

ARTERIAL

PRESERVATION PROGRAM

US 301 / Rte 207 Arterial Preservation Plan – Final Recommendations April 25, 2018

The following pages represent the final recommendations resulting from a comprehensive transportation study of the US 301/Route 207 corridor from US Route 1 in the Carmel Church area to the Potomac River at the Governor Harry Nice Memorial Bridge. A map key can be found on the next two pages.

More information about the Arterial Preservation Program can be found at:

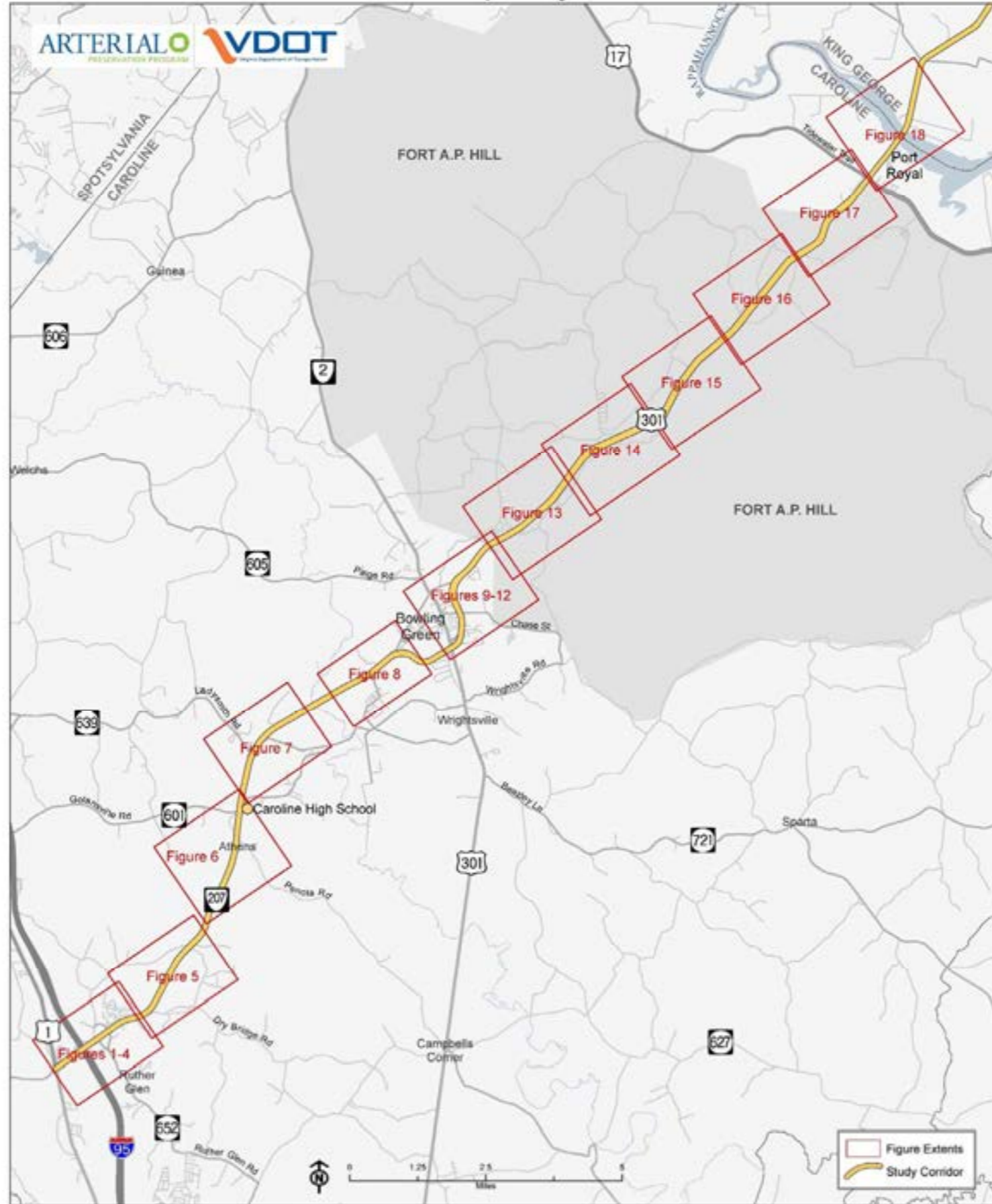
http://www.virginiadot.org/programs/vdot_arterial_preservation_program.asp

A final study report is being developed and will be posted to the project webpage by the end of May 2018.

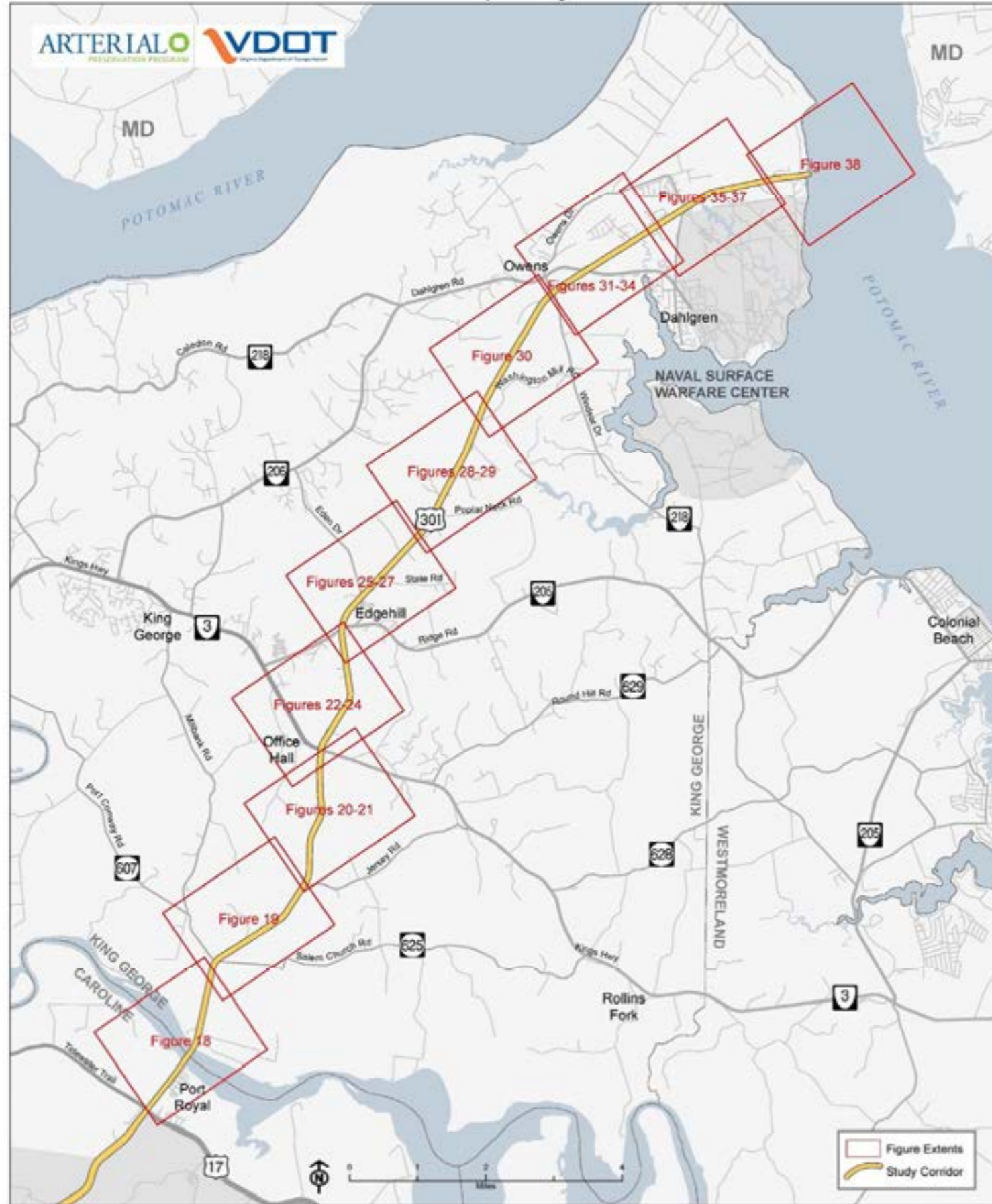
http://www.virginiadot.org/projects/fredericksburg/route_301_and_route_207_corridor_study.asp



Map Key



Map Key



**US 301/Rte 207 Arterial Preservation Plan
Figure 1
Intersections & Median Crossovers
Caroline County**

I## - Intersection #
C## - Crossover #

Intersection #1: Rte 1 with Rte 207
Recommendation: None
Cost: NA

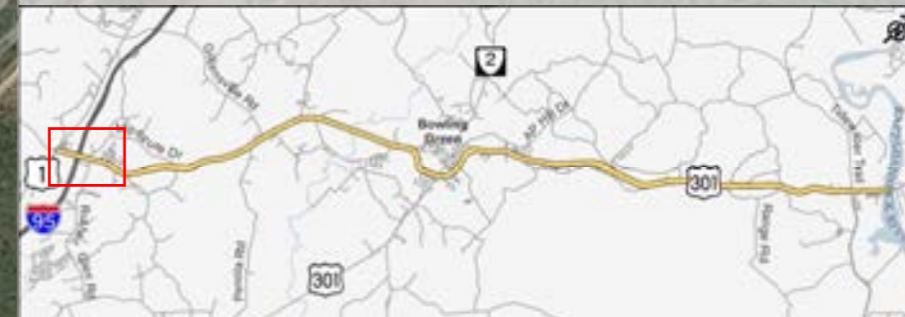
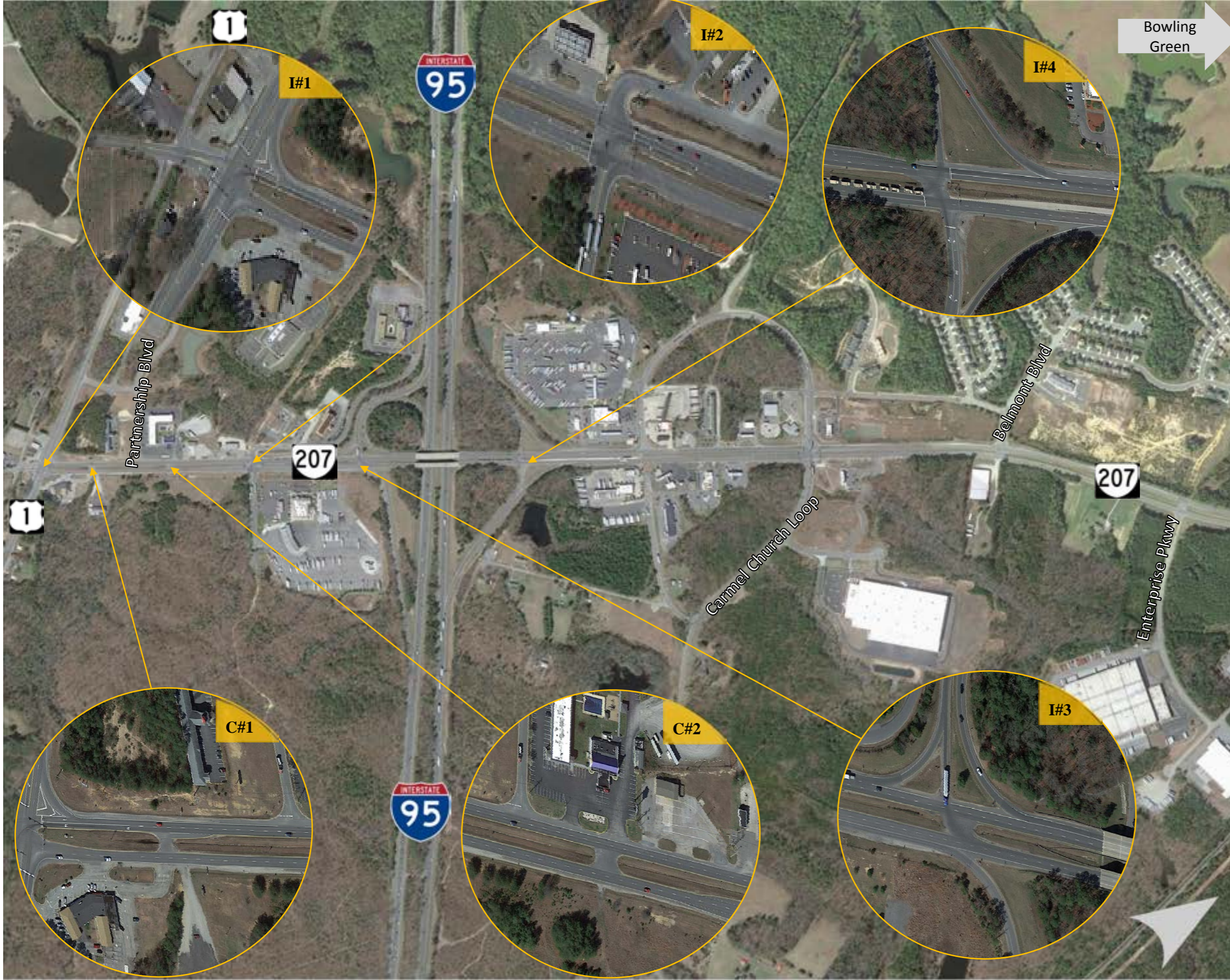
Crossover #1:
Recommendation: Remove crossover
Cost: \$0.2M to \$0.3M

Crossover #2:
Recommendation: Close existing crossover and relocate to Partnership Blvd as directional crossover allow only lefts into Partnership Blvd from Rte 207 northbound
Cost: \$0.6M to \$0.9M

Intersection #2: Welcome Way Dr with Rte 207
Recommendation: None

Intersection #3: I-95 Ramp with Rte 207
Recommendation: I-95 Interchange requires further study.

Intersection #4: I-95 Ramp with Rte 207
Recommendation: I-95 Interchange requires further study. Short term solutions include modifying the northbound I-95 off ramp to include dedicated left turn lanes with a shared right turn. As well, extending the southbound Rte 207 right-turn lane through the NB ramp intersection



**US 301/Rte 207 Arterial Preservation Plan
Figure 2
Intersections & Median Crossovers
Caroline County**

I## - Intersection #
C## - Crossover #

Crossover #3:
Recommendation: None
Cost: NA

Intersection #5: Carmel Church Loop with Rte 207
Recommendation: None
Cost: NA

Intersection #6: Belmont Blvd with Rte 207
Recommendation: Reconfigure intersection to Continuous Green-T to accommodate Belmont Blvd – See Figure 3
Cost: \$0.3M to \$0.4M

Intersection #7: Enterprise Pkwy with Rte 207
Recommendation: Reconfigure intersection to Continuous Green-T to accommodate Enterprise Pkwy – See Figure 4
Cost: \$0.5M to \$0.8M





**US 301/Rte 207 Arterial Preservation Plan
Figure 3
Intersection #6: Rte 207 with Belmont Blvd
Continuous Green-T (CGT)
Improvement Type: Congestion, Economic
Development**

Recommendation: Reconfigure intersection at Belmont Blvd with Rte 207 to unsignalized continuous green-T. Construct acceleration lane for eastbound left-turn movements onto northbound Rte 207.

ROW Impacts: Acceleration lane and island are with existing ROW.

Traffic Operations & Safety:

Traffic Operations	Reduced delay times for vehicles traveling eastbound onto Rte 207 northbound
Safety	Channelization of left turn vehicles from the side street reduces the potential for angle crashes

Cost: \$0.3M to \$0.4M

Standard Movements





I-95

Bowling Green

207

Enterprise Pkwy

**US 301/Rte 207 Arterial Preservation Plan
Figure 4
Intersection #7: Rte 207 with Enterprise Pkwy
Continuous Green-T (CGT)
Improvement Type: Congestion, Economic Development, Safety**

Recommendation: Reconfigure intersection at Enterprise Pkwy with Rte 207 to signalized continuous green-T. Construct acceleration lane for westbound left-turn movements onto southbound Rte 207. Extend acceleration lane through Belmont Blvd due to heavy commercial traffic.

ROW Impacts: Acceleration lane and island are with existing ROW. Right-turn lane extensions will have minimal ROW impacts.

Traffic Operations & Safety:

- Traffic Operations: Reduced delay times for vehicles traveling westbound onto Rte 207 southbound. Significantly reduced delay times on Rte 207 – elimination of signal for southbound Rte 207
- Safety: Channelization of left-turn vehicles from the side street reduces the potential for angle crashes

Cost: \$0.5M to \$0.8M

➔ Standard Movements



I-95

Bowling
Green

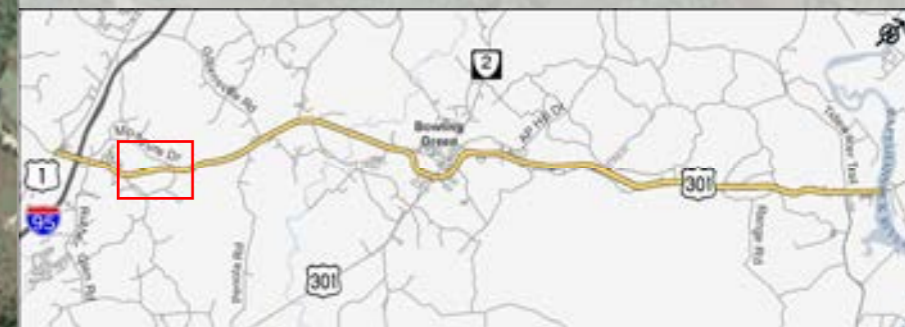
**US 301/Rte 207 Arterial Preservation Plan
Figure 5
Intersections & Median Crossovers
Dry Bridge Rd to Moncure Dr
Caroline County**

I## - Intersection #
C## - Crossover #

Intersection #8: Dry Bridge Rd with Rte 207
Recommendation: Realign Dry Bridge Rd and relocate intersection north of existing.
Cost: To Be Done By Others – (Dry Bridge Road Extension)

Crossover #4:
Recommendation: Remove crossover
Cost: \$0.2M to \$0.3M

Intersection #9: Moncure Dr with Rte 207
Recommendation: Lengthen all existing Rte 207 turn lanes
Cost: \$0.7M to \$0.9M



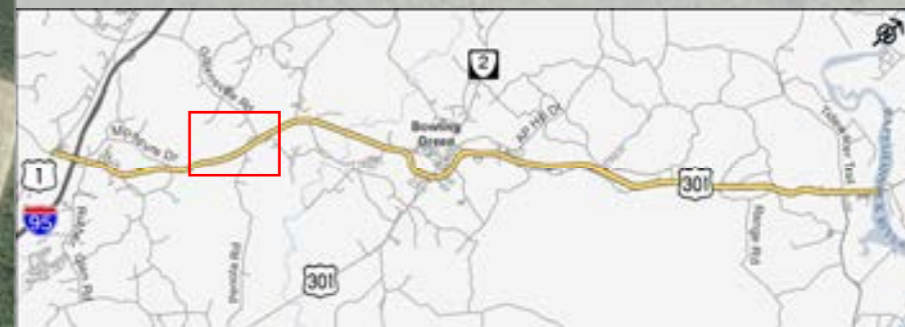
I-95

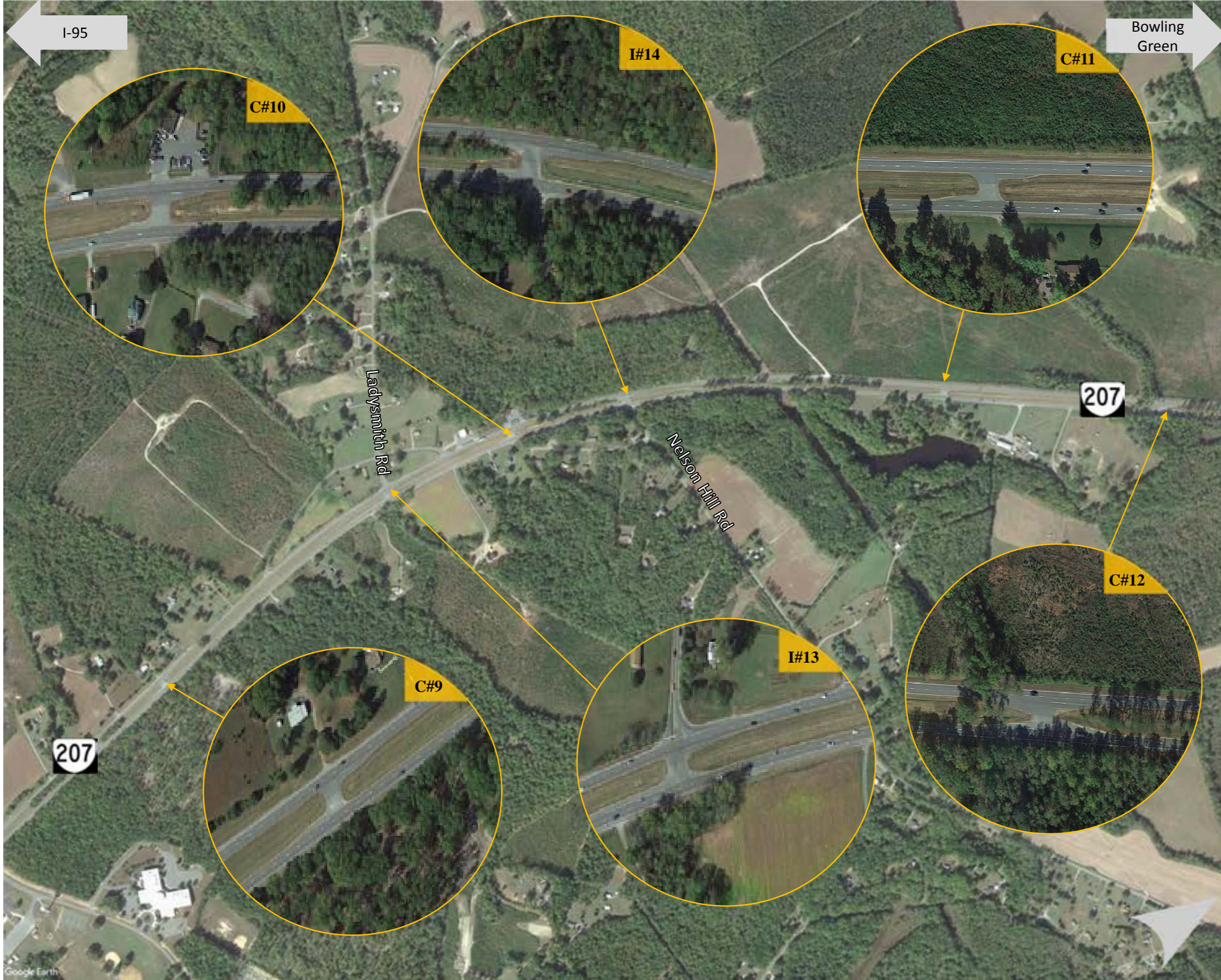
Bowling Green

US 301/Rte 207 Arterial Preservation Plan
Figure 6
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

- Crossover #5:**
Recommendation: Remove crossover
Cost: \$0.2M to \$0.3M
- Crossover #6:**
Recommendation: Lengthen existing Rte 207 left-turn lanes
Cost: \$0.4M to \$0.5M
- Intersection #10: Penola Rd with Rte 207**
Recommendation: Lengthen all existing Rte 207 turn lanes
Cost: \$0.7M to \$0.9M
- Crossover #7:**
Recommendation: Lengthen existing Rte 207 left-turn lanes
Cost: \$0.4M to \$0.5M
- Crossover #8:**
Recommendation: Remove crossover
Cost: \$0.2M to \$0.3M
- Intersection #11: Golansville Rd with Rte 207**
Recommendation: None
- Intersection #12: Devils 3 Jump Rd with Rte 207**
Recommendation: None



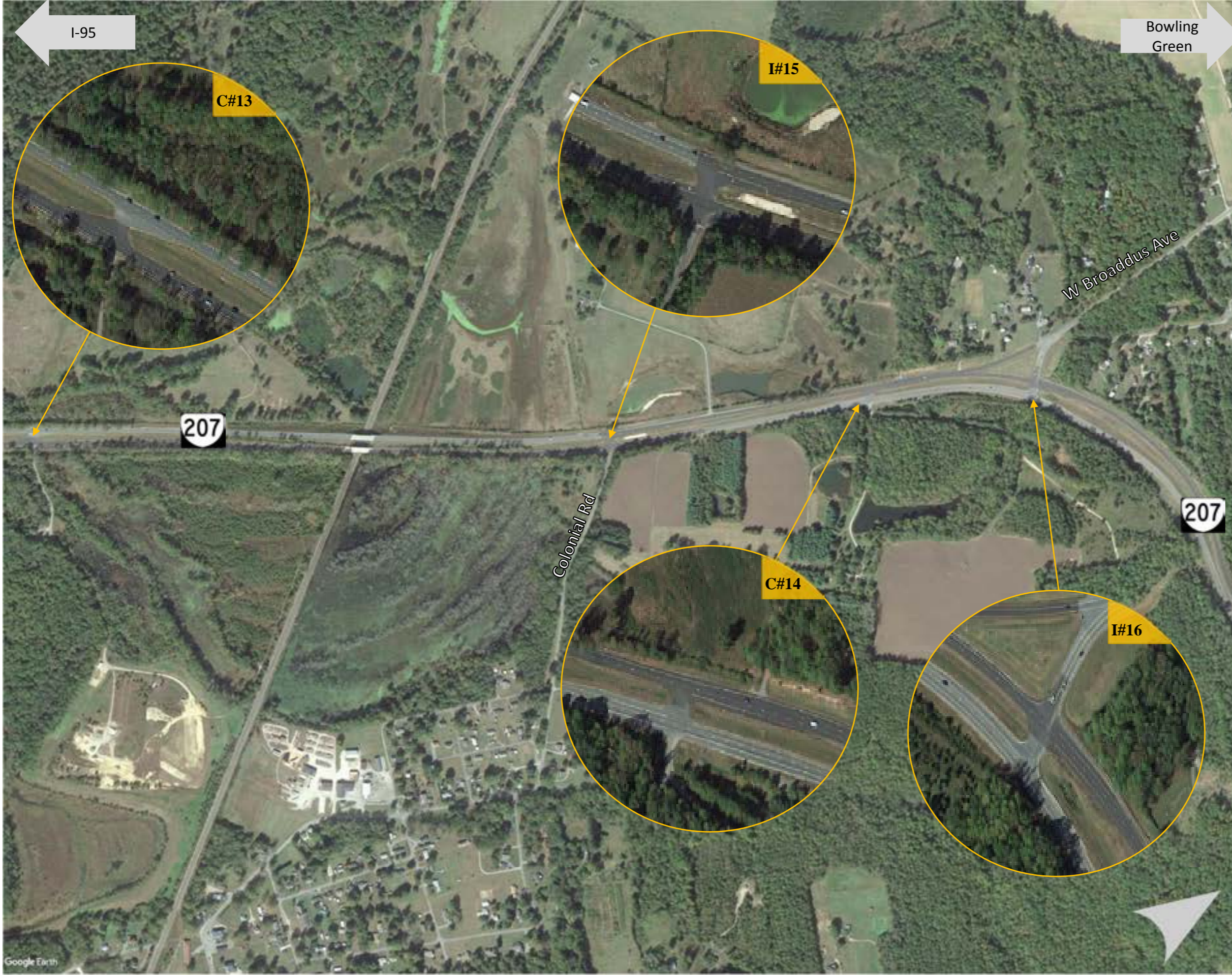


US 301/Rte 207 Arterial Preservation Plan
Figure 7
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

- Crossover #9:**
Recommendation: None
- Intersection #13: Ladysmith Rd with Rte 207**
Recommendation: Lengthen existing turn-lanes on Rte 207
Cost: \$0.7M to \$0.9M
- Crossover #10:**
Recommendation: Reconfigure existing crossover to directional crossover to allow only lefts-in from Rte 207 northbound
Cost: \$0.4M to \$0.5M
- Intersection #14: Nelson Hill Rd with Rte 207**
Recommendation: Lengthen existing turn-lanes on Rte 207
Cost: \$0.7M to \$0.9M
- Crossover #11:**
Recommendation: Lengthen existing left-turn lanes on Rte 207
Cost: \$0.4M to \$0.5M
- Crossover #12:**
Recommendation: Remove crossover
Cost: \$0.2M to \$0.3M





**US 301/Rte 207 Arterial Preservation Plan
Figure 8
Intersections & Median Crossovers
Caroline County**

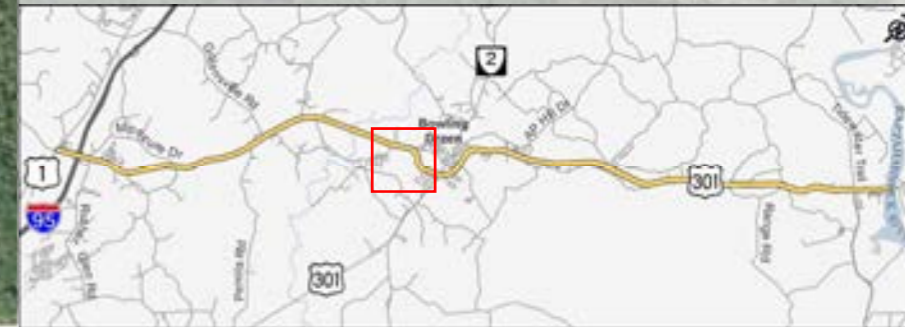
I## - Intersection #
C## - Crossover #

Crossover #13:
Recommendation: Lengthen existing left-turn lanes on Rte 207
Cost: \$0.4M to \$0.5M

Intersection #15: Colonial Rd with Rte 207
Recommendation: Lengthen existing left and right-turn lanes on northbound Rte 207
Cost: \$0.5M to \$0.6M

Crossover #14:
Recommendation: Modify crossover at intersection of Christmas Tree Ln and Rte 207 to a directional median to allow only lefts from southbound Rte 207
Cost: \$0.4M to \$0.5M

Intersection #16: W Broaddus Ave with Rte 207
Recommendation: Intersection should be evaluated further as development occurs



I-95

Fort AP Hill

Lakewood Rd

301

W Broaddus Ave

Courthouse Ln

Chase St

Town of Bowling Green

US 301/Rte 207 Arterial Preservation Plan
Figure 9
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

Intersection #17: Rte 2 Ramp with US 301
Recommendation: Construct northbound acceleration lane for vehicles turning left from ramp onto US 301
Cost: \$0.5M to \$0.6M

Intersection #18: Chase St with US 301
Recommendation: See Figures 11 & 12
Cost: \$0.8M to \$1.1M

Intersection #19: Courthouse Ln with US 301
Recommendation: Reconfigure Courthouse Lane to Right-in/Right-out only and close existing crossover – See Figures 11 & 12
Cost: \$0.3M to \$0.4M (Included in Intersection #18 Cost)

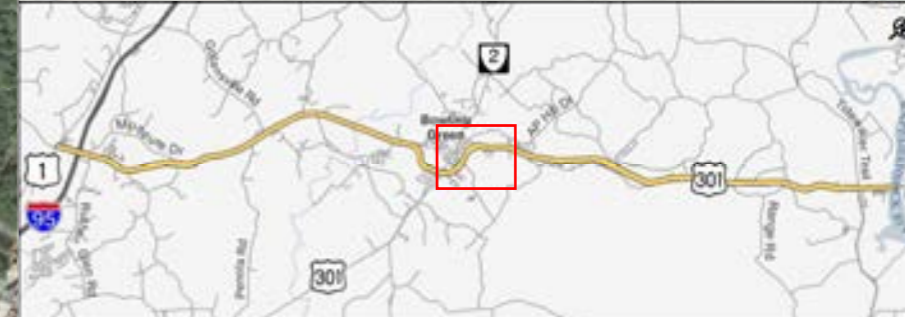
Intersection #20: W Broaddus Ave with US 301
Recommendation: Eliminate southbound US 301 left-turn lane and extend median stop bars towards US 301 mainline to improve sight distance
Cost: \$0.1M to \$0.2M

I#20

I#19

I#18

I#17



I-95

Fort AP Hill

US 301/Rte 207 Arterial Preservation Plan
Figure 10
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

Crossovers #15-19:
Recommendation: Due to area designated for development, consolidate/remove crossovers and convert area to Restricted Crossing U-Turn Superstreet
Cost: To Be Determined as Development Occurs

Intersection #21: Lakewood Rd with US 301
Recommendation:
Short-term: Extend US 301 existing turn-lanes. Evaluate US 301 northbound right-turn lane for future Army expansion
Long-term: Evaluate ongoing development and need to reconfigure to Restricted Crossing U-Turn
Cost: To Be Determined as Development Occurs

C#15

C#16

C#19

C#18

C#17

I#21

W Broaddus Ave

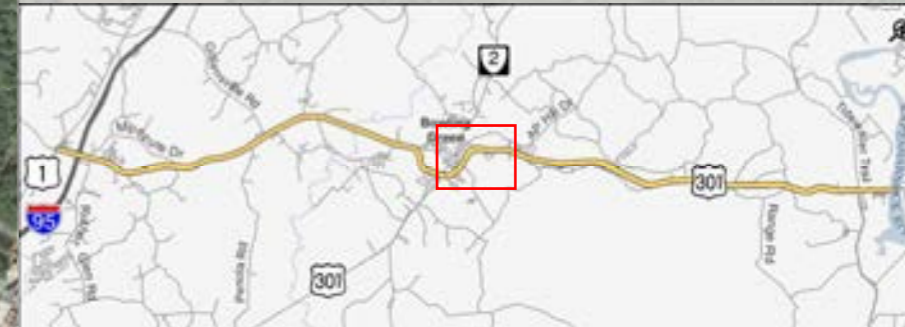
Courthouse Ln

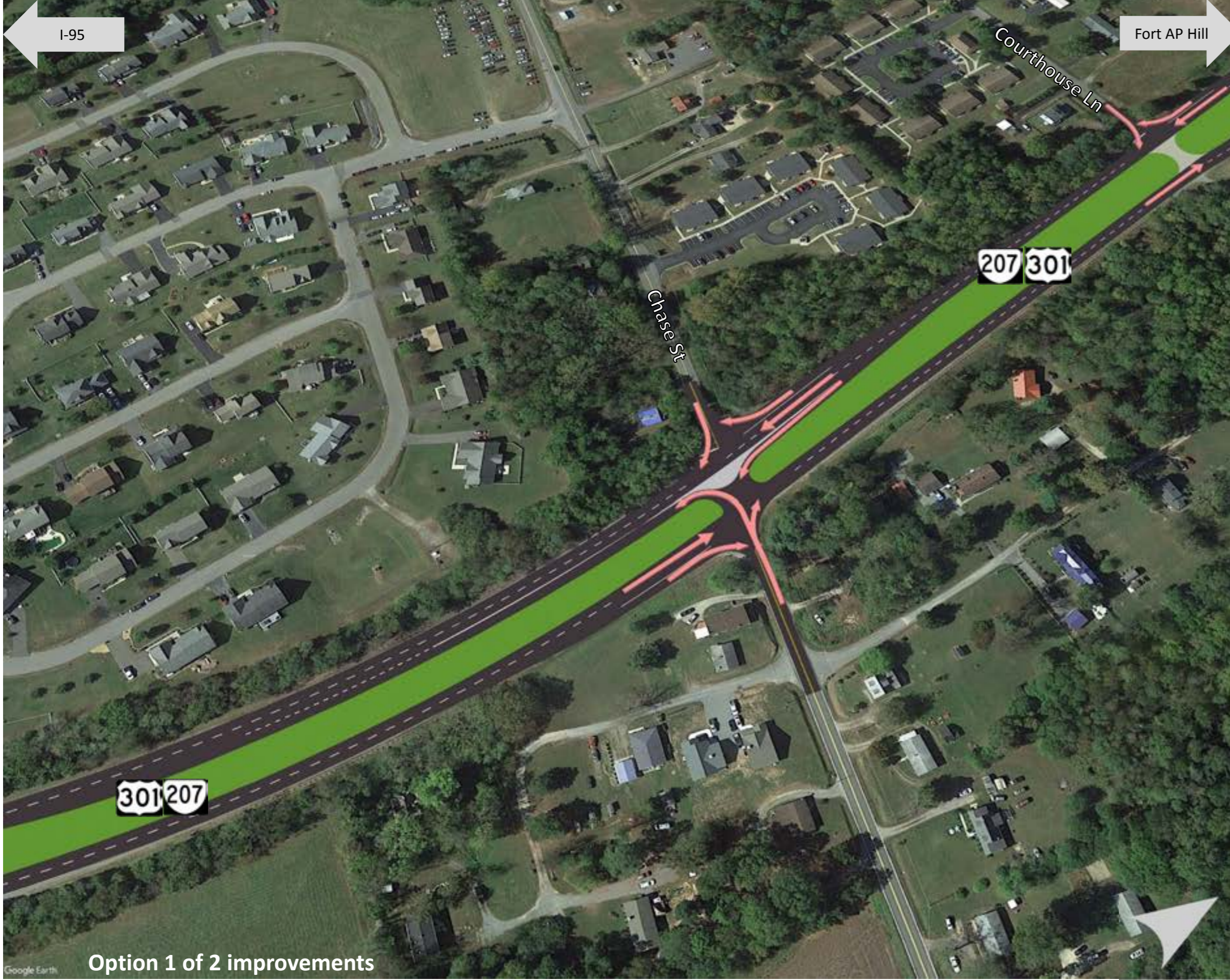
Chase St

Lakewood Rd

301

301





**US 301/Rte 207 Arterial Preservation Plan
Figure 11
Intersection #19 & #20:
US 301 with Chase St
US 301 with Courthouse Ln
Continuous Green-T (CGT)
Improvement Type: Economic
Development, Safety**

Recommendation: Reconfigure intersection at Chase St with US 301 / Rte 207 to unsignalized continuous green-T. Construct acceleration lane for westbound left-turn movements onto southbound US 301 / Rte 207. Existing Courthouse Lane (Intersection #20) will be closed and reconfigured to traversable median for emergency vehicles. Existing right-turn lanes at Courthouse Ln and Chase St on US 301 / Rte 207 will be extended.

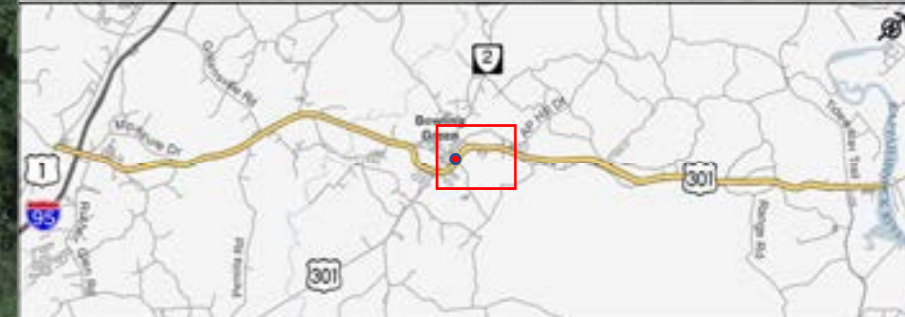
ROW Impacts: Acceleration lane and island are within existing ROW. Right-turn lane extensions will have minimal ROW impacts.

Traffic Operations & Safety:

Traffic Operations	Reduced delay times for vehicles traveling westbound onto US 301 / Rte 207 southbound
Safety	Channelization of left-turn vehicles from the side street reduces the potential for angle crashes

Cost: \$0.8M to \$1.1M

Standard Movements



Option 1 of 2 improvements



**US 301/Rte 207 Arterial Preservation Plan
Figure 12
Intersection #19 & #20:
US 301 with Chase St
US 301 with Courthouse Ln
Improvement Type: Economic
Development, Safety**

Recommendation: Reconfigure intersection at Chase St with US 301 / Rte 207 to only permit southbound left-turn movements. Reconfigure Courthouse Lane intersection (Intersection #20) to permit lefts and U-turns from northbound US 301 / Rte 207. Existing right-turn lanes at Courthouse Ln and Chase St on US 301 / Rte 207 will be extended.

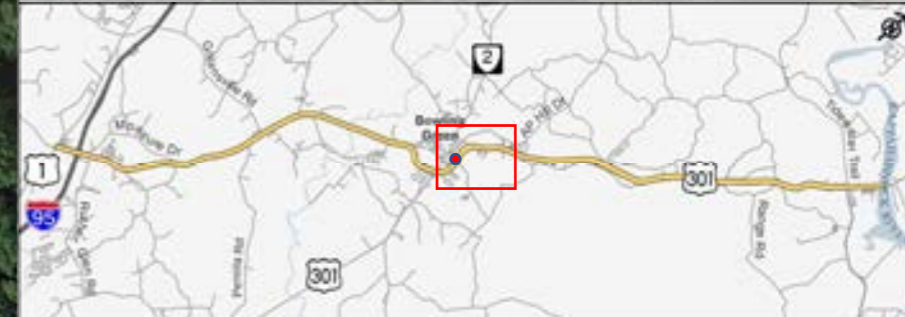
ROW Impacts: Right-turn lane extensions will have minimal ROW impacts.

Traffic Operations & Safety:

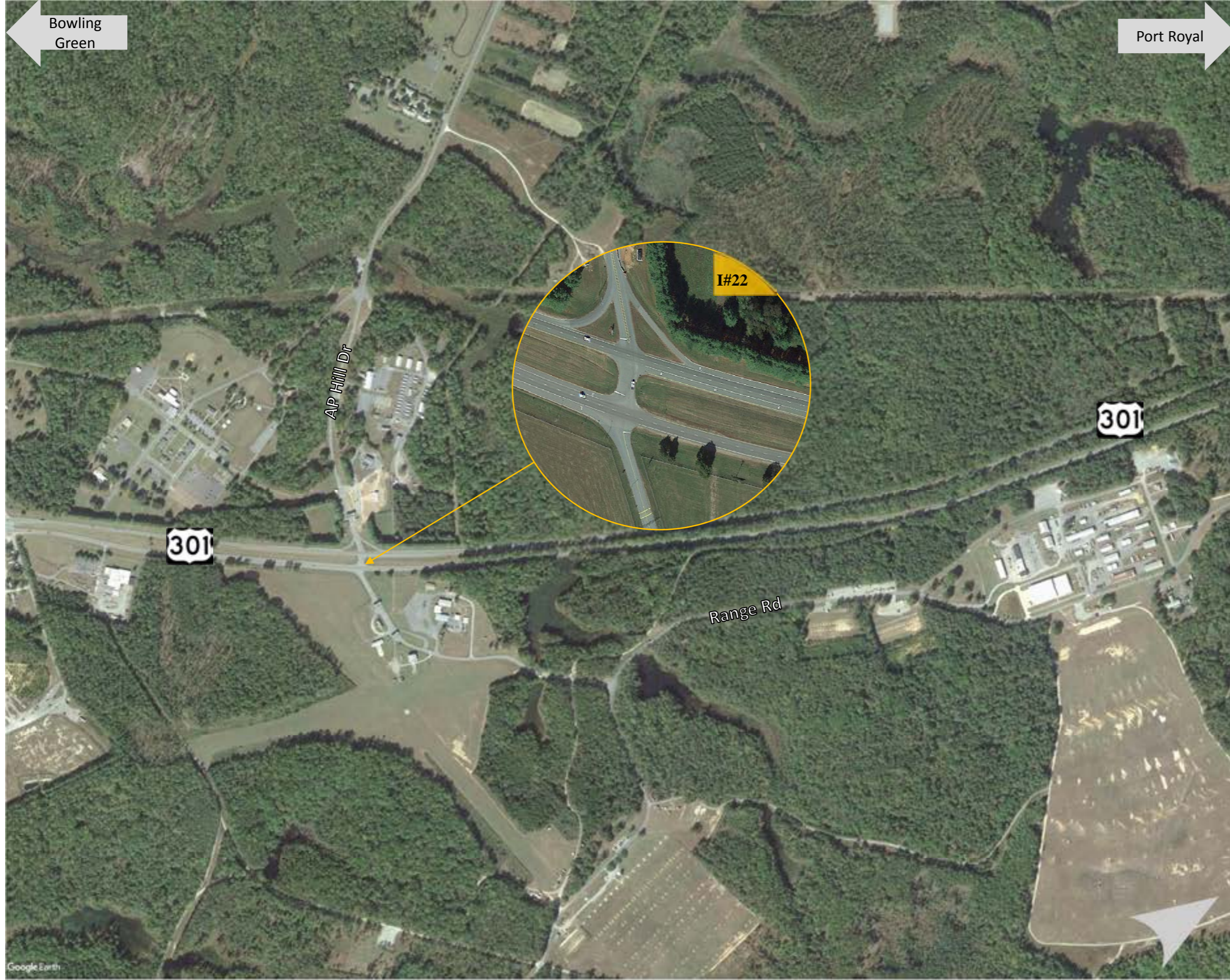
Traffic Operations	Minimal Improvements
Safety	Reduction of turn-movements reduce the number of conflict points at an intersection, thus reducing the risk of a crash

Cost: \$0.8M to \$1.1M

- Standard Movements
- Re-routed left turn movements



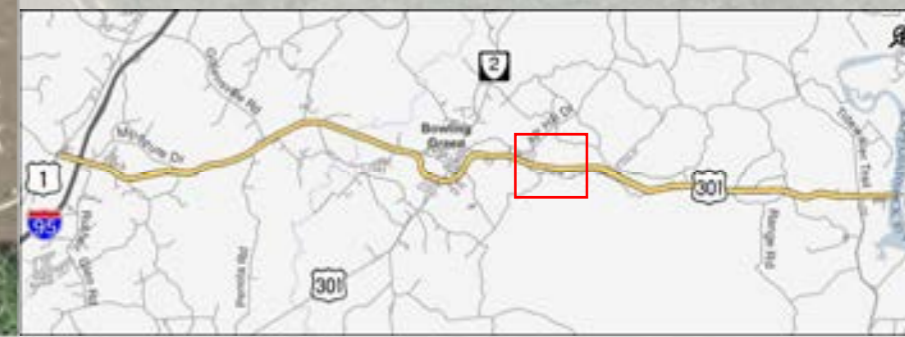
Option 2 of 2 improvements



US 301/Rte 207 Arterial Preservation Plan
Figure 13
Intersections & Median Crossovers
Caroline County

I## - Intersection #
C## - Crossover #

Intersection #22: AP Hill Dr with US 301
Recommendation:
Short-term: Further coordination between VDOT and Fort AP Hill will be necessary to assure safe and efficient function of the entrances. Intersection should be monitored closely as volume increases on the corridor.
Long-term: Coordination between VDOT, Fort AP Hill and Locality to focus on supporting future safe crossing methods such as overpasses and alternative intersections.



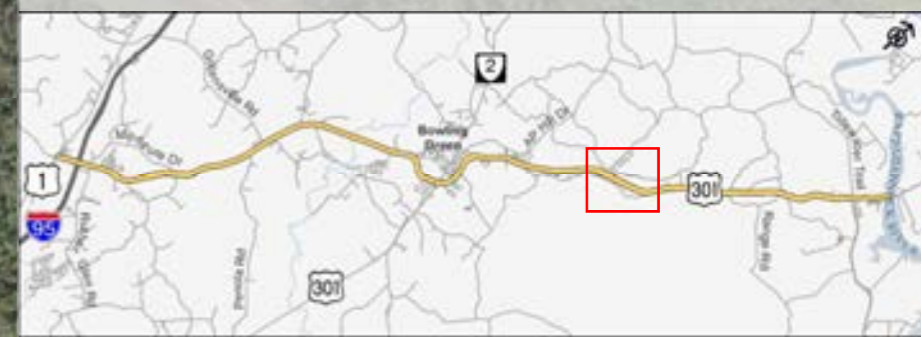
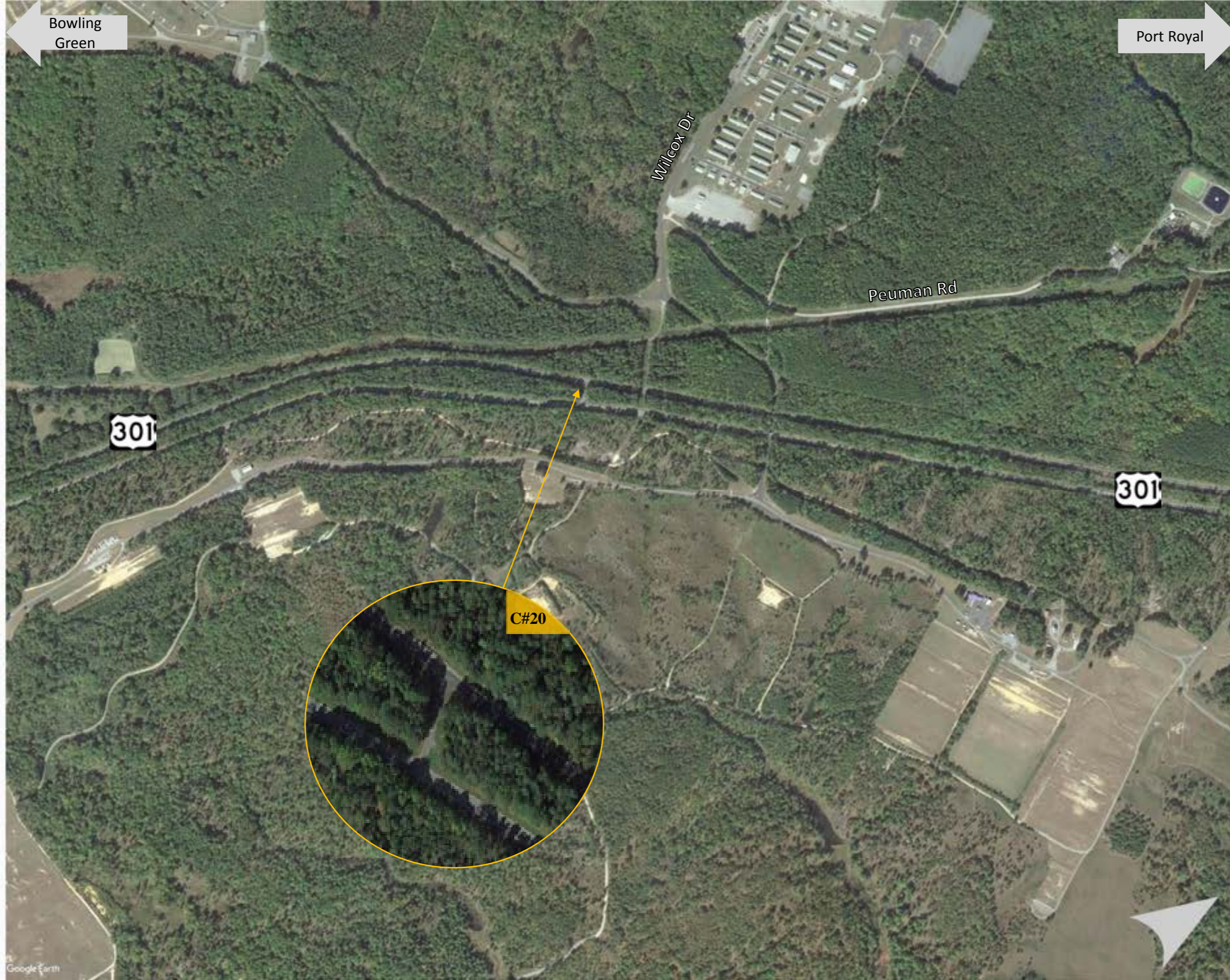
Bowling Green

Port Royal

US 301/Rte 207 Arterial Preservation Plan
Figure 14
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

Crossover #20:
Recommendation: Remove crossover
Cost: \$0.2M to \$0.3M



Bowling Green

Port Royal

**US 301/Rte 207 Arterial Preservation Plan
Figure 15
Intersections & Median Crossovers
Caroline County**

I## - Intersection #
C## - Crossover #

Crossovers #21:
Recommendation: None

Crossovers #22:
Recommendation: Sign for "Authorized Vehicles Only"
Cost: <\$0.1M



301

301

Lewis Memorial Dr

C#21

C#22



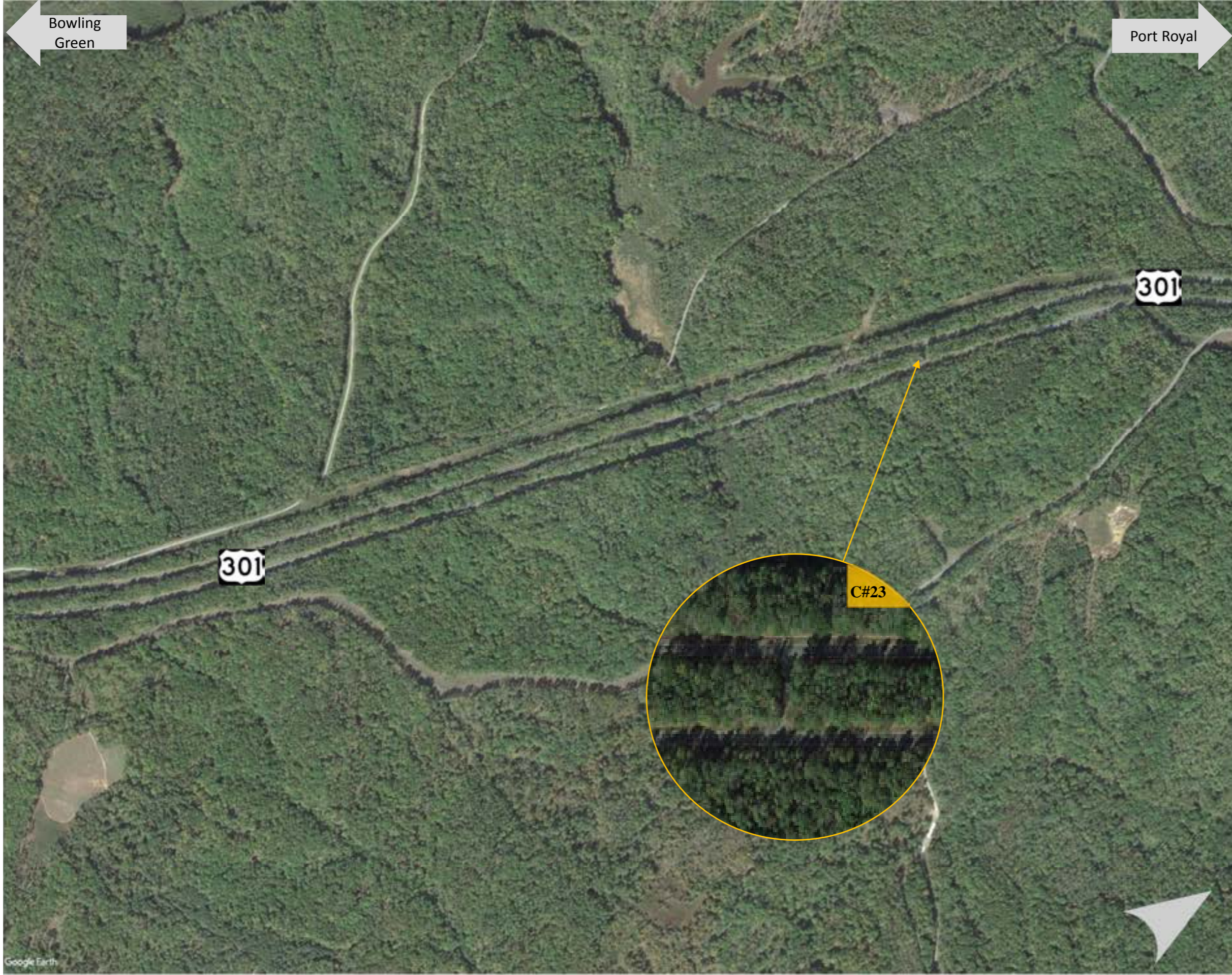
Bowling Green

Port Royal

US 301/Rte 207 Arterial Preservation Plan
Figure 16
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

Crossovers #23:
Recommendation: Sign for "Authorized Vehicles Only"
Cost: <\$0.1M



Fort AP Hill

Port Royal

US 301/Rte 207 Arterial Preservation Plan
Figure 17
Intersections & Median Crossovers
Caroline County

I## - Intersection #
 C## - Crossover #

Crossovers #24:
Recommendation: None

Crossovers #25:
Recommendation: Lengthen existing left-turn lanes on US 301 as development occurs
Cost: \$0.4M to \$0.5M

Crossovers #26:
Recommendation: Lengthen existing left-turn lanes on US 301
Cost: \$0.4M to \$0.5M

Intersection #23: US 17 with US 301
Recommendation: Construct dedicated left-turn lanes for the US 17 northbound and southbound directions and consolidate commercial access points
Cost: \$0.4M to \$0.5M



Fort AP Hill

Gov. Nice Bridge

US 301/Rte 207 Arterial Preservation Plan Figure 18 Intersections & Median Crossovers Caroline County/King George County

I## - Intersection #
C## - Crossover #

Town of Port Royal
Portion of US301 that goes through Town of Port Royal will require a stand-alone study outside the scope of this project

Crossovers #27:
Recommendation: None

Crossovers #28:
Recommendation: Reconfigure existing crossover to a directional median only allowing left turns from northbound US 301
Cost: \$0.2M to \$0.3M

Crossovers #29:
Recommendation: Lengthen existing left-turn lanes on US 301 as development occurs
Cost: \$0.4M to \$0.5M

