



Complete Intersections

Rethinking Bike & Pedestrian Safety at the New Fern Hollow Bridge

Paige Anderson

Project Manager, Traffic Division

City of Pittsburgh Department of Mobility and Infrastructure

Emily Koehle, PE

Project Engineer, Toole Design Group

Penn State TESC, 12/2023

DOMI's Mobility Goals



Goal 1: No one dies traveling on city streets.



Goal 2: All households can access fresh fruits and vegetables within 20 minutes travel of home, without requiring a private automobile.



Goal 3: Walking and bicycling are the most joyful mode for short distance trips.



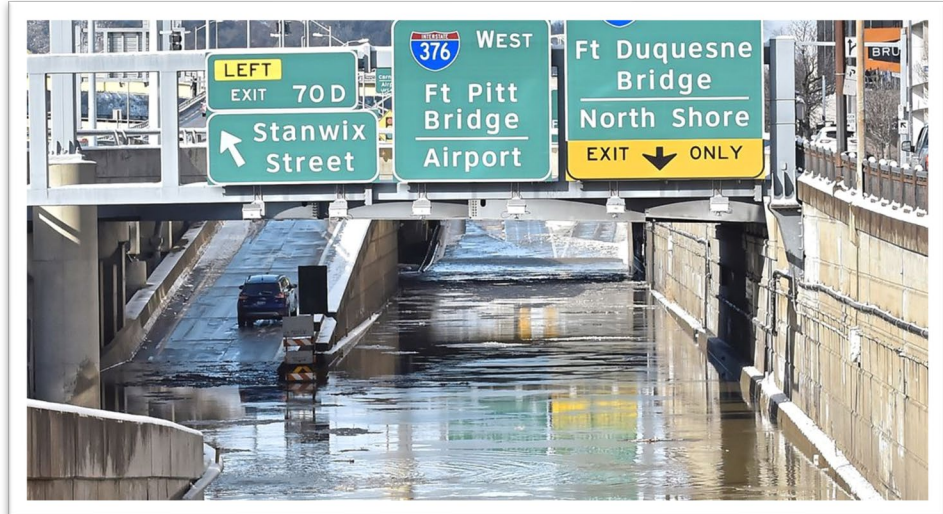
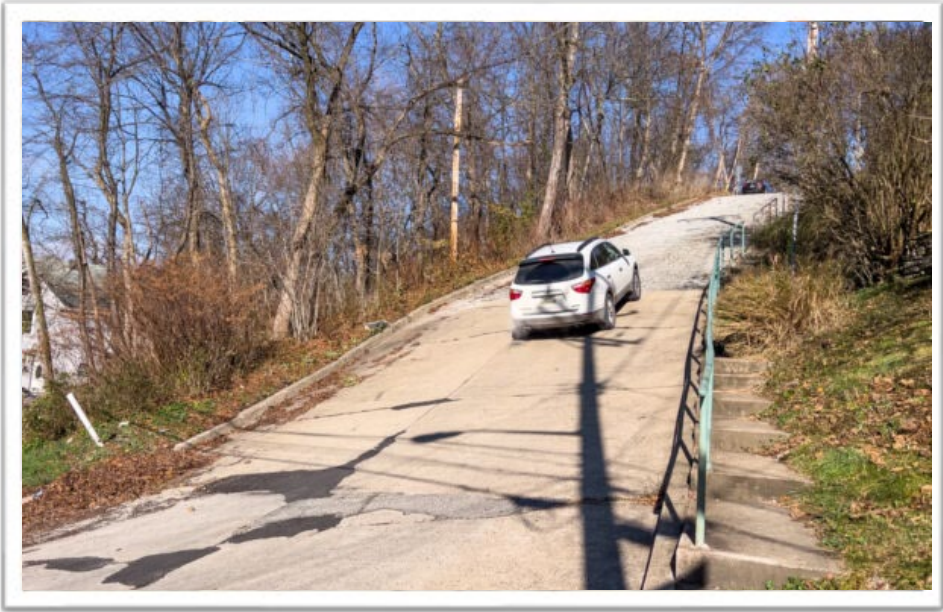
Goal 4: No household must spend more than 45% of household income for basic housing and mobility.



Goal 5: Pittsburgh streets and right of ways reflect the values of our community.



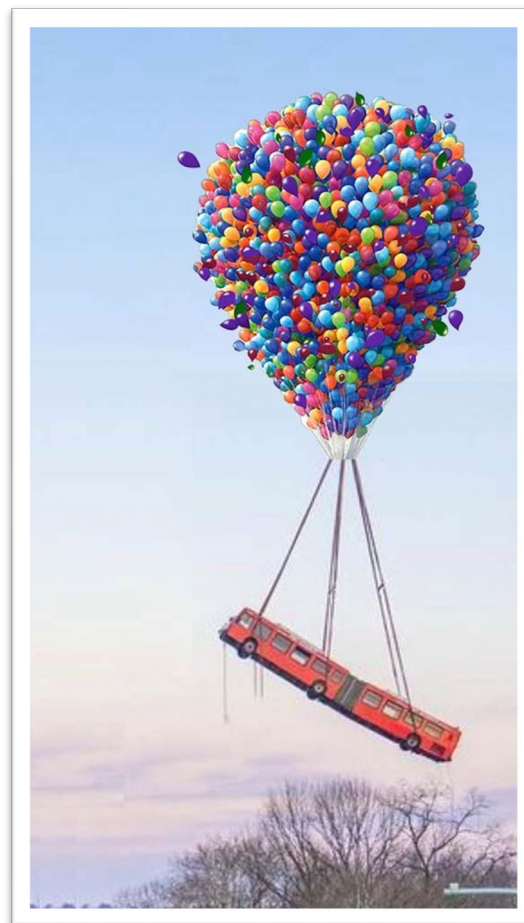
Welcome to Pittsburgh!



Fern Hollow Bridge, January 2022



Fern Hollow Bridge



The New Fern Hollow Bridge



August, 2022



December, 2022

The Old Fern Hollow Bridge

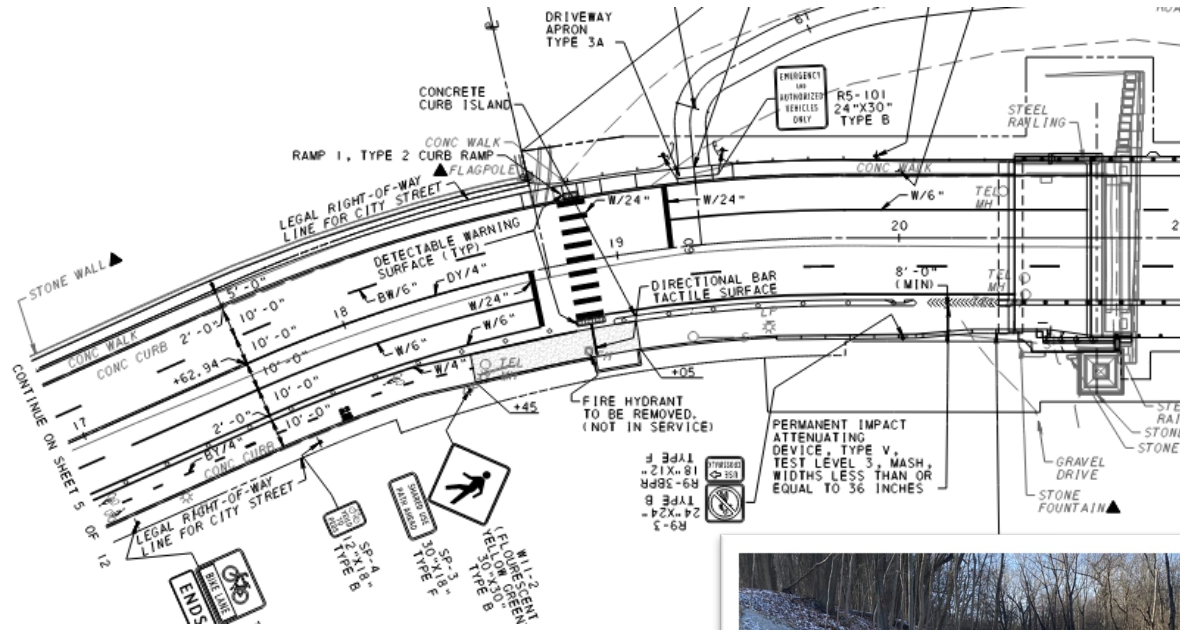


2021: 2 narrow sidewalks, 4 wide travel lanes

The New Fern Hollow Bridge



The New Fern Hollow Bridge

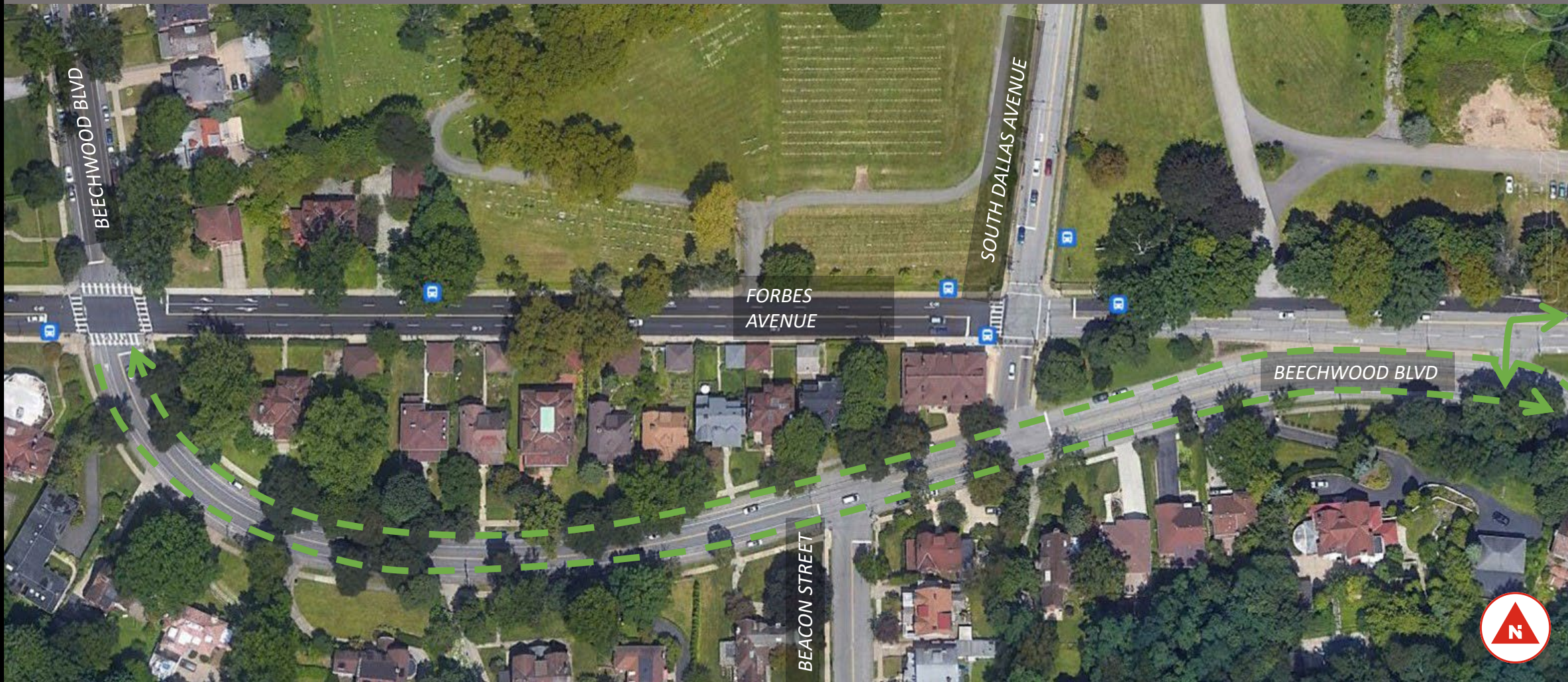


Now: 10.5' shared use path changing to a 2-way cycle track on Forbes Ave's South curb





The New Fern Hollow Bridge





Project Area

Legend

-  Existing Bike Facilities
-  Proposed Bike Facility

Project Goals & Team

- *To implement a **quick build** solution to the gap in the bicycle network created by the Fern Hollow Bridge replacement that is...*
- *Forward compatible with planned traffic projects in the area and...*
- *Addresses **safety issues** for all users to the greatest extent possible*
- Complex Intersection Analysis: Michael Baker Int'l led by Jessica Belowich
- Bike & Pedestrian Guidance: Toole Design Group
 - Katy Sawyer & Emily Koehle
- City of Pittsburgh & DOMI Team
 - Traffic Engineering: Paige Anderson, Mike Maloch & Charlie Simon
 - Mayor's Office Neighborhood Services Team led by Rebekkah Ranallo
 - Council District 5, Councilperson Barb Warwick



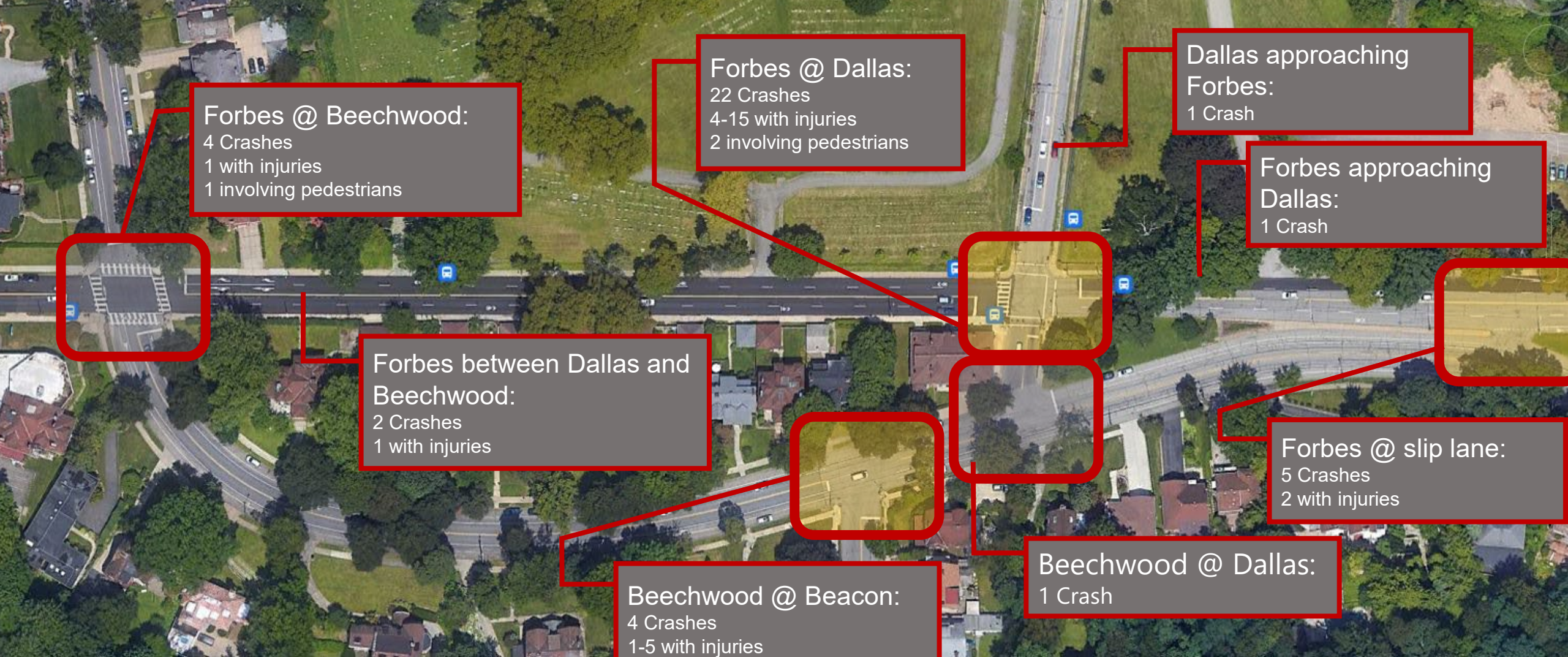
Community Desires

- *Reducing bike & pedestrian conflicts with vehicles on S Dallas at Beechwood Blvd & Forbes Ave*
- *Traffic calming (both Forbes & Beechwood)*
- *Dangers of the slip ramp between Beechwood Blvd & Forbes*
- *Better pedestrian crossings*
- *Better protection for the bike facilities on Forbes*



Google

Image capture: Sep 2021



Reported Crash History, 2017-21

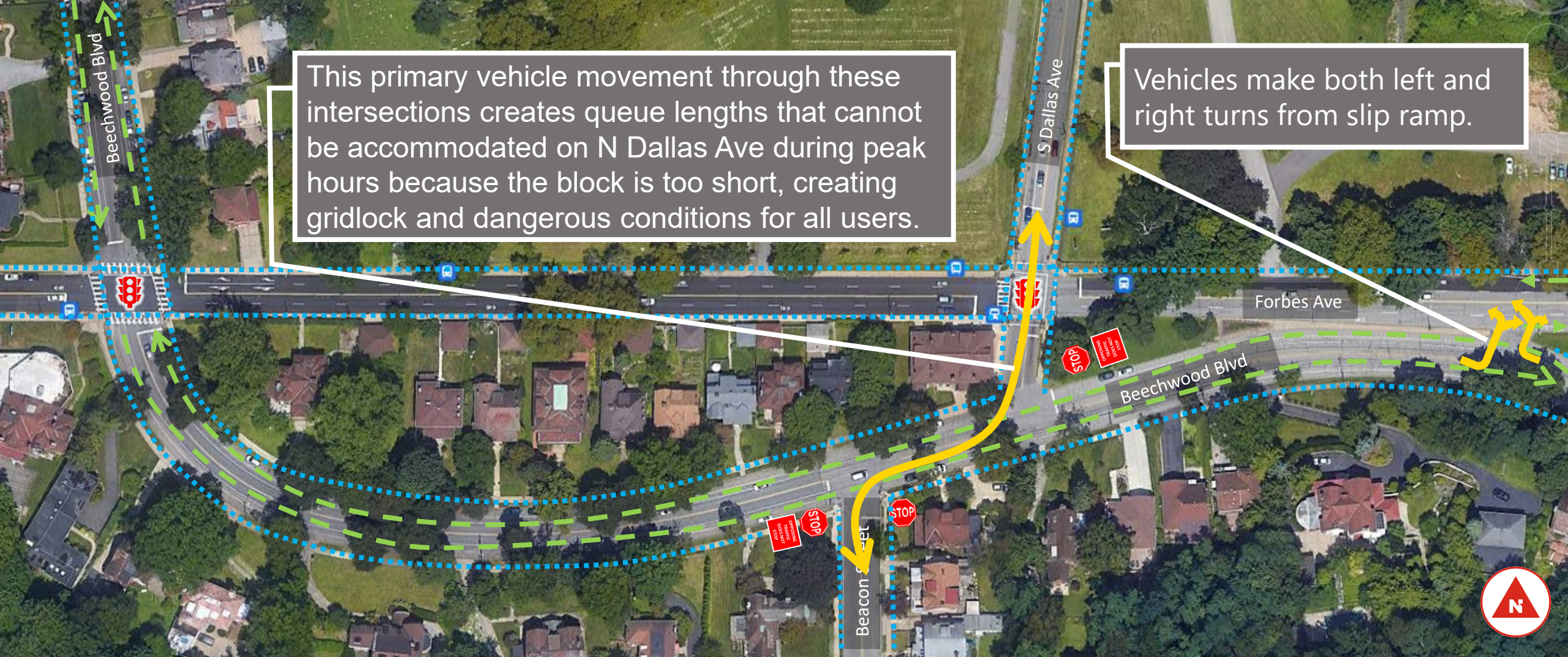
40 Total Reported Crashes

8-24 Injuries*, 3 crashes involving pedestrians**

Crash history provided by PennDOT's PCIT system.

*16 reported crashes labelled "possible injuries" or "unknown severity"

**bike & pedestrian crashes are underreported because reports are only filed when these road users leave a crash location in an ambulance

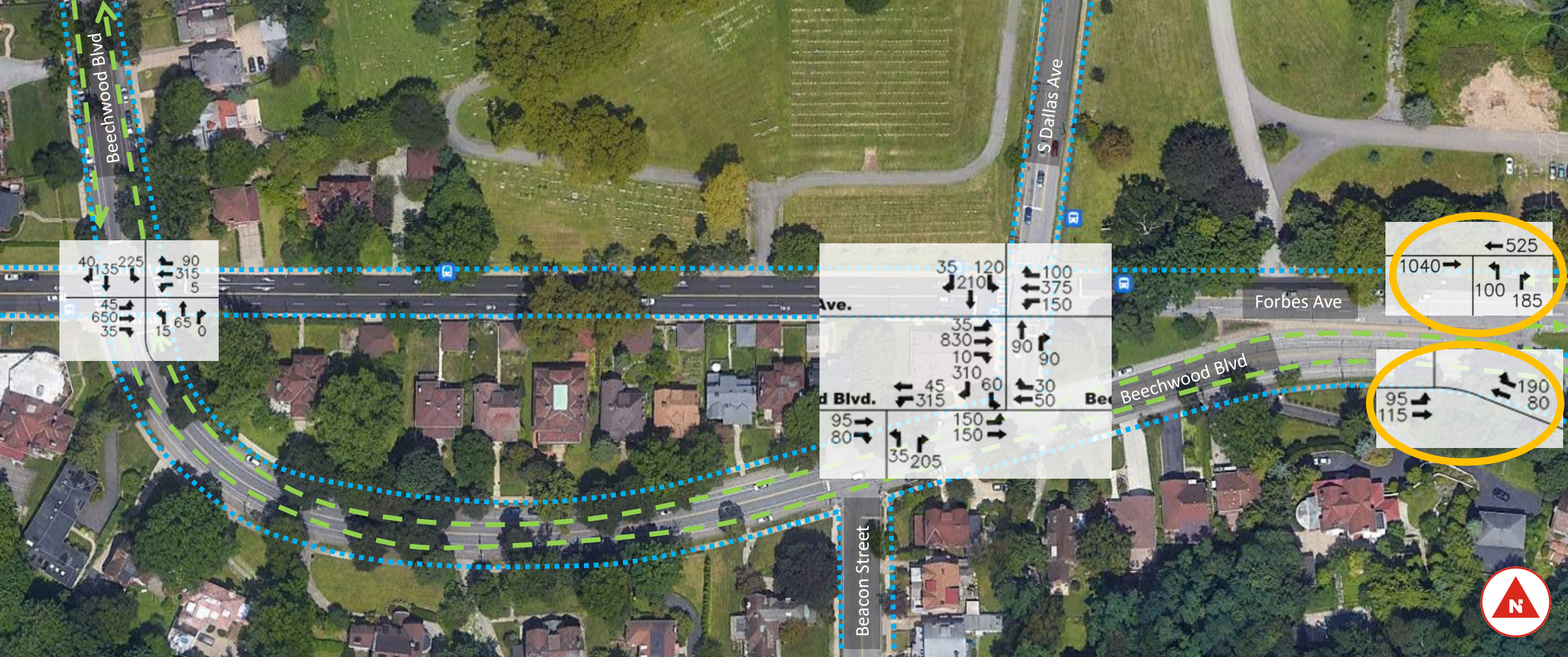


This primary vehicle movement through these intersections creates queue lengths that cannot be accommodated on N Dallas Ave during peak hours because the block is too short, creating gridlock and dangerous conditions for all users.

Vehicles make both left and right turns from slip ramp.

Existing Conditions: Pre-Bridge Closure

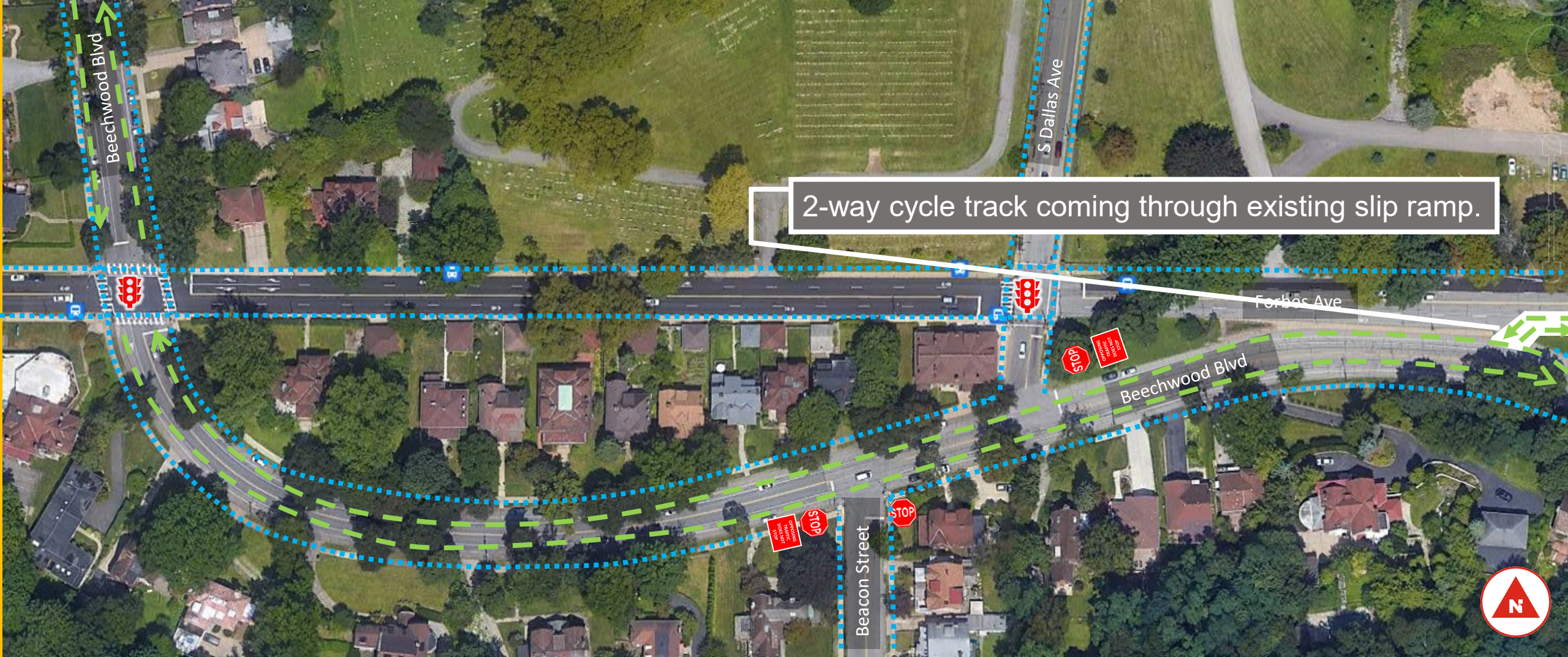
- Legend**
- Existing Bicycle Facilities
 - Existing Sidewalks and Crosswalks
 - Major Motor Vehicle Movements



Existing Volumes: Pre-Bridge Closure

Legend

- Existing Bicycle Facilities
- Existing Sidewalks and Crosswalks
- Major Motor Vehicle Movements

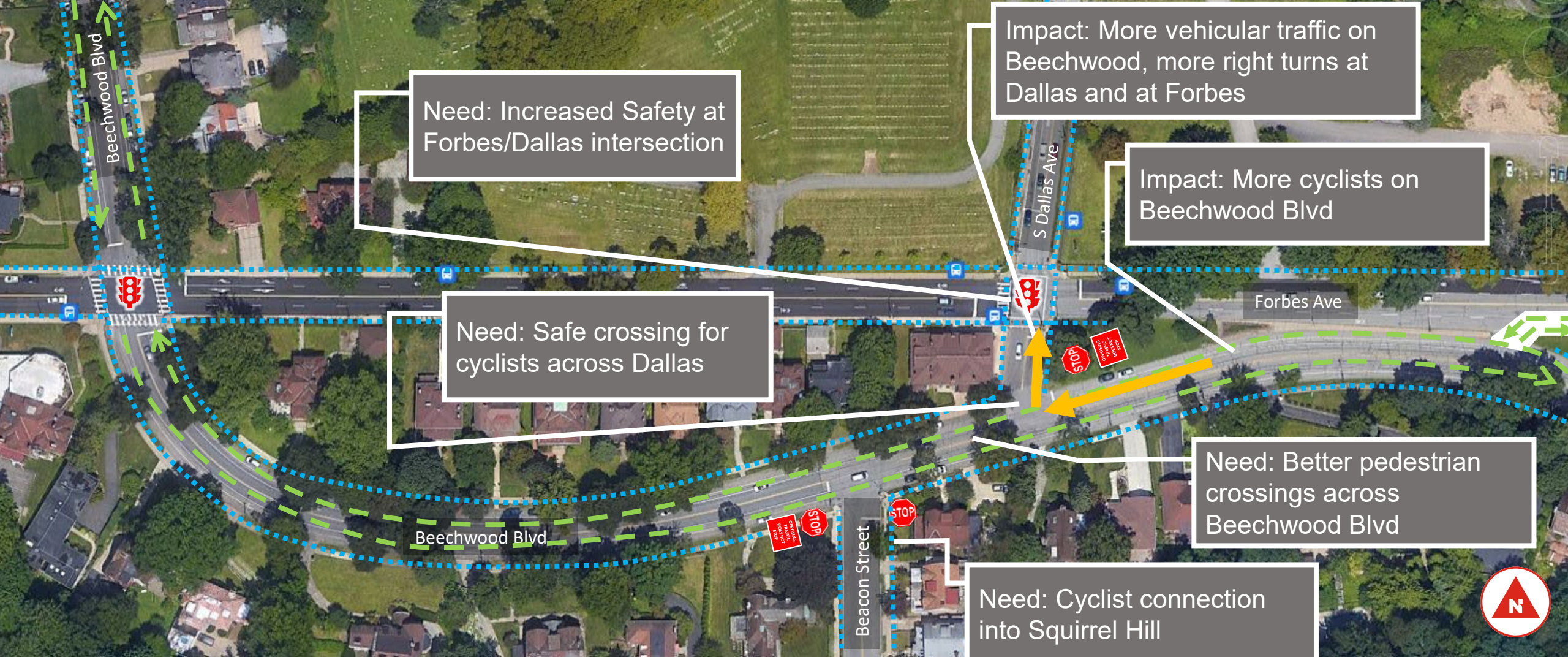


2-way cycle track coming through existing slip ramp.

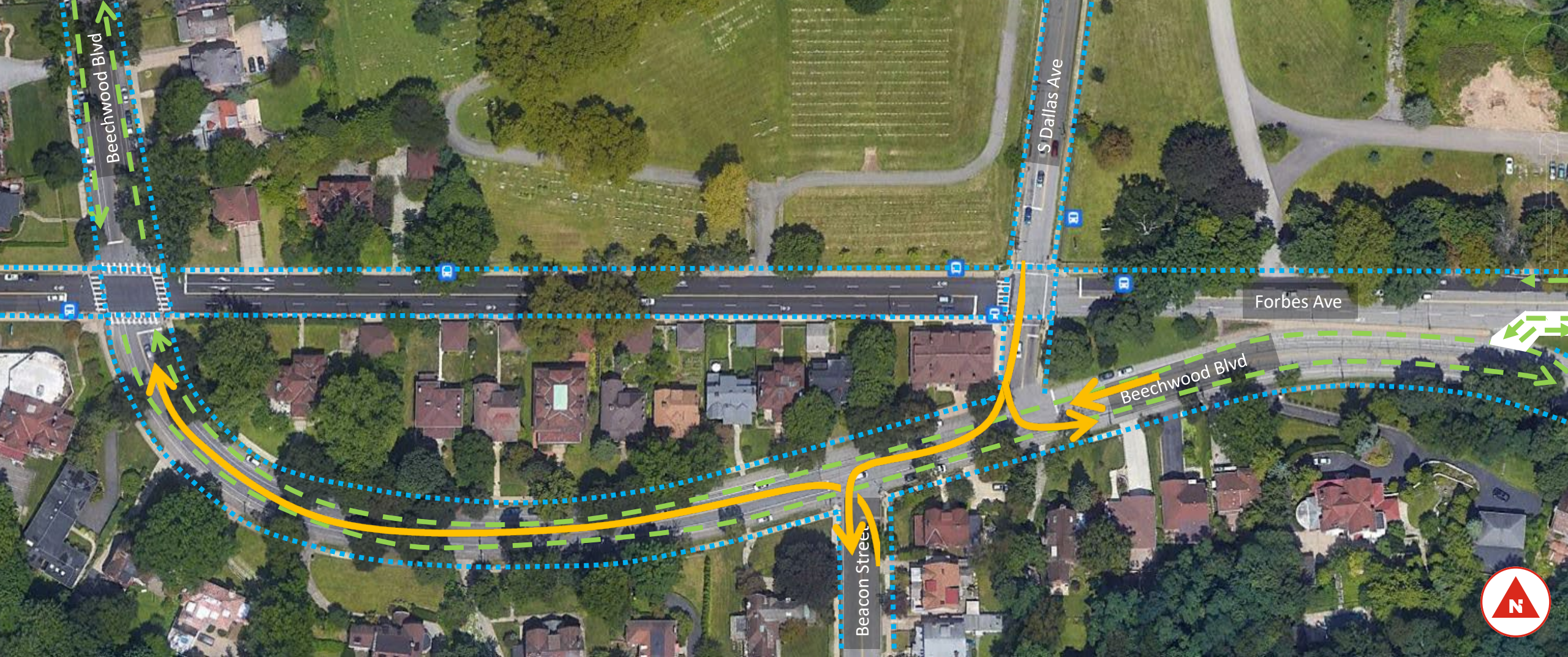
Proposed Conditions: Post-Bridge Opening

Legend

- Existing Bicycle Facilities
- Existing Sidewalks and Crosswalks
- Proposed Bike Facilities



Intersection Impacts & Needs: Post-Bridge Opening

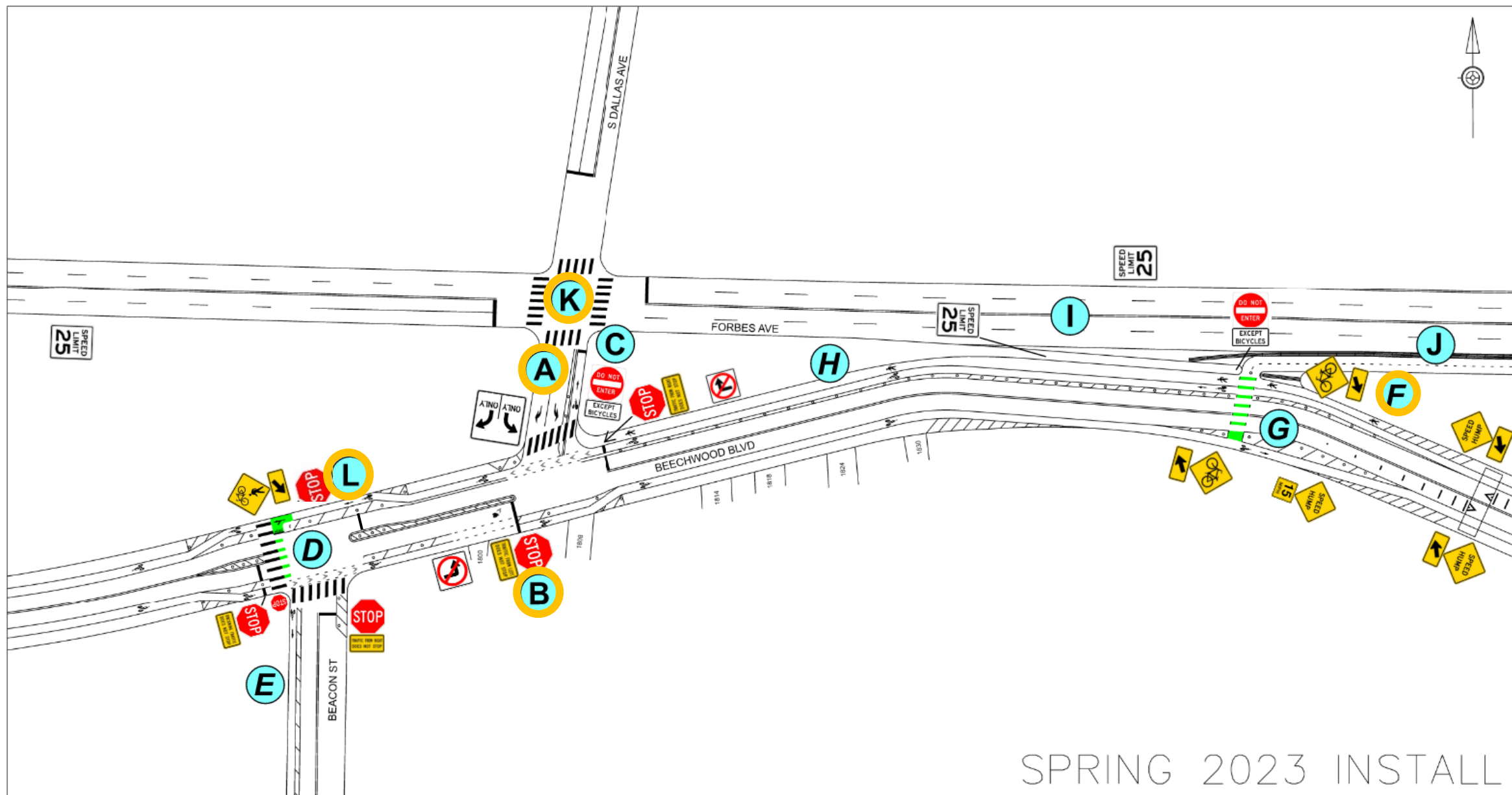


Proposed Conditions: Major Motor Vehicle Movements

Legend

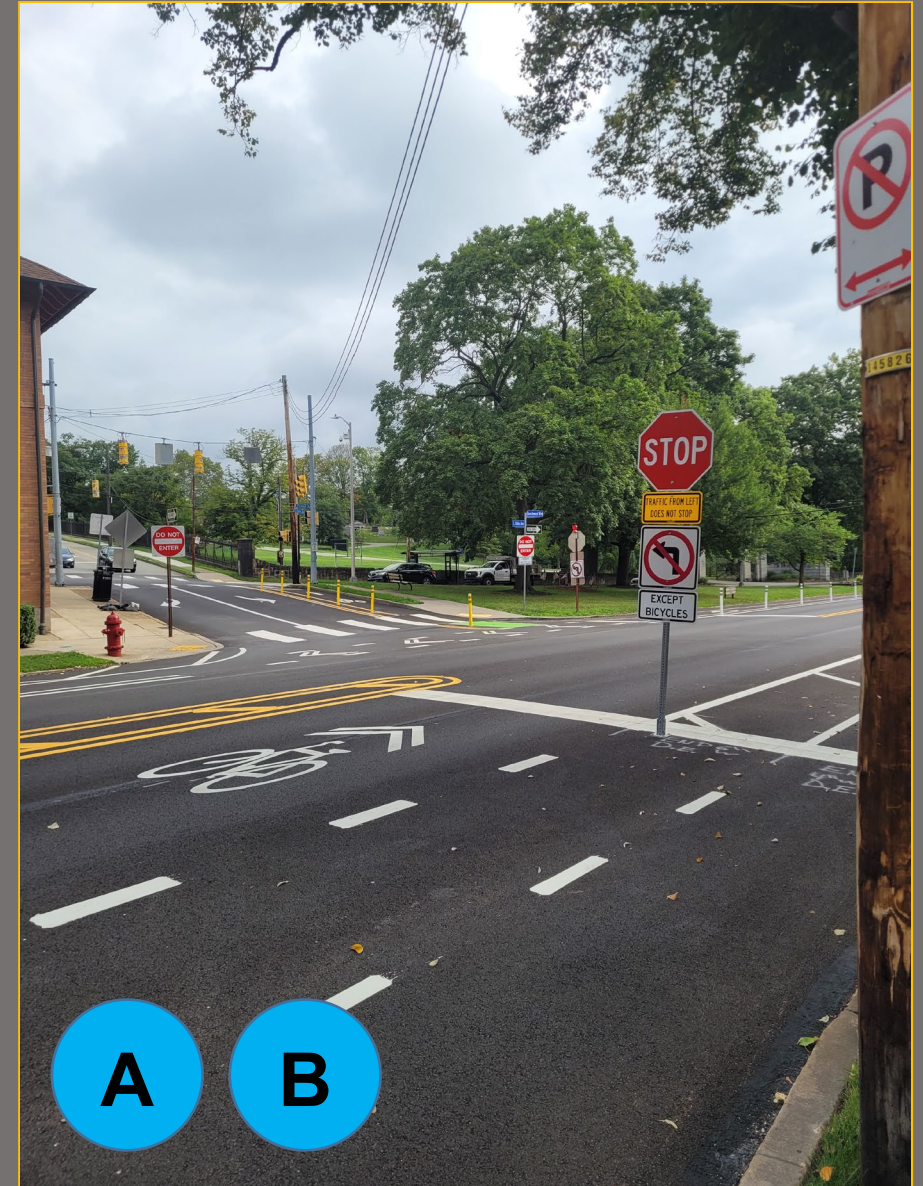
- Existing Bicycle Facilities
- Existing Sidewalks and Crosswalks
- Major Motor Vehicle Movements

Operational Safety Improvements

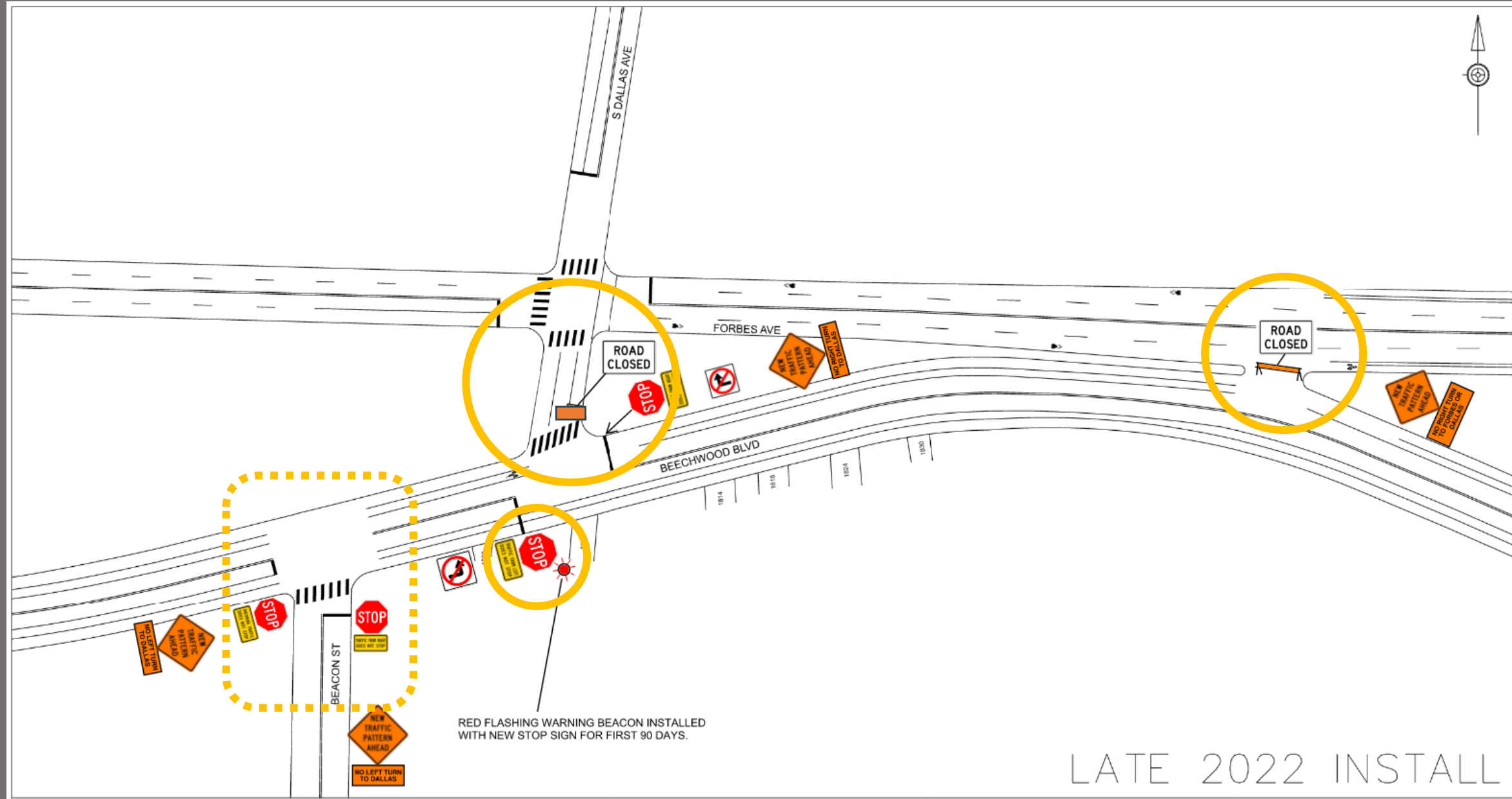


SPRING 2023 INSTALL

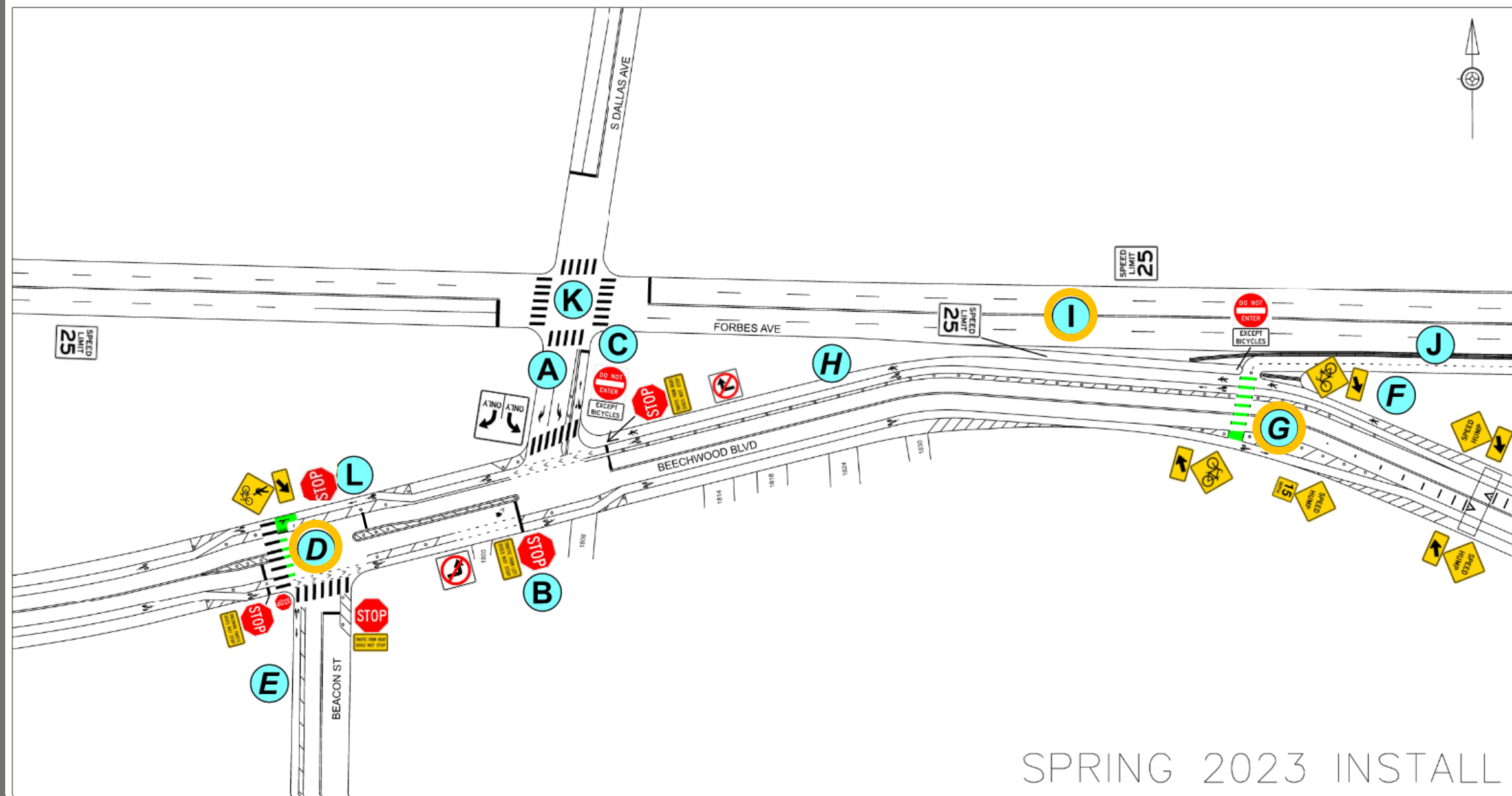
Operational Safety Improvements



Operational Safety Improvements: Interim Phase



Proposed Design: Traffic Calming



SPRING 2023 INSTALL

Traffic Calming

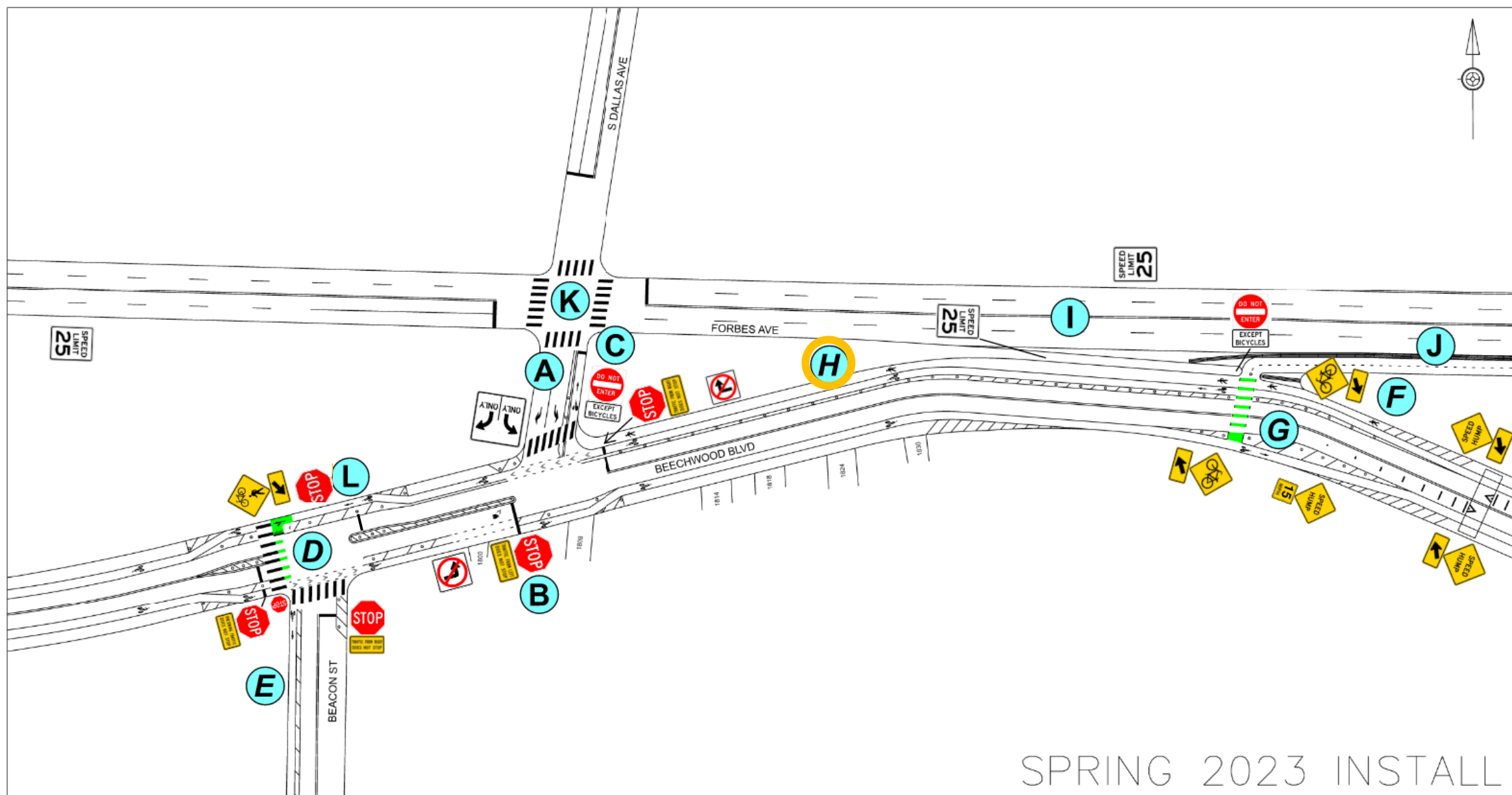


Protected intersection with refuge islands

Crossbike with advanced speed hump



Pedestrian Improvements



SPRING 2023 INSTALL

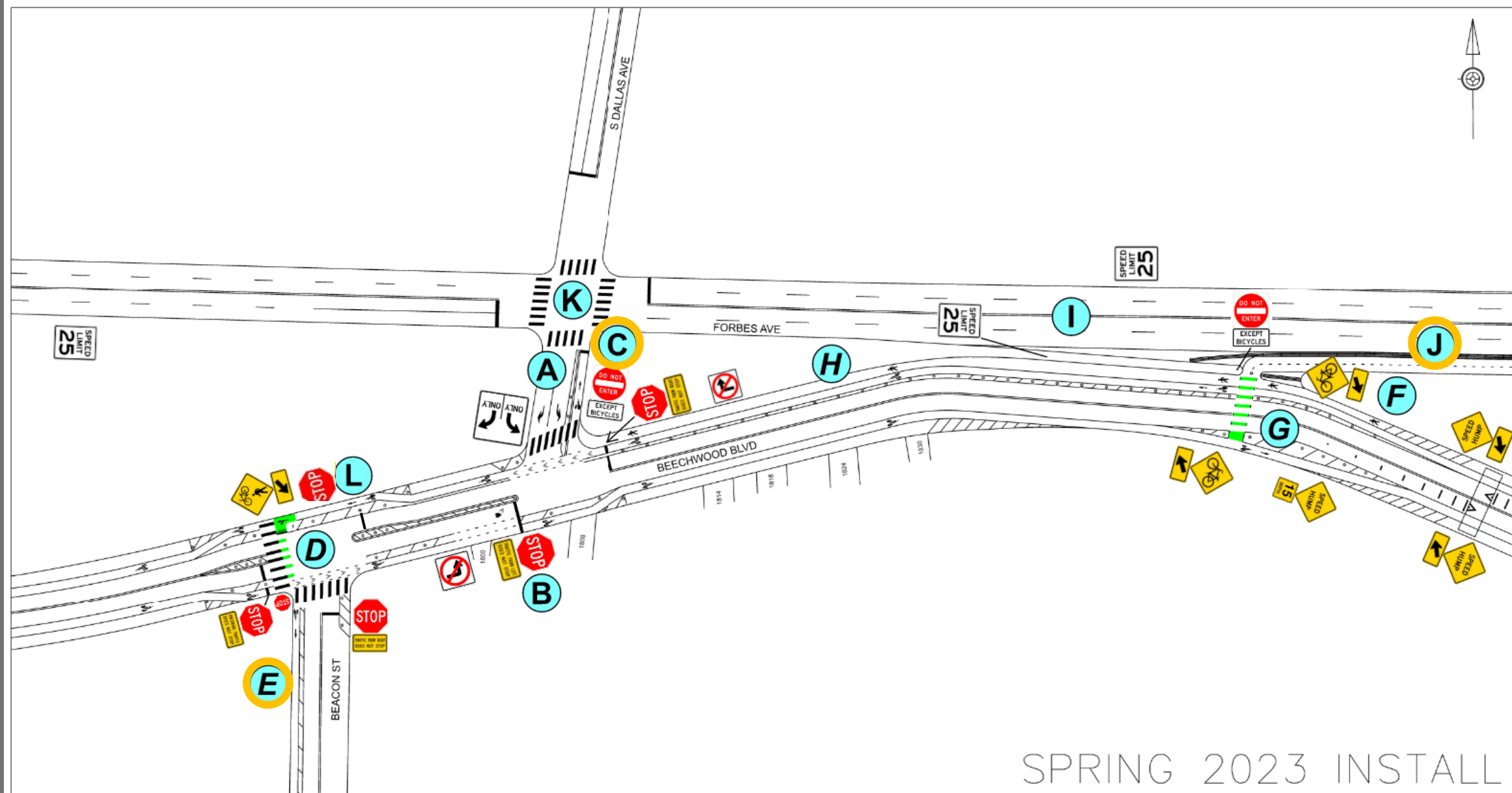
Pedestrian Improvements



Pedestrian lane on Beechwood Blvd



Bike+ Network Improvements



SPRING 2023 INSTALL

Bike+ Network Improvements



C

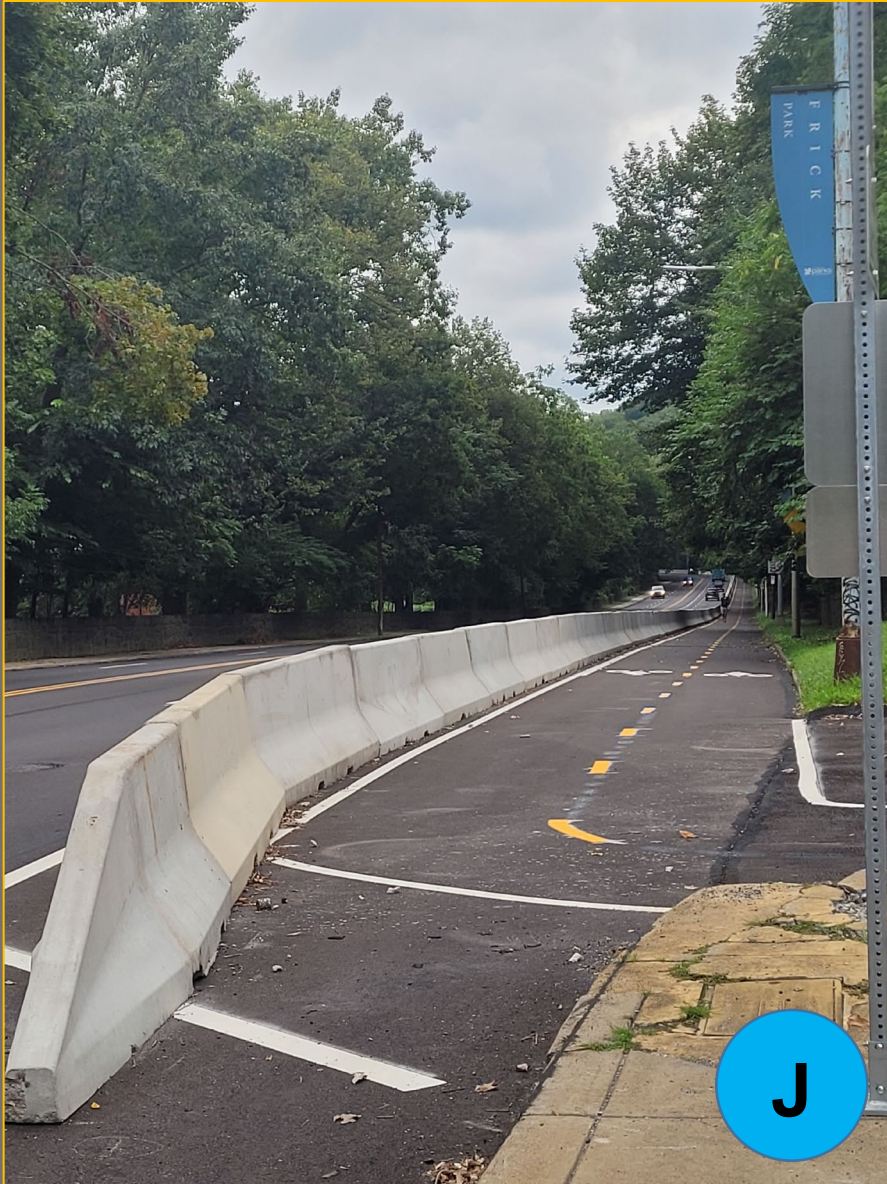
Contra-flow bike lane on S Dallas



J

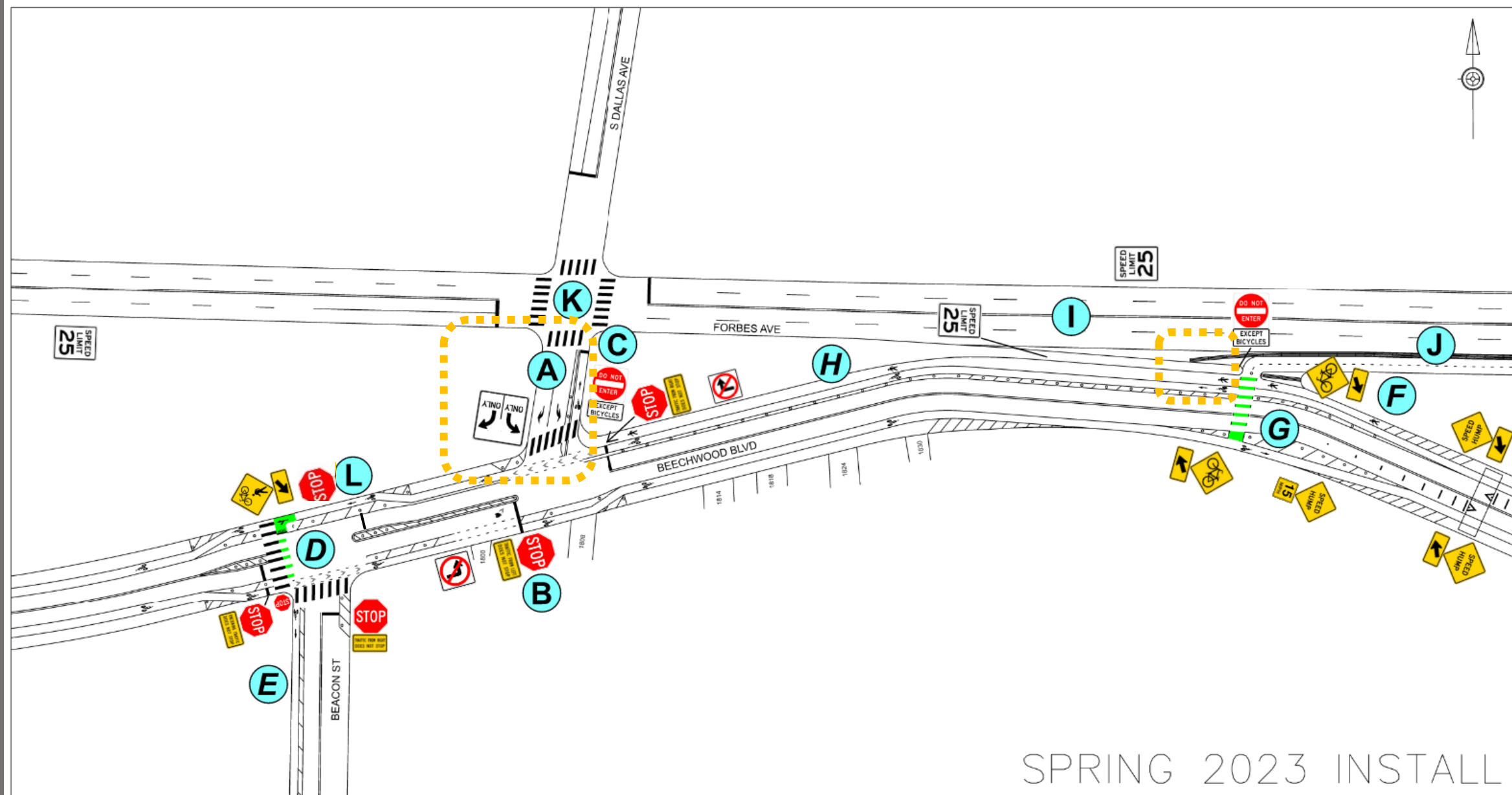
Climbing lane on Beacon St

Bike+ Network Improvements



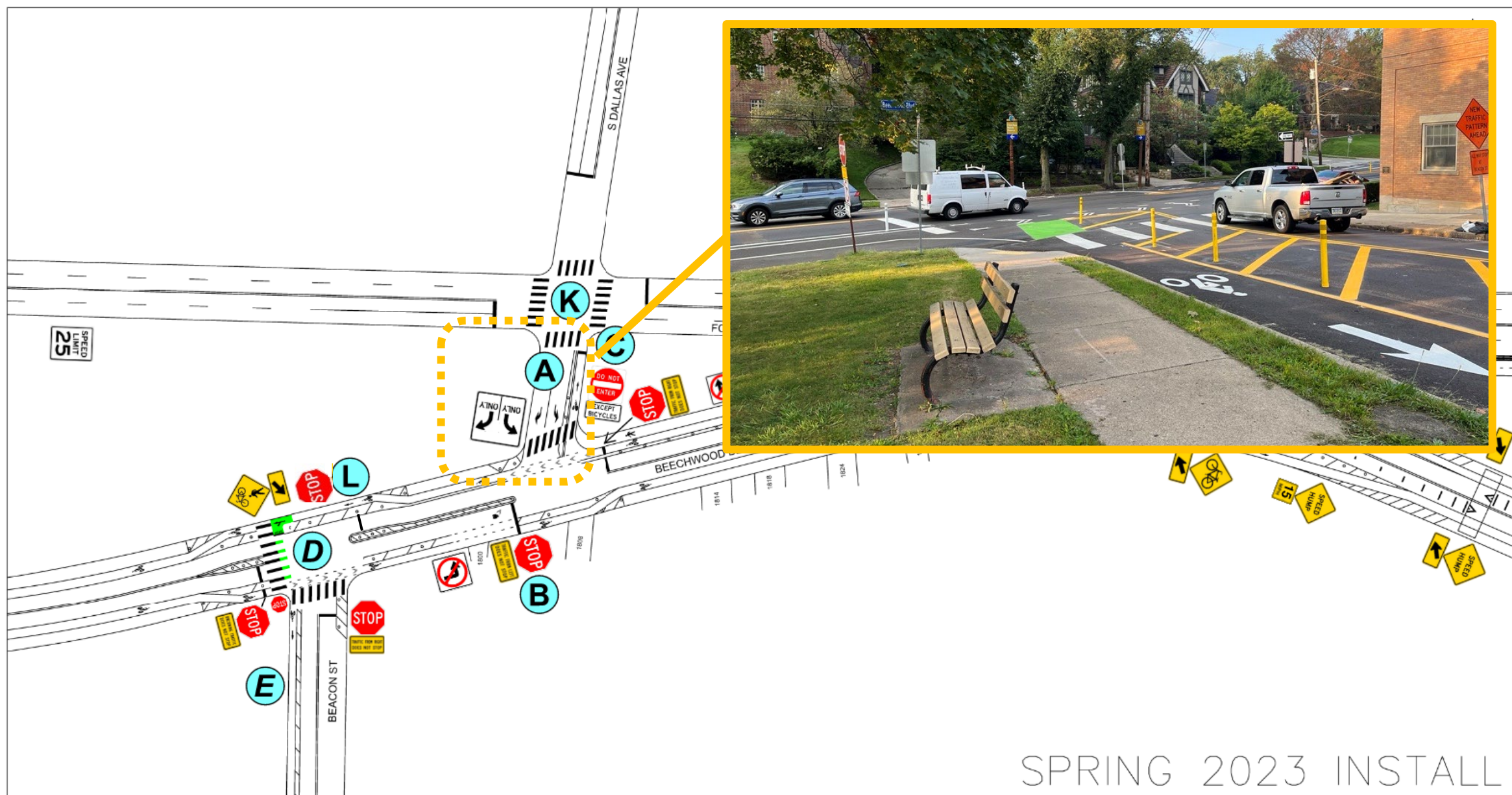
Jersey barriers on the protected cycle track along Forbes towards Fern Hollow Bridge.

Lessons Learned



SPRING 2023 INSTALL

Lessons Learned



SPRING 2023 INSTALL



Thank you!

Paige.Anderson@pittsburghpa.gov

CompleteStreets@pittsburghpa.gov

<https://engage.pittsburghpa.gov/complete-streets>