# Town Hall Meeting
# Route 17 Transportation Updates

Isle of Wight

Board of Supervisors

December 5, 2022, 6:30 PM

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# Route 17 Transportation Initiatives

- **Route 17 STARS Report Feb 2022**
  - Smiths Neck Road Intersection Improvements, *SMARTSCALE app*
- **Route 17 Arterial Preservation Plan Nov 2022**
  - Sugar Hill Road Intersection Improvements, *SMARTSCALE app*

- Nike Park Road Extension, *Fully-funded*
- Bartlett Intersection Improvements, *Completed*
- Route 17 Crosswalks, *Completed*

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# Route 17 STARS Report




- Conducted from Oct 2020 to Feb 2022
- Study area specifically from the JRB to the Bartlett Intersection
- 2 individual MetroQuest Public Input surveys
- 2000+ total public responses throughout the process
- Identified 4 corridor alternatives with preliminary cost estimates and phasing concepts.

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# Route 17 STARS Report

IOW has moved Phase 1 of Preferred Alt 4 ($13M) forward in grant applications this year.




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# Route 17 Arterial Preservation Plan

VDOT Virginia Department of Transportation

ARTERIAL PRESERVATION PROGRAM

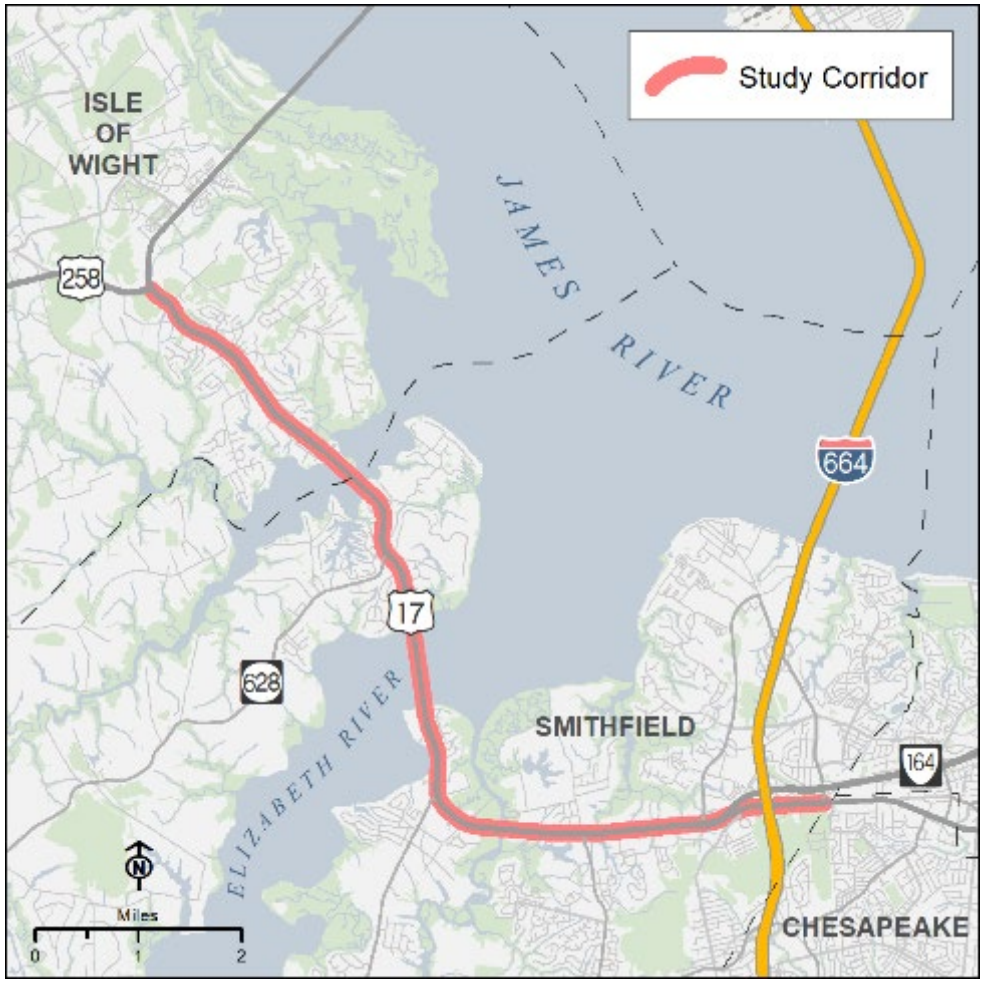
- **Access points and signal proliferation** are adversely affecting performance of critical routes in the Commonwealth of Virginia.
- The transportation system must be managed as a limited resource by **preserving capacity**, **improving traffic safety**, and providing an acceptable level of service **for through travel**.
- Preservation and enhancement strategies will promote the use of **innovative transportation solutions** that minimize delays for **through traffic** and **improve safety** while considering local economic development goals.

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# Route 17 Arterial Preservation Plan

- Conducted from Oct 2020 to Nov 2022
- Study area specifically from the Bartlett Intersection to Rt 664/College Dr in Suffolk (focus on IOW 10.5m)
- 2 individual MetroQuest Public Input surveys
- 900+ total public responses throughout the process



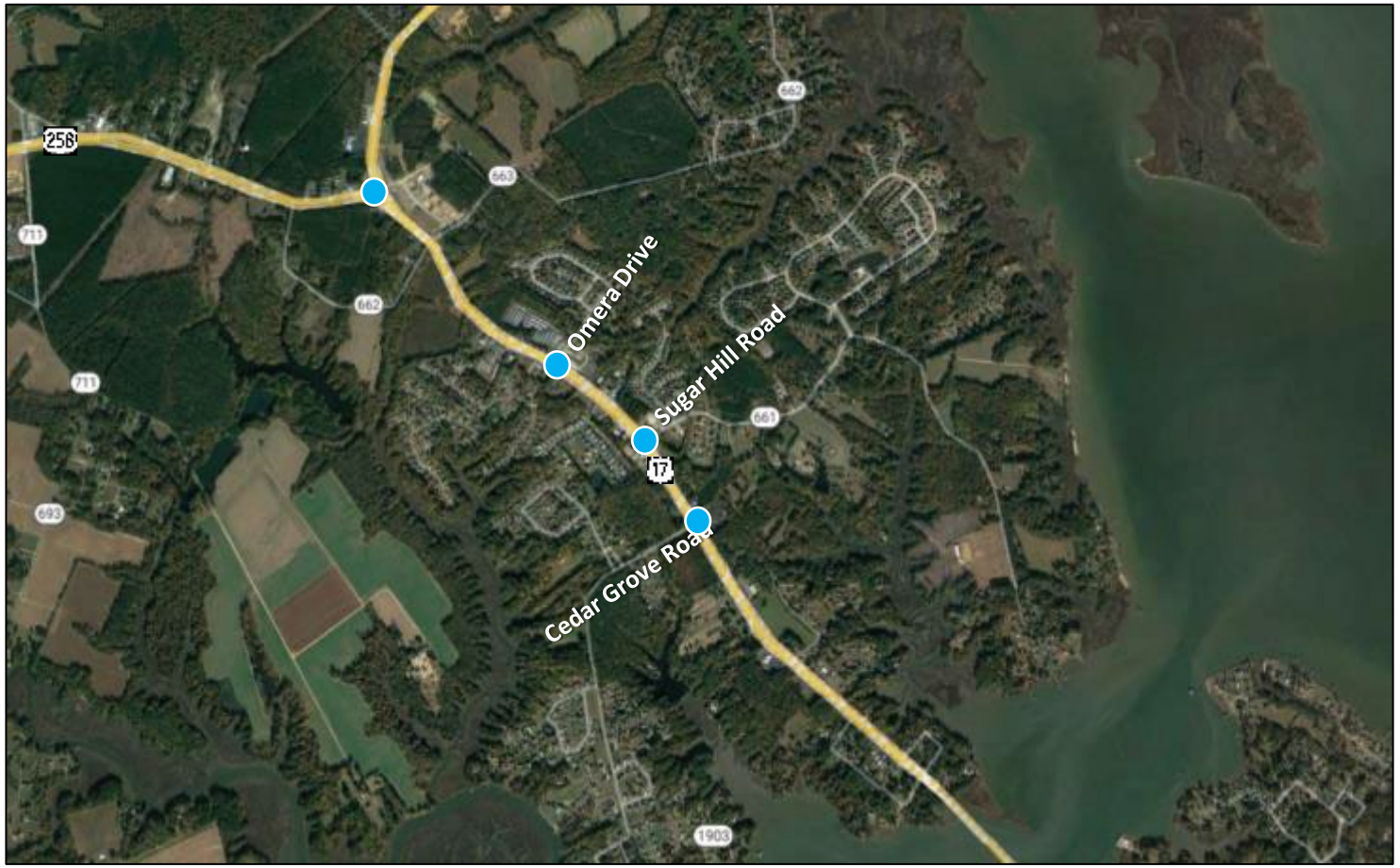

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# Route 17 Arterial Preservation Plan

- Identify priority intersections for the development of detailed recommendations
  - Historic traffic volumes
  - Potential for safety improvement (PSI)
  - Crash history
  - Field observations
  - Stakeholder input
- Horizon year of 2040
- Arterial Preservation techniques applied where feasible
- Identify opportunities to improve roadway geometrics and access management

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# Route 17 Arterial Preservation Plan --Overview



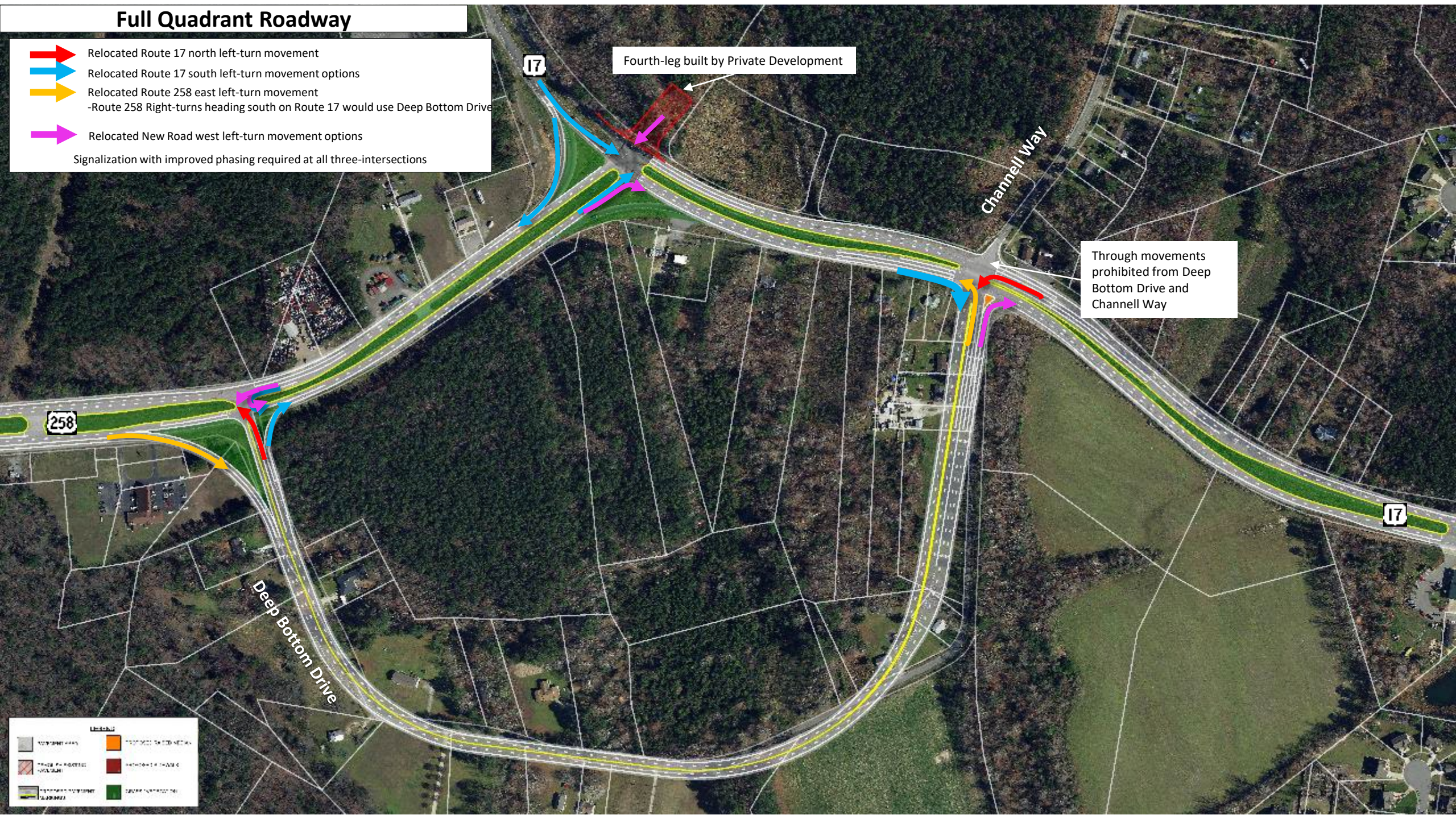

- **US 17 & 258**
- US 17 & Omera Dr
- US 17 & Sugar Hill Rd
- US 17 & Cedar Grove Rd

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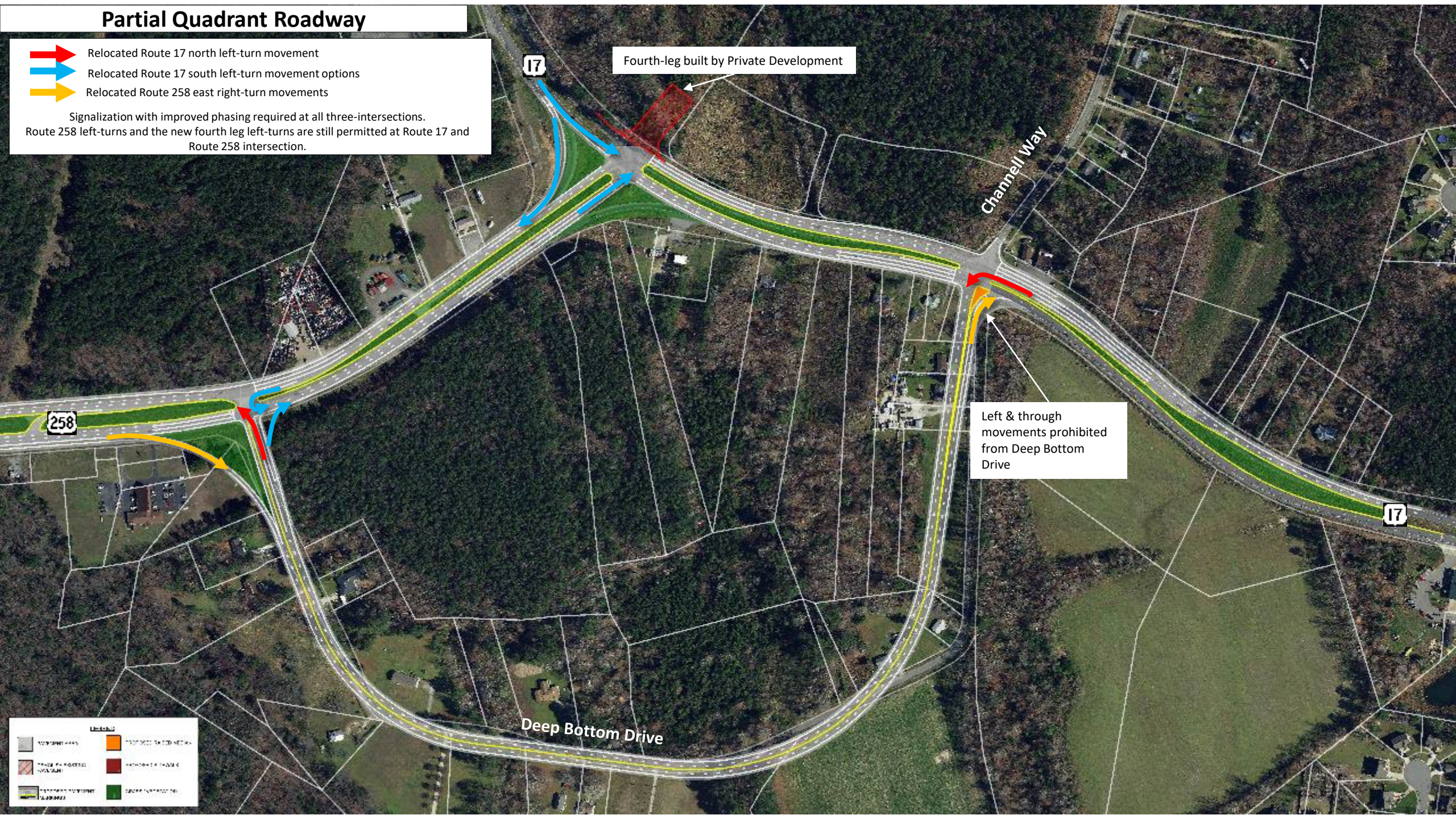
**No Improvement**



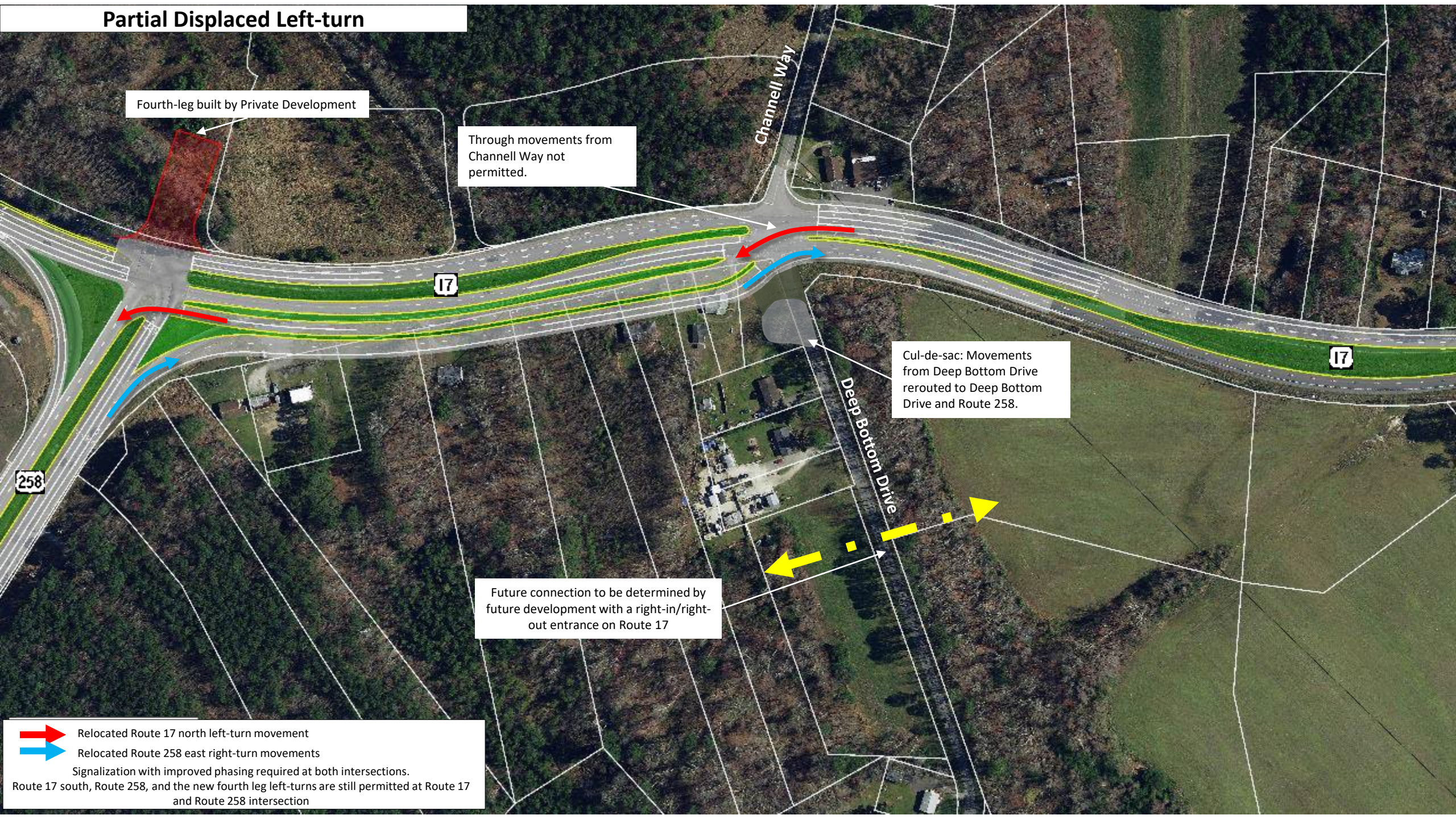
# Full Quadrant Roadway



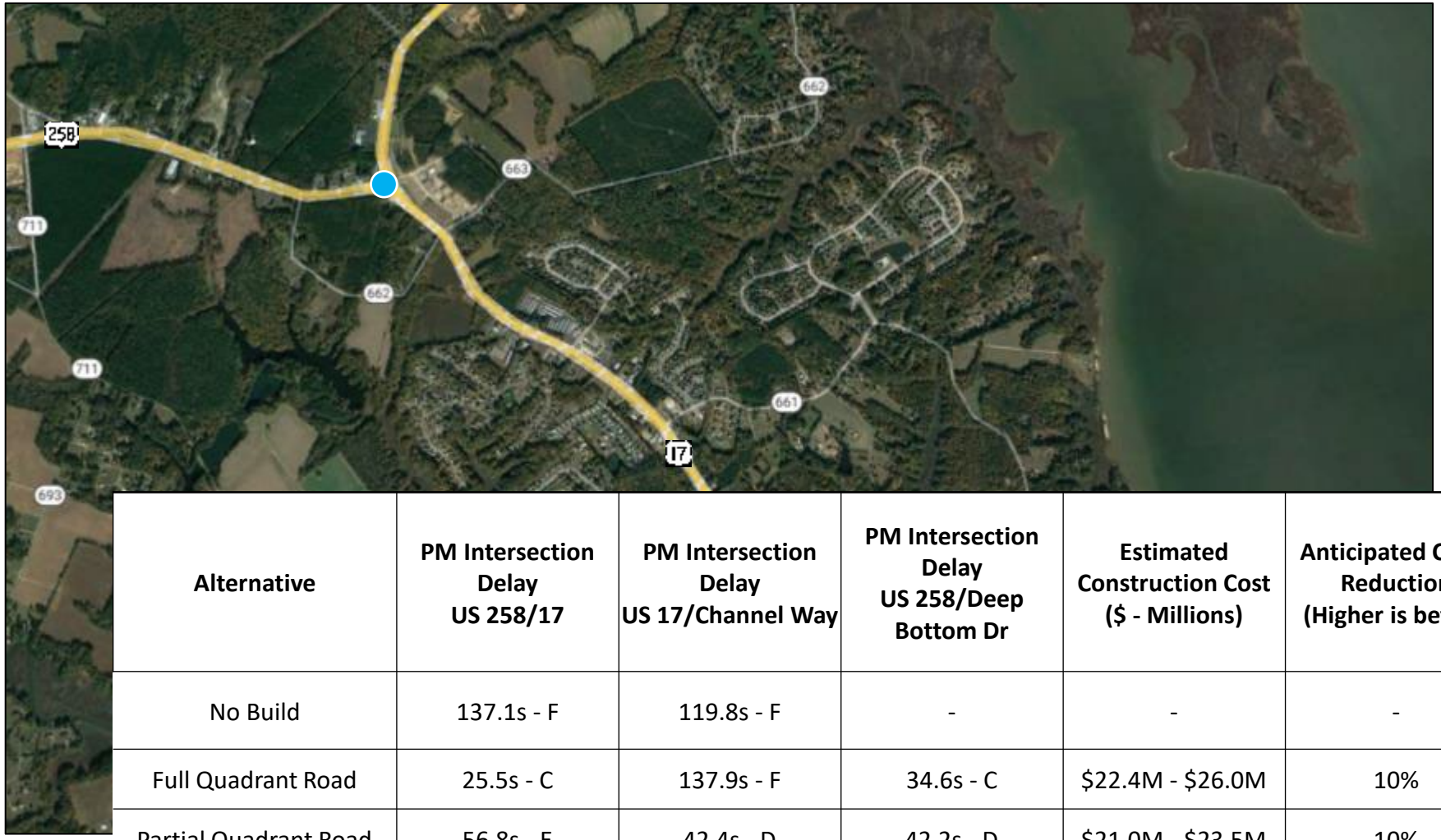
# Partial Quadrant Roadway



# Partial Displaced Left-turn



# US 17 and US 258



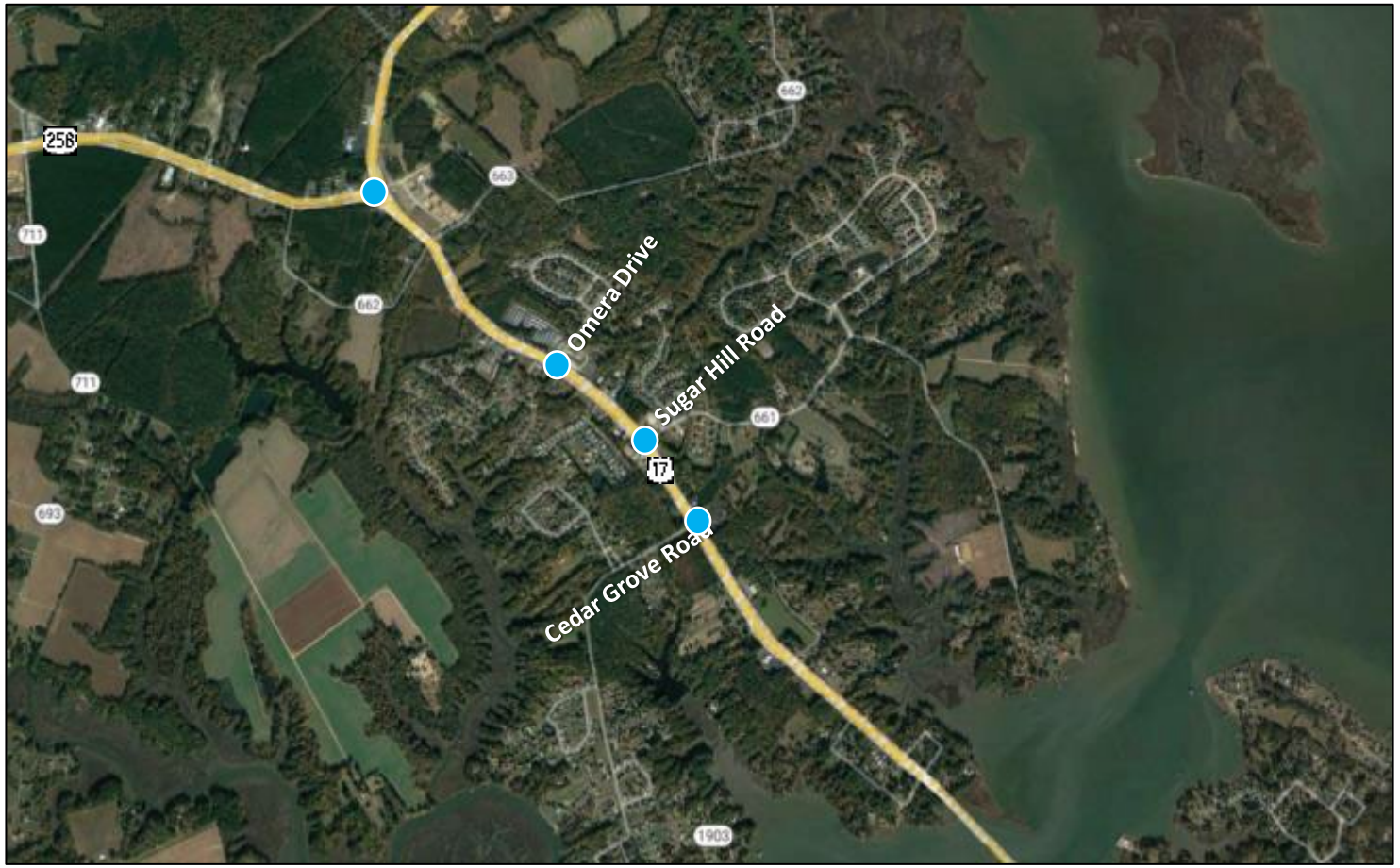

| Alternative | PM Intersection Delay US 258/17 | PM Intersection Delay US 17/Channel Way | PM Intersection Delay US 258/Deep Bottom Dr | Estimated Construction Cost ($ - Millions) | Anticipated Crash Reduction (Higher is better) | Potential Right-of-way Impacts |
|---|---|---|---|---|---|---|
| No Build | 137.1s - F | 119.8s - F | - | - | - | - |
| Full Quadrant Road | 25.5s - C | 137.9s - F | 34.6s - C | $22.4M - $26.0M | 10% | 15 Acres to 24 Acres |
| Partial Quadrant Road | 56.8s - E | 42.4s - D | 42.2s - D | $21.0M - $23.5M | 10% | 15 Acres to 20 Acres |
| Partial DLT - NB Lefts Relocated | 78.9s - E | 38.7s - D | - | $15.0M - $20.0M | 20% | 5 Acres to 9 Acres |

# US 17 and US 258 Survey Results

| Alternative | Average Rating |
|---|---|
| No Improvement | 1.80 |
| Full Quadrant Roadway | 2.50 |
| Partial Quadrant Roadway | 2.94 |
| Partial Displaced Left-tun | 3.21 |

- No Improvement – no changes to existing intersection outside of funded improvements.
- Full Quadrant Roadway – Redirect all left-turns from US 258 and US 17 through an upgraded Deep Bottom Drive.
- Partial Quadrant Roadway – Redirect the US 17 left-turns from US 258 and US 17 through an upgraded Deep Bottom Drive.
- Partial Displaced Left-turn – Redirect the US 17 northbound left-turns from US 258 and US 17 through a displaced roadway.

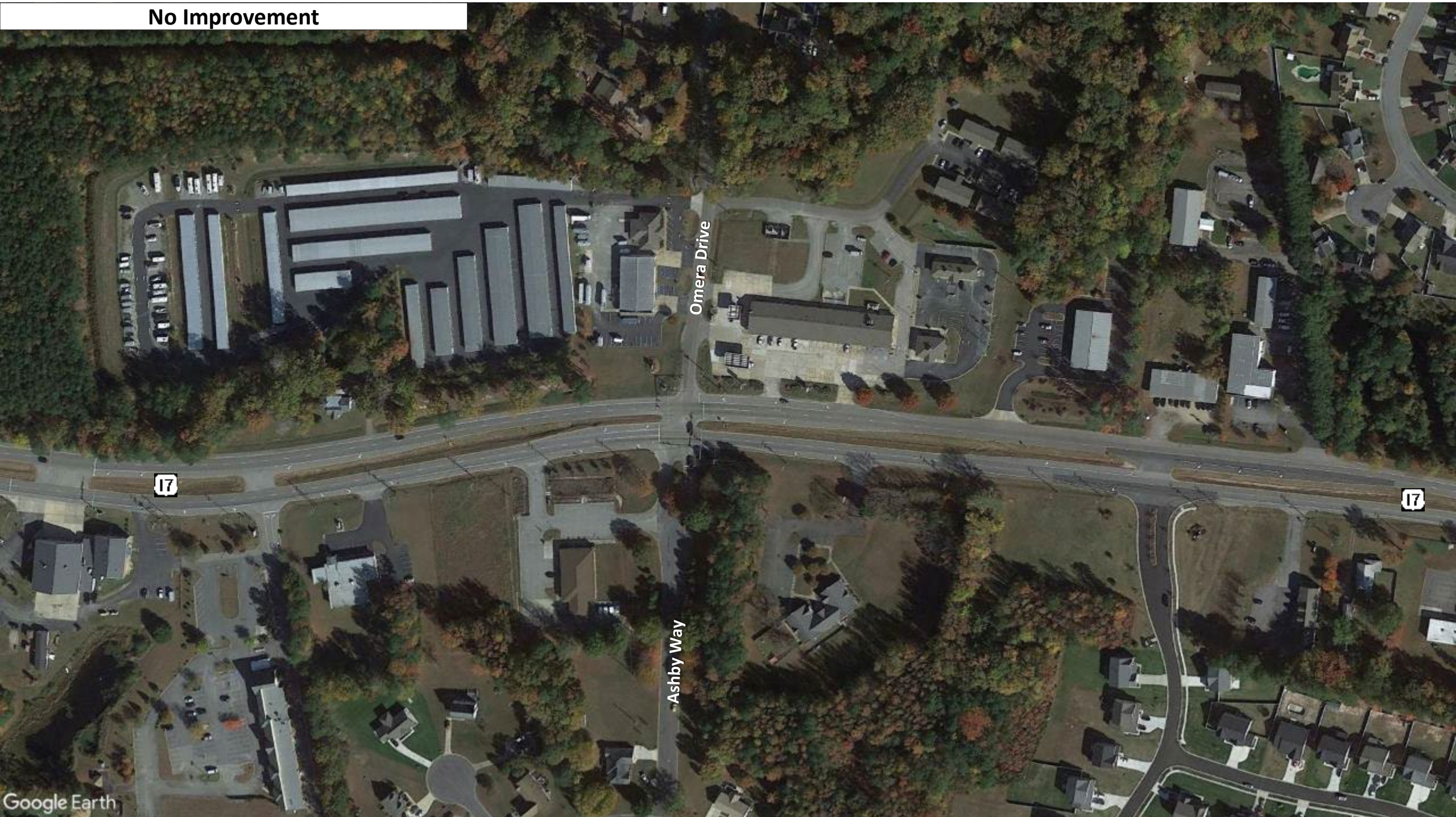
# Route 17 Arterial Preservation Plan --Overview




- US 17 & 258
- **US 17 & Omera Dr**
- US 17 & Sugar Hill Rd
- US 17 & Cedar Grove Rd

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**No Improvement**



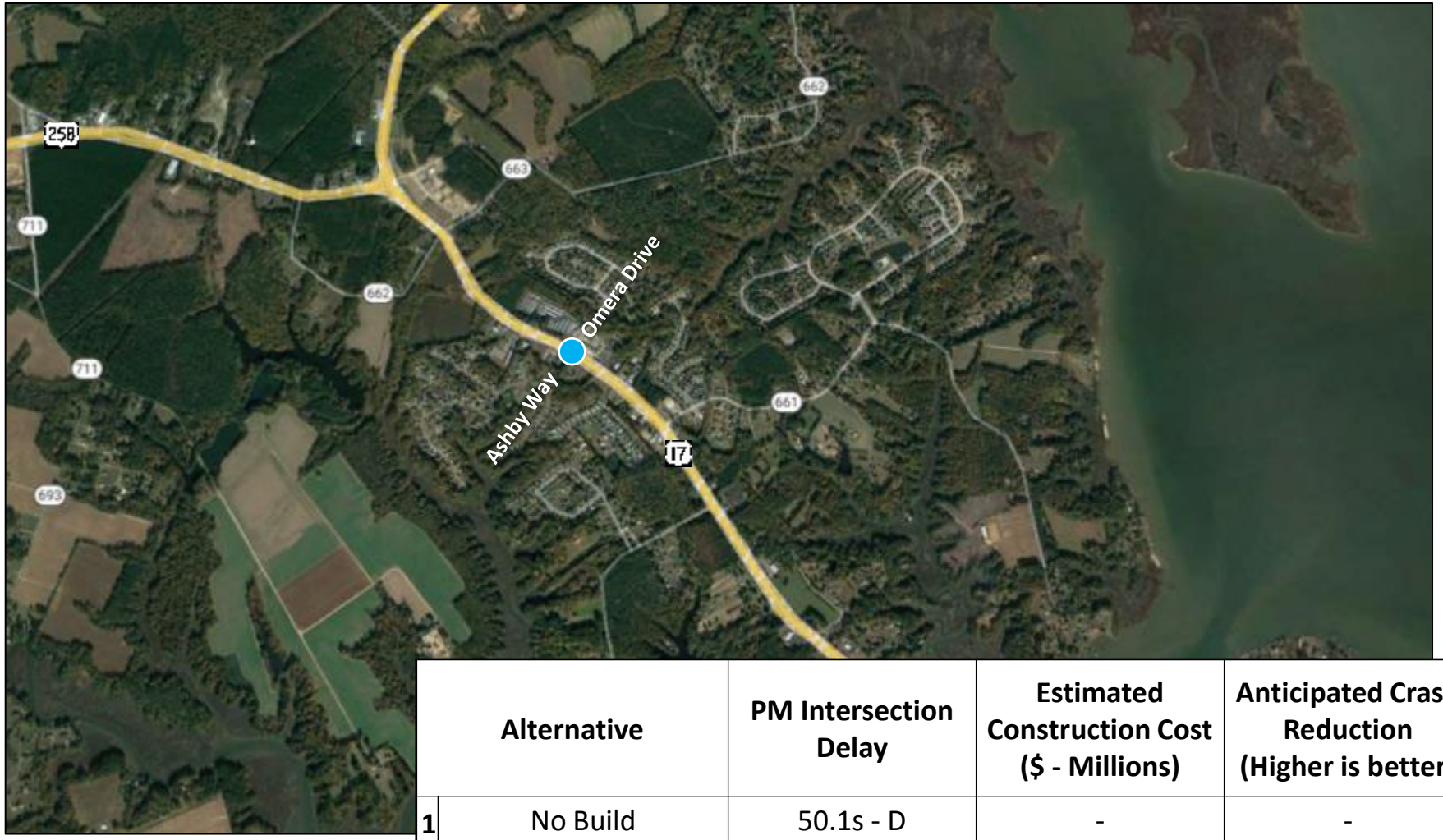
# Restricted Crossing U-turn



# Thru-Cut


17
Additional pavement or "Loons" for vehicles that require additional space to make a U-turn.
Omera Drive
Ashby Way
17
Additional pavement or "Loons" for vehicles that require additional space to make a U-turn.
Relocated Ashby Way through movements
Relocated Omera Drive through movements

# US 17 and Omera Dr/Ashby Way



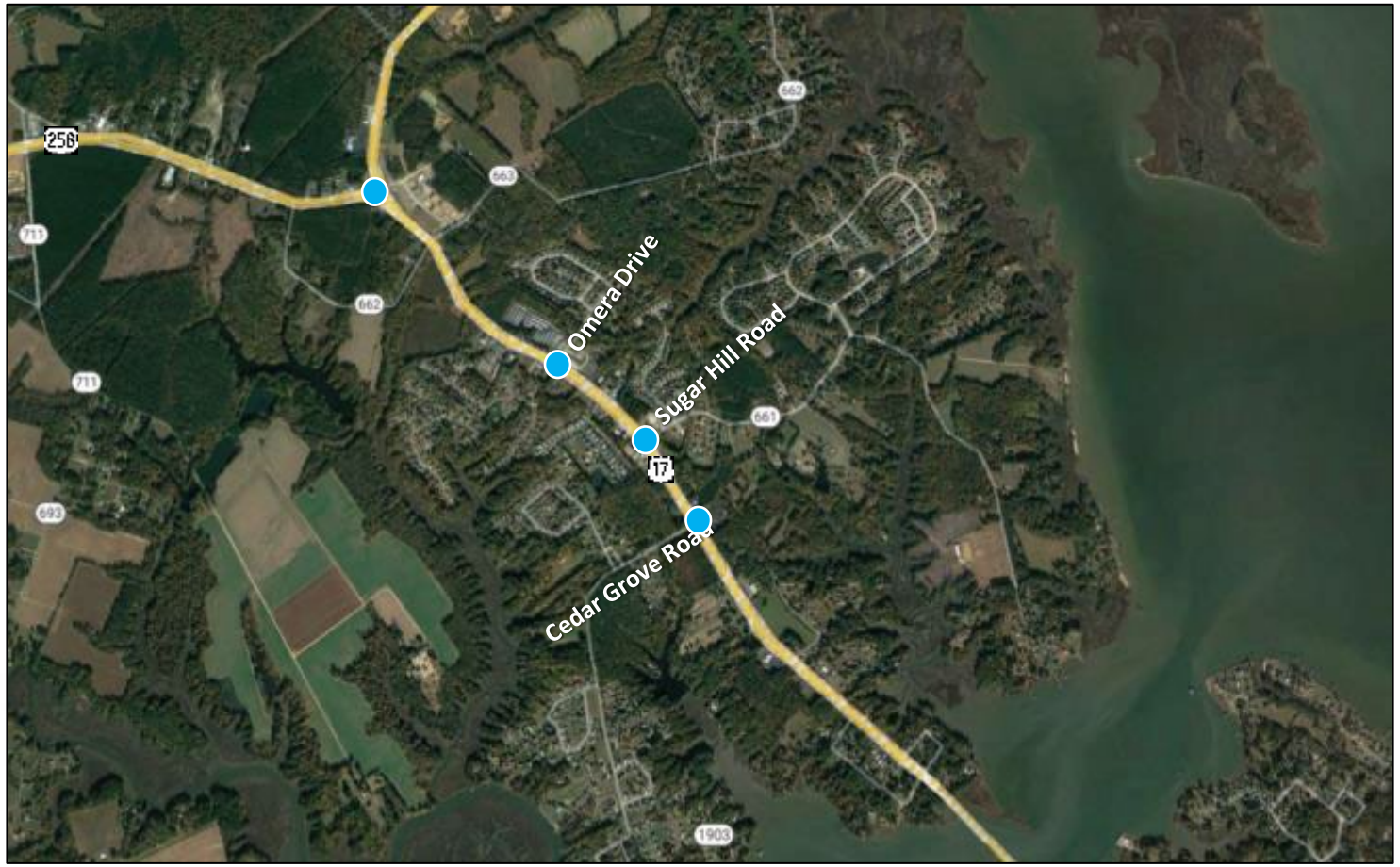

| | Alternative | PM Intersection Delay | Estimated Construction Cost ($ - Millions) | Anticipated Crash Reduction (Higher is better) | Potential Right-of-way Impacts |
|---|---|---|---|---|---|
| 1 | No Build | 50.1s - D | - | - | - |
| 2 | RCUT | 26.2s - C | $2.1M - $3.7M | 35% | <5,000 Sq. Ft |
| 2 | Thru-Cut | 21.0s - C | $1.5M - $2.7M | 10% | <5,000 Sq. Ft |

# US 17 and Omera Dr/Ashby Way Survey Results

| Alternative | Average Rating |
|---|---|
| No Improvement | 2.03 |
| Restricted Crossing U-Turn | 2.91 |
| Thru-Cut | 2.94 |

- No Improvement – no changes to existing intersection.
- Restricted Crossing U-turn – Redirect all left and through movements from Ashby Way and Omera Drive through areas north and south of the intersection.
- Thru-Cut – Redirect through movements from Ashby Way and Omera Drive through areas north and south of the intersection.

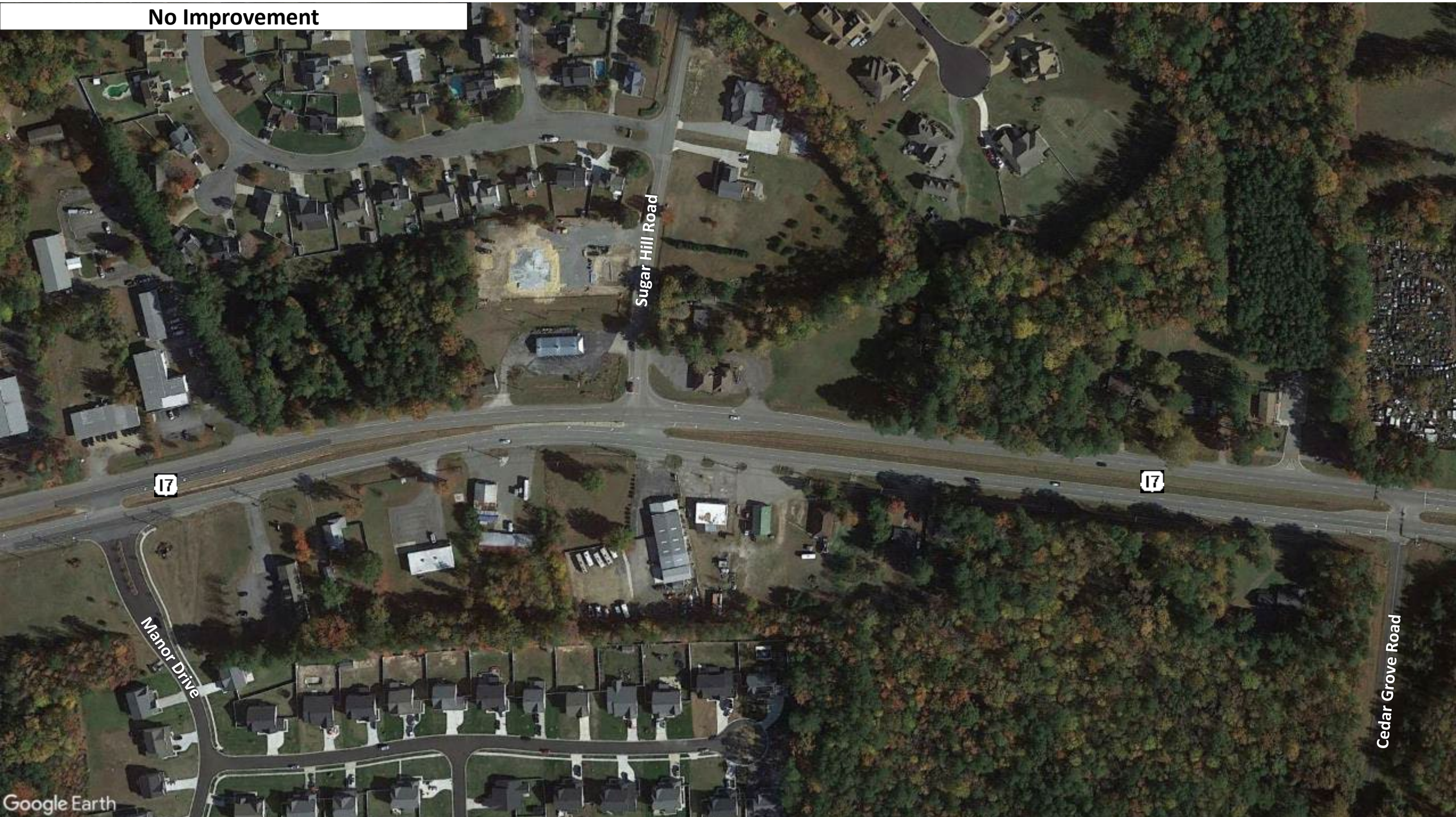
# Route 17 Arterial Preservation Plan --Overview




- US 17 & 258
- US 17 & Omera Dr
- **US 17 & Sugar Hill Rd**
- US 17 & Cedar Grove Rd

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**No Improvement**



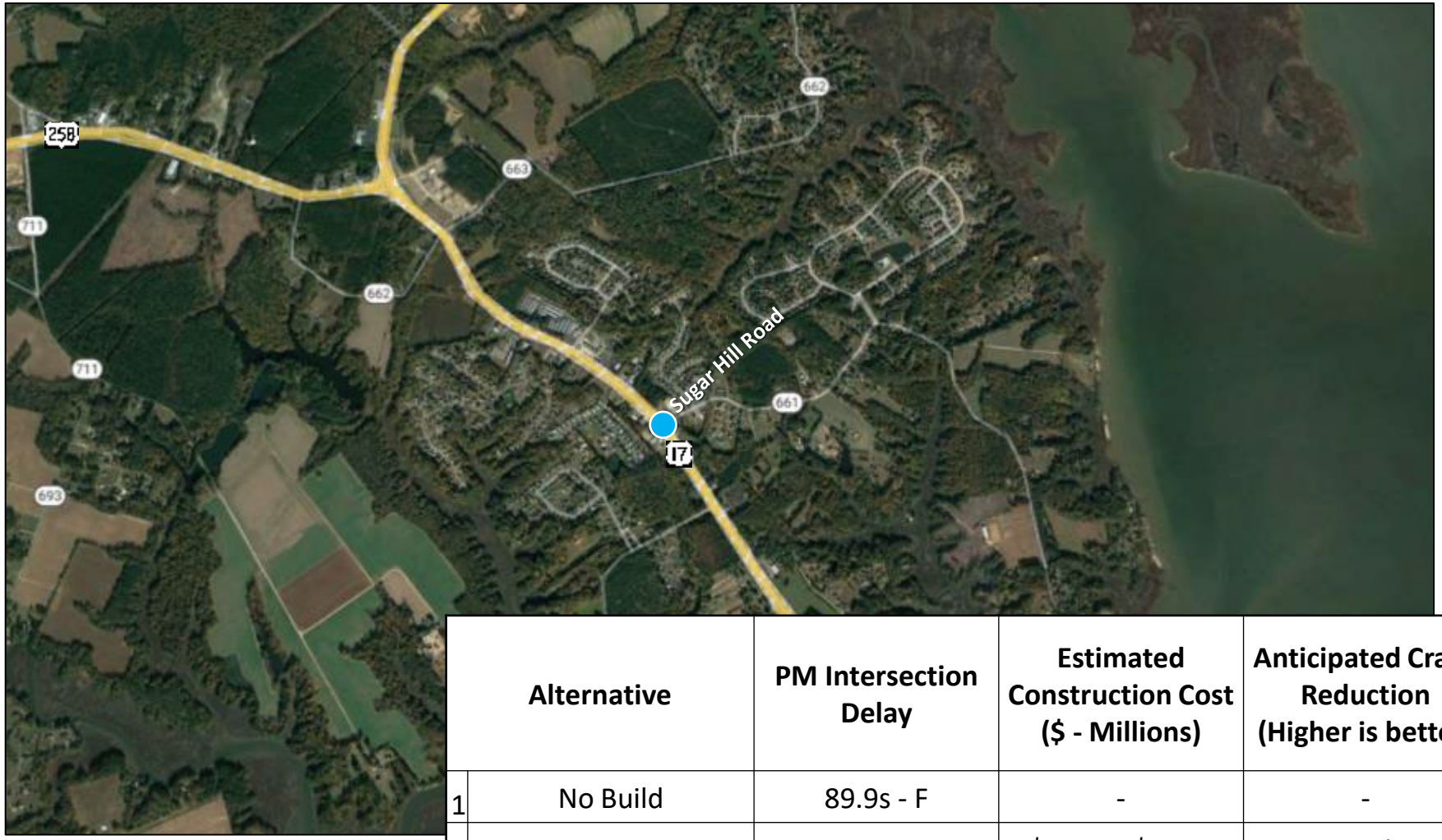
# Restricted Crossing U-turn



# Turbo-T


Sugar Hill Road
17
17
No conflicts with left-turning Sugar Hill Road vehicles and Route 17 south through vehicles
Cedar Grove Road

# US 17 and Sugar Hill Road



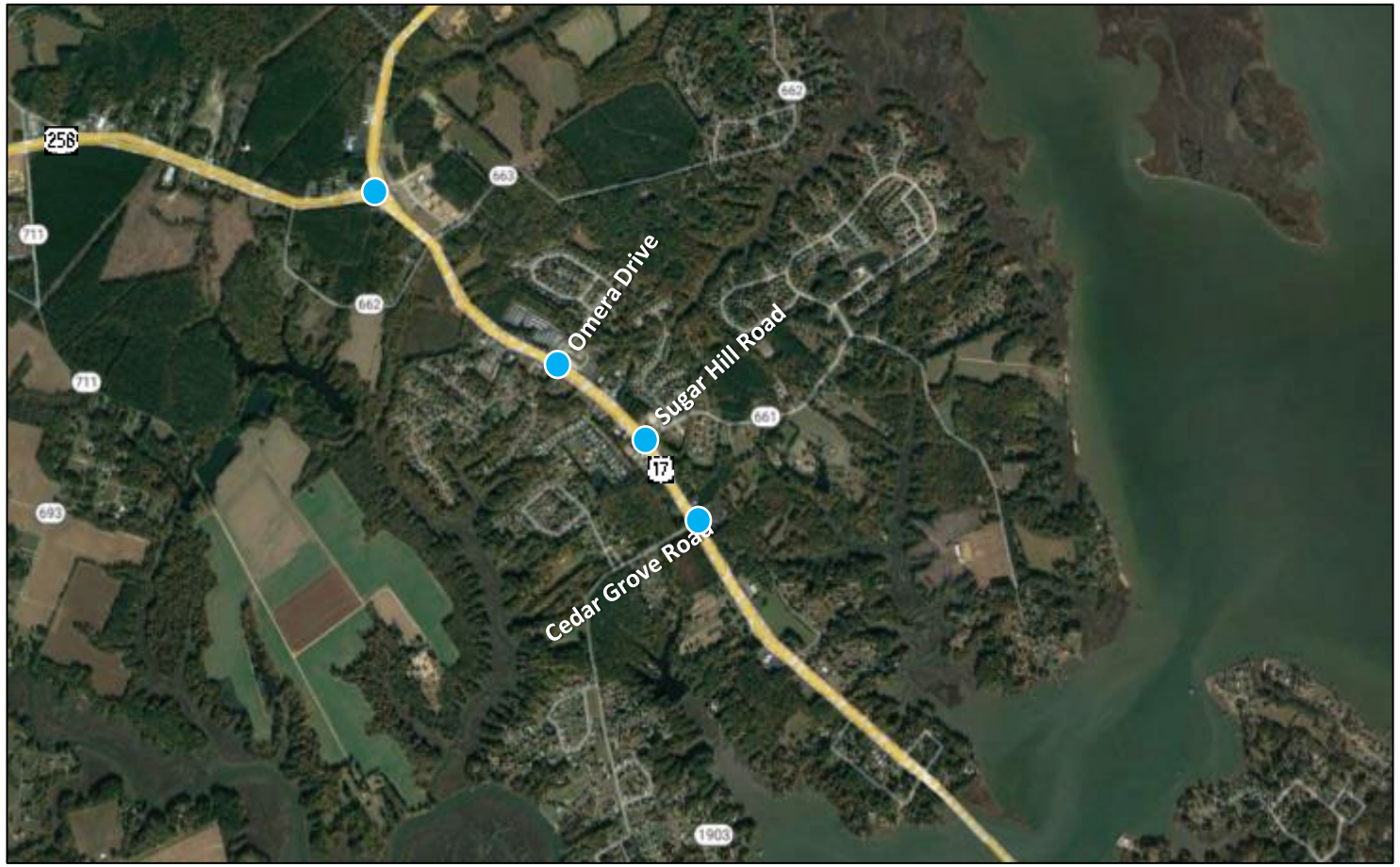

| | Alternative | PM Intersection Delay | Estimated Construction Cost ($ - Millions) | Anticipated Crash Reduction (Higher is better) | Potential Right-of-way Impacts |
|---|---|---|---|---|---|
| 1 | No Build | 89.9s - F | - | - | - |
| 2 | RCUT | 5.0s - A | $1.2M - $2.1M | 55% | <5,000 Sq. Ft |
| 3 | Turbo-T | 8.2s - A | $1.6M - $2.6M | 15% | <5,000 Sq. Ft |

# US 17 and Sugar Hill Road Survey Results

| Alternative | Average Rating |
|---|---|
| No Improvement | 1.82 |
| Restricted Crossing U-Turn | 2.77 |
| Turbo-T | 3.58 |

- No Improvement – no changes to existing intersection.
- Restricted Crossing U-turn – Redirect all left and through movements from Sugar Hill Road and driveway through areas north and south of the intersection.
- Turbo-T – Provide an acceleration lane for left-turn vehicles from Sugar Hill Road to merge onto US 17 southbound.

# Route 17 Arterial Preservation Plan --Overview



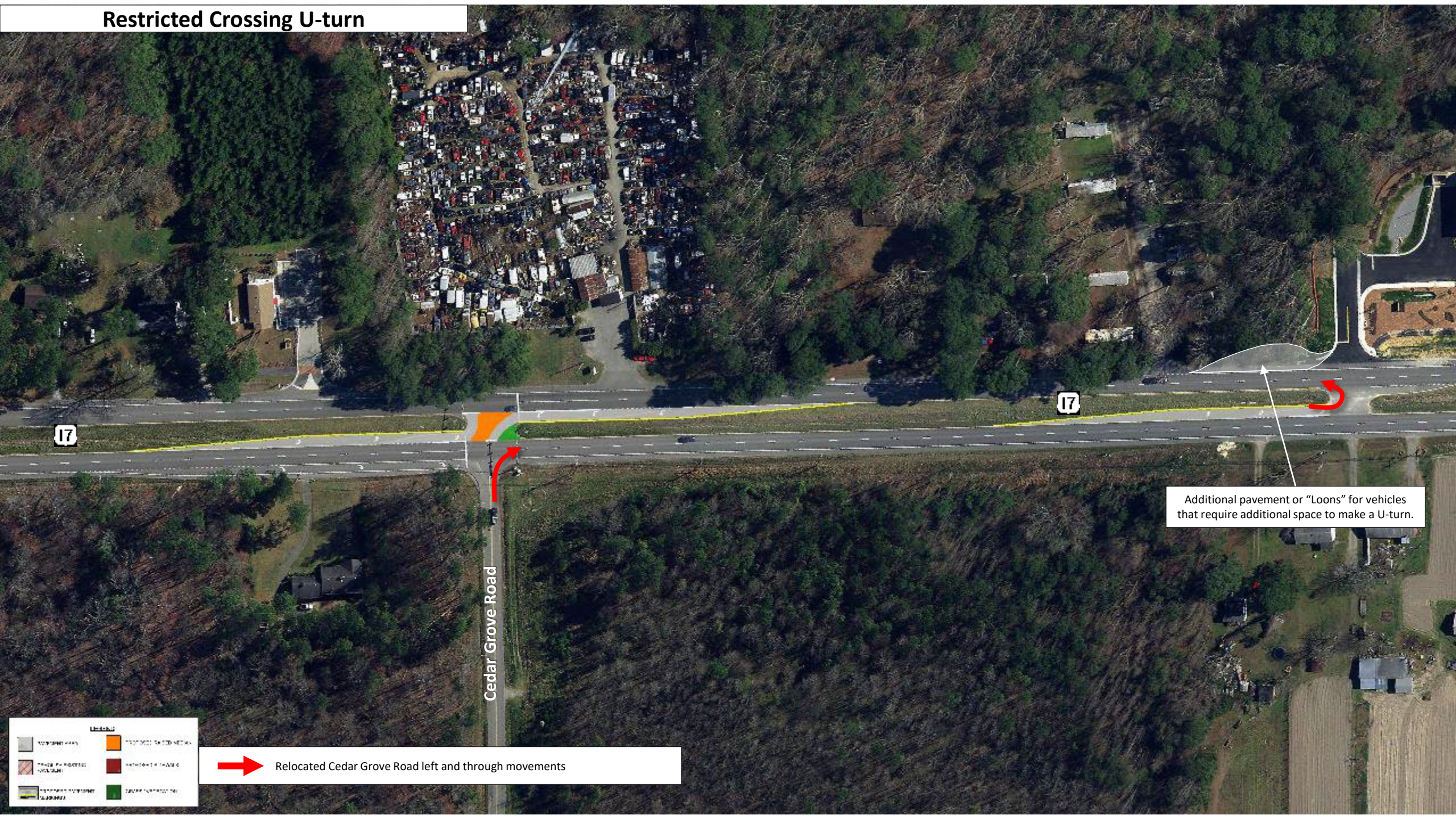

- US 17 & 258
- US 17 & Omera Dr
- US 17 & Sugar Hill Rd
- **US 17 & Cedar Grove Rd**

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**No Improvement**



# Restricted Crossing U-turn



# Turbo-T


Sugar Hill Road
17
17
Cedar Grove Road
• Route 17 north has continuous “Green” signal indication
• No conflicts with left-turning Cedar Grove Road vehicles and Route 17 north through vehicles

# US 17 and Cedar Grove Road




| | Alternative | PM Intersection Delay | Estimated Construction Cost ($ - Millions) | Anticipated Crash Reduction (Higher is better) | Potential Right-of-way Impacts |
|---|---|---|---|---|---|
| 1 | No Build | 17.3s - B | - | - | - |
| 2 | RCUT | 7.6s - A | $1.2M - $2.1M | 35% | 3,000 to 8,000 Sq. Ft. |
| 2 | Turbo-T | 13.5s - B | $1.6M - $2.6M | 15% | 3,000 to 8,000 Sq. Ft. |

# US 17 and Cedar Grove Road Survey Results

| Alternative | Average Rating |
|---|---|
| No Improvement | 1.98 |
| Restricted Crossing U-Turn | 3.01 |
| Turbo-T | 3.08 |

- No Improvement – no changes to existing intersection.
- Restricted Crossing U-turn – Redirect all left-turns from Cedar Grove Road through an area south of the intersection.
- Turbo-T – Provide an acceleration lane for left-turning vehicles from Cedar Grove Road to merge onto US 17 northbound.

# Alternative Intersection Resources

- VDOT YouTube Restricted Crossing U-Turn (RCUT) Video
  https://www.youtube.com/watch?v=g1SA1mAXmfk
- VDOT YouTube Continue Green T (CGT) Video
  https://www.youtube.com/watch?v=Tp9cXTApg1o
- VDOT YouTube Displaced Left Turn (DLT) Video
  https://www.youtube.com/watch?v=H1ZtO9cwmyY&t=12s
- VDOT YouTube Quadrant Roadway Video
  https://www.youtube.com/watch?v=eJwYLr88WsA

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# *Questions*

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