

I-264/Independence Blvd Interchange Improvements City Council Briefing May 21, 2024

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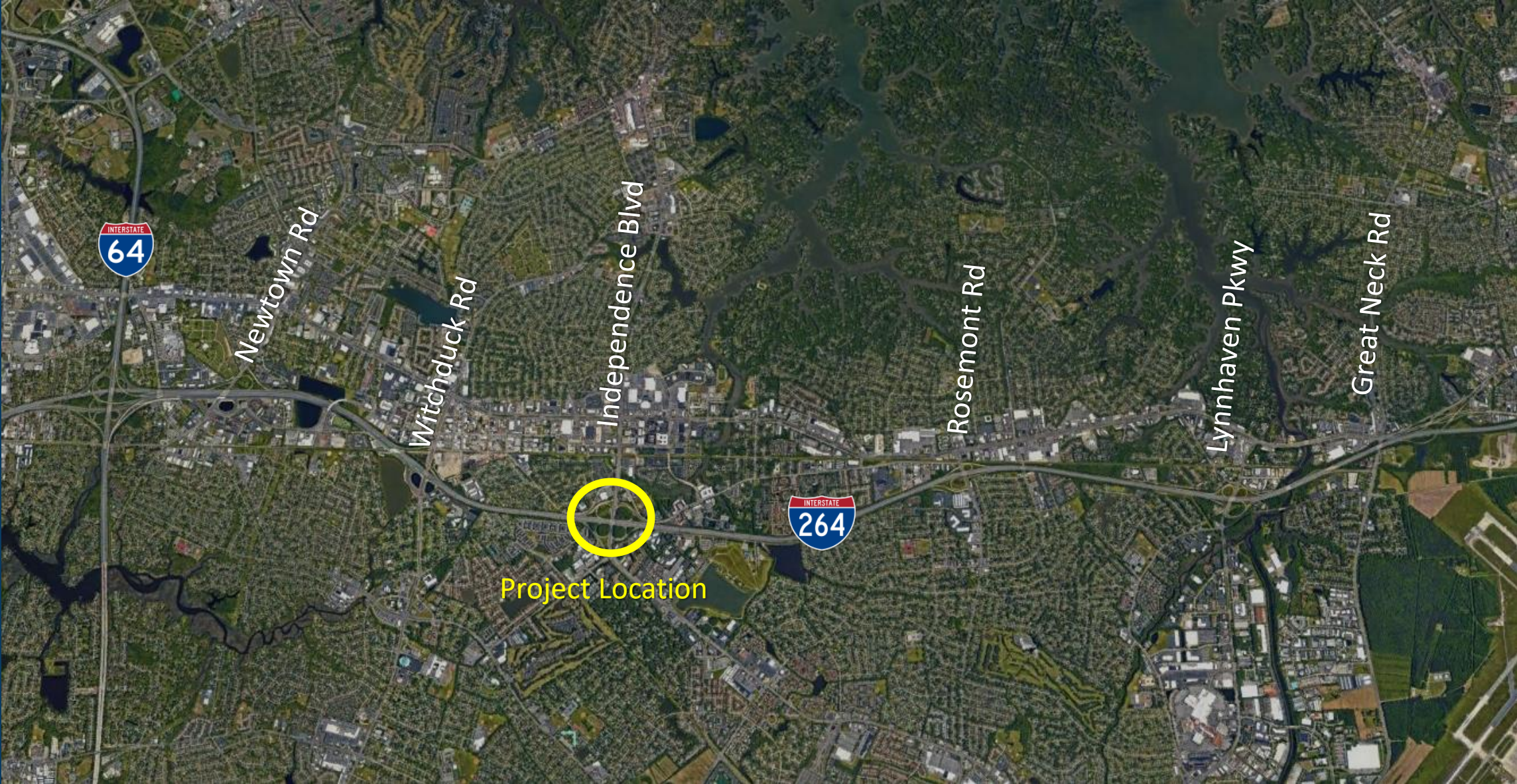
CITY OF
**VIRGINIA
BEACH**

Agenda

- Project Location & History
- Project Purpose and Need
- Previous Studies
 - Preferred Alternative
- VDOT STARS Program
- VDOT STARS Project
 - Alternatives Comparison
- Looking Ahead



Project Location



Project History

Virginia Beach Norfolk Expressway

- Opened Dec 1, 1967
- 12.1mi controlled access roadway
- Construction cost: \$34M
- Tolls removed Jun 1, 1995
- VA-44 was formally changed to I-264 in July 1999



Virginia Beach - Norfolk Expressway NOV 19 1970

A toll facility constructed and operated by the Virginia Department of Highways

TOLL SCHEDULE

VEHICLE*	MAINLINE TOLL	RAMP TOLL
2-Axle	25¢	10¢
3-Axle	30¢	15¢
4-Axle	40¢	20¢
5-Axle	50¢	25¢

*Includes House

Two axle vehicle with one axle trailer—30¢.

All other combinations—10¢ per axle on Mainline and 5¢ per axle on ramp.

Special or oversize vehicles by permit only.

Patrons pay only one toll—either at the Mainline or at a ramp.

Office Telephone: 340-2730

FEATURES

- Speed limit - 65 mph
- No traffic lights at crossings (controlled access)
- Only one stop in 12 miles
- Divided highway
- Wide medians
- Paved shoulders
- Flat curves
- Convenient service to downtown Virginia Beach from connecting interstate routes servicing Norfolk, Hampton Roads and Portsmouth

This facility is owned by The Division of Toll Facilities P.O. Box 3847 Norfolk 23508, Virginia 23588

Project History

Virginia Beach Norfolk Expressway/
Independence Blvd Exit 3



I-264/Independence Blvd
Exit 17



Purpose and Need

Operational Issues

- Congestion
- Increased travel times

Table 3.1: Existing 2023 Average Daily Traffic

	Location	Average Daily Traffic – Vehicles per Day (vpd)
I-264	West of Witchduck Road	206,000
	Between Witchduck Road and Independence Blvd	199,400
	Between Independence Blvd and Rosemont Road	161,300
	East of Rosemont Road	145,100
Independence Blvd	North of I-264	93,300
	South of I-264	80,700
Witchduck Road	South of I-264	39,300
Rosemont Road	South of I-264	35,400

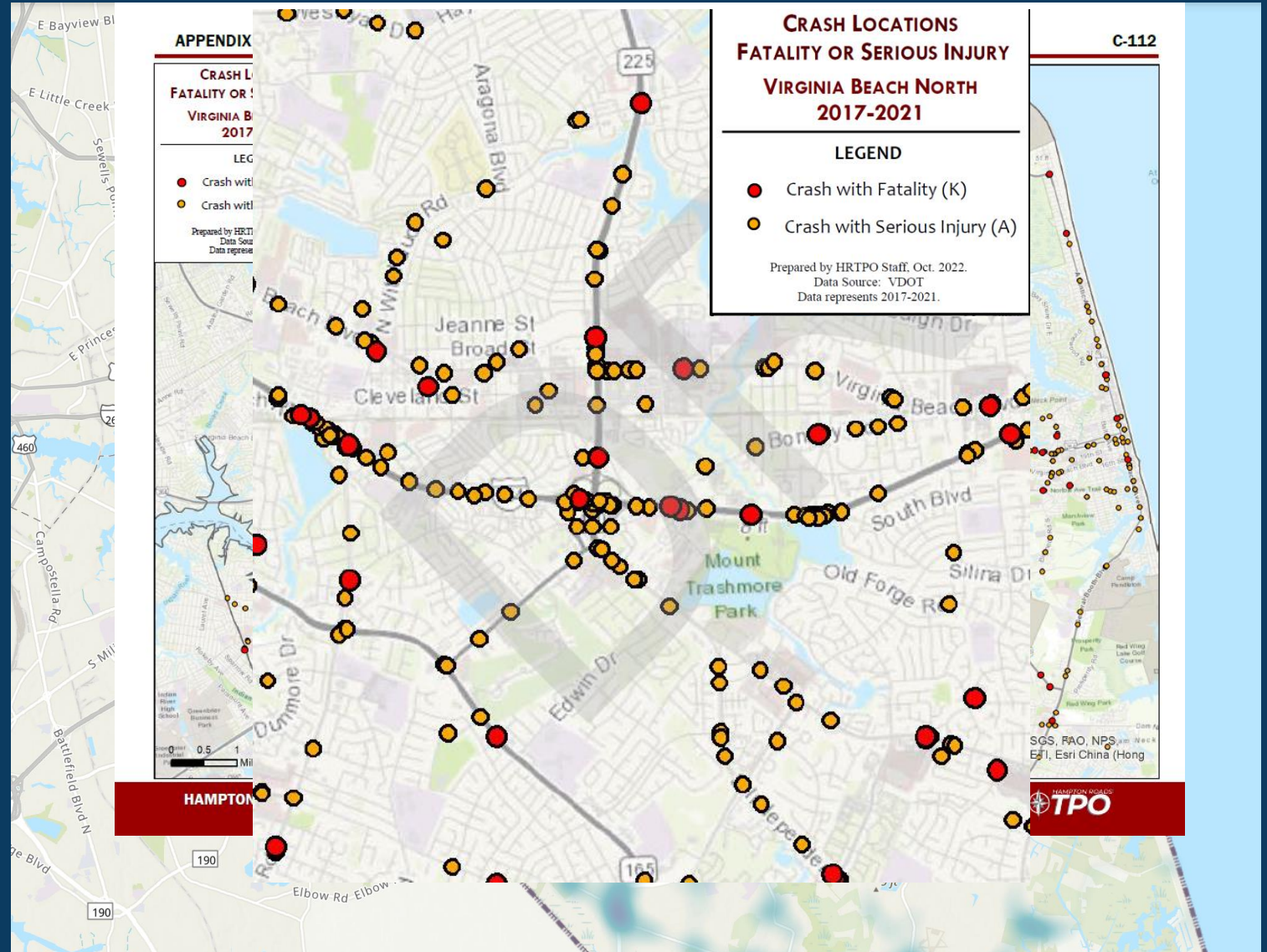
Purpose and Need

Safety

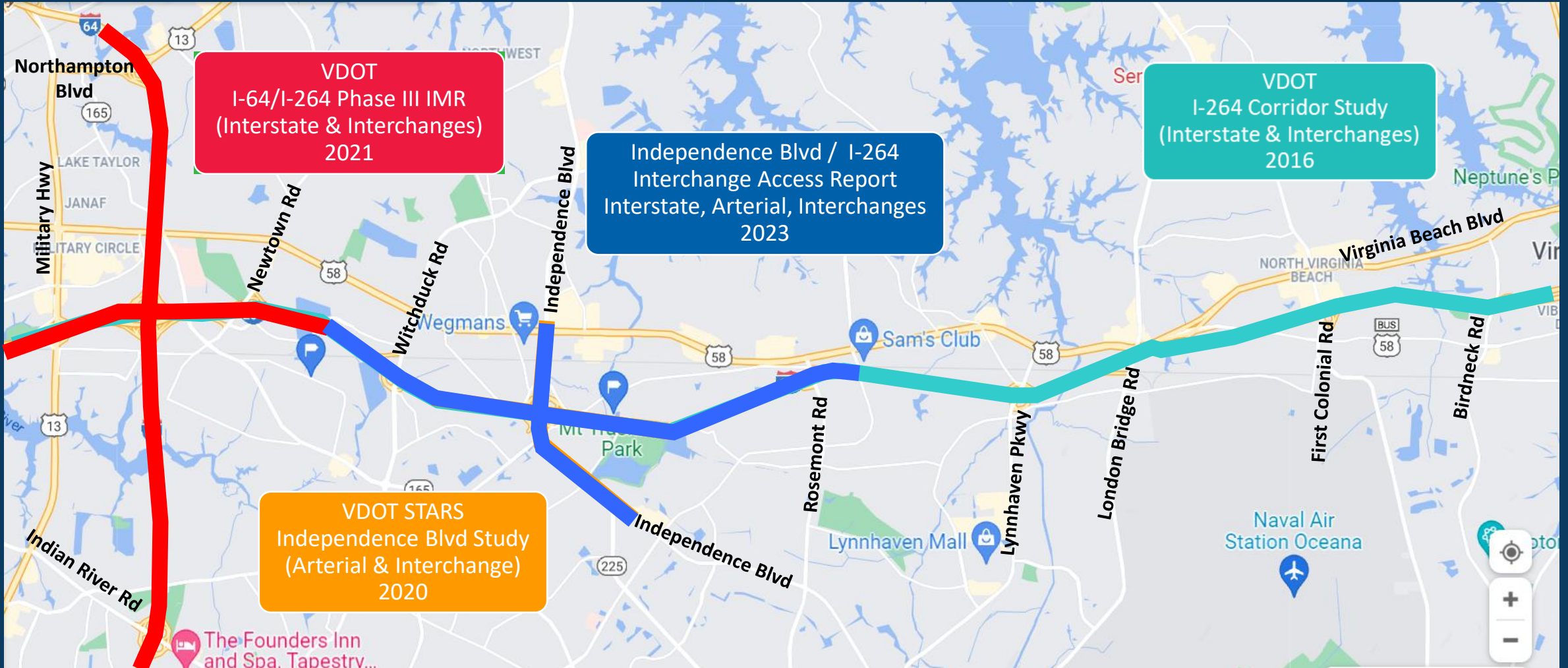
- Geometric deficiencies
- Weaving, transitions, etc

Access Management

- Proximity of driveway and entrance spacing

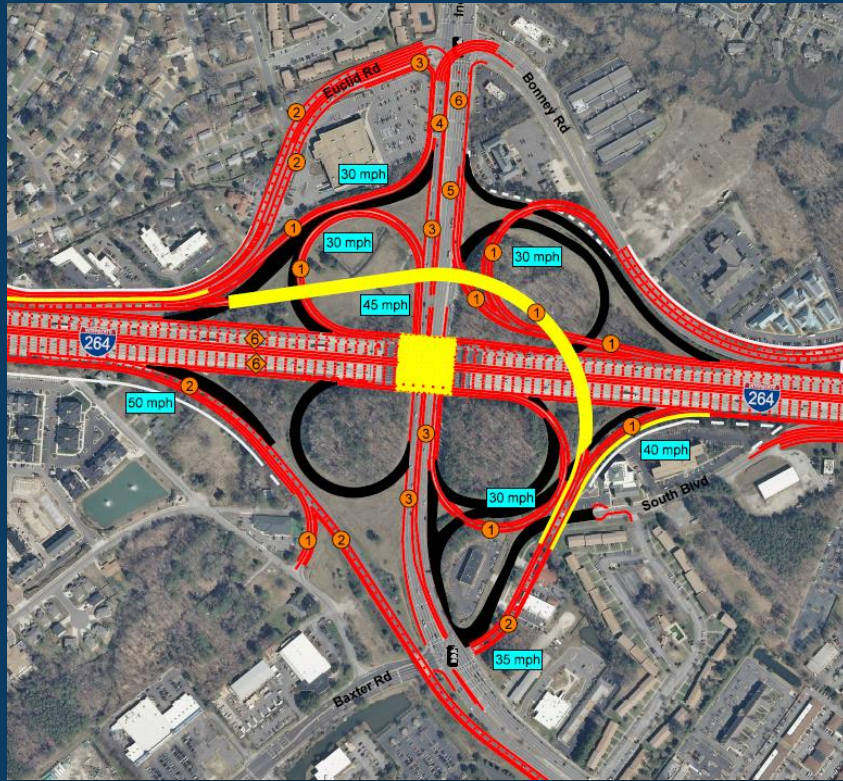


Previous Studies

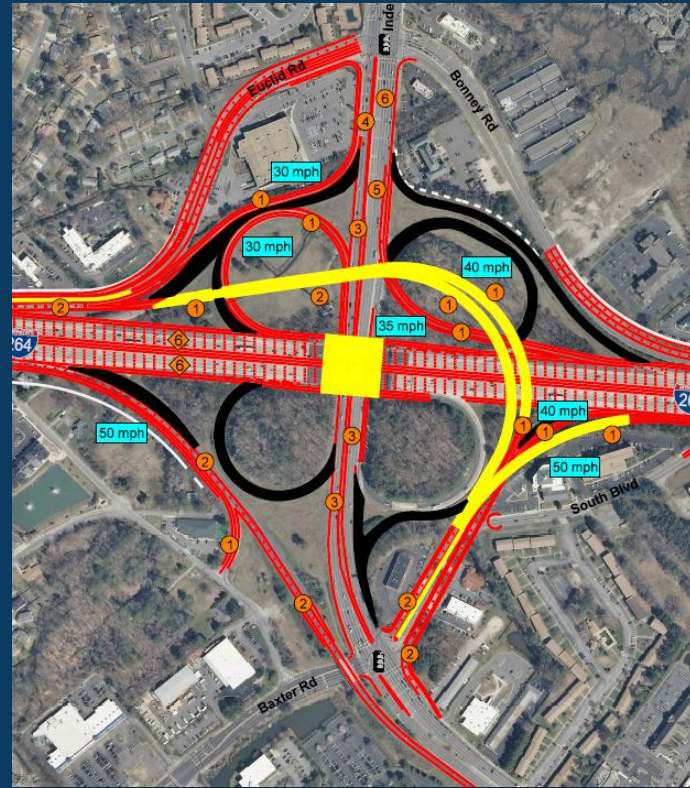


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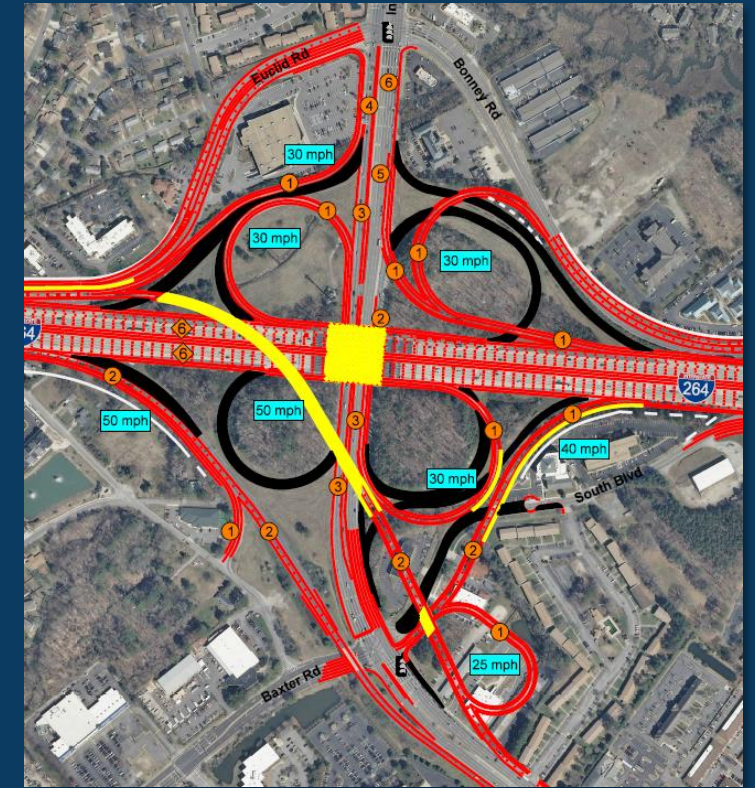
Partial Cloverleaf with Directional Ramps



Partial Cloverleaf with Braided Directional Ramps

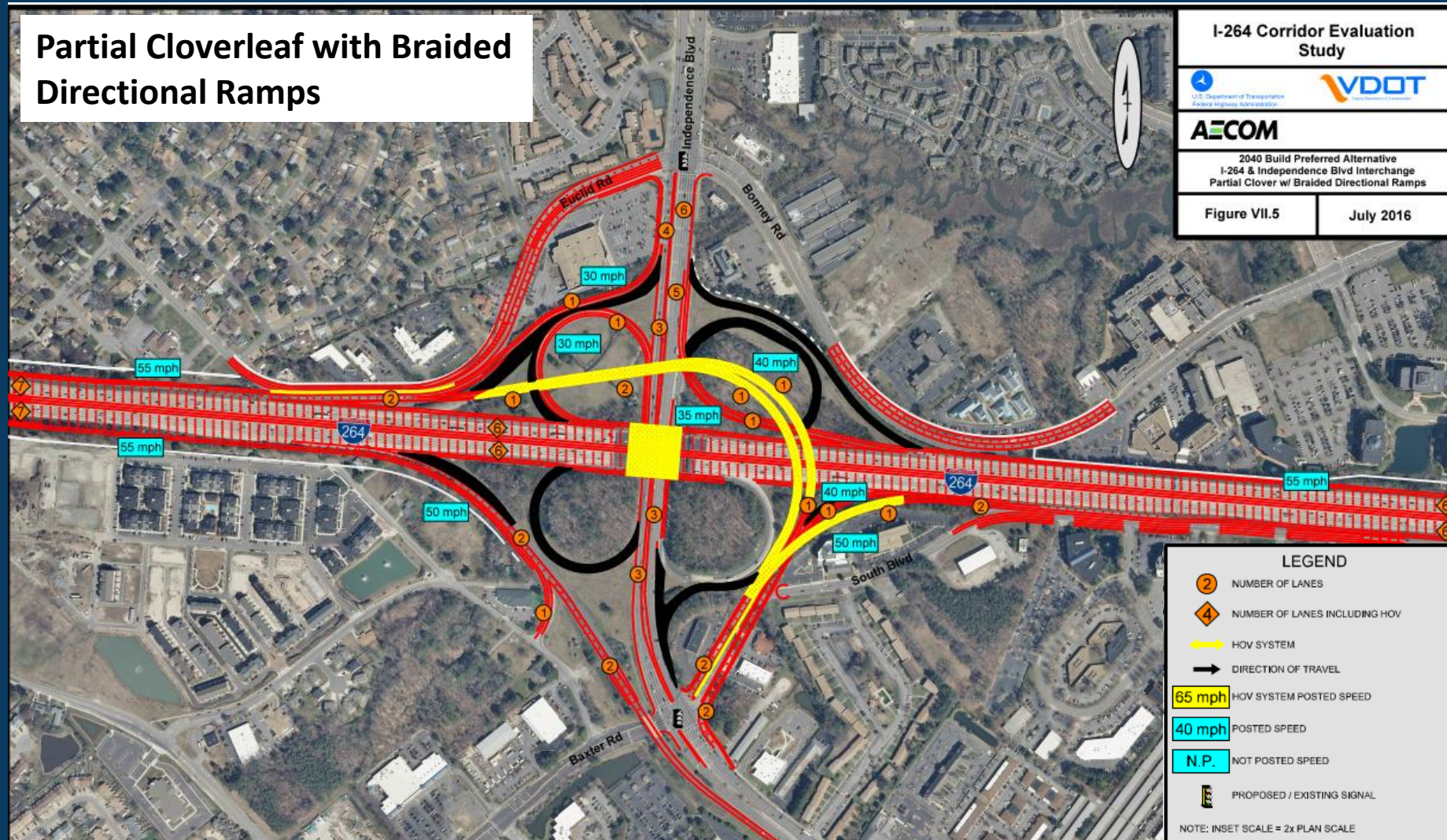


Modified Partial Cloverleaf with Directional Ramps



Recommended Preferred Alternative

I-264 Corridor Evaluation Study (VDOT July 2016)



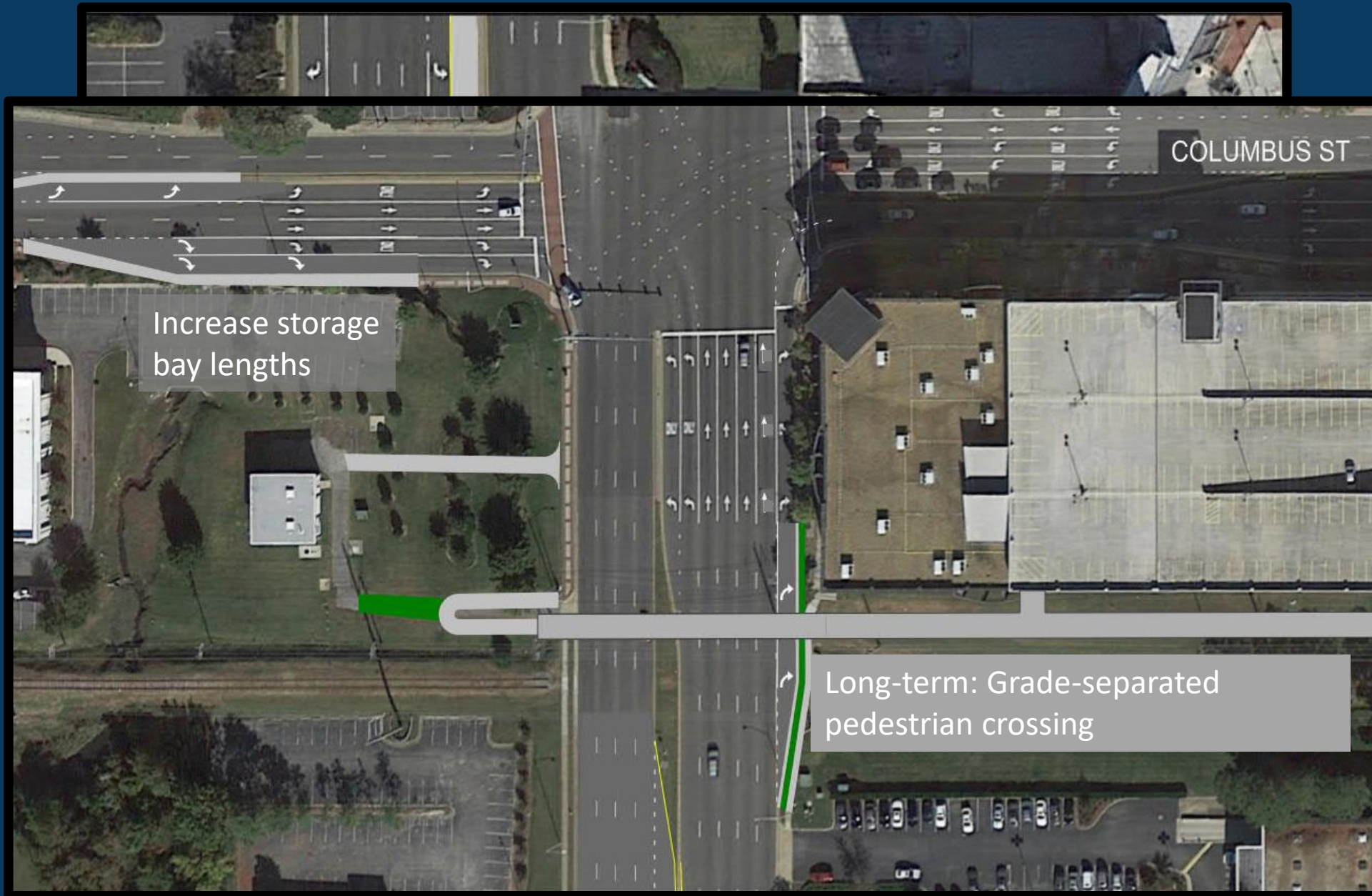
What is the VDOT STARS program?

Strategically Targeted Affordable Roadway Solutions

- Projects to address safety and congestion issues
- Goal is to develop affordable solutions that can be programmed in the VDOT Six-Year Improvement Program (SYIP)
- Increased emphasis on innovative intersection designs
- Priority for applications that contribute local money to the STARS application (CVB contributed \$250K)

VDOT STARS PROJECT

- Evaluated 3 Long-term (2042) Alternatives
 - Does not include I-264 widening or replacing I-264 bridge over Independence Blvd
 - Improvements at all intersections
 - Columbus St (Preferred is moving forward)
 - Bonney Rd
 - I-264 Interchange
 - Baxter Rd
 - Edwin Dr (Preferred is moving forward)
- (Alternatives to discuss)

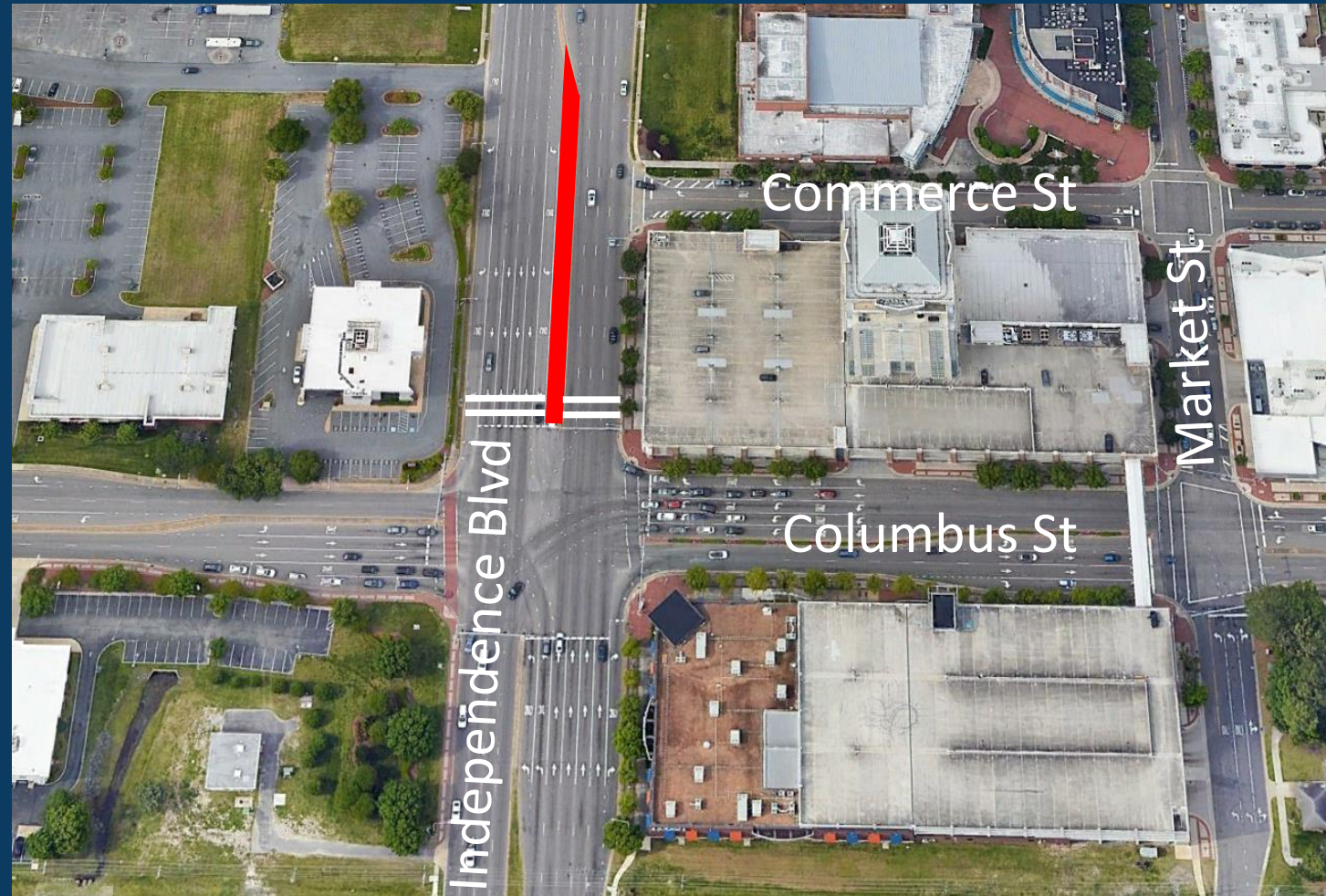


COLUMBUS STREET

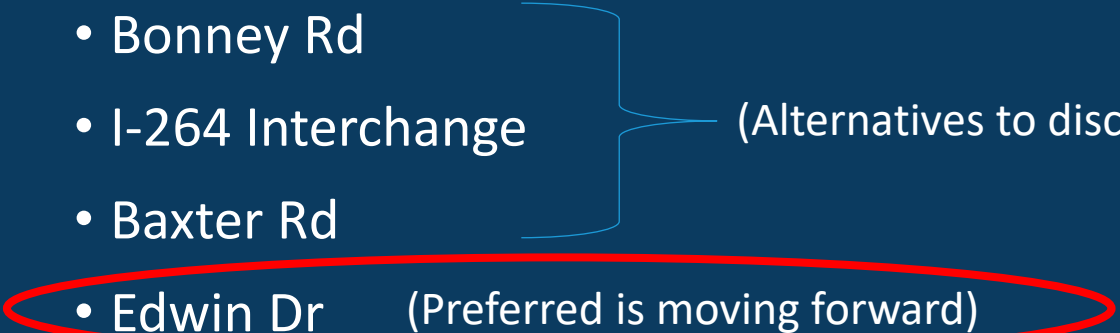
{ Note: Green coloring reflects grass area and/or removal of pavement }

INDEPENDENCE BLVD/COLUMBUS ST PEDESTRIAN IMPROVEMENTS (100554)

- At grade pedestrian crossing at Columbus Street/Independence Blvd intersection including median pedestrian refuge across Independence Blvd
- Removal of one of the two southbound left turn lanes on Independence Blvd to accommodate pedestrian refuge
- Includes pedestrian signalization
- Awarded \$352K of FY21 TAP Funds
- Total Project Cost: \$562K
- Construction Began: April 2024
- Construction Complete: Aug 2024



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- 

INDEPENDENCE BLVD/EDWIN DRIVE INTERSECTION (100428)

- Component of overall I-264/ Independence Blvd Interchange Study
- Innovative Intersection Design
- Median U-turns on Independence Blvd
- Works with Holland Road Phase I and Phase II Improvements to reduce congestion
- Includes bike & pedestrian improvements
- Total Project Cost \$18.1M
- Design Start: Fall 2025



VDOT STARS PROJECT

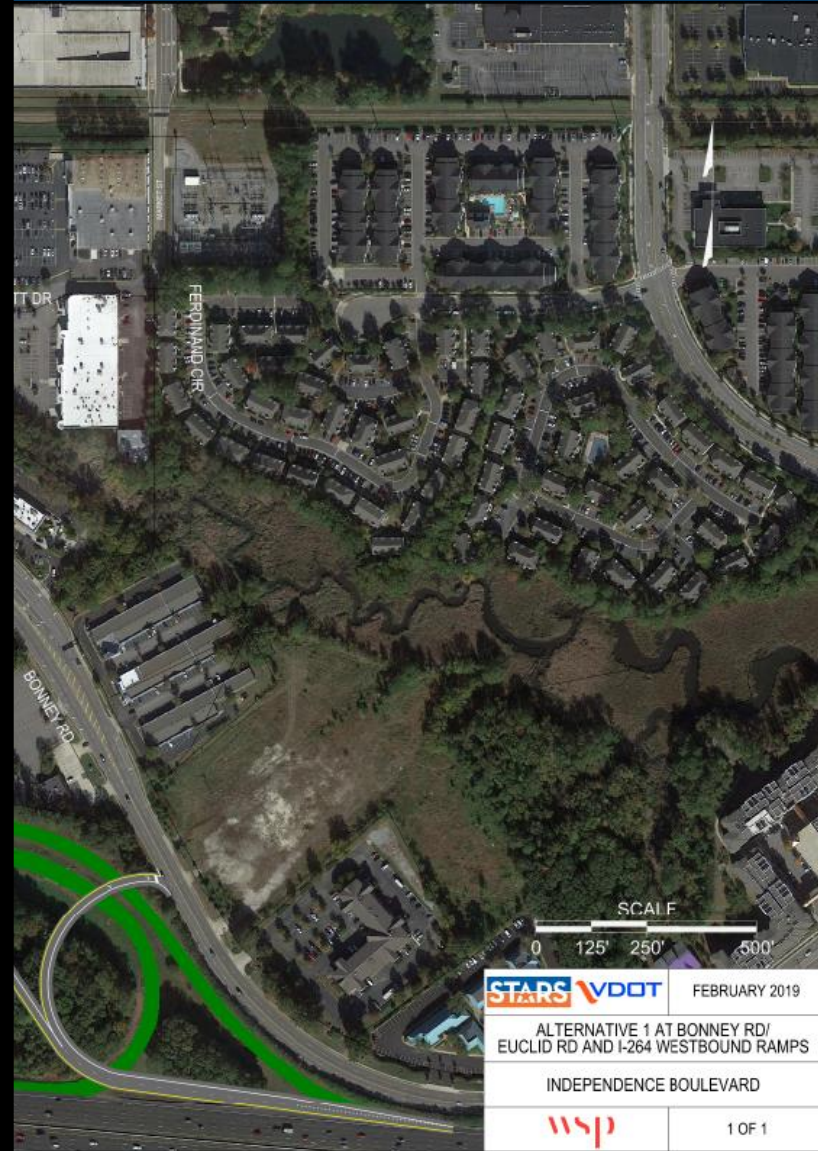
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- 

Alternative 1

- Long-term
- At-Grade Improvements (included with each alternative)
 - Median U-turns (Michigan Lefts) at Edwin Dr
 - Pedestrian Bridge crossing at Columbus St
- Interchange (see figure):
 - Widen Independence southbound underpass similar to northbound
 - Remove two loops to remove weaving
 - Replace with signals on Independence for left turns to ramps

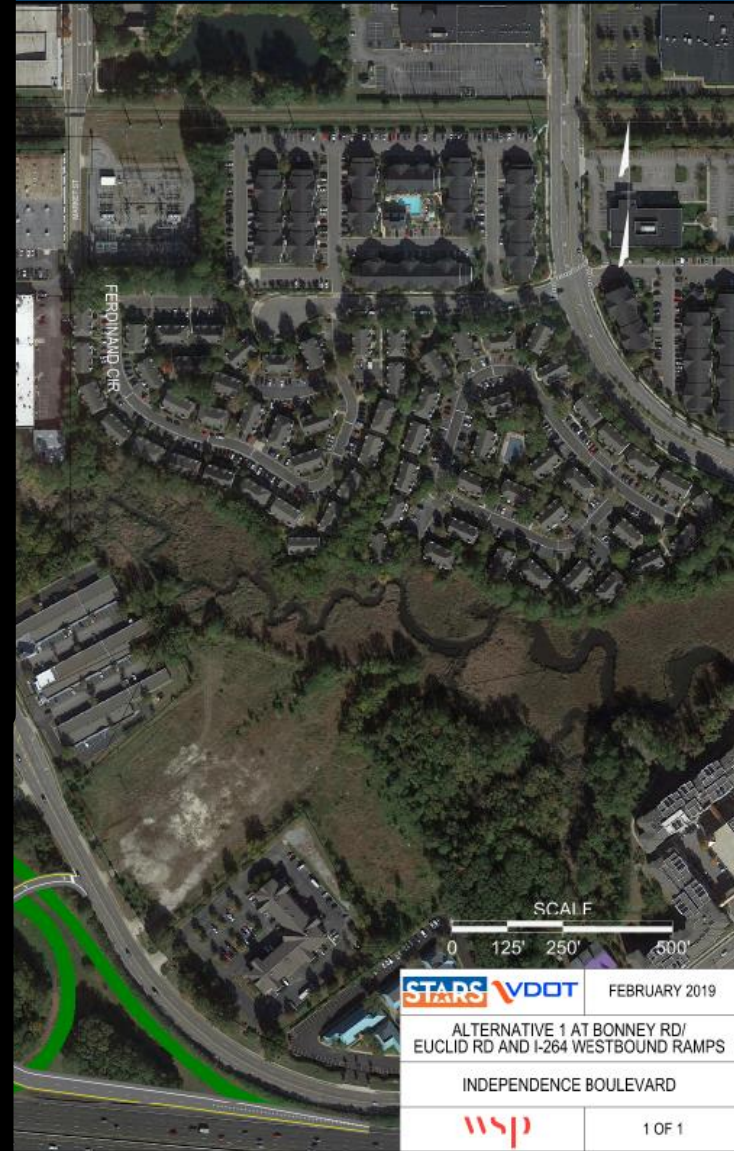
ALTERNATIVE 1

Median U-turns –
relocate NB and SB left
turns on Independence
Blvd at Bonney Rd



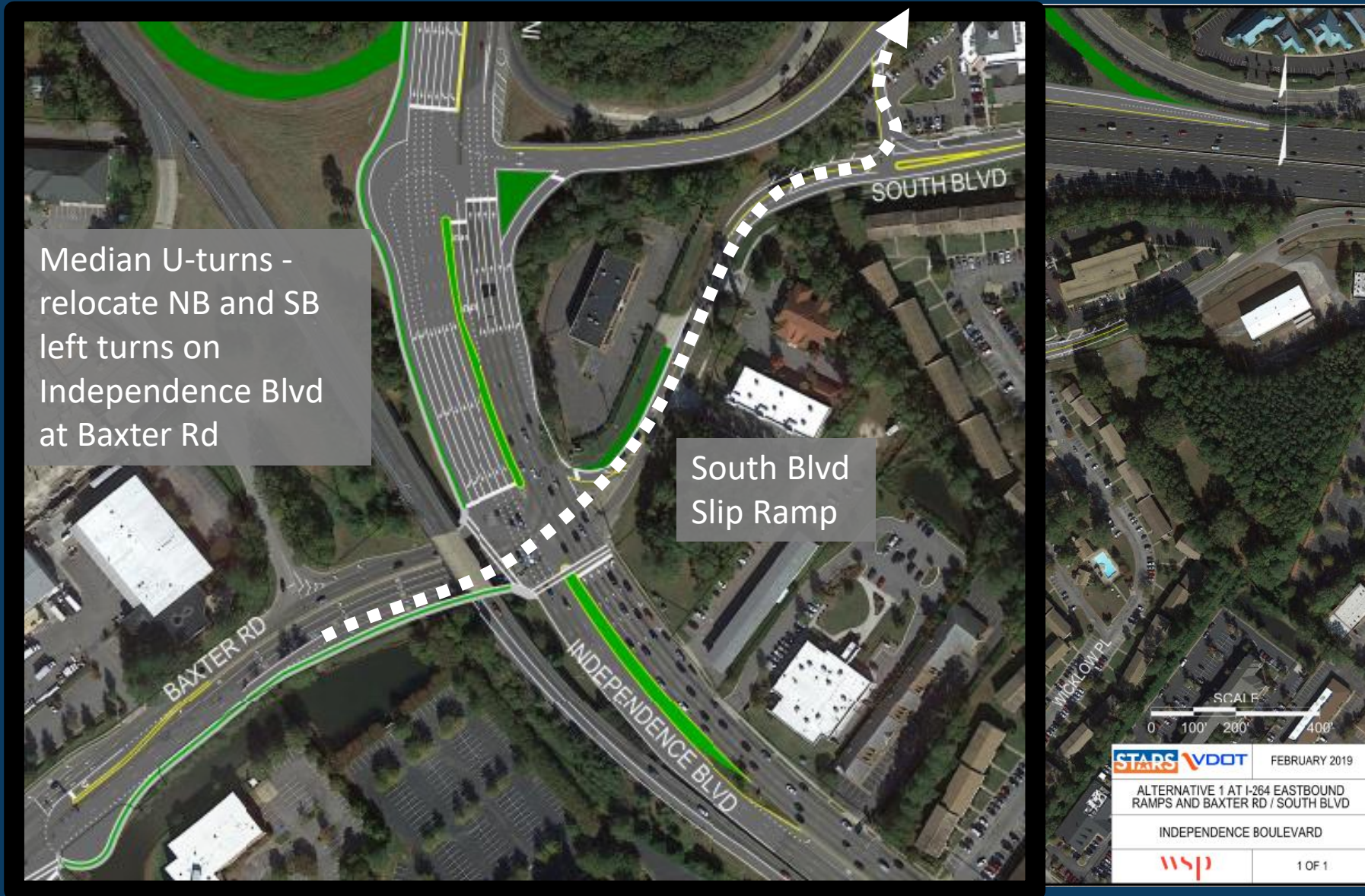
{ Note: Green coloring reflects removal of pavement }

ALTERNATIVE 1



{ Note: Green coloring reflects removal of pavement }

ALTERNATIVE 1



{ Note: Green coloring reflects removal of pavement }

Alternative 1

Pros

- Less expensive
- Fewer right-of-way impacts

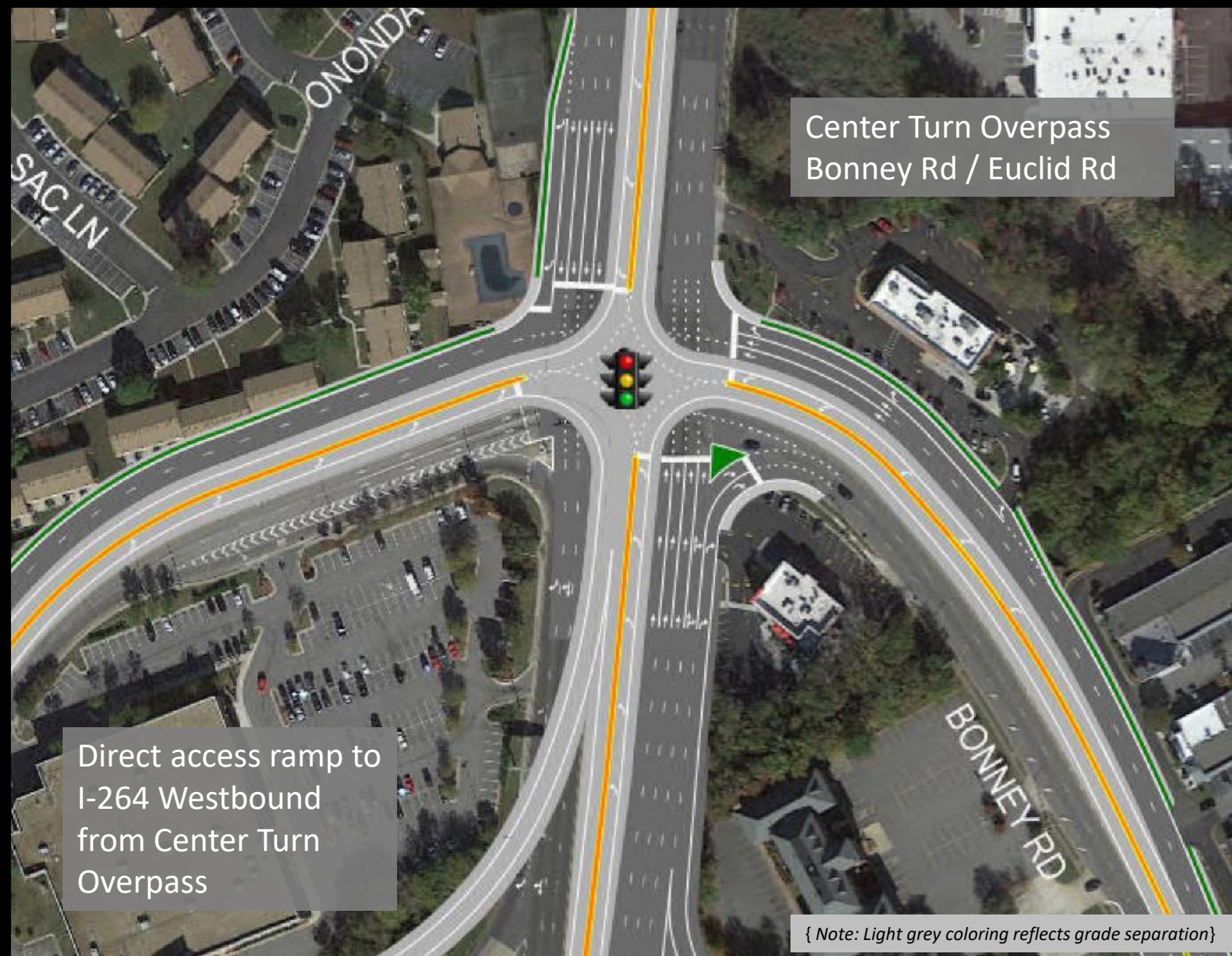
Cons

- Less operational improvement
- Does not meet long-term demand
- More volatile, less resilient to incidents

Alternative 2

- Long-term
- At-Grade Improvements (included with each alternative)
 - Median U-turns (Michigan Lefts) at Edwin Dr
 - Pedestrian Bridge crossing at Columbus St
- Grade separation at Bonney Rd
 - (see figure for Center Turn Overpass)
- Interchange (see figure):
 - Widen Independence southbound underpass similar to northbound
 - Remove one loop to remove weaving
 - Replace with one signal on Independence for left turns to ramp

ALTERNATIVE 2



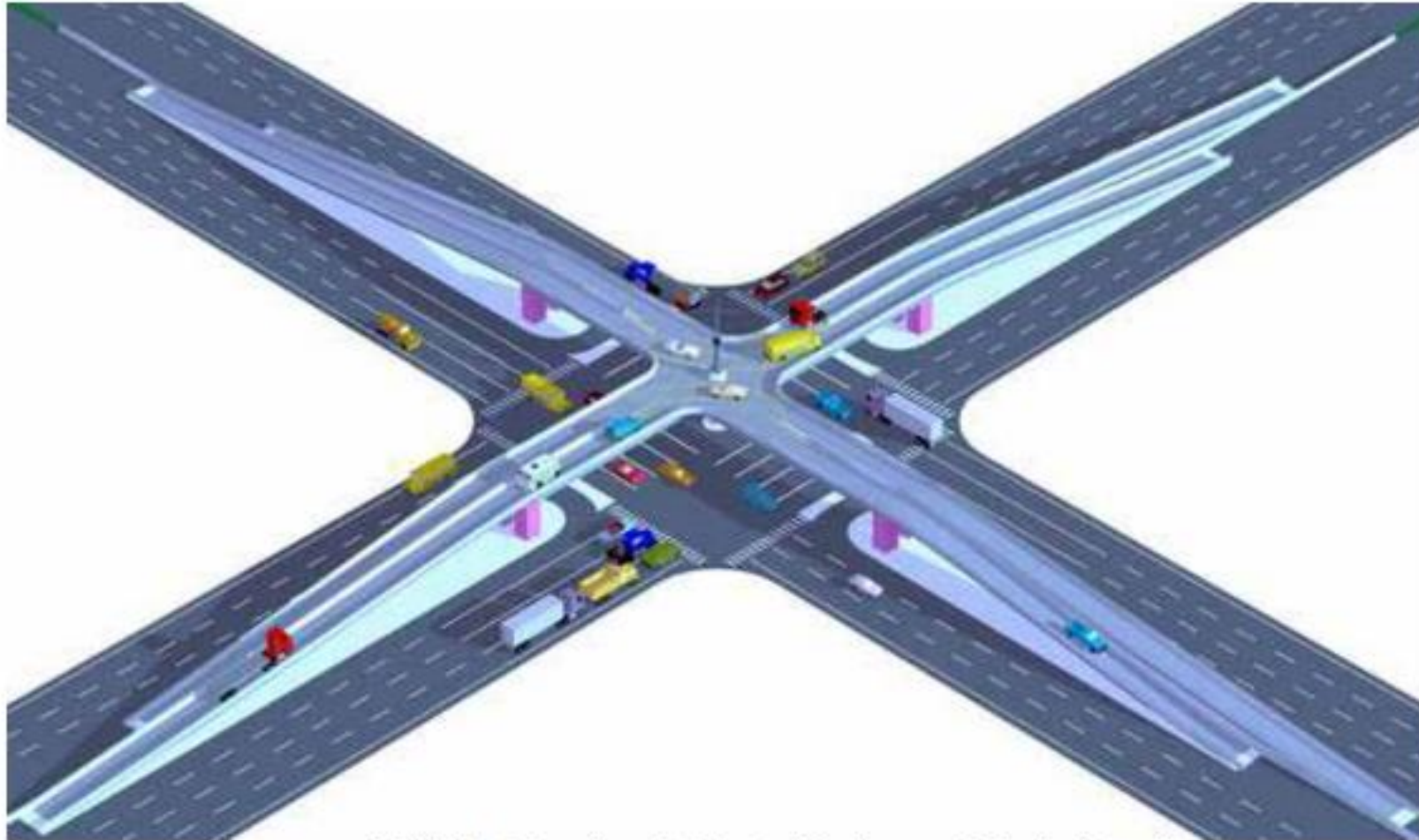
Center Turn Overpass
Bonney Rd / Euclid Rd

Direct access ramp to
I-264 Westbound
from Center Turn
Overpass

{ Note: Light grey coloring reflects grade separation }

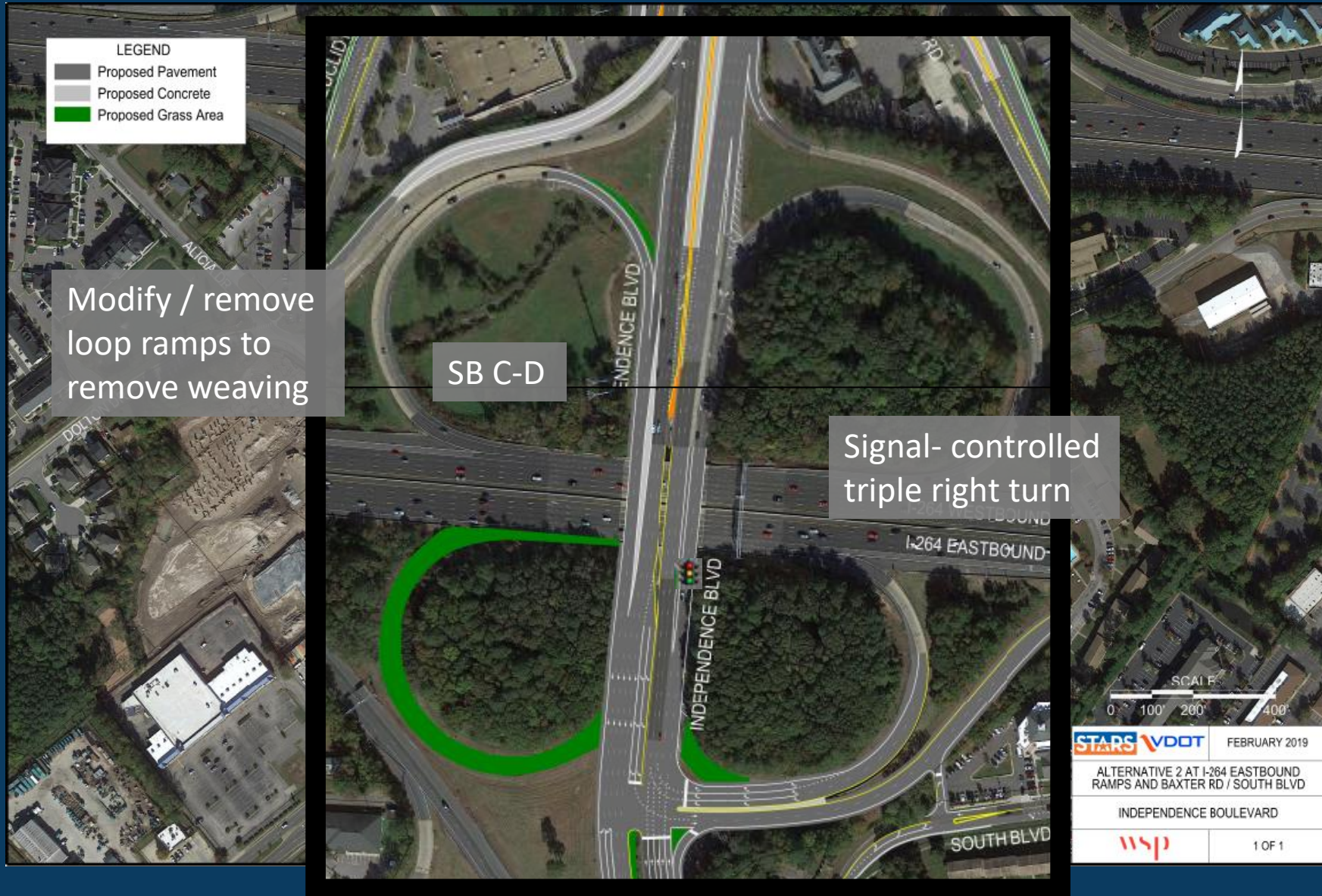
ALTERNATIVE 2

Center Turn Overpass (CTO)



Source: ATTAP Maryland State Highway Administration

ALTERNATIVE 2



ALTERNATIVE 2



Alternative 2

Pros

- Better operations than Alt 1
- Meets long-term demand
- More resilient to incidents

Cons

- Higher cost than Alt 1
- Innovative/complex design
- Construction impact concerns

Alternative 3

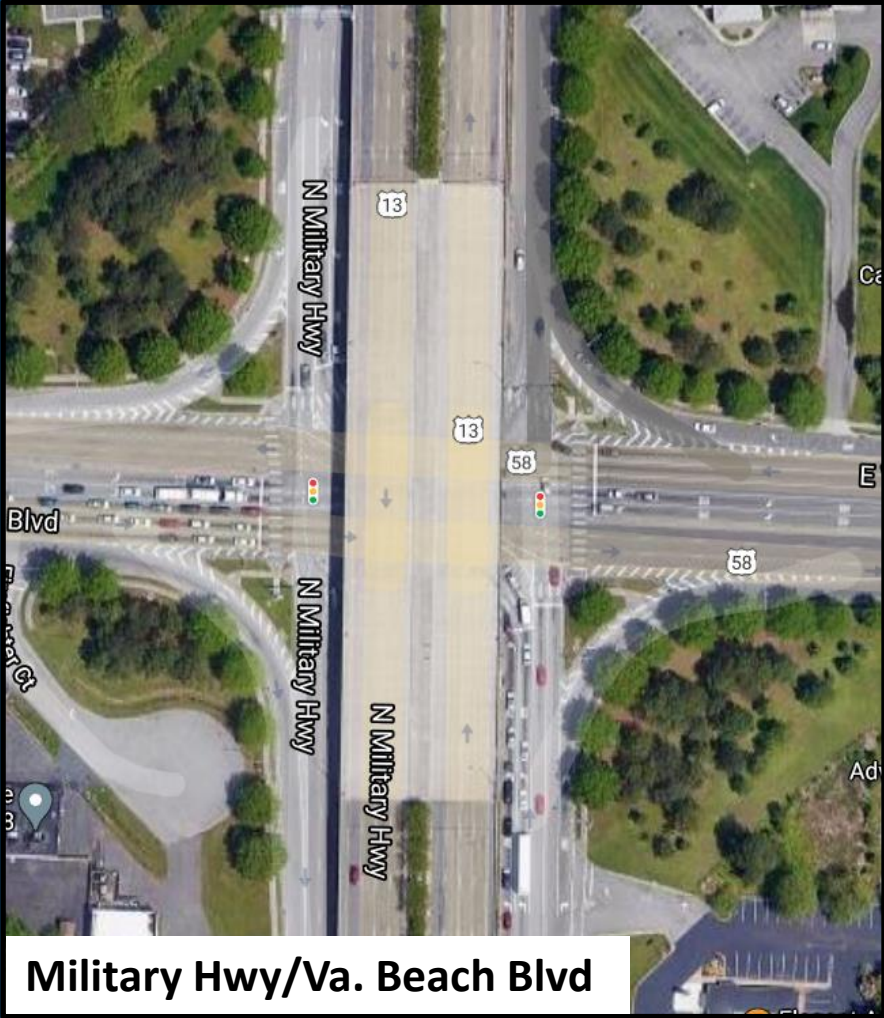
- Long-term
- At-Grade Improvements (included with each alternative)
 - Median U-turns (Michigan Lefts) at Edwin Dr
 - Pedestrian Bridge crossing at Columbus St
- Grade separation at Bonney Rd
 - Single Point Urban Interchange (see figure)
- Interchange with flyover ramp (see figure):
 - Widen Independence southbound underpass similar to northbound
 - Remove one loop (replace with flyover)

ALTERNATIVE 3



{ Note: Light grey coloring reflects grade separation }

Single Point Urban Interchanges



ALTERNATIVE 3



NB to WB flyover ramp



{ Note: Light grey coloring reflects grade separation }

Alternative 3

Pros

- Better operations than Alt 1 / Similar to Alt 2
- Highest safety benefit
- Meets long-term demand
- More resilient to incidents

Cons

- Higher cost than Alt 1 or Alt 2
- More right-of-way impacts
- Construction impact concerns

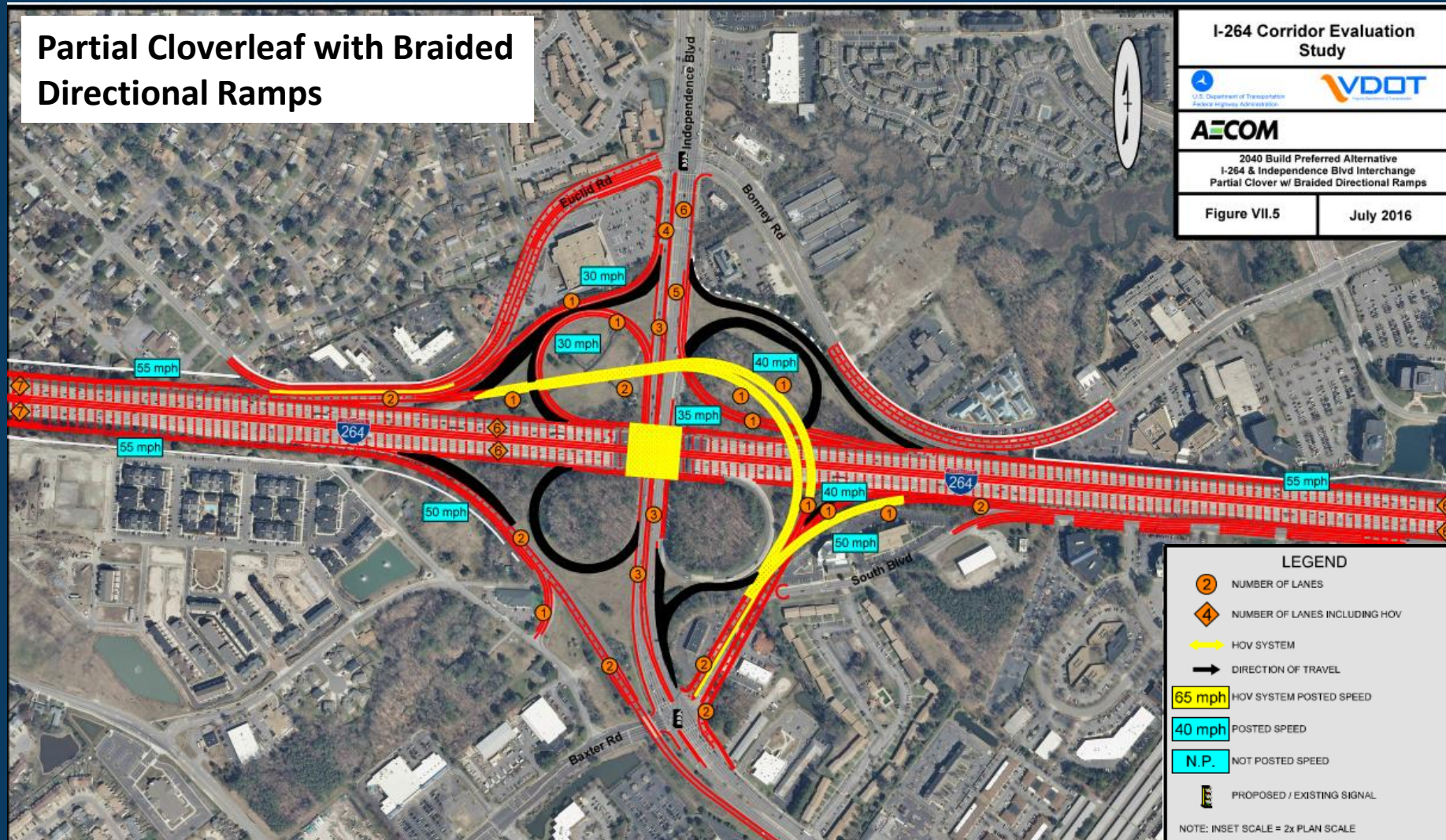
2042 Alternatives Comparison

	Alt 1	Alt 2	Alt 3
Delay Reduction (\$ conversion)	\$403.5M	\$594.3M	\$586.7M
Crash Reduction (\$ conversion)	\$10M	\$11.9M	\$21.1M
Cost (\$ 2022)	\$97.8M	\$207.7M	\$404.4M
Benefit-Cost	4.23	2.92	1.5
Provides accessibility (peds & vehicles)			
Serves latent traffic demand			
Resiliency to incidents			
Serves long term development			
Minimal right-of-way impacts			
Meets driver expectancy			
Lower construction impact			
Includes flyover ramp			

- Selection of Preferred Alternative 2 for 2042 Build

Recommended Preferred Alternative

I-264 Corridor Evaluation Study (VDOT July 2016)



Cost Estimate Comparison STARS Alternatives & I-264 Study

	2020 Cost Estimate
STARS Study Alt 1	\$92,162,000
STARS Study Alt 2	\$195,788,000
STARS Study Alt 3	\$381,166,000
I-264 Study at Independence	\$690,703,000

Looking Ahead: Interchange Access Report (IAR)

- Incorporate the findings from:
 - VDOT STARS Study of Independence Blvd
 - VDOT I-264 Corridor Study
- Incorporate widening of I-264 & new I-264 bridge over Independence Blvd
- Determine the best overall long-term design to serve the interstate, interchange and Independence Blvd
- HRTAC provided \$1.25M for the IAR
- VDOT is managing, kickoff mtg was held Aug 2023
- Citizen Information Meeting to review concepts and screen results—currently projected for August 2024
- Estimated report completion: End 2025

Looking Ahead: Long Range Transportation Plan (LRTP)

- What is the Long Range Transportation Plan (LRTP)?
 - HRTPO is required to develop, approve and maintain a fiscally constrained (demonstrated fiscal sufficiency) LRTP. With a planning horizon of 20 years, the LRTP serves as the blueprint for enhancing the region's multimodal transportation system.
- The 2045 LRTP Project List Includes:
 - I-264 Widening—Witchduck Rd to Independence Blvd
 - I-264/Independence Blvd Interchange Improvements
 - <https://hrpdc-gis.maps.arcgis.com/apps/MapSeries/index.html?appid=89f6a54525f3409298a0ce7d3618162f>
- 2050 LRTP is currently being developed for approval in 2026

Looking Ahead: Funding

- HRTAC has confirmed a funding plan for 2032
 - First tier projects are funded, focus is shifting to next tier of projects:

AMENDMENT FROM HRTAC 2045 LONG-RANGE PLAN OF FINANCE UPDATE – JUNE 2022*						
Amendment Action	Jurisdiction	Project	From/To	Estimated Project Cost in Year-of-Expenditure (YOE)	Project Conformity Exempt	Funding Source(s)
Update Project Cost and Opening Year	Multi-jurisdictional	Bowers Hill Interchange	N/A	\$771 Million (2038 YOE) ¹	No	• See HRTAC 2045 Long Range Plan of Finance – June 2022 Update (Attachment 11-B)
Update Project Cost and Opening Year	Multi-jurisdictional	Hampton Roads Express Lanes Network	Jefferson Avenue to Bowers Hill	\$993 Million (2027 YOE) ²	No	
Update Project Cost and Opening Year	Multi-jurisdictional	I-64/I-264 Interchange – Phase IIIA	N/A	\$525 Million (2039 YOE)	No	
Update Project Cost and Opening Year	Multi-jurisdictional	I-664 Widening	Bowers Hill to College Drive	\$1,529 Million (2038 YOE) ³	No	
Update Opening Year	Virginia Beach	I-264/ Independence Interchange	N/A	\$207 Million (2032 YOE)	No	
Update Opening Year	Virginia Beach	I-264 Widening	Witchduck Road to Independence Boulevard	\$669 Million (2032 YOE) ⁴	No	

Looking Ahead: Next Steps

- Finish the IAR (End of 2025)
- Citizen Information Meeting to review concepts and screen results—currently projected for August 2024
- Explore and pursue other federal grant opportunities in cooperation with VDOT
 - INFRA (Infrastructure For Rebuilding America)
 - 60% Federal/40% Non-Federal match requirement
 - Large project minimum award is \$25M
 - MEGA
 - 60% Federal/40% Non-Federal match requirement
 - Projects typically in the \$100M-\$500M range but can be larger

I-264/Independence Blvd Interchange Improvements

Discussion

