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Highway Division

INTERCHANGE
495/90
IMPROVEMENTS

November 3, 2022
495/MetroWest Partnership

No. 607977-116673

Gary Baxter, MassDOT
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Agenda

01 Project Overview

02 3-6 Month Construction Look Ahead

03 Outreach and Communication Plan

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Project Overview

Project Team

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Barletta Engineering Heavy Division

D and G

Aetna Bridge Company

vhb

72 Hours Nondestructive Testing

Michael Baker International

GEI Consultants

Bryant Associates

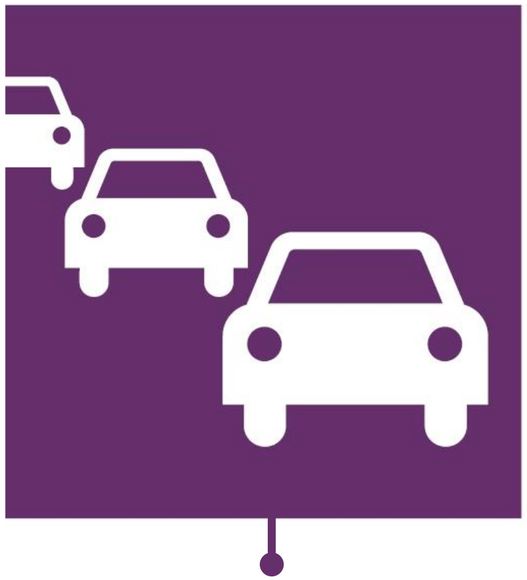
City Point Partners

RVA Regina Villa Associates

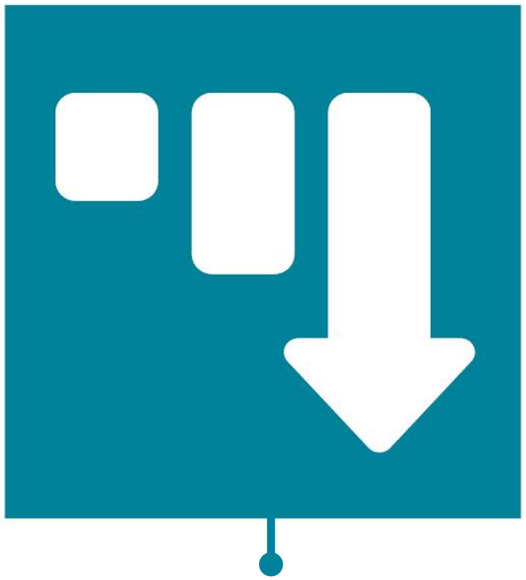
Lamson Engineering Corp.

Project Goals

Reduce crashes
in the project area for all movements



Reduce recurring congestion
within the interchange



Reduce queuing
that currently extends from the interchange onto the mainlines of I-90 and I-495

Reduce travel time
the interchange, especially for high-volume movements

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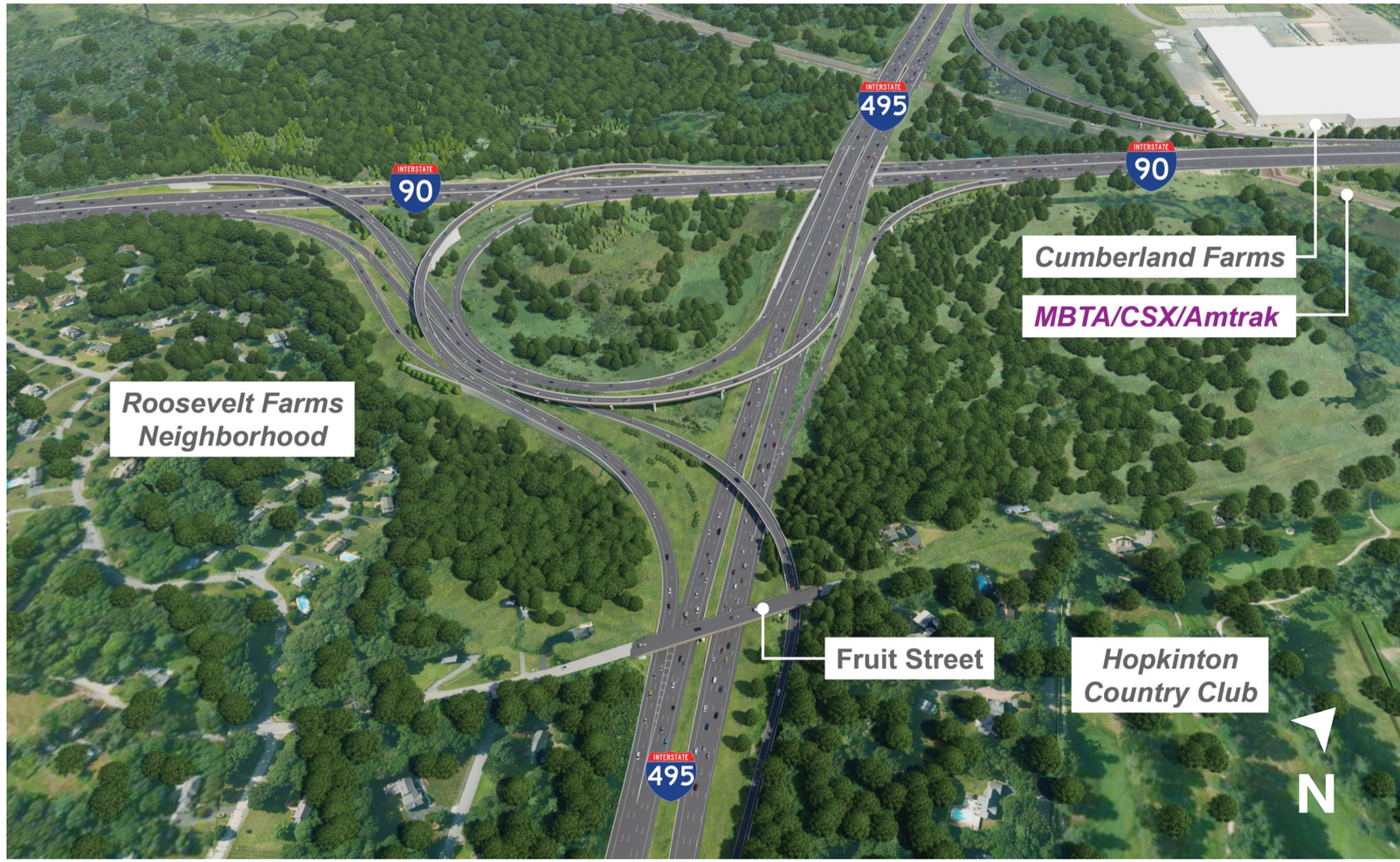
Key Project Elements & Proposed Modifications

- Project limits extend approximately 3/4 mile in each direction from the Interchange
- Project will involve complete replacement of the Interchange
- Project will eliminate old toll booth area and weaving areas created by current design
- Project will be completed in an extremely sensitive environmental resource area



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Schedule

Design

May 2022–December 2024

Construction

Stage 0
October 2022–April 2023

Enabling work including fiber relocation and temp Ramp ES/SE

Stage 1
December 2022–September 2024

Complete future I-495 NB in Median, Fruit Street, and Ramps ES & WN

Stage 2
June 2024–May 2026

Complete future I-495 SB, Ramps WS & SE

Stage 3/3b
April 2025–April 2027

Complete Ramp NE, NW, SW & EN

Stage 4
August 2026–June 2027

Complete I-90 widening, remove former loop ramps & complete environmental mitigation areas

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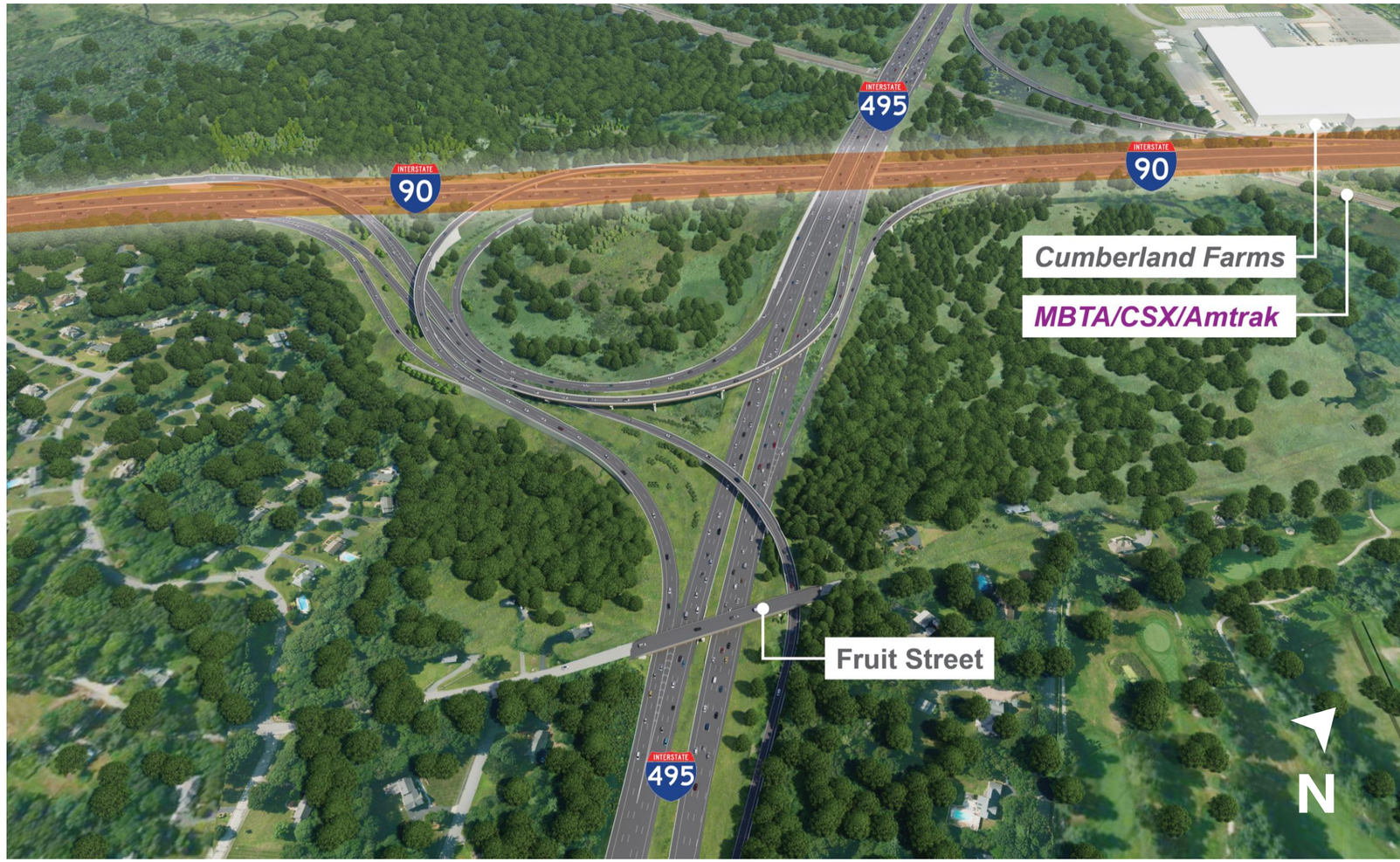
I-90

- Future I-90 will provide 3 lanes in each direction as it does today
- Minor widening to accommodate new ramps and provide consistent shoulder width
- Minimal modifications to roadway profile and cross slope (for drainage)
- I-90 bridge over MBTA/CSX/Amtrak to be replaced
- Fiber optic cables in median and EB shoulder to be relocated
- Culvert at Whitehall Brook to be replaced



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I-495

- Future I-495 will provide 3 lanes per direction as it does today
- An additional (4th) lane will be provided on I-495 NB to Route 9
- Future I-495 NB will be constructed within the existing median
- Future I-495 SB will be in its existing location with minor widening
- I-495 bridges over MBTA/CSX/Amtrak and I-90 to be replaced
- I-495 NB bridge over Flanders Road to be replaced

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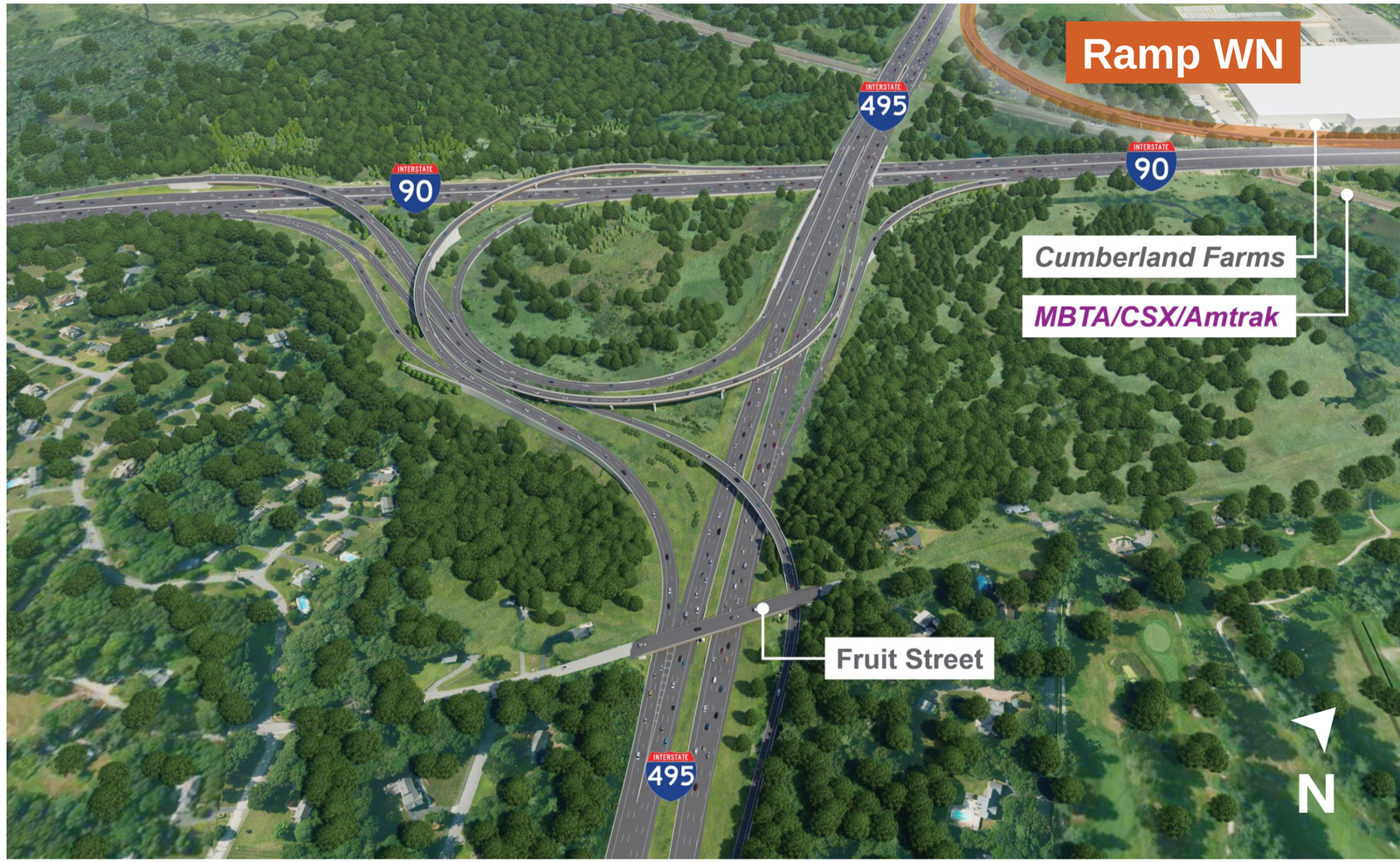
Ramp WN

- New direct ramp provided between I-90 WB and I-495 NB
- Single lane ramp
- Entrance to I-495 NB begins additional 4th lane NB to Route 9

Ramp Designations indicate directionality—i.e., **Ramp WN connects I-90W to I-495N*



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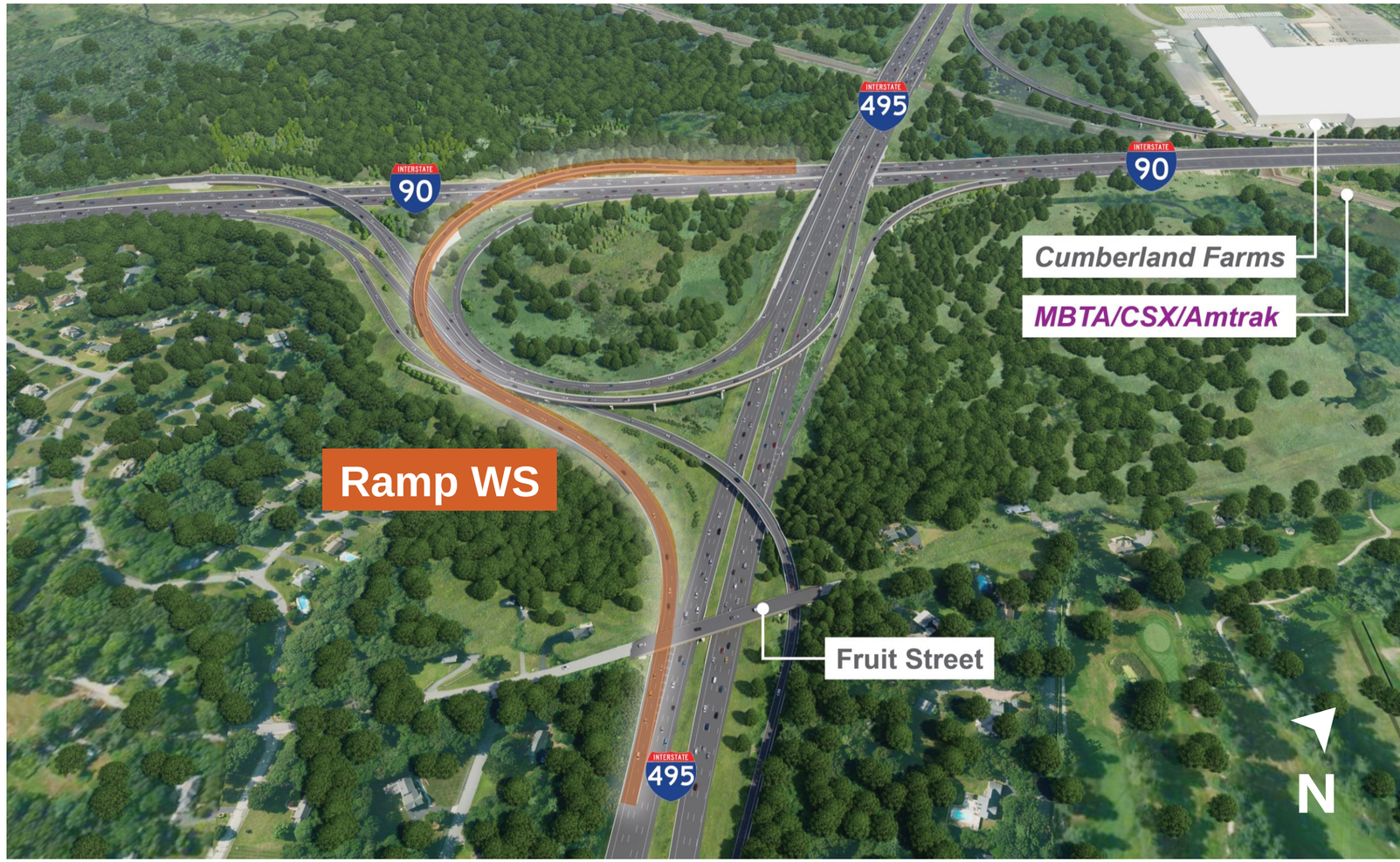
Ramp WS

- New semi-direct ramp provided between I-90 WB and I-495 SB
- Single lane off-ramp
- Combines with new Ramp ES to provide 2-lane on-ramp to I-495 SB



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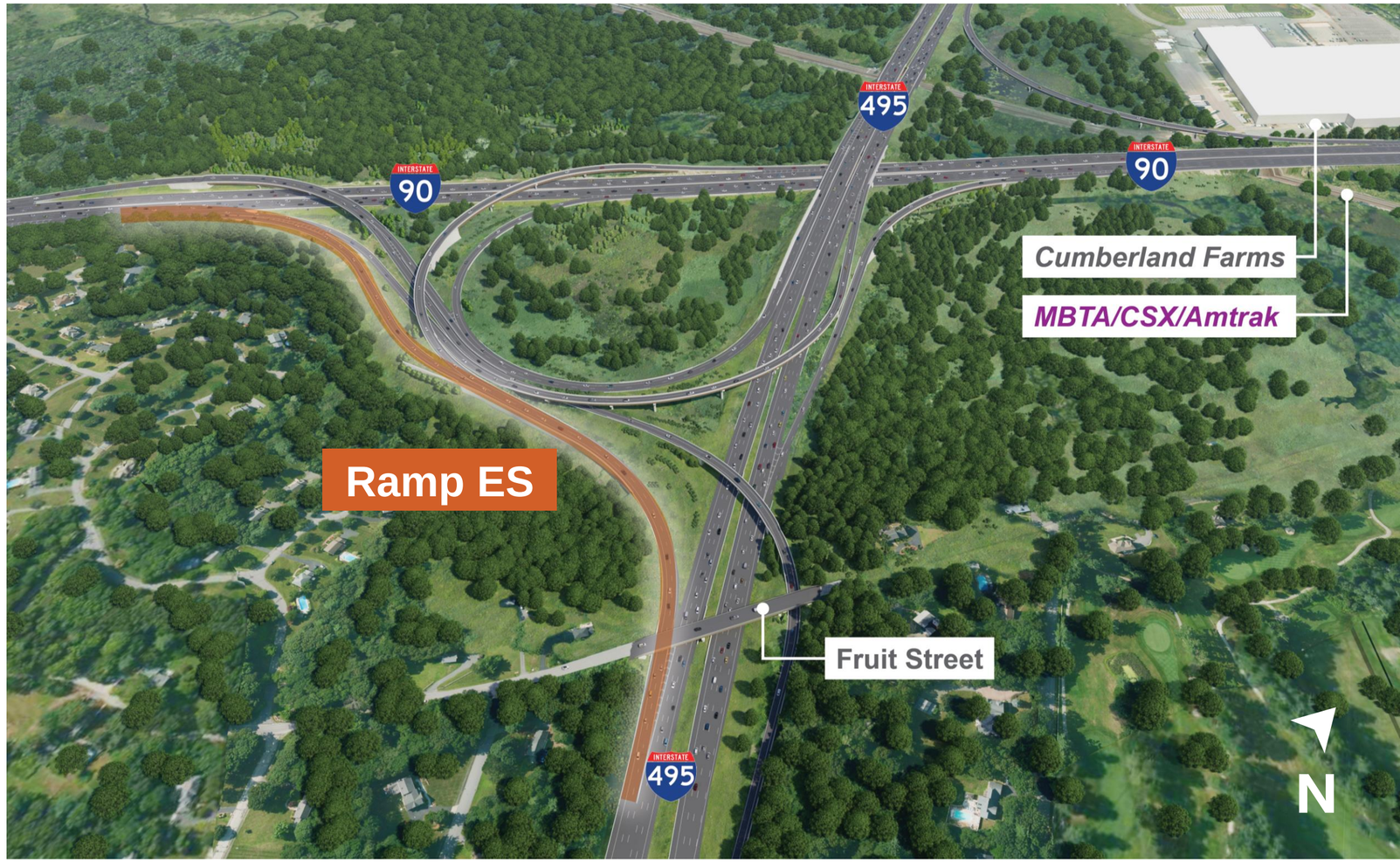
Ramp ES

- New direct ramp provided between I-90 EB and I-495 SB
- Part of a 2-lane off-ramp from I-90 EB (splits to Ramp ES and Ramp EN)
- Combines with Ramp WS to provide 2-lane on-ramp to I-495 SB



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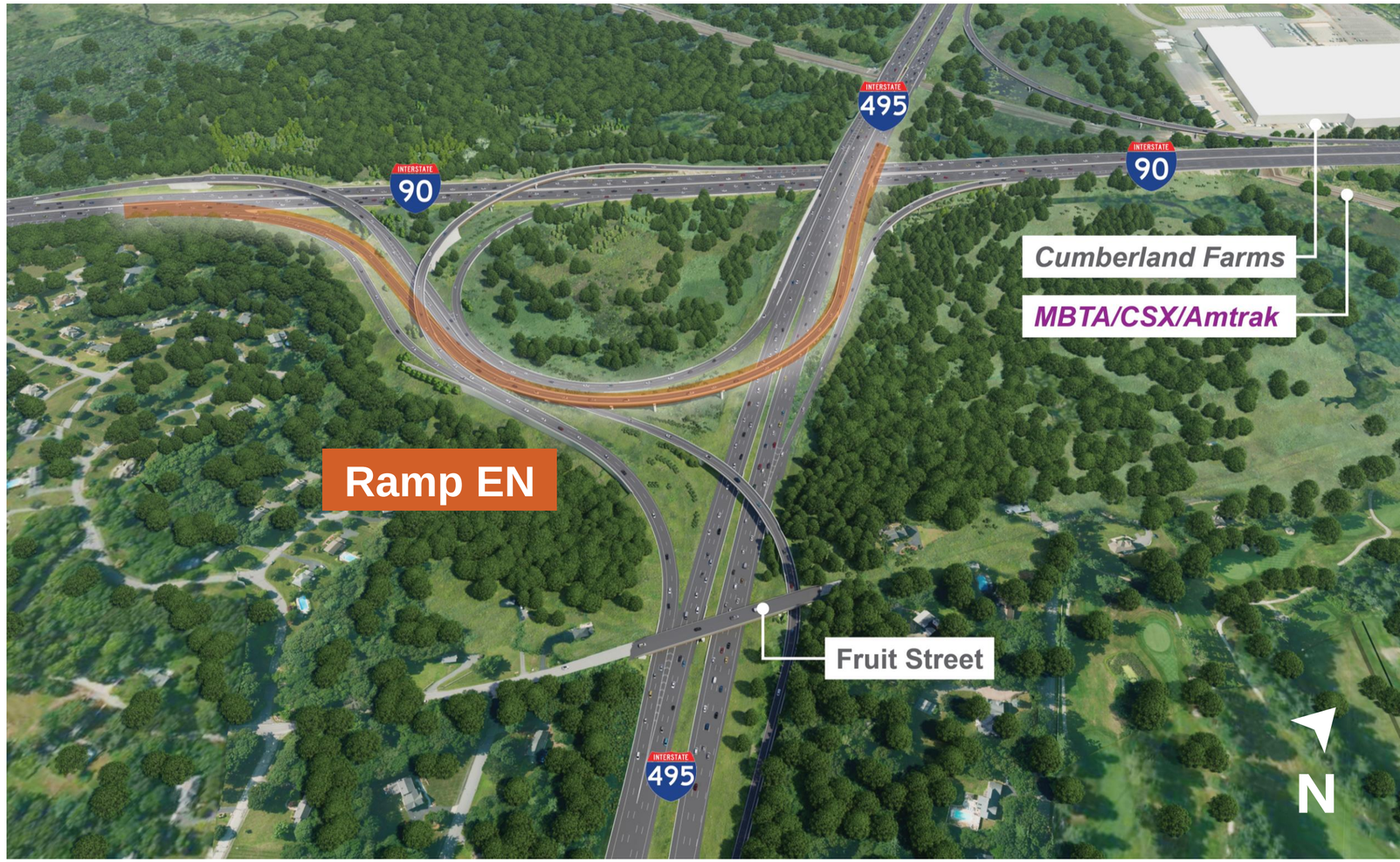
Ramp EN

- New semi-direct ramp provided between I-90 EB and I-495 NB
- Part of a 2-lane off-ramp (splits to Ramp EN and Ramp ES)
- Enters I-495 NB as a single lane on-ramp on the I-495 NB bridge over I-90



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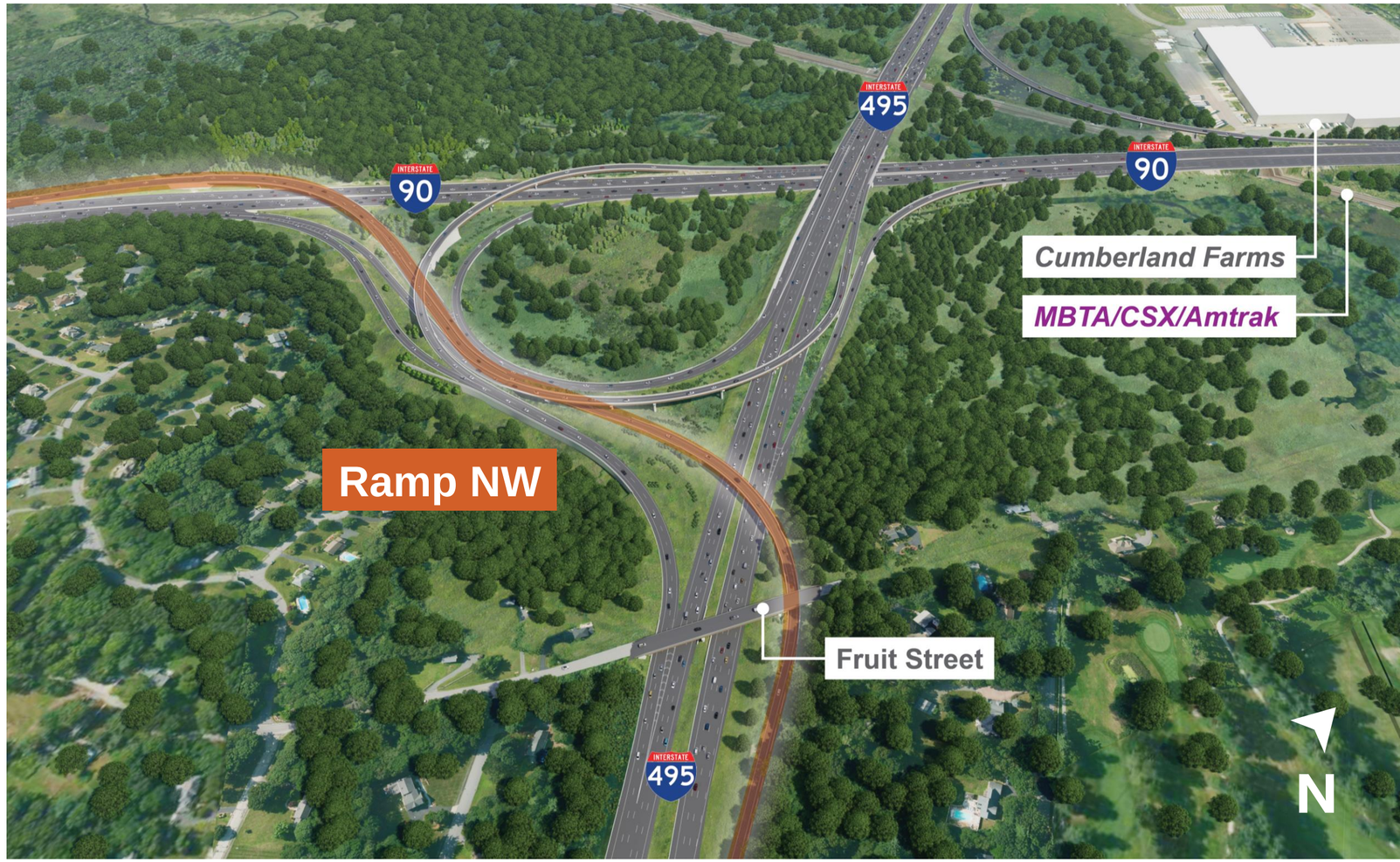
Ramp NW

- New semi-direct ramp provided between I-495 NB and I-90 WB
- Single lane off-ramp
- Combines with Ramp SW to provide a 2-lane on-ramp to I-90 WB



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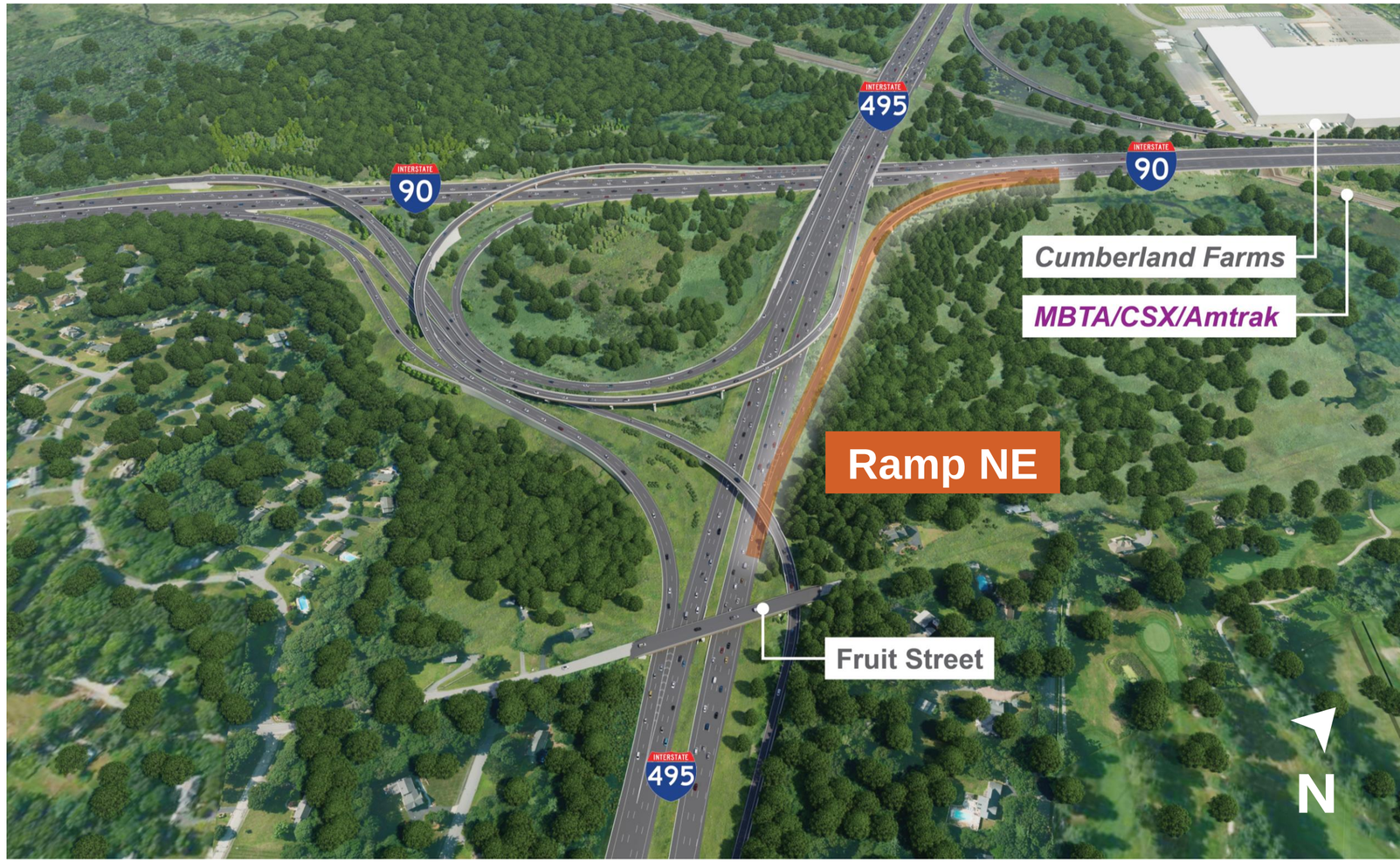
Ramp NE

- New direct ramp from I-495 NB to I-90 EB
- Single lane ramp
- Enters I-90 EB as a single lane on-ramp on the I-90 EB over the MBTA/CSX/Amtrak bridge



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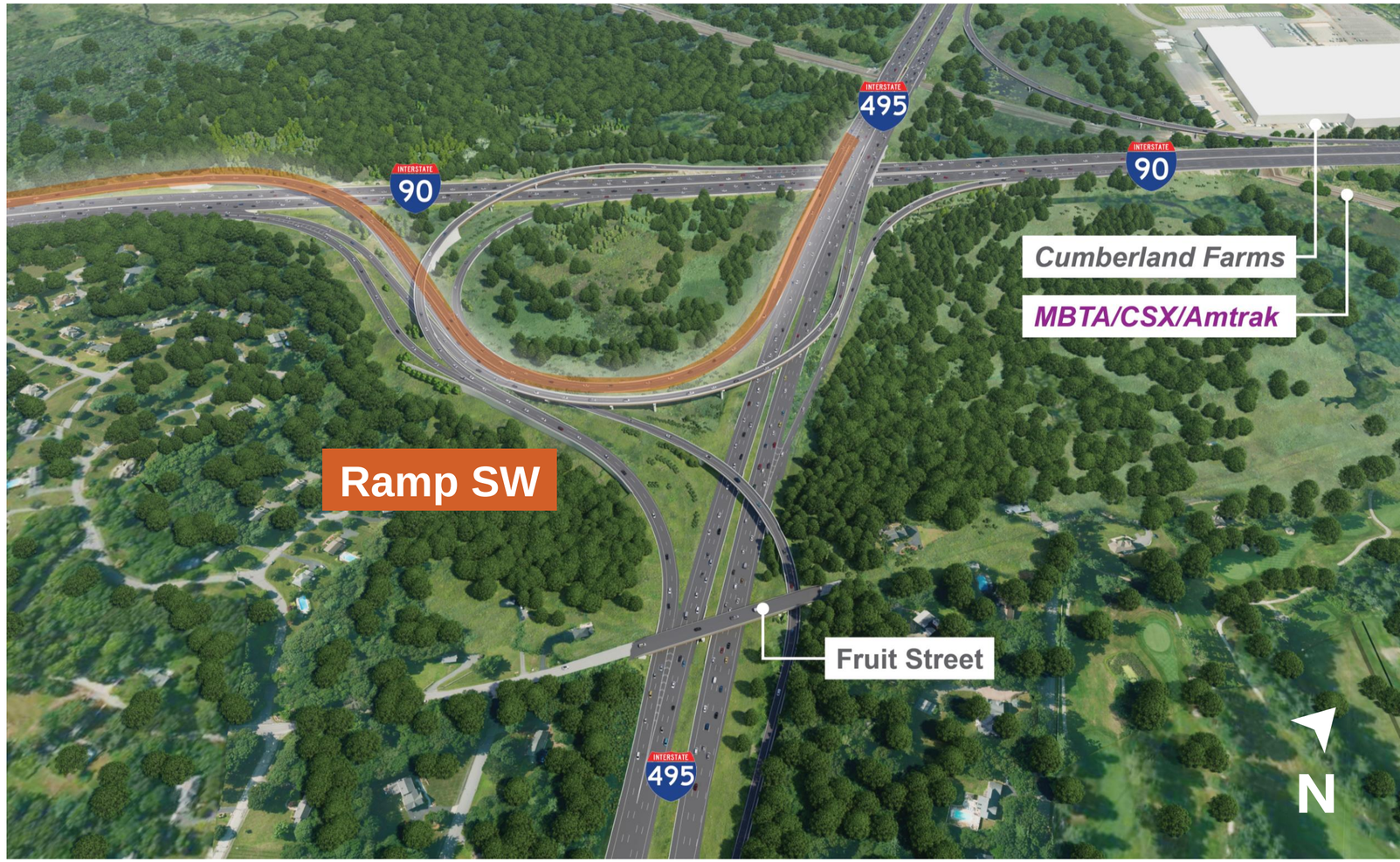
Ramp SW

- New semi-direct ramp from I-495 SB to I-90 WB
- Part of a 2-lane off-ramp (splits to Ramp SW and Ramp SE)
- Combines with Ramp NW to provide a 2-lane on-ramp to I-90 WB



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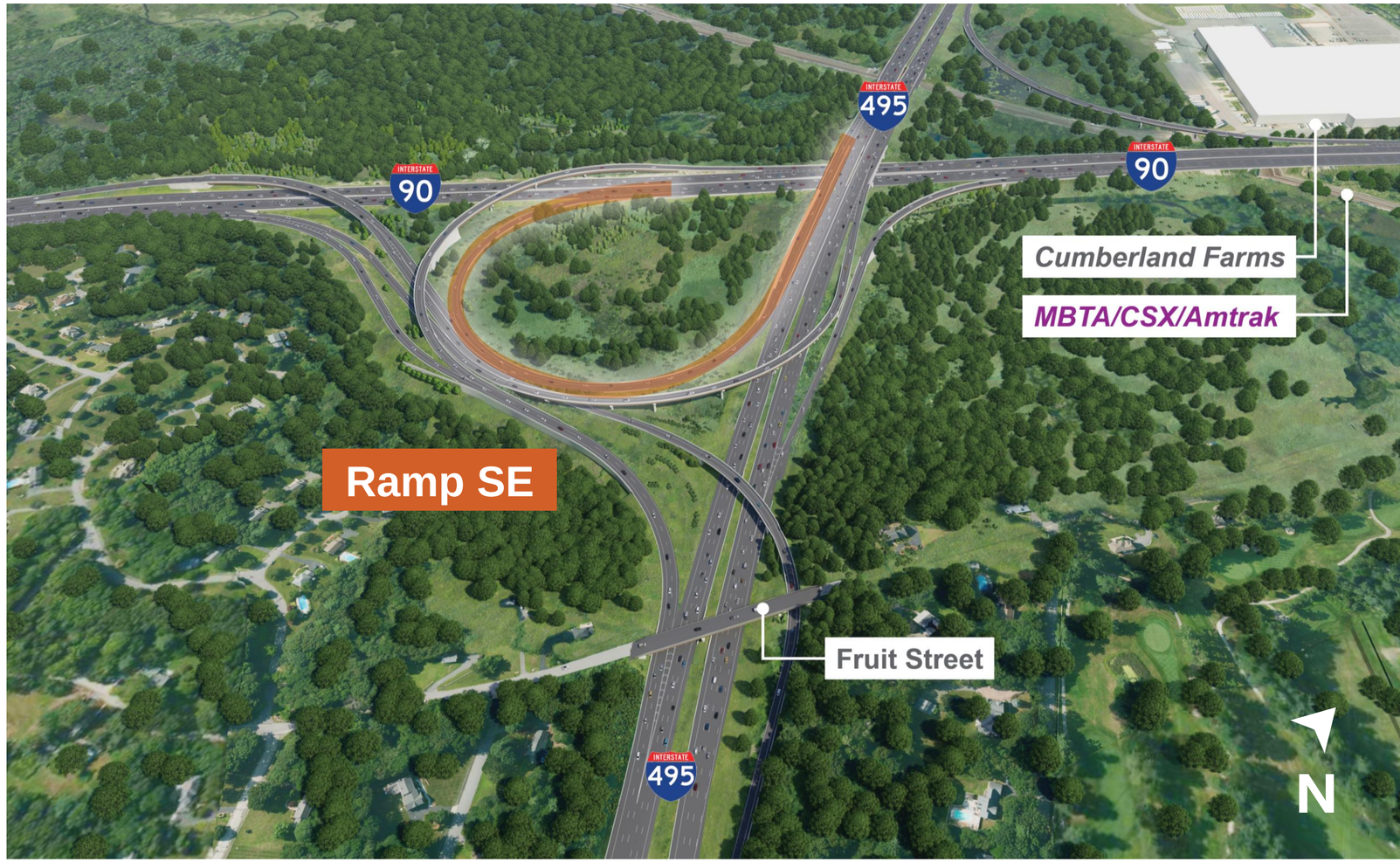
Ramp SE

- New low speed (loop) ramp from I-495 SB to I-90 EB
- Part of a 2-lane off-ramp (splits to Ramp SE and Ramp SW)
- Enter I-90 EB as a single lane on-ramp



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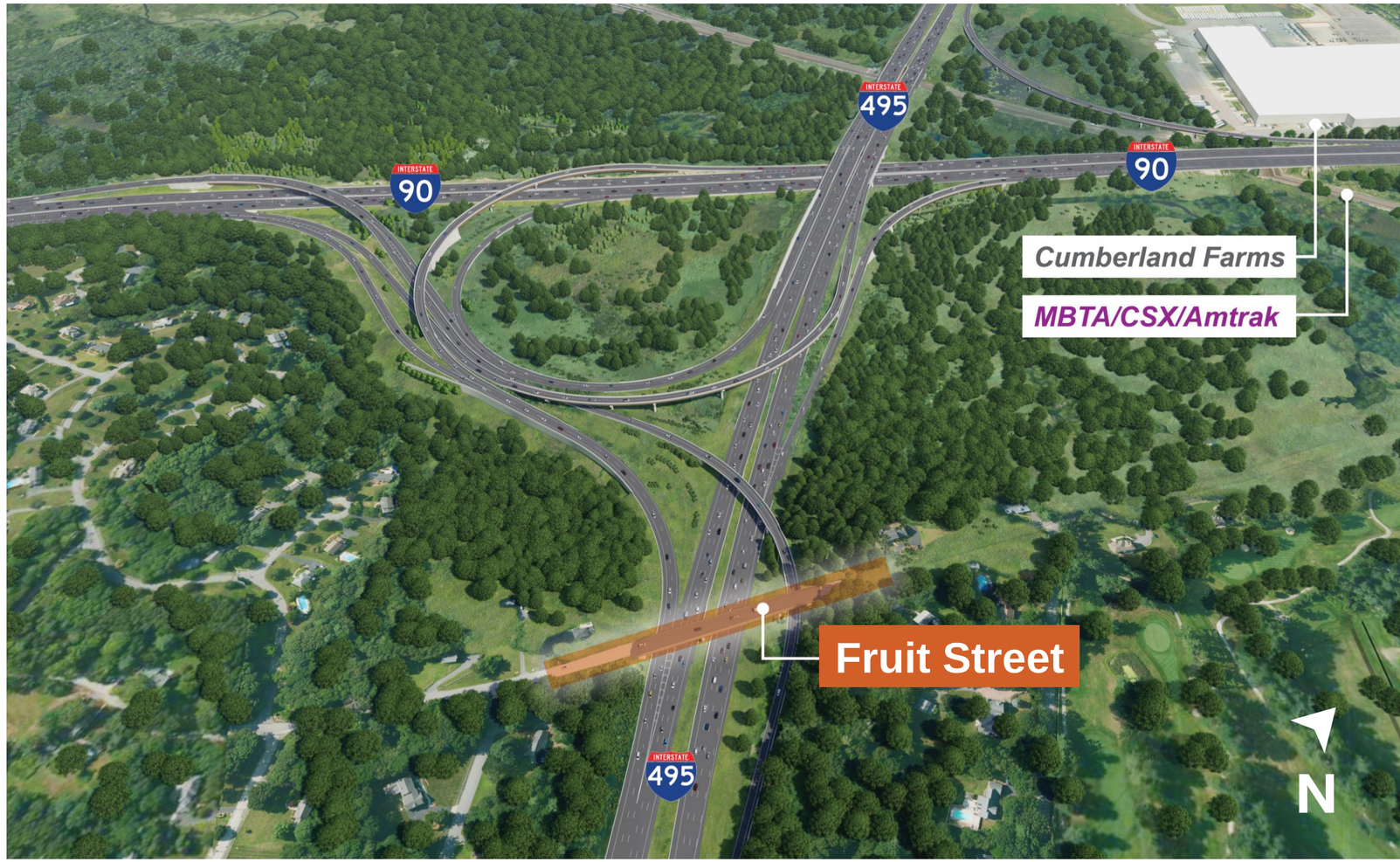
Fruit Street

- Replacement of Fruit Street bridge over I-495
- Will be completed in 2 major stages (1-lane, 2-way operation under signal control)
- Involves additional roadway, utility and landscaping features



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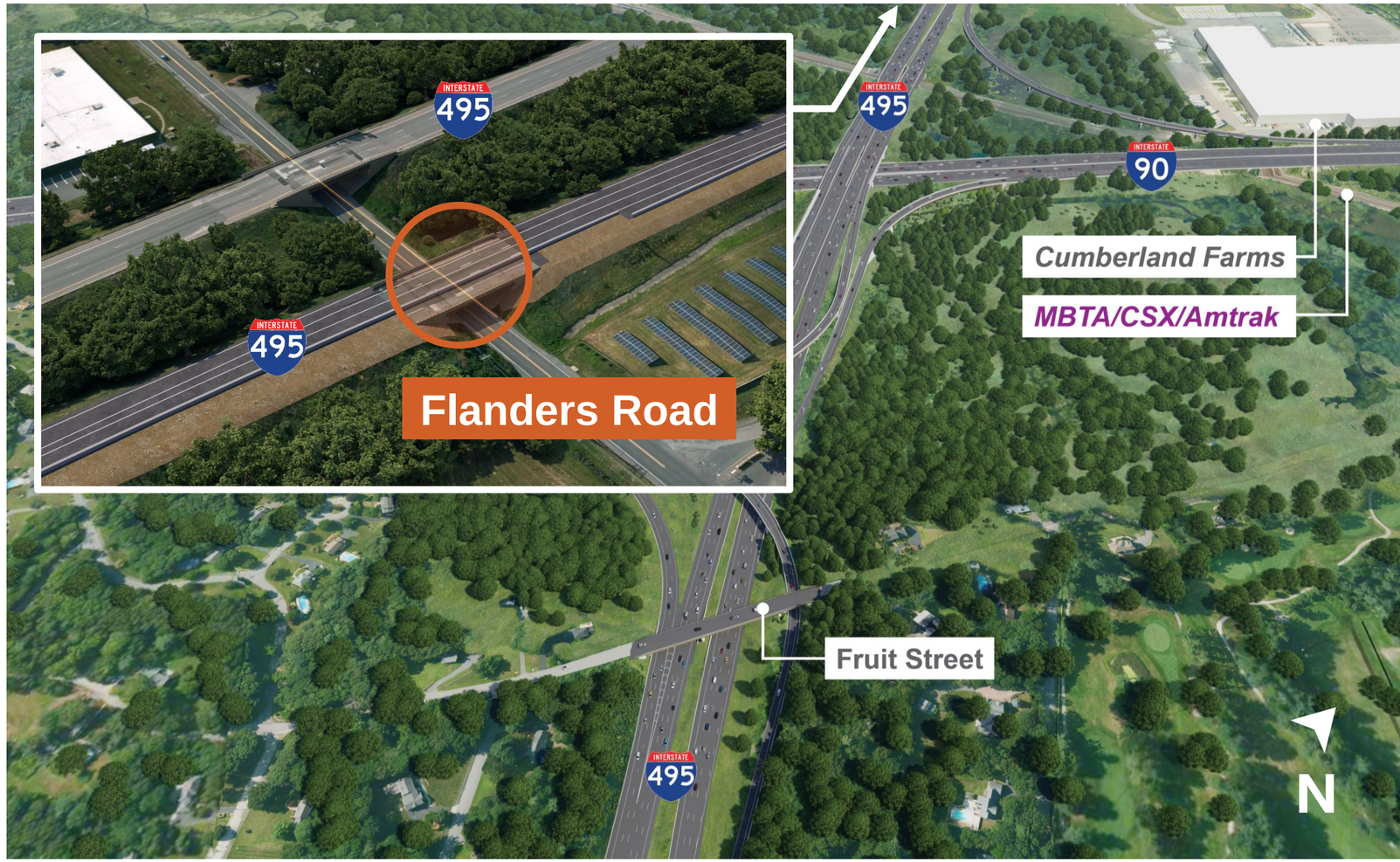
Flanders Road

- Replacement of I-495 NB bridge superstructure over Flanders Road
- Constructed with an overbuild to the median side to maintain 3-lanes of travel
- Utility work on Flanders Road below I-495



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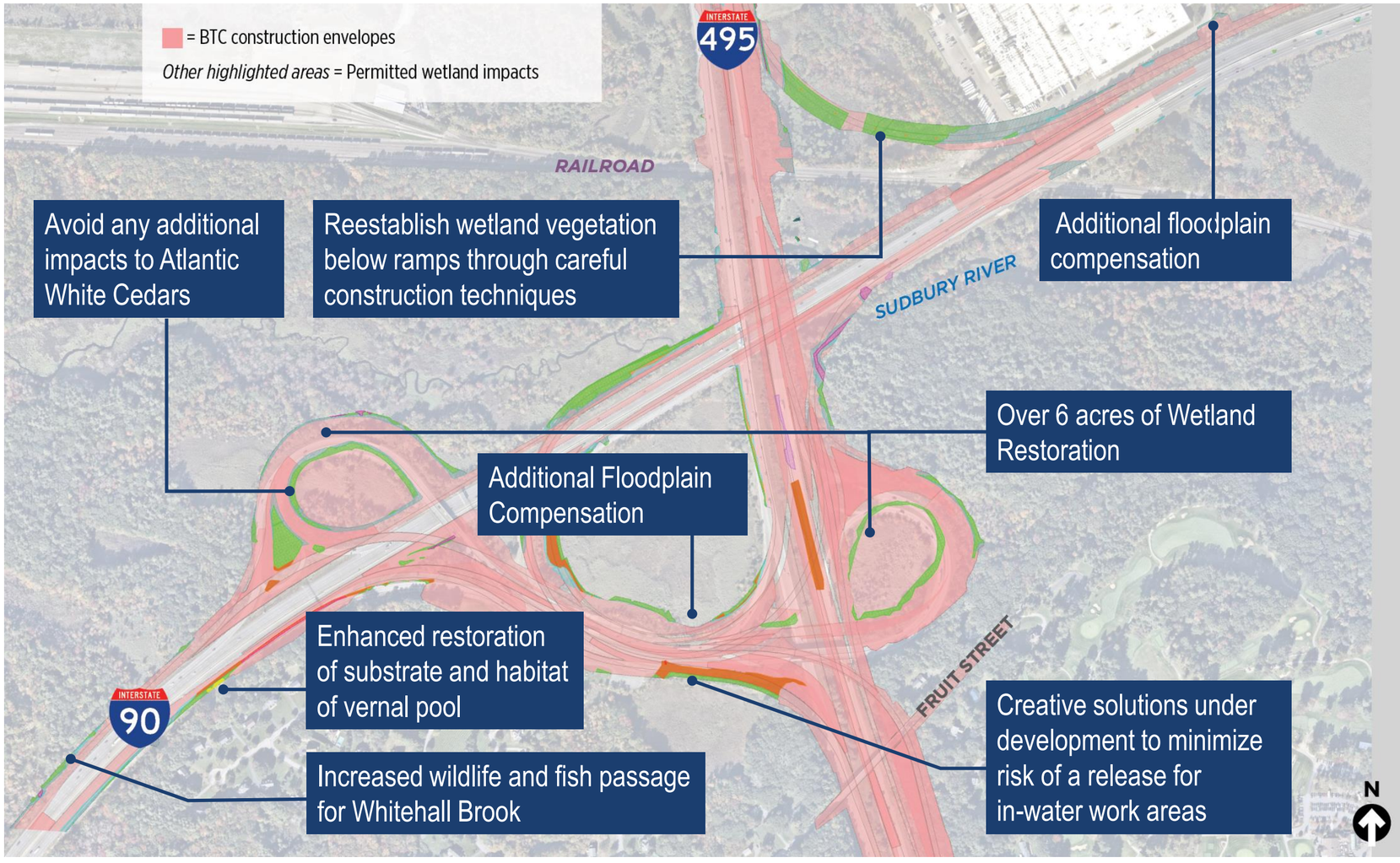
Environmental Considerations

- Interchange is located near several sensitive natural resources
  - Cedar Swamp ACEC
  - Sudbury River
  - Whitehall Brook
  - Surrounding wetlands and floodplains
- Project environmental permits were issued during preliminary design
- Permits require continued agency involvement as designs advance
- Permits require construction and post-construction oversight to monitor compliance with environmental commitments and mitigation



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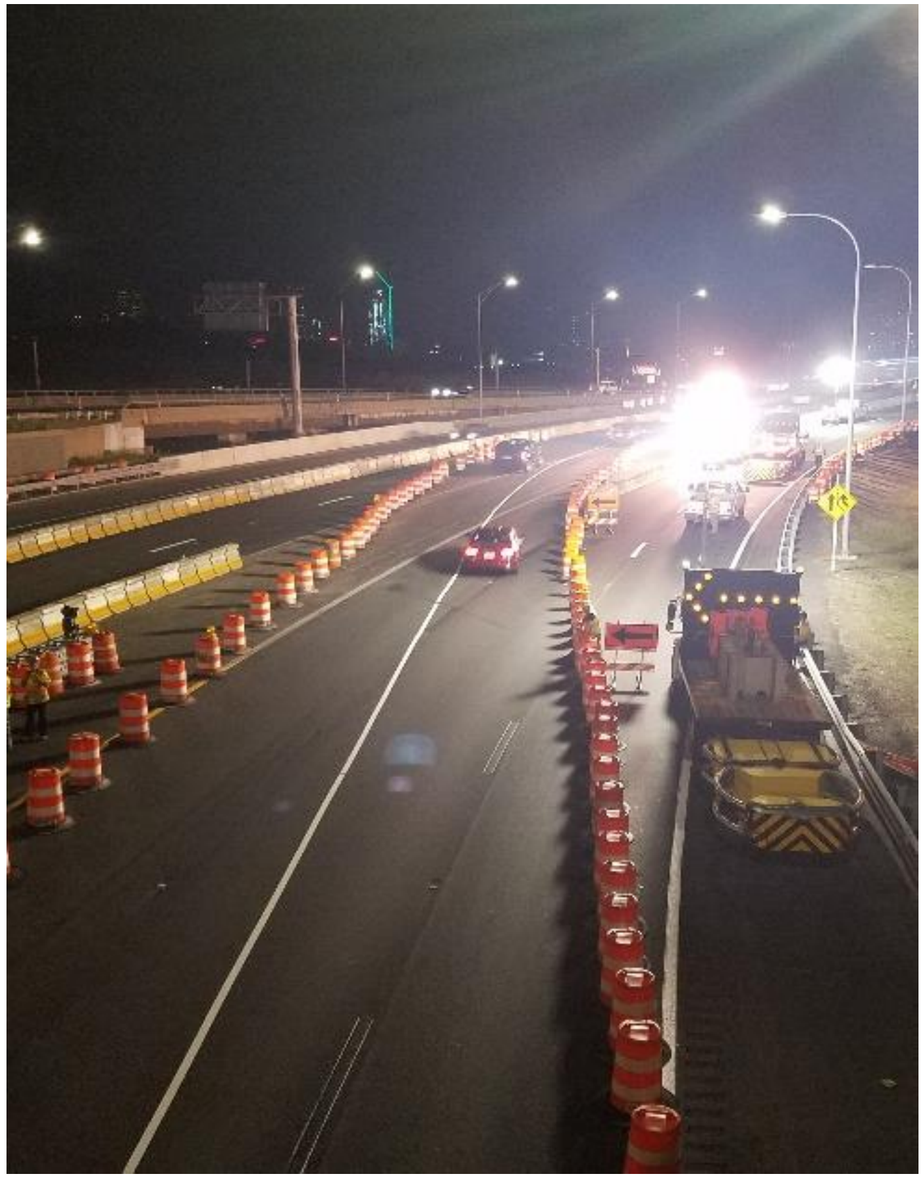
Traffic & Staging Considerations

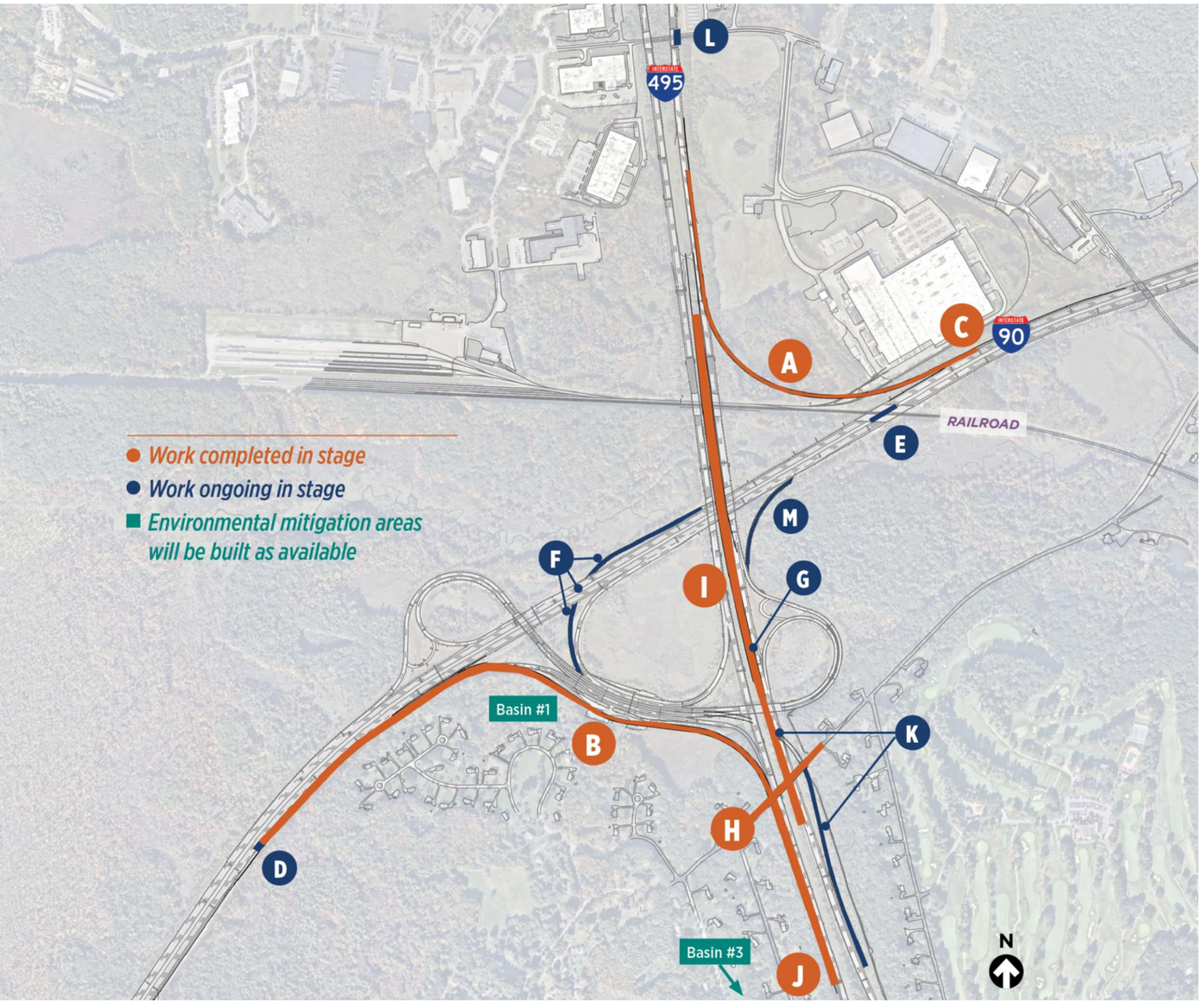
- **Maintain 3 lanes on mainlines, except for short-term closures during approved off-peak hours**
- **Maintain all ramp connections between I-90 and I-495, including along temporary alignments**
- Maintain proper signage and markings
- Provide temporary roadway lighting along ramps for safe nighttime travel
- Provision of safe construction access/egress
- Maintain resident and local business access/egress
- Five (5) Major Traffic Stages
  - **Stage 0**—enabling work including fiber relocation and temp ES/SE
  - **Stage 1**—complete future I-495 NB in Median, Fruit Street, and Ramps ES & WN
  - **Stage 2**—complete future I-495 SB, Ramps WS & SE
  - **Stage 3/3b**—complete Ramp NE, NW, SW & EN
  - **Stage 4**—complete I-90 widening, remove former loop ramps & complete environmental mitigation areas



Noise Program

- The Noise Control Plan establishes baseline sound levels throughout the project area.
- Quarterly noise monitoring will be conducted to ensure construction noise remains in compliance.
- The NCP establishes noise complaint procedures, maximum allowable emissions levels for equipment and noise control measures to be used by the contractor, such as:
  - Temporary noise barriers or noise curtains
  - Limit use of loud and impact equipment to the daytime as feasible
  - Use of local power grid to reduce generator use
  - Use of self-adjusting backup alarms
  - Use of approved truck haul routes

3-6 Month Construction Look Ahead



Construction Staging—Stage 1

Work Anticipated thru Fall 2024

INTERSTATE 90

- **A** Construct Ramp WN (Milestone 5)
- **B** Construct Ramp ES (Milestone 5)
- **C** Construct I-90 WB flood mitigation (east of Ramp WN)
- **D** I-90 EB widening at White Hall Brook
- **E** Begin I-90 bridge over railroad (construct median)
- **F** Begin Ramp WS
- **G** Begin Ramp EN (construct pier)

INTERSTATE 495

- **H** Construct Fruit Street bridge (two stages) (Milestone 6A)
- **I** Construct I-495 NB in median, I-495 NB bridge over I-90, and railroad
- **J** Construct I-495 SB widening for ES/WS acceleration
- **K** Begin Ramp NW
- **L** Begin I-495 NB bridge over Flanders Road
- **M** Begin Ramp NE (Milestone 4)

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Upcoming Early Action Items

Enabling Activities

- Borings, test pits, subsurface investigations

Early Barrier/RTTM

- PCMS deployment and travel time information system

Laydown Area(s) Mobilization

- Evaluating a number of potential sites

Limited impact to traveling public

I-90 Median Fiber Relocation

- Existing Fiber Optic Cables within I-90 median to be relocated
- Fiber to be relocated outside of I-90 WB shoulder
- Concurrent relocation of I-495 fiber optic cables from existing median

Temporary ES/SE Construction

- Temporary I-90 EB off-ramp to I-495 SB to be constructed to allow construction of permanent I-90 EB off-ramp to I-495 SB
- Temporary modifications to I-90 EB on-ramp from I-495 (NB & SB) to facilitate construction of future ramps

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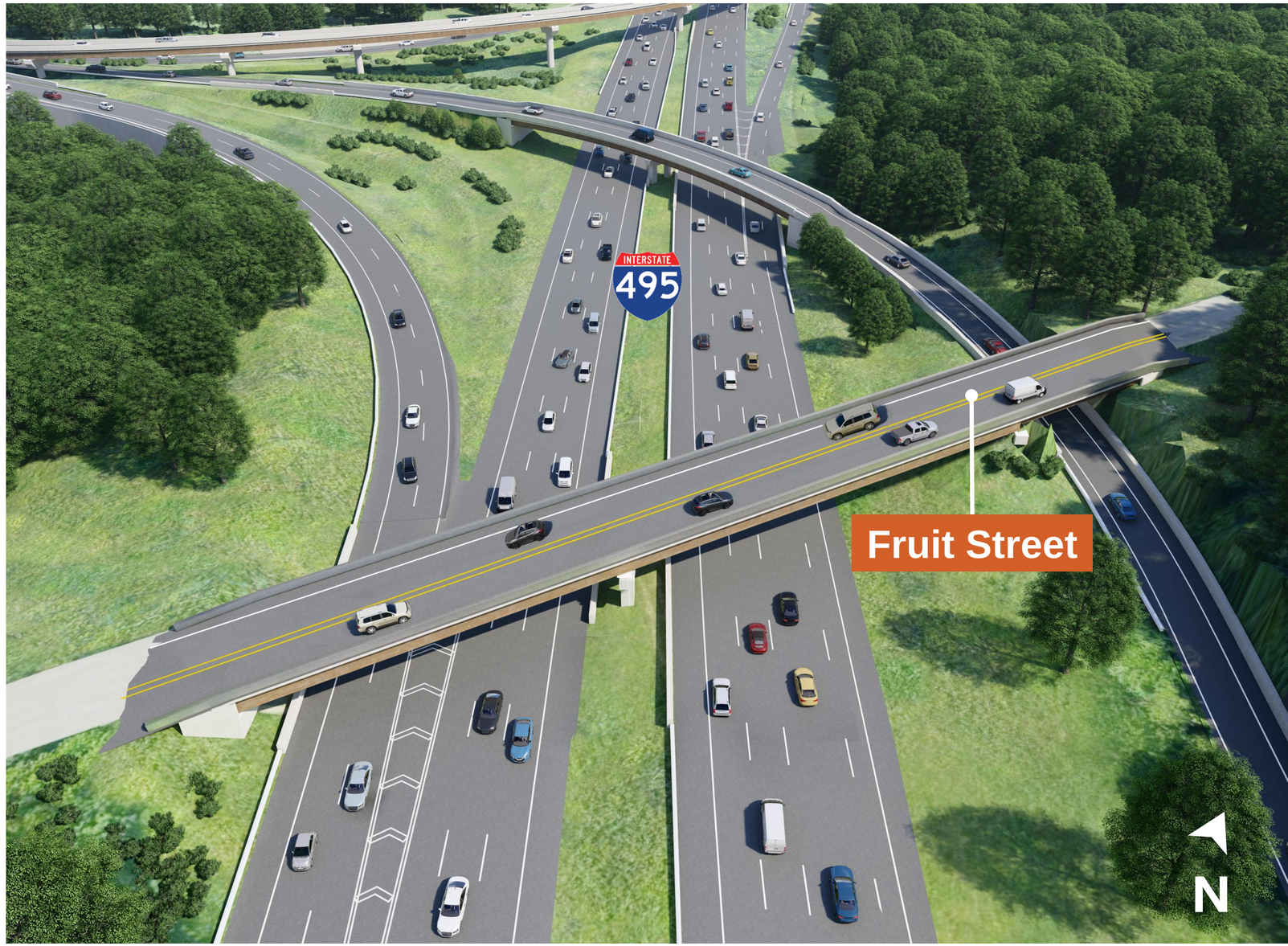
Start Fruit Street Bridge/Road Work

- Fruit Street bridge to be replaced
- Two major construction phases
- 2-way, 1-lane alternating traffic (under signal control) during major stages
- Utility work to support the bridge replacement
- Roadway work on the approaches to support the bridge replacement
- Landscaping elements included



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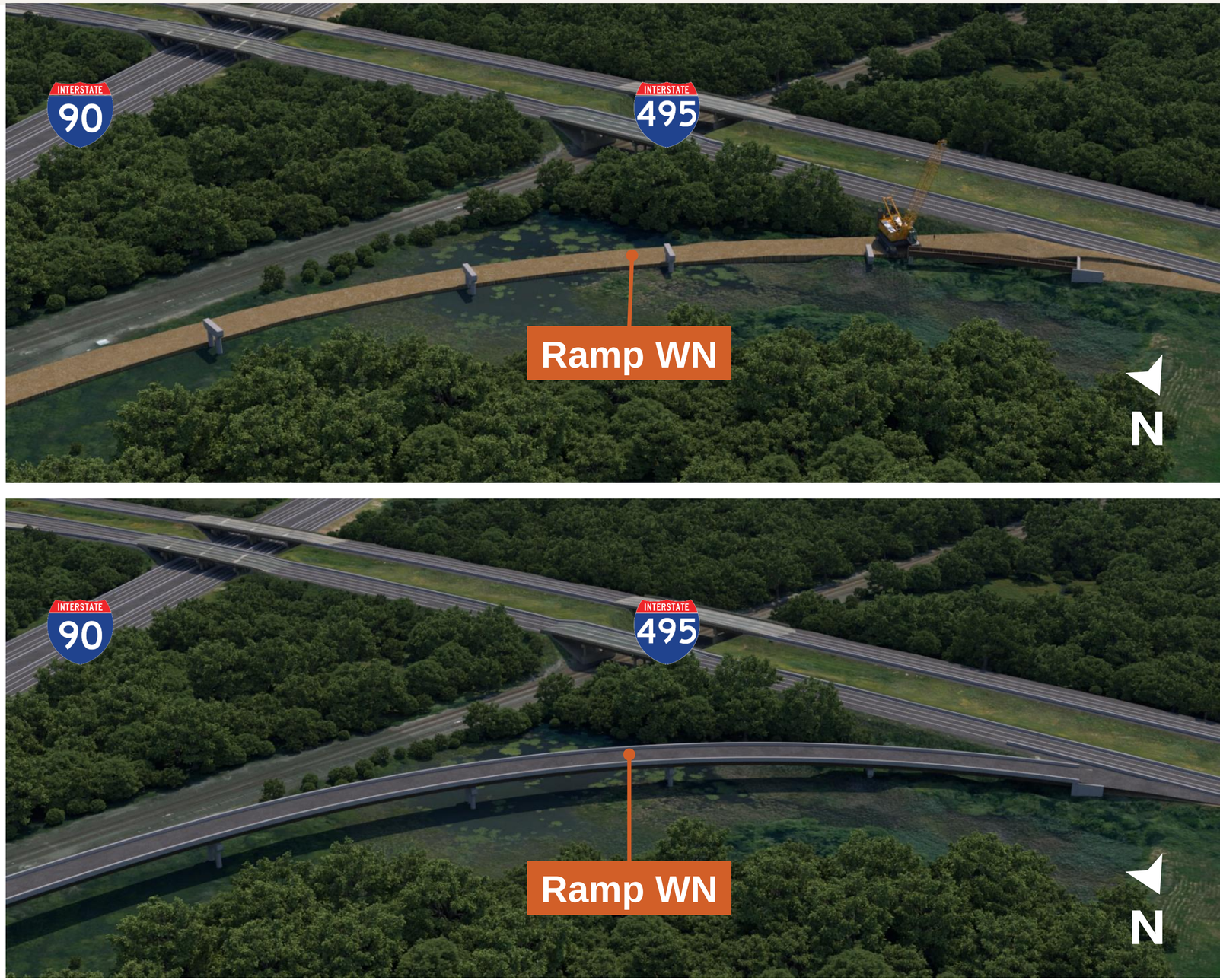
Access Work to Support Ramp WN Bridge/Road Work

- 1-lane direct ramp to be constructed between I-90 WB and I-495 NB
- To be constructed in sensitive environmental resource area
- Initial work will involve construction of access points to allow for follow-on construction of Ramp WN



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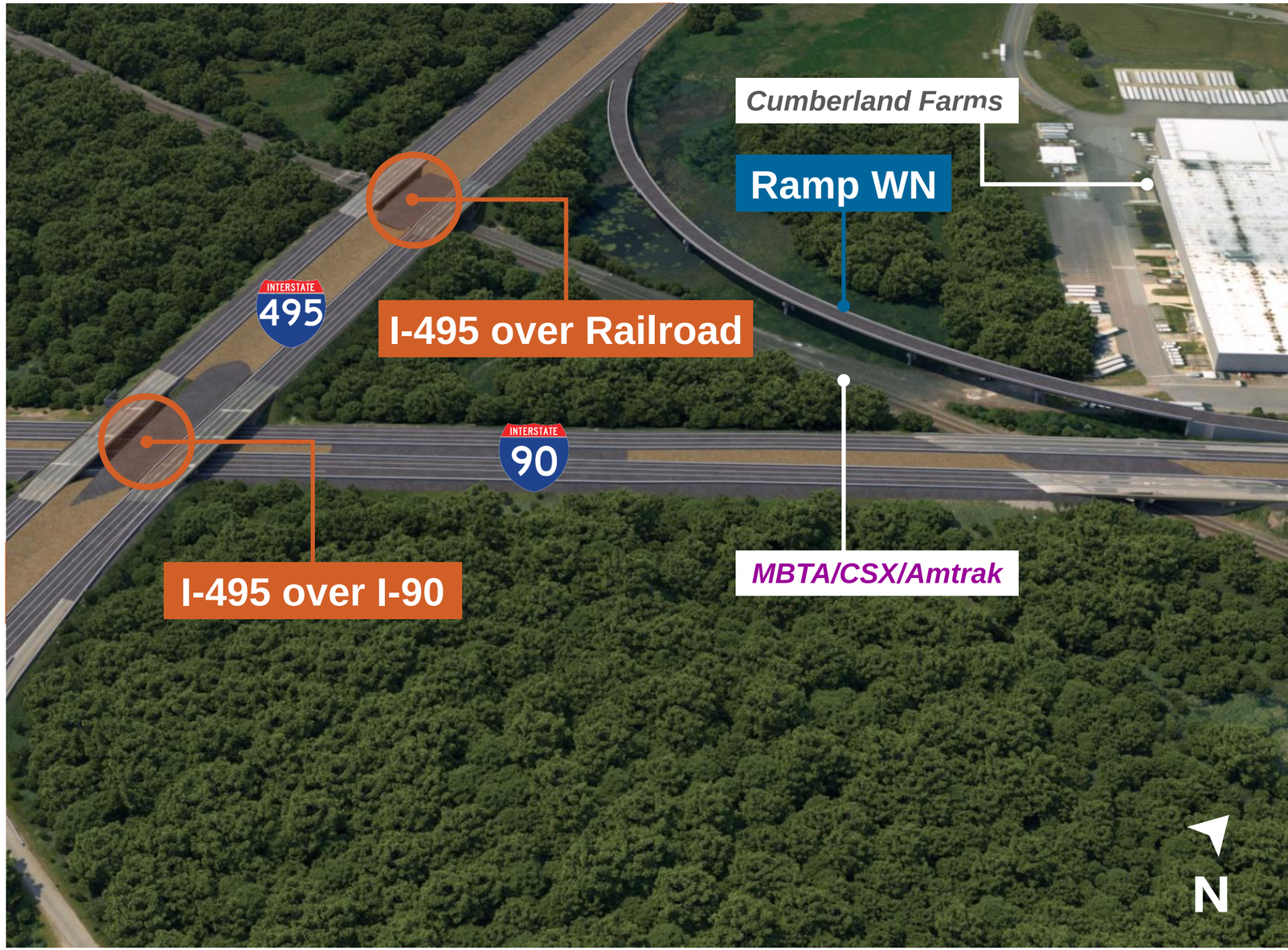
Initial I-495 NB Median & Bridge Work

- Future I-495 NB to be constructed in existing I-495 median
- Includes construction of bridges carrying I-495 over I-90 and MBTA/CSX/Amtrak
- Will be used temporarily for I-495 SB traffic in Stage 2 while existing I-495 SB is being reconstructed



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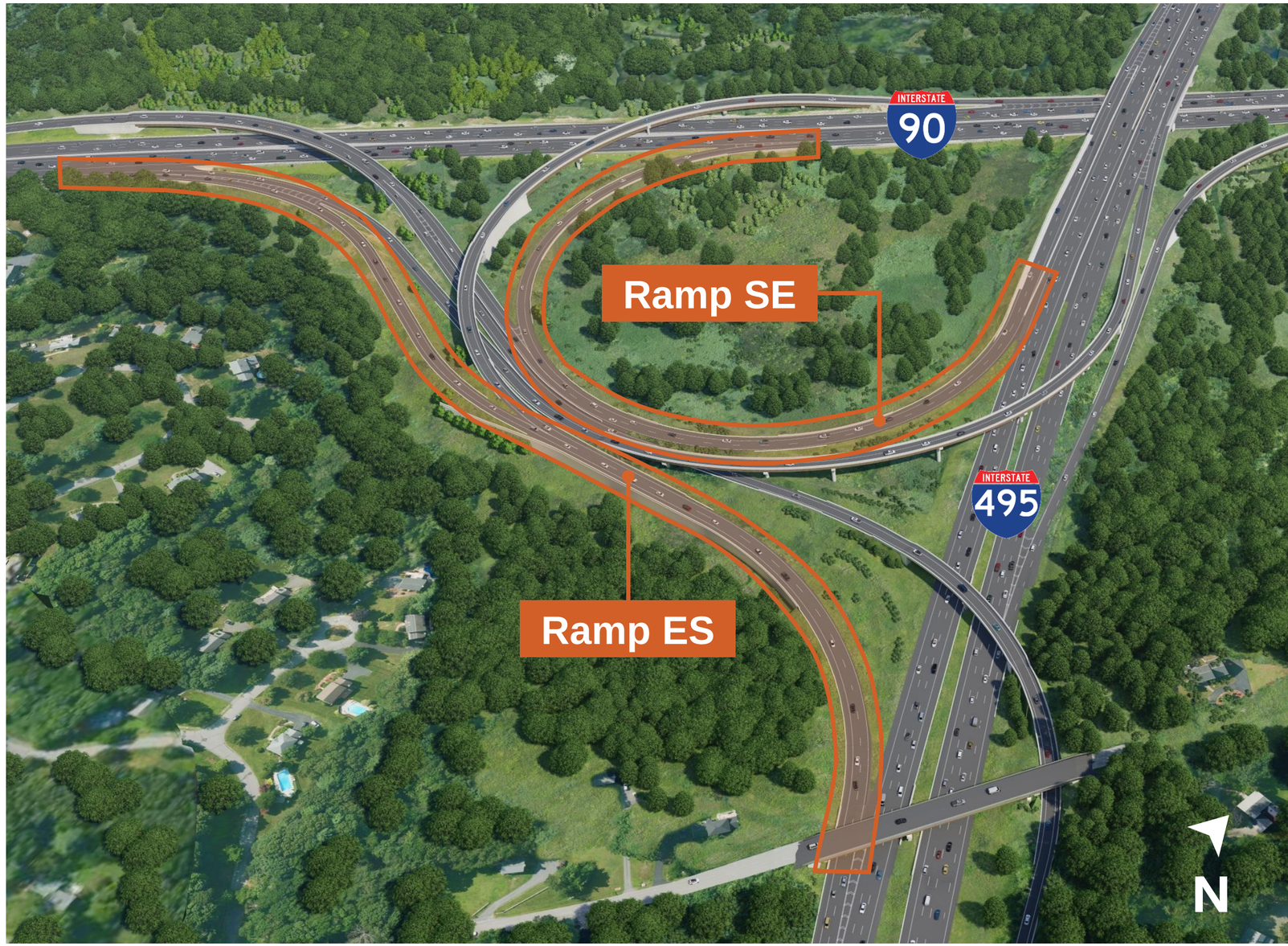
Start ES/SE Construction

- Future Ramp ES ramp will be constructed from I-90 EB to I-495 SB
- I-90 EB off-ramp traffic will use temporary ramp during construction
- Includes retaining wall construction to protect environmental resource areas
- Includes reconstruction of Culvert 10
- Works includes commencement of work on future Ramp SE ramp from I-495 SB to I-90 EB



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Outreach and Communication Plan

Community Outreach and Engagement

Public Information Meetings

- Construction Kickoff Meeting in mid-November
- Meetings will take place prior to the start of major construction activities and impacts
- Meeting schedule will be consistent with design and construction schedule, and major project milestones

Design Public Hearings

- First 75% Design Public Hearing on ES/SE/Culvert 10 & Fruit Street—December 2022/January 2023
- Subsequent 75% Design Public Hearings will follow throughout 2023 based on design development

Briefings with local and state officials, community groups, and neighborhoods

Public Outreach Schedule

Task	Date	Details
Legislative Briefing	• 10/26/22	Email invitation, presentation
495 Partnership Meeting	• 11/03/22	Presentation
Kickoff Public Meeting	• November 2022	Meeting flyer, update website with meeting information, eblast, presentation
Fruit Street Neighborhood Meeting	• December 2022	Email invitation, presentation
75% Design—Fruit Street/ Ramps ES, SE	• December2022-January 2023	Meeting flyer, update website with meeting information, eblast, presentation
Finalize Stakeholder Database	• October 2022	
Project Eblasts	• November 2022 • December 2022 • January 2023	

Staying Connected

- Comprehensive email distribution list: Email contact list includes the broader region, Chambers of Commerce, TMAs, trucking and travel industries, local and regional elected officials, town departments, etc.
- Regular project eblast updates before key milestones
- Notifications and advisories on traffic and construction impacts with advance notice

Project website

https://www.mass.gov/i-495i-90-interchange-improvements

Project email

495-90Improvements@state.ma.us

Social media

- **Facebook:** @massdotinfo
- **Twitter:** @MassDOT

Questions and discussion

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Thank You

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No. 607977-116673

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