transit corridor is designed to minimize the traffic impacts to the corridor.



In the east and west ends (blue and red on the map), the bus will travel in general traffic lanes with other motor vehicles, as is the case today. Buses generally stay in the farthest right travel lane. This operation is referred to as mixed flow or mixed traffic operations.

Between Thompson Street and Foushee Street (green on the map), the buses will travel in dedicated lanes in the median. Running the bus in the center of the roadway helps minimize conflicts (i.e., reduces crash rates) with vehicles turning to/from side streets and private entrances, in addition to allowing parallel parking in this dense part of Broad Street. Dedicated lanes are also viewed as a traffic calming tool, allowing vehicles to adhere to the speed limit. Construction of these median bus lanes will reduce the number of general travel lanes from three to two in each direction. Currently, left turns are restricted at a number of intersections along Broad Street to manage traffic flow and delays. Left-turn restrictions will continue and additional restrictions will be evaluated. However, at appropriate intersections, general traffic will be allowed to enter the dedicated left turn lanes to turn, which will increase safety by removing turning vehicles from the general traffic flow.



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After public feedback and City of Richmond traffic engineering review, a westbound left turn will be allowed onto Boulevard, except during the peak periods (7AM-9AM and 4PM-6PM on weekdays). Other previously selected dedicated left-turns are as follows:

In the downtown section of the corridor, from 4th Street to 14th Street (orange on the map), the BRT and local buses will operate in a dedicated lane along the curb. This improved bus lane will function like a shoulder-running bus lane and will reduce conflicts between buses, general traffic and pedestrians, increasing safety for all users. Currently, this lane is restricted to buses and turning vehicles during peak hours (7-9AM and 4-6PM). Implementation of the BRT service will require that this lane will be restricted to buses and turning vehicles at all times. The study team analyzed impacts to general traffic conditions such as increased delay at intersections and the higher volume of vehicles operating in this portion of Downtown near I-95. With both a greater volume of pedestrians making connections between buses in this section and a higher volume of vehicles, it is logistically more efficient and safer to facilitate curb-side bus connections, rather than utilizing median stations here.

Lastly, in the long-term, GRTC BRT will help manage traffic congestion by providing a high-quality, transit service that is competitive with motor vehicles, thereby capturing a higher proportion of commuters and other travelers. This will allow the corridor to incorporate higher densities, provide more housing and jobs, in addition to more activity that will allow the corridor to transition to a more pedestrian-friendly corridor, while maintaining acceptable traffic conditions.

Why is the project needed?

As development has occurred along Broad Street, historically and in recent years, the corridor has become more important as an activity center and economic engine for the region. Over 33,000 people live and over 77,000 jobs are located within a half-mile of the BRT stations. Importantly, GRTC BRT will create economic opportunity in a city with the highest poverty rate in Virginia.

According to the data provided by the RAMPO in the Broad Street Rapid Transit Study (Environmental Assessment), population density will increase from 2008-2035 along the 7.6 mile BRT corridor. The chart below notes the population growth:



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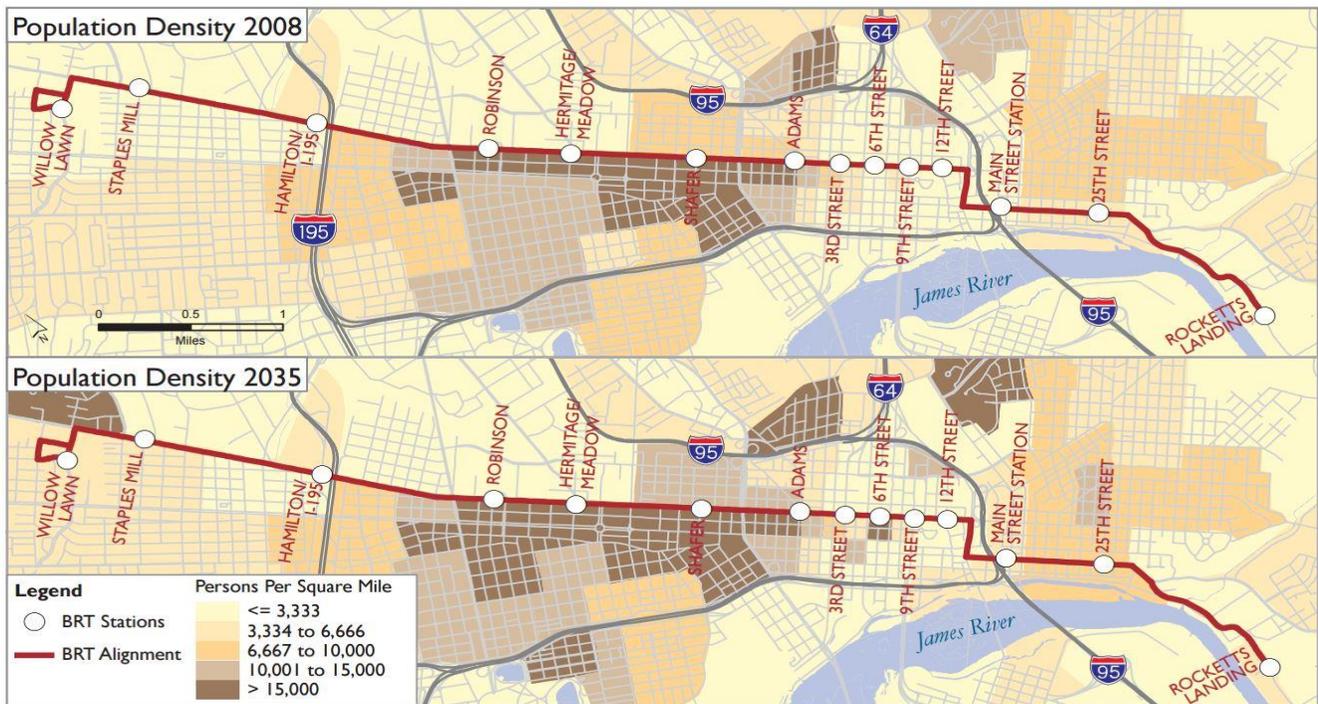


FIGURE 8: POPULATION DENSITY IN 2008 AND 2035

Unfortunately, the circumstance of the Broad Street corridor today does not adequately accommodate the current needs of the region’s residents and workers. To date, the corridor faces many challenges, including:

- Long travel times for local bus riders.
- Service delays due to bunching of buses.
- Substandard bus lane widths.
- Lack of exclusive bus lanes during off-peak times.
- Reduced level of service for motor vehicles and buses.
- Congested regional interstates increasing travel time delay and commute costs for motor vehicles.
- Limited and unreliable local access to employment, retail, educational institutions and health care services for transit-dependent populations.
- Lack of permanent infrastructure investment to support development and redevelopment initiatives that would stimulate the economy of the metropolitan region.

However, simultaneous improvements in local fixed route service with BRT implementation can address these challenges and provide benefits to entire systems residents, commuters, businesses and institutions. As the downtown continues to develop, GRTC’s regional connections will be a critical part of multi-modal transportation. As downtown redevelopment is pedestrian oriented, it will also be a transit supportive.

What are the some of the expected benefits of the GRTC BRT?

- Expand the range of job opportunities for transit- dependent populations by increasing the areas accessible within a reasonable commute time.
- Provide a permanent transit investment in the Broad Street corridor that will encourage economic development and stimulate property values.



“GRTC Pulse” Bus Rapid Transit (BRT) Frequently Asked Questions (Rev 04/25/2016)

- Leverage opportunities for mixed-use, transit-oriented development that will revitalize an economically distressed corridor and improve jobs-housing balance.
- Create additional opportunities to increase system-wide efficiency for GRTC and further improve service on local bus routes.
- Attract new riders by providing a service with travel times that are competitive with motor vehicles or passenger vehicles.
- Increase bus speeds by approximately 65%.
- Improve pedestrian safety at station areas with improved crosswalks and pedestrian refuge areas at station platforms. Also add new pedestrian crosswalks in the corridor.
- Improve the reliability of transit operations on Broad Street by providing a dedicated lane for BRT vehicles from Thompson Street to Foushee Street and by improving the dedicated bus lane between 4th Street and 14th Street.
- Reduce travel time for riders on BRT by approximately 33%.

For more Frequently Asked Questions, please visit our website: <http://www.ridegrtc.com/brt/frequently-asked-questions/>

