Richmond / Crater Region Transportation Overview

Prepared for Richmond’s Future

by

Dennis Morris, Executive Director
Crater Planning District Commission

Robert Crum, Executive Director
Richmond Regional Planning District Commission
Richmond’s Future

Transportation Overview
Richmond/Crater Region

The Richmond/Crater Region is fortunate to have a variety of transportation assets and advantages that have the potential to be leveraged as economic drivers. Perhaps the most significant advantage for our Region from a transportation standpoint is that of geographic location. The Region is located within a day’s drive of two-thirds of the population of the United States. This geographic relationship provides our Region a substantial strategic advantage that can serve as a stimulus for the regional economy. The following paper will provide a brief overview of the partners involved in the regional transportation planning and decision making process, review the Region’s existing transportation assets, and outline regional enhancements that can be made to the transportation system of the Richmond/Crater Region to allow this Region to achieve its economic potential.

Transportation Partners

Transportation planning in the metropolitan areas of the United States is accomplished by regional agencies designated by the federal government pursuant to the Code of Federal Regulations under Title 23, Part 450, called “Metropolitan Planning Organizations” (MPOs). Metropolitan areas are generally defined as densely populated areas with concentrations of over 50,000 persons. Of the 11 metropolitan areas in the Commonwealth, the Richmond area is the third most populated with just over 1.2 million persons. Two MPOs are federally designated in the Richmond metropolitan area. The Richmond Area MPO and Tri-Cities MPO function as forums for cooperative decision-making in support of the metropolitan transportation planning process. After an MPO endorses a metropolitan transportation plan, a transportation improvement program is prepared in order to schedule and finance the implementation of improvement projects contained in the plan.

Federal Partners

Federal partners in metropolitan transportation planning include three modal administrations within the U.S. Department of Transportation.

- **Federal Highway Administration (FHWA)** – Provides support for State and local governments with technical and financial assistance for the design, construction, and maintenance of facilities within the Federal Aid Highway System.

- **Federal Transit Administration (FTA)** – Provides financial and technical assistance to local public transit operators. Public transportation includes buses, subways, light rail, and commuter rail services.
• **Federal Railroad Administration (FRA)** – Provides for the regulation of railroad safety and the development of passenger rail services through the administration of legislative rules, policy statements, and management procedures.

Each of these federal partners is responsible for ensuring state and local grantees comply with applicable federal statutory and administrative requirements.

### State Partners

State partners in the metropolitan transportation planning process include five of the transportation agencies under the Virginia Secretary of Transportation.

- **Department of Transportation (VDOT)** – Provides for the construction, maintenance, and operation of state roads, bridges, and tunnels.
- **Department of Rail & Public Transportation (DRPT)** – Promotes the movement of people and goods in the Commonwealth with funding programs, technical assistance, and advocacy for rail, public transportation, and commuter services.
- **Office of Transportation Public-Private Partnerships (VAPPTA)** – Develops and implements a statewide program for project delivery pursuant to the Public-Private Transportation Act (PPTA) of 1995, involving all modes of transportation.
- **Virginia Port Authority (VPA)** – Promotes domestic and foreign commerce activity of the maritime and inland ports in the Commonwealth by securing improvements for navigable tidal waters and construction projects for state owned and managed terminals.
- **Department of Aviation (VDOA)** – Promotes the development of a safe and secure advanced aviation system that provides for economic development and aviation services in the Commonwealth.

MPO memberships in Virginia include representatives from the **Virginia Department of Transportation (VDOT)** and the **Virginia Department of Rail and Public Transportation (DRPT)**. As key partners in the regional transportation planning process, these state agencies administer federal and state surface transportation revenues by allocating available funding for improvements under state law to highway, mass transit, and passenger rail construction, operations, and maintenance projects over a six-year period. This annual state allocation process is called the Six Year Improvement Program (SYIP). These state transportation agencies are key partners in the metropolitan transportation planning process and are guided by applicable state and federal transportation regulations, state legislation, and by policies developed by members of the Commonwealth Transportation Board, whose members are appointed by the Governor.

### Regional Partners

Regional partners in the **Richmond Area MPO** and the **Tri-Cities MPO** metropolitan transportation planning processes include agencies that implement transportation improvement projects and programs.
• **Greater Richmond Transit Company (GRTC)** – Provides fixed route, demand response, and express transit services in the Richmond Area.

• **Richmond Ridefinders** – A division of GRTC, Richmond Ridefinders is a regional non-profit agency that works to decrease the number of single occupant vehicles in the Central Virginia region.

• **Petersburg Area Transit (PAT)** – Provides fixed route and demand response transit services in the Tri-Cities Area.

• **Richmond Metropolitan Authority (RMA)** – Builds and operates a variety of public facilities and offers public services, including transportation related projects.

Participation by the partnering agencies and by local governments in the metropolitan transportation planning process helps assure that MPOs work as successful forums for cooperative decision-making in the development of regional transportation plans and programs.

**Major Interstate/Road Facilities**

The Richmond/Crater Region is traversed by two major interstate facilities – Interstate 95 and Interstate 64. I-95 is one of the oldest routes of the Interstate Highway System and passes through more states (15) than any other Interstate highway. This facility carries over 130,000 vehicle trips per day in a north/south direction through the Region and connects the Richmond/Crater Region to the Nation’s capital – Washington, DC. I-64 provides east/west access through the Region, intersecting with I-95 in the City of Richmond.

The urbanized area in the City of Richmond and the surrounding counties is bounded by two separate four-lane facilities that serve to provide a beltway around the Region. To the west, Route 288 connects with I-64 west of Short Pump and proceeds in a southward direction connecting with I-95 north of Chester. To the east is I-295, which connects with I-95 to the north of the City of Richmond in Henrico County and proceeds east and south before rejoining with I-95 south of Petersburg. Inside of this circular beltway system, major transportation arterials include Chippenham Parkway (Route 150), Broad Street (Route 250), Hull Street (Route 360), and Midlothian Turnpike (Route 60). In addition, the Richmond Metropolitan Authority (RMA) operates the Powhite Parkway (Route 76) and Downtown Expressway (Route 195).

In the southern portion of the metropolitan region, the City of Petersburg is bisected by I-95. Interstate 85 intersects with I-95, providing an important transportation connection from Petersburg in a southwest direction into North Carolina. Other major transportation arterials in the Tri-Cities area include Route 460, which connects the Tri-Cities area to the Hampton Roads Region and the Port of Virginia, and Route 301.

Relatively speaking, the Richmond/Crater Region maintains a low traffic congestion rate as compared to other metropolitan areas. A recent report entitled “TomTom America’s Traffic
Index” rated the Richmond Metropolitan area as the third least congested metropolitan area in the country. This mobility provides the Richmond/Crater Region with the benefits of a small-town atmosphere in a metropolitan setting and helps contribute to the Region’s attractiveness and quality of life.

**Rail Facilities**

The Richmond/Crater Region is served by three privately owned and operated rail lines. These are the CSX, Norfolk Southern, and Buckingham Branch facilities. The CSX rail line provides access in an east/west direction, generally running parallel to Route 60 and in a north/south direction running parallel to I-95.

Norfolk Southern operates two mainlines through the Region, both in an east/west direction. One Norfolk Southern line enters the Region along the New Kent/Charles City County line and proceeds westward through the City of Richmond and generally follows the James River along the Goochland/Powhatan County jurisdiction boundary. The other Norfolk Southern line runs along Route 460, proceeds through Petersburg, and continues westward along Route 460 through Dinwiddie County. The Buckingham Branch extends from the City of Richmond northward between Route 301 and I-95 and turns westward after crossing I-95. In addition, the ACCA and Collier yards handle significant rail services in the Region, particularly related to freight movement.

**Air Travel**

The primary airport in the Region is Richmond International Airport (RIC), which is owned and operated by the Capital Region Airport Commission (CRAC). The CRAC was established in 1975 by an act of the Virginia General Assembly and works to direct the growth, operation, and business activities of RIC. The Commission is governed by 14 Commissioners appointed by four jurisdictions – the City of Richmond and the Counties of Chesterfield, Hanover, and Henrico.

Since the airport has been operated by the Commission, it has been completely self-sustaining, with revenue for airport operations and maintenance generated from several sources including:

- Terminal building rent
- Cargo ramp fees
- Aircraft landing fees
- Parking
- Ground transportation fees
- Terminal advertising fees
- Concession fees from rental car companies
- Concession fees from food and beverage, news and gift operators
RIC manages about 105,000 landings/take-offs annually, and more than 90 million pounds of cargo move through the airport on an annual basis.

**Port**

The Port of Richmond is located south of the City of Richmond on the James River on Deep Water Terminal Road. This facility is owned by the City of Richmond but is leased to the Virginia Port Authority (VPA).

In 2009, the Richmond Area Metropolitan Planning Organization (MPO) provided seed money to begin a barge service which delivers cargo from the Port of Virginia in Hampton Roads via the James River to the Port of Richmond. This barge service has been continued through the VPA and has been expanded to a three-day per week service (Tuesday, Thursday, and Saturday), with a goal to expand this service to five days per week within the next year.

Following the 2015 expansion of the Panama Canal, the deep shipping channel at the Port of Virginia in Hampton Roads positions this facility to see an increase in freight/cargo. At the Virginia Governor’s Conference on Agricultural Trade, Maria Eugenia Sanchez, with the Panama Canal, indicated “Virginia’s port has the draft and capacity, they are in very good condition.”

As volumes increase at the Port of Virginia, the opportunities to move additional freight via barge to the Port of Richmond will also increase. This freight can be moved to the Port of Richmond via the barge service and warehoused, processed, or distributed from this inland port via truck or rail. As volumes to the Port of Richmond increase, significant job development opportunities could be created around the Port (outside the gate) in the areas of logistics, transportation, and warehousing.

**Public Transportation**

Public transportation services in the Richmond/Crater Regions are provided by two primary transit entities – the GRTC Transit System and Petersburg Area Transit (PAT).

The GRTC Transit System provides transportation services to the City of Richmond and parts of Chesterfield and Henrico Counties. These services include fixed route and express route bus service and specialized services such as CARE, C-VAN, and Ridefinders. There are two major initiatives being advanced by the GRTC Transit System. The Bus Rapid Transit (BRT) project is a high-quality, high-capacity rapid transit system that offers many of the advantages of rail transit but at a more affordable cost.
The BRT would provide this service in the City of Richmond and Henrico County along the Broad/Main Street Corridor from Willow Lawn to Rocketts Landing. This area has the highest passenger boarding on the GRTC bus network. The Virginia Department of Rail and Public Transportation (DRPT), the Greater Richmond Transit Company (GRTC), City of Richmond, and Henrico County are collaborating on a TIGER grant application for funding to construct the Bus Rapid Transit system in this area.

Another important project is the GRTC Temporary Downtown Transfer Plaza. Currently, most of the GRTC system’s bus transfers occur on Broad Street in the City of Richmond, causing congestion and challenges for downtown businesses. To address this issue, GRTC has worked over the past several years to evaluate various sites in Downtown Richmond for a Transfer Center. GRTC continues to work with project partners, the City of Richmond, and community stakeholders to navigate the complexities of site selection for a permanent downtown transfer station.

The logistics of two major bicycle events that will be hosted by the City (2014 USA Cycling Collegiate Road National Championship and the 2015 UCI World Road Cycling Championship) present challenges to maintain transit operations during the events while continuing to seek a permanent transfer center location. To address this need, GRTC opened a Temporary Transfer Plaza located along 9th Street between Marshall and Leigh Streets in downtown Richmond on April 20, 2014. This Temporary Transfer Plaza will:

- Accommodate 90 buses per peak hour
- Serve approximately 5,000 to 8,000 riders per day
- Locate thirteen bus bays curbside along 9th Street and Leigh Street, which will be painted on the surface of the street pavement
- Contain benches, trash receptacles, information kiosks, and bus shelters
The PAT provides fixed route public transportation service for persons living in the Petersburg area to include portions of the City of Colonial Heights, City of Hopewell, and Dinwiddie County. Paratransit service is also available to senior citizens and persons with disabilities living within the city limits or three-quarters mile of the service area.

In 2009, the Greater Richmond Transit Company (GRTC) and the Petersburg Area Transit (PAT) commenced express transit service between the City of Richmond and the City of Petersburg to help accommodate workforce commuters. Over 76,000 commuter trips took place during the first year of service.

Currently, four round trips per day are provided (two in the morning and two in the afternoon). This service is provided five days a week; no weekend service is provided. The current average cost per mile is $7.65 (total cost per year is approximately $460,000).

While funding to support this service has declined during the last two years due to reduced GRTC and PAT revenues, this express transit service between Richmond and Petersburg has major upside implications from reducing air pollution and traffic congestion to providing a cost effective transportation option to a segment of the Richmond Metro workforce.

This transit initiative is supported by the Tri-Cities Area MPO and is a service regional leaders need to be aware of and support as our metropolitan workforce continues to grow.
Richmond/Crater Region Transportation Projects/Needs

The purpose of this report is to identify high level regional transportation projects that are needed to sustain economic growth in the Richmond/Crater Region. The Richmond Area and Tri-Cities MPOs, the federally designated entities charged with coordinating regional transportation planning and decision making in the metropolitan area, have identified regional transportation priorities for the Region. In addition, the Capital Region Collaborative (CRC), which is a cooperative effort between government and business leaders to strengthen the quality of life in the Richmond Region, has proposed a list of recommendations to complement the efforts of the MPO. A brief description of these regional transportation needs is provided below.

**Richmond Region Priority Projects**

The Richmond Area Metropolitan Planning Organization (RAMPO) has identified a list of Regional Transportation Priority Projects that has been endorsed by the RAMPO Board.

1. Preservation of funding for “fully funded” priority projects
   - Transform Main Street Station into a multi-modal transportation hub
   - Route 360 East, Hanover County
   - Route 250, Goochland County
   - I-64 widening, Goochland County
   - Virginia Capital Trail
2. Intercity Passenger Rail Improvements from Richmond’s Main Street Station to Washington, DC
3. Route 10, Chesterfield County
4. Parham/Patterson Urban Intersection, Henrico County
5. I-95/Lewistown Road Phased Interchange Improvements, Hanover County
6. Higher Speed and Passenger Rail Improvements: Richmond Main Street Station to Hampton Roads
7. I-64 Improvements/Widening: Richmond to Hampton Roads

**Unranked Priority Projects**

- Broad Street Rapid Transit
- GRTC Downtown Transfer Center
- Main Street Station: Extend Platforms
- Huguenot Trail (Route 711), Powhatan County
- Forest Hill Avenue, City of Richmond
- Jahnke Road, City of Richmond
In addition, the Capital Region Collaborative has identified additional transportation strategies to supplement the work of the Richmond Area MPO. A synopsis of these recommendations is provided below:

- Develop “bus bridge” connections between Main Street Station and the Staples Mill Amtrak Station and Main Street Station and Richmond International Airport, connecting three of the Richmond Region’s transportation hubs
- Provide a Downtown Circulator within the City of Richmond
- Begin to develop the logistics brand by installing a “Port RVA” sign along I-95
- Provide enhanced rail access to the Port of Richmond and provide supportive infrastructure around the Port of Richmond to capitalize on the economic potential of the Port
- Support the “Save Low Fares” Air Travel Campaign
- Build a Downtown Transfer Center to support GRTC
- Implement the Bus Rapid Transit System
- Plan phased expansion of the Region’s transit system to service areas with appropriate residential and employment densities

**Tri-Cities MPO Priority Projects**

- **U.S. Route 460**
  
  The improvement of U.S. Route 460 from I-295 in Prince George County to Route 58 in the City of Suffolk offers several travel benefits for both the Richmond / Crater and Hampton Roads Regions.
  
  - The construction of a new four-lane divided highway will improve travel safety and efficiency along this statewide corridor of significance. The many traffic signals, numerous access points, and speed limit variations along the existing corridor impede mobility and reduce prospects for future economic growth along the 55-mile corridor.
  - The new roadway will offer greater capacity to accommodate the future growth in freight traffic in the U.S. Route 460 corridor resulting from anticipated growth of the Port of Virginia related to the Panama Canal expansion.
  - The new roadway will add a reliable route with expanded hurricane-evacuation capacity for the Hampton Roads Region.
  - The new facility would facilitate the movement of military personnel and vehicles between installations located in Richmond/Crater and Hampton Roads regions.

- **I-95/I-85/Rt. 460 Interchange**

  The I-95 and Route 460 corridors of statewide significance connect in the Tri-Cities portion of the Richmond/Crater Region with I-85. The I-95/I-85/Route 460 interchange was constructed during the mid-1950s as part of the Richmond Petersburg Turnpike. This facility pre-dates established federal interstate standards. A 2013 VDOT roadway
safety assessment of this interchange corridor identified several safety and design deficiencies involving the movement of people and freight, including the following:

- Eight of the nine bridge structures are vertically deficient and do not meet the minimum clearance requirement of 16.5 feet
- Several acceleration/deceleration lanes need to be extended to meet American Association of Highway and Transportation Officials (AASTO) standards
- The need for other corridor-wide safety improvements involving installation of additional rumble strips, median barrier reflectors, and lighting

During the September 23, 2013 public meeting conducted by the Tri-Cities Metropolitan Planning Organization, area citizens expressed concerns and questions regarding the level of current public transportation services offered. Comments and questions included the following:

- Unmet transportation needs for the elderly, especially those seeking health care services in rural communities
- Little or no rural transportation service in the region
- Citizen opposition was noted to a recent proposal to reduce fixed-route transit services currently provided by Petersburg Area Transit
- Concerns were voiced regarding reduction in number of weekday trips from downtown Richmond to downtown Petersburg offered by the GRTC Transit System
- Lack of bicycle lanes and more pedestrian friendly features in the Ettrick Village Area
- Concern was expressed about the new U.S. Route 460 design
- How can churches and other non-profit organizations assist in the provision of transportation services?
- Can higher-speed rail service increase economic development in the region?
• Mobility Manager Program

The Tri-Cities Area needs to explore alternatives for the provision of mobility manager services. Mobility management involves the development of a strategic approach to transportation and customer service by working with public and private agencies to organize a network of available transportation services and to provide this information to customers. The primary benefit of a mobility manager is that the customer can go to one information source and learn about mobility options, trip prices, and receive help in determining the best travel options.
Summary

The Richmond/Crater Region has the potential to leverage its geographic location and transportation access as a key driver for the Region’s economy. The mobility of this metropolitan region ranks very well when compared to other metropolitan areas nationally, and the Region’s location within a day’s drive of two-thirds of the U.S. population is a strategic advantage not enjoyed by other regions.

However, a series of major transportation investments will be needed to allow the Region to leverage perhaps its greatest economic advantage – the geographic relationship to adjacent metropolitan centers such as Washington, DC, Hampton Roads, Raleigh/Durham, and the urban crescent. The need for improvements to enhance transportation connectivity to these adjacent metropolitan areas is evident by the projects identified by both the Richmond Area and Tri-Cities MPOs.

Interstate 95 is experiencing high levels of congestion which impacts the Richmond/Crater Region’s accessibility to our Nation’s Capital and the urban crescent to the north. Clearly, improvements must be made in the I-95 corridor to address the increased traffic volumes present in this corridor. In addition to highway facility upgrades to increase capacity, other techniques, such as enhanced and more efficient passenger rail service between Richmond and Washington, DC, must be pursued to improve this important commerce connection.

The same challenges exist in the I-64 and Route 460 corridors from the Richmond/Crater Region east to Hampton Roads. Traffic congestion reaches very high levels on I-64 east, creating traffic bottlenecks which seriously impact mobility in this corridor. The continued growth of the Port of Virginia will generate increased freight movement from the Hampton Roads area to the Richmond/Crater Region. Transportation upgrades, including roadway and rail enhancements, passenger rail, and barge service will be needed to facilitate the movement of people and goods between these metropolitan areas. In addition, rail and roadway enhancements must continue to be programmed within and adjacent to the Richmond/Crater Regions to allow this area to fully capitalize on its potential as a logistics center.

Likewise, the connectivity of the Richmond/Crater Region to the Research Triangle in the Raleigh/Durham area is key to our regional economy. Improvements such as the I-95/I-85/Route 460 interchange will be key to this connectivity.

The transportation network of the Richmond/Crater Region provides a competitive advantage for our Region’s economy by providing residents’ ease of mobility for a metropolitan area of our size. From a regional economic development standpoint, we must ensure mobility for residents within our Region, and also connectivity to adjacent metropolitan areas and transportation and commerce hubs to fuel our regional economy. The Region’s geographic location at the...
intersection of I-95, I-64, I-85, and Route 460 provides our Region’s economy a strategic advantage that can be leveraged with forward thinking investments in our transportation infrastructure network.
Panama Canal vs. Suez Canal

Via Panama Canal
Distance: 11,021 nautical miles

Via Suez Canal
Distance: 11,705 nautical miles
The Port of Virginia is within a day’s drive of two-thirds of the U.S. population
MeadWestvaco . Universal Leaf . Altria . Reynolds
Evergreen Enterprises . Alfa Laval . Red River Foods
Virginia Maruchan . Carpenter Company .