ConnectRVA 2045

The Transportation Future of the Richmond Region

Richmond Regional Transportation Planning Organization

SUPPORTED BY PlanRVA THE REGIONAL COMMISSION

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Sample Pages

A separate system includes urban streets, maintained by cities and towns with the help of state funds. The Town of Ashland and the City of Richmond maintain their own roads. Additional toll roads that are maintained by other public and private entities include the Downtown Expressway (195) in the city of Richmond, Powhite Parkway and Powhite Parkway Extension (VA-76) in Richmond and Chesterfield County, the Boulevard Bridge (the "Nickel Bridge) in the city of Richmond and Pocahontas Parkway (VA-895) in Chesterfield and Henrico County.

Congestion Management Process

The Congestion Management Process (CMP) is a cyclical process which continually evolves as congestion issues, data sources, strategies, and goals and objectives change over time. The CMP tracks system performance measures, outlines strategies to manage demand, and works to ensure the continued reliability and safety of the regional multimodal transportation system. As such it is a continuous part of the metropolitan planning process, which includes the Long Range Transportation Plan (ConnectRVA 2045), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). Through the CMP, data is collected on roadways which are part of the National Highway System (NHS) in the Richmond Region. The interstates, expressways and major roads of the region are designated as part of the NHS.

The CMP tracks several performance measures. As shown on Exhibit 6, the Travel Time Index (TTI) measures how long a trip will take compared to free flow time, Level of Travel Time Reliability (LOTTR) measures the reliability of the network and Truck Travel Time Reliable (TTR) measures reliability of the network for freight. Exhibit 7 shows the Richmond region scores well on all measures.

Exhibit 6: Travel Time Index for the Richmond CMP Network Average of AM (7-9) and PM (4-6) Peak Hours

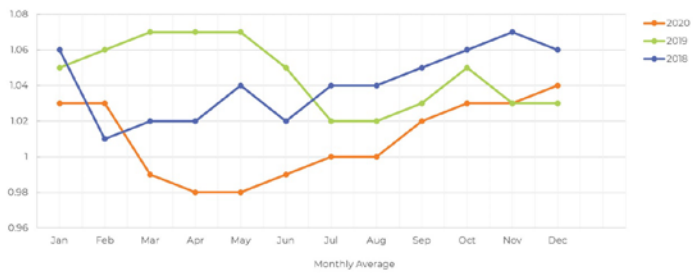


Exhibit 7: Level of Travel Time Reliability

Federal Performance Measure	VDOT Target	RRTPO		
		2017	2018	2019
Percentage of Person-Miles Traveled that are Reliable (Interstate)	82.0%	94.4%	94.8%	94.1%
Percentage of Person-Miles Traveled that are Reliable (Non-Interstate NHS)	82.5%	90.6%	90.9%	92.6%
Truck Travel Time Reliabiity Index	<1.56	1.42	1.47	1.48

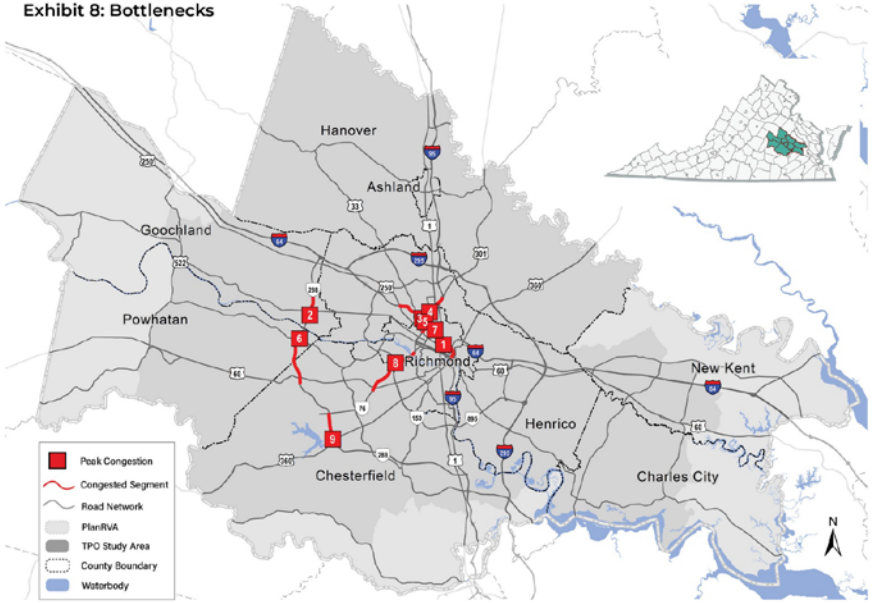
The TTI for the network has consistently been under 1.06 since 2015 meaning average travel on the network is very close to free flow speed. The LOTTR of 94.1% is well above the target of 82% set by VDOT, and TTTR, at 1.48, is also below VDOTs target of <1.56. These measures show a regional roadway network which is performing well overall, but also having areas of the network which experience congestion. The CMP uses the TTI statistics gathered on the network to examine where and when travel times are especially high. Morning 7-9 am and evening 4-6 pm peak hours are tracked at a segment level over time to show how and where congestion occurs. The CMP StoryMap contains animations of this data for both the morning and evening peak hours.

Bottlenecks, or areas of recurring sustained congestion, are highlighted by the CMP. Eight (8) major bottlenecks occur during the peak hours. Four (4) of these bottlenecks (#1, 2, 4, 8) occur where traffic enters the portion of the network known as the "I64/I95 overlap" where traffic from the two interstates comes together as it travels through the city of Richmond.

These bottlenecks have similar characteristics in that congestion occurs no matter which direction the traffic is traveling, and the morning and evening peak hours are both congested. (VDOT is currently conducting studies on I-64 and I-95.)

Another bottleneck (# 6) occurs at VA 76 (Powhite Parkway) and VA 150 (Chippenham Parkway) where the two expressways meet. This bottleneck occurs on only Powhite Parkway. The northbound segments experience the bottleneck during the morning peak hours and the southbound segments experience the bottleneck during the evening peak hours.

Exhibit 8: Bottlenecks



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Richmond Regional Transportation Planning Organization (RRTPO)

The RRTPO is a policy-making organization made up of local elected officials from each of the region's nine member jurisdictions and state and federal transportation agencies, area transportation service/system operators. The RRPDC serves as lead staff providing administrative and technical services for the RRTPO. In addition, the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transportation (DRPT) provide additional technical support.

The RRTPO serves as the forum for cooperative regional transportation decision-making. The RRTPO is required to carry out metropolitan transportation planning in cooperation with the state and transit providers. The RRTPO develops the region's transportation plans and programs, and approves ConnectRVA 2045, which is a prerequisite for the allocation of federal-aid highway and transit funds. The development of an efficient and effective multimodal transportation network is essential for the region if it is to sustain a strong economy, clean environment, and high quality of life standards.

Metropolitan Planning Organizations (or Transportation Planning Organizations) are designated under Section 134 of Title 23, U.S. Code, for maintaining and conducting a "continuous, cooperative, and comprehensive" (3-C) regional transportation process that results in plans and programs consistent with adopted plans for development of the metropolitan area. Census defined urbanized areas of 50,000 or greater in population are designated as "MPOs".

The Governor, with the concurrence of area local governments, is charged with designating the MPO's member organizations.

The RRTPO is designated as a "Transportation Management Area (TMA)", defined as a metropolitan area with a population of over 200,000, creating additional requirements for transportation planning such as the Congestion Management Process (CMP).

Like many metropolitan areas, the RRTPO encompasses several jurisdictions, each with their own comprehensive plans and transportation programs. In Virginia, planning district commissions, which are established under state code to conduct regional planning, serve as TPO staff for most of Virginia's urbanized areas.

Member Jurisdictions and Partner Agencies

The following jurisdictions are voting members of the RRTPO with the number of votes apportioned according to population indicated in parenthesis:

- Charles City County (1)
- Chesterfield County (4)
- Goochland County (2)
- Hanover County (3)
- Henrico County (4)
- New Kent County (2)
- Powhatan County (2)
- City of Richmond (4)
- Town of Ashland (1)

Partner agencies which also hold one vote include the Capital Region Airport Commission, GRTC Transit System, Richmond Metropolitan Transportation Authority (RMTA), and VDOT. Non-voting members represent other RRTPO committees and partner agencies.

TPO Study Area

Under federal requirements, the study area for the RRTPO must encompass both the existing urbanized area and contiguous area expected to become urbanized during the time period covered by *ConnectRVA 2045* (for this document the horizon year is 2045). It must also cover areas designated by the Environmental Protection Agency (EPA) under the Clean Air Act as part of the non-attainment / maintenance area for air quality standards (currently designated as an "attainment area" for ozone air quality standards).

To ensure that the plan covers all urbanized areas, air quality attainment areas, and areas expected to become urbanized by 2045, the study area has been defined to include:

- Hanover County
- Henrico County
- Town of Ashland
- City of Richmond
- A portion of Charles City County
- A portion of Goochland County
- A portion of New Kent County
- A portion of Powhatan County
- A majority of Chesterfield County*

* The portion of Chesterfield County not included in the RRTPO is contained in the Tri-Cities MPO study area.

This includes those areas of Chesterfield County near Hopewell, Colonial Heights, and Petersburg.

The RRTPO 2045 study area and designated urbanized area boundaries are shown on Exhibit 1.

RRTPO Planning and Programming Process

The RRTPO developed a transportation planning and programming process in compliance with the current appropriations bill the 2015 Fixing America's Surface Transportation Act (FAST Act) to ensure all transportation plans, projects, and programs requiring federal approval or using federal funds are reviewed on the basis of consistent and constant evaluation criteria. For the first time, the Richmond Region will evaluate and prioritize major projects using quantifiable data rather than qualitative review.

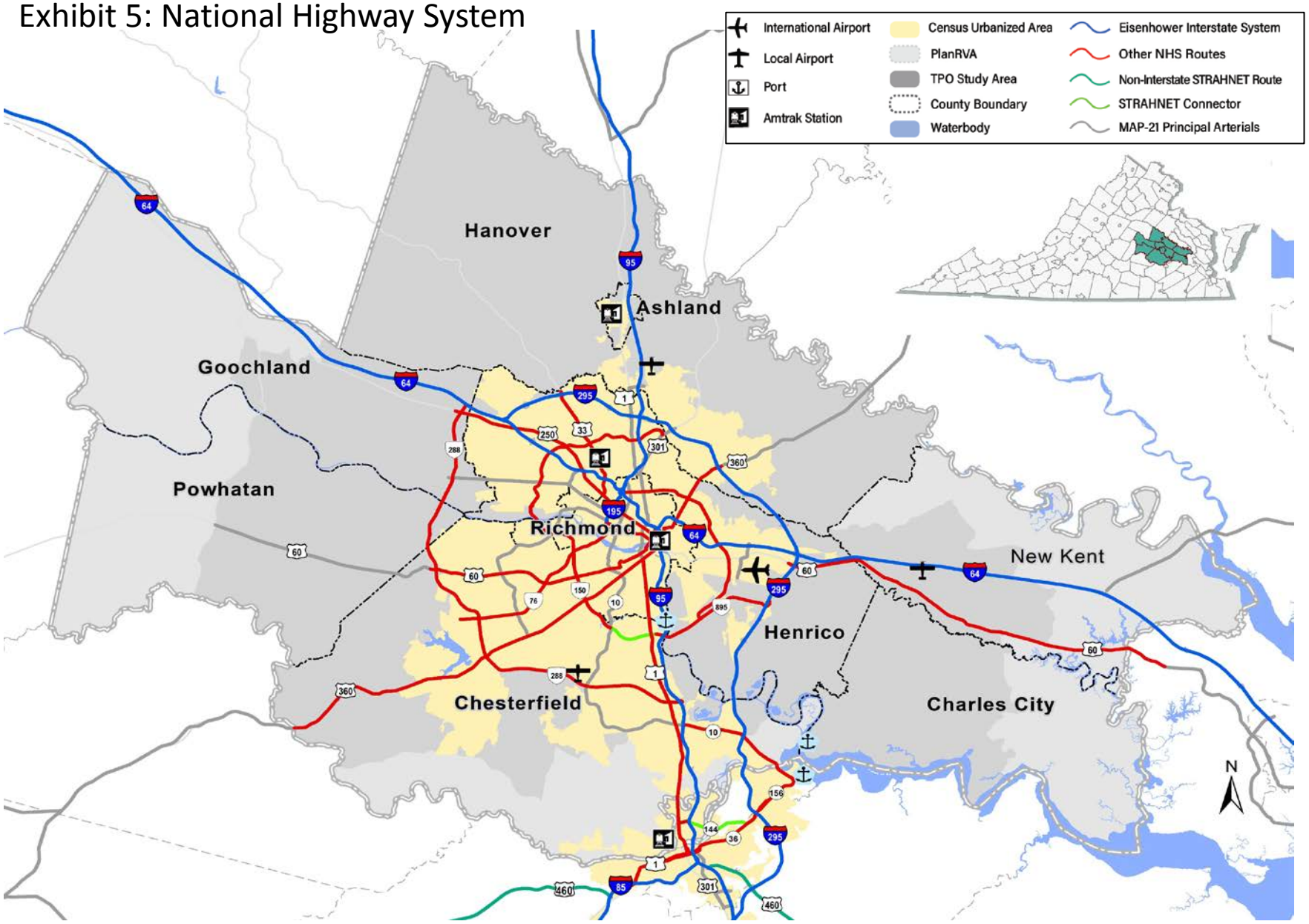
In particular, transportation decision-making is "continuing, cooperative, and comprehensive" (also known as the "3C" planning process). The RRTPO carries out the 3C planning process in numerous ways, but especially through a continuous and regularly scheduled series of meetings for both the TPO Policy Board and its standing committees including the Community Transportation Advisory Committee (CTAC and Technical Advisory Committee (TAC).

Special purpose committees, sub-committees and work groups have been established as needed and may include representatives from the TPO member organizations and various groups and organizations from throughout the region. Those subcommittees and working groups include:

- Long Range Transportation Plan (LRTP) Advisory Committee, or ConnectRVA2045 Advisory Committee (AC)
  - Active Transportation Work Group (ATWG)
    - Vision Zero Work Group (VZ)
    - Public Transportation Work Group

Exhibits

Exhibit 5: National Highway System



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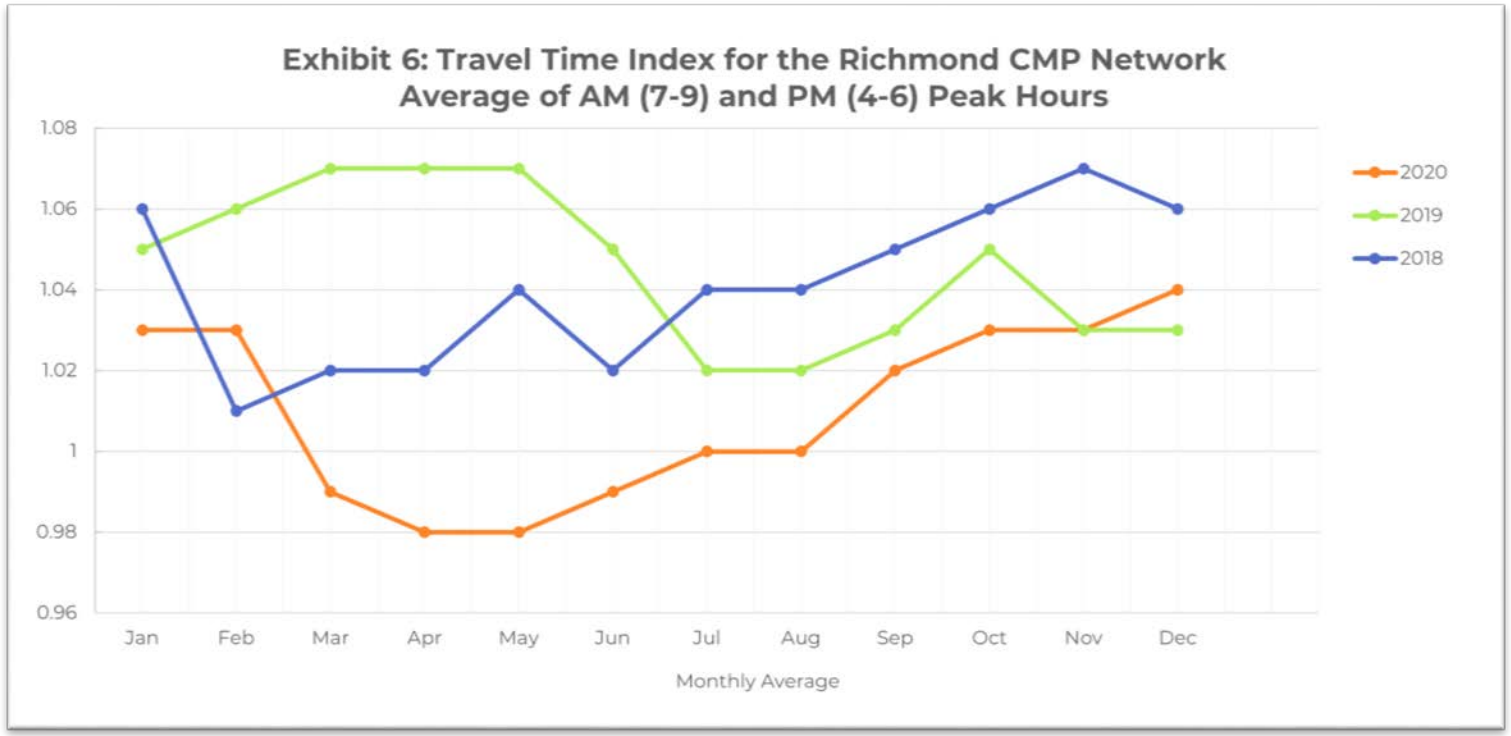

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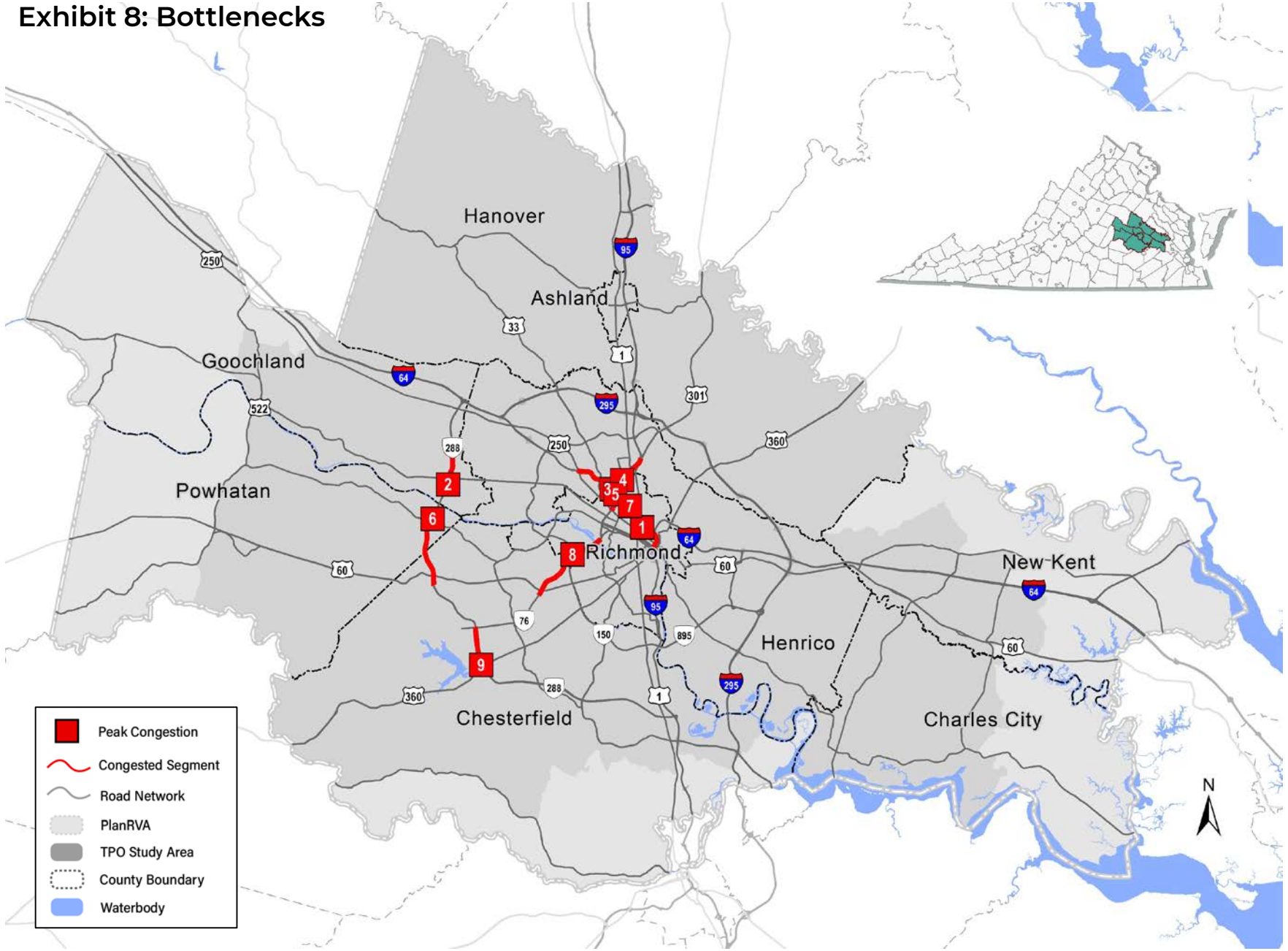

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Exhibit 14: Near Term Recommendations for Enhanced Routes

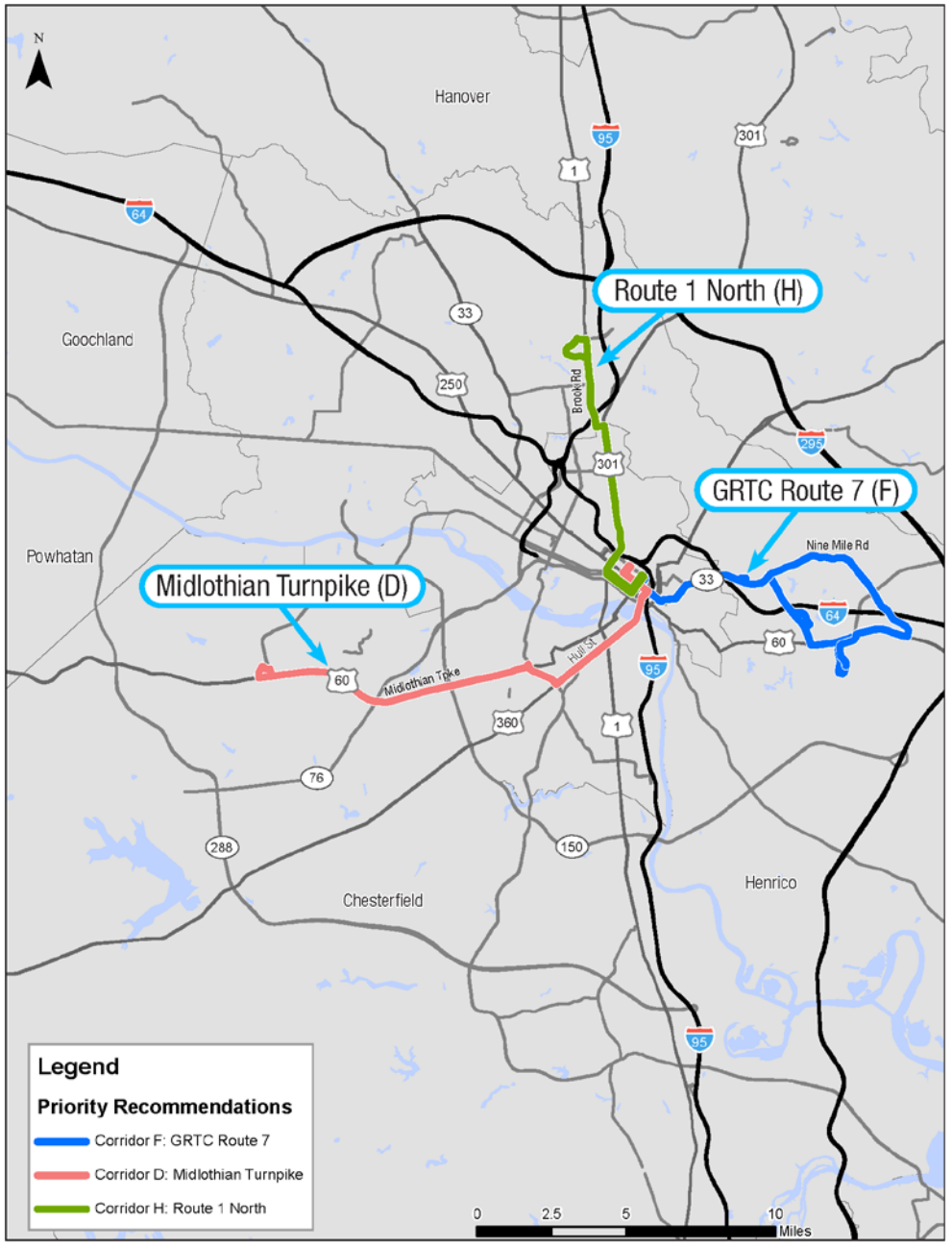

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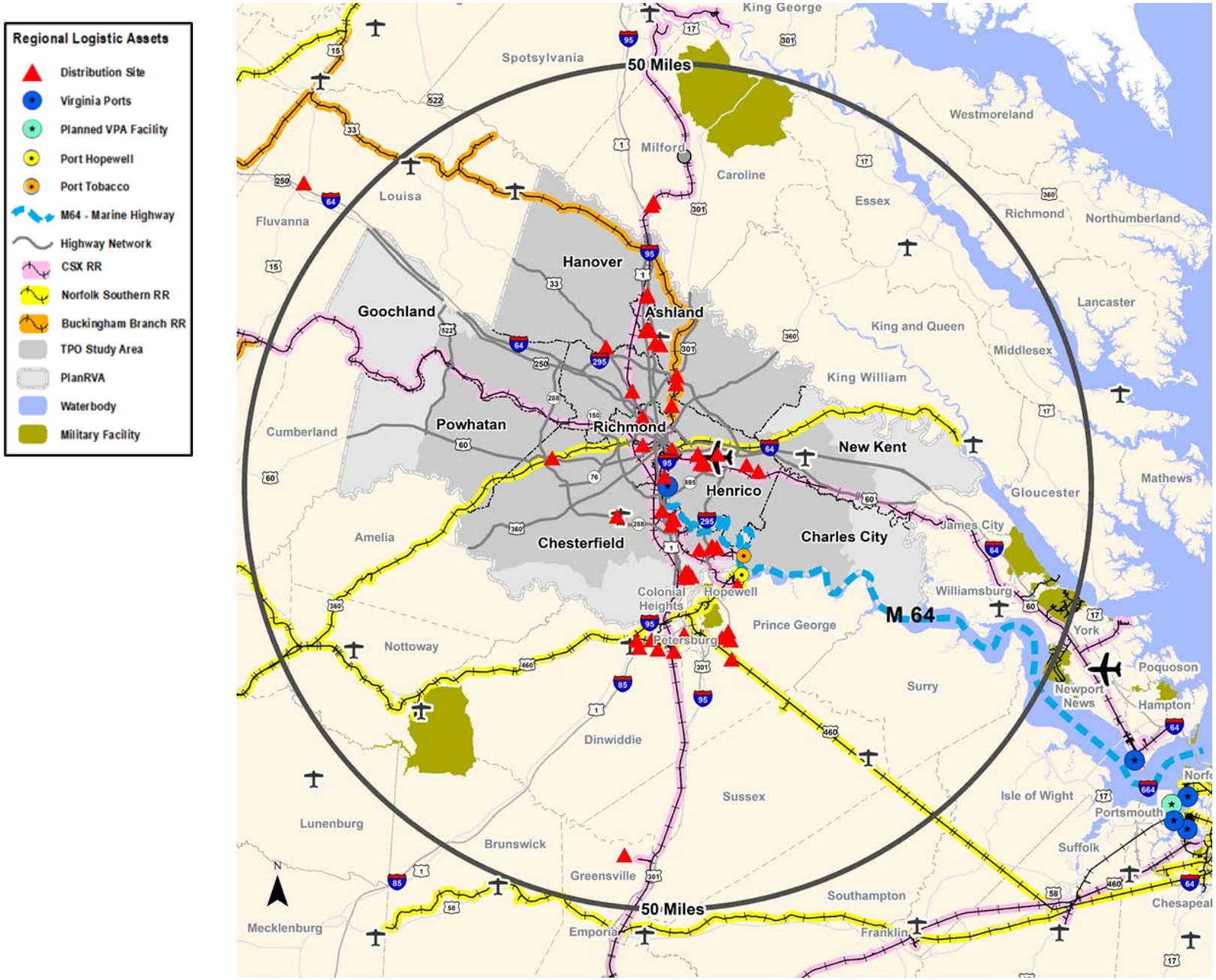
Exhibit 22: Regional Logistics Assets



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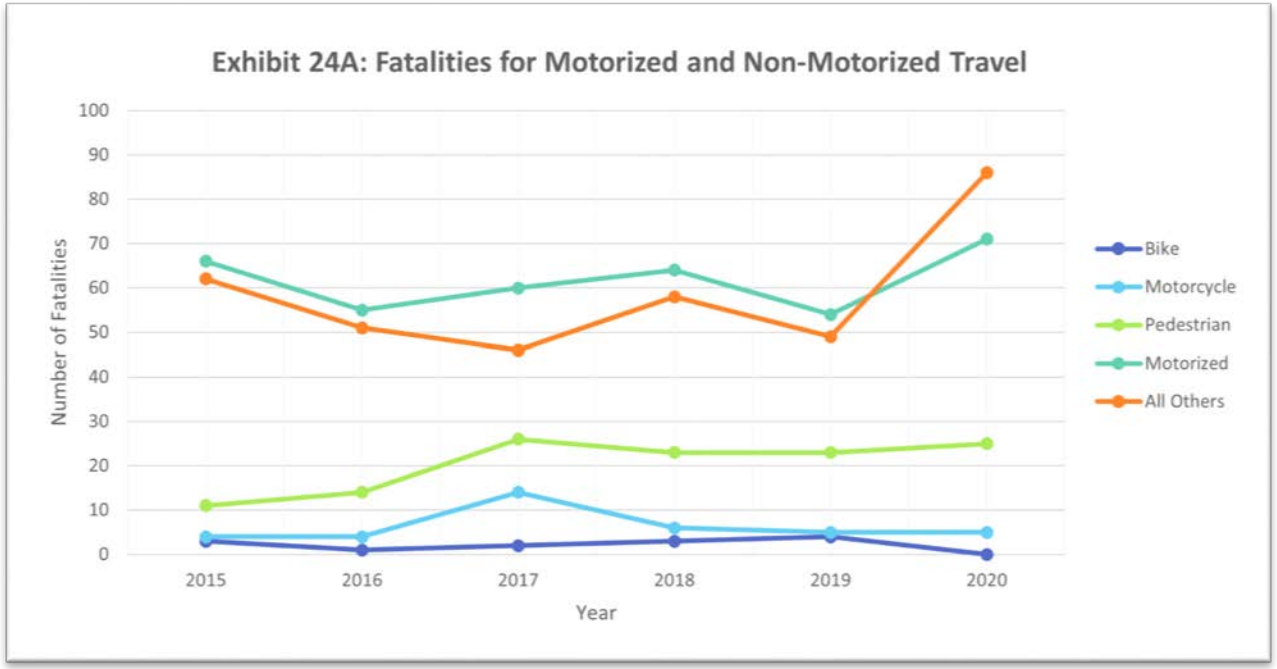
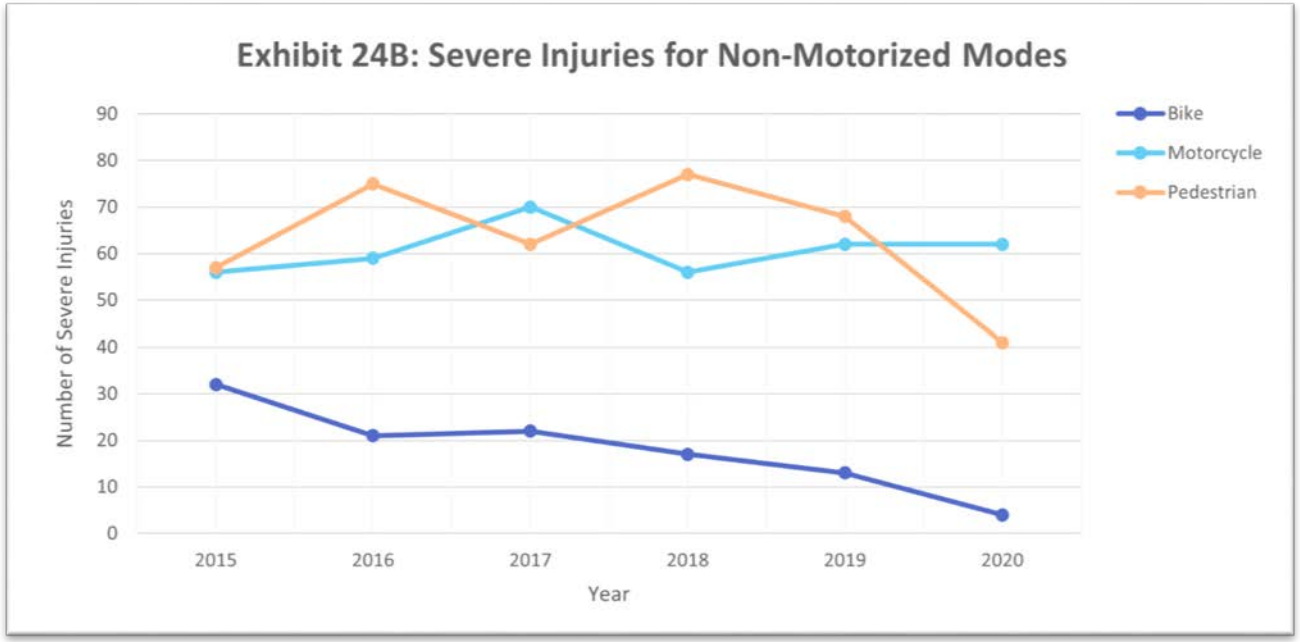




ConnectRVA 2045

Vision

The transportation system in the Richmond Region will reliably and safely connect people, prioritize more equitable opportunities for all to thrive and live healthy lives, promote a strong economy, and respect environmental stewardship.

Guiding Principles

G1. Create a safe system for all users committed to the proven strategies in planning, design, operations and maintenance as well as advances in technology to eliminate fatal and serious injury crashes.

G2. Choice among all travel modes regionwide.

G3. Expansion of regional bicycle and pedestrian networks to provide active travel alternatives to driving for better individual and community health.

G4. A robust transit network which delivers comprehensive, effective, and convenient service, particularly in areas of greatest need and to key destinations.

G5. Equity and inclusion in all transportation spending and planning decisions in the region with a focus on historically under-represented and under-served communities.

G6. Efficient movement of people and goods across the transportation network.

G7. Alignment of transportation investment and planning with land use, community health, and environmental stewardship.

Goals and Objectives

A. Safety

Improve the safety of the transportation system for all people.

A1. Enhance safety and comforts of bicycle and pedestrian facilities.

A2. Work to eliminate all serious injuries and fatalities resulting from vehicular accidents.

Goals and Objectives

B. Environment/Land Use

Reduce the negative impact the transportation system has on the natural and built environment.

B1. Address roadways prone to flooding and consider climate impacts in transportation planning prioritization and funding decisions.

B2. Reduce transportation related pollutants.

B3. Reduce VMT (vehicle miles travelled) per capita.

B4. Increase number and share of trips taken by shared and active transportation modes.

B5. Tie land use planning to transportation investments through encouragement of walkable and transit-oriented communities.

B6. Minimize impacts of transportation system on natural resources and communities with a particular emphasis on Environmental Justice (EJ) populations.

Goals and Objectives

C. Equity/Accessibility

Improve equitable access through greater availability of mode choices that are affordable and efficient

C1. Reduce trip lengths for all people with a focus on Environmental Justice (EJ) populations.

C2. Increase access to jobs and community services via transit, walking, and biking for all people with a focus on EJ populations.

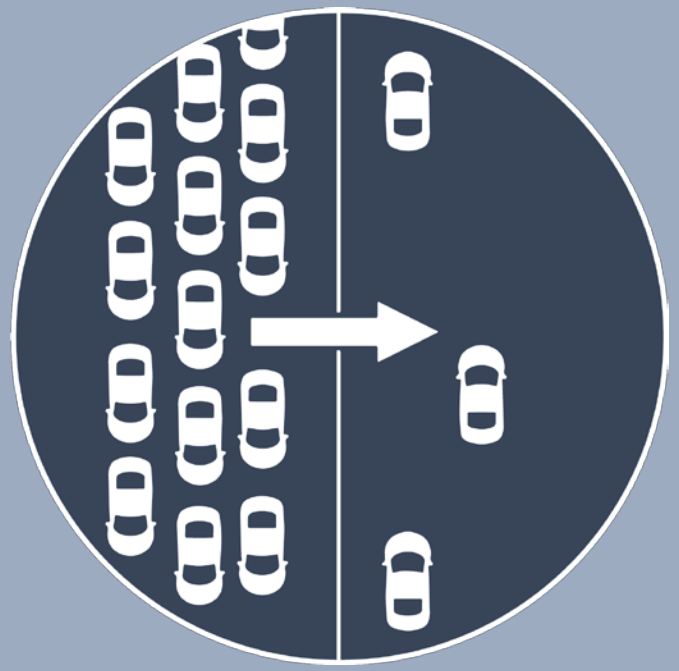
Goals and Objectives

D. Economic Development

Improve connectivity and mobility for strong economic vitality

D1. Reduce peak period travel times.
D2. Increase transportation investment which focuses on economic vitality.
D3. Improve reliability and accessibility of travel to and within the regional activity centers.
D4. Reduce freight bottlenecks.
D5. Increase multimodal access to tourist destinations.

Goals and Objectives



E. Mobility

Increase travel efficiency and mode choices by maintaining the transportation system in a state of good repair

E1. Increase the percent of complete streets across the highway network to maximize use of available capacity.
E2. Increase system efficiency through operational, transportation demand management (TDM), and technology-based solutions.
E3. Improve system reliability across all modes.