
## Virginia's Long-Range Multimodal Transportation Plan

# Corridors of Statewide Significance: East-West Corridor

**Prepared for:**
**Commonwealth Transportation Board**

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**March 2010**

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# 1

# Corridor Overview

## 1.1 Transportation Facilities

The East-West Corridor is primarily defined by I- 64, a multi-lane interstate that runs from Virginia to Missouri. The western terminus is near St. Louis, MO, although the roadway is under construction to connect with I-70 west of this location. The eastern terminus is in the Hampton Roads region, where the corridor includes the Hampton Roads Beltway (I-64 and I-664) as well as the I-264 spur to Virginia Beach. I-64 runs through southern Illinois, southern Indiana, Kentucky, and West Virginia between Missouri and Virginia. Figure 1 shows the entire East-West Corridor.

In Virginia, I-64 runs for approximately 300 miles with the western terminus at the West Virginia State Line, west of Covington, Virginia. The East-West Corridor passes through Lexington, Staunton, Charlottesville, and Richmond before entering the Hampton Roads area. Between Lexington and Staunton, I-64 overlaps with I- 81. Figure 2 shows the corridor throughout Virginia and includes all modal facilities.

High-Occupancy Vehicle (HOV) facilities are present in the Hampton Roads area along portions of I-64 and I-264. In addition, the Port of Virginia is located in the Hampton Roads. There are multiple airports within the corridor including four with commercial service. CSX operates rail lines along the length of the corridor, which are used for both freight and passenger rail. Figure 3 shows a more detailed view of the more populated, eastern part of the corridor.

I-64 serves multiple purposes depending on its location in Virginia. It is mostly a rural highway west of Charlottesville as it runs over mountainous terrain. Between Charlottesville and Richmond, it acts as the major corridor connecting the two metropolitan areas. In the Richmond area, it acts as one of the major commuter corridors as it overlaps with I-95 through the heart of the city. It is also the major connector between the Richmond metropolitan area and the Hampton Roads metropolitan area, where it acts, along with its auxiliary roadways (I-264, I-464, I-564, and I-664), as the primary route to the Hampton Roads region. It also provides the only interstate access to the Port of Virginia, which includes three separate ports. I-64 serves as the only east-west running interstate in Virginia, connecting to the important I-81 freight corridor.

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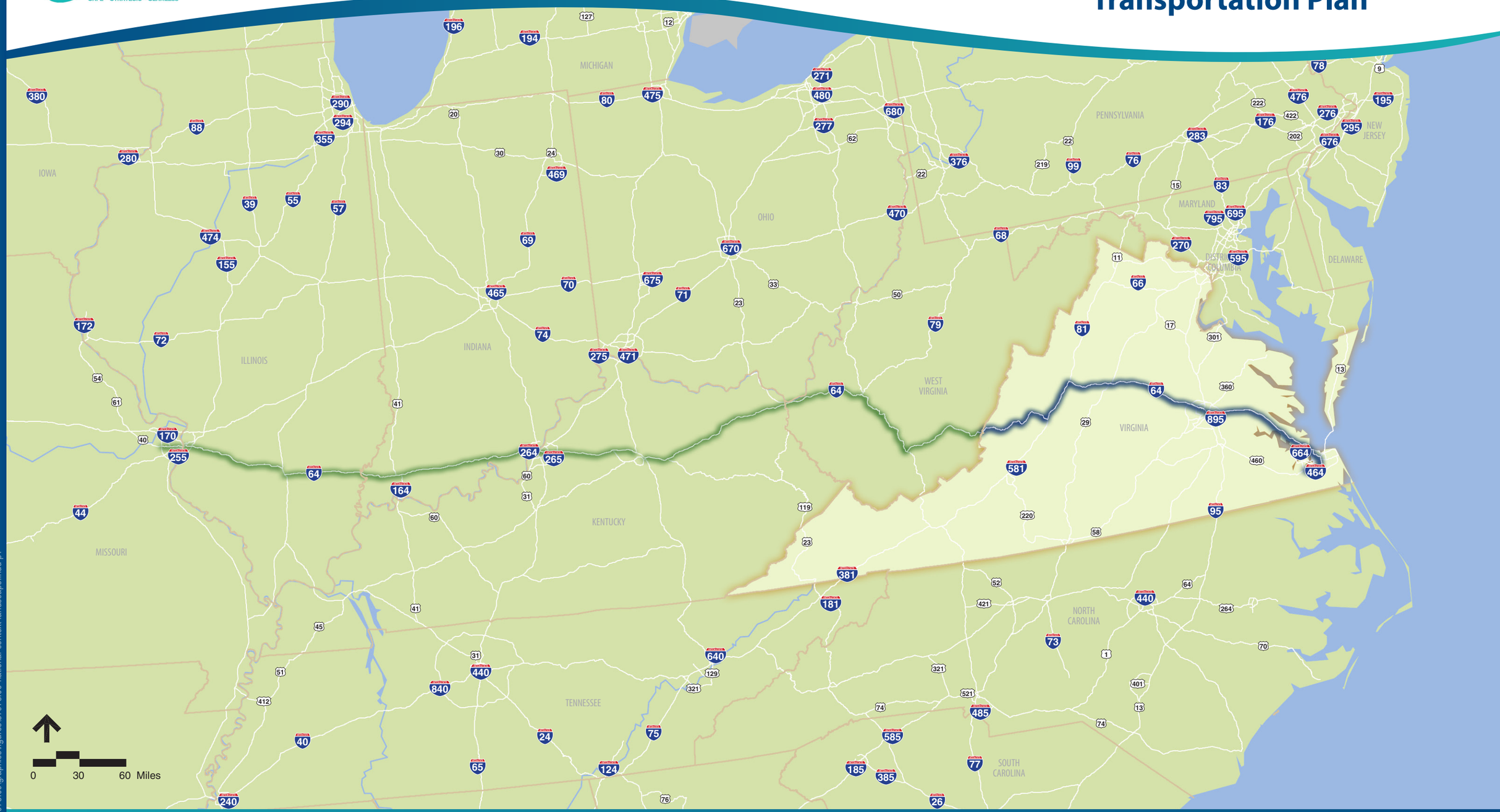


FIGURE 1
**East-West Corridor National Context Map**

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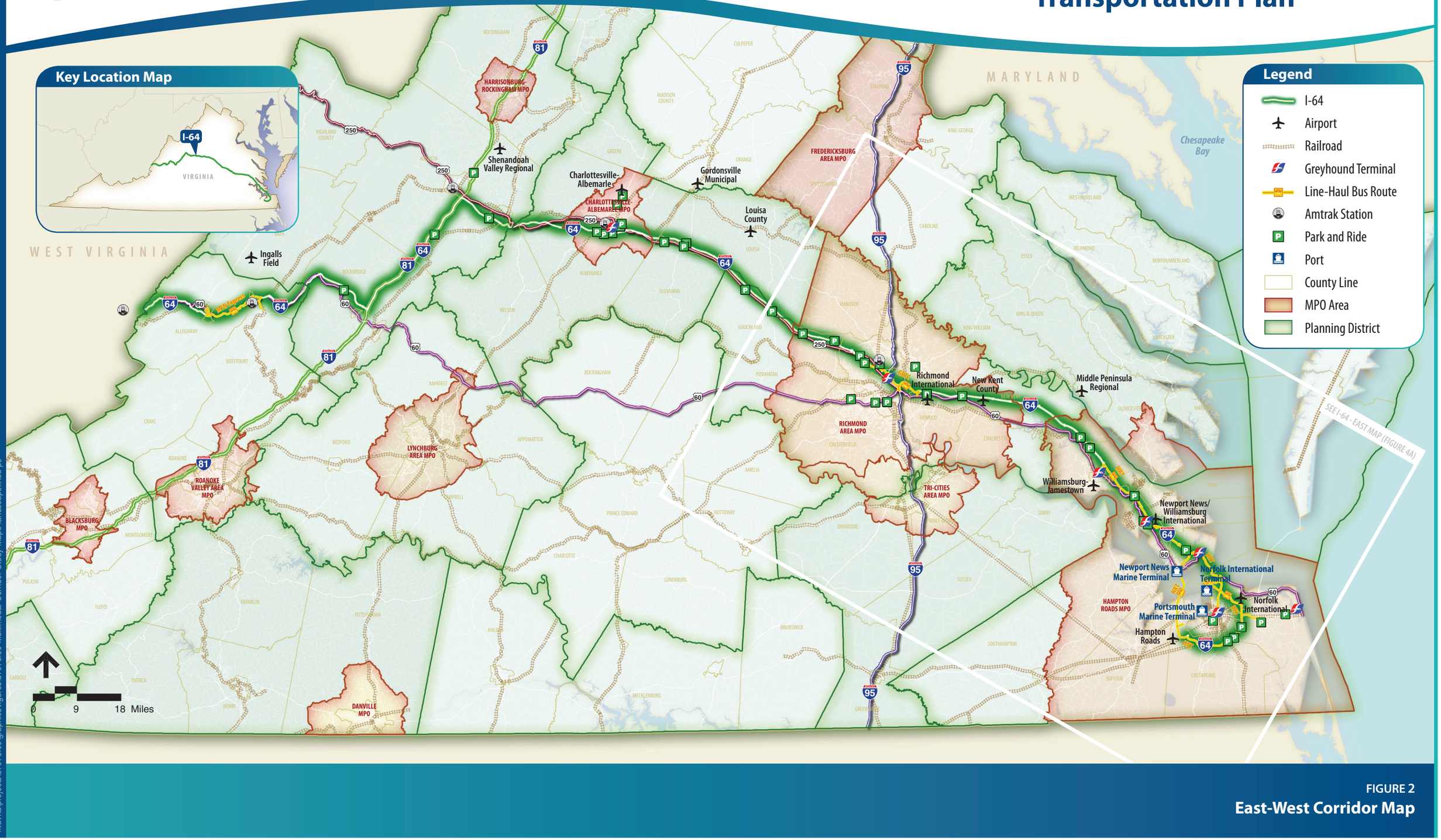


FIGURE 2
**East-West Corridor Map**

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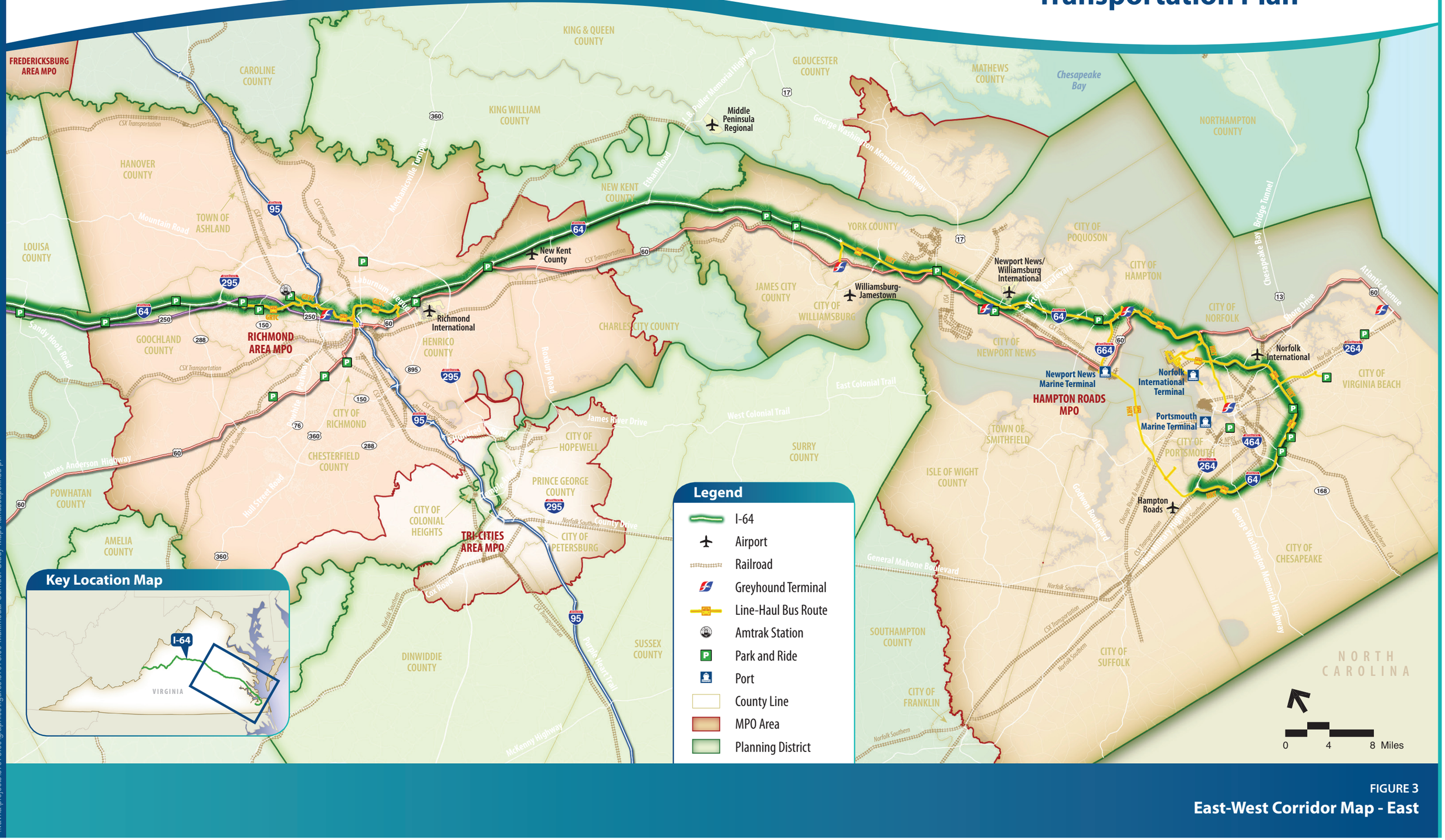



FIGURE 3
**East-West Corridor Map - East**

The East-West Corridor serves as a major route for freight, and I-64 is the only interstate that accesses the Hampton Roads area. The corridor also provides access from the rest of the state to the military facilities located in that area. In addition, all lanes, including HOV lanes, are reversible in the event of an emergency evacuation.

**East-West Corridor Jurisdictions**

- Allegheny County
- City of Covington
- Rockbridge County
- Augusta County
- City of Waynesboro
- Nelson County
- Albemarle County
- City of Charlottesville
- Fluvanna County
- Louisa County
- Goochland County
- Henrico County
- City of Richmond
- New Kent County
- James City County
- York County
- City of Newport News
- City of Hampton
- City of Norfolk
- City of Virginia Beach
- City of Chesapeake

Within the urbanized areas, such as Richmond, Hampton Roads, and Charlottesville, I-64 serves as a major commuter route. In addition, the East-West Corridor provides access to educational facilities, such as the University of Virginia, the College of William & Mary, and multiple institutions in the Richmond and Hampton Roads regions. I-64 provides an important route over the mountains in western Virginia, and is an important rail corridor, including both freight and passenger rail. The presence of CSX rail lines increases its importance as a major freight corridor, as it provides access to numerous warehousing and distribution operations along its length. In addition, I-64 connects to the important I-81 and I-95 freight corridors.

I- 64 runs through five Planning Districts and three Metropolitan Planning Organizations (MPOs). The five Planning Districts from west to east are the Roanoke Valley-Alleghany Planning District, the Central Shenandoah Planning District, the Thomas Jefferson Planning District, the Richmond Regional Planning District, and the Hampton Roads Planning District. The three MPOs include Charlottesville-Albemarle, Richmond, and Hampton Roads.

There are a number of parallel roadways that are part of the East-West Corridor, including U.S. 250 and U.S. 60. U.S. 250 acts as the major local access roadway between Staunton and Richmond. It follows I- 64 very closely throughout and provides local access to various communities, including the City of Charlottesville. In Charlottesville, there is a U.S. 250 bypass, which runs concurrent with the U.S. 29 bypass for approximately two miles. U.S. 250 Business accesses the City of Charlottesville. At Staunton, I-64 links with I-81 and travels concurrently to the south, while U.S. 250 continues to the west through Augusta County and Highland County and into West Virginia.

I- 81, which runs north-to-south through western Virginia, runs concurrently with I-64 between Augusta County and Rockbridge County for approximately 30 miles. Within the City of Richmond, I-64 runs concurrently with I-95 for approximately four miles. The I-81 and I-95 corridors have also been defined as Corridors of Statewide Significance. In addition, Virginia Route 33 runs concurrently with I-64 through New Kent County, and Virginia Route 134 and U.S. 17 run concurrently with I-64 for small stretches within the Hampton Roads region.

U.S. 60 runs concurrently with I-64 within the Cities of Hampton and Norfolk and between Allegheny County and Rockbridge County in the western part of the state. U.S. 220 runs concurrently with I-64 for approximately 12 miles between Clifton Forge and Covington in Allegheny County, and U.S. 60 overlaps for part of this stretch as well. U.S. 60 diverges for a few miles west of Covington before meeting up with I-64 again and traveling into West Virginia.

For the concurrent stretch with I- 81, running between Staunton and Lexington, U.S. 11 acts as the main parallel roadway, providing local access. West of Lexington, U.S. 60 is the main parallel highway facility and local access road for the East-West Corridor. In addition, U.S. 60 runs along the East-West Corridor east of Richmond and into Hampton Roads. U.S. 60 also runs concurrently with I-64 to cross the Hampton Roads Bridge Tunnel before it provides access to the north shore of Norfolk and Virginia Beach and before providing the main north-south roadway through Virginia Beach along the coast.

**I-64 Auxiliary, Concurrent and Parallel Roadway Facilities**

Parallel:
- U.S. 250
- U.S. 60
- U.S. 11

Concurrent:
- I- 81
- I- 95
- Virginia Route 33
- Virginia Route 134
- U.S. 17
- U.S. 220

Auxiliary:
- I- 664
- I- 564
- I- 264
- I- 464

There are a number of line-haul transit routes that provide service along the East-West Corridor. The Alleghany Highlands Mountain Express is a deviated fixed-route service that connects Iron Gate, Clifton Forge, and Covington. The route runs portions of U.S. 220, U.S. 60, and I-64 as it runs between these towns. The service is provided by RADAR, a non-profit agency that provides rural and specialized transportation options to the Roanoke Valley and surrounding areas.

Through the metropolitan Richmond region, the East-West Corridor has commuter bus service provided by the Greater Richmond Transit Compnay (GRTC). GRTC operates a number of peak-hour commuter routes that travel the corridor, connecting residents of Henrico County to Downtown Richmond. These GRTC Express routes are operated Monday through Friday and typically originate at park and ride lots and connect to the GRTC transit system in Downtown Richmond. The local service provides extensive service throughout the City of Richmond and provides limited service within Henrico County and portions of Chesterfield County. GRTC local service also provides connections to other transportation options, such as Richmond International Airport and Amtrak from the Main Street Station location.

**Corridor Transit Facilities**
- Alleghany Highlands Mountain Express
- GRTC Transit System
- Hampton Roads Transit (HRT)
- Metro Area Express (MAX)
- High Occupancy Vehicle (HOV) Lanes
- Greyhound

Line-haul transit service can also be found in Hampton Roads. Hampton Roads Transit (HRT) provides a number of commuter routes, called the Metro Area Express (MAX). These routes travel portions of the East-West Corridor as they provide connections between Newport News, Hampton,

Norfolk, Virginia Beach, Chesapeake, and Portsmouth. Some routes provide service seven days a week, while others only provide Monday through Friday service. In addition, one route travels the East-West Corridor connecting Newport News with Williamsburg. This route provides Monday through Friday service during peak travel times and connects the HRT local bus system with Williamsburg's public transit system. The MAX routes provide connections to the larger HRT system, which provides local bus service to the above jurisdictions. HRT offers connections to other transportation options, such as Amtrak and air travel via the Newport News/Williamsburg International Airport.

There are four Greyhound Stations in the Hampton Roads area, with one each in Norfolk, Suffolk, Hampton, and Virginia Beach. In addition, there is one in Williamsburg, one in Richmond, and one in Charlottesville, providing bus service to the rest of the state and beyond. Numerous park and ride facilities exist throughout the East-West Corridor, including along the western portion, and there are multiple facilities in Charlottesville, in Richmond, and between the two cities.

Offering another modal option, there are multiple HOV facilities in and around the Hampton Roads area on I-64 and I-264. Along I-64, there are separated HOV-2 (2 or more people) reversible lanes between Norfolk and Chesapeake. These lanes are HOV-2 only from 6:00am to 8:00am on weekdays and allow all westbound traffic from 1:00am to 6:00am and from 8:00am to 11:00am. They are also open to all westbound traffic from 1:00pm Sunday afternoon to 6:00am Monday morning. These lanes run for eastbound HOV-2 traffic only from 4:00pm to 6:00pm on weekdays and allow all eastbound traffic from 1:00pm to 4:00pm and from 6:00pm to 11:00pm. They are also open to all eastbound traffic from 6:00pm Friday evening to 11:00am on Sunday morning. Along I-264, the left-most lane in each direction is designated as HOV-2 only during the hours of 6:00am to 8:00am for the westbound direction and from 4:00pm to 6:00pm for the eastbound direction. During these HOV times, the right shoulder is available as an additional lane for all traffic.

I-64 provides access to the Port of Virginia, which includes three separate major port facilities in the Hampton Roads area. I-64 provides the only interstate access to these major ports and is a major corridor for moving freight in and out of the Port of Virginia. I-64 provides direct access to other major east coast freight corridors, including I-95 and I-81, which together handle well over half of the total interstate truck traffic in Virginia. In addition, the Port of Richmond is located on the James River along the I-95 corridor, south of I-64 in the City of Richmond. I-64 also provides access to the James River Navigational Channels and the York River Navigational Channels for moving freight further inland via barge.

CSX rail lines run along the East-West Corridor rail lines near the Hampton Roads area. The CSX Coal Corridor runs along I-64 between Hampton Roads and Charlottesville before traveling south toward Lynchburg. It parallels I-64 again west of Clifton Forge into West Virginia and the coalfields there. Norfolk Southern's Heartland Corridor lines mostly run south of I-64 along the U.S. 460 corridor, and Norfolk Southern's Coal Corridor originates in this area as well. CSX's lines also cross their National Gateway Corridor, running along I-95, and both lines of Norfolk Southern's Crescent Corridor, running along both the U.S. 29 and I-81 corridors.

In addition, there are two short-line railroads that run along the East-West Corridor for short distances in the Hampton Roads region. The Commonwealth Railway operates a short section of track between Suffolk and Portsmouth, and the Norfolk and Portsmouth Belt Line operates along both CSX and Norfolk Southern tracks for approximately 36 miles around the Hampton Roads area.

The CSX Coal Corridor tracks are used for the Amtrak Cardinal Route running between New York City and Chicago. There are Amtrak stations located in Clifton Forge in Allegheny County, Staunton, Charlottesville, and Richmond. There are three stations in the Hampton Roads area, in Norfolk, Newport News, and Virginia Beach. There are bus connections from Hampton Roads to Newport News to access the Newport News station as well. Amtrak's Northeast Corridor, which connects Newport News to Boston is available along the East-West Corridor, and connections to other lines can be made in Richmond, such as to the Carolinian Line, which connects Charlotte to New York; the Silver Star Route, running from Miami and Tampa to New York; the Palmetto Route, running from Savannah to New York; and the Silver Meteor Route, running from Miami to New York. In Charlottesville, the Crescent Route, which runs from New Orleans to New York and runs along the Route 29 corridor throughout Virginia can also be accessed in Charlottesville.

### Corridor Rail and Port Facilities

Ports:
- Norfolk International Terminals
- Newport News Marine Terminal
- Portsmouth Maine Terminal
- Port of Richmond
- James River Navigational Channels
- York River Navigational Channels

Freight Rail:
- CSX Coal Corridor
- Norfolk Southern Heartland Corridor
- Norfolk Southern Coal Corridor

Short Line:
- Commonwealth Railway
- Norfolk and Portsmouth Belt Line

Passenger Rail:
- Amtrak Cardinal Route

Connections to:
- Norfolk Southern Crescent Corridor
- CSX National Gateway Corridor
- Amtrak

There are numerous airport facilities with commercial service in the East-West Corridor. Both the Norfolk International Airport and the Newport News/Williamsburg Airport are served by I-64 in the Hampton Roads area, and the Hampton Roads Executive Airport and Chesapeake Regional Airport serve as reliever airports. I-64 also provides access to the Charlottesville-Albemarle Airport, located a few miles north of the interstate along U.S. 29 and to the Shenandoah Valley Regional Airport, located a few miles north of I-75 along I-81 near Staunton. In addition, I-64 provides direct access to Richmond International Airport.

In addition to these commercial airports, there are numerous other general aviation facilities along the East-West Corridor. Table 1 details the locations and designations of these airports, according to the Virginia Air Transportation System Plan.

Table 1 Corridor Airport Facilities

| Airport | Type | Location |
|---|---|---|
| Norfolk International | Commercial Service | City of Norfolk |
| Newport News/Williamsburg | Commercial Service | City of Newport News |
| Richmond International | Commercial Service | Henrico County |
| Charlottesville-Albemarle | Commercial Service | Albemarle County |
| Hampton Roads Executive | Reliever | City of Chesapeake |
| Chesapeake Regional | Reliever | City of Chesapeake |
| Williamsburg-Jamestown | General Aviation – Community | James City County |
| New Kent County | General Aviation – Community | New Kent County |
| Middle Peninsula | General Aviation – Regional | King and Queen County |
| Louisa County | General Aviation – Community | Louisa County |
| Gordonsville Municipal | Local Service | Orange County |
| Waynesboro | Local Service | Augusta County |
| Ingalls Field | General Aviation – Regional | Bath County |

# 2

# Corridor Functions

## 2.1 Corridor Functions in Virginia

There are numerous functions of the East-West Corridor in Virginia. First, it is a major freight corridor, as it is the only interstate that runs from east-to-west, and there are numerous freight rail lines along the corridor. In addition, it provides the only interstate access to the Port of Virginia's facilities in the Hampton Roads region.

**Corridor Functions**

- Freight Corridor
- Passenger link between urban areas
- Access to mountains, points west
- Evacuation route
- Military access
- Education
- Tourism

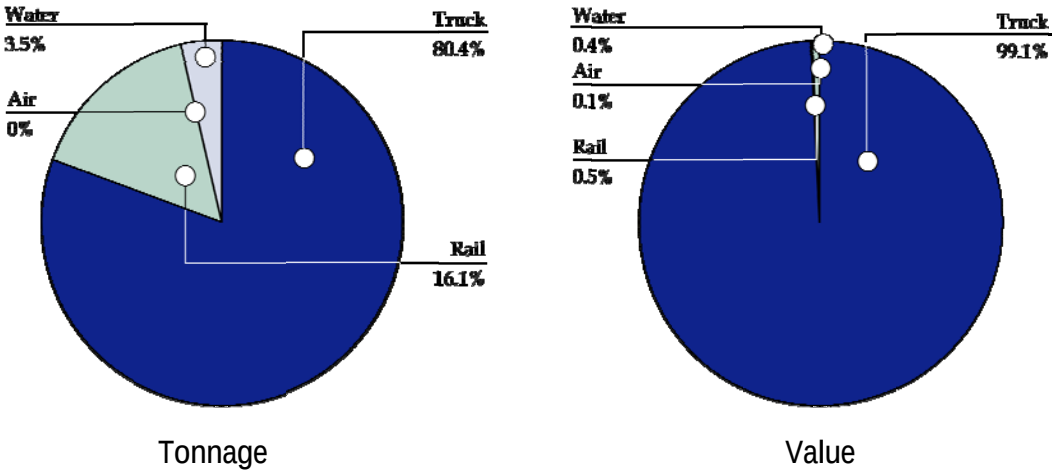
The corridor provides a link between Hampton Roads, Richmond, Charlottesville, Staunton and West Virginia, in addition to the important north-south I-95 and I-81 corridors. It is also an important evacuation corridor from the Hampton Roads region to the west. The corridor provides access to multiple military facilities, especially in the Hampton Roads region, though there are some in the Richmond region as well. The corridor accesses numerous educational institutions, such as the University of Virginia and Virginia Commonwealth University, and serves as a primary tourist and recreational route.

## 2.2 Freight Movement

The East-West Corridor is an important freight corridor, with most freight movement accomplished via trucking along the highway, though other options exist, including rail and water. Trucking accounts for 80 percent of the freight tonnage movement along the corridor. Freight rail accounts for 16 percent of the total freight movement, which is mostly along CSX rail lines, including their Coal Corridor. In addition, Norfolk Southern runs their Coal Corridor along the corridor as well. I-64 connects to the Port of Virginia in the Hampton Roads region and is the only east-to-west interstate in Virginia, so it plays an important role in freight movement from the Port to both Virginia and national markets to the west. Figure 4 shows the tonnage by

mode along the East-West Corridor as well as the freight value by mode. There is a negligible amount of freight moved by air relative to the other modes.

Figure 4 Total Freight Tonnage and Value by Mode

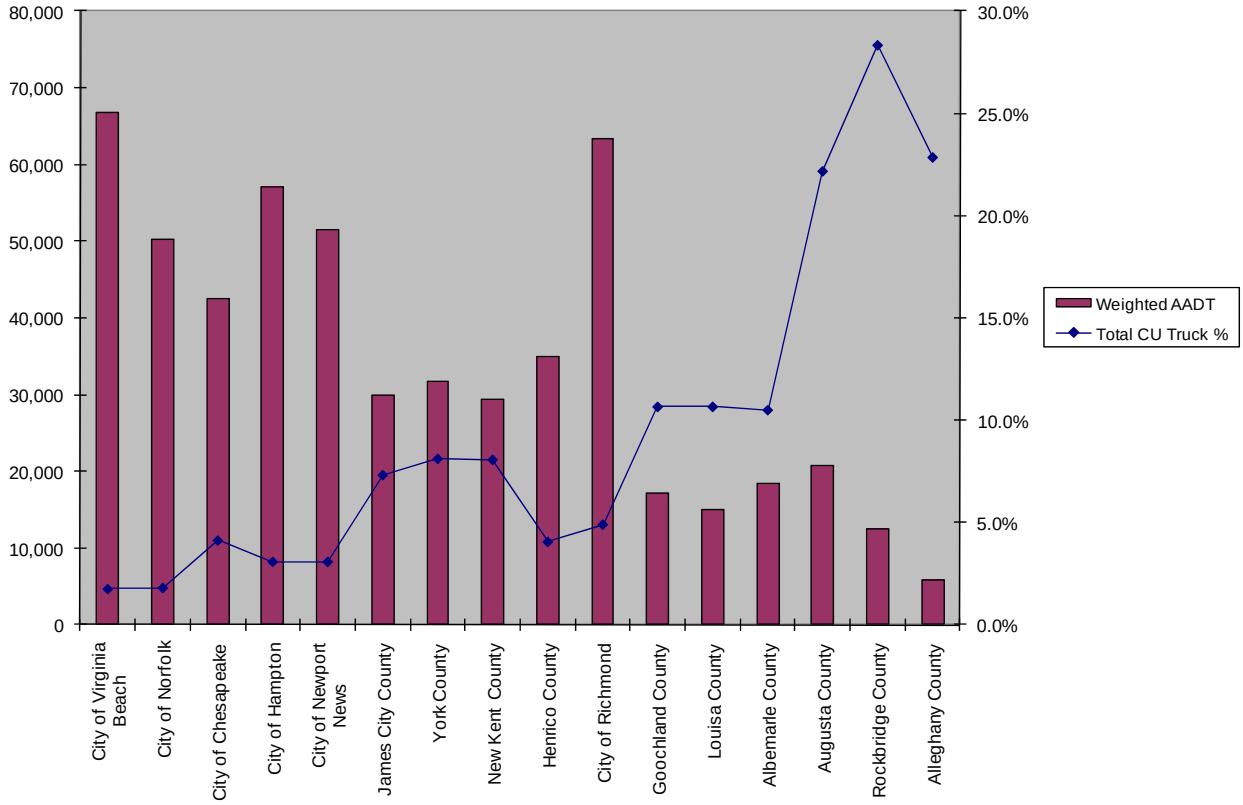



(Source: Statewide Freight Study)

Figure 5 illustrates that trucks account for anywhere between 1 and 16 percent of the total traffic along the East-West Corridor. This highlights the importance of this freight corridor and illustrates the fact that a large amount of freight is moved by truck using the highway facilities.

Truck traffic is heaviest in the Hampton Roads region and in the Richmond Region, especially through the City of Richmond. Traffic drops off considerably west of Richmond, even through the Charlottesville region. Truck percentages are fairly low through Hampton Roads but rise with the drop in overall volume to the west (the total number of trucks along the roadway stays approximately the same). Truck percentages are highest where I-64 runs concurrently with I-81 through Augusta and Rockbridge County, which is to be expected, and through Alleghany County, as trucks divert from I-81 to travel into West Virginia and to points west.

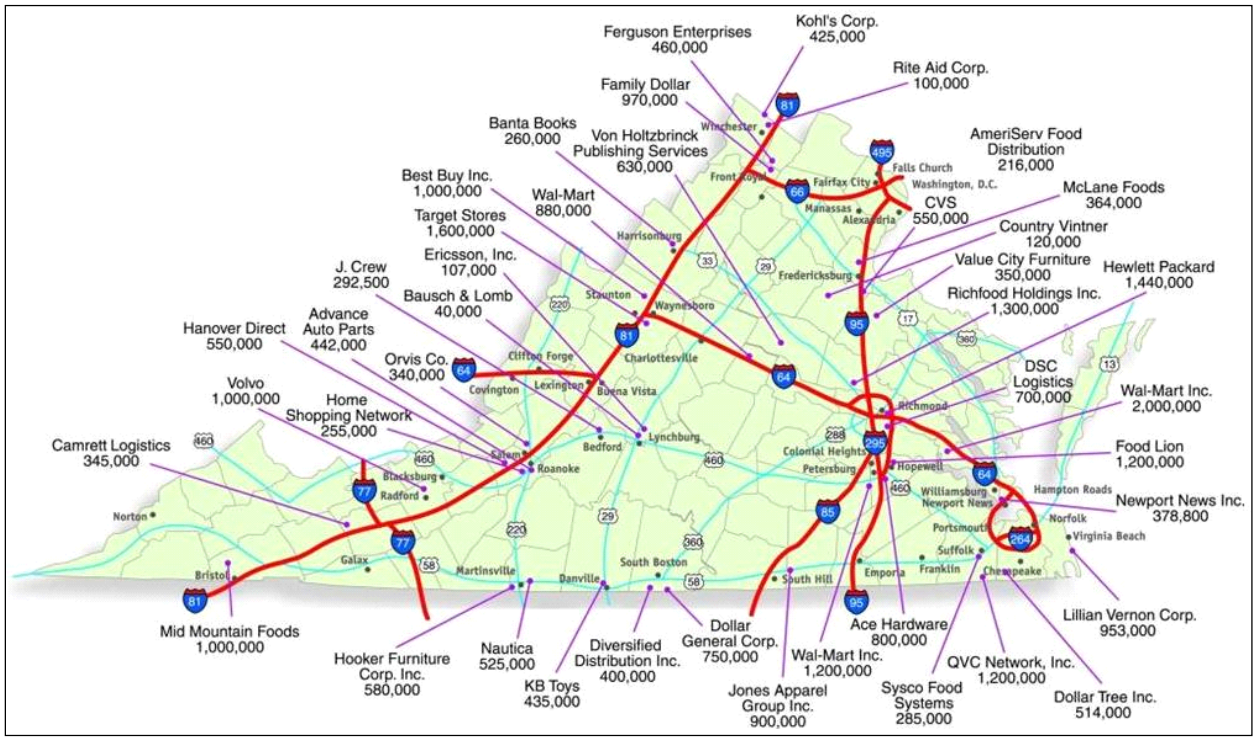
Figure 5 I- 64 Average Annual Daily Traffic (AADT) and Commercial Unit (CU) Truck Percentages




(Source: Statewide Freight Study)

Figure 6 shows the major distribution centers in Virginia. As seen in the figure, a number of distribution centers are located directly along the East-West Corridor.

Figure 6 Major Virginia Distribution Centers




(Source: Statewide Freight Study)

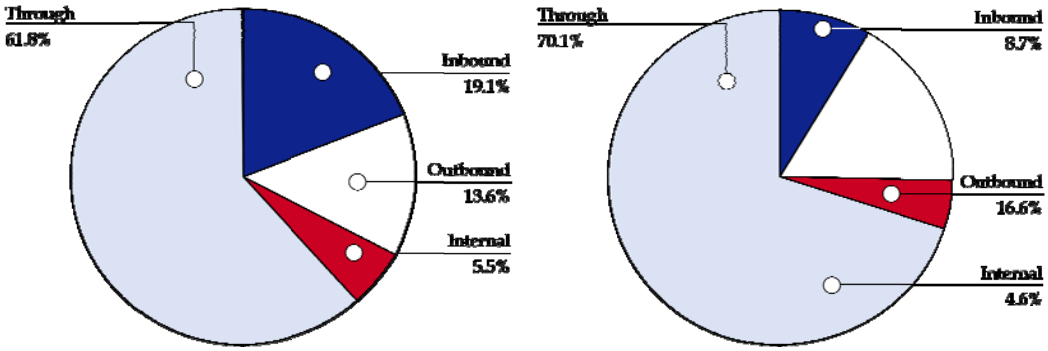
Table 2 lists the distribution centers located along the East-West Corridor. As seen in the table, there are a large number of these facilities, providing a destination for freight.

Table 2 Corridor Warehouse and Distribution Facilities

| Store | Location | Area (Square Feet) |
|---|---|---|
| Target | Staunton | 1,600,000 |
| Best Buy | Staunton | 1,000,000 |
| Wal-Mart Inc. | Charlottesville | 880,000 |
| Von Holtzbrinck Publishing | Charlottesville | 630,000 |
| Richfood Holdings Inc. | Richmond | 1,300,000 |
| Hewlett-Packard | Richmond | 1,440,000 |
| DSC Logistics | Richmond | 700,000 |
| Wal-Mart Inc. | Richmond | 1,200,000 |
| ACE Hardware | Richmond | 800,000 |
| Food Lion | Richmond | 1,200,000 |
| Wal-Mart Inc. | Williamsburg | 2,000,000 |
| Newport News Inc. | Newport News | 378,800 |
| Sysco Food Systems | Suffolk | 285,000 |
| QVC Network | Suffolk | 1,200,000 |

Figure 7 shows the freight tonnage and value by direction. As seen in this figure, over half of the freight moved along the East-West Corridor is through freight.

Figure 7 Freight Tonnage and Value by Direction




(Source: Statewide Freight Study)

According to the Statewide Freight Study, freight volumes along the East-West Corridor will continue to grow and will be influenced by a number of factors leading to increased transportation demand, notably population growth. In addition, changes in national and global logistics patterns and the corridor's evolving industry structure will lead to increased demand for freight along this already heavy freight corridor.

With increases in freight demand, it is important that capacity to carry the expected volumes of freight will exist in the future, not only along the highway facilities but

along the rail facilities as well. With the Port of Virginia expected to expand capacity with the expansion of Craney Island, more freight than ever will be moved through the Port of Virginia, and it is vital that the main east-west interstate corridor be utilized to bring freight to national markets and to Virginia. Rail lines along the Heartland Corridor, to the south of the East-West Corridor, along U.S. 460, will be improved in the future. These improvements will also aid in moving more freight to rail and improve freight movement from the Port of Virginia to points west.

## 2.3 Urban Link and Access to Points West; Evacuation Route

The East-West Corridor provides a link between various cities and urban centers along its length, including the Hampton Roads region, the Richmond region, Charlottesville, Staunton, and Lexington. In addition, I-64 provides access from the eastern areas of Virginia to the I-95 corridor, to the mountains to the west, to the I-81 corridor, and to West Virginia. The corridor provides an important evacuation route from the Hampton Roads region in the case of an emergency, such as a hurricane. Gates have been installed on I-64 ramps that allow lanes to be reversed, thereby offering more outbound capacity along the East-West Corridor.

### 2.3.1 Population Projections

The Virginia Transportation Research Council (VTRC) completed a report as part of VTrans2035, detailing population and employment trends and projections to 2035 for these socioeconomic factors. Increases in population will impact the amount of traffic on the roadway, impacting those wishing to travel between the different urban centers and those traveling through the state. It will impact both passenger and freight traffic along the highway.

Figure 8 shows the population projections for each of the five major urban areas along the corridor. As seen in this figure, the highest population is in the Hampton Roads area, which is slightly higher than the Richmond region. The Charlottesville region has the lowest population of the urban areas. Population is expected to increase steadily in each of these regions over the next 20 years, with total increases in the Hampton Roads region at approximately 15 percent and total increases in the Richmond and Charlottesville regions at approximately 27 percent.

Figure 8 Population Projections for Urban Areas

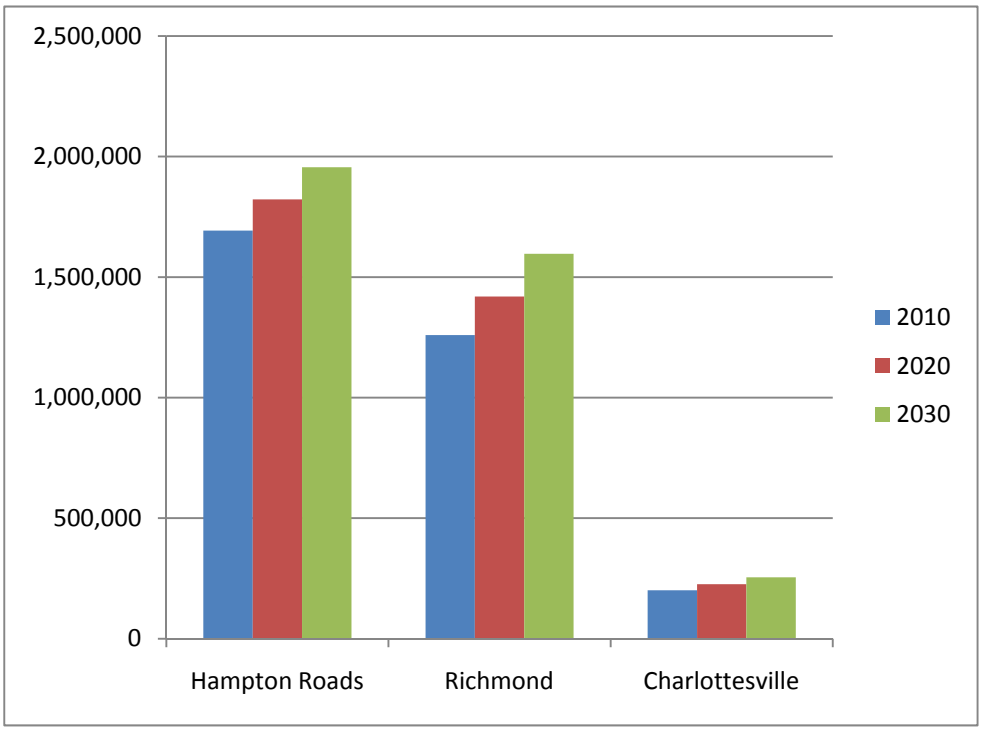



Table 3 details the population projections for 2010 and 2035 based on two different sources, one a private vendor (NPA Data Associates) and one a public source (Virginia Employment Commission - VEC). Projections by both these sources only extended to 2030, so linear regression was used by VTRC to project to 2035. The data was organized by Planning District. Figure 9 illustrates the population density projections for the year 2010 at the Planning District level along the East-West Corridor, and Figure 10 illustrates the density projections for the year 2035 and the increase in population density from 2010 to 2035.

Table 3 Population Projections to 2035

| | 2010 Value | | Midpoint 2035 Forecast | | Percentage Increase | | Annual Effective Growth Rate | |
|---|---|---|---|---|---|---|---|---|
| PDC | VEC | NPA | VEC | NPA | VEC | NPA | VEC | NPA |
| Roanoke Valley-Alleghany | 267,634 | 266,590 | 287,827 | 287,762 | 7.5% | 7.9% | 0.3% | 0.3% |
| Central Shenandoah | 281,272 | 277,850 | 341,310 | 330,428 | 21.3% | 18.9% | 0.8% | 0.7% |
| Thomas Jefferson | 234,606 | 235,010 | 322,748 | 324,780 | 37.6% | 38.2% | 1.3% | 1.3% |
| Richmond Regional | 994,425 | 1,003,920 | 1,319,869 | 1,416,551 | 32.7% | 41.1% | 1.1% | 1.4% |
| Hampton Roads | 1,662,480 | 1,062,080 | 1,977,027 | 2,060,607 | 18.9% | 24.7% | 0.7% | 0.9% |
| Statewide Totals | 8,010,340 | 8,057,350 | 10,278,943 | 10,926,181 | 28.3% | 35.6% | 1.0% | 1.2% |

Source: Virginia Transportation Research Council

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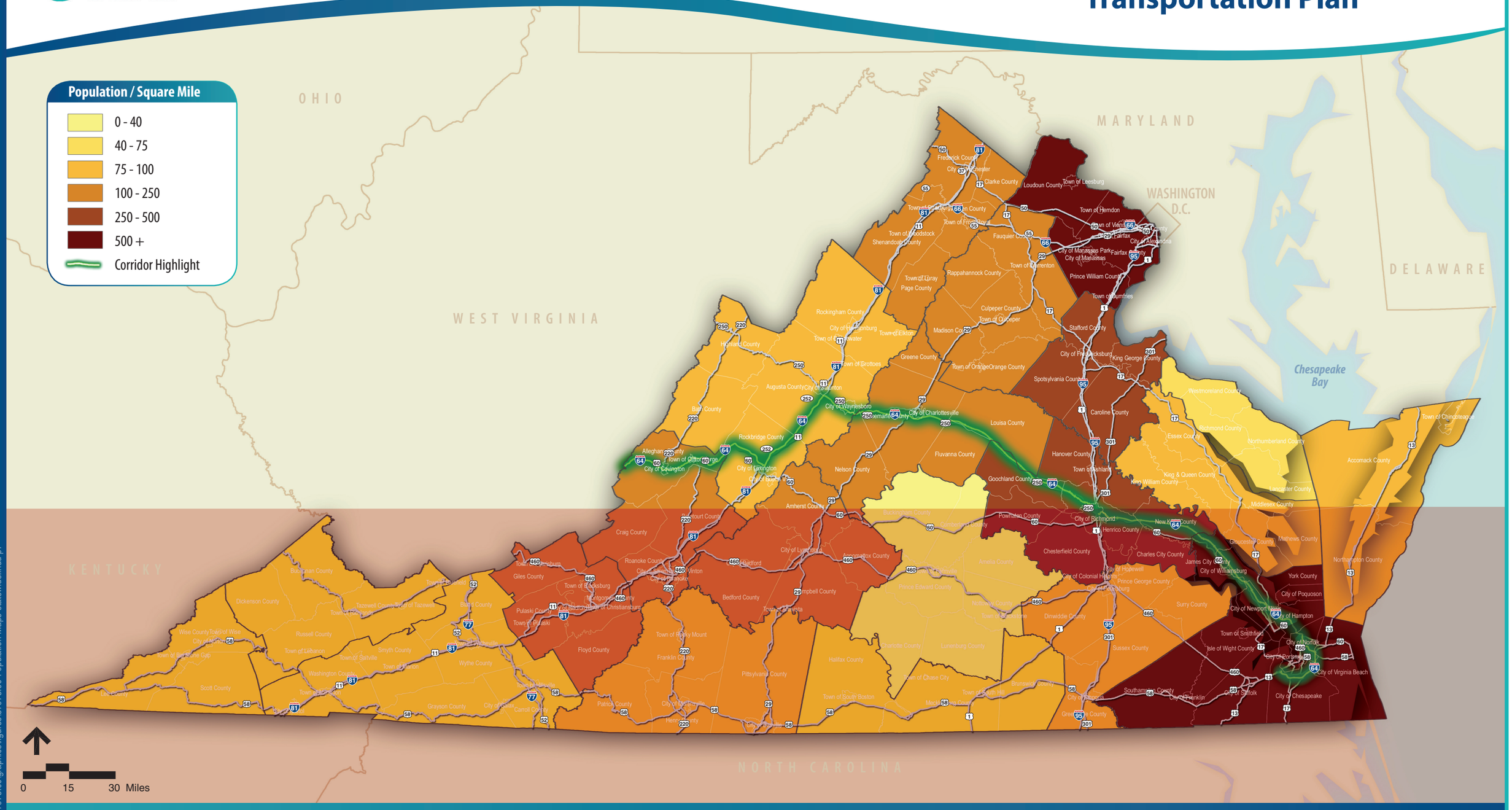


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FIGURE 9

## Population Density 2010 Projections - East-West Corridor

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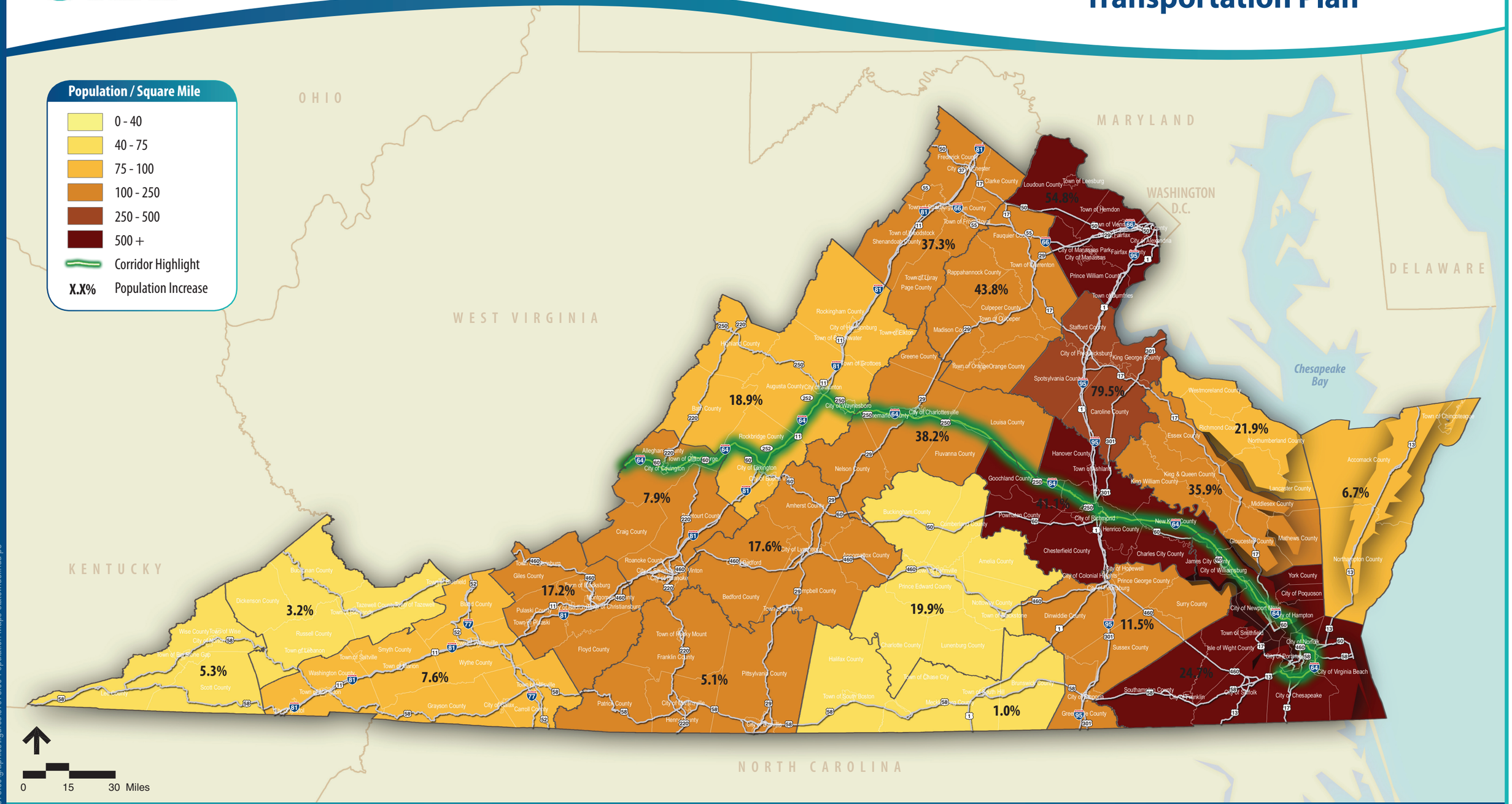


FIGURE 10
**Population Density 2035 Projections - East-West Corridor**

As seen in Table 3 and in the maps, the increases in population between 2010 and 2035 in the Thomas Jefferson PDC and Richmond Regional PDC are fairly substantial, while the population increases in the Central Shenandoah PDC and Hampton Roads PDC are also fairly high. In the Roanoke Valley-Alleghany PDC, where I-64 only passes through Alleghany County between Rockbridge County and West Virginia, the growth is far less than the other regions.

According to the VTRC Trends Report, between 76 and 81 percent of the total population increase in the Commonwealth of Virginia will take place in four Planning Districts (Northern Virginia, Richmond Regional, Hampton Roads, and the George Washington Regional Commission). Given that the East-West Corridor passes through two of these regions, the total growth will be fairly high. Also, while the total population of the Thomas Jefferson PDC is much lower than the Richmond Regional PDC, the growth here will also be substantial and higher than the state average.

### 2.3.3 Levels of Service and Travel Times

Figures 11 (entire corridor) and 12 (eastern section) show the existing levels of service (LOS) along the East-West Corridor, with red areas indicating undesirable levels of service (i.e., LOS 'E' or LOS 'F'). All areas not marked in red show where acceptable levels of service (i.e., LOS 'A' through LOS 'D') currently exist. As seen in Figures 11 and 12, the only areas of deficiency under existing conditions are short sections in the Richmond area and Charlottesville area and a longer section through Hampton Roads.

Figures 13 (entire corridor) and 14 (eastern section) show the future levels of service along the East-West Corridor, with the same color coding. As seen in the figures, levels of service along I-64 are expected to degrade significantly between Hampton Roads and Richmond and are expected to degrade throughout the Richmond and Charlottesville regions. In addition, the northern half of the overlap with I-81, south of Staunton, is also expected to operate at undesirable LOS by the year 2035.

Table 4 details estimates of travel time now and in the future between the larger cities along the corridor. It was assumed that free-flow traffic moves at approximately 60 miles per hour if the level of service is acceptable. It was assumed that on links with undesirable levels of service traffic would move at approximately 40 miles per hour. Figure 15 shows the percentage increases in travel time between the urban centers.

Table 4 Travel Times

| Travel Link | Distance (miles) | MPH Existing | MPH Future | Travel Time (minutes) Existing | Travel Time (Minutes) Future | Increase in Travel Time (minutes) | Increase in Travel Time ( % ) |
|---|---|---|---|---|---|---|---|
| Norfolk to Richmond | 93 | 58 | 42 | 96 | 133 | 37 | 38% |
| Richmond to Charlottesville | 71 | 59 | 50 | 72 | 85 | 13 | 18% |
| Charlottesville to Staunton | 39 | 59 | 52 | 40 | 45 | 5 | 13% |
| Staunton to Lexington | 26 | 60 | 50 | 26 | 31 | 5 | 20% |
| Lexington to Covington | 41 | 60 | 59 | 41 | 42 | 1 | 2% |

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# Virginia Statewide Multimodal Transportation Plan

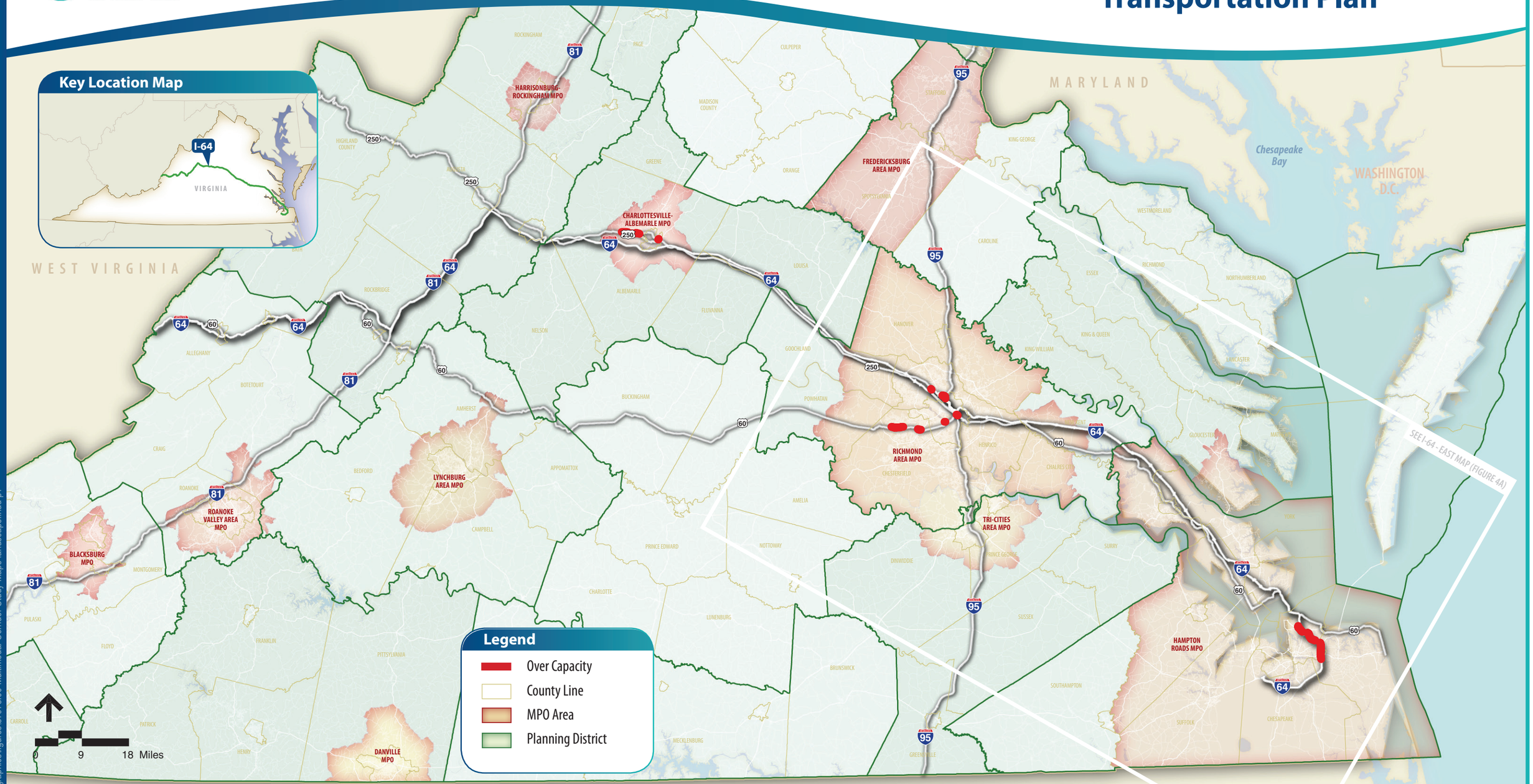


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FIGURE 11
**East-West Corridor Existing Conditions**

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# Virginia Statewide Multimodal Transportation Plan

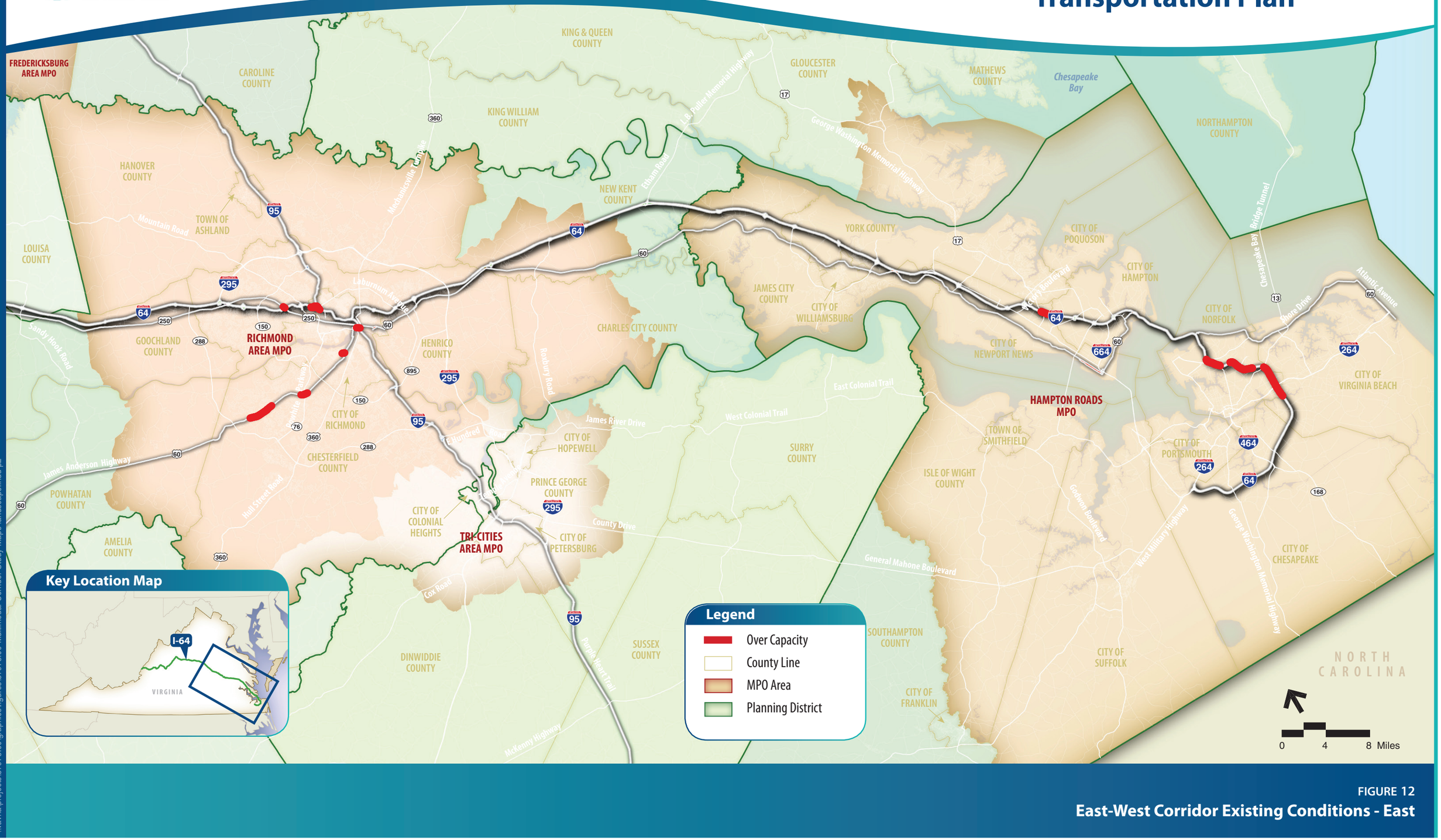


FIGURE 12
**East-West Corridor Existing Conditions - East**

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# Virginia Statewide Multimodal Transportation Plan

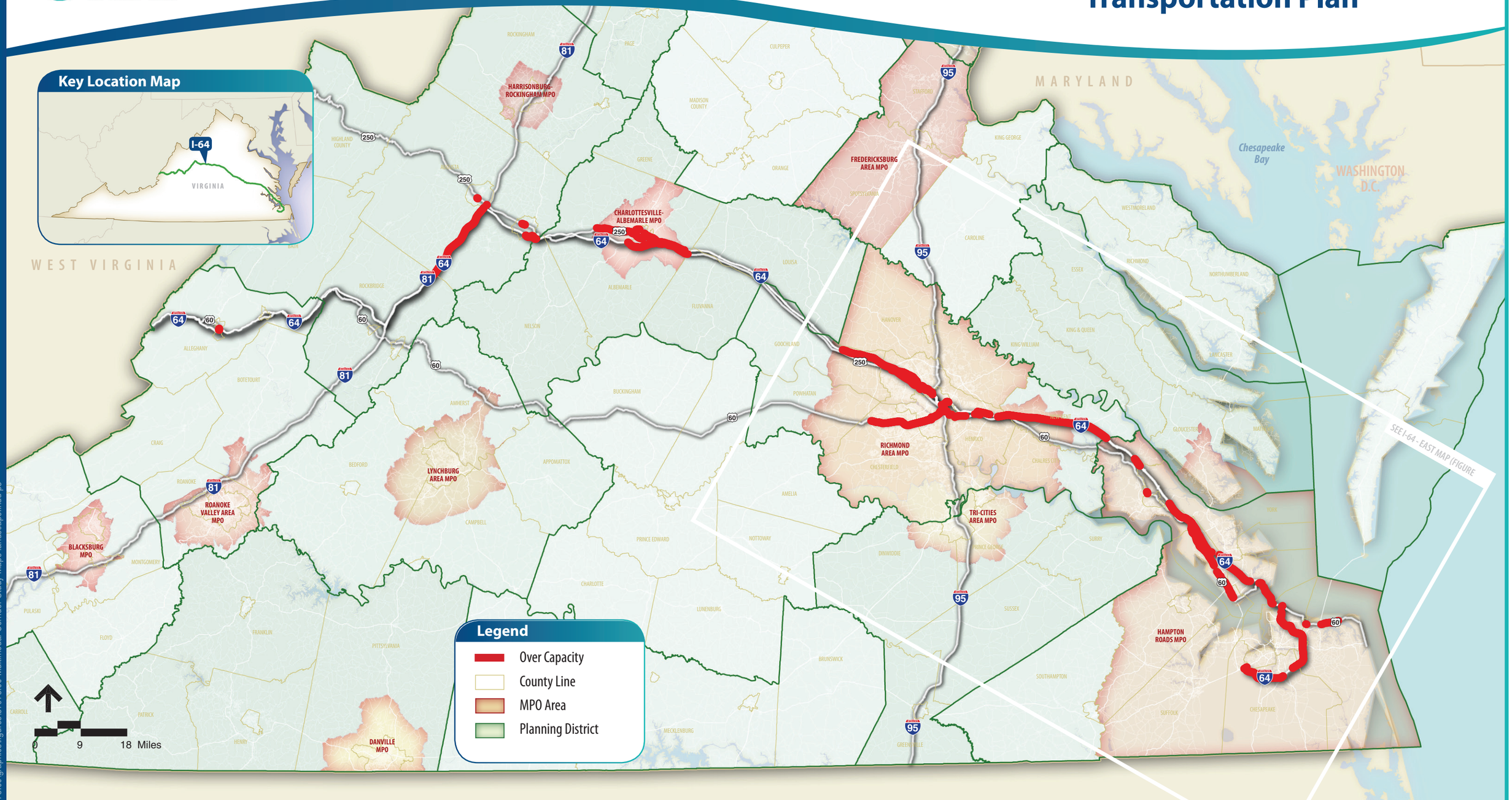


FIGURE 13
**East-West Corridor Future Conditions**

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# Virginia Statewide Multimodal Transportation Plan

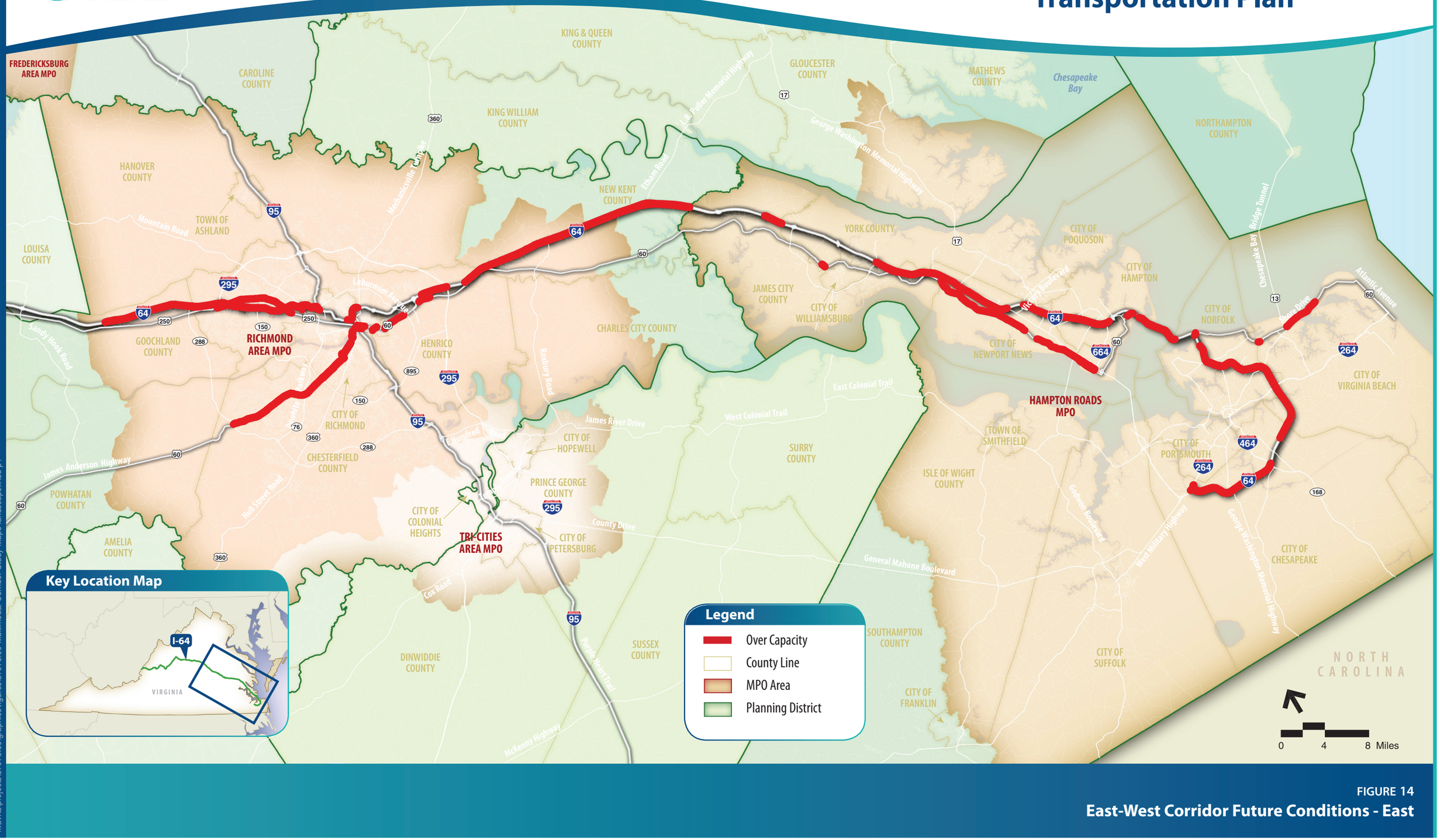


FIGURE 14
**East-West Corridor Future Conditions - East**

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# Virginia Statewide Multimodal Transportation Plan


| Staunton to Charlottesville | |
|---|---|
| Distance: | 39 Miles |
| Existing Speed: | 59 MPH |
| Future Speed: | 52 MPH |
| Existing Travel Time: | 40 Minutes |
| Future Travel Time: | 45 Minutes |
| Increase in Travel Time: | 5 Minutes |
| **Percentage Increase:** | **13%** |

| Lexington to Staunton | |
|---|---|
| Distance: | 26 Miles |
| Existing Speed: | 60 MPH |
| Future Speed: | 50 MPH |
| Existing Travel Time: | 26 Minutes |
| Future Travel Time: | 31 Minutes |
| Increase in Travel Time: | 5 Minutes |
| **Percentage Increase:** | **20%** |

| Covington to Lexington | |
|---|---|
| Distance: | 41 Miles |
| Existing Speed: | 60 MPH |
| Future Speed: | 59 MPH |
| Existing Travel Time: | 41 Minutes |
| Future Travel Time: | 42 Minutes |
| Increase in Travel Time: | 1 Minute |
| **Percentage Increase:** | **2%** |

| Charlottesville to Richmond | |
|---|---|
| Distance: | 71 Miles |
| Existing Speed: | 59 MPH |
| Future Speed: | 50 MPH |
| Existing Travel Time: | 72 Minutes |
| Future Travel Time: | 85 Minutes |
| Increase in Travel Time: | 13 Minutes |
| **Percentage Increase:** | **18%** |

| Richmond to Norfolk | |
|---|---|
| Distance: | 93 Miles |
| Existing Speed: | 58 MPH |
| Future Speed: | 42 MPH |
| Existing Travel Time: | 96 Minutes |
| Future Travel Time: | 133 Minutes |
| Increase in Travel Time: | 37 Minutes |
| **Percentage Increase:** | **38%** |

**Legend**
- I-64
- Railroad
- County Line
- MPO Area
- Planning District

Staunton · Charlottesville · Lexington · Covington · Richmond · Norfolk

HARRISONBURG-ROCKINGHAM MPO · CHARLOTTESVILLE-ALBEMARLE MPO · FREDERICKSBURG AREA MPO · RICHMOND AREA MPO · TRI-CITIES AREA MPO · HAMPTON ROADS MPO · LYNCHBURG AREA MPO · BLACKSBURG MPO · DANVILLE MPO

MARYLAND · Chesapeake Bay

0 9 18 Miles

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FIGURE 15
**East-West Corridor Percentage Increase in Travel Times**

As seen in Table 4, travel times will increase by 10 to 20 percent between Richmond and Lexington. West of Lexington there will only be a short area of undesirable LOS near Covington. Between Richmond and Norfolk, travel times will increase approximately 40 percent, signaling the need for additional capacity or additional modal choice between these two regions.

The future levels of service take into account projects along the roadways that are planned by the Virginia Department of Transportation. Even with planned expansions and other programmed improvements, the highway facilities of the corridor are expected to significantly degrade by 2035. To combat this, localities, PDCs, and MPOs should identify the worst areas and plan for improvements to these areas. In addition, multimodal coordination should take place to remove some single-occupant vehicles from the highway facilities. This could include increased line-haul transit and/or increased passenger rail service, especially between Hampton Roads and Richmond.

### 2.3.4 High-Crash Rate Areas

Figures 16 (entire corridor) and 17 (eastern section) illustrate areas along the East-West Corridor that have been identified as high-crash rate areas, according to the Virginia Department of Transportation. This not only includes I- 64; it includes the other roadways within the corridor, such as U.S. 250 and U.S. 60. As seen in these figures, there are multiple high-crash rate areas along the East-West Corridor, especially around the urban areas, such as Hampton Roads, Richmond and Charlottesville. There are some high crash-rate areas along the overlap with I-81, though there are few west of Lexington after I-64 splits from I-81 to travel into West Virginia. The high-crash rate areas are mostly confined to the more densely populated regions, likely signaling that the high-crash rates may be due to large volumes of traffic and capacity issues. As population increases and traffic increases, the number of crashes will likely increase in these urban areas unless measures are taken to improve the high crash rate locations within the corridor.

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# Virginia Statewide Multimodal Transportation Plan

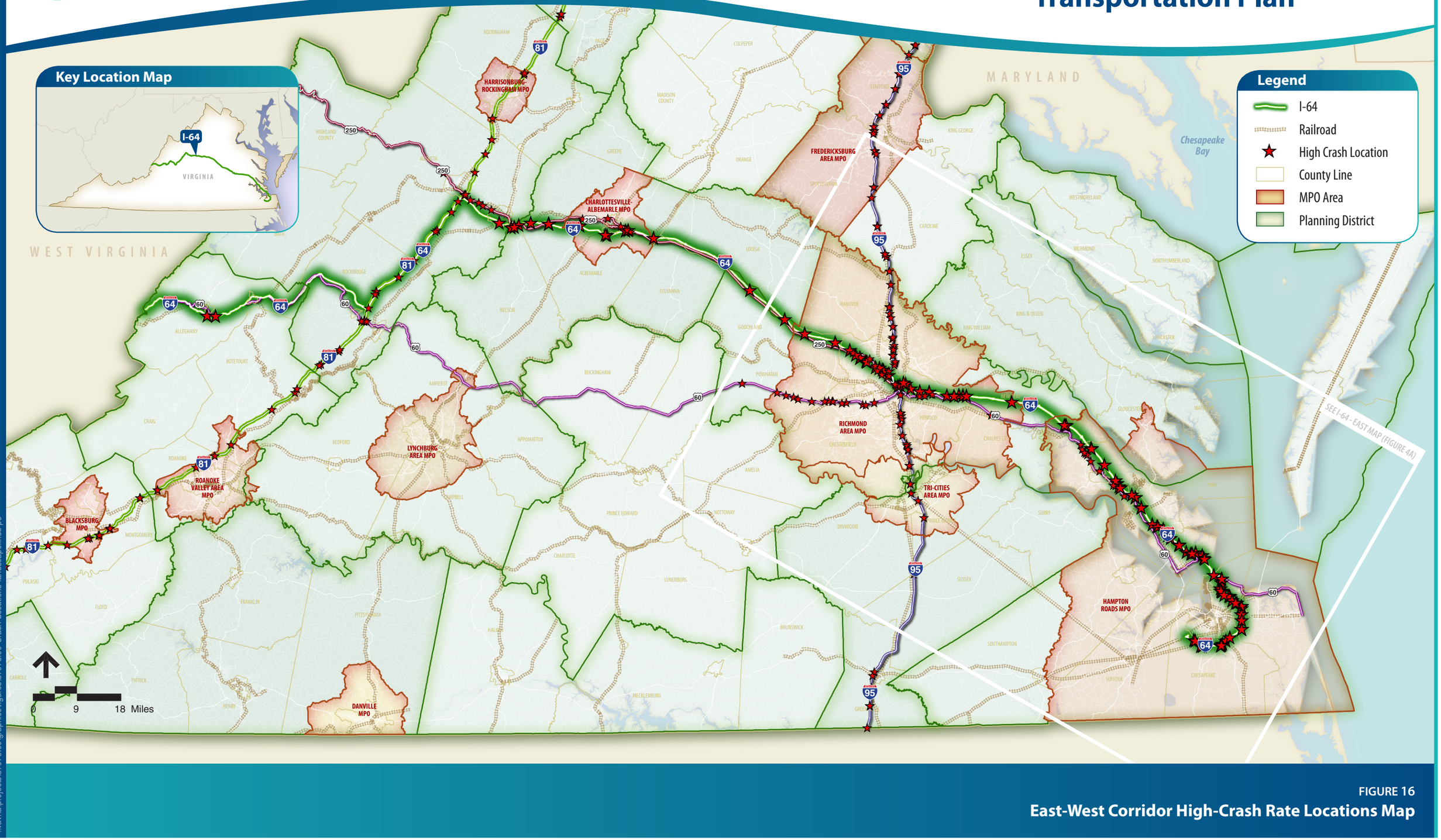


FIGURE 16
**East-West Corridor High-Crash Rate Locations Map**

# Virginia Statewide Multimodal Transportation Plan

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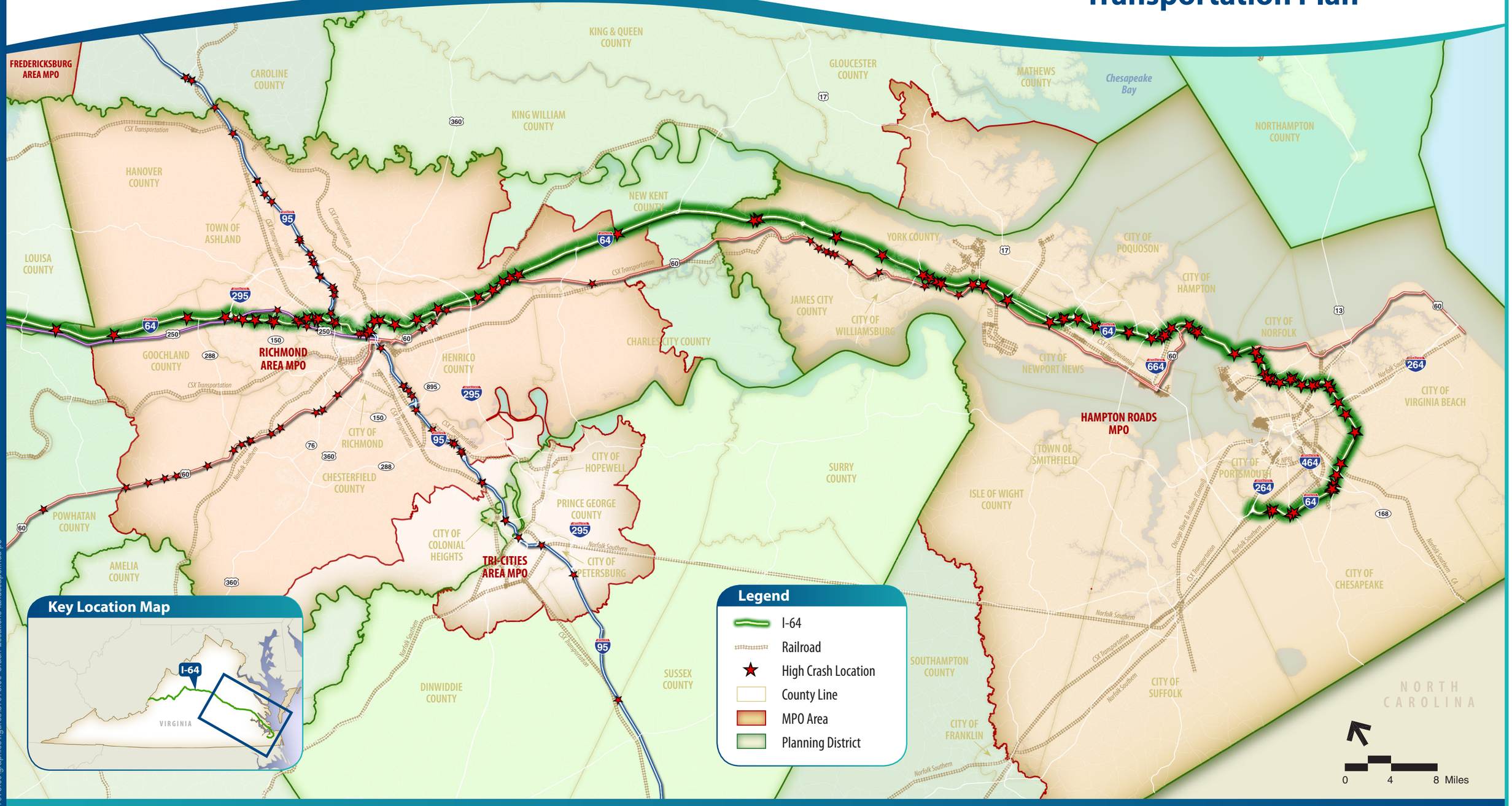



FIGURE 17
**East-West Corridor High-Crash Rate Locations Map - East**

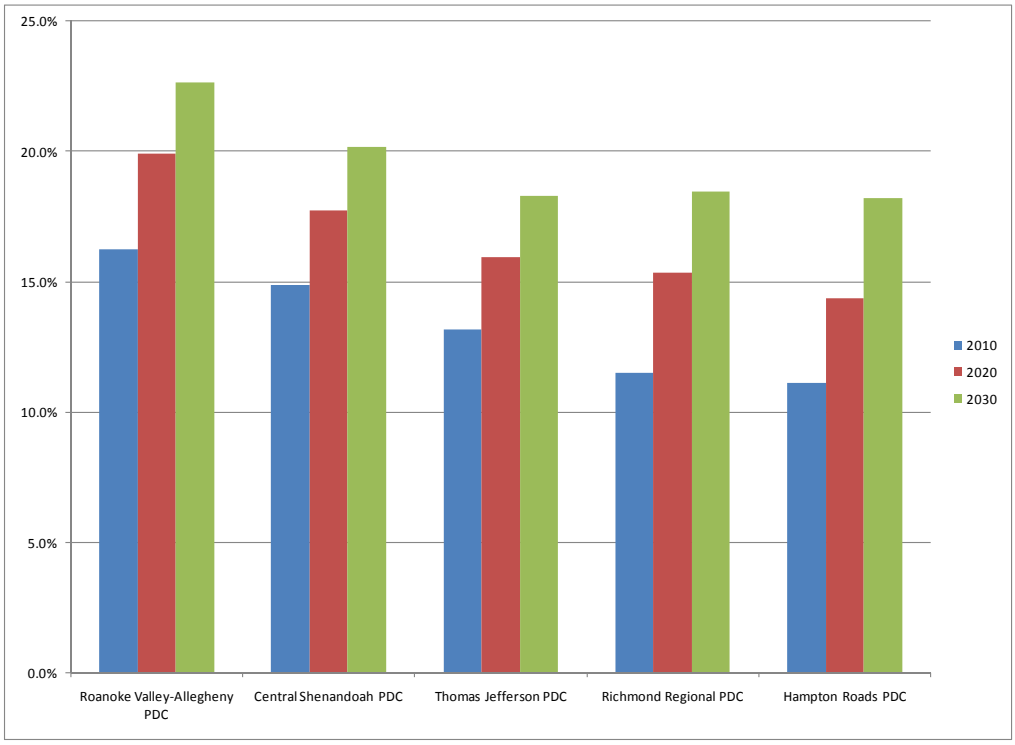
### 2.3.5 Population Over Age 65

In addition to general population projections, VTRC projected the ages of the population, broken down into five-year increments for a total of 18 categories. The percentage of population that is over age 65 was calculated based on these projections, and this information is available in Figure 18 for the years 2010, 2020, and 2030. The percentages were calculated for each Planning District along the East-West Corridor.

As seen in this figure, the percentage of the population over age of 65 is expected to increase in all Planning Districts, with the highest percentage of the population being over age 65 in the more rural areas to the west, as compared to the more urbanized areas of Richmond and Hampton Roads.

As the older population increases, it is likely that the population without access to a vehicle will increase as well, leading to a need for other modes of transportation, especially transit. While the larger urban areas such as Hampton Roads, Richmond, and Charlottesville all have local transit systems, this does not allow for residents of these areas to travel beyond the reaches of their individual areas. The Alleghany Mountain Express connects Iron Gate, Clifton Forge and Covington. There is also Greyhound service, with stations in Hampton Roads, Williamsburg, Richmond and Charlottesville. As the population ages, increased demand response transit for the elderly and disabled should be investigated and likely implemented.

Figure 18 Percentage of Population over Age 65 (Projections)



## 2.4 Military Access, Tourism, and Education

### 2.4.1 Military Access

The East-West Corridor is an important corridor for accessing military facilities. The Hampton Roads region is a very important U.S. Naval region with its access to the Atlantic Ocean and Chesapeake Bay, and the U.S. Navy has set up multiple installations in this region. The Air Force and Army also have facilities in this region, and I-64 is the main corridor linking these facilities and providing access to the rest of Virginia. In addition, there are multiple military facilities in the Richmond region. Figure 19 illustrates the locations of all military installations along the East-West Corridor.

### 2.4.2 Tourism

The East-West Corridor provides access to numerous tourist areas, such as state and county parks. In addition, it provides access to the George Washington National Forest, the Thomas Jefferson National Forest, and Shenandoah National Park. Figure 20 illustrates the larger tourist areas along the corridor. Figure 21 shows a more detailed view of the numerous facilities in the eastern part of the state, including the Hampton Roads and Richmond regions. This figure also shows access to the air facilities in the area, which offers another modal option for visitors to these tourist areas. In addition to traditional tourist destinations, the corridor provides access to the Virginia Beach seashore and Outer Banks in North Carolina.

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# Virginia Statewide Multimodal Transportation Plan

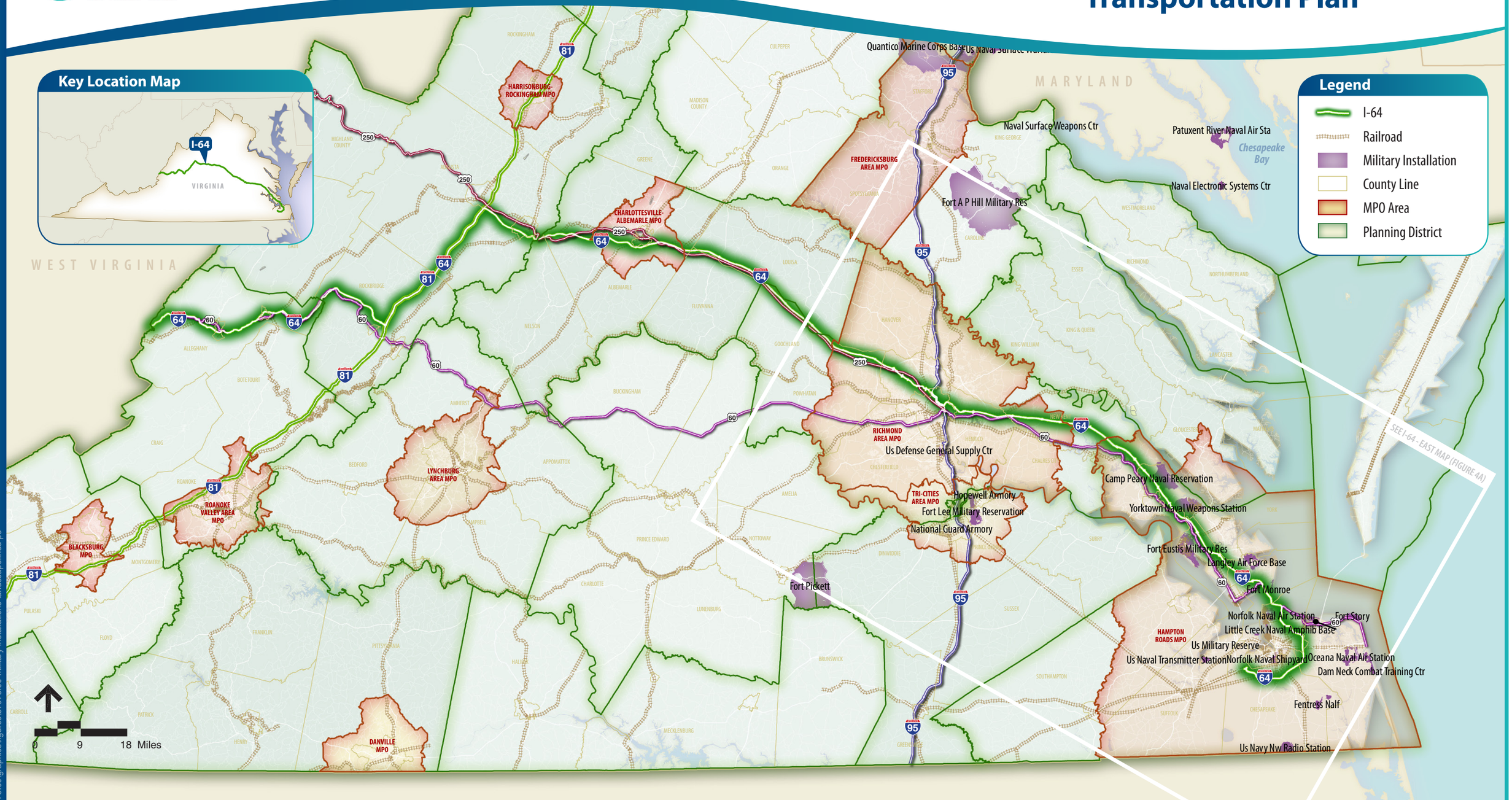


FIGURE 19
**East-West Corridor Military Installations Map**

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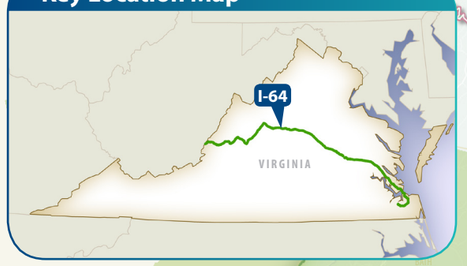
# Virginia Statewide Multimodal Transportation Plan

## Key Location Map




## Legend

- I-64
- Railroad
- County Line
- MPO Area
- Planning District

## Tourist Legend

- National Park or Forest
- State Park or Forest
- Local Park or Recreational Area
- National Forests (Reg-Local)
- Airport Area
- Educational Institution
- Golf Course
- Cemetery
- Military Installation
- Stadium or Arena
- Federal or State Prison
- Amusement Center
- Government Center

0 9 18 Miles

FIGURE 20
**East-West Corridor Tourist Areas Map**

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# Virginia Statewide Multimodal Transportation Plan

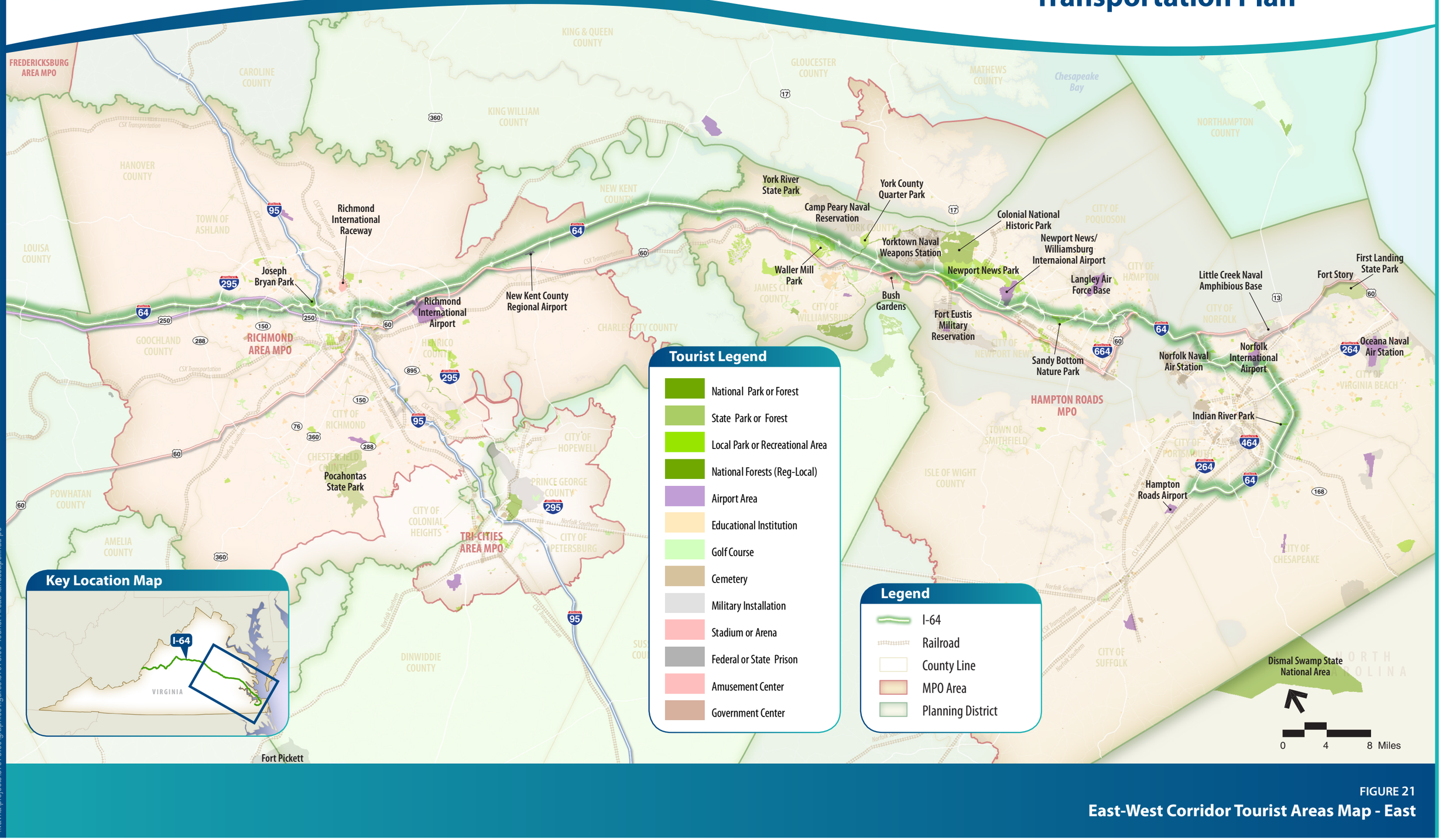


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FIGURE 21
**East-West Corridor Tourist Areas Map - East**

### 2.4.3 Educational Access

The East-West Corridor is an important corridor for accessing educational institutions. Figure 22 illustrates the large number of educational institutions along the corridor, including numerous institutions in the Hampton Roads region and in the Richmond region. In addition, there are also institutions in the Charlottesville region and to the west near the I-81 corridor. These educational institutions are listed in Table 5, including current and projected enrollments for the year 2016. A study produced by Chmura Economics & Analytics for the State Council of Higher Education for VA titled "Projecting Enrollment Demand for the Virginia's Higher Education Institutions, 2007-2016" produced these enrollment numbers. It also stated that between the years 2006-2016 there will be an increase of 16.4% in systemwide enrollment, including 9.8% at public four-year colleges, 23.2% at public two-year colleges, and 15.8% at private four-year colleges. These percentages were applied to derive enrollment projections for the year 2016. The institutions listed at the bottom of Table 5 are smaller institutions for which no figures were available.

Table 5 East-West Corridor Educational Institutions Current and Projected Enrollments

| College/University | Enrollment | SCHEV 2006 Enrollment | SCHEV 2008 Enrollment | 2016 Estimate |
|---|---|---|---|---|
| Virginia Commonwealth University | 30661 | 30381 | 32284 | 33358 |
| Tidewater Community College | 26898 | 24938 | 26898 | 30724 |
| Old Dominion University | 23086 | 21625 | 23086 | 23744 |
| University of Virginia | 22816 | 24068 | 23086 | 23744 |
| J. Sargeant Reynolds Community College | 13079 | 12213 | 13079 | 15046 |
| Thomas Nelson Community College | 10557 | 9718 | 10557 | 11973 |
| College of William and Mary | 7264 | 7709 | 7892 | 8464 |
| Norfolk State University | 4700 | 6152 | 5427 | 7124 |
| Christopher Newport University | 4904 | 4793 | 4904 | 5263 |
| Hampton University | 4700 | 6152 | 5427 | 7124 |
| Regent University | 3885 | 4286 | 4460 | 4963 |
| Piedmont Virginia Community College | 3138 | 4451 | 4874 | 5484 |
| University of Richmond | 2963 | 4469 | 4247 | 5175 |
| Virginia Wesleyan College | 1738 | 1755 | 1738 | 2032 |
| Dabney S. Lancaster Community College | 1272 | 1373 | 1272 | 1692 |
| Randolph-Macon College | 1201 | 1146 | 1201 | 1327 |
| Virginia Union University | 1099 | 1578 | 1502 | 1827 |
| Southern Virginia University | 686 | 749 | 0 | 867 |
| Eastern Virginia Medical School | | 779 | 807 | 902 |
| Baptist Theological Seminary | | #N/A | #N/A | #N/A |
| Troy University Atlantic Region | | #N/A | #N/A | #N/A |
| Union Theological Seminary | | #N/A | #N/A | #N/A |
| Virginia Institute of Marine Science | | #N/A | #N/A | #N/A |
| Virginia Theological University | | #N/A | #N/A | #N/A |

*Source: Chmura Economics & Analytics, State Council of Higher Education for VA,"Projecting Enrollment Demand for the Virginia's Higher Education Institutions, 2007-2016".*

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# Virginia Statewide Multimodal Transportation Plan

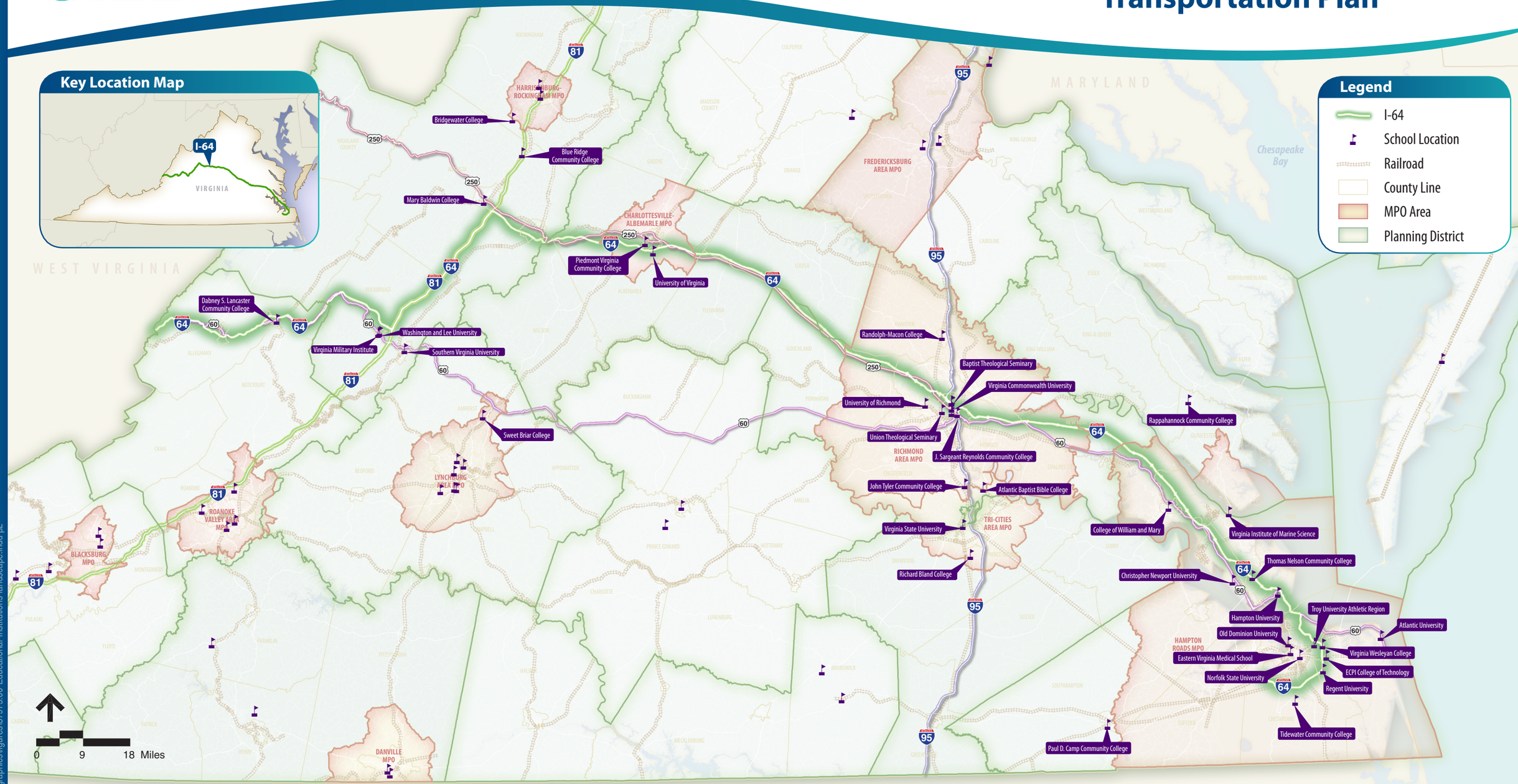


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FIGURE 22
## East-West Corridor Educational Institutions Map

# 3

# Corridor Strategies

This section discusses the general corridor strategies for the East-West Corridor, which have been formulated to improve safety, mobility, and capacity. The functions of the East-West Corridor are listed below, and Figure 23 shows how the strategies relate to each function.

## Functions of East-West Corridor

- *Freight corridor*
- *Link between major urban areas*
- *Evacuation route*
- *Access across mountains to points west, I-81, and to West Virginia*
- *Military access (Hampton Roads area)*
- *Education*
- *Tourism*

Strategies were formulated based on trends, system performance, issues/challenges, elements of the VDOT Six-Year Program, the Constrained Long-Range Plans for each Metropolitan Planning Organization, visions and plans for the various Planning Districts, and any available Comprehensive Plan visions and strategies for each county and jurisdiction within each corridor. A Regional Planning Forum was held in the spring of 2009 with transportation representatives from across Virginia, including VDOT, Planning Districts and MPOs, transit agencies, the Virginia Airport Authority, the Port of Virginia, and other stakeholders in the Virginia transportation system. Public meetings were held in four locations in June and July of 2009 (Northern Virginia, Richmond, Hampton Roads, and Roanoke). Corridor deficiencies and what could be done to alleviate these deficiencies were discussed, with this information playing a major role in the formulation of these strategies. These strategies are part of a continuing planning process and are designed to be used as a guide for future transportation plans along the corridor within Virginia. They are not the explicit policy of the Commonwealth Transportation Board (CTB), though they are designed to assist the CTB, state and local transportation agencies, and local planning organizations in their planning efforts along the corridor. Specific corridor strategies and improvement recommendations will ultimately be developed as part of subsequent planning analyses at the State and local level.

**Figure 23** - East-West Corridor Strategies vs. Functions Matrix

| | Functions | | | | | |
|---|---|---|---|---|---|---|
| **Strategies** | **Freight Corridor** | **Link between Urban Centers/ Evacuation Route** | **Access to Mountains/ I-81/Points West** | **Military Access** | **Education** | **Tourism** |
| Increase freight and passenger capacity of the corridor, including the possibility of a higher-speed connection. | ● | ○ | ○ | ⊙ | ⊙ | ⊙ |
| Ensure multimodal freight movement coordination with the proposed Craney Island expansion, and consider moving more freight via barge from the Port of Virginia to locations within the Commonwealth. | ● | ○ | ○ | | | |
| Support expanded freight capacity by expanding intermodal facilities. | ● | ○ | ○ | ⊙ | ⊙ | ⊙ |
| Improve transit along the corridor, especially in rural areas, by expanding existing fixed-route services and offering increased demand response services and services for the elderly and disabled. | | ○ | ○ | | | |
| Increase park and ride capacity by expanding existing lots and adding new facilities at strategic locations. | | ● | ○ | ● | ⊙ | |
| Increase highway capacity between Richmond and Hampton Roads, including across the Hampton Roads body of water. | ● | ● | ● | ● | ○ | ○ |
| Improve ground access to airport facilities along the corridor. | ○ | ○ | ○ | | | ⊙ |
| Implement Intelligent Transportation Systems (ITS) throughout the corridor. | ● | ● | ● | ● | ● | ● |

## 3.1 Strategies for East-West Corridor

Strategy: Increase freight and passenger rail capacity of East-West Corridor, including the possibility of a higher-speed connection.

The CSX Coal Corridor runs along the East-West Corridor between Hampton Roads and Charlottesville, and again west of Covington into West Virginia. I-64 is the main corridor connecting Hampton Roads and the Port of Virginia to the remainder of the state, so it is the Port of Virginia's primary freight highway facility. Expansion of the Norfolk Southern lines along the Heartland Corridor from the Port of Virginia to points west will increase east-west freight rail capacity, which should remove freight moved by truck from the East-West Corridor's interstate facilities, such as U.S. 60 and U.S. 250. This will allow for faster access via the highway facilities for military-related traffic and for access to educational facilities and tourist areas.

In addition, a connection from Hampton Roads to the main line of the east coast higher-speed rail corridor should be considered when the higher-speed corridor is constructed through Richmond and Petersburg. This would provide the Hampton Roads region, one of the major population centers in Virginia, with access to high speed rail alternatives.

Strategy: Ensure multimodal freight movement coordination with the proposed Craney Island expansion, and consider moving more freight via barge from the Port of Virginia to locations within the Commonwealth.

The Regional Planning Forum identified the possibility of moving freight via barge from the Port of Virginia to the Port of Richmond and better utilizing the navigational channels of the James River and York River. In coordination with the Craney Island expansion, freight capacity will be increased along the East-West Corridor.

According to the Virginia Statewide Rail Plan, the Central Rail Yard Expansion project at Norfolk International Terminals at the Port of Virginia will allow more freight coming into the Port of Virginia to travel by rail instead of by truck. In addition, with the expansion of Craney Island, it is expected that 50 percent of the total freight from this major new facility is expected to be moved by rail from the Port of Virginia. With expansion of the Port of Virginia through the Craney Island project, more rail capacity and more freight movement via rail is essential for capacity and safety along the corridor's roadway facilities.

Strategy: Support increased freight movement capacity by expanding intermodal facilities.

With the expansion of freight rail capacity along the East-West Corridor, intermodal facilities will need to be expanded. These are facilities that transfer freight, usually containers, from one mode to another, such as from rail to truck. The Virginia Inland Port is the largest intermodal facility in Virginia, and there are plans to construct another intermodal facility near Roanoke as part of the rail initiatives along Norfolk Southern's Heartland Corridor. In addition, there are over 50 private intermodal facilities in Virginia, and most of these are near the Port of Virginia with access to the East-West Corridor. These facilities will need to be able to handle the amount of freight coming into and out of Virginia and traveling throughout the state on expanded rail and port facilities, including at the new Craney Island facility and the expanded rail yards at Norfolk International Terminals.

Strategy: Improve transit, especially in rural areas, by expanding existing fixed-route services and offering increased demand response services and options for the elderly and disabled.

There are urban areas, such as Hampton Roads, Richmond, and Charlottesville that are served by local transit systems with extensive fixed-route schedules and other smaller localities with limited fixed-route transit. However, in some more rural areas along the East-West Corridor, access to transit is limited if non-existent. Many County, City, and Town Comprehensive Plans, such as Louisa, Goochland, and James Counties call for the need to expand services beyond these larger urban areas, and they discuss the need for demand response service to more rural areas. As the aging population in Virginia is expected to increase in the future, the need for these services will increase. The elderly and disabled will require services to shuttle them to medical facilities along the East-West Corridor as well as to urban centers, such as Charlottesville and Richmond. Where fixed route services cannot be feasibly expanded, increased demand response services should be able to fill this need. In addition, transit should be expanded in transit-heavy areas, such as in Hampton Roads. A new light-rail system in Norfolk, The Tide, is under construction and scheduled to start service in 2011. Future expansions of this system are being explored.

Strategy: Increase park and ride capacity by expanding existing lots and adding new facilities at strategic locations.

Park and ride facilities between Charlottesville and Richmond and between Richmond and Hampton Roads exist currently, but there is a need for more facilities and expansion of existing facilities where feasible. Trends show that residents who work in the larger urban areas are moving outside these areas into suburban and rural areas. New park and ride lots in strategic locations would increase modal options and encourage carpooling and vanpooling. Additional facilities could encourage the expansion of larger transit fixed-route systems if market forces allow.

Strategy: Increase highway capacity of I-64 between Richmond and Hampton Roads, including expanding capacity across the Hampton Roads body of water.

There are currently plans to expand I-64 in various locations, including near Newport News in the Hampton Roads area and in and around Richmond. Hampton Roads widenings are expected to include more HOV lanes, offering enhanced modal options for commuters in this area. In addition, there are plans to make interchange improvements and construct new interchanges at strategic locations.

The third crossing of Hampton Roads is planned, which would add to the two bridge-tunnels that currently cross on I-64 and I-664. This will add a significant amount of capacity to the corridor in Hampton Roads for both freight from the Port of Virginia and for commuter and through traffic along I-64 and its auxiliary highways. Value pricing should be investigated at the new third crossing as well as at the existing tunnels along I-64 and I-664 to determine whether capacity issues at these locations can be alleviated further after the construction of the third crossing. In addition, possible expansions to capacity at the two existing Hampton Roads Bridge-Tunnels should be investigated.

Some localities suggest that I-64 capacity be kept at a maximum to avoid diversion to secondary roadways, such as U.S. 60 and U.S. 250. When capacity issues along these secondary facilities begin to cause deficiencies in the roadway network, increases to the capacity of the interstate facilities should occur first to ensure that the maximum number of vehicles (including most freight traffic and through traffic) are using the most efficient highway through the corridor. In addition, access management should be improved along the secondary roads to improve movement by local traffic through the corridor.

Increasing highway capacity will support all functions of the corridor. It will allow for better passenger travel between urban areas and to the west, better access to the military installations at Hampton Roads, and better access to educational and tourist areas. It will also improve freight travel by truck.

Strategy: Improve ground access to airport facilities.

There are numerous airport facilities, including airports with commercial service in Richmond, Charlottesville, and Hampton Roads, as well as multiple reliever and general aviation facilities. Ground access to these airport facilities should be improved to ensure maximum usage of these airports. Ground access to airports has been identified as a weakness all across Virginia. In addition, the long distances from some areas of Virginia to airports with commercial service has been identified as a major issue, such as the distance from I-64 to the Charlottesville-Albemarle Airport. Increases in capacity to the highway facilities and offering other modal options along the corridor could potentially assist in alleviating this problem.

Strategy: Implement Intelligent Transportation Systems (ITS) throughout the Corridor.

Intelligent Transportation Systems currently exist along segments of I-64 within urban areas, assisting with congestion and accident information along the highway facilities. However, these systems can be improved for incident management, traffic flow, and for evacuation purposes. ITS should be utilized along parallel routes in the corridor, such as along U.S. 250 and U.S. 60 to improve traffic flow. In addition to highway ITS, the air facilities along the East-West Corridor should consider adding available navigational aid systems.

## 3.2 Strategies vs. VTrans2035 Goals

The above strategies were related to the seven goals of VTrans2035, and Figure 24 illustrates a matrix showing which strategies relate to which goals. A discussion of each of the goals is below.

- **Goal 1: Safety and Security—Provide a safe and secure transportation system.** Many of the strategies relate to the safety and security of the roadway. Increasing rail capacity provides the opportunity to lessen the truck load along the East-West Corridor, greatly improving safety. More demand-response transit service for the elderly and disabled would improve their safety and security as well.
- **Goal 2: System Maintenance and Preservation—Preserve and maintain the condition of the existing transportation system**. As capacity is increased along the rail lines or highway facilities, the existing transportation facilities are maintained and preserved along the East-West Corridor. In many cases, these facilities are improved upon.
- **Goal 3: Mobility, Connectivity, and Accessibility—Facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation**. All of the strategies promote increased mobility, connectivity, and accessibility. Any increase in capacity along the roadway, whether it is along the highway facilities, the rail facilities, or an increase in transit capacity assists in achieving this goal. Multimodal coordination at Craney Island and at the Port of Virginia will help to achieve this goal for freight movement from the Port of Virginia to state and national markets.
- **Goal 4: Environmental Stewardship—Protect the environment and improve the quality of life for Virginians**. Increases in rail capacity, including at Craney Island, will remove large trucks from the roadway. Also, any increase in transit capacity helps to achieve the goal of environmental stewardship. Increases in roadway capacity that minimize the amount of time vehicles are on the roadway, leading to fewer emissions, also assists in achieving this goal.
- **Goal 5: Economic Vitality—Provide a transportation system that supports economic prosperity**. The Port of Virginia is one of the major economic engines in Virginia, and the expansion of the Port through the Craney Island project will

increase the amount of freight that is shipped through the Commonwealth. Additional freight rail shipment and development could also potentially lead to an increase in freight movement along the corridor and an increase in distribution centers and warehouses. In addition, there is the potential for further economic development along the East-West Corridor. An increase in rail service as well as increases in rural transit and the construction of new park and ride lots in areas further from the economic centers could potentially spur development along rural areas of the corridor.

- **Goal 6: Coordination of Transportation and Land Use—Facilitate the effective coordination of transportation and land use to promote livable communities**. Increases in highway capacity should be accomplished in coordination with land use decisions in the areas they are constructed. In addition, any new park and ride lots constructed should be designed in coordination with land use decisions in the area. Any increase in transit, including demand-response services, should also be coordinated with local land use decisions.

**Figure 24** - East-West Corridor Strategies vs. Goals Matrix

| | Goals | | | | | |
|---|---|---|---|---|---|---|
| **Strategies** | **Safety and Security** | **System Maintenance and Preservation** | **Mobility, Connectivity, and Accessibility** | **Environmental Stewardship** | **Economic Vitality** | **Coordination of Transportation and Land Use** |
| Increase freight and passenger capacity of the corridor, including the possibility of a higher-speed connection. | ◎ | ● | ● | ● | ◎ | ⊙ |
| Ensure multimodal freight movement coordination with the proposed Craney Island expansion, and consider moving more freight via barge from the Port of Virginia to locations within the Commonwealth. | ◎ | ● | ● | ● | ● | ◎ |
| Support expanded freight capacity by expanding intermodal facilities. | ◎ | ● | ● | ● | ◎ | ⊙ |
| Improve transit along the corridor, especially in rural areas, by expanding existing fixed-route services and offering increased demand response services and options for the elderly and disabled. | ◎ | ◎ | ● | ● | ⊙ | ⊙ |
| Increase park and ride capacity by expanding existing lots and adding new facilities at strategic locations. | ⊙ | ● | ● | ● | ⊙ | ◎ |
| Increase highway capacity between Richmond and Hampton Roads, including across the Hampton Roads body of water. | ◎ | ● | ● | ◎ | ◎ | ◎ |
| Improve ground access to airport facilities along the corridor. | ⊙ | ◎ | ● | ⊙ | ● | |
| Implement Intelligent Transportation Systems (ITS) throughout the corridor. | ● | ● | ● | ◎ | | |

● Strong Correlation ◎ Medium Correlation ⊙ Some Correlation