TOWN OF BOWLING GREEN
PLANNING COMMISSION MEETING

A G E N D A

Monday, June 15, 2020
6:00 PM

ROLL CALL AND DETERMINATION OF A QUORUM:

PUBLIC COMMENT:

PUBLIC HEARING: **None**

APPROVAL OF MINUTES:

1. March 9, 2020 Minutes

NEW BUSINESS:

2. Text Amendment Application - 133 Courthouse Lane

REPORT OF THE ZONING ADMINISTRATOR: **Reese Peck**

UNFINISHED BUSINESS: **Future Use Map**

INFORMATIONAL ITEMS:

3. GWRC 2050 Long Range Transportation Plan

COMMISSION COMMENTS AND REPORTS:

ADJOURNMENT

TOWN OF BOWLING GREEN
PLANNING COMMISSION MEETING

M I N U T E S

Monday, March 09, 2020
6:00 PM

ROLL CALL AND DETERMINATION OF A QUORUM:

PRESENT

Chairman Jeff Voit
Vice Chairperson Lisa Gattie
Commissioner Arthur Wholey
Commissioner Valarie Coyle

ABSENT
Commissioner Armando Flores

PUBLIC COMMENT:

None.

PUBLIC HEARING:

None.

APPROVAL OF THE MINUTES:

Motion made by Commissioner Coyle, Seconded by Vice Chairperson Gattie to approve2/24/2020 Minutes.

Voting Yea: Chairman Voit, Vice Chairperson Gattie, Commissioner Wholey, Commissioner Coyle

NEW BUSINESS:

. New Business - None

REPORT OF THE ZONING ADMINISTRATOR:

No activity this time period.

UNFINISHED BUSINESS:

Unfinished Business - Chapter 6 Transportation

Motion made by Commissioner Wholey, Seconded by Commissioner Coyle to adopt draft Transportation Element of Comprehensive Plan for the purpose of being included in GWRC Rural Area Transportation Plan with the changes discussed.

Voting Yea: Chairman Voit, Vice Chairperson Gattie, Commissioner Wholey, Commissioner Coyle

INFORMATIONAL ITEMS:

COMMISSION COMMENTS AND REPORTS:

The Commission discussed traffic control issues on Mauray Avenue.

ADJOURNMENT

Motion made by Commissioner Wholey, Seconded by Commissioner Coyle to adjourn.

Voting Yea: Chairman Voit, Vice Chairperson Gattie, Commissioner Wholey, Commissioner Coyle

ZP _____

*****This permit shall be posted in a conspicuous place*****

PREVIOUS EDITIONS OF THE FORM ARE OBSOLETE

FORM REVISED: 28 April 2008

Town of Bowling Green

Zoning Permit Application

Application is hereby made for a Zoning Permit, and Certificate of Zoning Compliance, in accordance with the description and for the purpose hereinafter set forth. This application is made subject to all local and state laws and ordinances, which are hereby agreed to by the undersigned, and which shall be deemed a condition entering into the exercise of this permit.

Owner

T&M Lewis Inc — Name

804-445-3951 — Daytime Telephone Number

P.O. Box 791 Bowling Green Va 22427 — Mailing Address

Applicant/Builder

Timothy Lewis — Name

804-445-3951 — Daytime Telephone Number

[X] Same as owner

Mailing Address

Property Information

43A2 8 2B
43A2 8 3
43A2 9 C — Tax Map/Parcel Number

B-1 — Existing Use/Zoning

133 Courthouse Lane — Address/Location (use street names)

Commercial Building — Existing Structures (number and type)

Type of Permit

Please check appropriate box(s)

[ ] **Residential** [X] **Commercial**

[ ] Single Family	[ ] Alteration
[ ] Multi-Family No. of units _____	[ ] Reroof
[ ] Addition Specify _____	[ ] Remodeling
[ ] Accessory Building Less Than 100 Feet Specify _____	[ ] Accessory Building More Than 100 Feet Specify _____
[ ] Commercial/Industrial Structure	[ ] Verification of Non-Conforming Use
[ ] Sign Permit 30 FT or Less Specify _____	[ ] Sign Permit More Than 30 FT Specify _____
[ ] Zoning Certification Letter	[ ] Modification/Variance Specify _____
[ ] Special Use Permit (*Property Owner Notification Required*) Specify _____	[ ] Administrative Appeal Specify _____

[X] Other Specify Zoning Ordinance Text Amendment

Water and Sewer

What is your water supply source?

[X] **Municipal** [ ] **Private Well**

What is your sewage disposal source?

[ ] **Municipal** [X] **Septic Tank**

Certification by Owner/Applicant

I certify that I have the authority to make the foregoing application, that the information given is correct, including any attached plans or drawings, and that all construction will conform with all applicable state, county, and town laws, ordinances, and regulations with regard to zoning, health and building. Failure to do so will automatically render this permit invalid. I understand that two copies of a plot plan (or a plan for signs) must be submitted with this application, that construction requires a building permit Issued by the Caroline County Building Official, that a separate application must be made for water & sewer connections, and that all contractors must register with the Town prior to commencing work. I agree to repair any damages to sidewalks, streets, and utilities caused during this construction. I agree to pay an inspection deposit and notify the Zoning Administrator within ten (10) days of completion of the work for an inspection and issuance of Certificate of Zoning Compliance. Failure to do so may result in the forfeiture of the inspection deposit which in no way relieves me of any obligation to comply with all Town requirements. Land may be used or occupied, and buildings structurally altered or erected may be used or changed in use, only after the Certificate of Zoning Compliance is issued.

6/12/2020 _____
Date

Timothy H. Lewis _____
Owner/Applicant Signature

**** FOR TOWN USE ONLY ****

Refer to Planning Commission ☐ **Yes** ☐ **No**

☐ **Recommend Approval** ☐ **Recommend Disapproval** **Date** _____

Refer to Town Council ☐ **Yes** ☐ **No**

☐ **Approved** ☐ **Disapproved** **Date** _____

Refer to Director of Public Works ☐ **Yes** ☐ **No**

☐ **Recommend Approval** ☐ **Recommend Disapproval** **Date** _____

Zoning Administrator ☐ **Approved** ☐ **Disapproved**

☐ **Approved with Conditions (See Attached)** **Fee Paid $** 500.00

_____ _____

Zoning Administrator Signature **Date**

CERTIFICATE OF ZONING COMPLIANCE

The building, its proposed use, or the use of the land, as described in the above application and permit complies with the provisions of Chapter 126 (Zoning) of the Code of the Town of Bowling Green and any applicable conditions.

_____ _____

Zoning Administrator Signature **Date**

REMINDER!!

Issuance of this permit does not mean work can begin. Permits must be obtained from the Caroline County Building Official and possibly (depending on the scope of the work) Virginia Department of Transportation (VDOT) and the Health Department or Department of Environmental Quality (DEQ). It is the responsibility of the owner/applicant to check with these agencies to ensure all permits are obtained before beginning work.

ADJACENT PROPERTY OWNERS

The following are all of the individuals, firms, or corporations owning property adjacent to both sides and rear, and the property in front of (across the street from) the property for which a Special Use Permit is requested. **All adjacent property owner information is required to be accurate and complete before the application can be accepted.**

NAME **STREET ADDRESS**

1) _____ _____
Mailing Address: _____

2) _____ _____
Mailing Address: _____

3) _____ _____
Mailing Address: _____

4) _____ _____
Mailing Address: _____

5) _____ _____
Mailing Address: _____

6) _____ _____
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12) _____ _____
Mailing Address: _____

13) _____ _____
Mailing Address: _____

14) _____ _____
Mailing Address: _____

15) _____ _____
Mailing Address: _____

Proposed text amendment to B-1 Zoning

Section 3-135. Permitted accessory uses. (Reserved)

Section 3-136. Special uses.

(a) The following uses are permitted when authorized by the Town Council of Bowling Green after a recommendation from the Planning Commission:

~~(1) Gasoline filling stations for the servicing of and making minor repairs to motor vehicles (when in a completely enclosed structure); public garages for storage and repair of motor vehicles (when in completely enclosed structure).~~

(1) Commercial service and light industrial uses that are primarily of a non-retail character, some of which require outdoor storage or activity areas. Typical uses include gasoline filling stations, small-scale light assembly operations, motor vehicle repair, equipment rental and storage yards, small-scale warehousing and distribution, and "workshop" type commercial land uses (e.g., welding and cabinet shops). Activity and storage are to be conducted in a completely enclosed structure or properly screened outdoor area.

The 2050 Rural Long-Range Transportation Plan

June 2020 Draft

George Washington Regional Commission
PDC 16

The 2050 Rural Long-Range Transportation Plan is part of the George Washington Regional Commission Rural Work Program (RWP) for FY20. The RWP directs staff:

To complete the process of updating the 2045 Regional Long-Range Transportation Plan to a new 2050 Regional Long-Range Transportation Plan. The State Planning and Research (SPR) funds contained in this work program will be used to fund the rural portion (Caroline and King George Counties) of the 2050 LRTP update, which is being undertaken on a Region-wide basis to better coordinate the metropolitan and non-metropolitan planning processes.

Work performed by:

Kari Barber

Jordan Chandler

Matthew Decatur

Matthew Lehane

Adam Hager

Contents

Introduction

About GWRC

Tracing its origins to 1961, the George Washington Regional Commission (GWRC) is the planning district commission (PDC) established by the General Assembly for the region comprising the City of Fredericksburg and the counties of Caroline, King George, Spotsylvania and Stafford, known collectively as Planning District 16. Planning District 16 is the fourth-largest and fastest-growing of the Commonwealth's 21 planning districts.

The Commission provides a broad array of services for the benefit of the 347,000 residents of Planning District 16, including regional environmental, energy-conservation, hazard mitigation and rural transportation planning programs; operation of GWRideConnect, the region's nationally-recognized rideshare brokerage that facilitates and promotes vanpooling and transit use, and; serving as staff to its sister board, the Fredericksburg Area Metropolitan Planning Organization (FAMPO), which is the federally-recognized metropolitan planning organization serving Fredericksburg, Spotsylvania and Stafford.

GWRC is governed by a Planning District Commission Board comprised of ten members representing the member jurisdictions of Caroline County, the City of Fredericksburg, King George County, Spotsylvania County, and Stafford County. Each locality is responsible for appointing members to the Board. Meetings are open to the public and public participation is encouraged.

The GWRC Rural Transportation Work Program

The George Washington Regional Commission's Rural Transportation Work Program for Fiscal Year 2020 utilizes State Planning Research (SPR) funds to implement the rural portion of the 2050 Long-Range Transportation Plan (LRTP) which includes Caroline and King George Counties. This Rural LRTP makes use of the FY20-25 VDOT Six Year Improvement Plan (SYIP), the U.S. 301/207 Corridor Study along with other completed studies, and the stated priorities of the localities.

Overview of the Region

Caroline and King George Counties comprise the eastern half of the George Washington Region, Planning District 16. Joined by U.S. 301 and comprised mainly of agricultural and forested lands, both counties are home to military bases; Dahlgren Naval Surface Warfare Center, in far eastern King George County on the Potomac River, and Fort A.P. Hill, in Northeastern Caroline County.

King George County, encompassing 183 square miles and 131 miles of shoreline on the Potomac and Rappahannock Rivers, is crossed by major highways Virginia VA Route 3 and U.S. U.S. 301. Tourists are drawn to Caledon State Park, an old-growth forest on the Potomac with a healthy population of bald eagles; cyclists and hikers enjoy the Dahlgren Railroad Heritage Trail, a 16 mile trail that traverses much of the northern portion of the county. Marine Surface

Wikipedia Open Domain

Warfare Center Dahlgren Division, adjacent to the Governor Harry Nice (U.S. 301) Bridge, is the primary employer and one of two main population centers along with the County Seat, King George.

Caroline County, the larger of the two, is 537 square miles. Interstate 95 and U.S. 1 run down the western part of the county and Army Base Fort A.P. Hill makes up a significant portion of the Northeast. The Meadow Event Park, birthplace of Secretariat, the famous racing horse, is one of Caroline County's notable historic sites and is now the site of the Virginia State Fair. The centrally-located town of Bowling Green is the County Seat, but the greatest development is taking place along the I-95 corridor, and places such as Lake Caroline and Lake Land'Or in the westernmost part of Caroline are the most populous areas.

Wikipedia Open Domain

Overall, both counties are experiencing growth but are primarily rural and will likely remain so for the planning cycle of this document. While congestion is not a major problem in this region, there are transportation challenges; safety concerns on winding roadways and at key intersections need to be considered, access to jobs and services is an important issue, and facilitating economic development is also a priority for these communities. This plan details existing demographic, land use and transportation conditions and helps to identify priority and long term needs to improve the transportation systems in these communities.

Map 1, Rural Counties

Social Characteristics

Population and employment distribution patterns play an important role in the need for transportation infrastructure and services. The region's population and employment have been growing at a steady rate and are projected to continue to do so as the region continues to grow to the horizon year of 2050.

Population

According to data from GWRC/FAMPO Traffic Analysis Zones in a trends projection by consultant Cambridge Analytics, in 2017 Caroline County had an estimated population of almost 30,000 persons, while King George County had an estimated population of just over 25,000 persons. Both populations are expected to continue their steady growth rate in the coming years. By 2050, Caroline County is expected to have a population around an estimated 41,500 persons, while King George County is expected to have a population around an estimated 35,000 persons. This data is reflected in Figure 1.

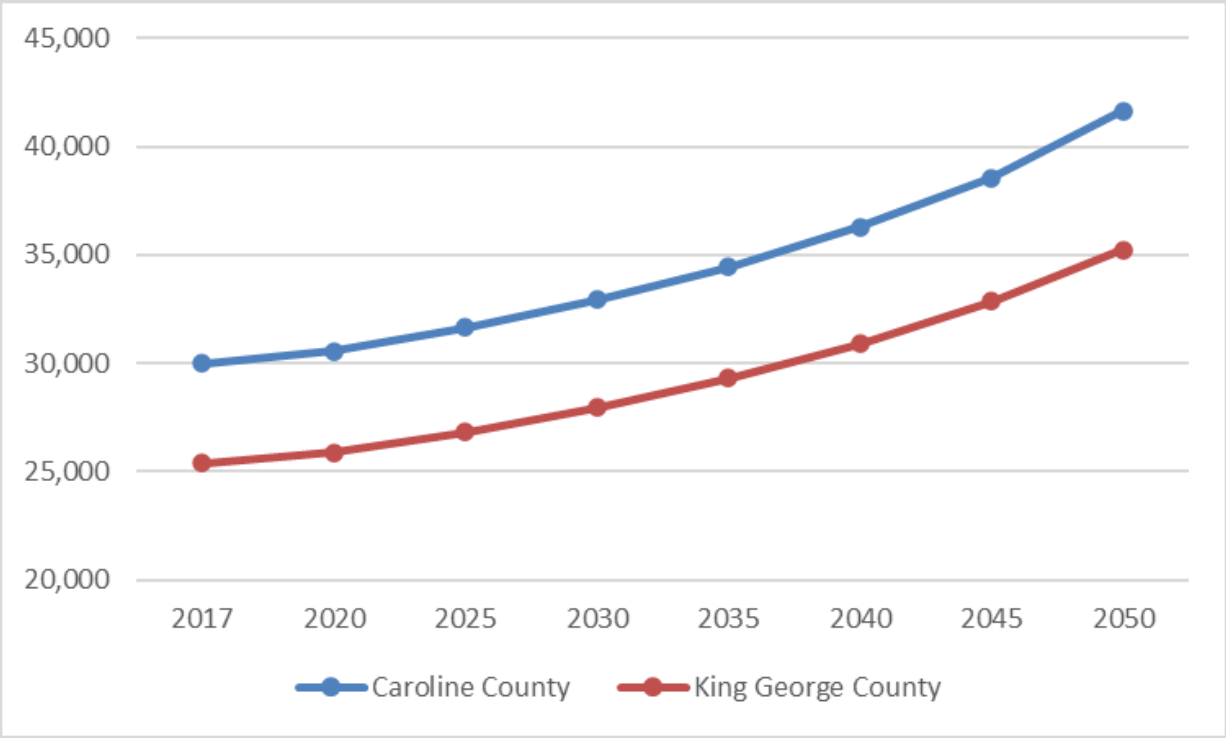
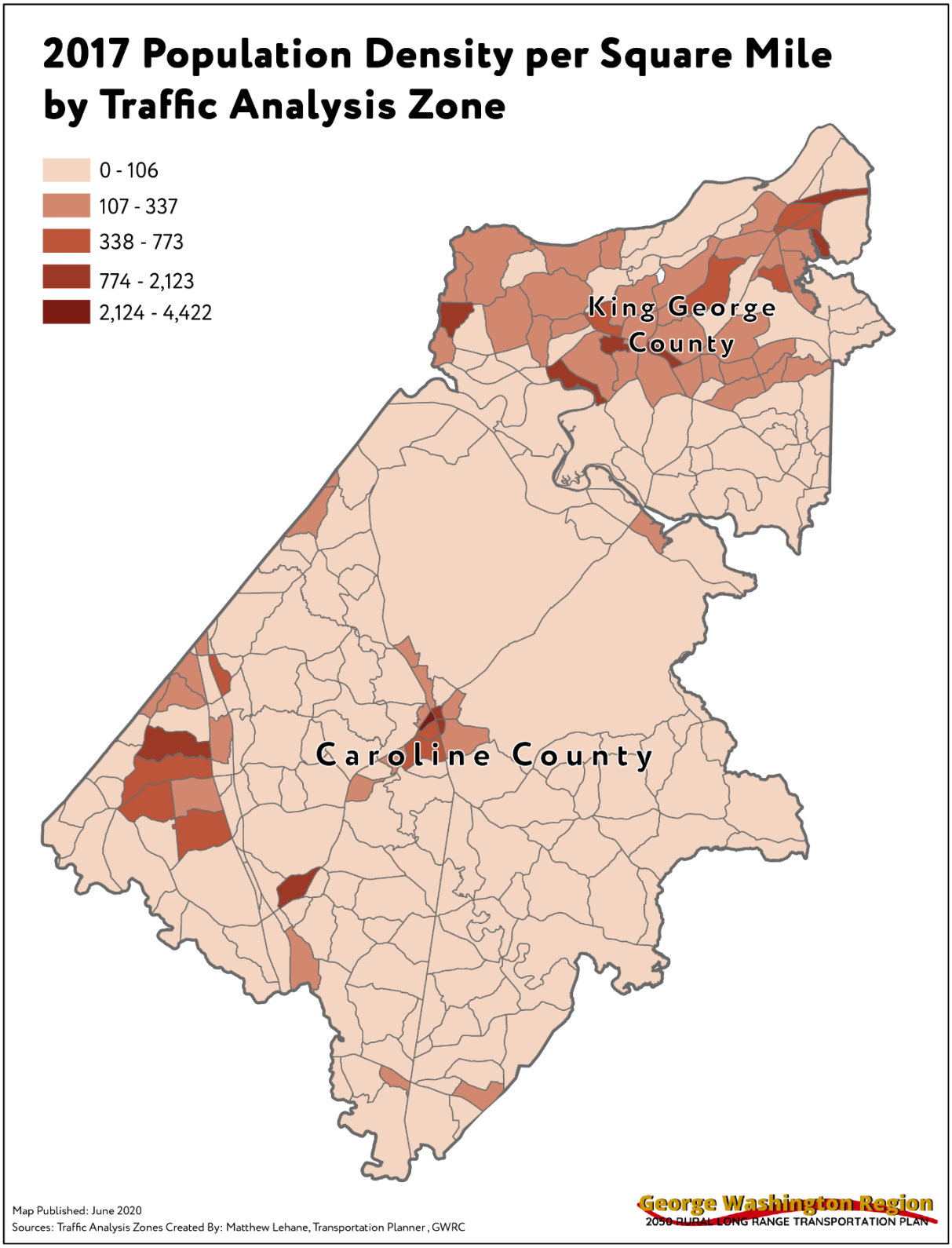
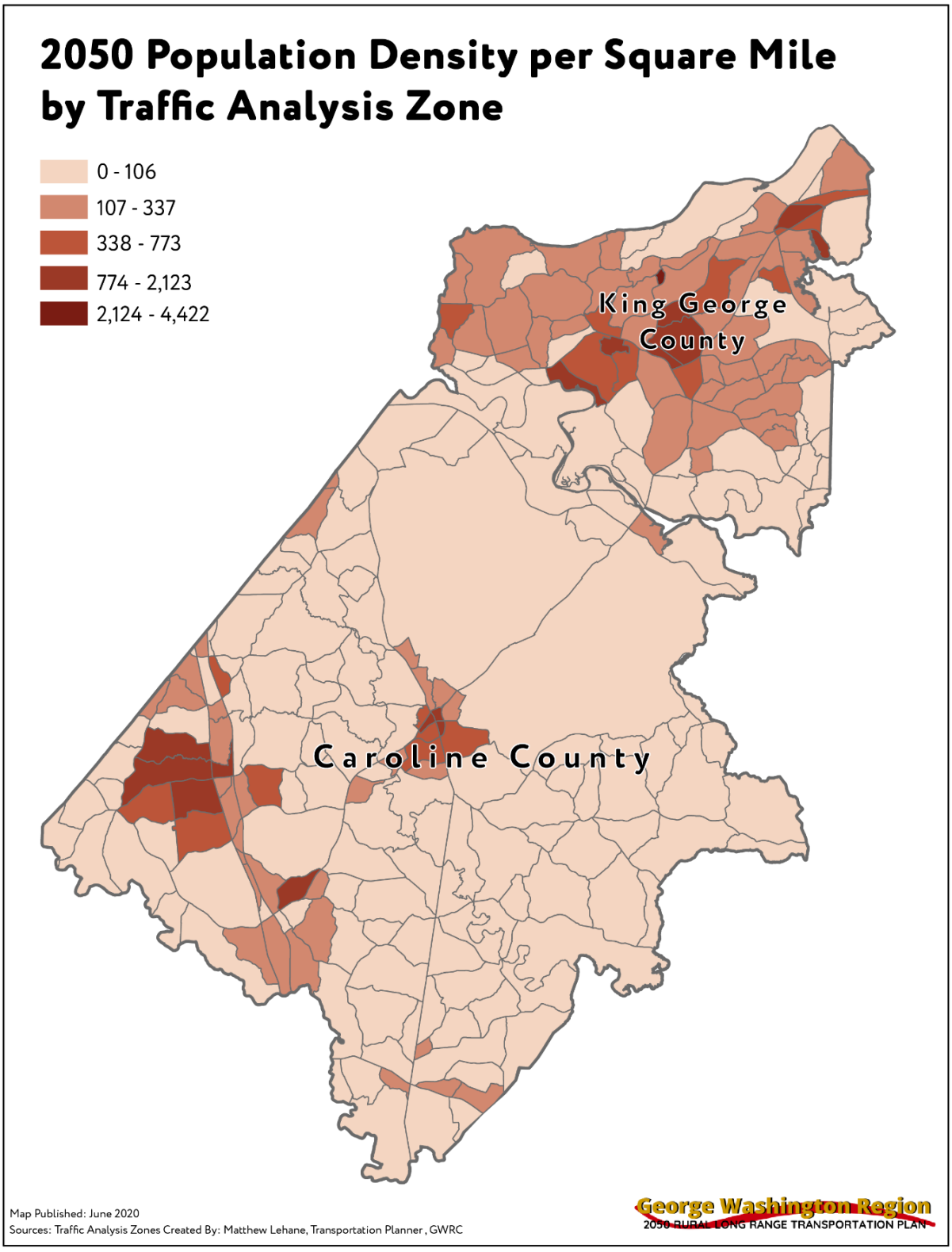


Figure 1: Population Change (2017-2050)

Distribution patterns in the region can be represented by the population density per square mile. Map 2 reflects the population densities in each county by TAZ for 2017. Map 3 reflects the population densities in each county by TAZ for 2050. Denser portions in Caroline County are represented in and around the Town of Bowling Green, and along the Interstate 95 corridor. These locations are expected to continue to grow in the coming years. For King George County, denser locations are represented near the Dahlgren Naval Surface Warfare Center and along the VA Route 3 Corridor. These locations are expected to continue their growth in the coming years.



Map 2, 2017 Population densities



Map 3, 2050 Population densities

NSWC Dahlgren Division, a major employer in the region

Employment

According to data from GWRC/ FAMPO's TAZs, in 2017 Caroline County had an estimated almost 6,000 jobs, while King George County had an estimated almost 12,000 jobs. Both employment numbers are expected to almost double in each county by the horizon year of 2050. This data is reflected in Figure 2.

Map 4 shows the 2017 employment densities in the Region. Much like the population densities, the concentrations of employment in Caroline County occur in and around the Town of Bowling Green and the Interstate 95 Corridor. For King George County, employment densities occur around the Dahlgren Naval Surface Warfare Center (NSWC) and along the VA Route 3 Corridor. Map 5 displays projected 2050 employment densities in the Region. The growth in employment is expected to continue in and around the same locations shown in 2017.

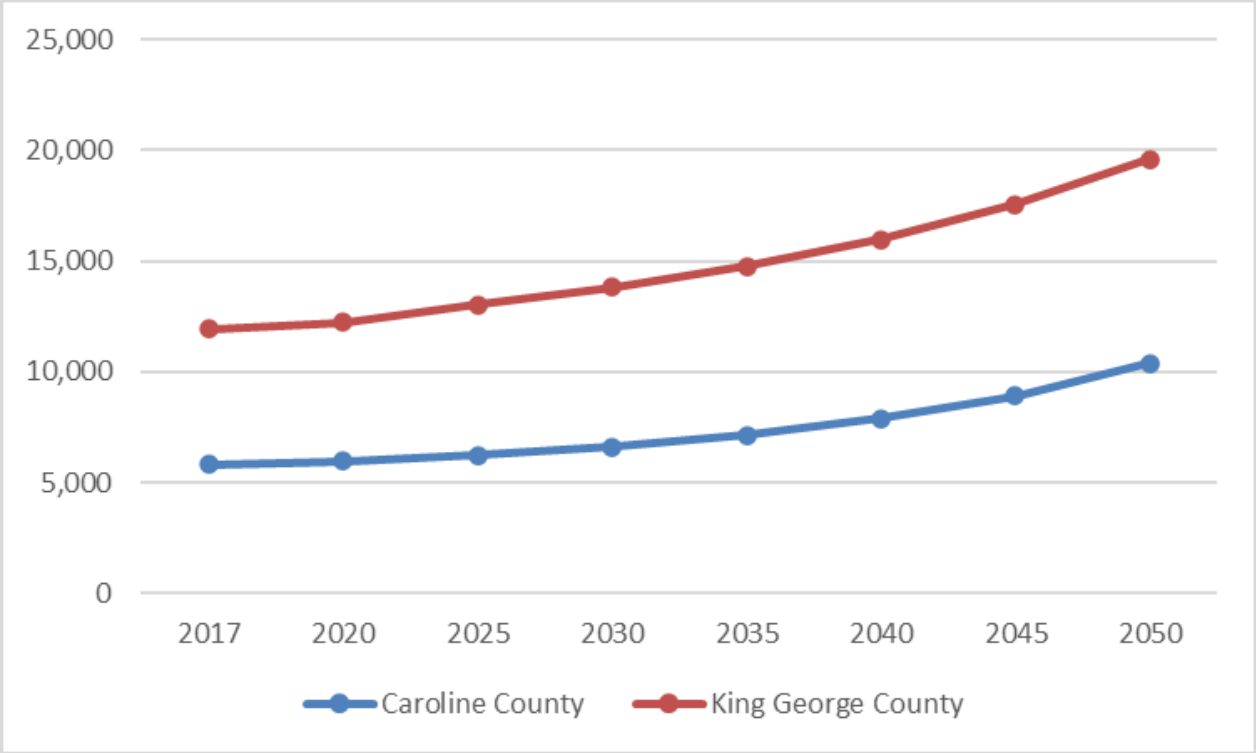
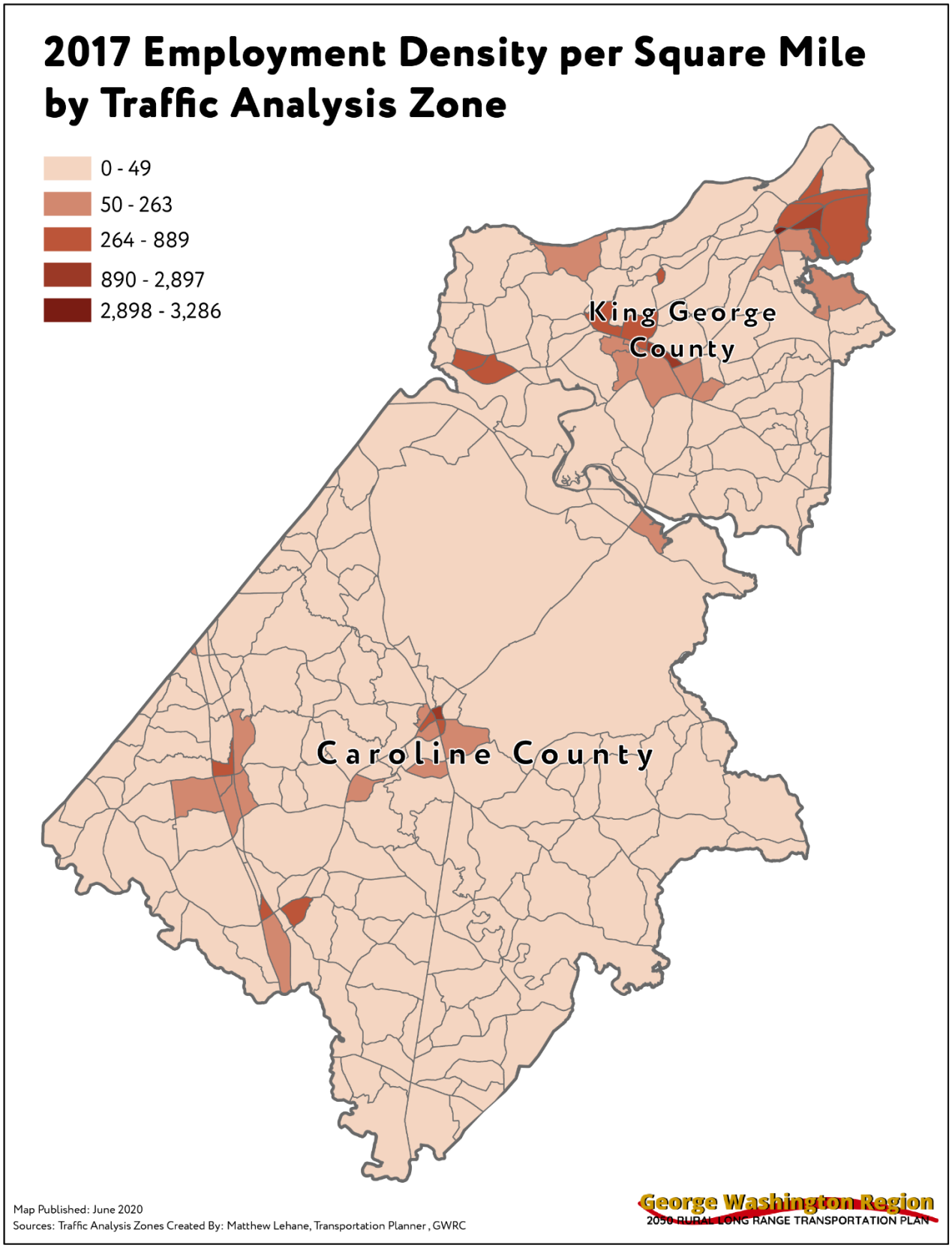
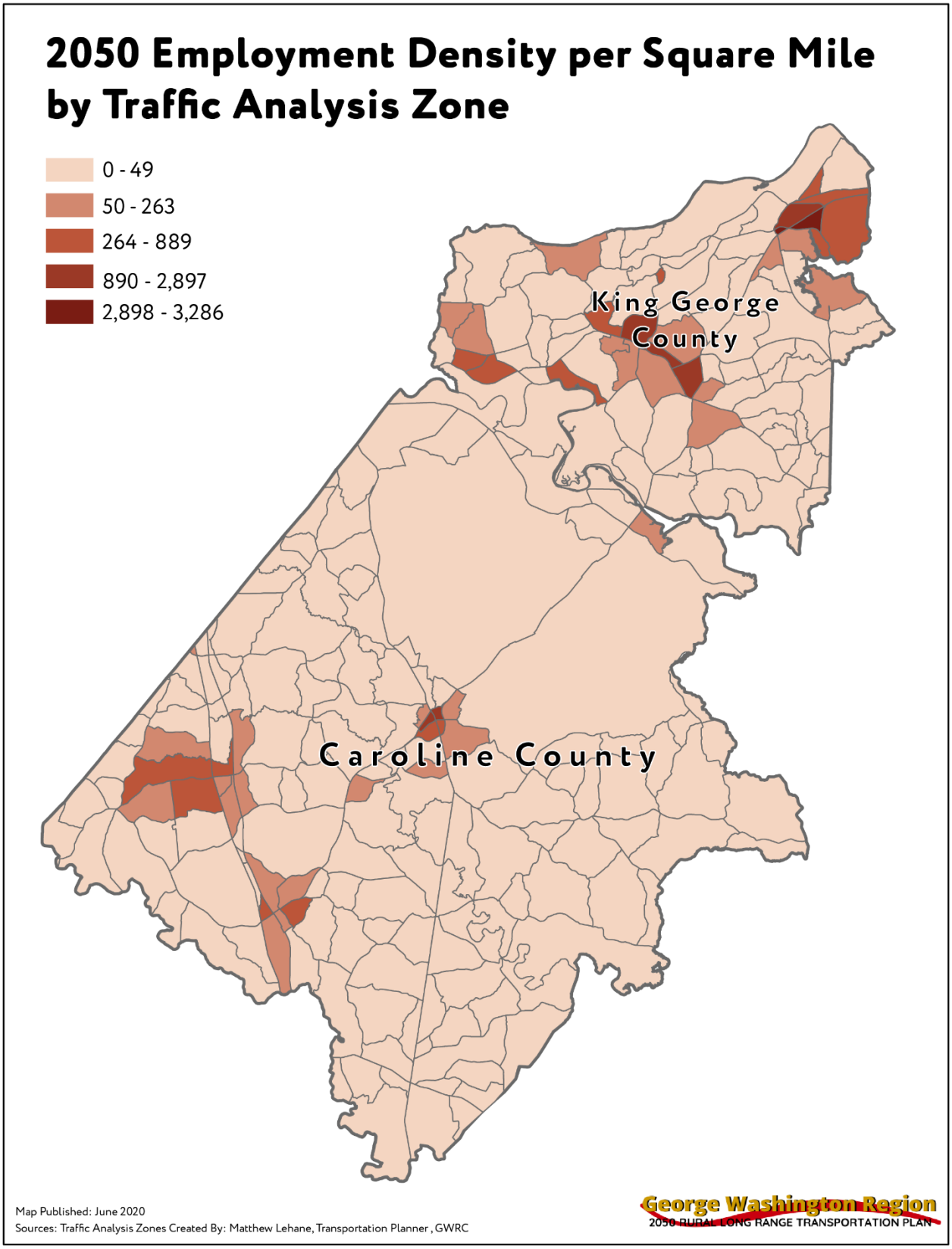


Figure 2: Employment Change (2017-2050)



Map 4, 2017 Employment densities



Map 5, 2050 Employment densities

Land Use

Fields and forests of Caroline County (Credit: Caroline County website)

Land Cover

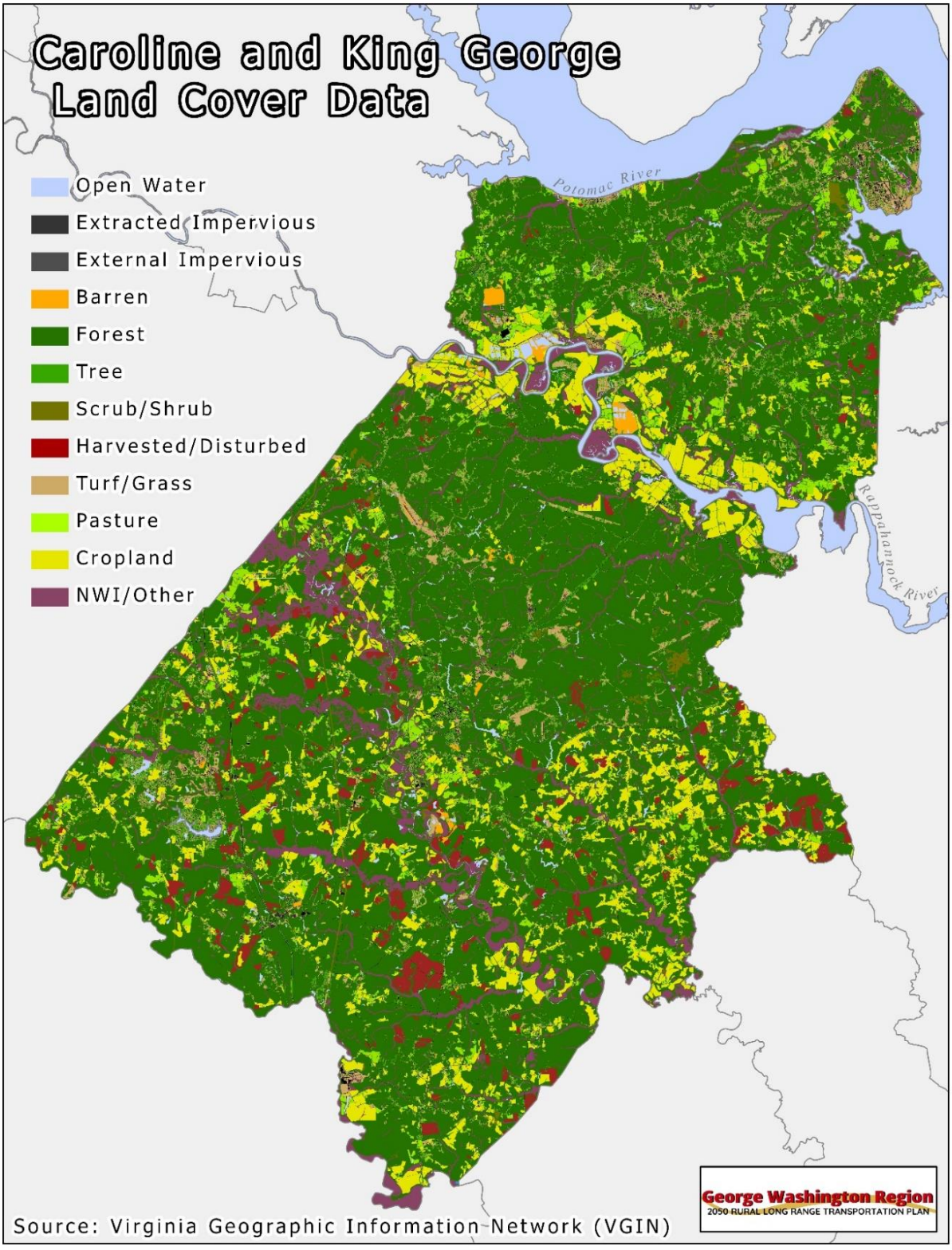
Map 6 shows rural landcover types. Caroline and King George Counties largely consist of forested lands, rural croplands and pastures. National Wetlands Inventory (NWI) are also widely scattered. Residential, industrial and commercial activity, shown by the Impervious and Disturbed land covers, are clustered around village centers in both counties. Two large barren areas in King George County, in orange, denote the King George landfill and the site of a cement and building materials company. The notable barren area in Caroline, south of the Town of Bowling Green, is also an aggregate and building materials company.

Zoning

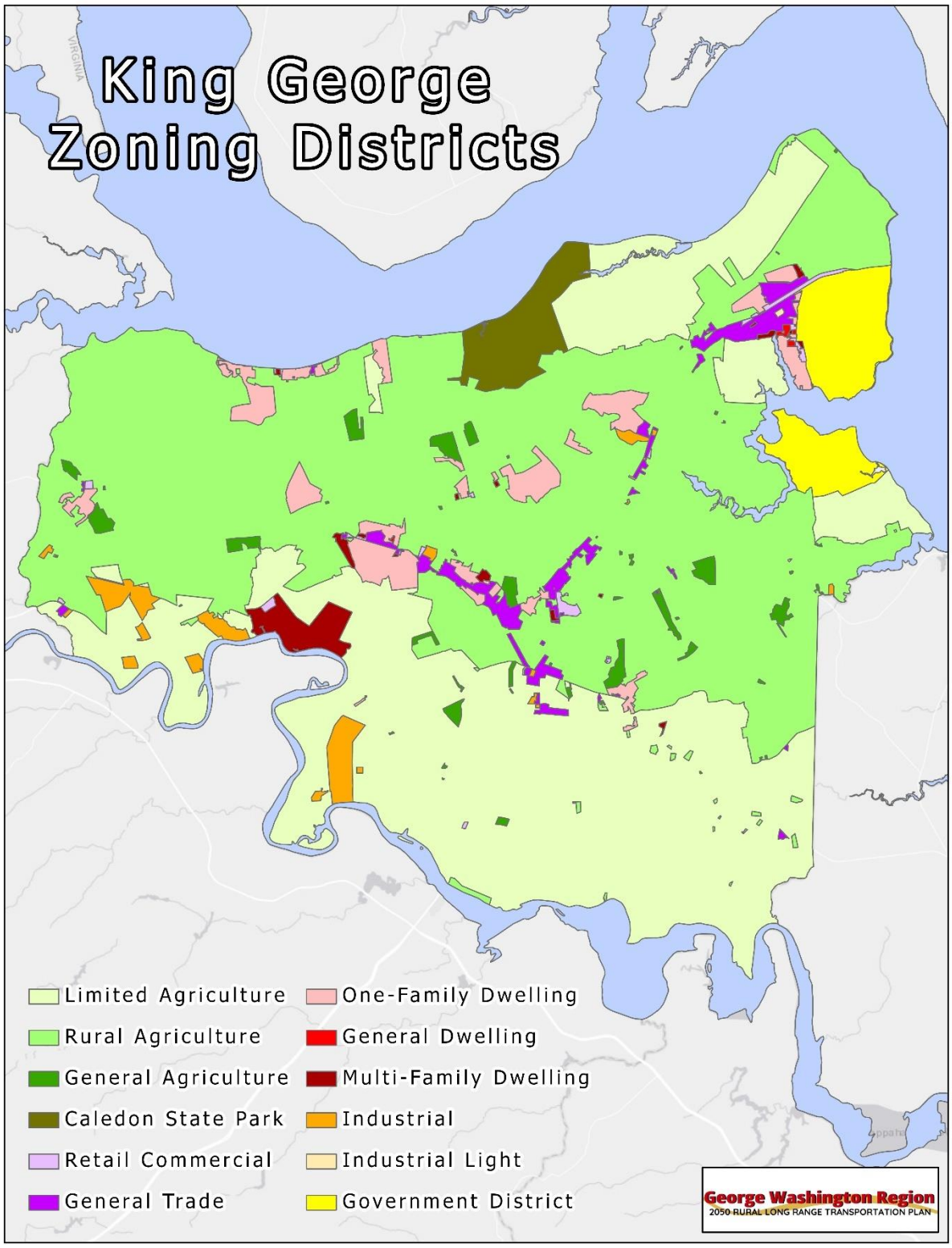
Most of the area of both counties is zoned agricultural. Caroline County in particular wishes to preserve agricultural character and has set aside much of its land to rural agricultural preservation.

In King George, growth zones designated for commercial use are found mainly near NSWC Dahlgren and along U.S. 301 and VA VA Route 3. Low-density (single family) makes up most of King George's residential zoning with the exception of multi-family zoning at Hopyard landing along the Rappahannock. Map 7 below shows zoning for King George County.

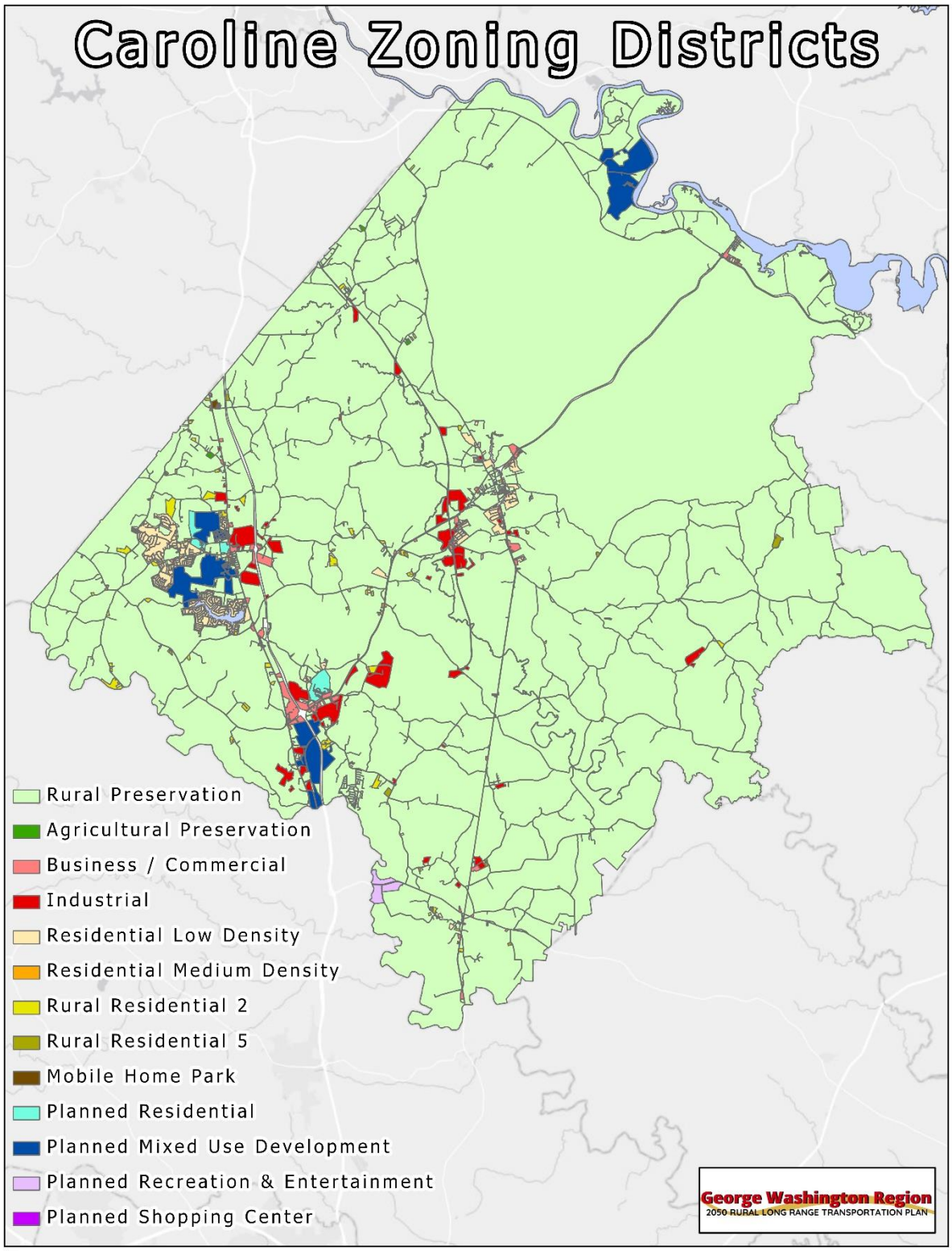
Caroline's commercial growth is focused in village centers: primarily the Ladysmith area and Ruther Glen areas along I-95, and the Town of Bowling Green on U.S. 301 to a lesser extent. These growth centers are also where the highest density of housing is found. Although the current housing profile is primarily single-family, mixed use developments are planned in these growth centers. Caroline's current zoning is shown in Map 8, below.



Map 6, Rural Land Use



Map 7, King George County Zoning



Map 8, Caroline County Zoning

Environmental Justice

Title VI of the Civil Rights Act of 1964 prohibits federal agencies, recipients, sub-recipients and contractors who receive federal funds from discriminating based on race, color or national origin, against participants or clients of programs that receive Federal financial assistance. Executive Orders 12898 (Environmental Justice) and 13166 (Limited English Proficiency) reinforced the basic rights and legal requirements contained in Title VI of the Civil Rights Act and directed that "each federal agency was directed to review its procedures and make environmental justice part of its mission."

The Environmental Justice (EJ) mandate directs federal agencies to develop strategies to help them identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. Executive Order 12898 was also intended to provide minority and low-income communities with access to public information and opportunities for public participation in matters relating to human health or the environment. It is important to identify populations that may experience barriers to mobility and therefore, may be adversely affected by transportation planning decisions.

On May 2, 2012, The U.S. Department of Transportation (DOT) reaffirmed their commitment to Environmental Justice by issuing an update to Departmental Order 5610.2(a). This order explicitly states the purpose and authority of the order and EJ policy, as well as data collection and analysis procedures associated with EJ. The result of the past 47 years of Civil Rights regulations, statutes, policies, technical advisories and executive orders, is that nondiscrimination provisions apply to all programs and activities of Federal-aid recipients, regardless of tier.

Environmental Justice Groups include the following:

- Minority Populations
- Low Income Populations
- Disabled Populations
- Older Adult Populations
- Limited English Proficiency Populations

The following data is based on the 2013-2017 5-year American Community Survey (ACS). The data is broken down to the Census Tract level.

In conjunction with project locations, the ACS data is used to identify recommended projects that are disproportionately located in Census Tracts with high percentages of EJ populations. Disproportionately high areas are defined as areas where the total percentage of minority, low income, disabled, older adult, or limited English populations are higher than the GWRC regional average.

Percentage of Protected Populations in the Impact Extent

Table 1 below reviews the total percentage of protected populations by Census Tract. The table shows the Census Tract number and respective locality along with the percentage of protected populations within the tract. Table 2 shows Census Tracts with a higher percentage than the average for the entire GWRC region. Table 3 shows the percentage of the overall population for each group in the GWRC region.

Census Tract Number	Locality	African American %	Asian %	Latino %	Age over 65 %	Limited English %	Disabled %	Low-Income %
Census Tract 301	Caroline County	25.90	1.20	8.10	11.30	0.80	16.60	16.70
Census Tract 302.01	Caroline County	40.90	0.50	5.50	13.50	0.00	13.60	11.80
Census Tract 302.02	Caroline County	17.70	0.00	0.00	24.00	0.00	20.50	15.90
Census Tract 303	Caroline County	25.00	1.70	6.60	21.10	2.50	12.10	8.60
Census Tract 304	Caroline County	27.60	2.60	2.00	22.30	2.70	16.40	12.90
Census Tract 305	Caroline County	25.80	0.90	3.30	12.90	0.00	8.40	10.00
Census Tract 306	Caroline County	44.10	0.00	1.60	18.50	0.00	14.80	14.60
Census Tract 401	King George County	25.70	0.70	8.40	12.10	0.00	9.60	7.20
Census Tract 402	King George County	13.10	1.30	0.00	14.50	1.80	10.10	8.20
Census Tract 403	King George County	11.90	1.80	3.30	11.10	0.20	10.60	4.40
Census Tract 404	King George County	20.40	0.70	4.50	11.40	0.50	11.50	2.80
Census Tract 405	King George County	9.80	0.00	8.20	12.50	0.00	8.40	7.30

Table 1, Projected populations by census tract

Census Tract Number	Locality	At or Above Regional Average Threshold						
		African American	Asian	Latino	Age over 65	Limited English	Disabled	Low-Income
Census Tract 301	Caroline County	✓		✓		✓	✓	✓
Census Tract 302.01	Caroline County	✓			✓		✓	✓
Census Tract 302.02	Caroline County				✓		✓	✓
Census Tract 303	Caroline County	✓			✓	✓	✓	✓
Census Tract 304	Caroline County	✓	✓		✓	✓	✓	✓
Census Tract 305	Caroline County	✓			✓			✓
Census Tract 306	Caroline County	✓			✓		✓	✓
Census Tract 401	King George County	✓		✓				
Census Tract 402	King George County				✓	✓		✓
Census Tract 403	King George County					✓	✓	
Census Tract 404	King George County	✓				✓	✓	
Census Tract 405	King George County			✓	✓			✓

Table 2, Populations above Regional Average

GWRC Region	
African American	20.04%
Asian	1.90%
Latino	7.43%
Age over 65	12.39%
Limited English	0.13%
Disabled	10.31%
Low-Income	7.28%

*Source: 2017 American Community Survey

Table 3, Percentage of total population

Minority Population Distribution

African American Population

Persons with African American ancestry make up roughly 20.04 percent of the total regional population. Map 9 shows that King George has the lowest percentage African-Americans (16.43 percent) living within the county followed by Caroline County at 28.77 percent. Naturally, with Caroline County having the highest percentage within the Region, it has relatively high percentages split up amongst its six census tracts. Four of the seven tracts have 25.0-37.6 percent of their populations comprised of African Americans, with 2 tracts at 40 percent.

Asian Population

As shown in Map 10, the Asian demographic makes up a relatively small portion of the overall population, with an average of 1.9 percent for the entire GWRC Region. King George and Caroline counties have a population below the regional average with 1.06 percent and 0.96 percent respectively.

Hispanic/Latino Population

Overall, the regional percentage of the Hispanic/Latino population is roughly 7.43 percent. King George County has higher Hispanic/Latino population distribution along the western census tracts, 4.65 percent for the county, while Caroline County's population distribution is located in its norther most census tract, 4.31 percent for the county. Map 11 illustrates Hispanic/Latino population aggregations.

Low Income Population

According to Federal Public Law 112-141 (MAP-21), the definition of "Low Income individual" is a person whose family's taxable income for the preceding year did not exceed 150 percent of the poverty level. 7.28 percent of GW rural region residents fall into that category. By locality, Caroline County has the highest percentage of low-income residents at 12.93 percent and all of the census tracts are above the regional average. King George County with 5.98 percent, less than the regional average identifies two census tracts as being above the regional average. Map 12 illustrates the Low-Income population aggregations.

Disabled Population

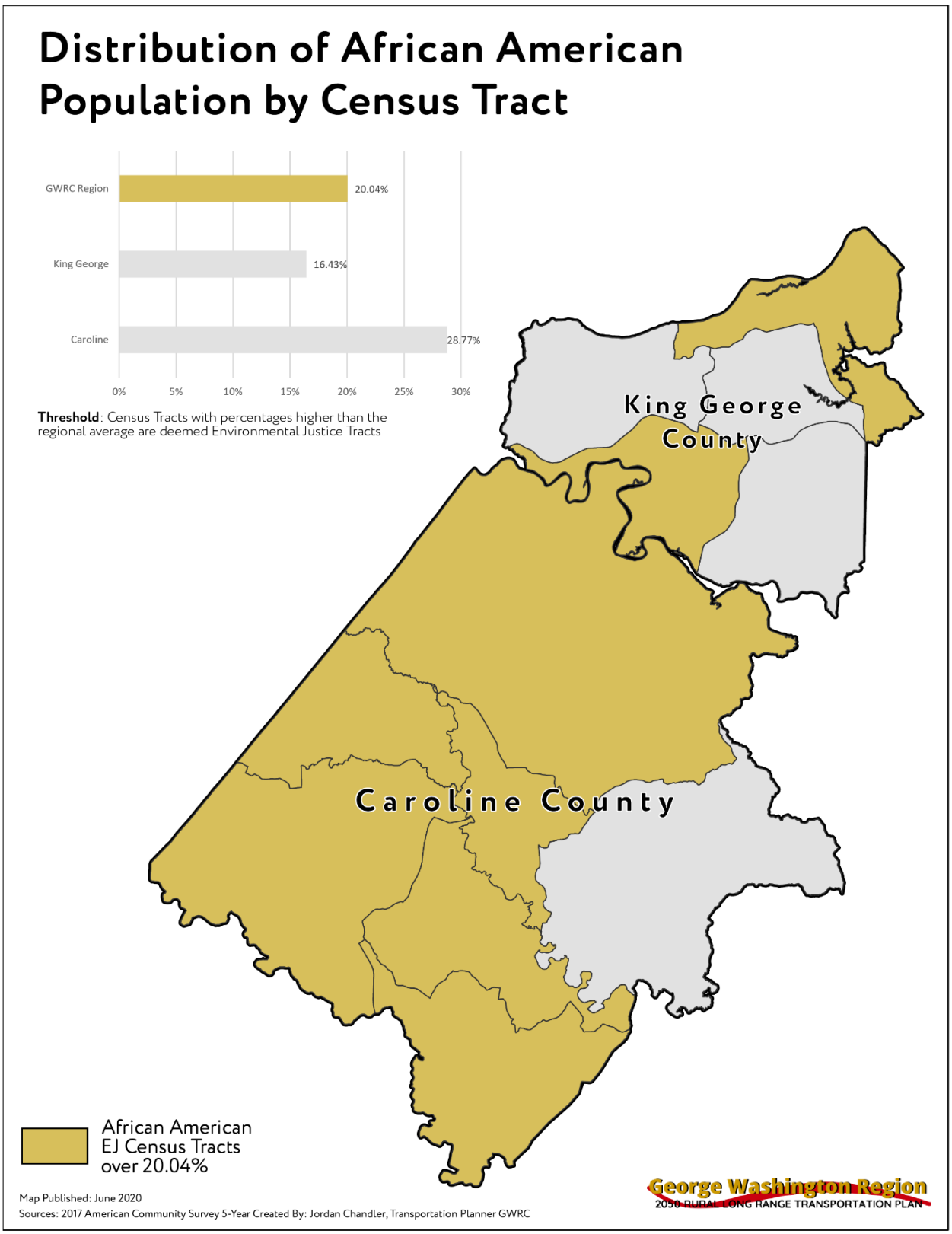
In the George Washington Region approximately 10.31 percent of the population is disabled. Caroline County has 11.52 percent overall but has a census tract in the southeast with over 20.50 percent. King George County with 10.00 percent has its highest distribution in the western census tracts. Map 13 illustrates the Disabled population aggregations.

Older Adults Population

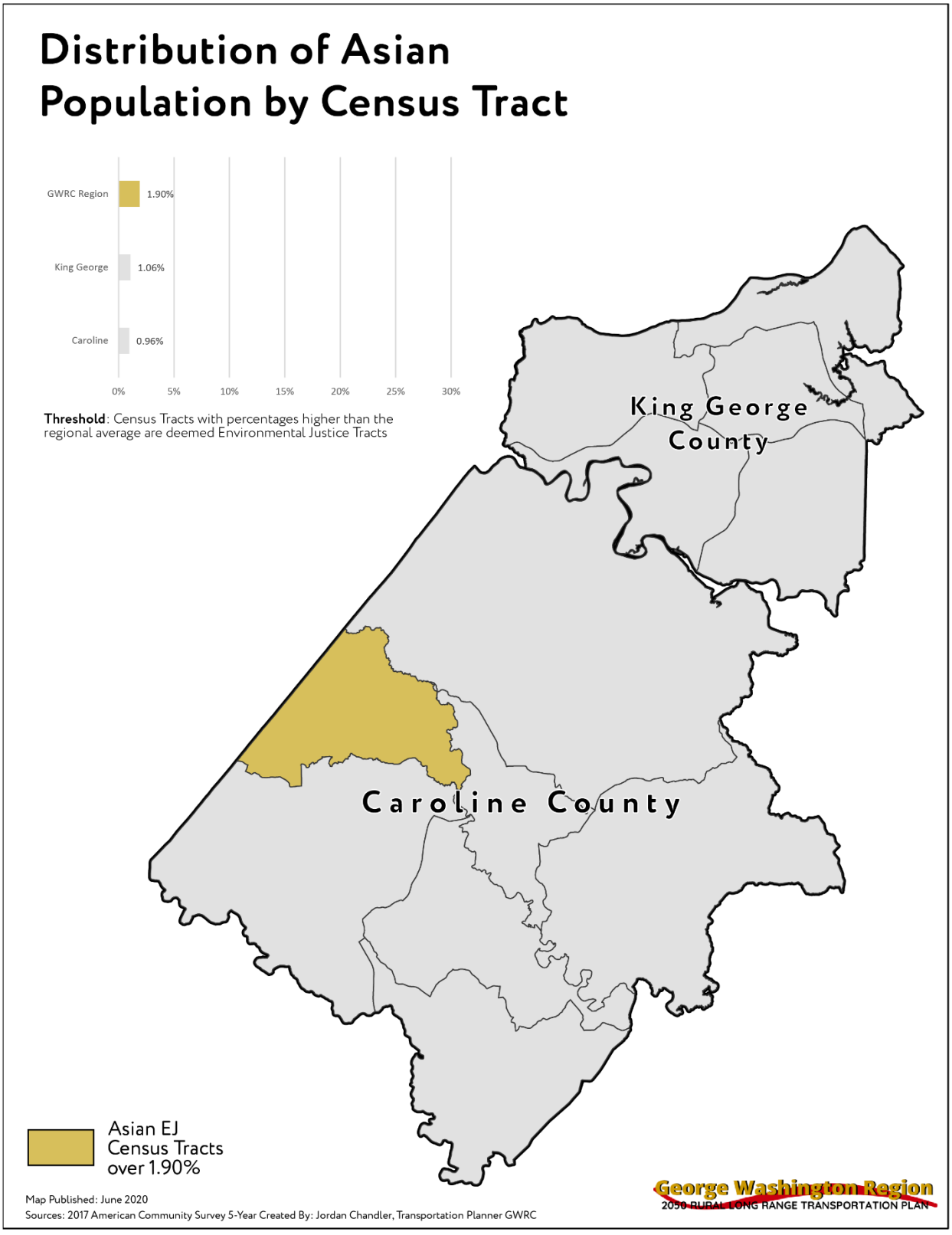
Overall, about 12.38 percent of the Region's population is comprised of Older Adults, with Caroline County having the highest percentage at 15.39 percent. King George County follows with 12.11 percent; the southern and eastern portions of the counties have the highest percentages of Older Adults living in them. Map 14 illustrates the Older Adult Population aggregations.

Limited English Proficiency

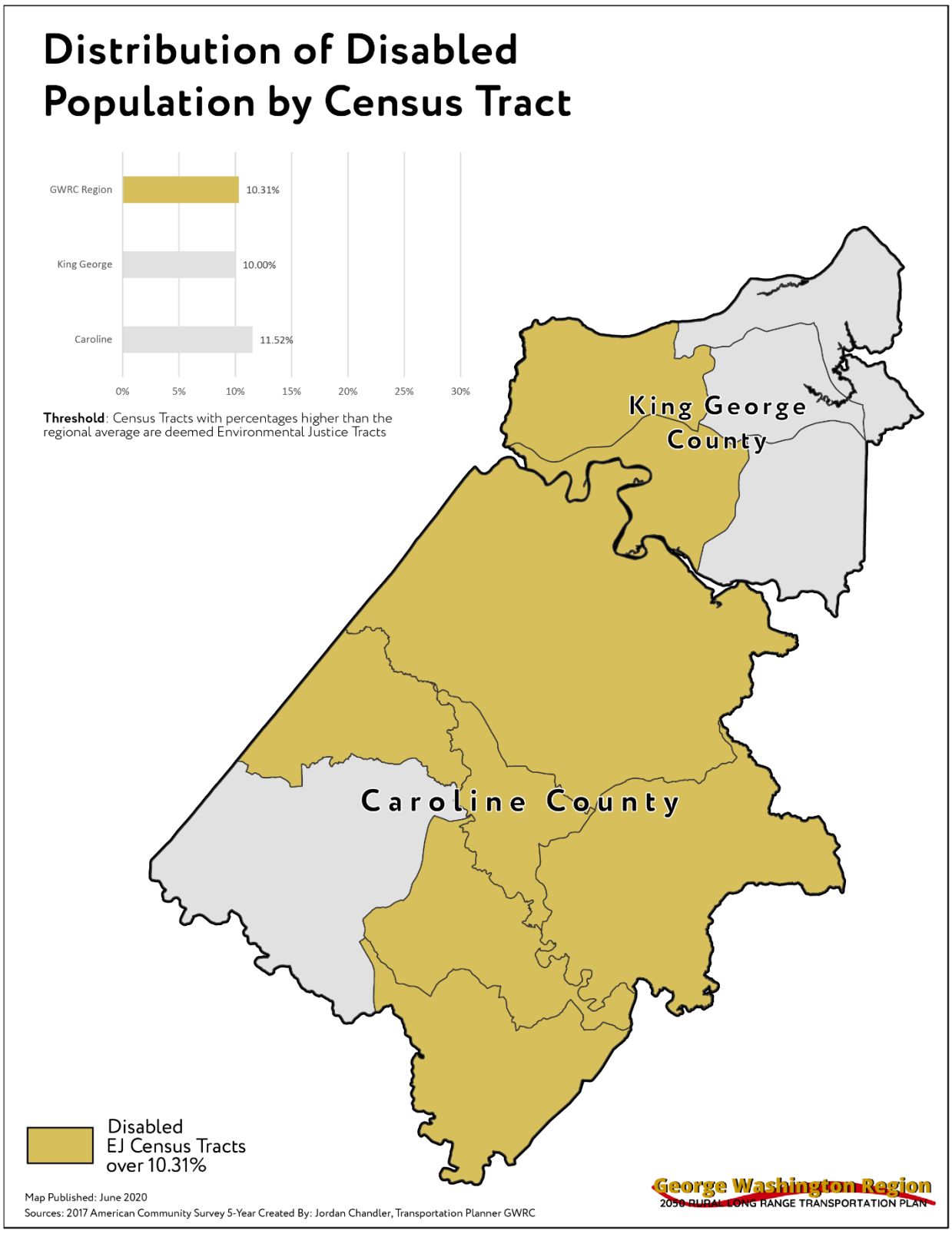
Overall, about 0.13 percent of the Region's population has Limited English Proficiency (LEP). Caroline County, 0.21 percent and King George County, 0.17 percent, both have concentrations of LEP populations in the eastern census tracts. Map 15 illustrates the Limited English Proficiency population aggregations.



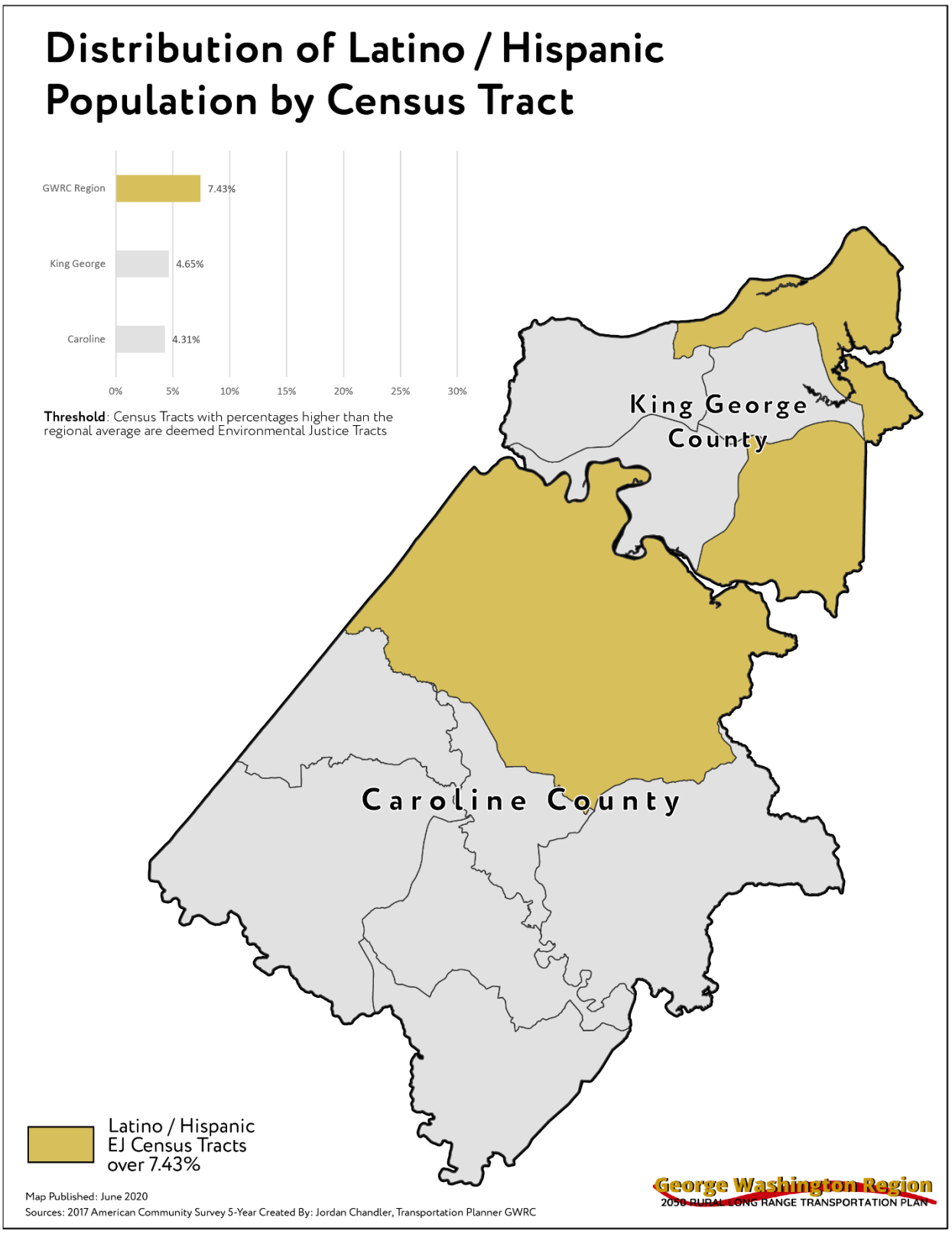
Map 9, African American population distribution



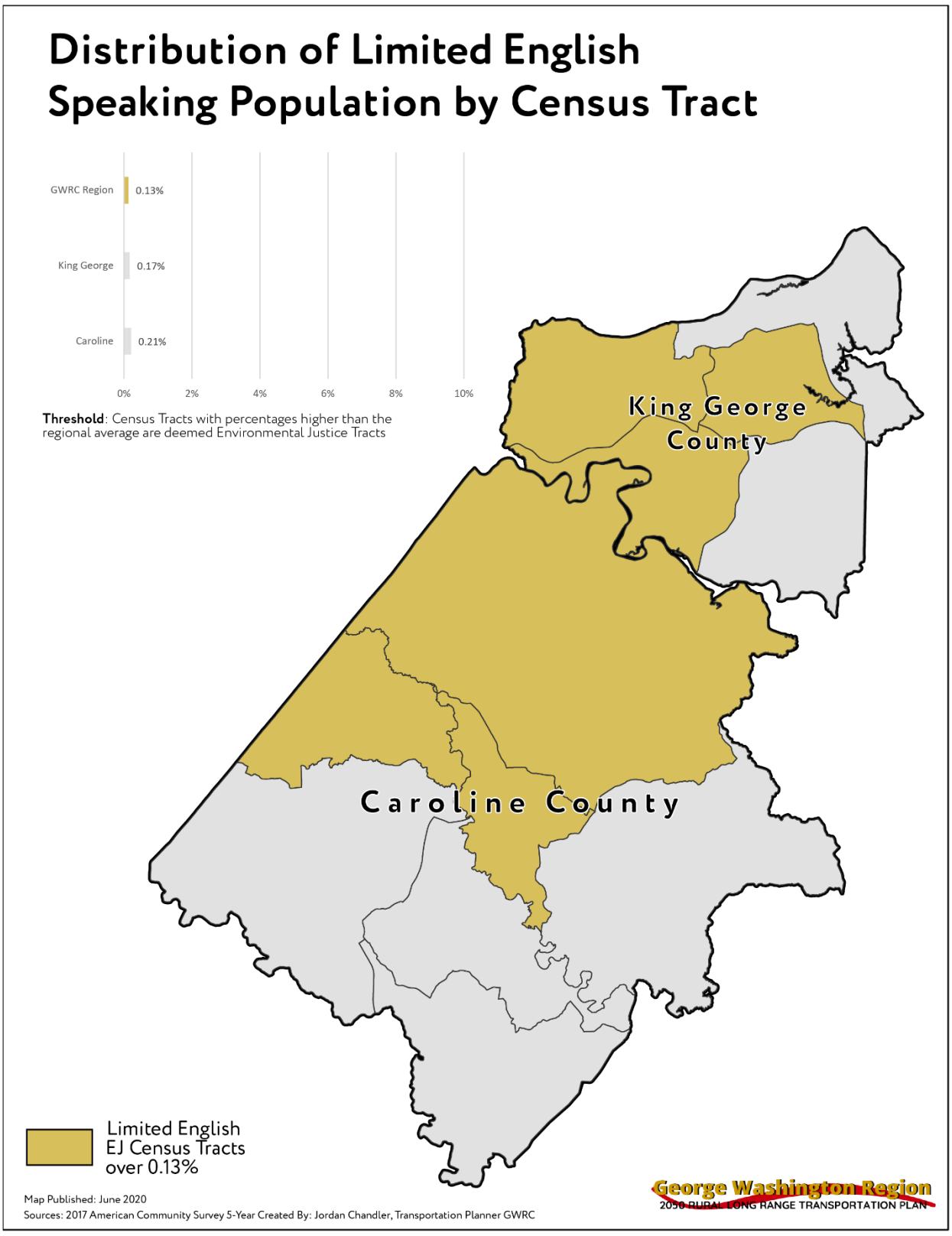
Map 10, Asian population distribution



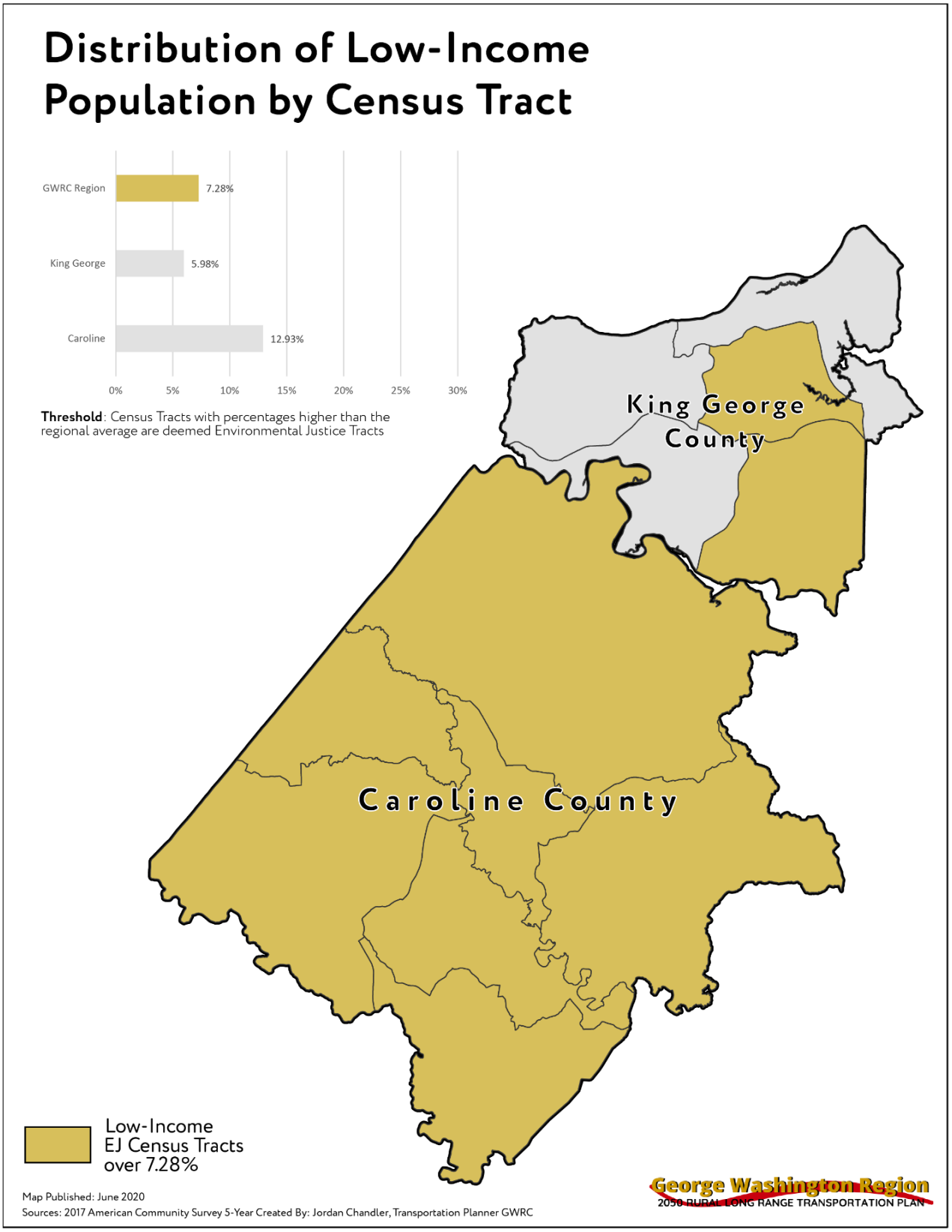
Map 11, Disabled population distribution



Map 12, Latino/Hispanic population

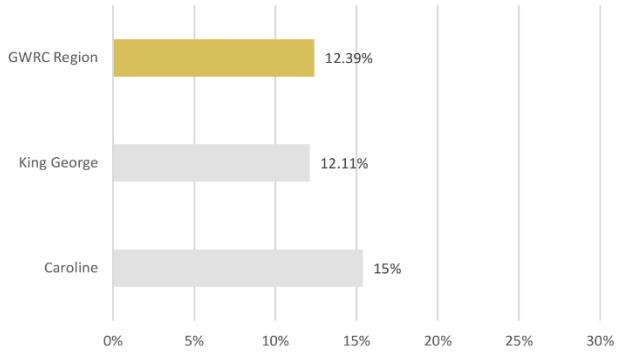


Map 13, Limited English population distribution



Map 14, Low-income population distribution

Distribution of Older Adult (65 years+) Population by Census Tract



Threshold: Census Tracts with percentages higher than the regional average are deemed Environmental Justice Tracts

Older Adult EJ Census Tracts over 12.39%

Map Published: June 2020

Sources: 2017 American Community Survey 5-Year Created By: Jordan Chandler, Transportation Planner GWRC

George Washington Region
2050 RURAL LONG RANGE TRANSPORTATION PLAN

Map 15, Older Adult population distribution

VA Route 3 in King George County (Wikimedia Commons)

Rural Transportation System

Highway Functional Classification

Rural highways in Virginia are classified by Virginia Department of Transportation (VDOT) according to function based upon a system developed by the American Association of State Highway and Transportation Officials (AASHTO). The following is a short description of each of the classifications. These classifications are also shown on Map 16, Highway Classification.

Interstates are officially designated as Interstates by the Secretary of Transportation, and all routes that comprise the Dwight D. Eisenhower National System of Interstate and Defense Highways belong to the Interstate functional classification category and are considered Principal Arterials. Access to these roadways is controlled or limited to maximize mobility by eliminating conflicts with driveways and at-grade intersections that would otherwise hinder travel speed. Access to these roadways is limited to a set of controlled locations at entrance and exit ramps. I-95 is the interstate highway in this region.

Other Principal Arterial highways provide an integrated network of roads that connect principal metropolitan areas and serve virtually all urban areas with a population greater than 25,000. They serve long distance travel demands such as state-wide and interstate travel. In this region, U.S. 1, U.S. 17, much of U.S. 301, and parts of VA 3 and VA 207 are designated Principal Arterials.

Minor Arterial highways link cities and large towns and provide an integrated network for intrastate and intercounty service. They supplement the principal arterial system so that all demographic areas are within a reasonable distance of an arterial highway and are intended as routes that have minimum interference to through movement. U.S. 301/Route 2 to the south of Bowling Green, U.S. 301 Business from the bypass to Route 2, Route 2 north, VA Route 3 east of U.S. 301, and Local routes 205 and 206 are classified as minor arterial highways.

Direct access to properties from arterials is discouraged. Access to adjacent properties should occur through the utilization of access management techniques such as internal, frontage, or service roads; shared entrances; and limitations on the number, location, and spacing of entrances.

Major Collector highways provide service to any county seat, large towns, or other major traffic generators not served by the arterial system. They provide links to the higher classified routes and serve as important intra-county travel corridors.

Minor Collector highways collect traffic from local streets and bring all developed areas within a reasonable distance of a collector road. They provide service to small communities and link important local traffic generators with the rural areas.

Local Streets provide access to adjacent land and serve travel of short distances as compared to the higher systems, and typically collect traffic from local subdivision roads and carry these vehicles to adjacent neighborhoods and arterial roads. The design of the roadway and adjacent development

should minimize potential conflicts between vehicles and pedestrians. The intended functional classification of a road plays a role in the determination of recommended right-of-way widths. Recommended right-of-way widths based upon VDOT standards are shown in Table 4.

Functional Classification	Recommended Rights of Way Width
Principal Arterials	120 to 200 feet
Minor Arterials	90 to 120 feet
Major Collectors	70 to 90 feet
Minor Collectors	70 to 90 feet
Local Streets	40 to 80 feet

Table 4, Recommended Rights of Way Source: VDOT Geometric Design Standard

Major Routes in the Rural Transportation System

U.S. 301, classified "Other Principal Arterial", is a major roadway running through King George and Caroline Counties, connecting them with each other and with the State of Maryland over the Governor Harry Nice Bridge in the north and eventually with Interstate 95 in the south.

U.S. 301/207 enters King George County in the Northeast via the Governor Harry Nice Bridge on the shores of the Potomac River. A four-lane divided highway classified as a principal arterial, it passes Dahlgren Naval Surface Warfare Center, the County's main employer, and the most densely developed portion of King George County. Continuing Southwest across the Rappahannock River through Port Royal, 301 reaches Caroline County, passing through Army installation Fort A.P. Hill and the Town of Bowling Green. From there it turns south and skirts small communities, scattered residential and commercial developments, and rural lands, eventually reaching the border with Hanover County. Congestion is not currently an issue for this roadway, but with the coming expansion of the Nice Bridge, traffic is expected to double on this corridor. That projection and safety concerns with several intersections along this highway is detailed in the Virginia Department of Transportation's 301/207 Arterial Preservation Plan, which is the genesis for some of the projects described in this document.

Several other important roadways make up the rural transportation system in these two counties; they are described below:

King George County is traversed by VA Route 3, VA Route 218, and Primary local roads 205 and 206.

VA Route 3 runs primarily West to East along the southern part of the county through rural lands and small communities. Starting off as a four-lane divided highway, it changes to a two-lane road east of the intersection with U.S. 301, where it becomes a minor arterial. Congestion is not an issue on this roadway, but the crash rate is significantly higher than average for the section east of U.S. 301, so safety is a concern.

VA Route 218, a two- lane roadway, runs primarily West to East along the northern portion of King George County, passing Caledon State Park and meeting U.S. 301 west of Dahlgren, then turning sharply southward.

US U.S. 301 in King George County (Wikipedia Commons)

Local Roads 205 and 206 begin at VA Route 3 and move eastward across the county, connecting rural residential areas with larger roadways.

Caroline County is crossed by U.S. ROUTE 1, U.S. ROUTE 17, VA Route 2, VA Route 30, and VA Route 207, in addition to Interstate 95, which runs North to South in the western corner of the county.

U.S. 1, parallel to I-95, is a four-lane undivided rural highway running through several small communities including Ladysmith, the county's most populous area. There is little congestion along this stretch of the highway.

U.S. 17, traversing the northwest edge of the county in proximity to the Rappahannock River, moves from a two-lane road to a four-lane highway at the intersection with U.S 301 near the Town of Port Royal. Primarily rural throughout, it experiences no congestion through Caroline County; however, the high crash rate is a concern east of U.S. 301.

From the south, **VA Route 2** runs concurrently with U.S. 301 until the Town of Bowling Green; there it breaks off and becomes the Town's Main Street, then a two-lane rural roadway connecting Caroline with neighboring Spotsylvania County.

VA Route 30 runs West to East through the southern tip of Caroline County. Known as Dawn Blvd, it passes the Meadow Event Park and winds through rural lands to the King William County Line.

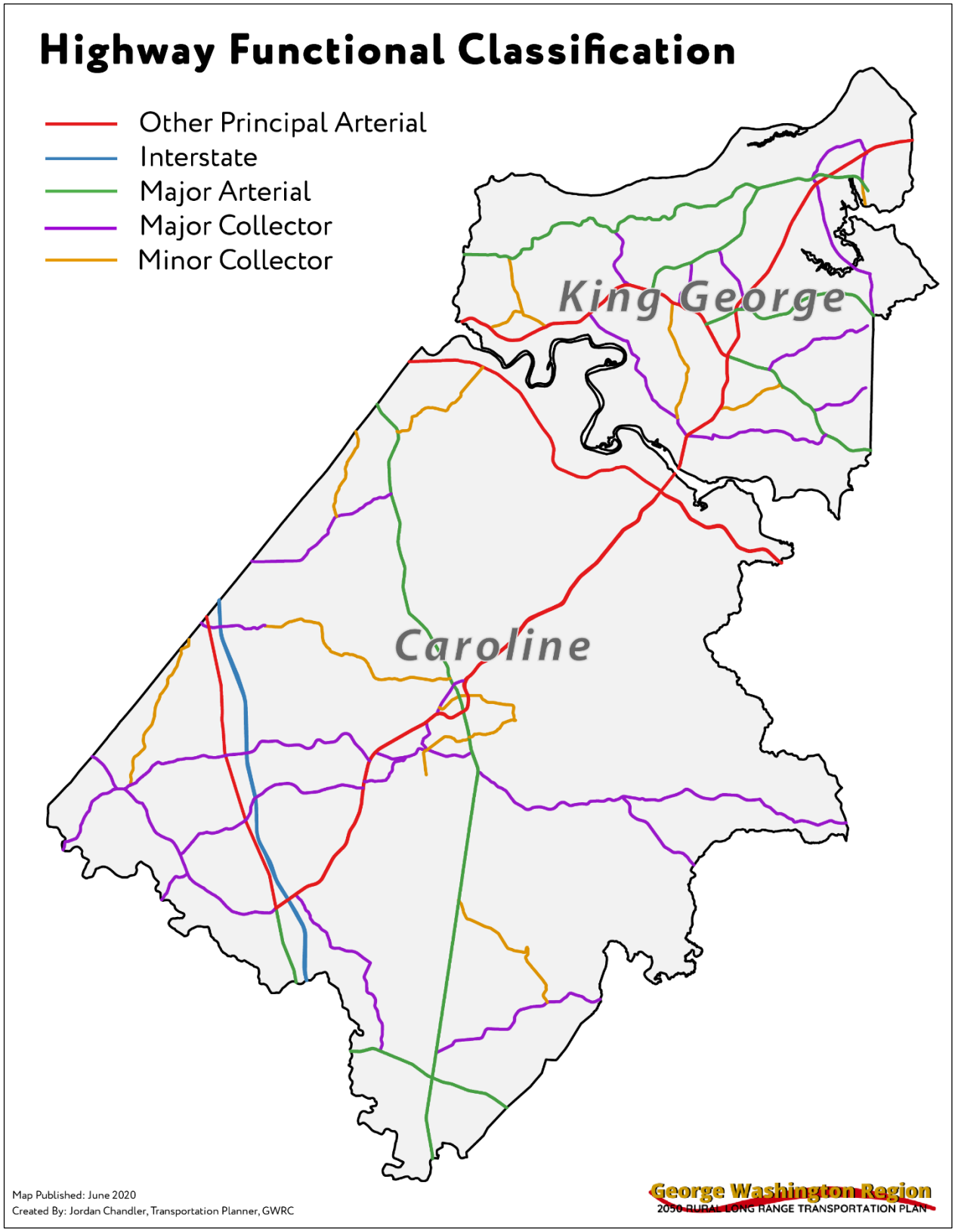
VA Route 207, also known as Rogers Clark Blvd for most of its length, connects U.S. 1 and I-95 to U.S. 301 at Bowling Green.

Average Annual Daily Traffic (AADT) for these roadways is shown in Table 5 below:

Route Label	Route Name	Jurisdiction	Start	End	AADT
VA 3	Kings Hwy	King George County	Stafford County Line	SR 205 Purkins Corner	**21,000**
VA 3	Kings Hwy	King George County	SR 205 Purkins Corner	Westmoreland County Line	**7,650**
VA 205	Ridge Rd	King George County	SR 3 Purkins Corner	Westmoreland County Line	**6,234**
VA 206	Dahlgren Rd	King George County	SR 3 Arnolds Corner	SR 206 Owens	**12,100**
US 301	James Madison Pkwy	King George County	Caroline County Line	SR 218 Windsor Dr	**14,500**
US 301	James Madison Pkwy	King George County	SR 218 Windsor Dr	Maryland State Line	**23,500**
US 1	Jefferson Davis Hwy	Caroline County	Hanover County Line	Spotsylvania County Line	**5,775**
US 301, VA 2	Richmond Tpke	Caroline County	Hanover County Line	Bus US 301	**5,140**
VA 2	Main St	Town of Bowling Green	Bus US 301, Bus SR 207	Spotsylvania County Line	**6,100**
US 17	Tidewater Trail	Caroline County	Essex County Line	Spotsylvania County Line	**5,633**
VA 30	Dawn Blvd	Caroline County	Hanover County Line	King William County Line	**5,500**
VA 207	Rogers Clark Blvd	Caroline County	US 1 Jefferson Davis Hwy	US 301 Richmond Tpke	**10,500**
Bus VA 207	Rogers Clark Blvd	Caroline County	SR 207 Rogers Clark Blvd	Bus US 301, SR 2 Main St	**4,200**
US 301, VA 2	Richmond Tpke	Caroline County	Hanover County Line	Bus US 301 Main St	**5,140**
US 301	Richmond Tpke	Town of Bowling Green	Bus US 301 Main St	Bus US 301, Bus SR 207 Broaddus Ave	**8,200**
US 301	A P Hill Blvd	Town of Bowling Green	Bus US 301, Bus SR 207 Broaddus Ave	King George County Line	**12,500**
Bus US 301, VA 2	Main St	Caroline County	US 301	Bus SR 207	**5,400**
Bus US 301	E Broaddus Ave	Town of Bowling Green	SR 2 Main St	US 301 North of Bowling Green	**2,450**

Source: Virginia Department of Transportation *https://www.virginiadot.org/info/2018_traffic_data_by_jurisdiction.asp*

Table 5, AADT



Map 16. Highway Classification

Safety

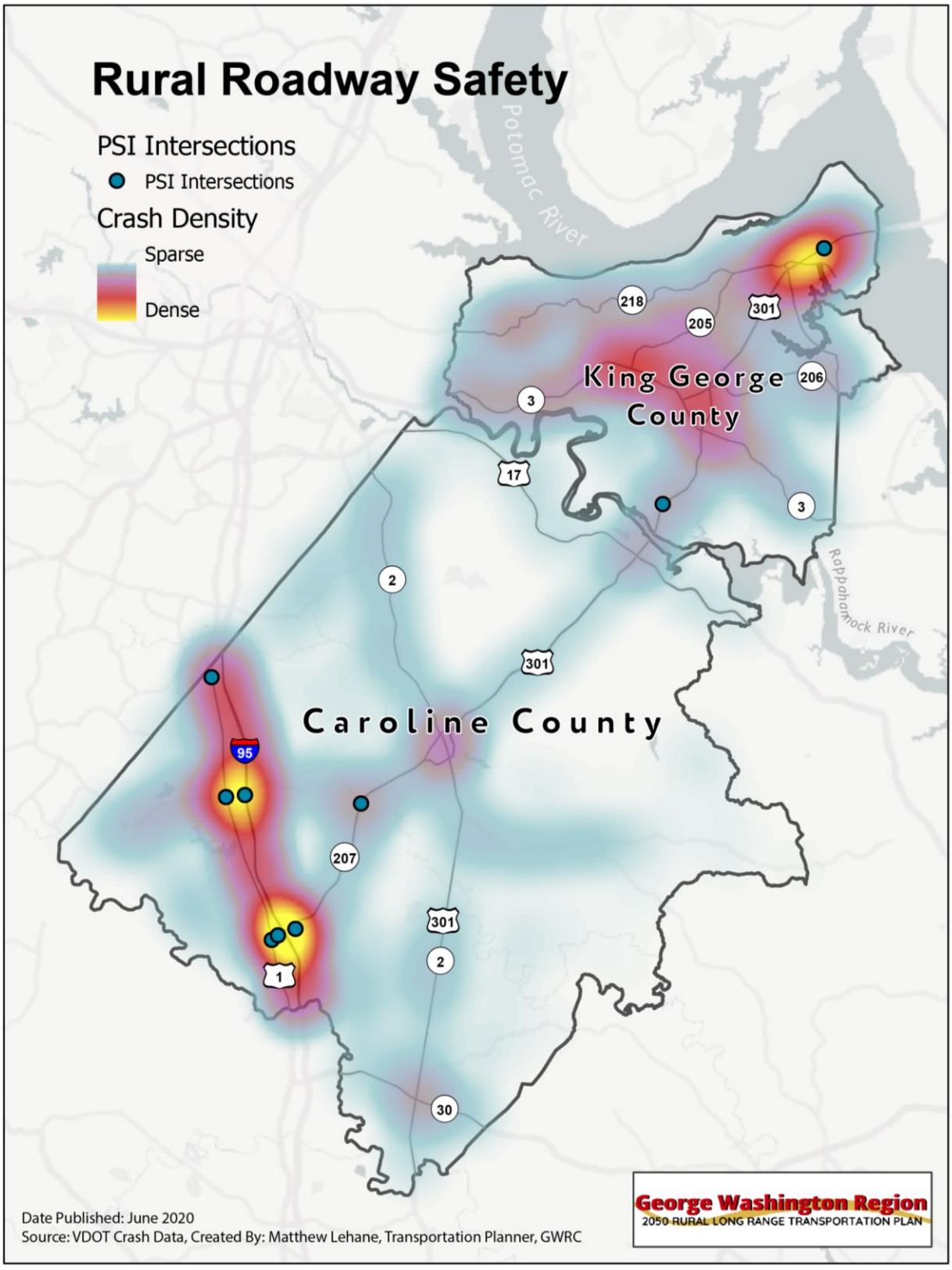
A heat map uses color to represent the spatial density of data points to make them easier to read visually. Map 17 below shows crashes in the region between 2013 and 2019. It also displays VDOT defined Potential Safety Improvement (PSI) intersections. These are intersections within the VDOT Fredericksburg district that are marked as needing potential safety mitigation, such as line of sight improvement or intersection crossing improvements. Table 6 and Table 7 delineate the number of crashes and type of crash between 2013 and 2019 for Caroline County and King George County respectively. For the two counties, many of the accidents occur along major roadways such as I-95 and the U.S. 301/Route 207 Corridor in Caroline County. Further, in King George County many of the crashes occur along VA Route 3 and U.S. 301 near the Dahlgren Naval Surface Warfare Center.

Caroline County							
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Total Crashes	560	537	537	557	531	625	526
Crash Type	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
K. Fatal Injury	13	1	9	7	7	9	5
A. Severe Injury	29	26	37	45	31	45	38
B. Visible Injury	94	88	111	100	88	101	81
C. Nonvisible Injury	15	14	7	5	6	5	2
PDO. Property Damage Only	409	408	373	400	399	465	400

Table 7, Caroline County Crashes

King George County							
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Total Crashes	437	384	407	403	373	385	382
Crash Type	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
K. Fatal Injury	7	10	5	6	8	5	2
A. Severe Injury	15	21	35	19	30	29	16
B. Visible Injury	63	60	60	72	56	68	81
C. Nonvisible Injury	14	12	11	17	15	15	10
PDO. Property Damage Only	338	281	296	289	264	268	273

Table 8, King George County Crashes



Map 17, crash locations and densities

Commuter Services

Transit Service

Four transit service providers operate three modes along the I-95 corridor within the GWRC Region as a whole. These are: FREDericksburg Regional Transit (FRED), which provides all local transit service; Virginia Railway Express (VRE), which provides commuter rail service between Spotsylvania, Fredericksburg and points in Prince William County, Fairfax County, the City of Alexandria, Arlington County, and Washington, D.C.; Amtrak, which operates passenger rail service between Fredericksburg, Prince William County, Alexandria, and Washington, D.C. and between Fredericksburg and points south; and GWRideConnect which coordinates the use of car and vanpools throughout the GWRC Region. Although only one of these services, GWRideConnect, operates within the GW Rural Region, many rural commuters use these services. According to the 2019 Fredericksburg Region Workforce Study published by the Fredericksburg Regional Alliance, over 60 percent of Caroline County commuters and 33 percent of King George County commuters travel outside of the region for work.

Map 18 shows the existing transit/TDM system in the GW Region.

Figure 3, VRE System map

FREDericksburg Regional Transit

Currently, FRED does not have any operational routes in King George or Caroline county, however, both localities have expressed interest in potentially reinstating service.

Virginia Railway Express

The Virginia Railway Express (VRE), shown in Figure 3, operates commuter rail service between Fredericksburg and Washington, D.C. (as well as a second line entirely outside of the George Washington Region between Manassas and Washington)., D.C.). Service is provided to four stations in the GW Region: Spotsylvania, Fredericksburg, Leeland Road (Stafford County), and Brooke (Stafford County). This service is provided through a joint venture of PRTC and the Northern Virginia Transportation Commission (NVTC), and it is managed by the two commissions. VRE's Operations Board

is comprised of three commissioners who represent PRTC, three who represent NVTC, and one who represents DRPT. Arlington and Alexandria contribute funding but are not represented on VRE's board. Please refer to Figure 5.4 for the VRE System Map. Service is provided to four stations in the GW Region: Spotsylvania, Fredericksburg, Leeland Road (Stafford County), and Brooke (Stafford County).

Rail Transportation

The east coast mainline rail corridor, running 66 miles through the GWRC Region, is the primary north-south freight corridor on the east coast. CSX owns the track and operates approximately 25 to 30 freight trains a day in both directions along this corridor. In addition, Amtrak operates intercity passenger service with 18 trains per day passing through the GWRC Region, but there are no rail stations in King George or Caroline Counties.

Transportation Demand Management (Ridesharing and Vanpools)

GWRideConnect is the Transportation Demand Management (TDM) agency that serves the George Washington Region. GWRideConnect promotes ridesharing and transportation demand management techniques to assist persons seeking transportation options to their workplaces and other destinations. It is the goal of the program to promote, plan and establish transportation alternatives to the use of the single occupant vehicle, improving air quality, reducing congestion and improving the overall quality of life for the citizens of the region. The GWRideConnect program assists in the creation of new commuter pools (cars, vans, and buses) and works toward keeping these pools successfully operating. The program utilizes a very effective website with information for persons interested in the benefits, services and options of mass transportation. In addition, GWRideConnect distributes match letters and packets containing commuter information to all clients and agencies throughout the region. GWRideConnect assists over 85,000 persons annually.

The program has grown and evolved over the years to provide a wide range of TDM programs in addition to ride matching. GWRideConnect annually conducts the following work elements to achieve the Goals, Objectives and Strategies set forth in the program's Six-Year Transportation Demand Management Plan:

- Free ride share matching program that provides transit solutions/alternatives to driving alone in the region.
- Follow up assistance to all new GWRideConnect clients to track placement and provide additional assistance.
- Facilitate the formation of vanpools and maintain the existing vanpool fleet.
- Operate the Advantage self-insurance program for vanpools.

- Provide financial assistance for vans in danger of ceasing operation through the Van Save program.
- Provide financial assistance to new vanpools through the Van Start Program.
- Assist vanpools with the Federal Government's Transit Benefit Subsidy Program.
- Facilitate the formation of carpools & provide support.
- Assist clients with VRE/Amtrak/Metro and help market the programs.
- Assist FRED transit by serving on the Public Transit Advisory Board (PTAB) and continue to sell fare media.
- Promote and assist private commuter buses in the region, to maintain existing routes and expand future routes.
- Work with VDOT, FAMPO and local governments to establish commuter parking lots and lease commuter parking spaces from private property owners.
- Promote teleworking.
- Reduce annual gasoline consumption and motor vehicle emissions.
- Advertise and promote the GWRideConnect program.
- Engage local businesses in establishing TDM techniques at their workplaces.

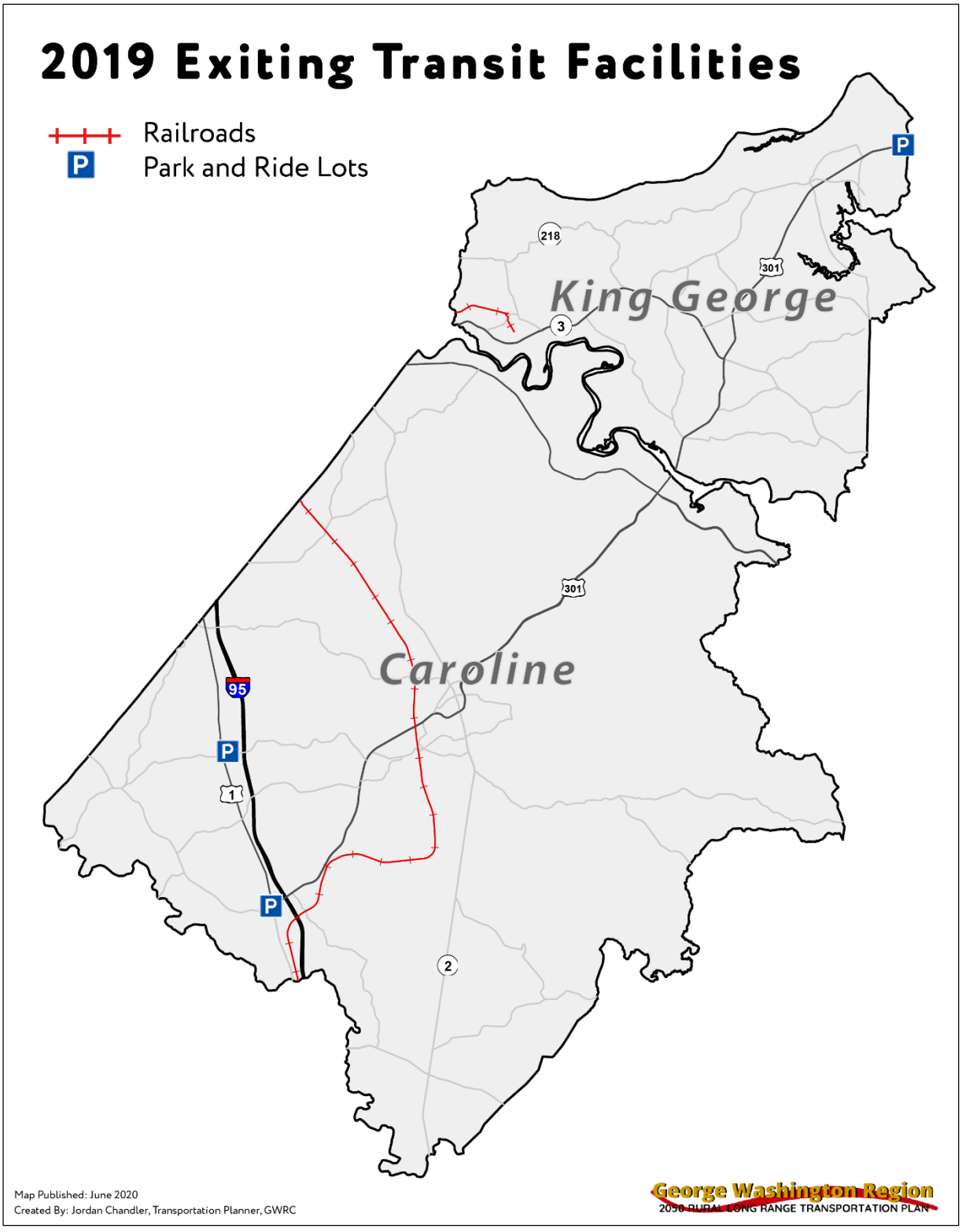
Tables 9 and 10 show GWRideConnect Statistics and a listing of the Region's commuter parking lots and their current utilization.

	Total	Number of Trips Reduced Annually	Vehicle Miles Traveled (VMT) Reduced Annually
Rideshare Applicants	3,612	N/A	N/A
Carpools Registered	30	45,360	5,443,200
Vanpools Registered	350	2,116,800	254,016,000
Private Commuter Bus Runs	7	141,120	16,934,400
Total:	N/A	2,303,280	276,393,600

Table 9, GWRideConnect statistics

Locality	Location	Number of Spaces	Utilization
Caroline County	Route 658 (Carmel Church)	40	23%
King George County	U.S. 301 (Harry Nice Bridge)	48	15%
Total		80	

Table 10, Parking lot utilization



Map 18, Existing Transit

Active Transportation

Moving around without a car, whether for commuting, errands or for recreation, is important for quality of life. A recent community outreach project by GWRC/FAMPO found that safe places to bike and walk are among the most important priorities to residents of our region. King George and Caroline Counties have little in the way of bicycle and pedestrian facilities at this time, but as new development occurs in various parts of these counties more infrastructure is added. Likewise, aged sidewalks and paths are being upgraded as part of downtown revitalization efforts in places like the town of Bowling Green. This plan examines existing conditions and recommends improvements for active transportation in these communities.

Existing Conditions

The only major off-road biking and walking facility within these two counties is the **Dahlgren Railroad Heritage Trail**. The unpaved DRHT follows an abandoned rail line, stretching 15.7-miles across King George County. It is privately owned and can be accessed with a permit. The Friends of the DRHT and other supporters are working to gain the backing of the King George County Board of Supervisors so the trail can be opened as a state run, funded and maintained, public-access rail trail. GWRC plans to study its feasibility as a commuter biking trail next year.

The Potomac Heritage National Scenic Trail (PHT), a component of the National Trails System, is an evolving network of locally-managed trails and routes between the mouth of the Potomac River and the Allegheny Highlands in western Pennsylvania, providing opportunities to experience the ecology, history and culture in five physiographic provinces. With the Chesapeake and Ohio Canal Towpath as the spine of the network, non-motorized modes of travel vary by segment, including foot, bicycle, horse, boat and cross-country skis. Within our rural region, The PHT is a route network designation that includes the DHRT as well as several on-road routes across King George County. The concept for the PHT is being used to increase opportunities for outdoor recreation and heritage tourism and to link local resources with themes that explore the evolution of the nation.

The East Coast Greenway surfaced in 1991, aimed at becoming the nation's longest urban trail project. Ultimately the corridor links cities on the eastern seaboard by connecting existing and planned trails. Eventually the trail will be a safe and contiguous corridor that is completely off-road. The route itself is nearly 3,000 miles long, connecting Calais, ME to Key West, FL. The greenway is overseen by the East Coast Greenway Alliance (ECGA), a nonprofit organization. The East Coast Greenway has been making headway over the years and currently over 30 percent (nearly 1000 miles) of the trail is protected. The remainder of the trail follows roadways that link the off-road sections until a contiguous off-road corridor is implemented. The on-road route through the rural part of the GW Region, in western Caroline County, has recently changed to allow for better connection between counties. The GWRC will

Dahlgren Railroad Heritage Trail (Credit: Friends of the DHRT)

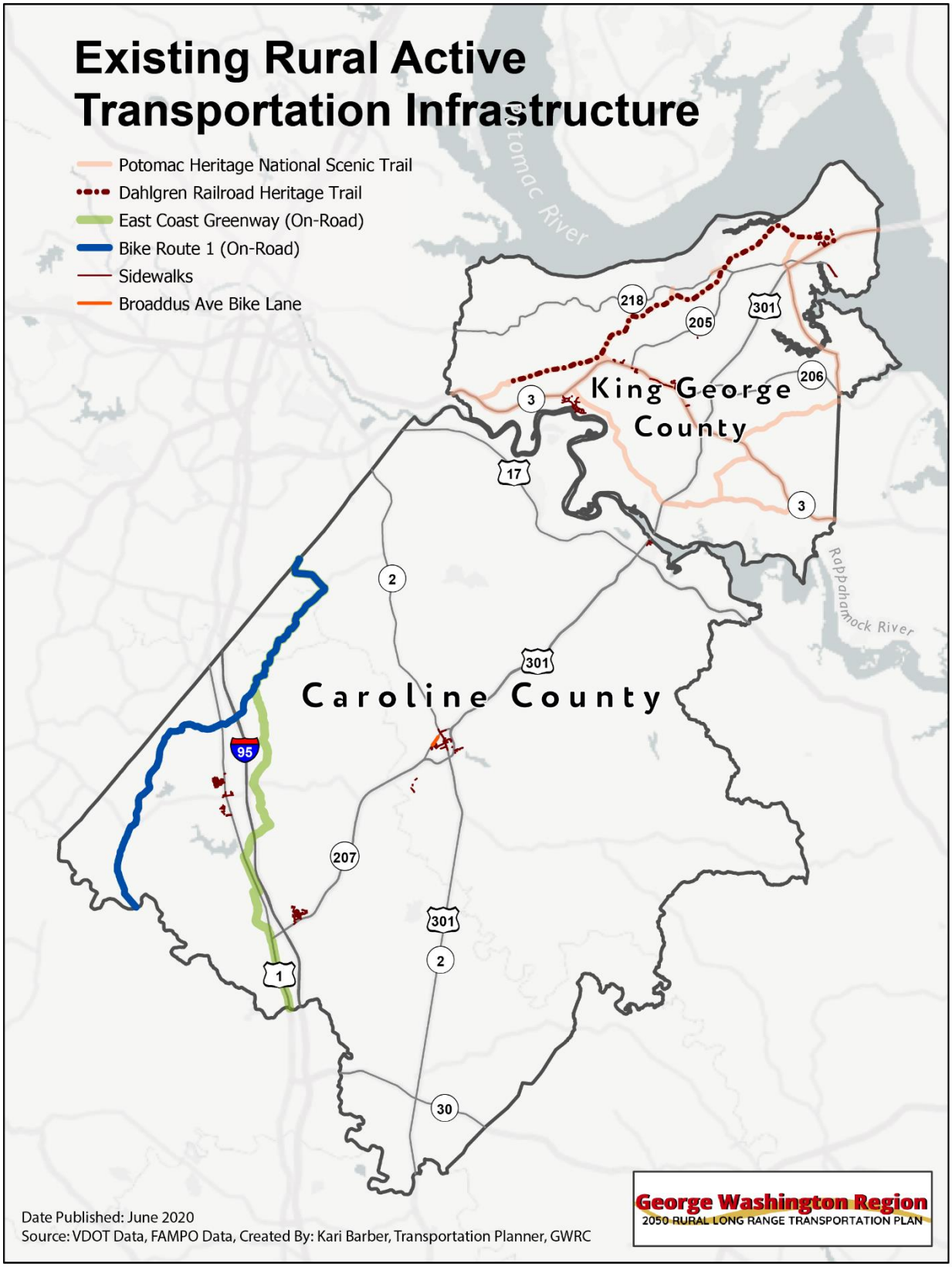
continue to work with the Virginia Department of Conservation and Recreation DCR and the ECGA to eventually implement the goal of a completely off-road corridor within the GW Region.

Aside from the larger networks, the only other bicycle facility in these Counties is a short, disconnected bike lane on Broaddus Avenue in the Town of Bowling Green.

Though few facilities exist, the attractive landscape and relative lack of traffic on many of the rural roads in this region attract cyclists.

Pedestrian Infrastructure

Sidewalks are present in these counties only in village centers and as part of the newer developments; in much of the region they are absent. Sidewalk networks can be found in the Town of Port Royal, the Town of Bowling Green, in the Ladysmith area, west of the Dahlgren NSWC, along VA 3 near the commercial area around the King George County Seat, and the Hopyard Landing development on the Rappahannock River.



Map 19, Existing Active Transportation Infrastructure

Figure 4, Virginia Corridors of Statewide Significance (Credit: Commonwealth Transportation Board VTrans 2040)

Freight

National Highway Freight Network

The Fixing America's Surface Transportation (FAST) Act repealed the Primary Freight Network (PFN). The FAST Act directs FHWA to establish a National Highway Freight Network (NHFN) to direct Federal funding and policies toward improved performance of highway portions of the national freight system.

The NHFN includes the following elements:

- Primary Highway Freight System (PHFS): This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerline miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads. Within the George Washington Region, the PHFS consists only of Interstate 95.
- Other Interstate portions not on the PHFS: These highways consist of the remaining portion of Interstates not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of Interstate, nationwide, and will fluctuate with additions and deletions to the Interstate Highway System. There are no segments within the region that are a part of this network.
- Critical Rural Freight Corridors (CRFCs): These designations (under development) are public roads not in an urbanized area which provide access and connection to the PHFS and the interstates with other important ports, public transportation facilities, or other intermodal freight facilities. Statewide, these segments will entail 166.69 miles of new roadway that will be eligible for NHFP formula funds and FASTLANE Grant Program funds for eligible projects under the FAST Act.
- Critical Urban Freight Corridors (CUFCs): These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public

transportation facilities, or other intermodal transportation facilities. These priority freight segments are also yet-to-be-determined and will be achieved in collaboration with VDOT. Virginia's statewide mileage cap for these priority segments is 83.35 miles. FHWA has given VDOT primary responsibility for designating both CUFCs and CRFCs for the region in collaboration with FAMPO.

Freight is an important part of the GWRC Region economy (Credit: Wikimedia Commons)

Other Priority Networks

For highways in Virginia, most trucks are limited to the designated highway system. This includes the aforementioned national network as well as the Virginia Qualifying system and the Virginia Access System. The Virginia Qualifying system includes qualifying state primary highways that are not already included in the NHFN. The Virginia Access System is comprised of roadways that lead directly to major freight generators and are not served by the Virginia Qualifying system. Trucks may travel up to one mile off the NHFN and the Virginia Qualifying system.

Other priority highway networks within the region include the Corridors of Statewide Significance (CoSS), shown in Figure 4 above. Across the state, there are 12 such corridors which are recognized as primary conduits of regional and interstate travel for both passengers and freight. The corridors are broadly drawn and include multimodal facilities, including highways, transit services, port facilities, and airports. Commonwealth law requires that Virginia's long-range transportation plan (VTrans) set forth an assessment of needs for all CoSS and that all modes of travel be considered. The George Washington Region is traversed by two such strategic corridors, including the Washington to North Carolina Corridor (centered on Interstate 95), and the Coastal Corridor (U.S. 17).

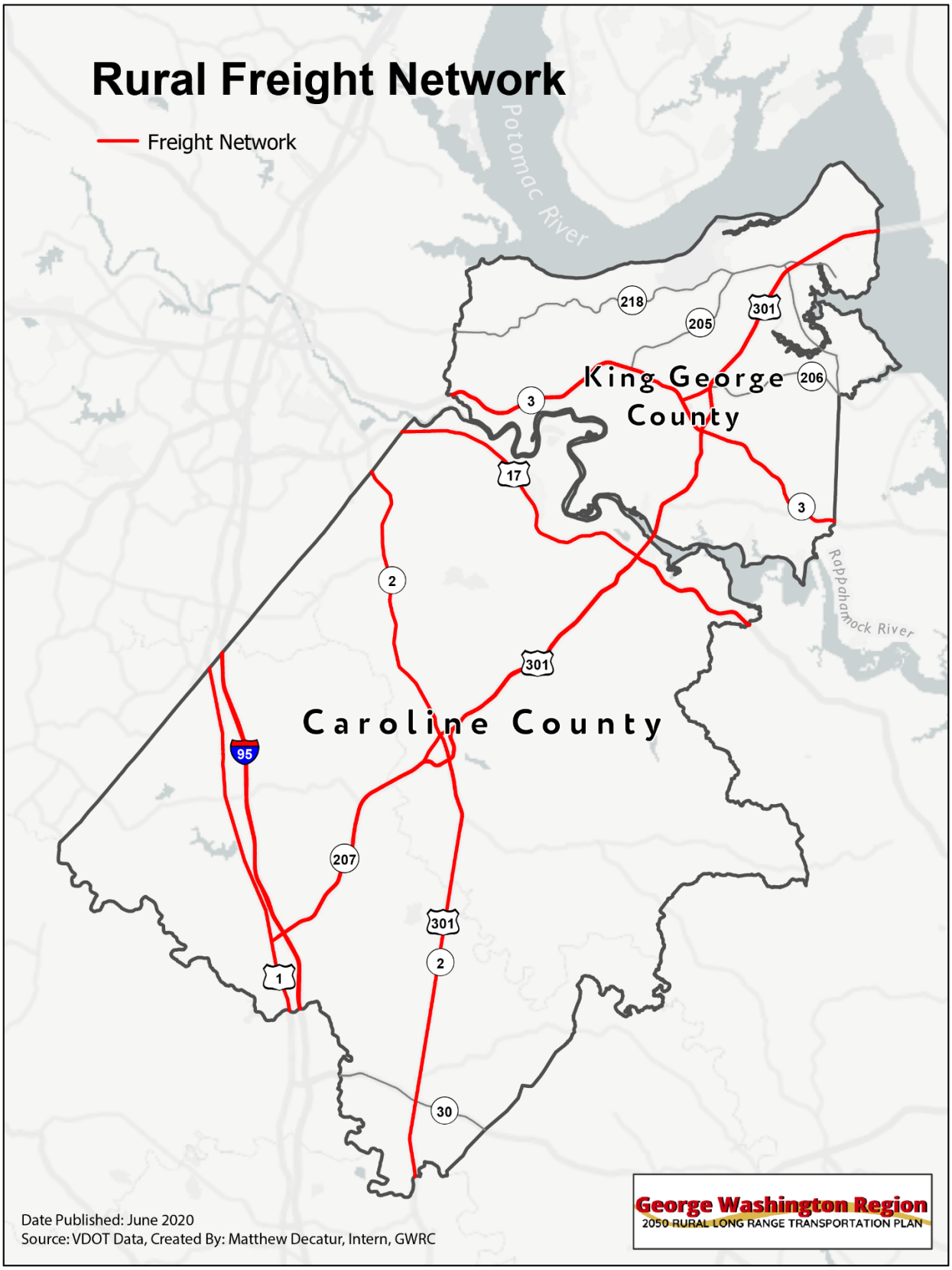
Map 20 shows the designated freight routes in the Rural region. These include I-95, U.S. 17, VA Route 3, Route 2 and U.S. 301, among others. These roadways serve most major freight generating land uses within the jurisdictions.

As part of CoSS needs assessments, the Office of Intermodal Planning and Investment conducts Corridor Master Planning studies. These studies start by unifying the Commonwealth Transportation Board's (CTB's) vision for each corridor, the VTrans goals, and local goals. These master plans aim to provide a set of recommendations for the Corridor or Corridor segment. They seek to document existing plans related to the corridor, project future multimodal travel conditions, identify corridor needs based on technical analysis, and present recommendations for how the corridor or corridor segment should be improved in the future.

The designated Corridors differ with respect to their geography, their physical and operational conditions, and their level of past and recent planning. Table 11 provides an overview of each of these strategic corridors, and how the GW Region fits within the context of the larger corridor.

	Coastal Corridor	Washington to NC Corridor
		
Primary Highway Corridor	• U.S. 17 • Local Transit Services • Port of Virginia • Port of Richmond • Rappahannock River • Norfolk Southern's Heartland Corridor, and Coal Corridor • CSX's National Gateway Corridor, and Coal Corridor • Amtrak • Norfolk International Airport, Newport News Airport, Williamsburg Airport	• I-95, I-395, I-495, I-85, I-195, I-295, U.S. 1 and U.S. 301 • WMATA Blue and Yellow Lines • Local Transit Services • VRE • Ports of Alexandria and Richmond • James River • CSX National Gateway Corridor • Amtrak • Ronald Reagan Washington National Airport • Richmond International Airport
Key Functions	• Major I-95 alternative to shore destinations and through traffic (Alternative route from Hampton Roads to Northern Virginia) • Connection for trucks between Hampton Roads and I-95 • Tourism (Access to Northern Neck and Middle Peninsula)	• Commuter corridor in Northern Virginia and Richmond areas • Through traffic ("Main Street" of East Coast) • Freight Corridor (trucks, CSX Rail lines) • Military access (Pentagon, Quantico, Ft. Belvoir, Ft. AP Hill, Ft. Lee, etc.) • Multimodal corridor (Metrorail, VRE, Amtrak, Express Bus, HOV/HOT Lanes) • Link to Maryland, Washington, D.C., and Capital Beltway from points south
Potential Strategies	• Improve capacity by widening, intersection improvements, and/or construction of interchanges at strategic locations • Increase freight rail capacity from Port of Virginia and ensure multimodal freight movement coordination with the proposed Craney Island expansion • Support expanded freight capacity by expanding intermodal facilities • Improve transit in rural areas by expanding existing fixed-route services and offering increased demand response services for the elderly and disabled • Improve capacity through high-density areas through traffic management, access management, development of parallel routes and grid streets to separate local and through traffic, and possible use of ITS technologies • Improve ground access to airport facilities	• Explore value pricing to increase capacity and/or reduce single-occupancy vehicles along the corridor • Increase interstate capacity around the Washington, D.C. Metropolitan area and increase capacity for through traffic • Increase transit options and transit capacity in Northern Virginia • Encourage increased TDM • Increase highway capacity through interchange improvements and modifications, interchange construction, and widening in strategic locations • Improve ITS, including along parallel roadways • Improve freight rail capacity and allow for greater passenger rail capacity, including the East Coast high speed rail corridor • Improve ground access to airport facilities

Table 11, Strategic Corridors Source: VTrans2040



Map 20, Freight Corridors

Bridges

Posted bridges are those bridges with a weight restriction. Signs at these bridges indicate the weight limit the bridge has been designed for. Table 12 provides more information on posted bridges within the region, showing bridges that are functionally obsolete (FO), and/or structurally deficient (SD). Average Daily Traffic (ADT) is also noted. Currently there are no posted bridges in King George.

Jurisdiction	Route	Name	Crossing	Year Built	FO	SD	ADT
Caroline County	1	Jefferson Davis Highway	Motto River	1926	No	No	6,933
Caroline County	665	Dodge City Rd	Beverly Run	1958	No	No	221
Caroline County	743	Clifton Rd	South River	1959	No	Yes	13
Caroline County	1	Jefferson Davis Highway	Baker Creek	1926	Yes	No	6,372
Caroline County	1	Jefferson Davis Highway	Long Creek	1926	No	No	4,829
Caroline County	652	Cool Water Dr	Pole cat Creek	1974	No	Yes	457
Caroline County	640	Smoots Rd	Maracossic Creek	1932	No	No	222
Caroline County	1	Jefferson Davis Highway	Pole cat Creek	1926	No	No	5,014

Table 12, Posted Bridges Source: VDOT Advanced Bridge Report

Rail Freight

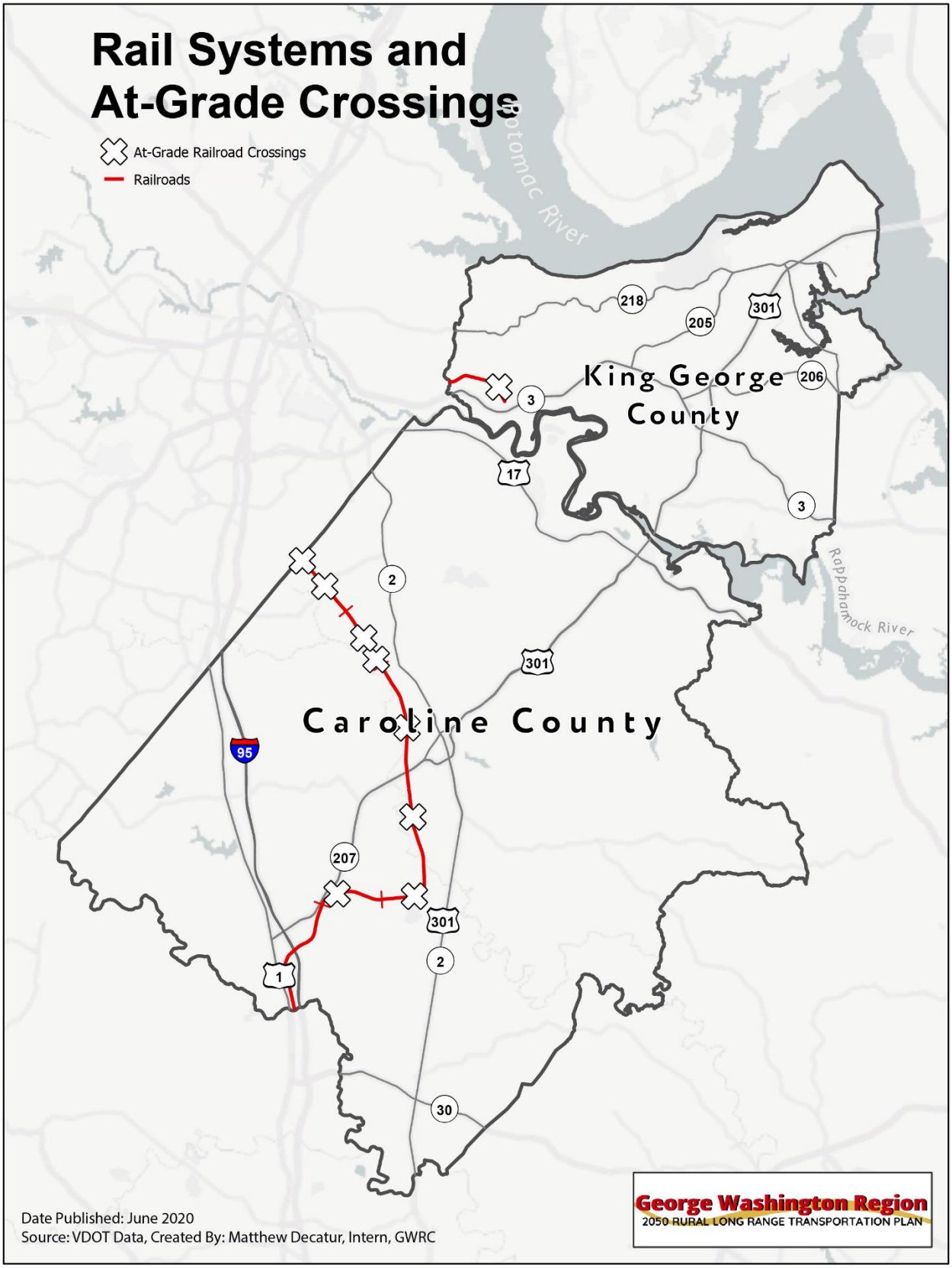
Class I

Rail freight service within the region is led by Class I carrier CSX. The rail giant's National Gateway Corridor parallels I-95 through the Region. The National Gateway connects the region to the east coast ports of Baltimore, MD, Wilmington, NC and Midwestern market areas. The Milford Industrial Park in Caroline County has several industries that provide rail traffic for the railroad. Projects proposed through the National Gateway program will allow for bridges to be raised along with the removal of other clearance constraints that limit the use of double-stack intermodal trains and will upgrade tracks, equipment, and facilities. The Mid-Atlantic Rail Operations (MAROPs) Study conducted by the I-95 Corridor Coalition forecasted that over the next 30 years, the line will become "significantly" congested if improvements are not made, with only 20 percent of corridor miles operating below capacity, and 58 percent operating above capacity.

Dahlgren Spur

The Dahlgren Spur branches off from the CSX main line and parallels Kings Highway into King George County. While the main rail line serves both freight and passenger trains, the Dahlgren Spur provides freight service only, terminating at the King George Landfill.

Worsening congestion for both freight and passenger traffic along the I-95 corridor has prompted work on the development of a high-speed rail corridor linking Richmond and Washington, DC through the George Washington Region. The Virginia Department of Rail and Public Transportation (DRPT), in cooperation with the Federal Railroad Administration (FRA), completed the Environmental Impact Statement in Fall 2019 for a high-speed railway known as Southeast High-Speed Rail, or SEHSR. This multi-state and multi-agency effort aims to improve the performance and capacity of passenger rail service in the corridor.



Map 21, Rail system and at-grade crossings

At-Grade Rail Crossings

There are nine at-grade rail crossings in Caroline County and one in King George County, all of which are roadway crossings. Map 21 above shows the locations of these crossings.

Aviation

There are no airports within King George or Caroline County. The closest facilities within the George Washington Region are two public-use airports providing general aviation service for smaller aircraft: Stafford Regional Airport located in Stafford County, west of I-95, 46 miles south of Washington, D.C. and 65 miles north of Richmond, VA, and Shannon Airport, located in Spotsylvania County on Tidewater Trail (Rt. 2). No commercial airline service is provided within the Region, but within a 90 minute drive are five full-service airports: Richmond International (RIC), to the south, Charlottesville Albemarle Airport (CHO), to the west; Dulles International (IAD), in Northern Virginia, Ronald Reagan National (DCA), in Washington D.C., and Baltimore-Washington International (BWI), south of Baltimore MD.

Public Domain Image

Transportation Needs

Caroline and King George Counties are primarily rural in nature and are likely to remain predominantly rural for the planning horizon of this document; however, developments in adjacent regions will have a significant effect on the transportation networks in these communities. In the near term, the reconstruction and widening of the Governor Harry Nice Bridge, which spans the Potomac River between Maryland and King George County, is forecasted to double the average daily traffic traveling on U.S. 301 through this region.

Aside from a need to adapt to increased traffic, a concern for safety and a desire to increase access to jobs and services as well as facilitating economic development drives these needs.

The rural multimodal needs for this plan were identified from three primary sources: VDOT, local governments, and the technical analysis conducted by GWRC staff. Several studies, including the U.S. 301/Route 207 Study and the VA Route 3 study also helped pinpoint needs.

The projects listed below help to increase mobility, mitigate known safety issues, and enhance quality of life for our communities. Map 22 shows Rural roadway needs.

Highway Needs

Caroline County

In Caroline County, needs are primarily driven by safety concerns rather than congestion issues. Several roadways are targeted for shoulder improvements and widening. Intersections in need of improvement, such as VA Route 2 and U.S. 301, are slated for redesign using innovative intersection types like the Continuous Green T and the Quadrant Intersection. While uncommon in rural areas, these are shown to increase safety and smooth traffic flow. Table 13 is a list of highway improvement needs for Caroline County.

Caroline County Highway Needs					
Project	Route Number	Boundaries		Length (Miles)	Improvement Description
		From	To		
Interstate					
Route 639 Interchange Improvement	I-95 / PR-639	I-95	SC-639	2.9	Interchange Improvement
I-95 Corridor ITS Improvements	I-95	n/a	n/a	n/a	
Principal Arterial					
Main Street/A.P. Hill Boulevard/Bowling Green Bypass	US-301	King George County Line	Richmond Turnpike (PR-2)	11.8	Construct 6 ft paved shoulders
Jefferson Davis Highway Improvements	US - 1	Spotsylvania County Line	Hanover County Line	15.4	Construct 6 ft paved shoulder with signage
Rogers Clark Blvd Improvements	PR-2	AP Hill Blvd (US-301)	Jefferson Davis Highway (US-1)	11.9	Construct 6 ft paved shoulders with signage
Minor Arterial					
Fredericksburg Turnpike Widening	PR-2	Spotsylvania County Line	North Main St. (PR-2/US-301 BUS)	11.3	Widen to 4 lanes with paved shoulders
Dawn Boulevard Widening	SC-30	VA State Fair Grounds	King William County Line	5.9	Widen to 4 lanes w/ paved shoulders & a signal at US 301
Richmond Turnpike Widening	US-301	O'Brien Court	Hanover County Line	14.4	Widen to 4 lanes divided with paved shoulders
Major Collector					
Ladysmith Road Widening	SC-639	Bull Church Road (SC-633)	Jericho Road (SC-658)	5	Widen from 2 to 4 Lanes
Golansville/Cedar Fork Road Improvements	SC-601	Bull Church Road (SC-633)	Jericho Road SC-658	4.8	Improve 2-lane roadway with paved shoulders
Jericho Road Improvements	SC-658	Cedar Fork Road (SC-601)	Ladysmith Road (SC-639)	3.5	Road Widening/Improvements
Route 30 Collector	PR-30	Route 30	Route 2/US 301	1.2	New 2-lane road with paved shoulders
New Connector Road		Chance Place (SC-756)	Jefferson Davis Highway (US-1)	1.2	New 2-lane road with paved shoulders
Tidewater Trail Widening	US-17	Spotsylvania County Line	A.P. Hill Boulevard (US-301)	12.6	Widen to 4 lanes divided with paved shoulders
North Ladysmith Connector Rd		Durrette Rd (622)	Relocated Green Rd	1.1	New 2 lane on Northern side of Ladysmith Rd
US Route 1 Widening	US-1	Green Road (SC-712)	Durrette Road (SC-622)	1.3	Widen to 6 lanes divided with bike/ped accommodations
Ladysmith Road Improvements	SC-639	.1 mi west of I-95	Chance Place	0.8	Widen to 6 lanes divided with bike/ped accommodations
Jefferson Davis Highway Widening	US-1	Spotsylvania County Line	Durrette Road (SC-622)	5.15	Widen to 6 lanes divided with paved shoulders
Jefferson Davis Highway Widening	US-1	Green Road (SC-712)	Hanover County Line	8.47	Widen to 6 lanes divided with paved shoulders
Jericho Road Improvements	SC-658	Jefferson Davis Highway (US-1)	Ladysmith Road (SC-639)	5	Improve 2-lane roadway
Richmond Turnpike Widening	301	O'Brien Court	Hanover County Line	14.4	Widen to 4 lanes divided with paved shoulders
Stonewall Jackson Rd Improvements	PR - 606	Spotsylvania County Line	Fredericksburg Turnpike (PR-2)	6.8	Shoulder Improvements
West Broaddus Avenue Improvements	PR-207	Anderson Avenue	Rogers Clark Blvd (Rt 207)	1	Extend exisiting paved shoulder and bike lane
Ladysmith Road Improvements	SC-639	Partlow Rd	Jefferson Davis Highway (US-1)	4.8	4 ft Paved shoulders with signage
Ladysmith Road Improvements	SC-639	I-95	Rogers Clark Blvd (Rt 207)	6	4 ft Paved shoulders with signage
Minor Collector					
County Line Church Road Improvements	SC-603	Ladysmith Road (SC-639)	Gatewood Road (SC-604)	3.7	Improve 2-lane roadway with paved shoulders
Macedonia Road Widening	Rt 603	Spotsylvania County Line	Stonewall Jackson Rd	2.4	4 ft Paved shoulders with signage

Local Projects					
Carmel Church Rail Access		Rogers Clark Boulevard (PR-207)		1	New 2-lane road with bike/ped accommodations
School Road	Rt 814	current terminus through Chase Green	Chase Street	0.5	New 2 lane road
Dry Bridge Road Extension	SC-684	CSX Rail Line	Moncure Drive (SC-716)	1.3	New 2 Lane Roadway Alignment
Gatewood Road Improvements	SC-604	Jefferson Davis Highway (US-1)	Ladysmith Village Connector	0.5	Upgrade existing 2 lane road
CCC Road Improvements	SC-683	US Route 1	Pendleton Connector	1.2	Improve 2-lane roadway with paved shoulders
Durrette Road Improvements	SC-622	Jefferson Davis Highway (US-1)	Ladysmith Village Connector	1.5	Improve 2-lane roadway with paved shoulders and new signal at US 1
Gatewood Road Improvements	SC-604	County Line Church Road (SC-603)	Ladysmith Village Connector	2.4	Improve 2-lane roadway with paved shoulders
CCC Road Improvements	SC-683	Jericho Road (SC-658)	Pendleton Connector	3.3	Improve 2-lane roadway with paved shoulders
Bull Church Road Improvements	SC-633	Golansville Road (SC-601)	Michaels Road (SC-634)	3.5	Improve 2-lane roadway with paved shoulders
Penola Rd Improvements		Richmond Turnpike (Rt 301)	Rogers Clark Blvd (Rt 207)	5.8	Operational Improvements
Green Road Relocation/Widening	SC-712	Ladysmith Road (SC-639)	US-1	0.8	Relocate SC-712 and Widen to 4 Lanes

Intersection Improvements		
Intersection	**Project Origin**	**Description**
I-95 NB Ramp with Route 207	207/301 Study	Short term solutions include modifying the northbound I-95 off ramp to include dedicated left-turn lanes with a shared right-turn lane. Extending the southbound Route 207 right right-turn lane through the NB ramp intersection. Longterm: I-95 interchange with Route 207 requires further study.
Belmont Blvd with Route 207	207/301 Study	Reconfigure the intersection to a Continuous Green-T (CGT) intersection to accommodate left-turning vehicles from eastbound Belmont Blvd.
Enterprise Parkway with Route 207	207/301 Study	Reconfigure the intersection to a Continuous Green-T (CGT) intersection to accommodate left-turning vehicles from westbound Enterprise Pkwy.
Dry Bridge Road with Route 207	207/301 Study	Re-align Dry Bridge Road and relocate intersection north of the existing intersection. Eliminate the existing intersection with Route 207.
Moncure Drive with Route 207	207/301 Study	Lengthen all existing turn lanes on Route 207 • The existing turn lanes do not meet the VDOT Road Design Manual's minimum standard for turn lane storage and taper lengths.
Penola Road with Route 207	207/301 Study	Lengthen all existing turn lanes on Route 207 • The existing turn lanes do not meet the VDOT Road Design Manual's minimum standard for turn lane storage and taper lengths.
Ladysmith Road with Route 207	207/301 Study	Lengthen all existing turn lanes on Route 207 • The existing turn lanes do not meet the VDOT Road Design Manual's minimum standard for turn lane storage and taper lengths.
Nelson Hill Road with Route 207	207/301 Study	Lengthen all existing turn lanes on Route 207. • The existing turn lanes do not meet the VDOT Road Design Manual's minimum standard for turn lane storage and taper lengths.
Colonial Road with Route 207	207/301 Study	Lengthen all existing turn lanes on Route 207 • The existing turn lanes do not meet the VDOT Road Design Manual's minimum standard for turn lane storage and taper lengths
W Broaddus Ave with Route 207	207/301 Study	The intersection should be evaluated further as development occurs within the Town of Bowling Green.
Route 2 Ramp with US 301	207/301 Study	Reconfigure the intersection to a Continuous Green-T (CGT) intersection to accommodate left-turning vehicles from eastbound Route 2 Ramp.
Chase Street with US 301	207/301 Study	Reconfigure the intersection to a Continuous Green-T (CGT) to accommodate leftturning vehicles from westbound Chase Street. Reconfigure the eastbound approach to rightin/right-out only
Courthouse Lane with US 301	207/301 Study	Option 1: Eliminate the existing crossover and convert to traversable median for emergency vehicles only. Reconfigure the intersection to right-in/right-only. Lengthen the existing southbound US 301 right-turn lane. Option 2: Reconfigure the intersection of Courthouse Ln to permit lefts-in andU-turns from northbound US 301 and right-in/ right-outs onto and from southbound US 301. Lengthen the existing southbound US 301 right-
W Broaddus Ave with US 301	207/301 Study	Eliminate the southbound US 301 left-turn lane and extend the median stop bar towards US 301 mainline to improve sight distance
Area between W Broaddus Ave and Lakewood Road	207/301 Study	Consolidate and eliminate crossovers and convert area to a Restricted Crossing U-Turn (RCUT) superstreet as development occurs
Lakewood Road with US 301	207/301 Study	Extend the existing US 301 turn lanes. Evaluate the US 301 northbound right-turn lane based on future expansion of Fort A.P. Hill. Lengthen all existing turn lanes on Route 207. Evaluate the intersection as development occurs and reconfigure to Restricted Crossing U-Turn (RCUT).
US 17 with US 301	207/301 Study	Construct a dedicated left-turn lane for the eastbound and westbound directions and consolidate the existing commercial access points.

Other Improvements		
Exit 110 Park and Ride	from 2019 I-95 Study	New Park and Ride lot on Ladysmith Road near I-95
I-95/207 Safety Improvements	SMART SCALE Round 3	Reconstruction and signalization of southbound on/off ramps at the I-95/Route 207 interchange to eliminate rollover hazard on the southbound on ramps, and reduce tractor trailer congestion and conflicting turn movements on Route 207.
Bowling Green Route 301 Corridor Safety Improvements	SMART SCALE Round 3	To improve crossovers #15- #19 of the US 301/Route 207 Arterial Preservation Plan.

Table 13, Caroline Highway Needs

Widening the Governor Harry Nice Bridge connecting King George County with Charles County, MD is expected to double traffic on U.S. 301 (Credit: Wikimedia Commons)

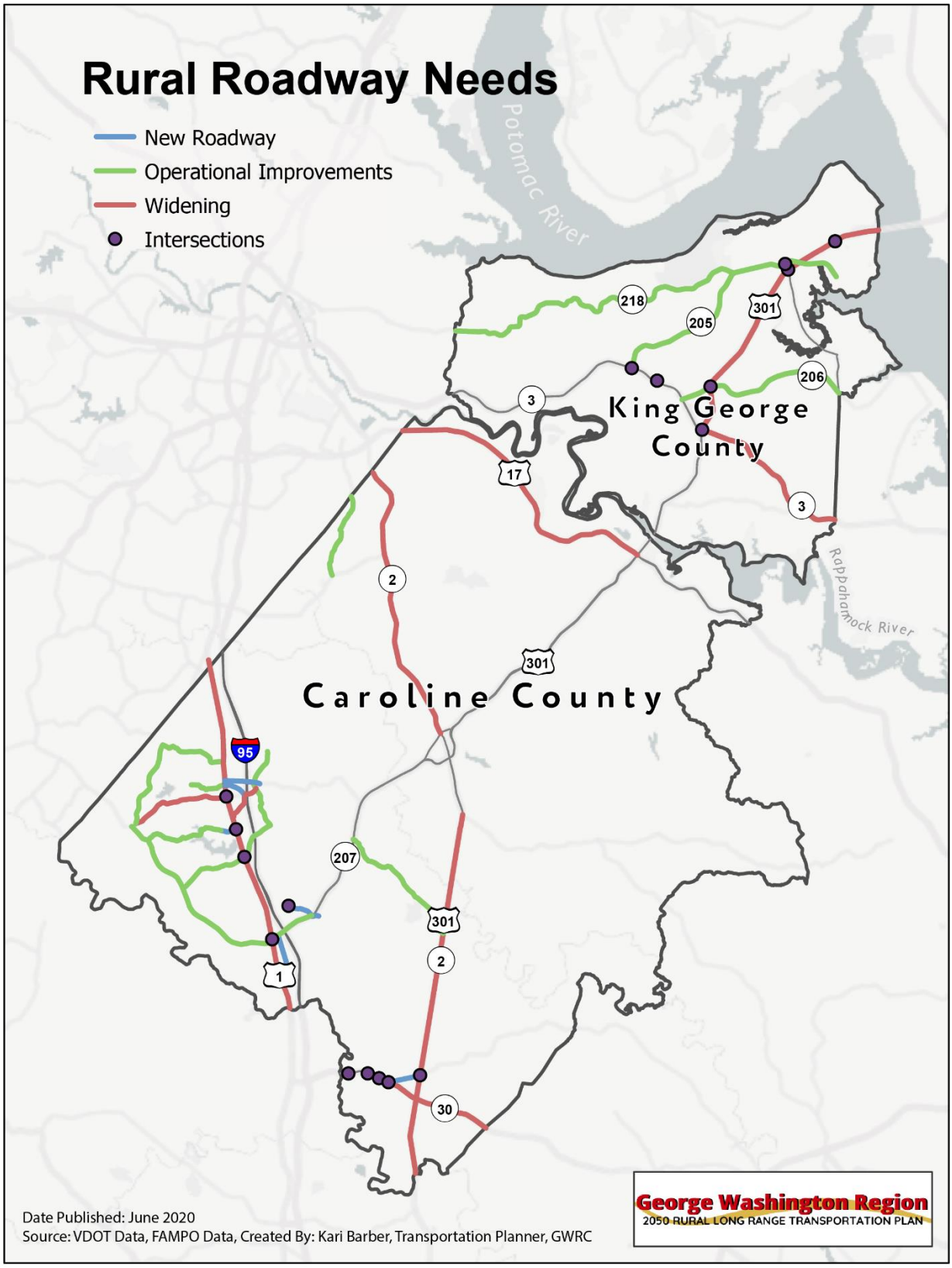
King George County

As in Caroline County, King George County's Highway needs are primarily driven by safety concerns. Several roadways are targeted for widening and shoulder improvements, and the VDOT 301/207 study has marked a string of intersections for safety upgrades. One exception is widening U.S. 301 through the northern part of the county to the approach to the Governor Harry Nice Bridge—this is in anticipation of traffic doubling in the next twenty years due to bridge expansion, development, and changing travel patterns. Table 14 is a list of highway improvement needs for King George County.

King George County Highway Needs					
Project	Route Number	Boundaries		Length (Miles)	Improvement Description
		From	To		
Other Principal Arterial					
James Madison Parkway Widening	US-301	Kings Highway (PR-3)	Harry W. Nice Bridge	12	Widen to 6 lanes divided with paved shoulders
Kings Highway Widening	PR-3	James Madison Parkway (US-301)	Westmoreland County Line	7.2	Widen to 4 lanes divided with paved shoulders
Governor Harry Nice Bridge Approach Improvements	US-301	Barnesfield Rd	Potomac River		Reconstruct Harry Nice Bridge approach to align with MD's widening of the bridge to 4 lanes
Major Collector					
Windsor Road Improvements	PR-218	James Madison Parkway (US-301)	Ridge Road (Rte 205)	6	Shoulder Improvements
Port Conway Improvements	PR-607	Kings Highway (PR-3)	Salem Church Rd	6.5	Shoulder Improvements
Salem Church Rd Improvements	PR-625	James Madison Parkway (US-301)	Kings Highway (PR-3)	6	Shoulder Improvements
Stoney Knoll Rd Improvements	PR-628	Dickinsons Corner Dr (PR 625)	Westmoreland County Line	1	Shoulder Improvements
Minor Collector					
Birchwood Creek Dr Improvements	PR-665	Kings Highway (PR-3)	Dahlgren Railroad Heritage Trail	1.61	Shoulder Improvements
Minor Arterial					
Ridge Road Widening	PR-205	Kings Highway (PR-3)	Westmoreland County Line	7.5	Widen to 4 lanes with paved shoulders
Dahlgren Road Improvements	PR-205	Kings Highway (PR-3)	James Madison Parkway (US-301)	9.3	Improve 2-lane roadway with paved shoulders
Caledon Road Improvements	PR-218	Indiantown Rd (Rte 610)	Vassar Drive		Improve 2-lane roadway with paved shoulders
Dahlgren Road Improvements	PR-206	Kings Highway (PR-3)	Dahlgren NSWC	10.73	Shoulder Improvements
Caledon Road Improvements	PR-218	Indiantown Rd (Rte 610)	Dahlgren Road (PR 206)	0.92	Shoulder Improvements
Caledon Road Improvements	PR-218	Dahlgren Road (PR 206)	James Madison Parkway (US-301)	3.12	Shoulder Improvements
Dahlgren Road Improvements	PR-205	James Madison Parkway (US-301)	12th Street (SC-604)	2.5	Improve 2-lane roadway with paved shoulders

Intersection Improvements		
Intersection	**Project Origin**	**Description**
Port Conway Road with US 301	207/301 study	Lengthen existing left-turn lanes on US 301. A future VDOT project will reconfigure intersection to Restricted Crossing U-Turn.
Jersey Road with US 301	207/301 study	Lengthen the existing left-turn lanes on US 301 and widen the median opening.
VA Route 3 with US 301	207/301 study	Option 1: Reconfigure the intersection to a Median U-Turn (MUT) intersection and consolidate commercial access points. Option 2: Reconfigure the intersection to a Quadrant Roadway (QR) and consolidate commercial access points
Ridge Road (Route 205) with US 301	207/301 study	Reconfigure the intersection to a Median U-Turn (MUT) intersection and consolidate commercial access points
Eden Road with US 301	207/301 study	Lengthen the existing northbound left-turn lane on US 301
State Road with US 301	207/301 study	Lengthen the existing southbound left-turn lane and construct a northbound left-turn lane on US 301
Poplar Neck Road with US 301	207/301 study	Lengthen all existing turn lanes on US 301
Washington Mill Road with US 301	207/301 study	Lengthen the existing southbound left-turn lane and construct a northbound left-turn lane on US 301
Windsor Drive (Route 218) with US 301	207/301 study	Reconfigure the intersection to a Restricted Crossing U-Turn (RCUT) intersection and provide an acceleration lane for rightturn movements the westbound approach
Dahlgren Road with US 301	207/301 study	Option 1: Reconfigure the intersection to a Median U-Turn (MUT) intersection and consolidate commercial access points. Option 2: Reconfigure the intersection to a Quadrant Roadway (QR) and consolidate commercial access points.
Danube Drive with US 301	207/301 study	Reconfigure the intersection to a directional median to allow only left turns from northbound US 301. Utilize existing crossover south of the intersection for movements heading northbound on US 301 from Danube Drive.
University Drive with US 301	207/301 study	Reconfigure the intersection to Restrict Crossing U-Turn (RCUT) intersection
Market Center with US 301	207/301 study	Reconfigure the intersection to a directional median permitting only U-turns/left-turns from US 301 as part of the RCUT improvement at University Drive.
Owens Drive with US 301	207/301 study	Reconfigure the intersection to a Quadrant Roadway (QR)
VA Route 3 and US 301 Median U-Turn Intersection	SMART SCALE Round 3	The intersection at Route 3 with US 301 will be reconfigured to disallow left turns. Single lane U-turn areas will be constructed on US 301 north and south of the main intersection. Pedestrian marked crossings and signals will be installed.
Route 301 University Drive/Market Ctr Double RCUT	SMART SCALE Round 3	Reconfigure intersections of University Drive at US 301 and Market Center at US 301 respectively to Restricted Crossing U-Turn intersections & install marked pedestrian crossings.
Route 206 and Route 218 Right Turn Lane	SMART SCALE Round 3	Installation of dedicated Right Turn Lane at Rte. 206 West to Rte. 218 Westbound.
Route 301 and Route 206 Median U-Turn Intersection	SMART SCALE Round 3	The intersection of US 301 and Dahlgren Road (Rte. 206) will be reconfigured to prohibit left turns. Median U-Turn areas will be constructed north and south of the intersection on US 301.
Intersection @ Rt 610	SMART SCALE Round 4	Provide Roundabout
Intersection @ Rt 624	SMART SCALE Round 4	Provide Quadrant Intersection
Intersection @ Rt 206	SMART SCALE Round 4	Provide Quadrant Intersection
Intersection @ Rt 205	SMART SCALE Round 4	Provide MUT Intersection

Table 14, King George Highway Needs



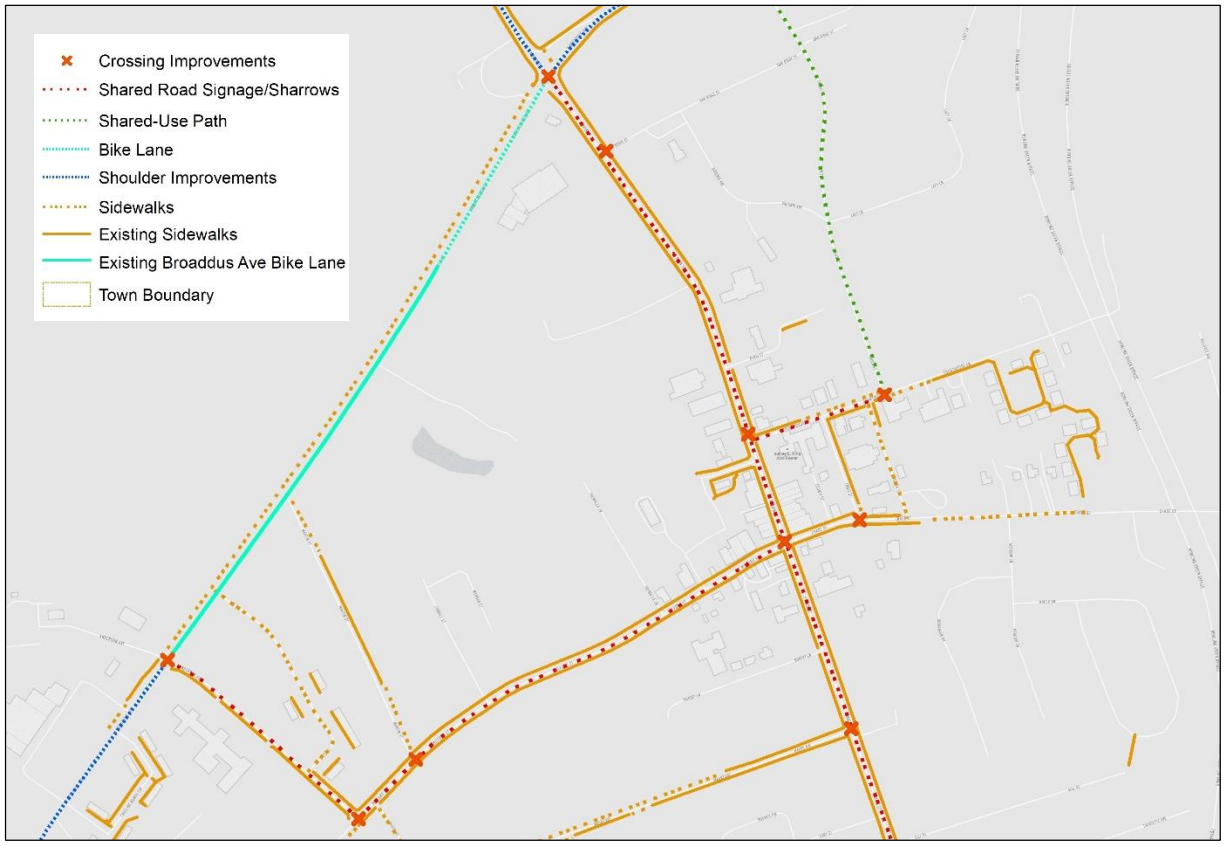
Map 22, Rural Roadway Needs

Rolling rural roads attract long distance cyclists (Credit: Virginia Dept of Transportation)

Bike and Pedestrian Needs

Caroline County

The rural nature and relatively low traffic volumes in Caroline County appeal to long distance touring and recreational cyclists; most of the planned cycling improvements are signage or shoulder related. The East Coast Greenway is routed along roads in the western part of Caroline. For pedestrians, distances along rural roads are less appealing, and pedestrian infrastructure efforts focus on towns and communities. In towns such as Bowling Green there are plans to add "share the road" paint or "sharrows" to low-speed streets to facilitate safer cycling and a robust sidewalk network is being built over time. In a developed area along Ladysmith Road from U.S. 1 to I-95, a sidewalk and shared-use path will be constructed adjacent to the roadway as part of a road widening project. Tables 15 and 16 list the proposed facilities for Caroline County, while Map 23 illustrates the proposed network.



This map excerpt shows bicycle and pedestrian improvements recommended for the Town of Bowling Green

Caroline County Crossing Improvements		
Improvement	**Location**	**Number of Crossings**
Crosswalk and Pedestrian Signal	Ladysmith Rd and U.S. 1	4
Crosswalk and Pedestrian Signal	Jericho Rd and U.S. 1	4
Crosswalk and Pedestrian Signal	Ruther Glen Rd and Route 207	4
Crosswalk and Pedestrian Signal	Moncure Dr and Route 207	3
Crosswalk and Pedestrian Signal	Route 2 and West Broaddus Ave	5
Crosswalk and Pedestrian Signal	Route 2 and School Access Rd	2
Crosswalk and Pedestrian Signal	Chase/Milford/Main	4
Crosswalk and Pedestrian Sign	Chase St and Ennis St	1
Crosswalk and Pedestrian Sign	Milford St and Anderson St	1
Crosswalk and Pedestrian Sign	Milford St and Martin St	1
Crosswalk and Pedestrian Signal	Main St and Courthouse St	2
Crosswalk and Pedestrian Signal	Main St and Oakridge St	2
Crosswalk and Pedestrian Sign	Courthouse St and Travis St	2

Table 15, Caroline County Crossing Improvements

Caroline County Roadway Recommendations			
Improvement	**Location**	**Comment**	**Length**
Shared Road Signage	U.S. 17 from U.S. 301 to Essex County Line		5.8
Shared Road Signage	Sparta Rd from U.S. 301 to Newton Rd		6.5
Shared Road Signage	Jericho Rd from U.S. 1 to Ladysmith Rd		9.6
Shared Road Signage	Landora Bridge Rd from Jericho Rd to Hanover County Line		5.5
Shared Road Signage	Newton Rd from Sparta Rd to King and Queen County Line		4
Shared Road Signage	Frog Level Rd from U.S. 301 to King William County Line		7.5
Shared Road Signage	Route 2 from Broaddus Ave to U.S. 301	Painted sharrows	1.1
Shared Road Signage	Milford Avenue from Main St to Anderson St	Painted sharrows	
Shared Road Signage	Anderson Avenue from Milford Ave to Broaddus Ave	Painted sharrows	
Shared Road Signage	CCC Rd from U.S. 1 to Jericho Rd		5.1
Shoulder Improvements	U.S. 301 from King George County Line to Town of Bowling Green	6' paved shoulders with signage	11.8
Shoulder Improvements	Route 30 from Hanover County Line to U.S. 301	4' paved shoulders with signage	4
Shoulder Improvements	U.S. 1 from Spotsylvania County Line to Hanover County Line	6' paved shoulders with signage	15.4
Shoulder Improvements	Route 2 from Spotsylvania County Line to Town of Bowling Green	4' paved shoulders with signage	11.9
Shoulder Improvements	Ladysmith Rd from Partlow Rd to U.S. 1	4' paved shoulders with signage	4.8
Shoulder Improvements	Ladysmith Rd from I-95 to Route 207	4' paved shoulders with signage	6
Shoulder Improvements	Stonewall Jackson Rd from Spotsylvania County Line to Route 2	4' paved shoulders with signage	6.8
Shoulder Improvements	West Broaddus Ave from Anderson Ave to Route 207	Extend existing paved shoulder/ bike lane	1
Shoulder Improvements	U.S. 301/Route 2 from Bowling Green Bypass to Hanover County Line	6' paved shoulders with signage	17.7
Shoulder Improvements	Route 207 from U.S. 301 to U.S. 1	6' paved shoulders with signage	11.9
Shoulder Improvements	U.S. 17 from Spotsylvania County Line to U.S. 301	6' paved shoulders with signage	12.5
Shoulder Improvements	Macedonia Rd from Spotsylvania County Line to Stonewall Jackson Rd	4' paved shoulders with signage	2.4
Sidewalk	Both sides of U.S. 1 from Gatewood Rd to CCC Rd		2.9
Sidewalk	Martin St from Milford St to Broaddus Ave		0.3
Sidewalk	North side of Maury Ave from Main St to Elliot Dr		0.3
Sidewalk	Ennis St from Courthouse Ln to Chase St		0.1
Sidewalk	Butler St from Courthouse Ln to Chase St		0.1
Sidewalk	White St from Milford St to Maury Ave		0.1
Sidewalk	Both sides of Lee St from Broaddus Ave to Anderson Ave		0.2
Sidewalk	North side of West Broaddus Ave from Main St to Anderson Ave		0.8
Sidewalk	Both sides of Ladysmith Rd from U.S. 1 to Partlow Rd		4.7
Sidewalk	Both sides of U.S. 1 from Cedar Fork Rd to Gatewood Rd		2.9
Sidewalk	Both sides of U.S. 1 from Telegraph Rd to Hanover County Line		5.1
Sidewalk	Both sides of Route 207 From Telegraph Rd to Moncure Dr		3.5
Sidewalk	Both sides of Ruther Glen Rd from Route 207 to Shannon Mill Dr		3.2
Shared-Use Path	Devils Three Jump Road from Caroline High School to Caroline Middle School		0.2

Table 16, Caroline County Roadway Recommendations

King George County

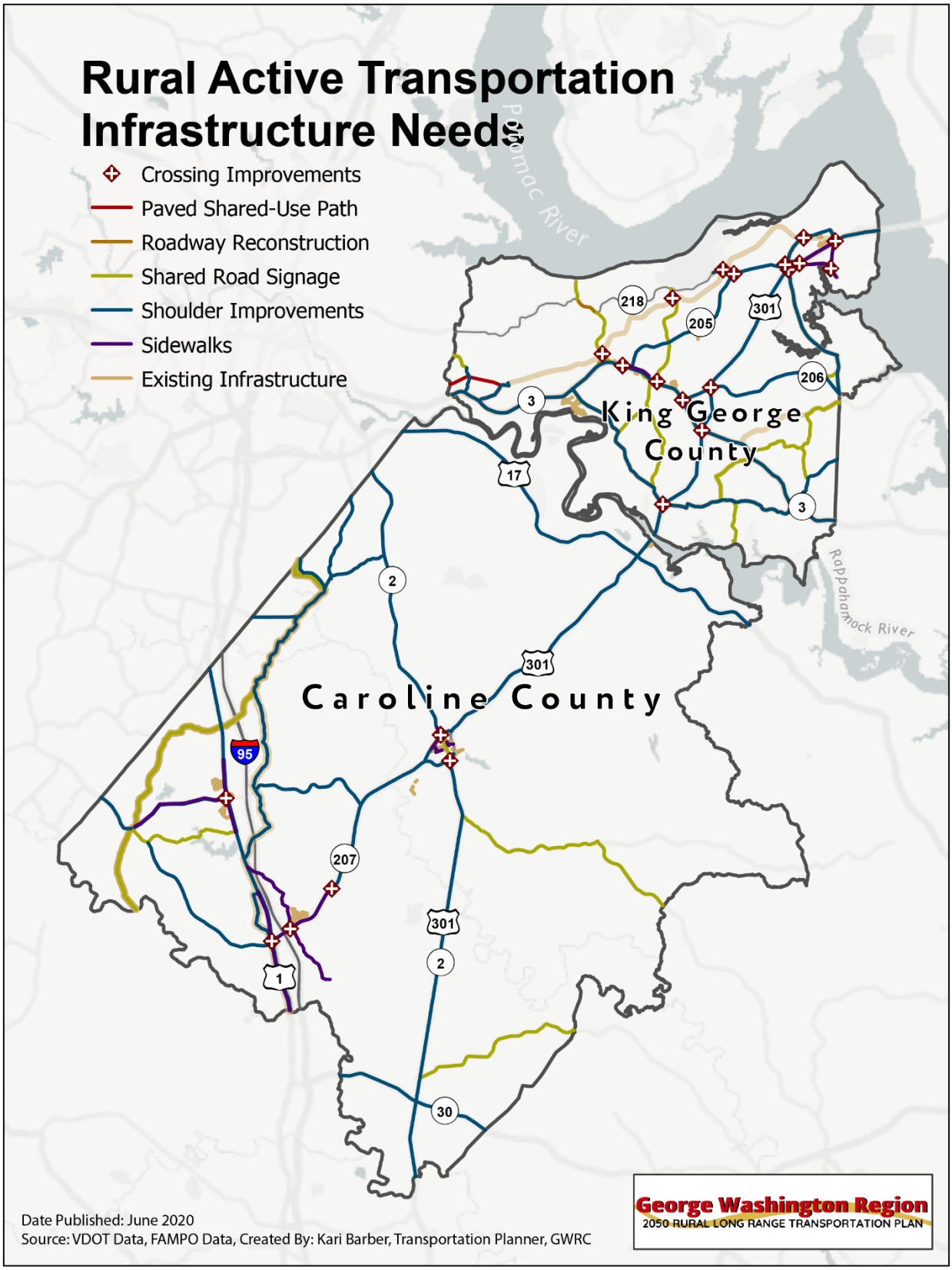
Like Caroline County, King George County consists of rural roads with relatively low traffic volumes. Likewise, the recommendations are mostly shoulder and signage improvements. Pedestrian infrastructure improvements focus on the courthouse and Dahlgren areas, where there is the most density and mix of uses. A rail-with-trail is planned along the Dahlgren spur rail line, which would extend the Dahlgren Railroad Heritage Trail into Stafford County. Tables 17 and 18 list the recommendations for the County. Map 23 is a visual representation of the proposed network.

King George County Crossing Improvements		
Improvement	**Location**	**Number of Crossings**
Crosswalk and Pedestrian Signal	Route 3 and Route 206	2
Crosswalk and Pedestrian Signal	Route 3 and Madison Dr	3
Crosswalk and Pedestrian Signal	U.S. 301 and Route 206	3
Crosswalk and Pedestrian Signal	Route 206 and Potomac Dr	4
Crosswalk and Pedestrian Signal	U.S. 301 and Potomac Dr	2
Crosswalk and Pedestrian Signal	Route 3 and Indiantown Rd	2
Crosswalk and Pedestrian Signal	U.S. 301 and Route 3	3
Crosswalk and Pedestrian Signal	U.S. 301 and Route 205	3
Crosswalk and Pedestrian Signal	Route 3 and Route 205	2
Crosswalk and Pedestrian Signal	U.S. 301 and Route 218	3
Crosswalk and Pedestrian Signal	U.S. 301 and Commerce Dr	2
Crosswalk and Pedestrian Signal	Route 614 and Roue 206	2
Crosswalk and Pedestrian Signal	U.S.301 and Route 614	3
Crosswalk and Signage	Routes 206 (Dahlgren Rd) and 218 (Windsor Dr)	4
Crosswalk and Signage	U.S. 301 and Salem Church Rd	1
Crosswalk and Signage	Routes 206 (Dahlgren Rd) and 218 (Caledon Rd)	2
Crosswalk and Signage	Route 218 and Dahlgren Railroad Heritage Trail	1
Crosswalk and Signage	Indiantown Rd and Dahlgren Railroad Heritage Trail	1
Crosswalk and Signage	Comorn Rd and Dahlgren Railroad Heritage Trail	1
Crosswalk and Signage	Owens Dr and Dahlgren Railroad Heritage Trail	1

Table 17, King George County Crossing Improvements

King George County Roadway Recommendations			
Improvement	**Location**	**Comment**	**Length**
Shared Road Signage	Comorn Rd from Route 3 to Route 218		2.6
Shared Road Signage	Fairview Dr from Route 218 to Fairview Beach		0.8
Shared Road Signage	Potomac Rd from U.S. 301 to end of road		1.2
Shared Road Signage	Good Hope Rd from Route 205 to Route 218		0.7
Shared Road Signage	Indiantown Rd from Route 218 to Route 3		4.4
Shared Road Signage	Stanley Rd from Route 3 to Comorn Rd		0.5
Shared Road Signage	Nanzatico Rd from Port Conway Rd to Rappahannock River		1.8
Shared Road Signage	Chapel Green Rd from Fletchers Chapel Rd to Stafford County line		0.9
Shared Road Signage	Prim Rd/Round Hill Rd from Salem Church Rd to Westmoreland County Line		5.4
Shared Road Signage	Big Timber Rd from Route 3 to Prim Rd		2.6
Shared Road Signage	Shiloh Loop from Route 3 to Route 3		0.5
Shared Road Signage	Jersey Rd/Welcome Rd from Salem Church Rd to Shiloh Loop		2.7
Shared Road Signage	Powhatan Rd from Millbank Rd to Port Conway Rd		1.6
Shared Road Signage	Millbank Rd from Saint Anthony's Rd to Port Conway Rd		4.8
Shared Road Signage	St. Anthony's Rd from Route 3 to Millbank Rd		0.5
Shoulder Improvements	U.S. 301 from Caroline County Line to Harry Nice Bridge	6' paved shoulders with signage	17.3
Shoulder Improvements	Route 205 from Route 3 to Westmoreland County line	6' paved shoulders with signage	7.5
Shoulder Improvements	Route 3 from Stafford County line to Westmoreland County line	6' paved shoulders with signage	19.8
Shoulder Improvements	Route 206 (Dahlgren Rd) from Route 3 to Dahlgren NSWC	6' paved shoulders with signage	10.8
Shoulder Improvements	Route 218 from Route 610 to Route 206	6' paved shoulders with signage	1
Shoulder Improvements	Route 218 from Route 206 to U.S. 301	6' paved shoulders with signage	3.2
Shoulder Improvements	Route 218 from U.S. 301 to Route 205	6' paved shoulders with signage	6
Shoulder Improvements	Port Conway Rd from Route 3 to Salem Church Rd	6' paved shoulders with signage	6.5
Shoulder Improvements	Salem Church Rd from U.S. 301 to Route 3	6' paved shoulders with signage	6
Shoulder Improvements	Birchwood Creek Rd from Route 3 to Dahlgren Railroad Heritage Trail	6' paved shoulders with signage	1.7
Shoulder Improvements	Fletchers Chapel Rd from Chapel Green Rd to Route 3	6' paved shoulders with signage	1.2
Shoulder Improvements	Dickinsons Corner Dr from Route 3 to Stoney Knoll Rd	6' paved shoulders with signage	1.4
Shoulder Improvements	Stoney Knoll Rd from Dickinsons Corner Dr to Westmoreland County Line	6' paved shoulders with signage	1
Roadway Reconstruction	Route 218 from Fairview Dr to Route 609		1.1
Sidewalk	Both sides of Potomac Dr from Dahlgren Rd to Bennion Dr		1.7
Sidewalk	Both side of Dahlgren Rd from U.S. 301 to Potomac Dr		1.9
Sidewalk	Both sides of Route 3 from Madison Dr to Tinsbloom Ln		2.2
Sidewalk	Both sides of U.S. 301 from Dahlgren Rd to Dahlgren NSWC		1.8
Shared-Use Path	CSX Dahlgren Spur Line Rail-with-Trail from Bloomsbury Rd to Stafford Co Line		2.4
Shared-Use Path	Aegis Way from Dahlgren Road to U.S. 301		1.3
Shared-Use Path	U.S. 301 from Aegis Way to Governor Harry Nice Bridge		1.8

Table 18, King George County Roadway Recommendations



Map 23, Active Transportation Recommendations

SMART SCALE

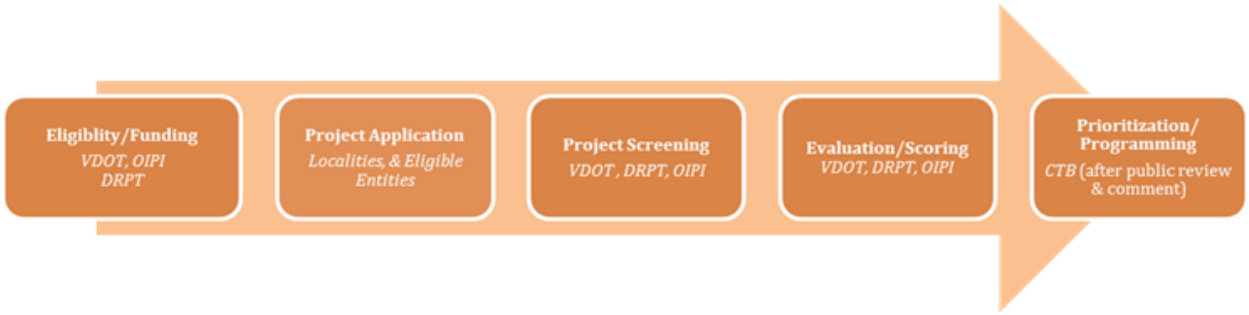
Virginia's SMART SCALE began as House Bill (HB) 2 in 2015. Conceived of as a more transparent way to allocate the Commonwealth's limited tax dollars, SMART SCALE attempts to score transportation projects based on a quantifiable, outcome-based process, allowing decision-makers to be more accountable to the public. All projects scored by SMART SCALE must be included in Virginia's Statewide transportation plan (VTRANS).

Project screening, scoring and prioritization are carried out by the Virginia Department of Transportation (VDOT), The Department of Rail and Public Transportation (DRPT) and The Office of Intermodal Planning and Investment (OIPI).

Once scored and prioritized, projects are ultimately chosen by the Commonwealth Transportation Board (CTB), a Virginia State Agency which oversees VDOT.

Process

SMART SCALE is a biennial process with five steps: Eligibility, Applications, Screening, Scoring, and Programming:



Source: VDOT SMART SCALE Website

For each cycle, the preapplication must be submitted by April 1. These are then screened for eligibility. Applications are accepted through August 3, and evaluation begins. The CTB receives the evaluated projects in January and begins to draft their inclusion into the VDOT Six Year Plan (SYIP). Public hearings are held in March and April and in June, the CTB releases the final SYIP.

Program Funding

There are two funding sources for SMART SCALE-selected projects: the **District Grants Program** (DGP) and the **High Priority Projects Program** (HPPP). Projects applying for DGP funds, which is only open to localities, compete only with projects from the same construction district. Projects applying for HPPP funds compete with projects from across the Commonwealth. The same project may qualify for funding under both.

HPPP is meant for projects that address needs on **Corridors of Statewide Significance** (COSS), and/or address capacity on regional networks as defined in the section on Freight.

The DGP is meant for projects that improve **Urban Development Areas** (UDAs) and/or address specific VTRANS safety needs.

Matching Funds

Other funding sources may be used as matching funds to reduce the amount of SMART SCALE funding requested by the project sponsor, including **Congestion Mitigation and Air Quality Funding** (CMAQ), **Surface Transportation Block Grant** (STBG), **Revenue Sharing**, **Transportation Alternatives** (TA) **Set-aside funds**, **Highway Safety Improvement Program** (HSIP), **State of Good Repair** (SGR) and other funding sources. These are described more fully in the funding sources section.

Eligibility and Applicants

Projects may be submitted by Counties, Cities and Towns, as well as regional entities such as Metropolitan Planning Organizations (MPOs), Planning District Commissions (PDCs), and public transit agencies.

These entity types have different rules to follow regarding types and numbers of project applications they can submit; however, joint applications between two entities are allowed.

The types of projects that can be submitted under SMART SCALE include:

- **Highway Improvements (Widening, operational improvements, access management, Intelligent Transportation Systems, Technology operational improvements)**
- **Transit- and rail-capacity expansion**
- **Bicycle and pedestrian improvements**
- **Transportation Demand Management (Park and Ride facilities)**

These projects are then scored utilizing six evaluation measures, listed below. Parts of the Commonwealth are scored differently according to their characteristics, and sorted into categories A, B, C, and D. King George and Caroline Counties are in region D, and their scoring rubric is as follows:

Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	45%[b]	5%	15%	5%	10%	20%[a]
Category B	15%	20%	25%	20%	10%	10%[a]
Category C	15%	25%	25%	25%	10%	
Category D	10%	35%	15%	30%	10%	

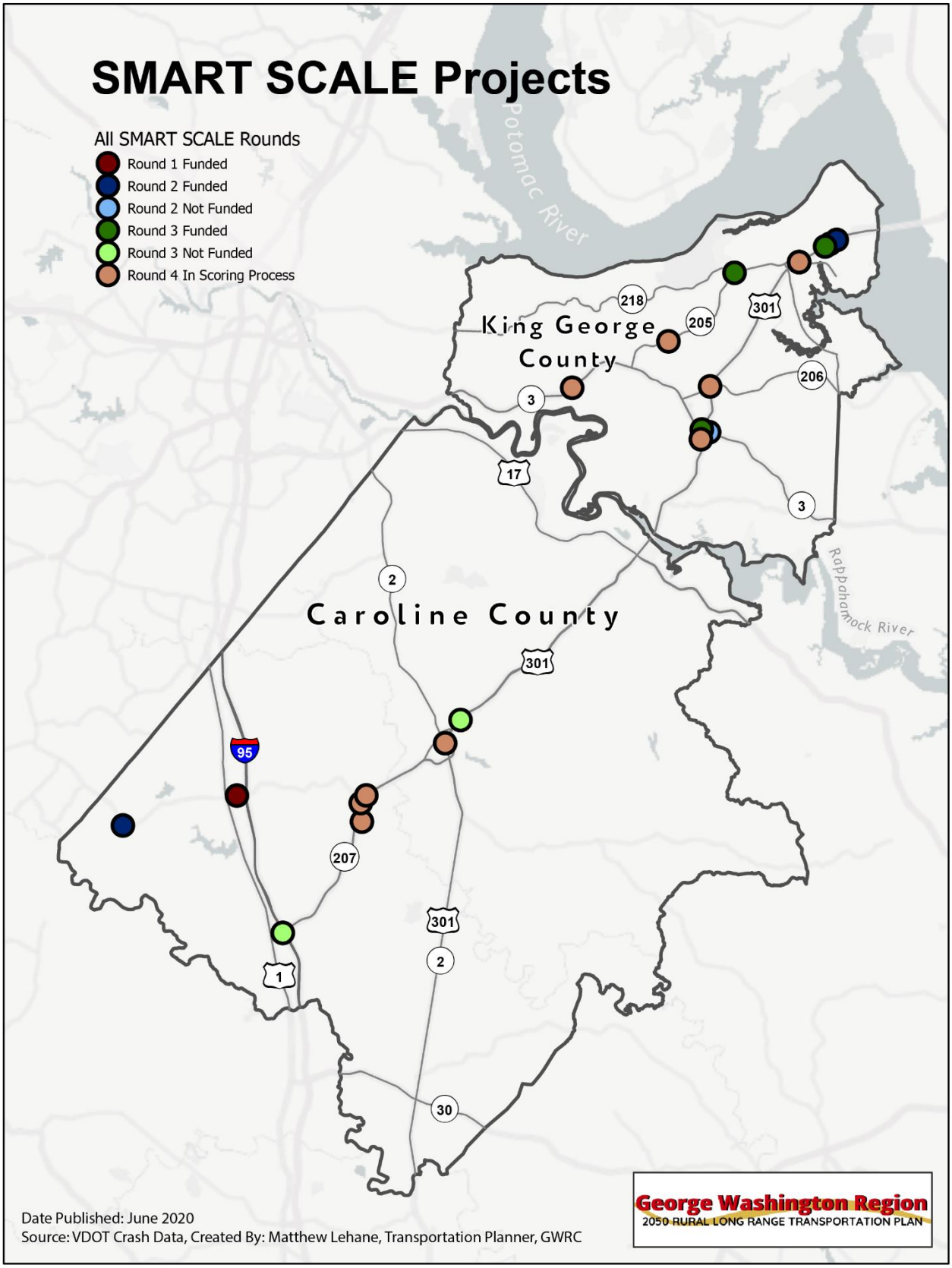
Once a project has been selected, it is included in the VDOT Six Year Improvement Plan (SYIP) and becomes a funding priority. Re-evaluation of a funding decision may occur, however, if there is a significant scope or funding change to the project.

Rural Regional Projects

Table 19 below, is a list of local and regional projects submitted to SMART SCALE Rounds 1 through 4 by Caroline County, King George County, GWRC and/or FAMPO on their behalf. Map 24 delineates funded from unfunded projects

ID	Organization	Name	Round	Funded	SMART SCALE Cost
2	Caroline County	Improvements for for CHS/CMS/County Park	4	In Scoring Process	N/A
3	Caroline County	RT. 207/639 Improvements	4	In Scoring Process	N/A
4	Caroline County	RT. 207/722 Improvements	4	In Scoring Process	N/A
5	Caroline County	Town of Bowling Green Improvements	4	In Scoring Process	N/A
12	Caroline County	Bowling Green Route 301 Corridor Safety Improvements	3	NO	$9.9 Million
14	Caroline County	I-95/207 Safety Improvements	3	NO	$9.9 Million
18	Caroline County	Chilesburg-Route 738/639 Intersection Safety Improvements	2	YES	$2.1 Million
20	Caroline County	UPC 106670-Widening of Route 639 Ladysmith Road	1	YES	$14.1 Million
1	GWRC	US 301/207 Study Crossover Improvements	4	In Scoring Process	$5.9 Million
6	King George County	US 301/Rt 207 Ridge Rd Improvements	4	In Scoring Process	$2.6 - 4.2 Million
7	King George County	US 301/Rt 206 Dahlgren Rd Improvements	4	In Scoring Process	$3.5 - 6.1 Million
8	King George County	Indiantown Rd and Rt 206 Roundabout Intersection	4	In Scoring Process	N/A
9	King George County	Port Conway Road. With U.S. 301 Improvements	4	In Scoring Process	N/A
10	King George County	Route 206 and Route 218 Right Turn Lane	3	YES	$2 Million
11	King George County	Route 301 and Route 206 Median U-Turn Intersection	3	NO	$6.8 Million
13	King George County	Route 301 University Drive/Market Ctr Double RCUT	3	YES	$3.5 Million
15	King George County	Route 301 and Route 3 Median U-Turn Intersection	3	YES	$3.3 Million
16	King George County	Naval Base Dahlgren Turn Lane Extension Route 301 South	2	YES	$2 Million
17	King George County	4 Lane Widening (Divided) Rt. 3 East At Rt. 301 Intersection	2	NO	$15 Million
19	King George County	Turn Lane Extension North Bound Dahlgren Naval Base	1	YES	$5.5 Million

Table 19, Smart Scale Regional Projects



Map 24, Smart Scale Regional Projects

Other Funding Sources

A variety of funding sources exist for implementation of the region's needed transportation projects. One of the largest of these, SMART SCALE, is detailed above. Like this State-administered funding program, most other sources are application-based processes. This means that localities and regional entities need to submit project applications for scoring to receive funding. Funding sources for transportation projects beyond SMART SCALE are described below:

Surface Transportation Block Grant Program (STBG): The FAST Act converted the Surface Transportation Program (STP) into the Surface Transportation Block Grant (STBG) Program. Transportation Alternatives (TA) listed below is a subset of this program. Local match required. Annual Process.

Eligible Projects:	Eligible Applicants:
Federal-Aid highway Projects	Local Governments
Bridge Projects	VDOT District Staff
Public Road Projects	Regional Staff
Transit Capital Projects	Transit Operators
Non-motorized Paths	
Bridge and Tunnel inspection and Inspector Training	
Transportation Planning	

Highway Safety Improvement Program (HSIP): Established by federal transportation legislation MAP-21, this program focuses on the significant reduction of injuries and fatalities on public roadways. The federal portion is 90 percent for most projects, although some are eligible for 100 percent. Projects are evaluated on a statewide basis. Priority is given to projects expected to produce a significant reduction in the number/consequence of severe crashes. Annual process.

Eligible Projects:	Eligible Applicants:
Identification of high crash points and corridors	Local Governments
Crash trend and condition analysis	VDOT District Staff
Safety Improvement Project prioritization and scheduling	Regional Staff

Transportation Alternatives (TA) Set-Aside Program: This program, a subset of STBG, funds community-based projects that expand active transportation opportunities by helping to provide pedestrian and bicycle facilities and associated improvements. Somewhat different to other funding programs, TA Set-aside is a reimbursement program. Project sponsors must possess the necessary funding for the project upfront until the appropriate documentation can be submitted for reimbursement at a maximum of 80 percent federal funds with a 20 percent local match. Projects must show ecological benefit; must satisfy a demonstrable community

need, be compatible with adjacent land use, and have public support. Other criteria including economic and tourist value must also be met. Biennial Process.

Eligible Projects:	Eligible Applicants:
Pedestrian and bicycle facilities such as sidewalks, bike lanes, and shared use paths	Local Governments/ Tribal Government/School District
Pedestrian and bicycle safety and educational activities such as classroom projects, safety handouts and directional signage for trails (Safe Routes to School)	Regional Transportation Authority/Transit Agency
Preservation of abandoned railway corridors such as the development of a rails-to-trails facility	Natural Resource/Public Land Agency

VDOT Revenue Sharing Program: This program provides additional funds to construct, reconstruct, improve, or maintain highways within a county, city, town or eligible rural addition in certain counties of the Commonwealth. Program is a dollar for dollar matching fund with limitations on state funds per locality. Application requires a resolution of support by the jurisdiction governing body. The CTB makes the funding choice with the following criteria in descending priority: projects that have previously received funding under the program, projects that meet a VTRANS need or will be accelerated in a locality's capital plan, projects that address bridge and pavement deficiencies, and finally; all other projects. Biennial process.

Eligible Projects:	Eligible Applicants:
Supplemental funding for projects listed in the adopted Six-Year Improvement Plan.	Counties, Cities or Towns
Construction, reconstruction, or improvement projects not included in the adopted Six Year Improvement Plan.	
Improvements necessary for the specific subdivision streets otherwise eligible for acceptance into the secondary system for maintenance (rural additions)	
Maintenance projects consistent with the department's operating policies	
New hard surfacing (paving)	
New roadway	
Deficits on completed construction, reconstruction, or improvement projects	

Recreational Access Program: Provides funding to access public recreational and/or historic sites operated either by the Commonwealth or a locality. Funding allocated by VDOT District, VDOT Local Assistance Division (LAD), and the Department of Conservation and Recreation (DCR) according to funding availability and scope completeness. Final decision by CTB. Rolling Process.

Eligible Projects:	Eligible Applicants:

Construction, reconstruction, maintenance and improvement of roads and bikeways serving a public recreation area operated by a state or local authority	Counties, Cities or Towns

Development Proffer: Contributions made by a developer, such as building public sidewalk in front of their property, is another source of funding for transportation projects. Proffers can be cash, land dedications, or in-kind services voluntarily granted to localities. The re-zoning process allows developers to offer these infrastructure improvements even though recent legislation has somewhat limited local governments' ability to make use of this funding source. This usually requires an exhaustive study to document project costs.

Eligible Projects:	**Eligible Applicants:**
Re-zoning requests that permit residential and/or commercial uses in accordance with this policy. Limited to offsetting impacts that are directly attributable to new development.	Land developers seeking a rezoning

Economic Development Access Program: Provides funding for access to new and expanding economic development sites where at least 51 percent of the company's revenue is generated outside the Commonwealth. Funding allocation determined by Virginia Economic Development Partnership (VEDP) and Virginia Department of Business Assistance (VDBA) depending on funding availability and scope completeness. Final decision is by the CTB. Rolling Process.

Eligible Projects:	**Eligible Applicants:**
The cost to the qualifying establishment of the land, the building, and newly purchased manufacturing or processing equipment. Costs for items such as office equipment, desktop office computer systems, manufacturing equipment transferred from another plant, and rolling stock are ineligible. Also ineligible are legal fees, taxes, recording fees, interest and similar type expenses. Capital costs incurred by the qualifying establishment more than six months prior to the date of resolution of the governing body will normally be disallowed.	manufacturing, processing, research and development facilities, distribution centers, regional service centers, corporate headquarters, or similar facilities, or other qualifying establishments that also meet basic employer criteria as determined by the VEDP

Rural Rustic Roads Program: This program funds paving projects and minor geometric improvements for unpaved, low-volume rural roadways while preserving their aesthetic character. The County Board of Supervisors requests evaluation for the Rural Roads Program through the VDOT Residency Administrator. Rolling Process.

Eligible Projects:	**Eligible Applicants:**
Unpaved roads within the State Secondary System which carry no more than 1500 vehicles per day (VPD), are used predominantly for local traffic, and must have minimal anticipated traffic growth. If funding source is from secondary system allocations, project must be in the locality's Secondary Six Year plan (SSYP).	County Boards of Supervisors

State of Good Repair: Program provides funding for deteriorated bridges and pavements maintained and/or VDOT and/or localities, as approved by the CTB. Each construction district receives between 5.5 percent and 17.5 percent of the total available SGR funds in a given year based on need. Annual process.

Eligible Projects:	Eligible Applicants:
State-or locality-owned roadways deemed to be in a deteriorated condition	Locality governments
State-or locality-own bridges deemed to be structurally deficient	

Emergency Relief (ER) Program:

The FAST Act continues the Emergency Relief program, which provides funds for emergency repairs and permanent repairs on Federal-aid highways and roads, tribal transportation facilities, and roads on Federal lands that the Secretary finds have suffered serious damage as a result of natural disasters or catastrophic failure from an external cause. Rolling Process.

Eligible Projects:	Eligible Applicants:
Federal-aid highways and road repair	State Governments
Tribal transportation facility repair	
Any damaged road on federal lands	

Federal Lands Transportation Program (FLTP):

The Federal Lands Transportation Program (FLTP) funds projects that improve access within Federal lands (national forests, national parks, national wildlife refuges, national recreation areas, and other Federal public lands) on transportation facilities in the national Federal lands transportation inventory and owned and maintained by the Federal government.

Eligible Projects:	Eligible Applicants:
Projects that improve access on Federal lands	Natural Resource/Public Land Agency