



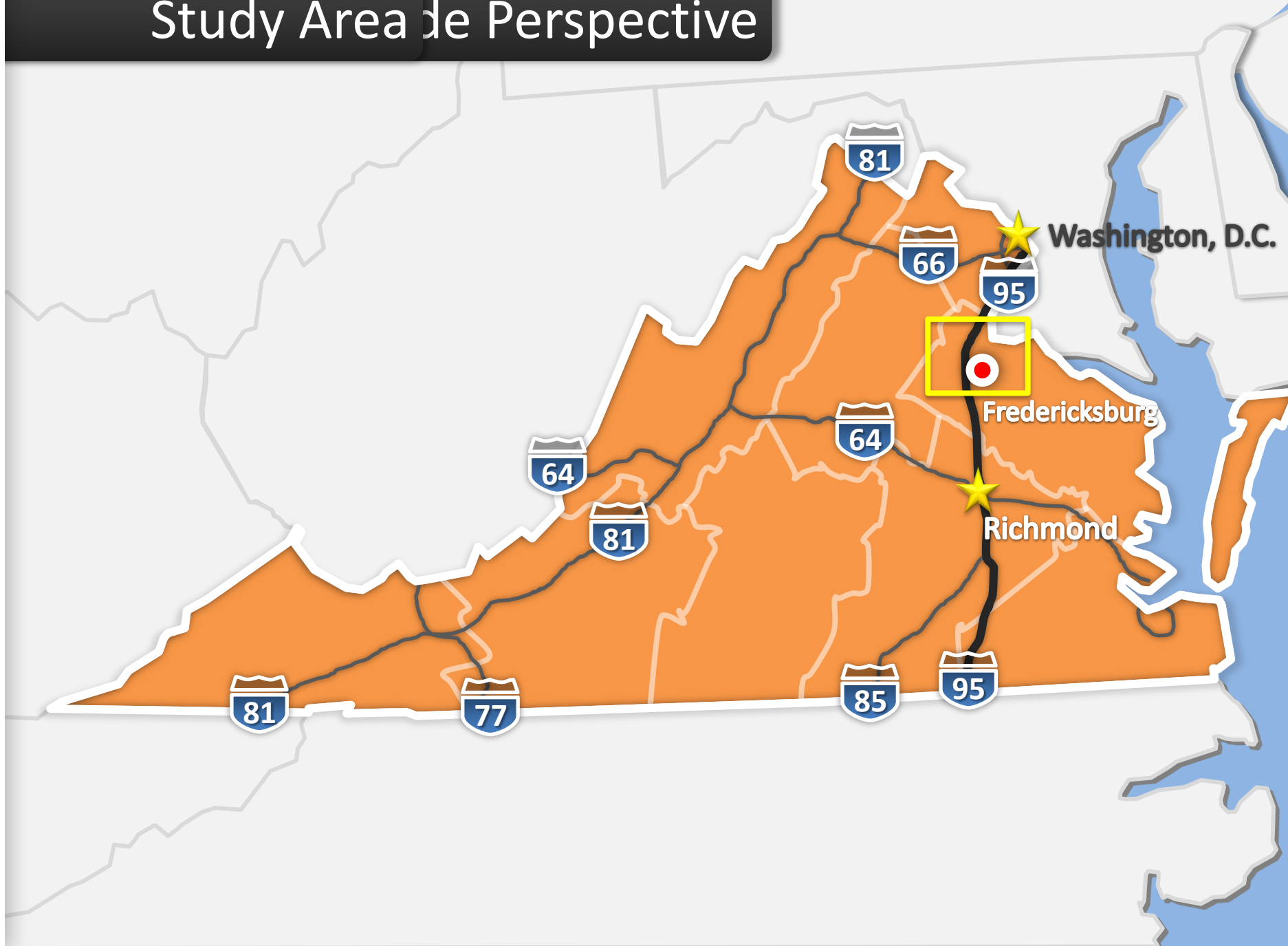
**Fredericksburg Area Congestion Relief Study:  
*Evaluation of Conceptual Alternatives***

**December 4, 2013**

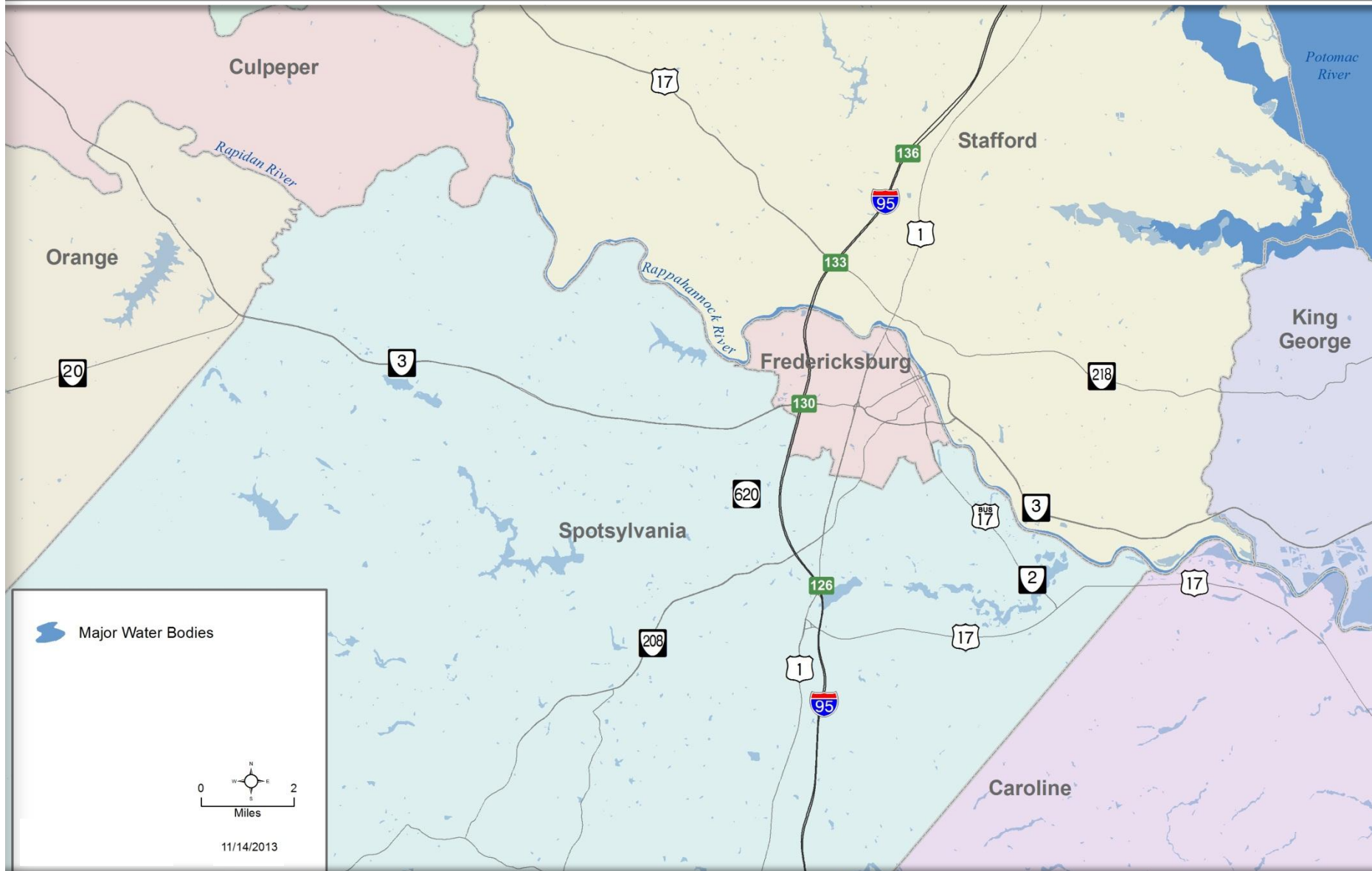
**Quintin D. Elliott**

**Fredericksburg District Administrator**

# Study Area de Perspective

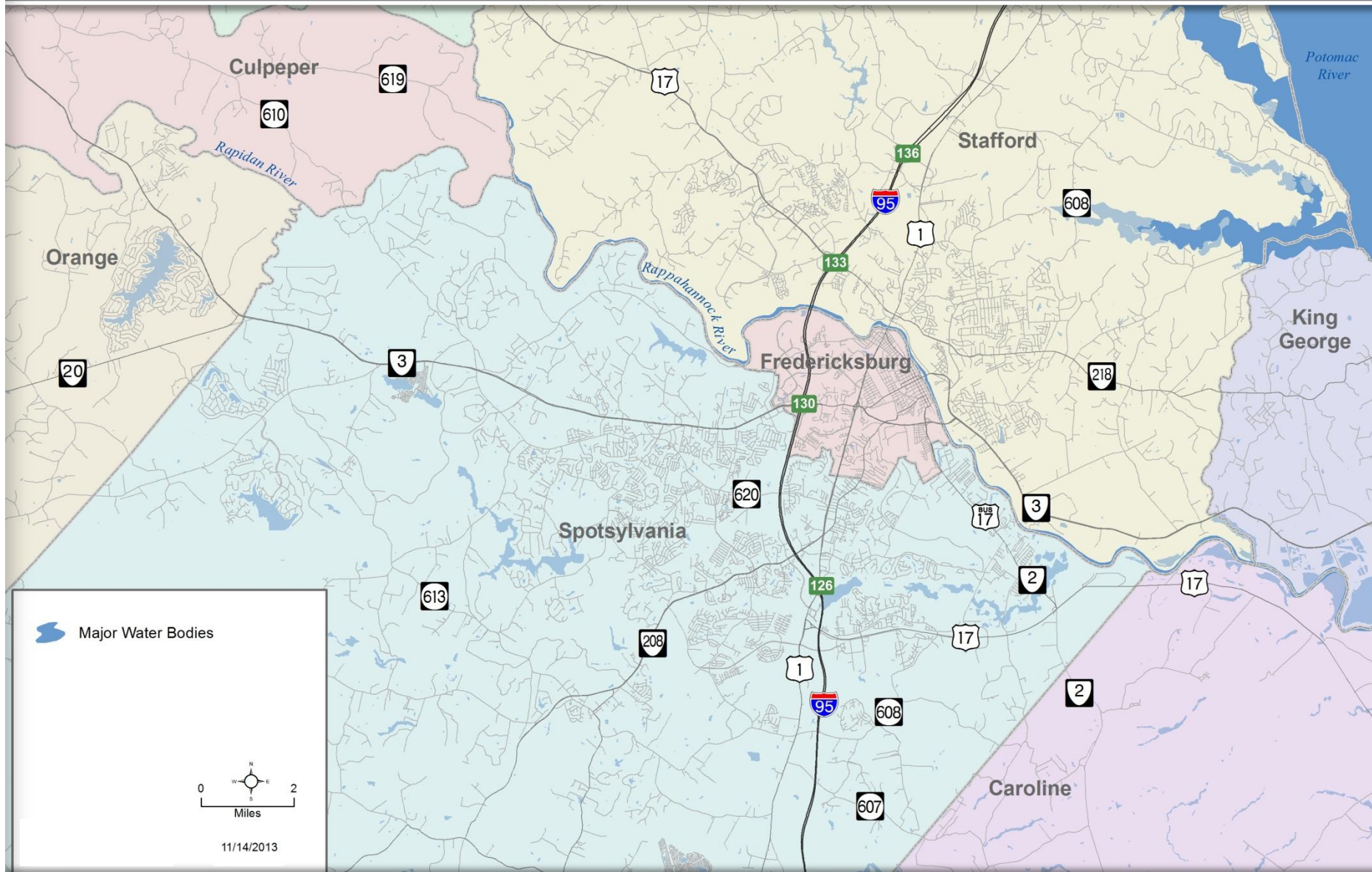


# Study Area



# Study Area

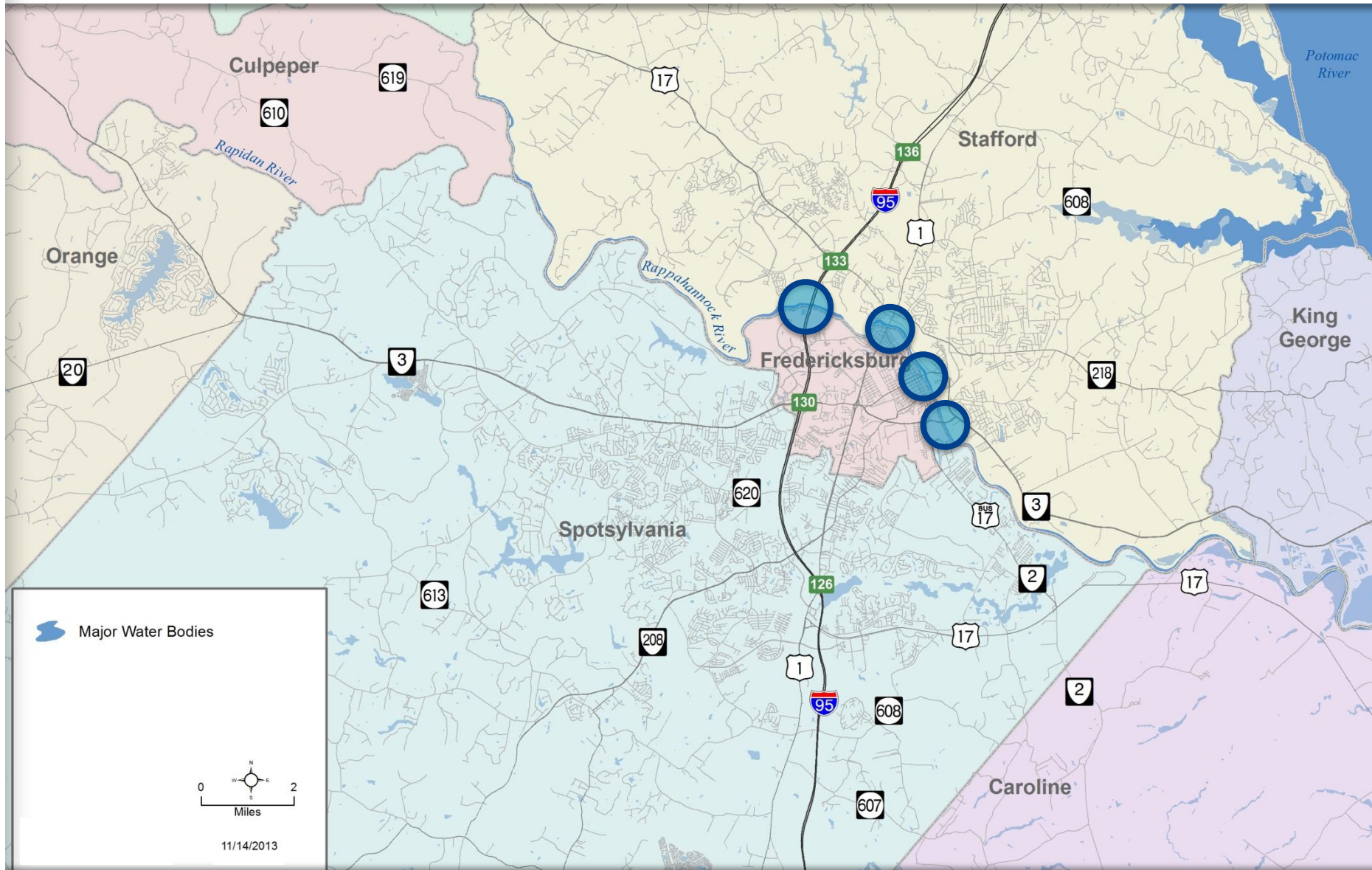
# Secondary Network





# Study Area

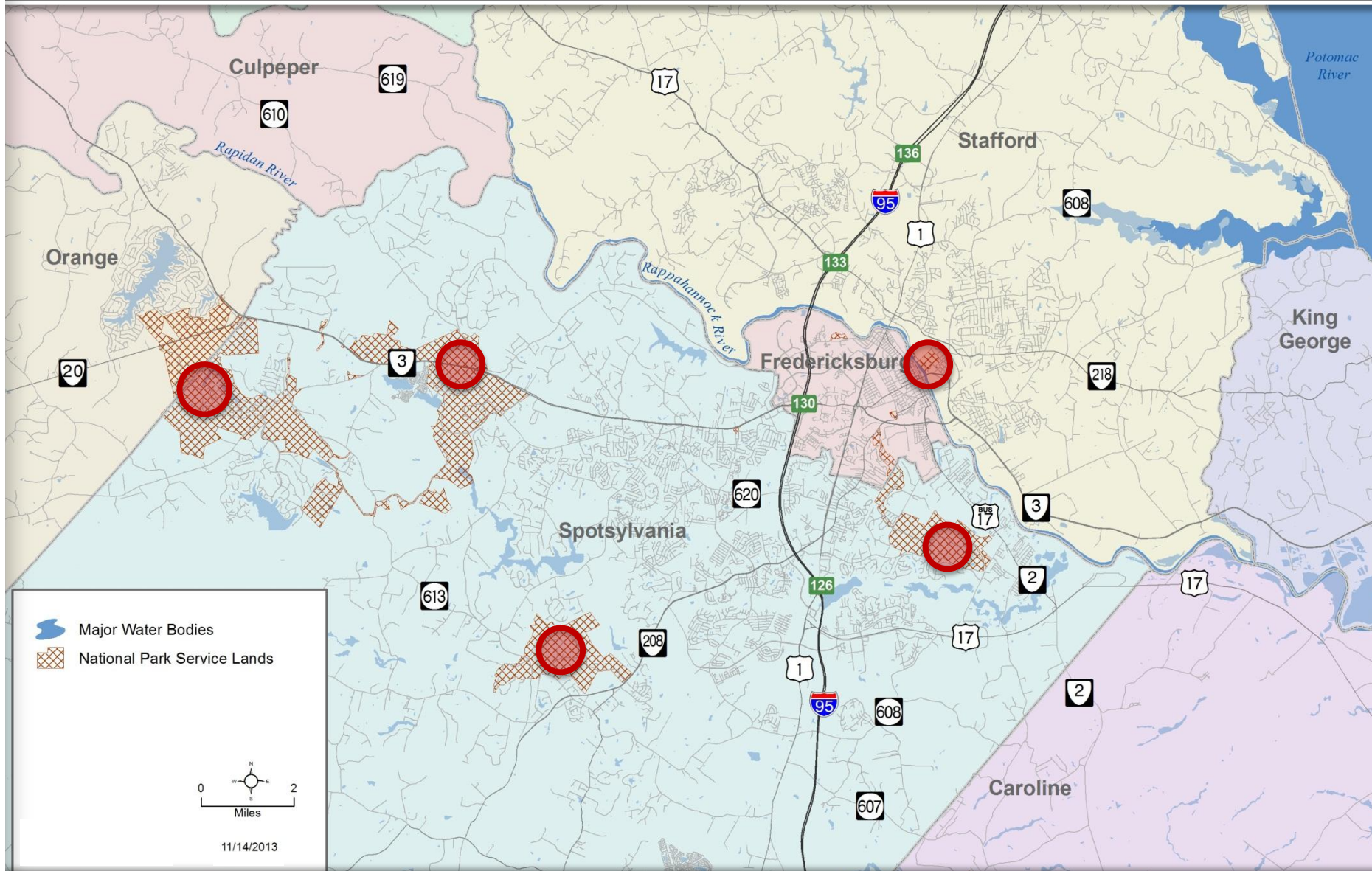
## Existing River Crossings





# Study Area

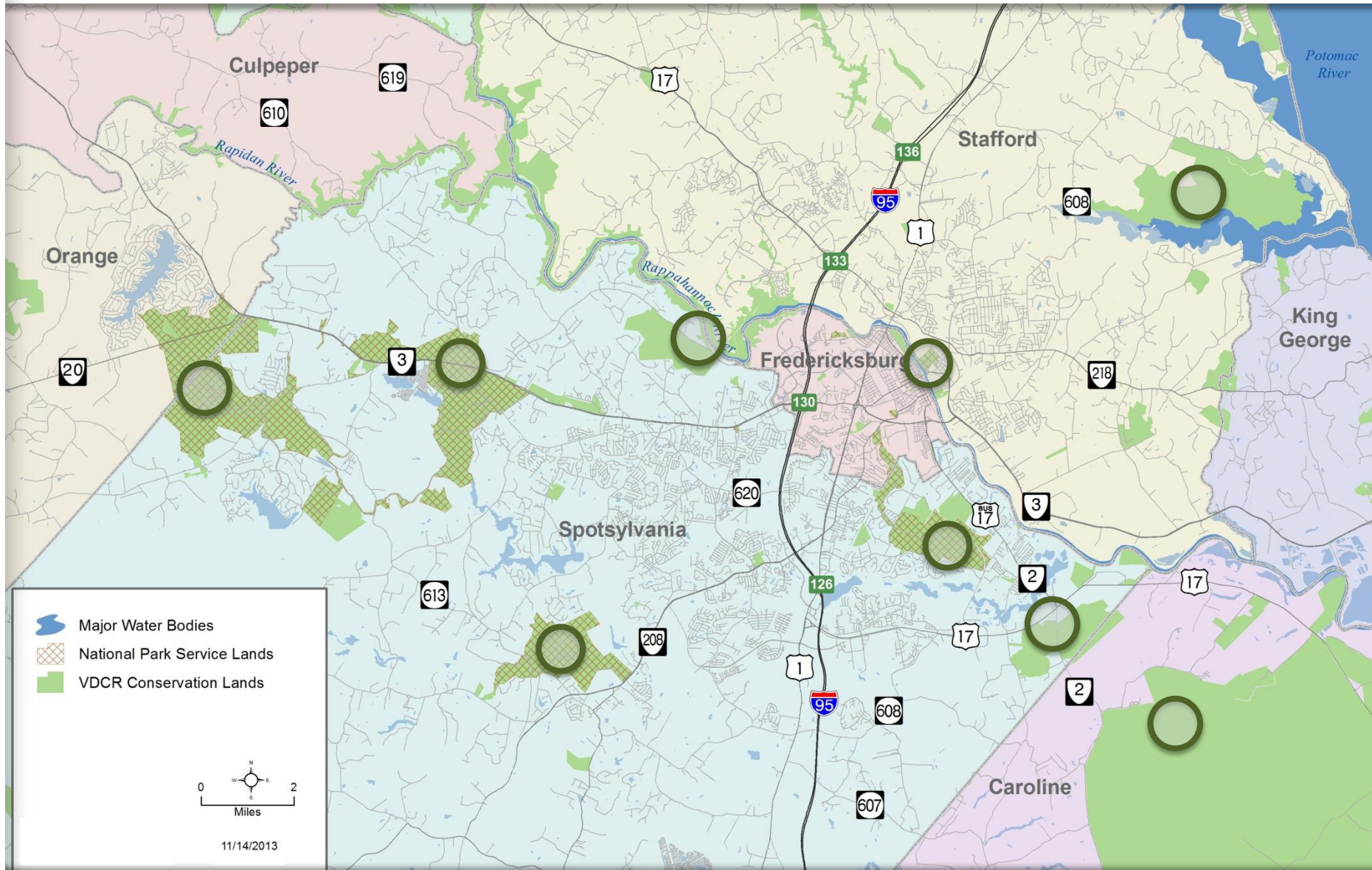
## National Park Service Lands





# Study Area

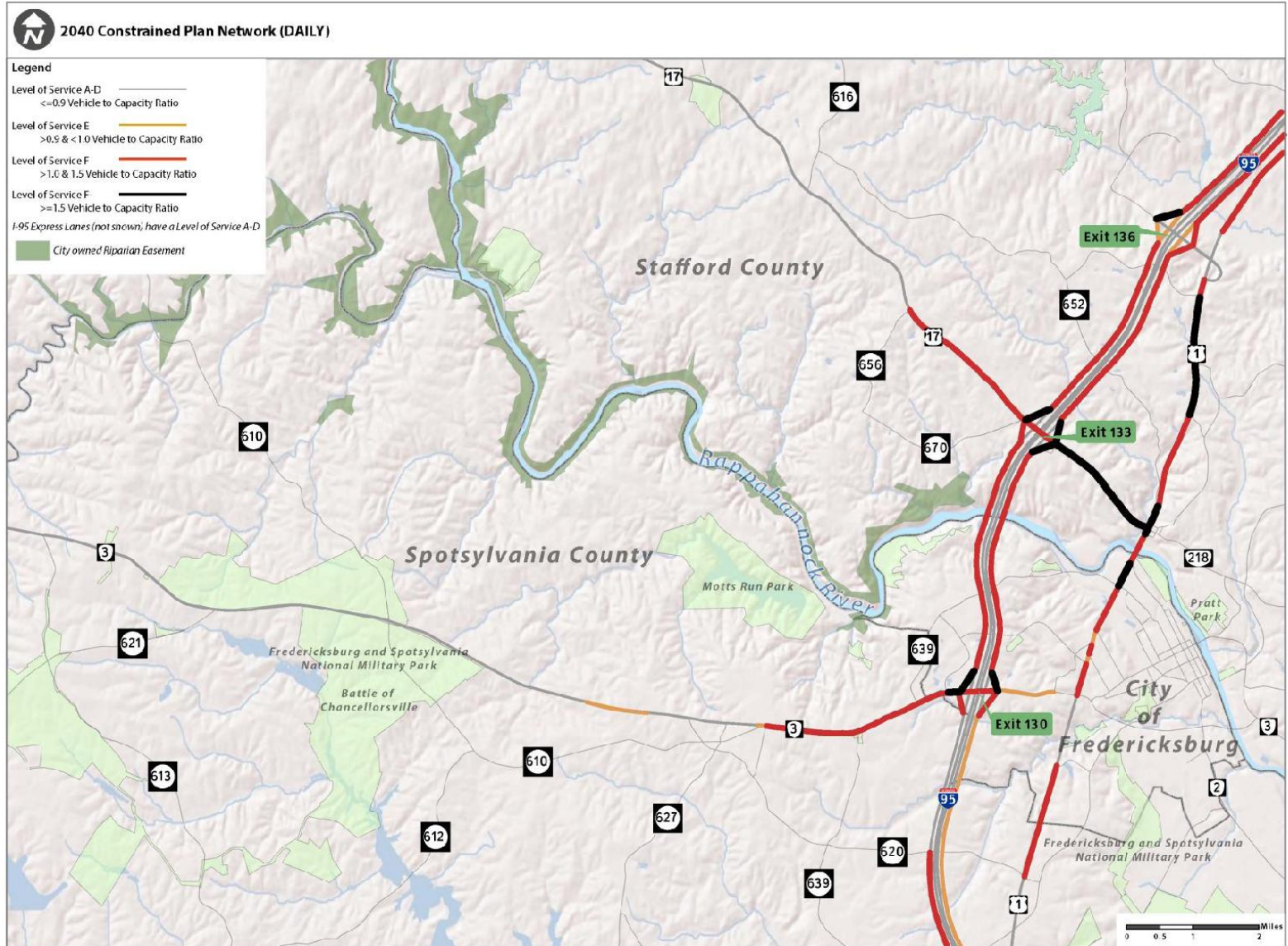
## Conservation Lands





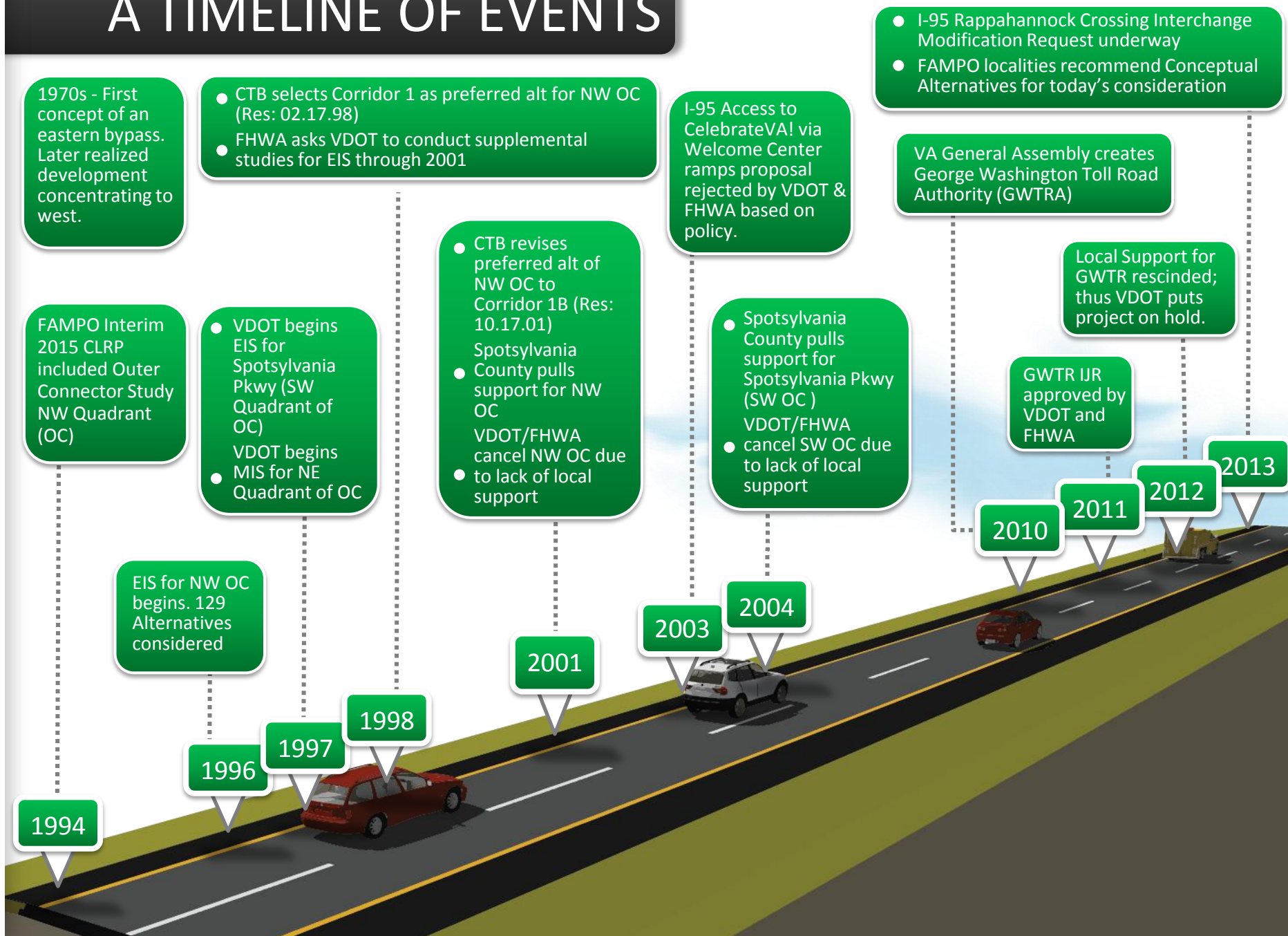
# Study Area

## 2040 CONGESTION





# A TIMELINE OF EVENTS



1970s - First concept of an eastern bypass. Later realized development concentrating to west.

- CTB selects Corridor 1 as preferred alt for NW OC (Res: 02.17.98)
- FHWA asks VDOT to conduct supplemental studies for EIS through 2001

I-95 Access to CelebrateVA! via Welcome Center ramps proposal rejected by VDOT & FHWA based on policy.

- I-95 Rappahannock Crossing Interchange Modification Request underway
- FAMPO localities recommend Conceptual Alternatives for today's consideration

VA General Assembly creates George Washington Toll Road Authority (GWTRA)

FAMPO Interim 2015 CLRP included Outer Connector Study NW Quadrant (OC)

- VDOT begins EIS for Spotsylvania Pkwy (SW Quadrant of OC)
- VDOT begins MIS for NE Quadrant of OC

- CTB revises preferred alt of NW OC to Corridor 1B (Res: 10.17.01)
- Spotsylvania County pulls support for NW OC
- VDOT/FHWA cancel NW OC due to lack of local support

- Spotsylvania County pulls support for Spotsylvania Pkwy (SW OC)
- VDOT/FHWA cancel SW OC due to lack of local support

Local Support for GWTR rescinded; thus VDOT puts project on hold.

GWTR IJR approved by VDOT and FHWA

EIS for NW OC begins. 129 Alternatives considered

1994

1996

1997

1998

2001

2003

2004

2010

2011

2012

2013

# Conceptual Purpose and Need

## Purpose

- Evaluate Alts that reduce congestion in Fredericksburg Study Area
- Identify Alts that improve traffic operations and accommodate commerce along I-95, US 17, & Route 3 in study area

## Need

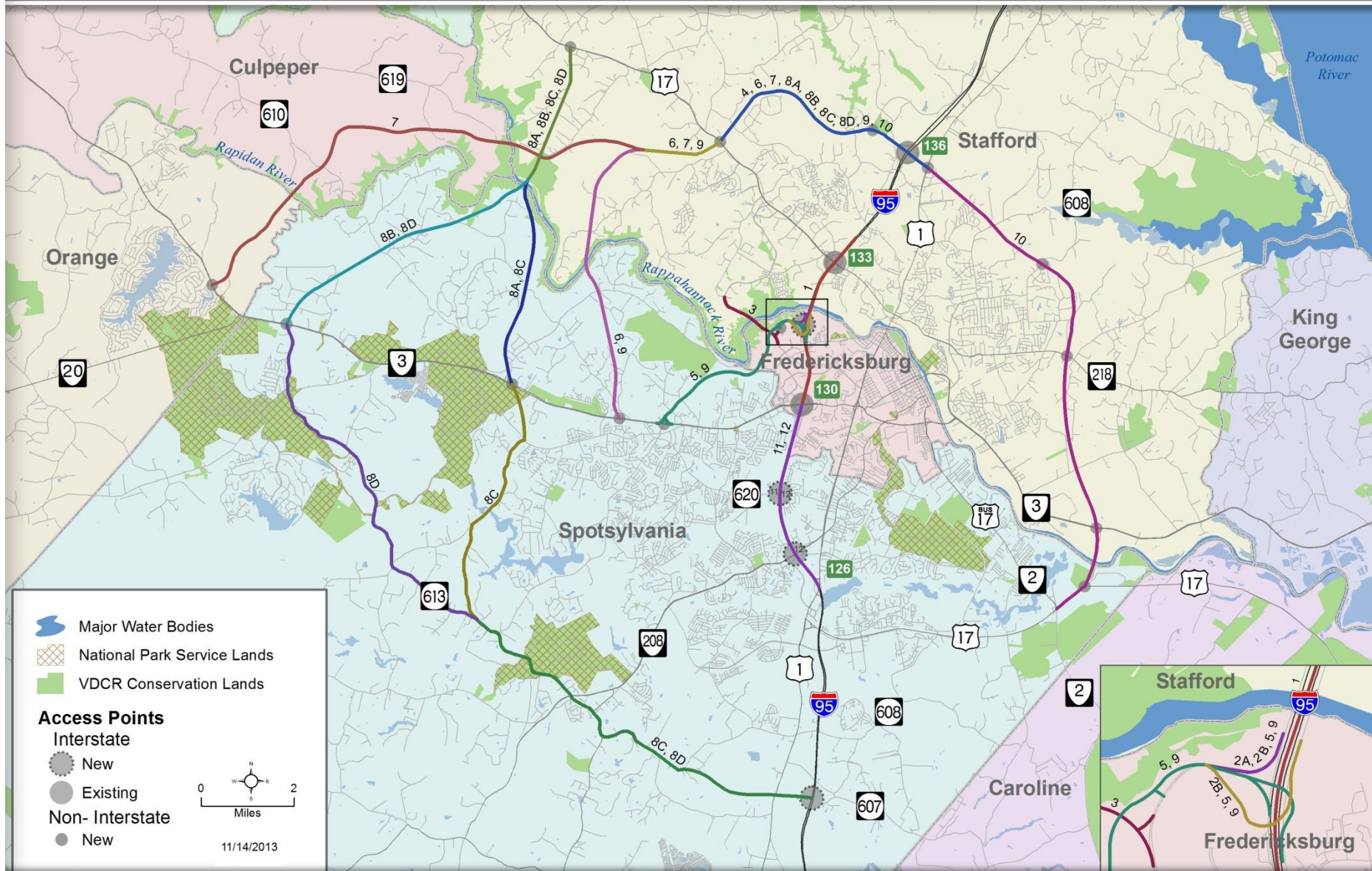
- Existing and future congestion, failing LOS, accidents, gridlock
- I-95 & US 17 are Corridors of Statewide Significance



Not Necessarily a Bypass



# All Conceptual Alternatives





# Baseline Alternative

Including Multimodal Investments

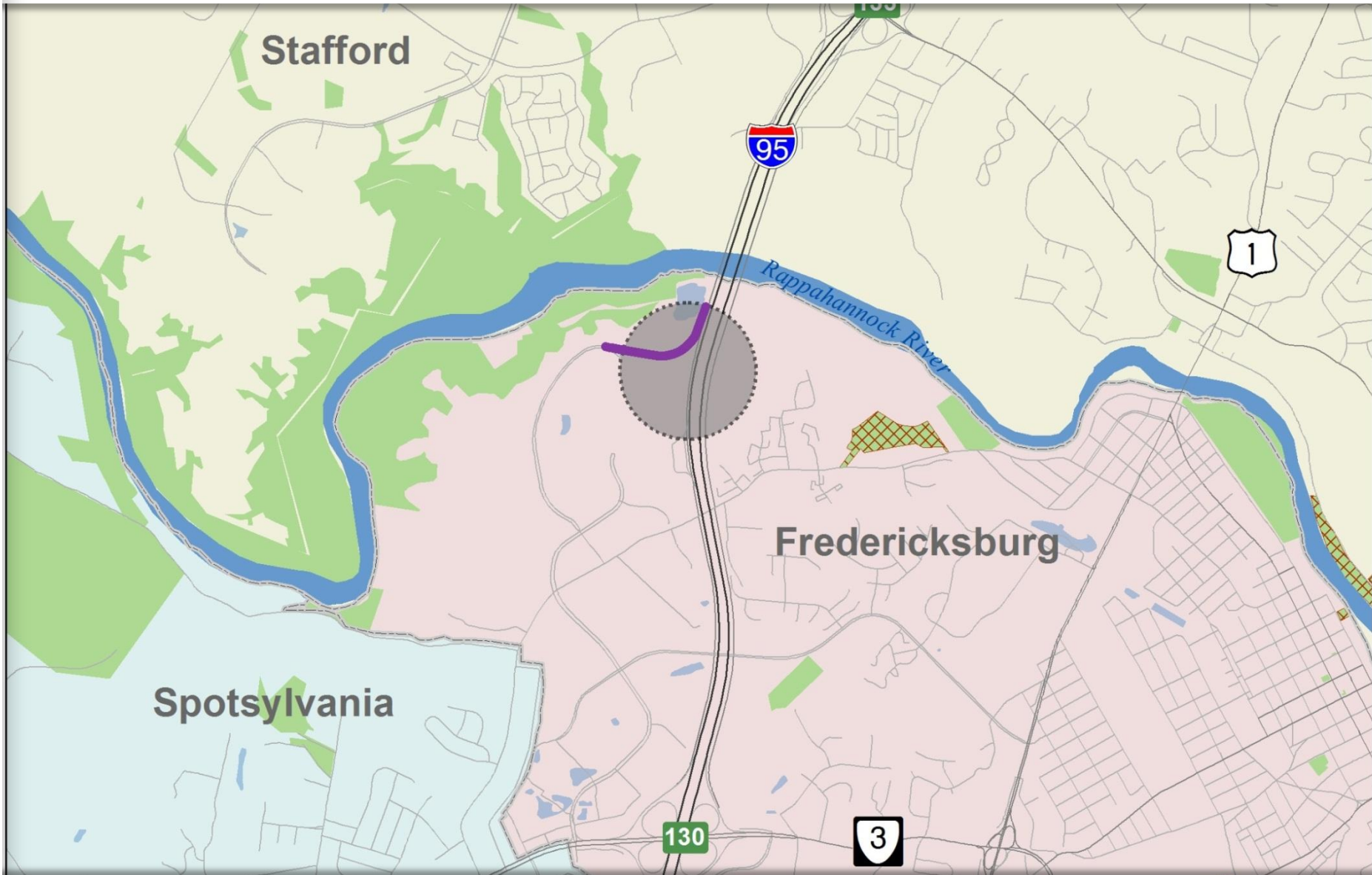
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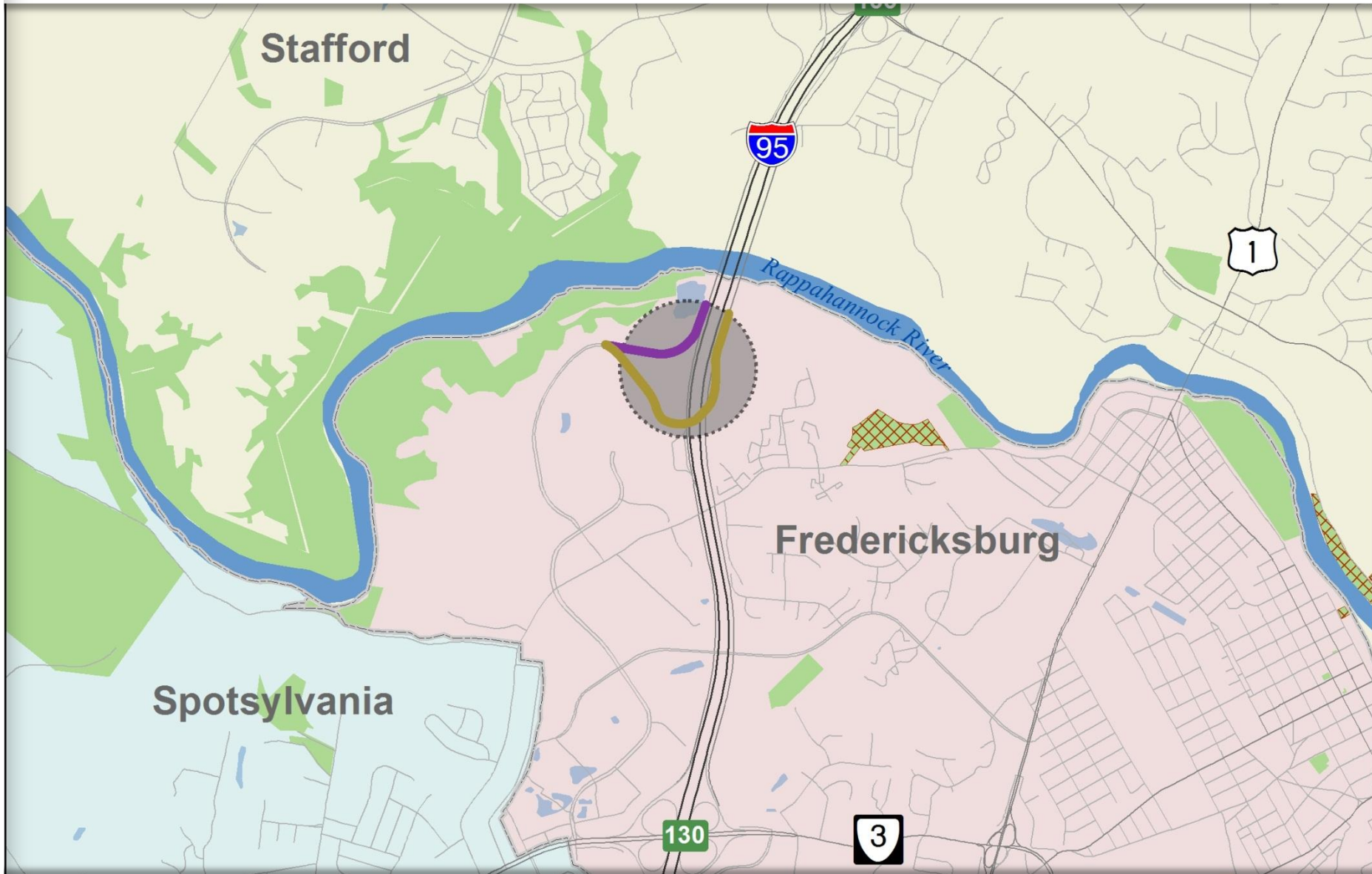
# Conceptual Alternatives

# 2A



# Conceptual Alternatives

# 2B





# Conceptual Alternatives

3



# Conceptual Alternatives

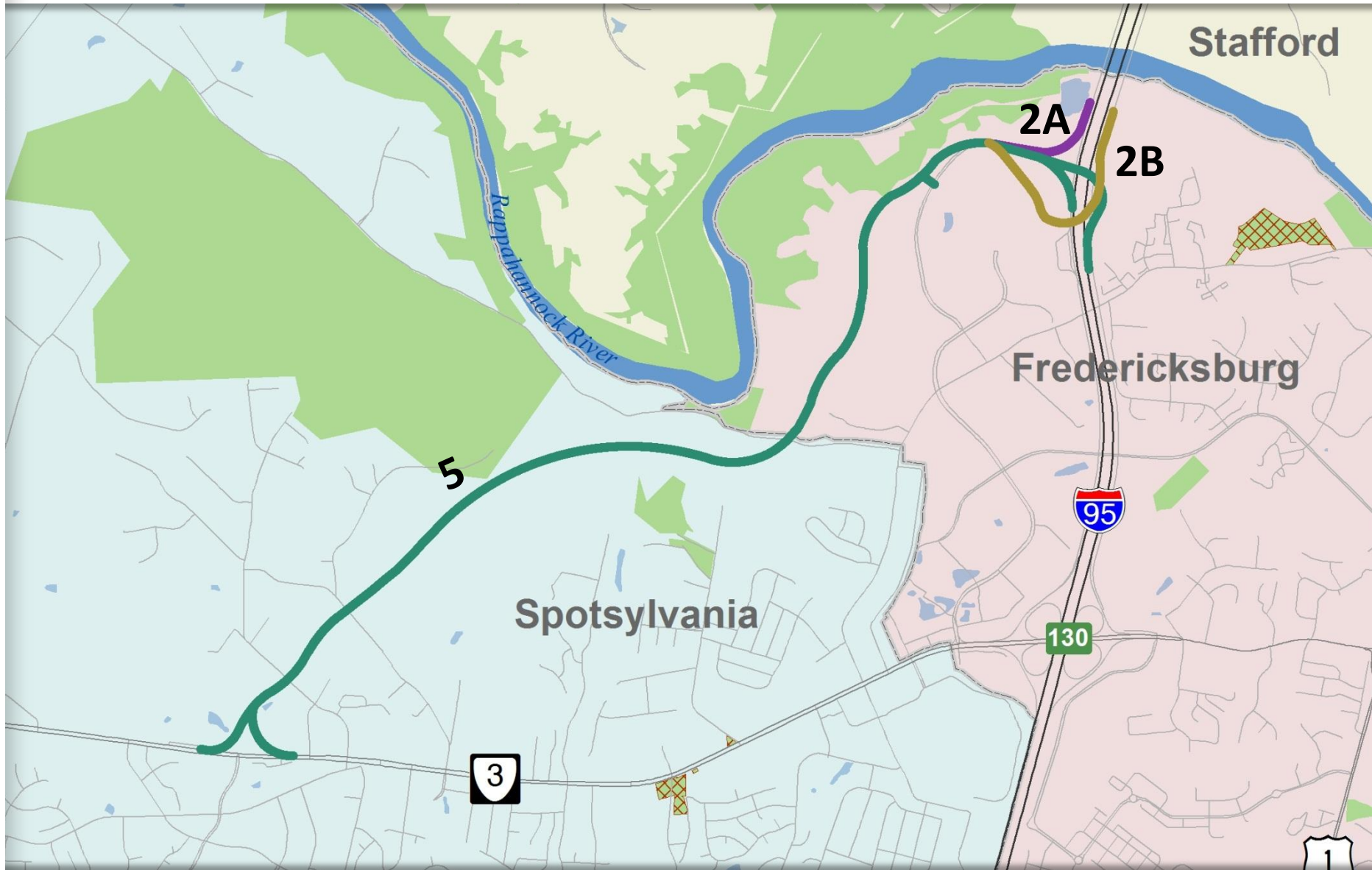
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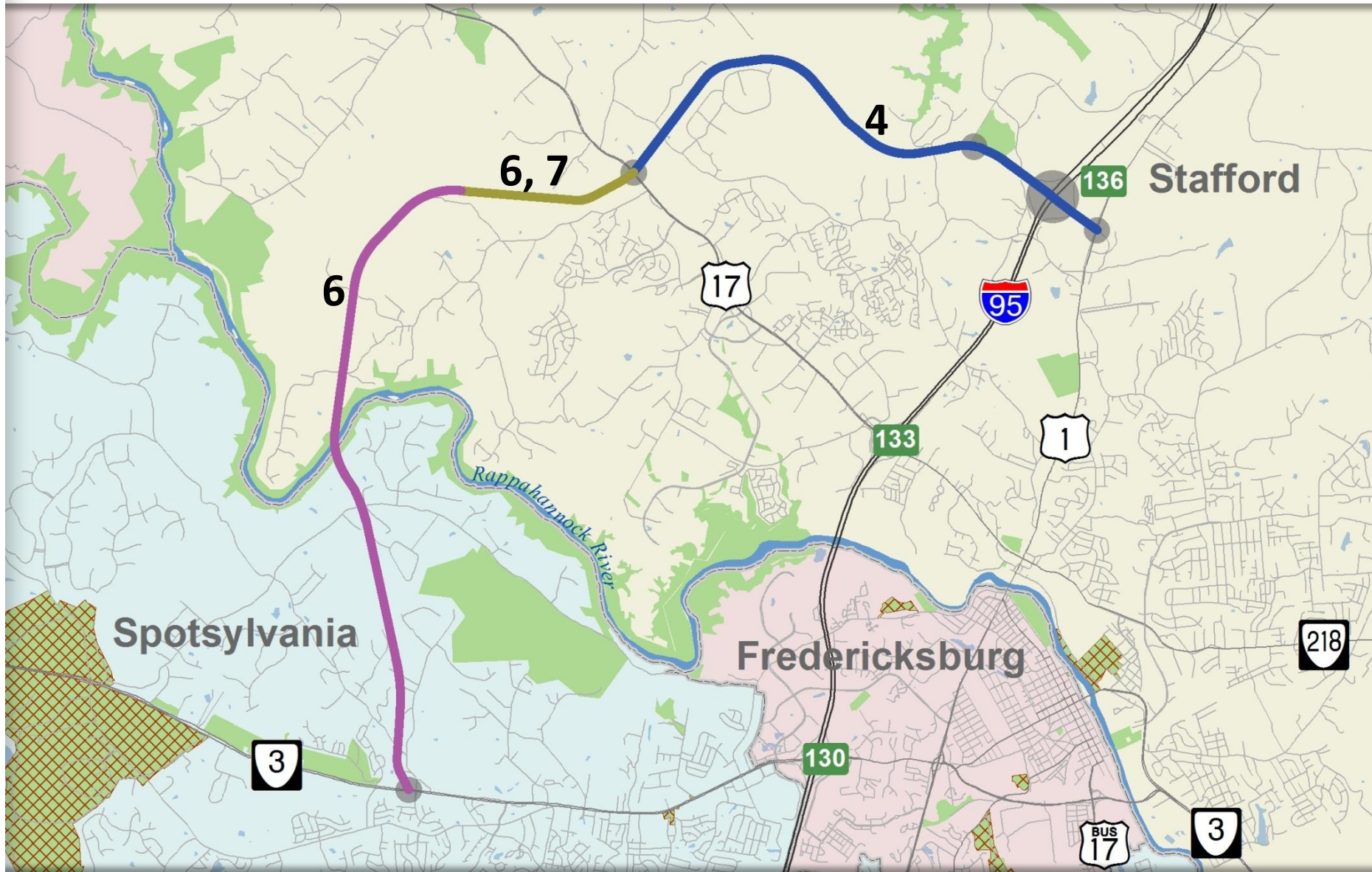
# Conceptual Alternatives

# 5



# Conceptual Alternatives

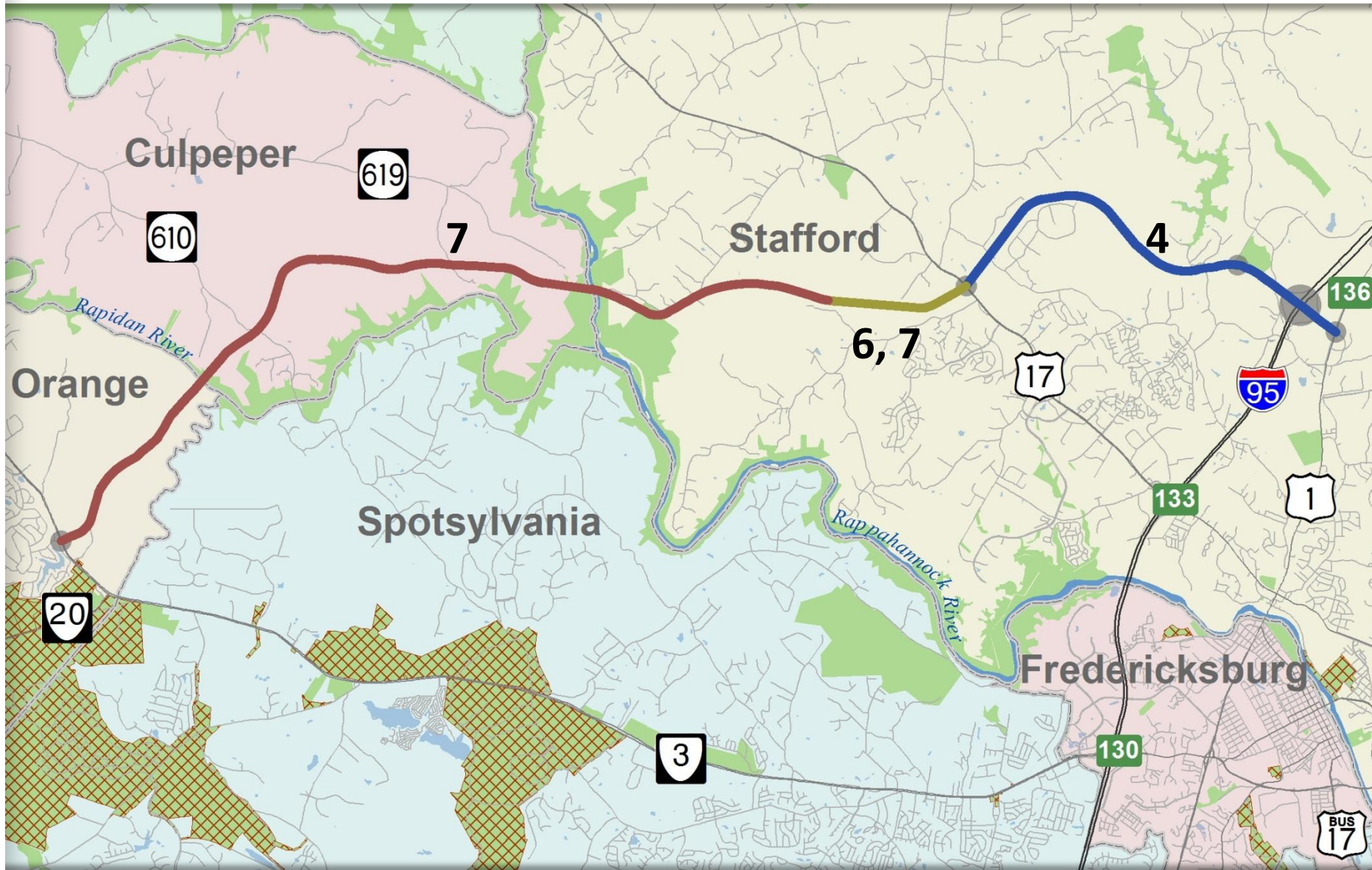
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# Conceptual Alternatives

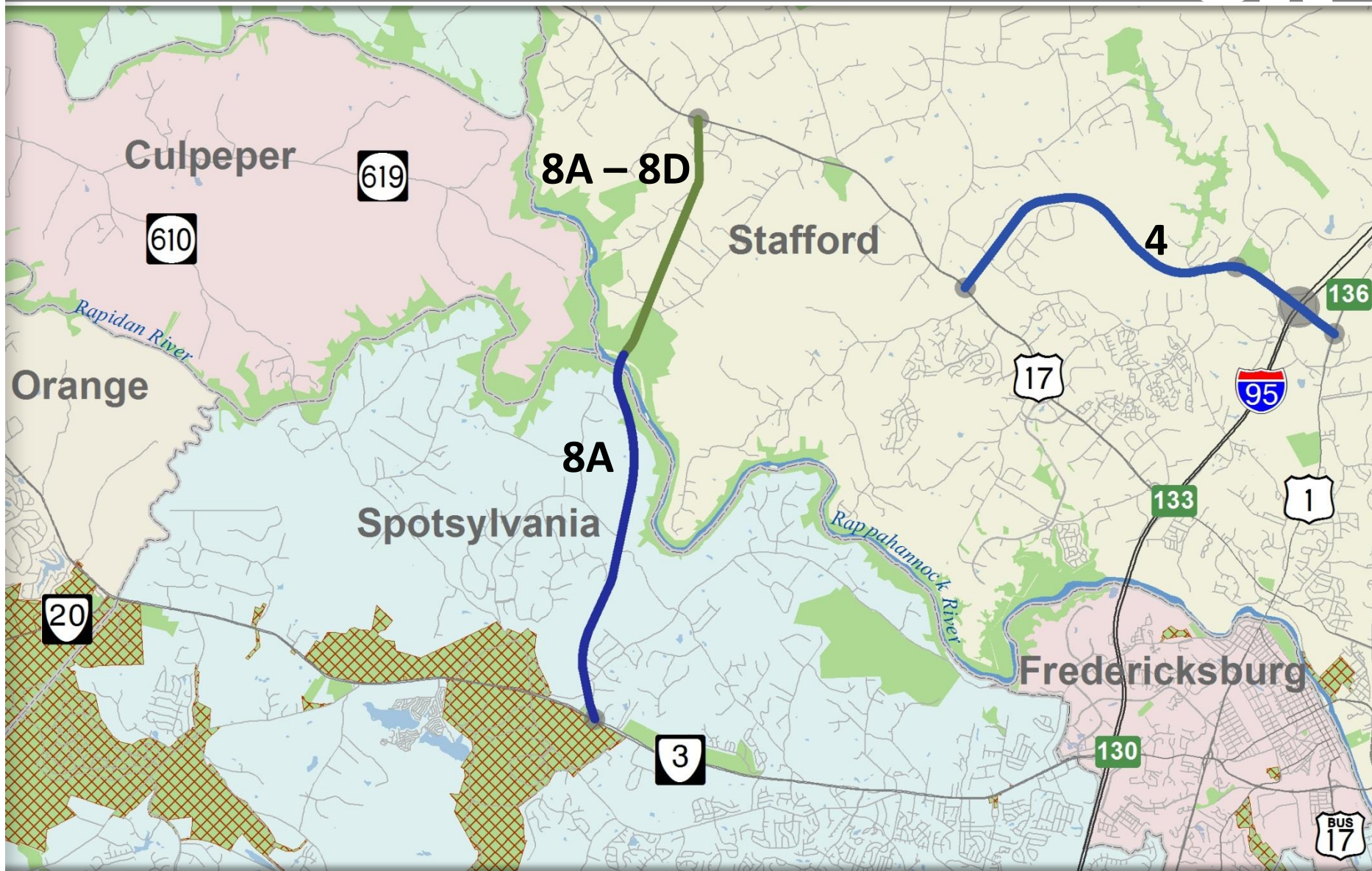
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# Conceptual Alternatives

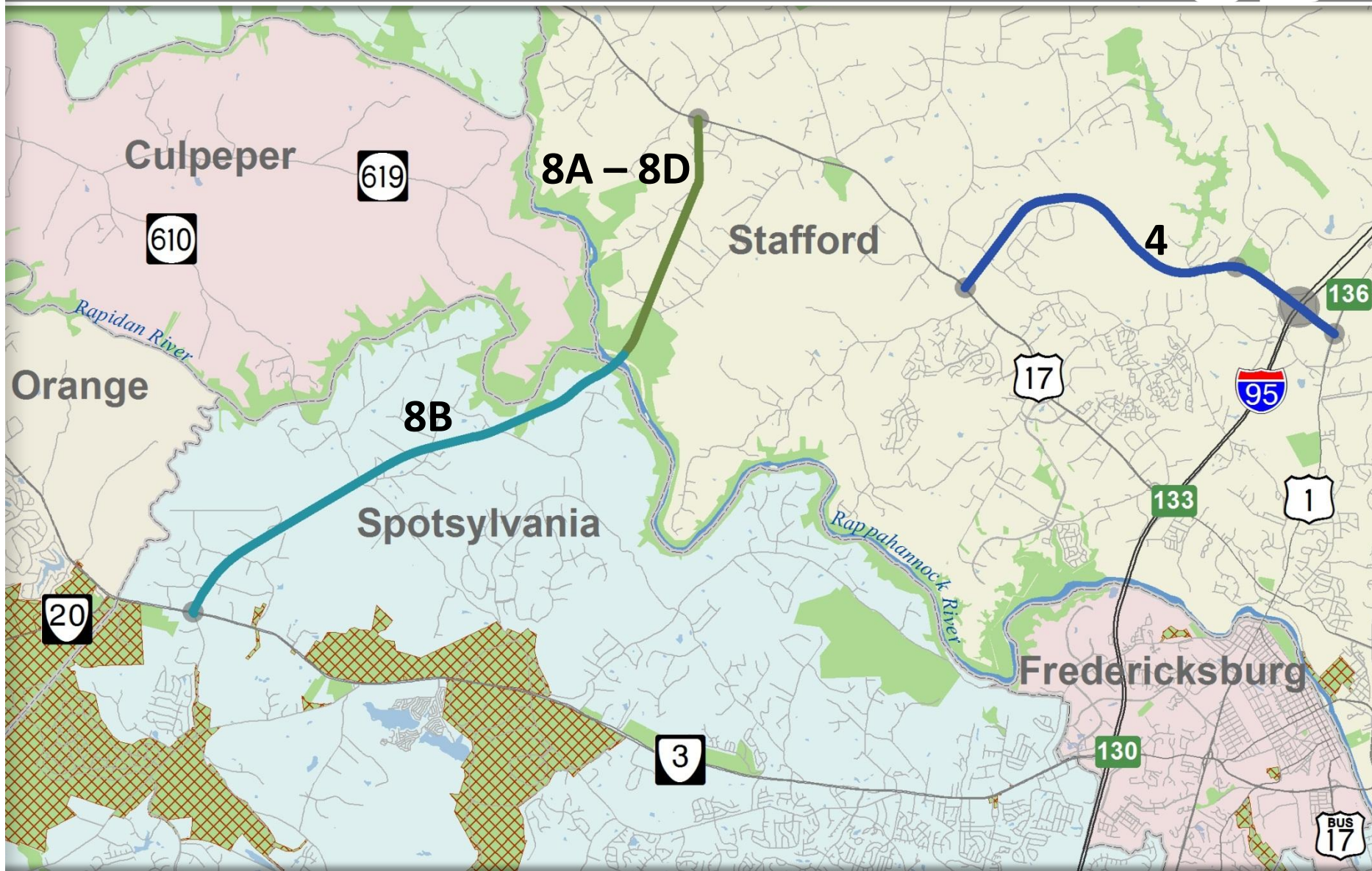
# 8A





# Conceptual Alternatives

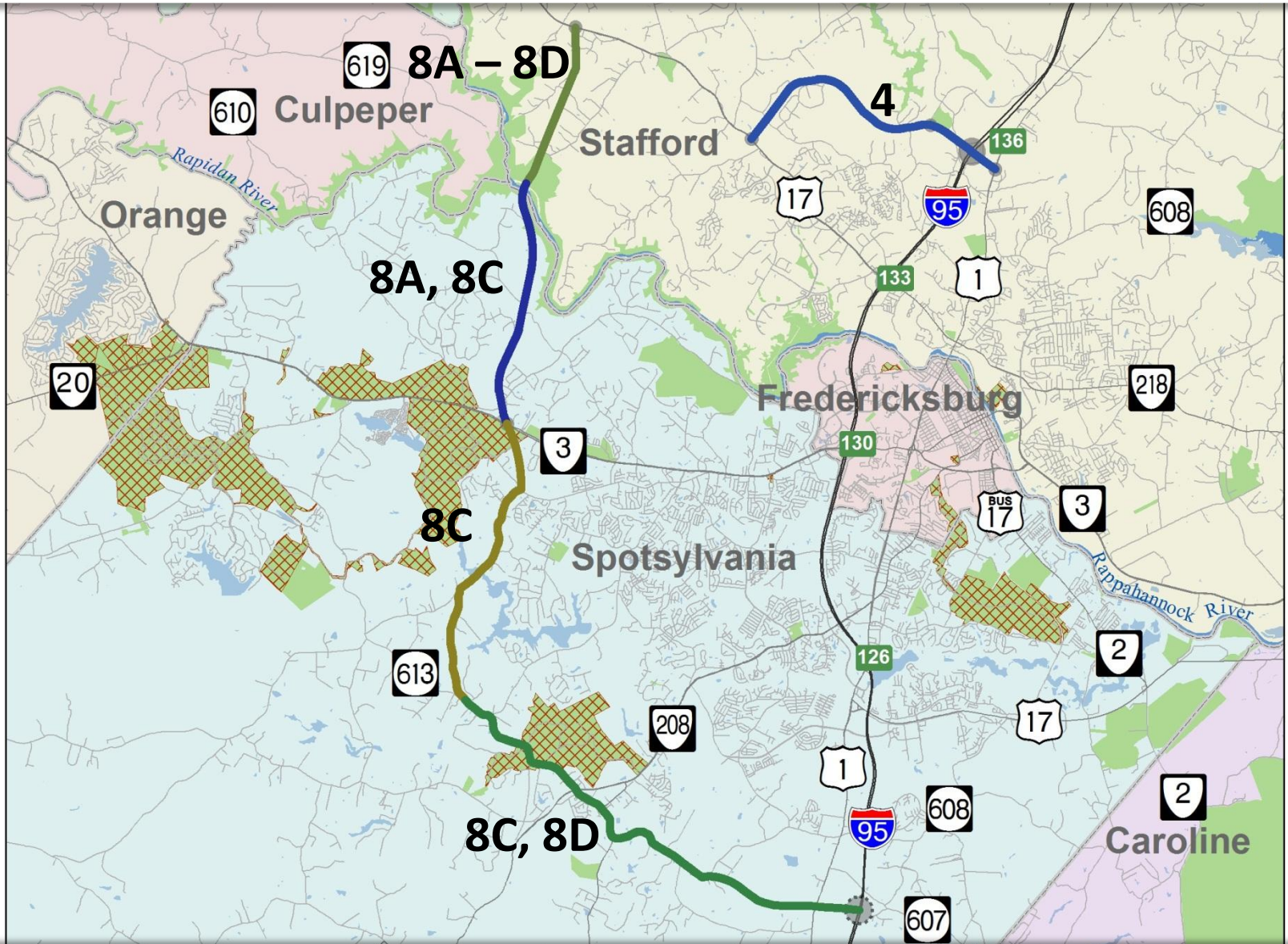
# 8B





# Conceptual Alternatives

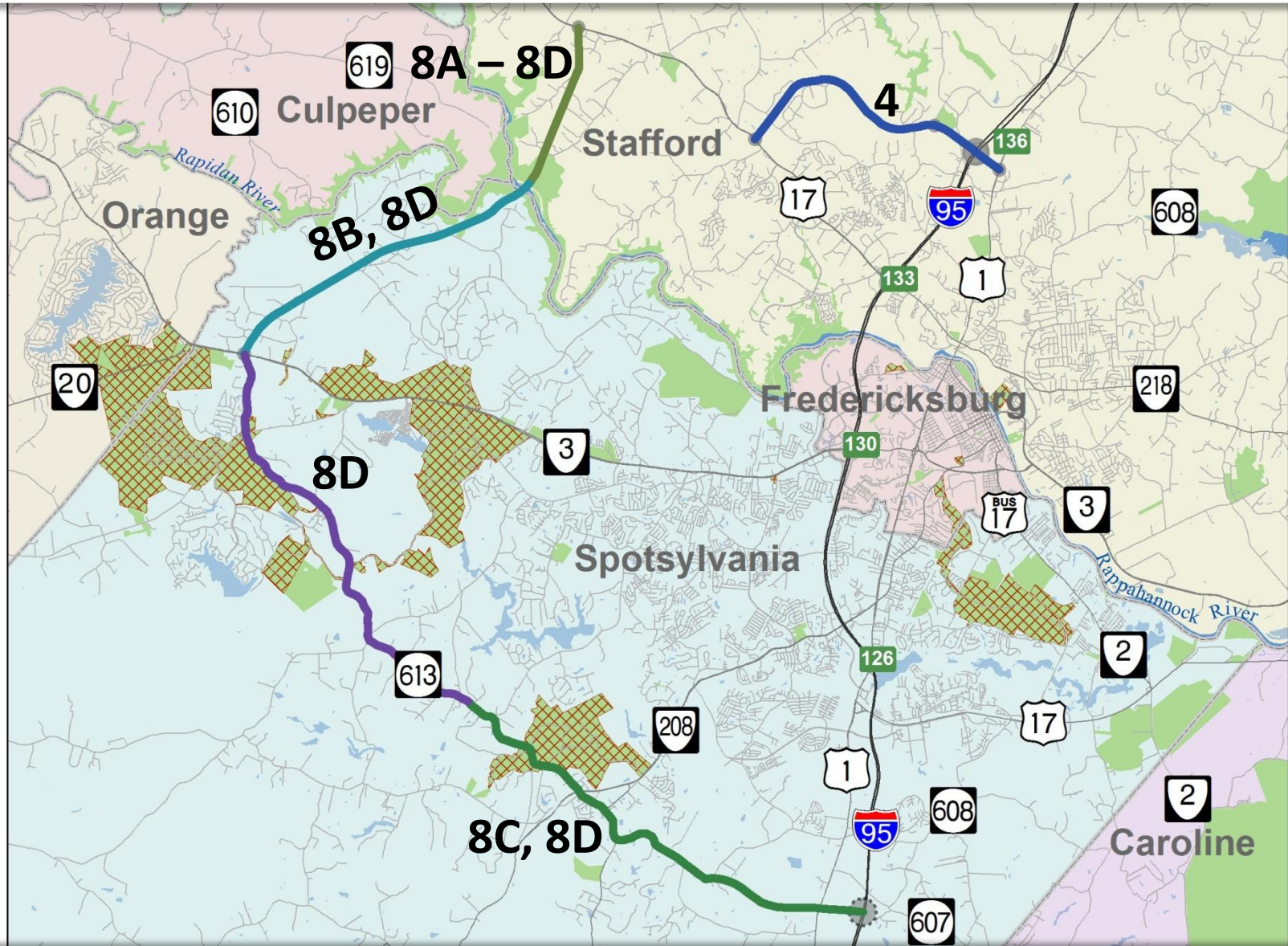
# 8C





# Conceptual Alternatives

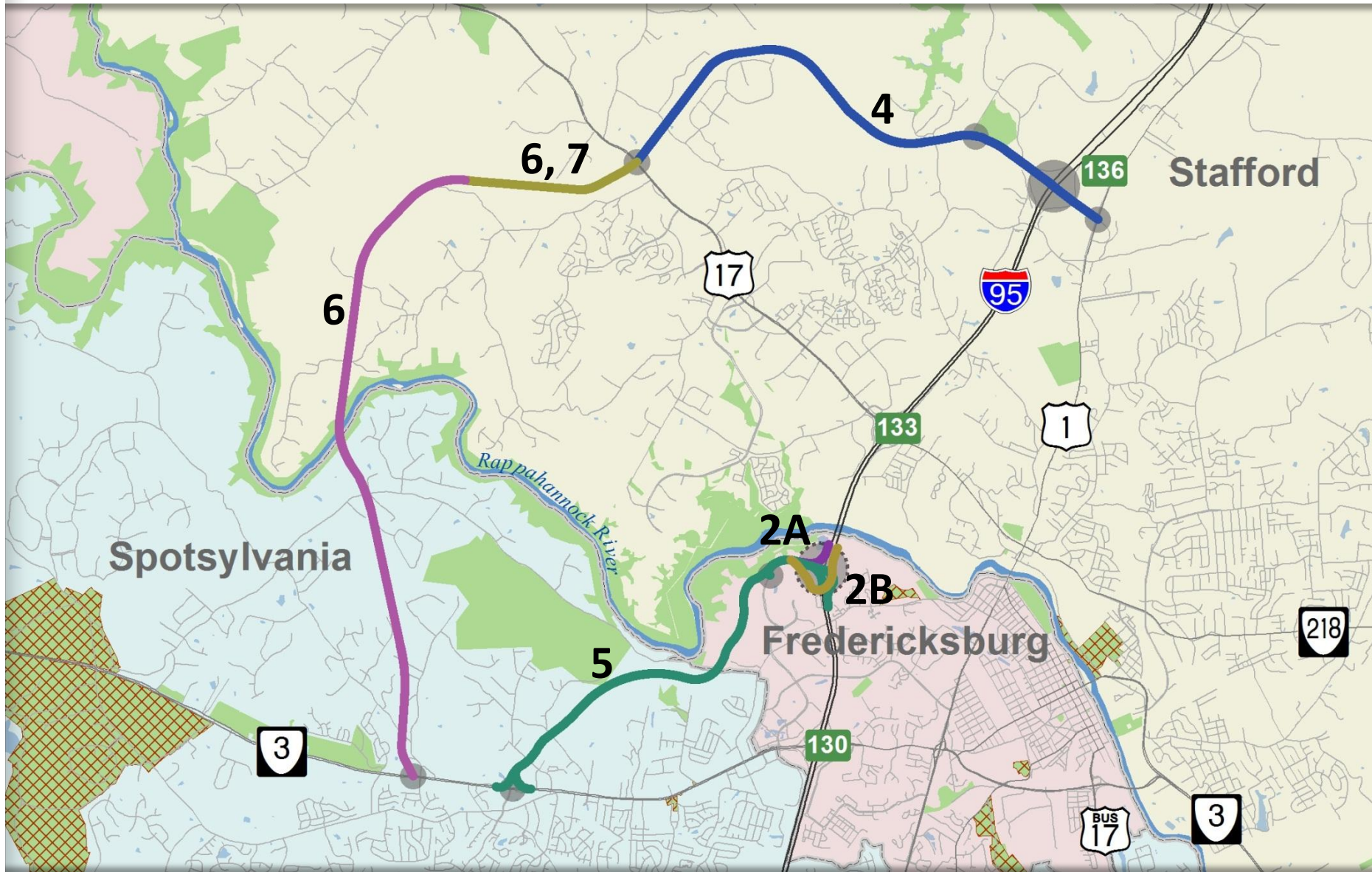
# 8D



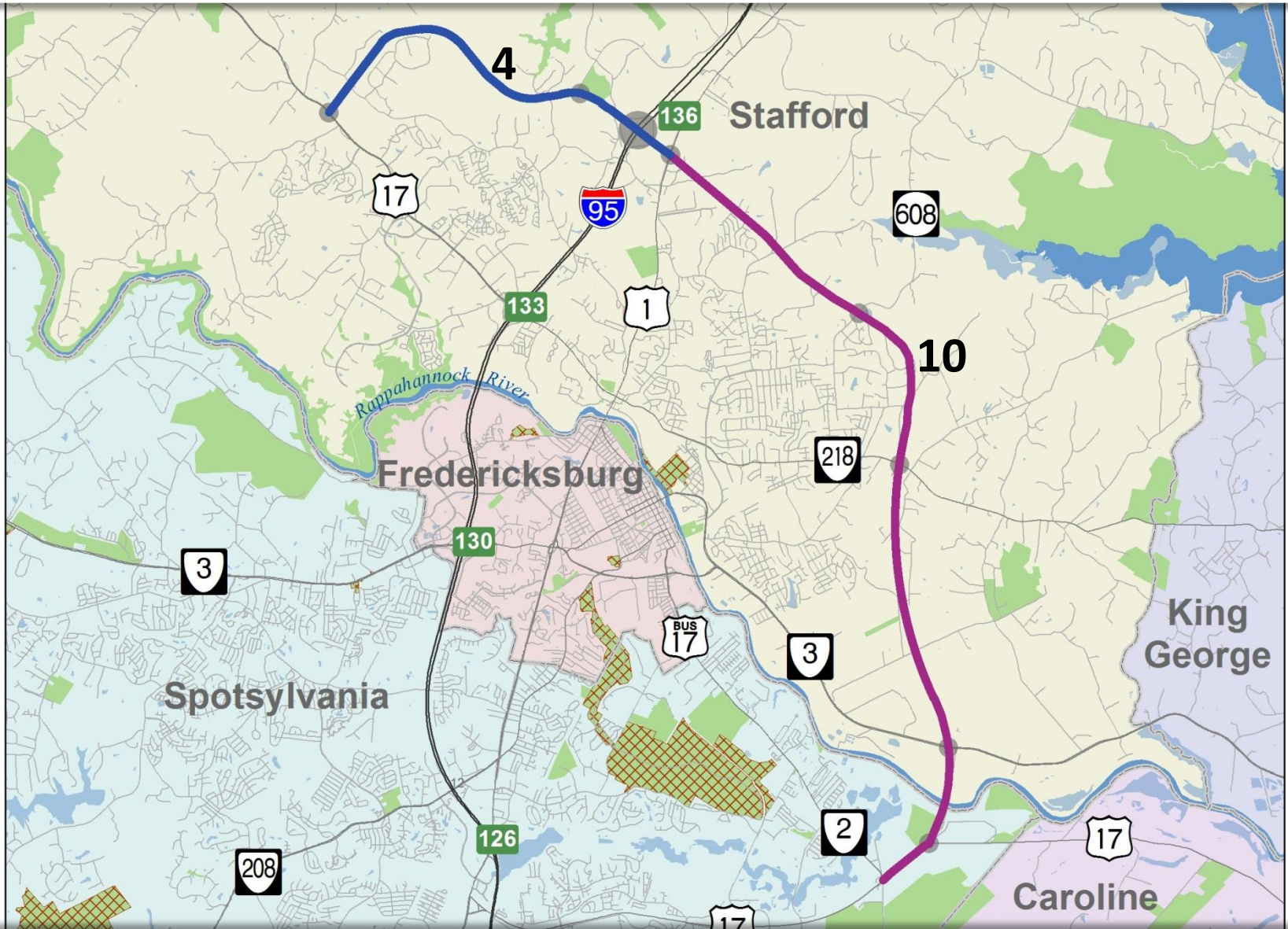


# Conceptual Alternatives

# 9



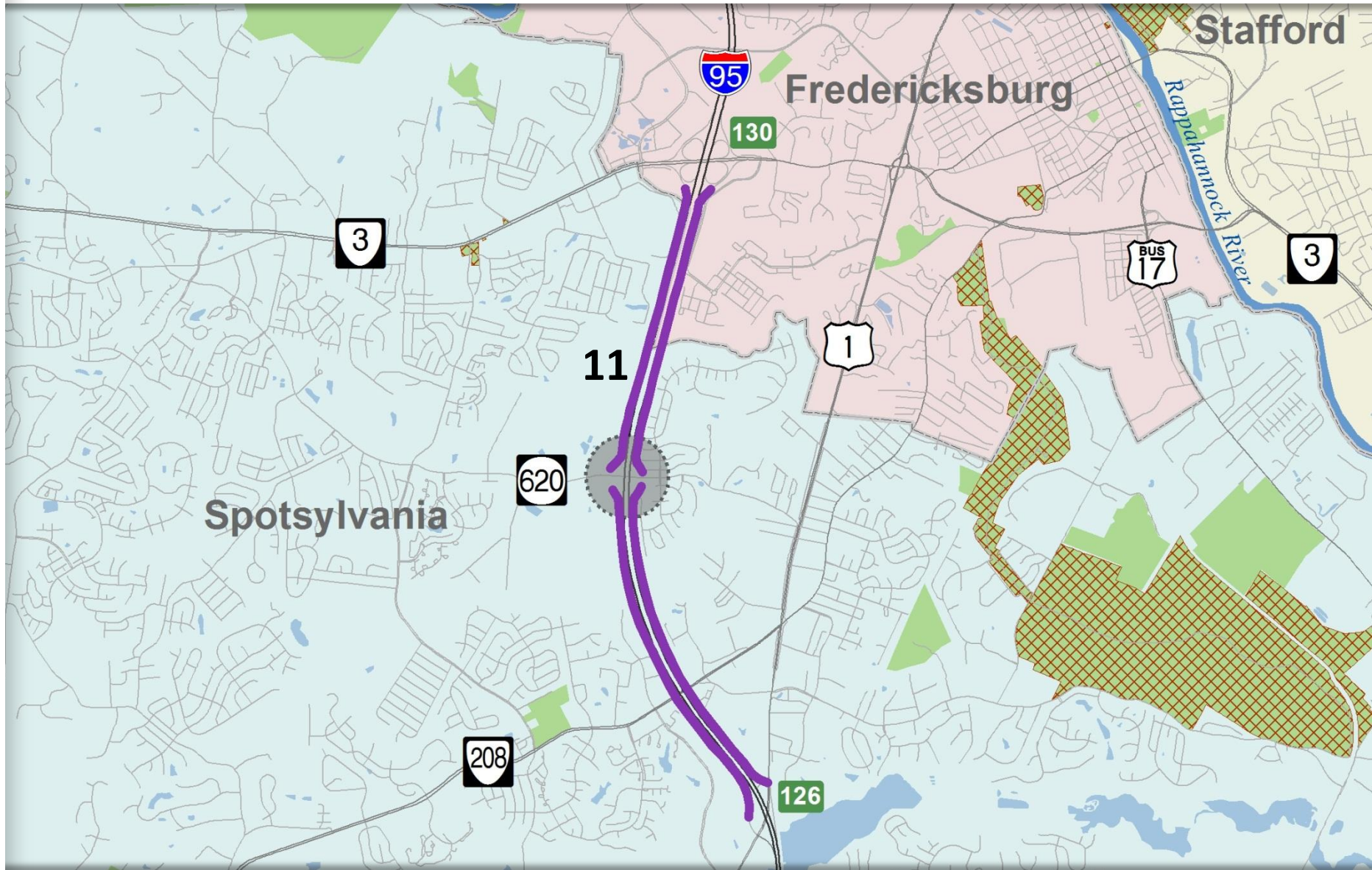






# Conceptual Alternatives

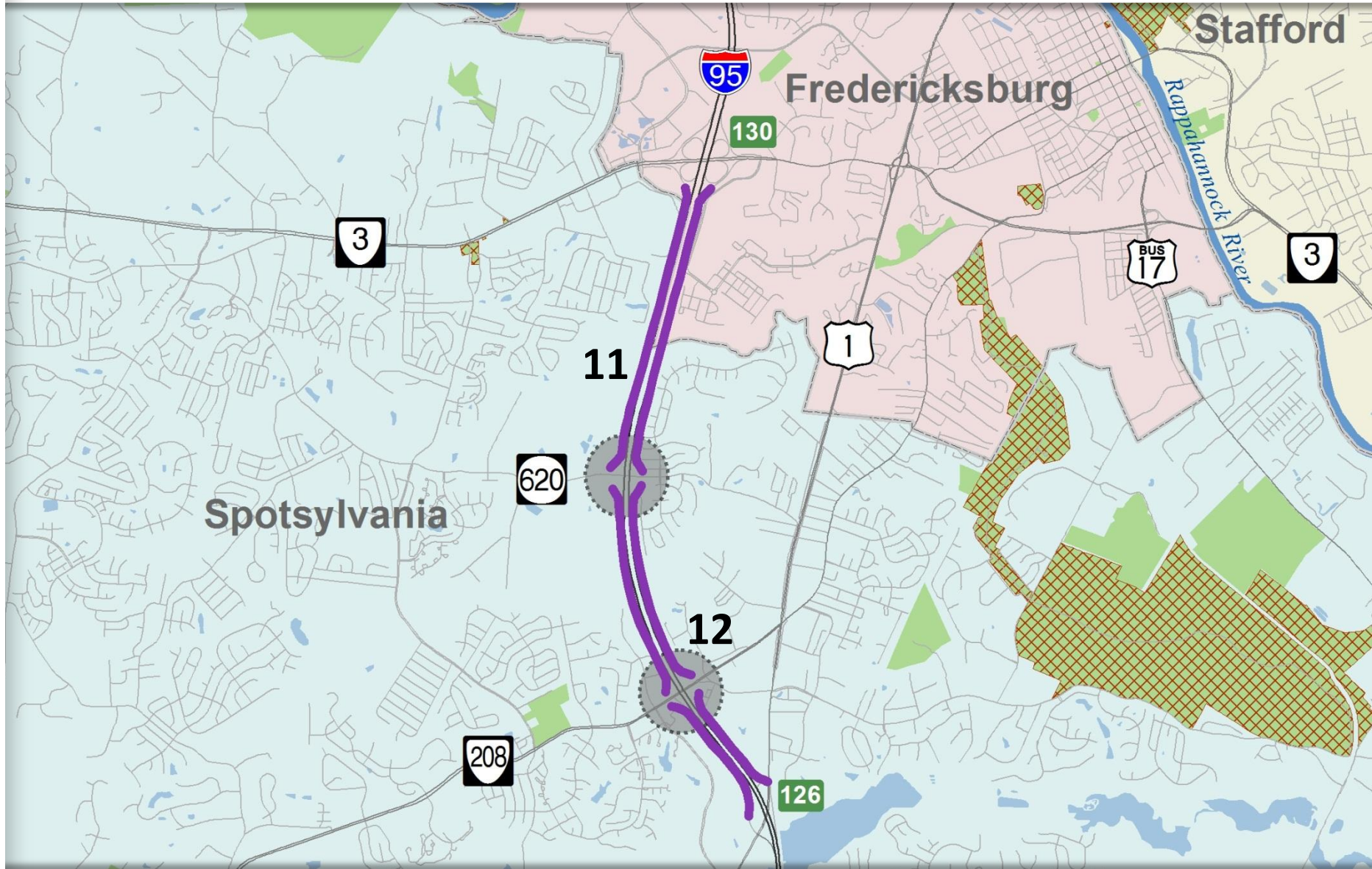
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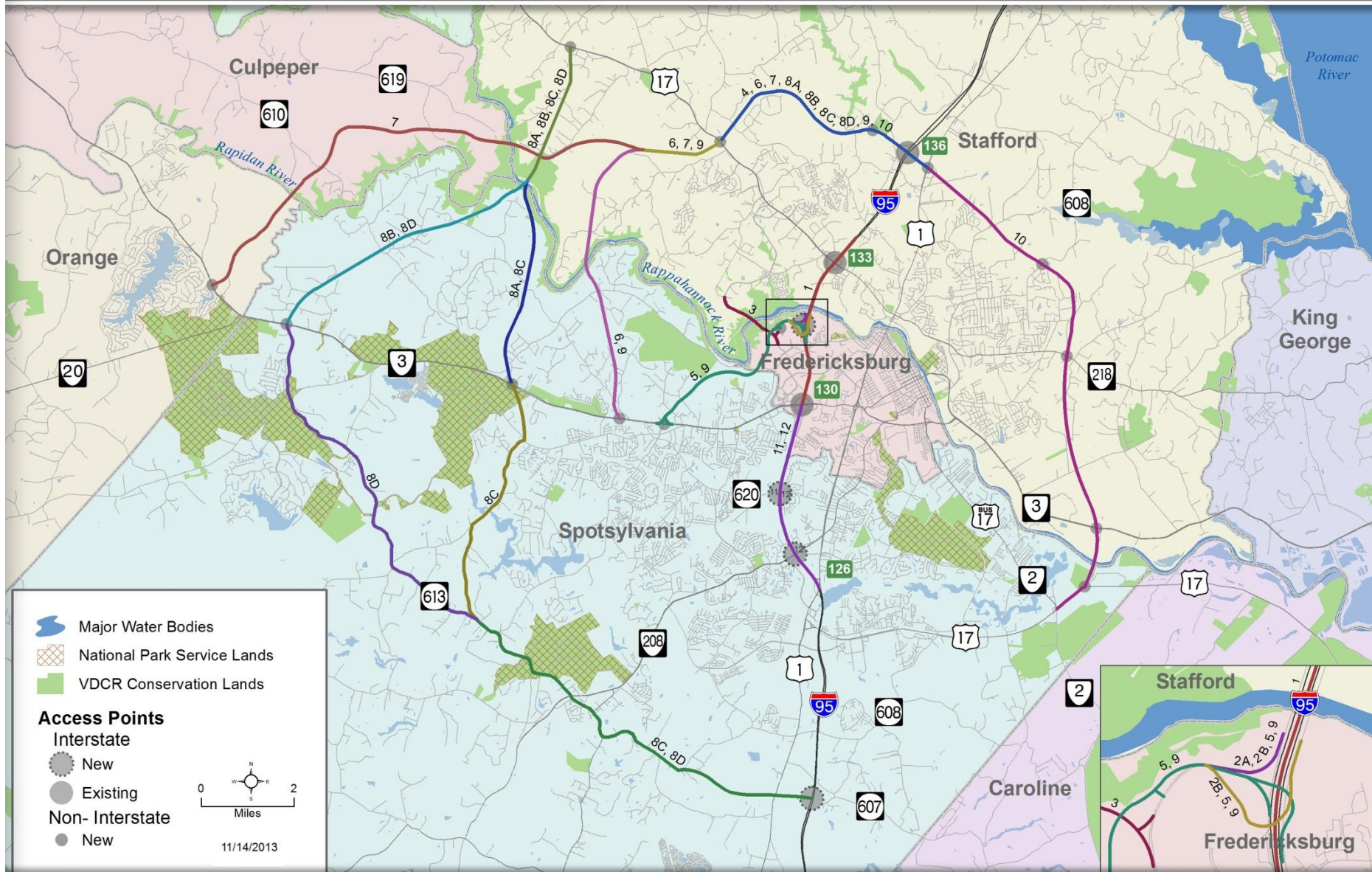
# Conceptual Alternatives

# 12





# All Conceptual Alternatives





# 1<sup>st</sup> Screening

## Fredericksburg Area Congestion Relief Study: 1st Screening of Conceptual Alternatives

Conceptual Alt. # <sup>1</sup>	Length in Miles <sup>2</sup>	2019 Planning Level Cost \$Millions <sup>3</sup>	Traffic Impacts				Policy Considerations		Environmental Impacts					
			Average Daily Traffic (ADT) Served by Alt <sup>4</sup>	Ratio of ADT to Cost <sup>5</sup>	Travel Time Savings <sup>6</sup>	Benefit to Regional Vehicle Hours of Delay (VHD) <sup>7</sup>	Consistency with Local & Regional Plans <sup>8</sup>	Federal Approval of Interstate Access (FHWA) <sup>9</sup>	NPS Park Land <sup>10</sup>	Civil War Battlefields <sup>11</sup>	Conservation Easements <sup>12</sup>	Scenic & Recreational Rappahannock & Rapidan Rivers <sup>13</sup>	Relocations - Residential & Business <sup>14</sup>	
Alt 2A	0.5	\$18	□	●	■	●	●	□	■	●	●	●	●	●
Alt 2B	1.5	\$37	□	■	■	●	●	□	■	●	●	●	●	●
Alt 3	1.6	\$104	□	■	■	●	●	●	●	●	●	■	■	□
Alt 4	5.1	\$235	□	□	□	□	■	□	●	●	●	□	●	□
Alt 5	5.8	\$284	□	■	■	□	□	■	●	●	●	□	●	■
Alt 6	13.5	\$562	■	□	■	■	■	□	□	●	●	■	■	■
Alt 7	18.1	\$630	■	□	□	□	□	□	●	■	■	■	■	■
Alt 8A	12.8	\$565	■	□	□	□	□	□	■	■	■	■	■	■
Alt 8B	14.4	\$684	■	□	●	□	□	□	●	■	■	■	■	■
Alt 8C	27.5	\$1,135	■	□	●	■	■	■	■	■	■	■	■	■
Alt 8D	32.1	\$1,475	■	□	●	■	■	□	■	■	■	■	■	■
Alt 9	19.3	\$846	■	■	■	■	■	■	●	●	■	■	■	■
Alt 10	16.6	\$865	■	□	□	■	■	□	●	●	■	■	■	■
Alt 11	4.3	\$341	■	■	□	●	□	■	●	●	●	●	●	■
Alt 12	4.3	\$515	■	■	□	●	□	■	●	●	●	●	●	■

### Legend

Negative Impacts		Positive Impacts	
●	Neutral / Minimal / No Negative Impact or Resistance	●	Neutral / Minimal / No Positive Impact
□	Low Negative Impact or Resistance	□	Low Positive Impact
■	Medium Negative Impact or Resistance	■	Medium Positive Impact
■	High Negative Impact or Resistance	■	High Positive Impact

# 1<sup>st</sup> Screening Results

## Fredericksburg Area Congestion Relief Study: 1st Screening Results

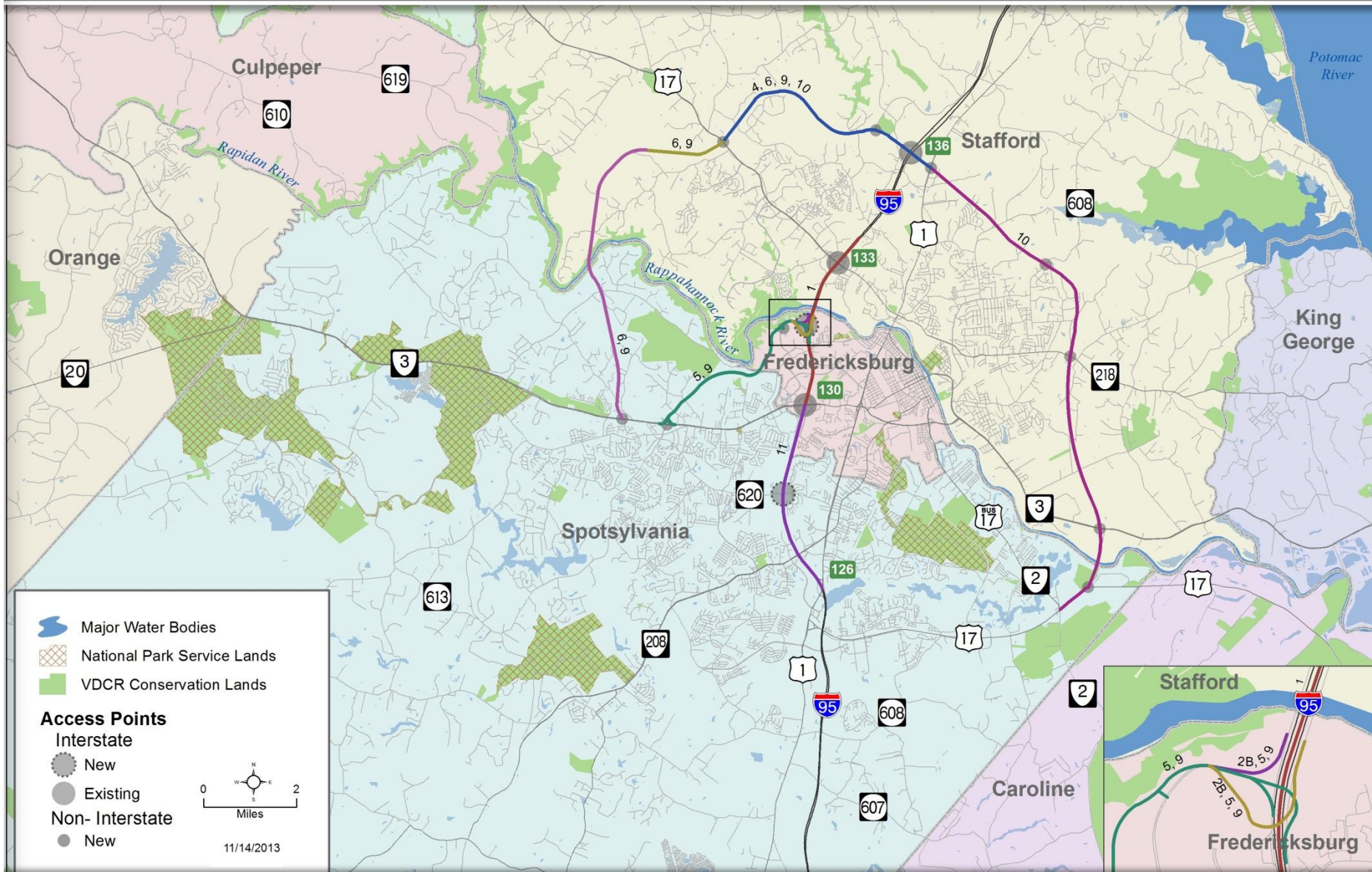
Conceptual Alt. # <sup>1</sup>	Length in Miles <sup>2</sup>	2019 Planning Level Cost \$Millions <sup>3</sup>	Traffic Impacts				Policy Considerations		Environmental Impacts				
			Average Daily Traffic (ADT) Served by Alt <sup>4</sup>	Ratio of ADT to Cost <sup>5</sup>	Travel Time Savings <sup>6</sup>	Benefit to Regional Vehicle Hours of Delay (VHD) <sup>7</sup>	Consistency with Local & Regional Plans <sup>8</sup>	Federal Approval of Interstate Access (FHWA) <sup>9</sup>	NPS Park Land <sup>10</sup>	Civil War Battlefields <sup>11</sup>	Conservation Easements <sup>12</sup>	Scenic & Recreational Rappahannock & Rapidan Rivers <sup>13</sup>	Relocations - Residential & Business <sup>14</sup>
Alt 2B	1.5	\$37	□	■	●	●	□	■	●	●	●	●	●
Alt 4	5.1	\$235	□	■	□	□	■	□	●	●	□	●	□
Alt 5	5.8	\$284	□	■	■	□	■	■	●	●	□	●	■
Alt 6	13.5	\$562	■	■	■	■	□	□	●	●	■	■	■
Alt 9	19.3	\$846	■	■	■	■	■	■	●	●	■	■	■
Alt 10	16.6	\$865	■	□	■	■	■	□	●	●	■	■	■
Alt 11	4.3	\$341	■	■	□	●	□	■	●	●	●	●	■

### Legend

Negative Impacts		Positive Impacts	
●	Neutral / Minimal / No Negative Impact or Resistance	●	Neutral / Minimal / No Positive Impact
□	Low Negative Impact or Resistance	□	Low Positive Impact
■	Medium Negative Impact or Resistance	■	Medium Positive Impact
■	High Negative Impact or Resistance	■	High Positive Impact



# 1<sup>st</sup> Screening Results



# 2nd Screening

Fredericksburg Area Congestion Relief Study: 2nd Screening of Conceptual Alternatives

Alt. # <sup>1</sup>	Length in Miles <sup>2</sup>	2019 Planning Level Cost \$Millions <sup>3</sup>	Traffic Impacts							Policy Considerations			Environmental Impacts						
			Average Daily Traffic (ADT) Served by Alt <sup>4</sup>	Ratio of ADT to Cost <sup>5</sup>	Benefit to Regional Vehicle Hours of Delay (VHD) <sup>6</sup>	Travel Time Savings <sup>7</sup>	Benefit to I-95 <sup>8</sup>	Benefit to US 17 <sup>9</sup>	Benefit to Rte 3 <sup>10</sup>	Consistency with Local & Regional Plans <sup>11</sup>	Federal Approval for Interstate Access (FHWA) <sup>12</sup>	Federal Approval (Env. Permits) <sup>13</sup>	NPS Park Land <sup>14</sup>	Civil War Battlefields <sup>15</sup>	Conservation Easements <sup>16</sup>	Scenic & Recreational Rappahannock & Rapidan Rivers <sup>17</sup>	Protected Species <sup>18</sup>	Wetlands <sup>19</sup>	Relocations Residential & Business <sup>20</sup>
Alt 2B	1.5	\$37	□	■	●	●	●	●	□	■	□	●	●	●	●	●	□	●	
Alt 4	5.1	\$235	□	■	□	□	□	■	■	□	□	●	●	□	●	●	□	□	
Alt 5	5.8	\$284	□	■	□	■	□	●	■	■	□	●	●	□	●	■	□	■	
Alt 6	13.5	\$562	□	■	■	■	■	■	□	□	■	●	●	■	■	■	■	■	
Alt 9	19.3	\$846	■	■	■	■	■	■	■	■	■	●	●	■	■	■	■	■	
Alt 10	16.6	\$865	■	□	■	■	■	●	■	□	■	●	●	■	■	■	■	■	
Alt 11	4.3	\$341	□	■	●	□	●	●	□	■	□	●	●	●	●	□	■	■	

Legend

Negative Impacts		Positive Impacts	
●	Neutral / Minimal / No Negative Impact or Resistance	●	Neutral / Minimal / No Positive Impact
□	Low Negative Impact or Resistance	□	Low Positive Impact
■	Medium Negative Impact or Resistance	■	Medium Positive Impact
■	High Negative Impact or Resistance	■	High Positive Impact



# 2nd Screening Results

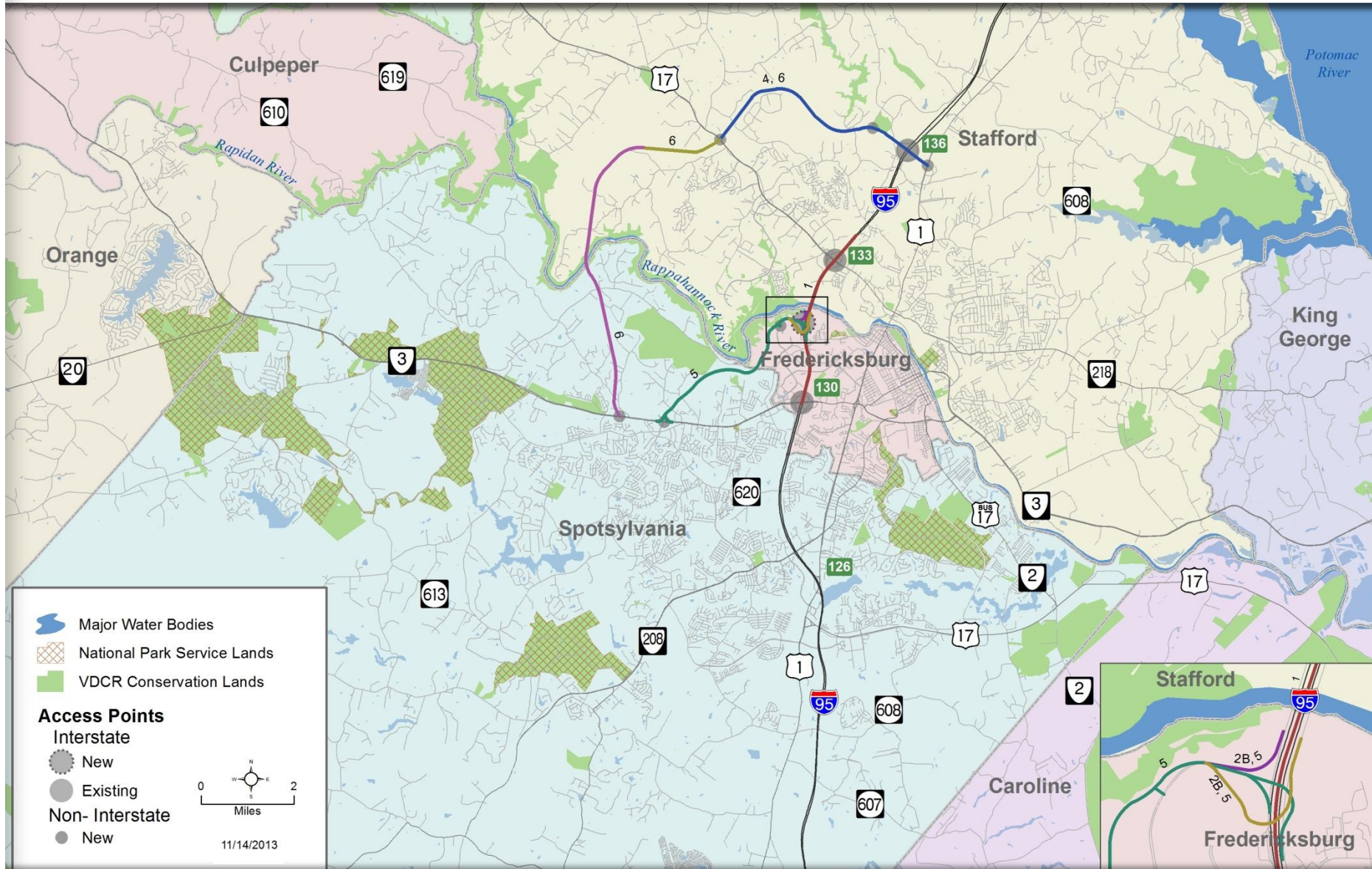
Fredericksburg Area Congestion Relief Study: 2nd Screening Results

Alt. # <sup>1</sup>	Length in Miles <sup>2</sup>	2019 Planning Level Cost \$Millions <sup>3</sup>	Traffic Impacts							Policy Considerations			Environmental Impacts						
			Average Daily Traffic (ADT) Served by Alt <sup>4</sup>	Ratio of ADT to Cost <sup>5</sup>	Benefit to Regional Vehicle Hours of Delay (VHD) <sup>6</sup>	Travel Time Savings <sup>7</sup>	Benefit to I-95 <sup>8</sup>	Benefit to US 17 <sup>9</sup>	Benefit to Rte 3 <sup>10</sup>	Consistency with Local & Regional Plans <sup>11</sup>	Federal Approval for Interstate Access (FHWA) <sup>12</sup>	Federal Approval (Env. Permits) <sup>13</sup>	NPS Park Land <sup>14</sup>	Civil War Battlefields <sup>15</sup>	Conservation Easements <sup>16</sup>	Scenic & Recreational Rappahannock & Rapidan Rivers <sup>17</sup>	Protected Species <sup>18</sup>	Wetlands <sup>19</sup>	Relocations Residential & Business <sup>20</sup>
Alt 5	5.8	\$284	■	■	■	■	■	●	■	■	■	●	●	●	●	●	■	■	
Alt 5B	10.9	\$519	■	■	■	■	■	■	■	■	■	●	●	■	●	●	■	■	
Alt 6	13.5	\$562	■	■	■	■	■	■	■	■	■	●	●	■	■	■	■	■	
Alt 2B	1.5	\$37	■	■	●	●	●	●	■	■	■	●	●	●	●	●	■	●	

**Legend**

Negative Impacts		Positive Impacts	
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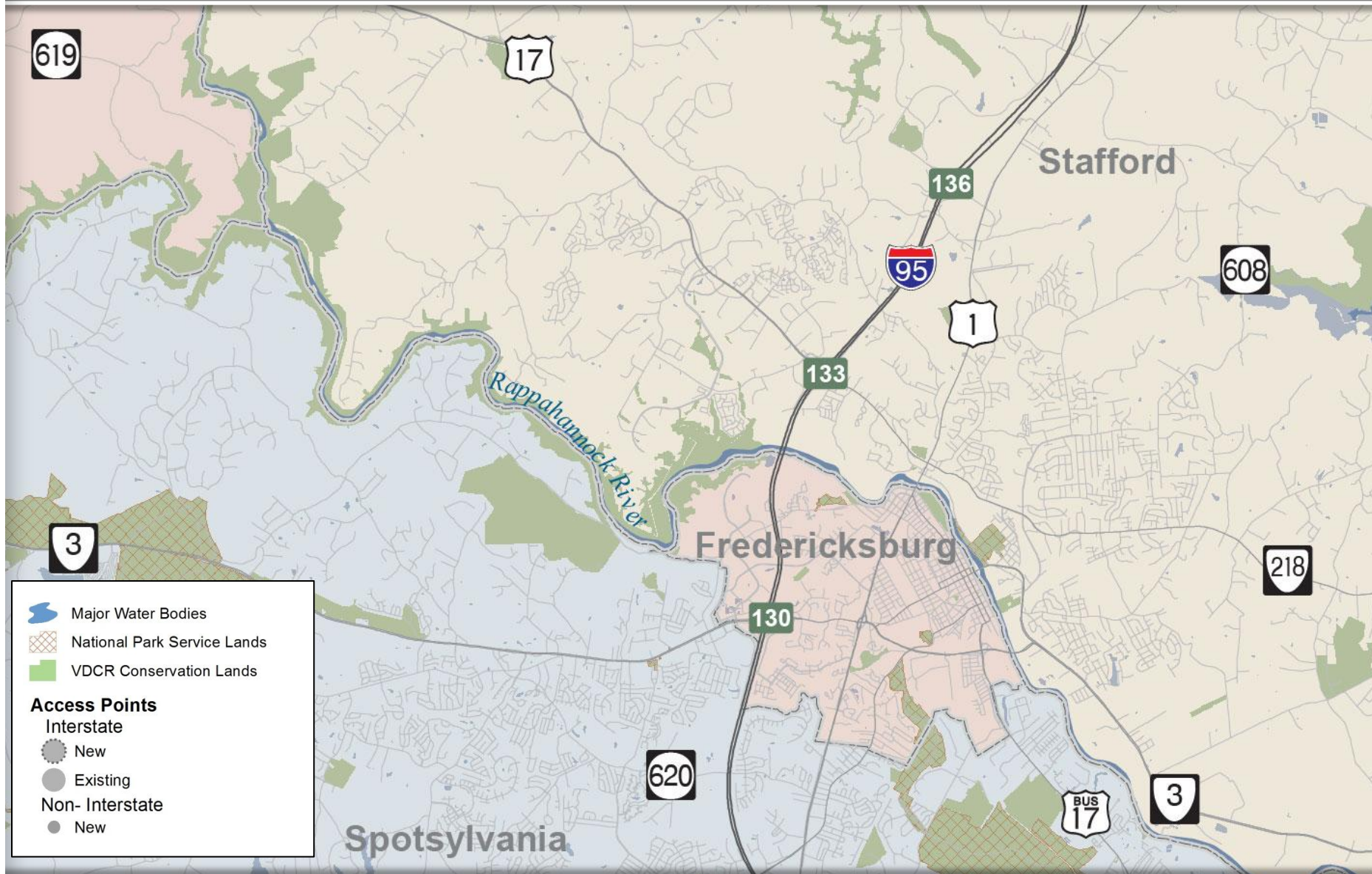
# 2nd Screening Results





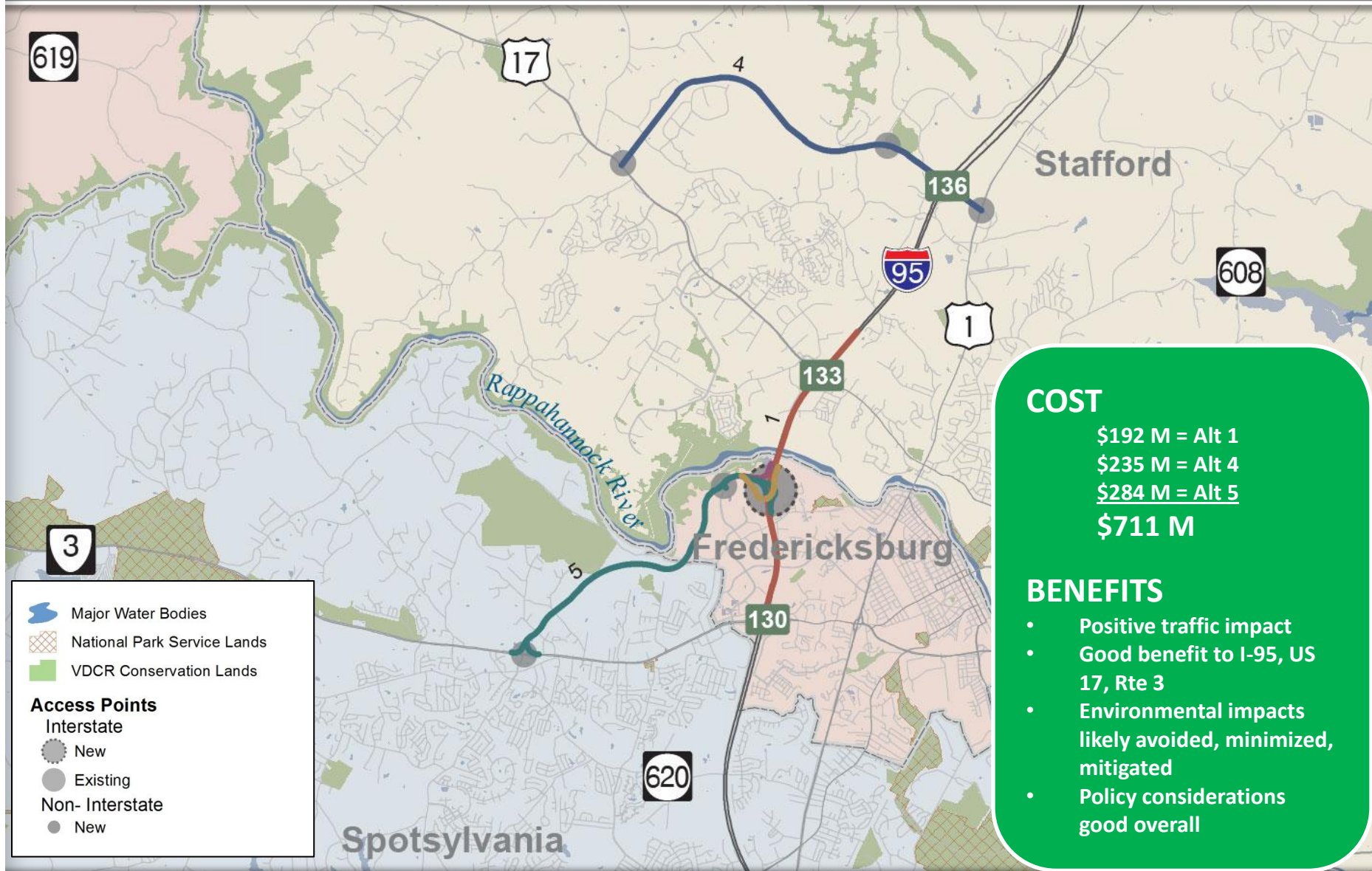
# Recommendation #1

# Alts 1, 4, and 5



# Recommendation #1

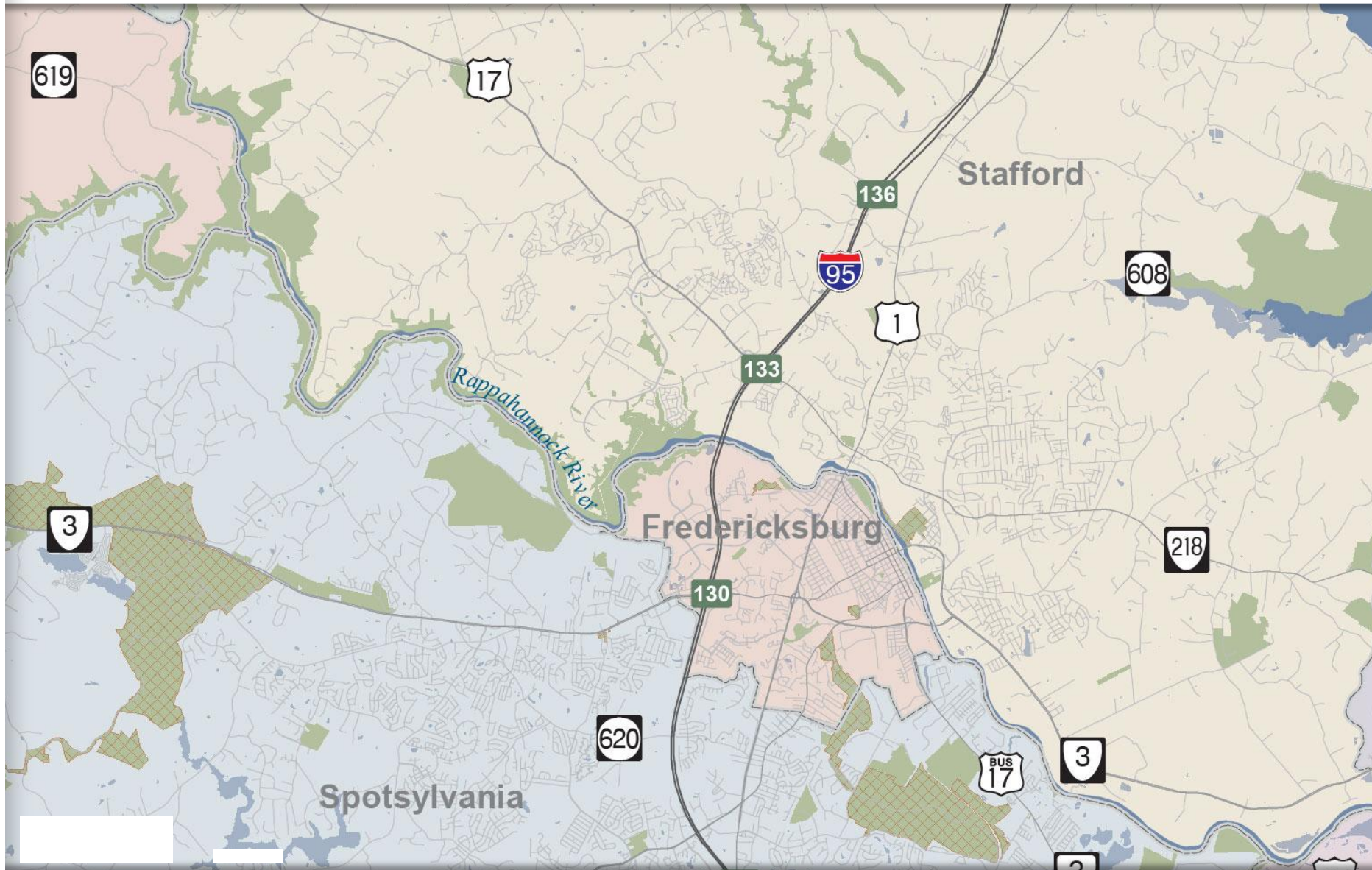
# Alts 1, 4, and 5





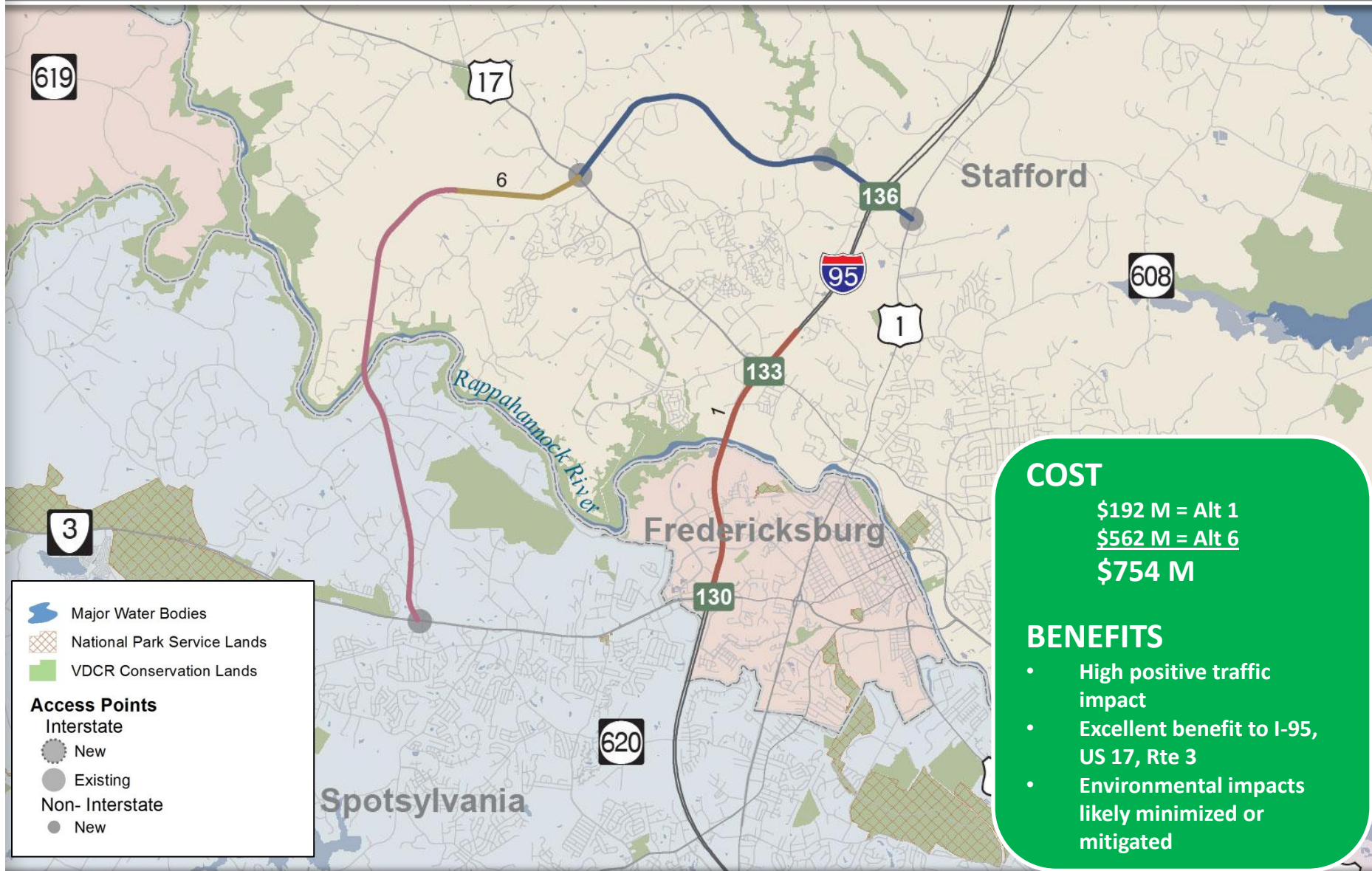
# Recommendation #2

# Alts 1 and 6



# Recommendation #2

# Alts 1 and 6



## COST

\$192 M = Alt 1

\$562 M = Alt 6

**\$754 M**

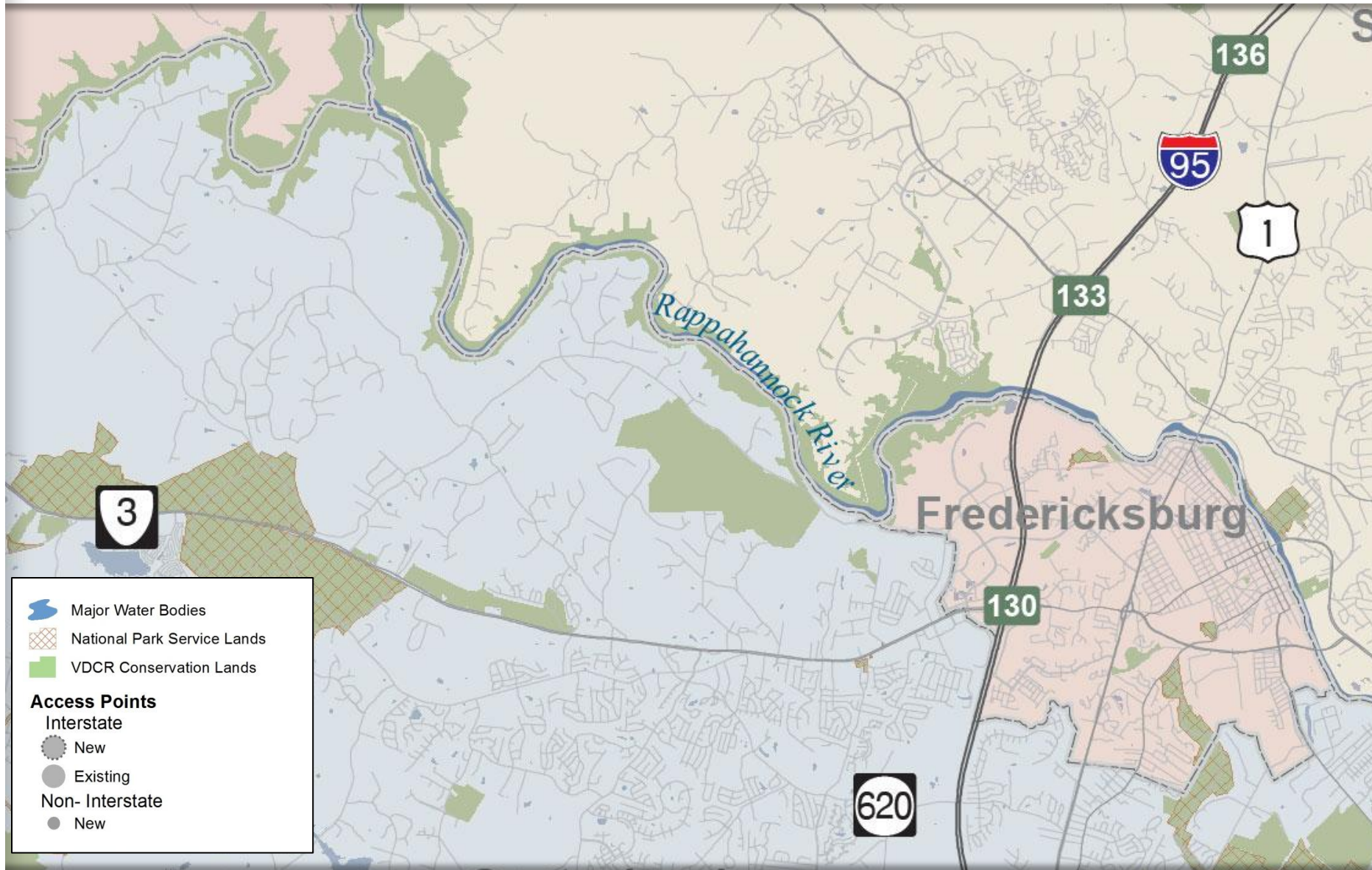
## BENEFITS

- High positive traffic impact
- Excellent benefit to I-95, US 17, Rte 3
- Environmental impacts likely minimized or mitigated



# Recommendation #3

# Alts 1 and 2B



# Recommendation #3

# Alts 1 and 2B

## COST

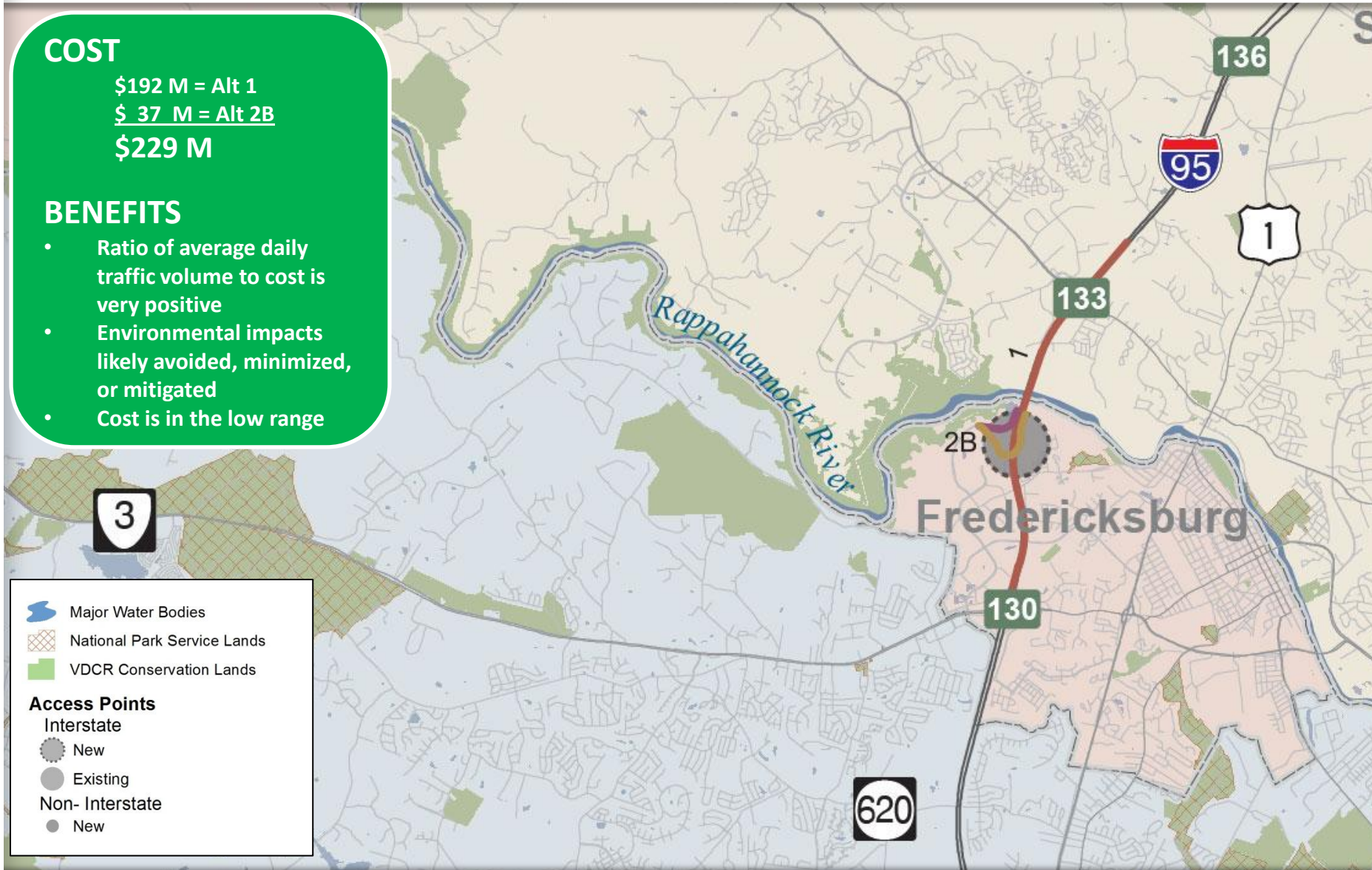
\$192 M = Alt 1

\$ 37 M = Alt 2B

\$229 M

## BENEFITS

- Ratio of average daily traffic volume to cost is very positive
- Environmental impacts likely avoided, minimized, or mitigated
- Cost is in the low range





# Next Steps

- VDOT seeks MPO endorsement

- Determination of future phases of study for conceptual alternatives

- CTB to consider the project(s) for inclusion in the prioritization process for the Six Year Improvement Program

- A Transit Component will be included as part of any and all recommendations

