

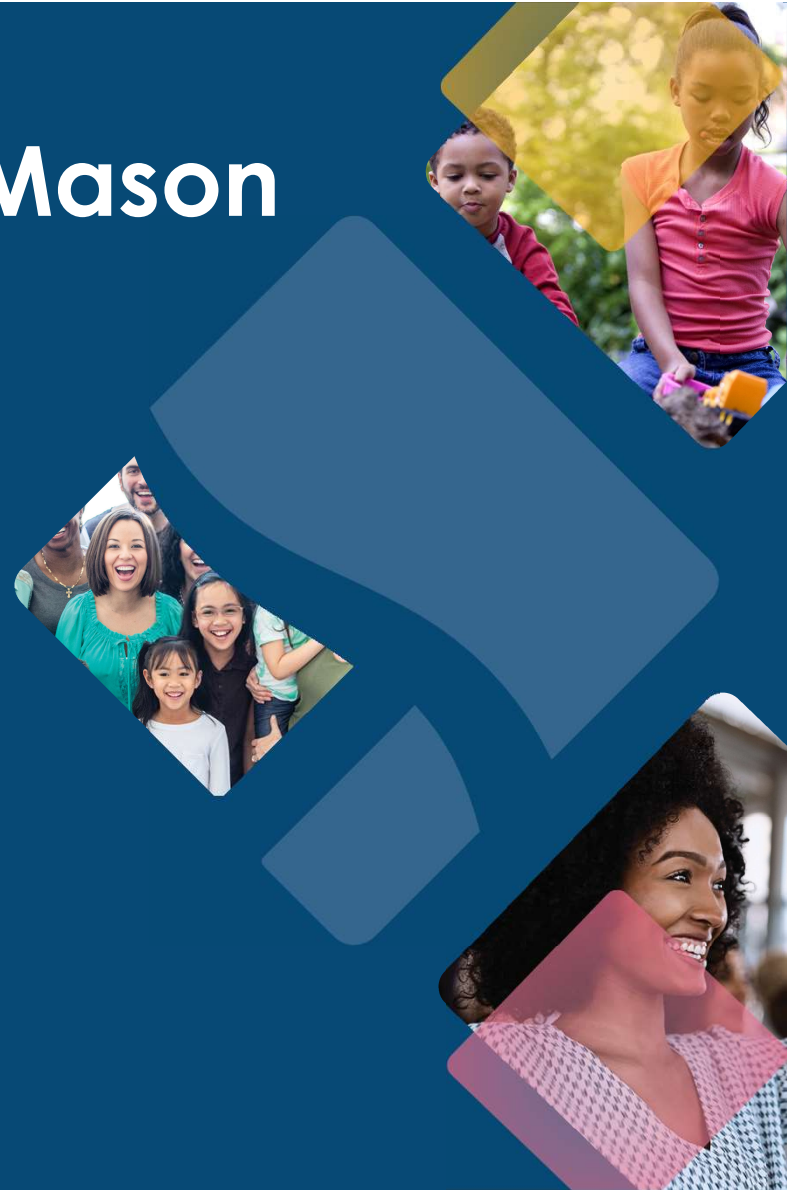
# N. Park Drive & N. George Mason Drive Intersection

## Short- and Long-Term Safety Improvements

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DES Transportation Presentation to AFCA  
November 15, 2023

Kyle Kling - Capital Project Coordinator, TPCPM  
Christine Baker - Vision Zero Program Manager, TE&O



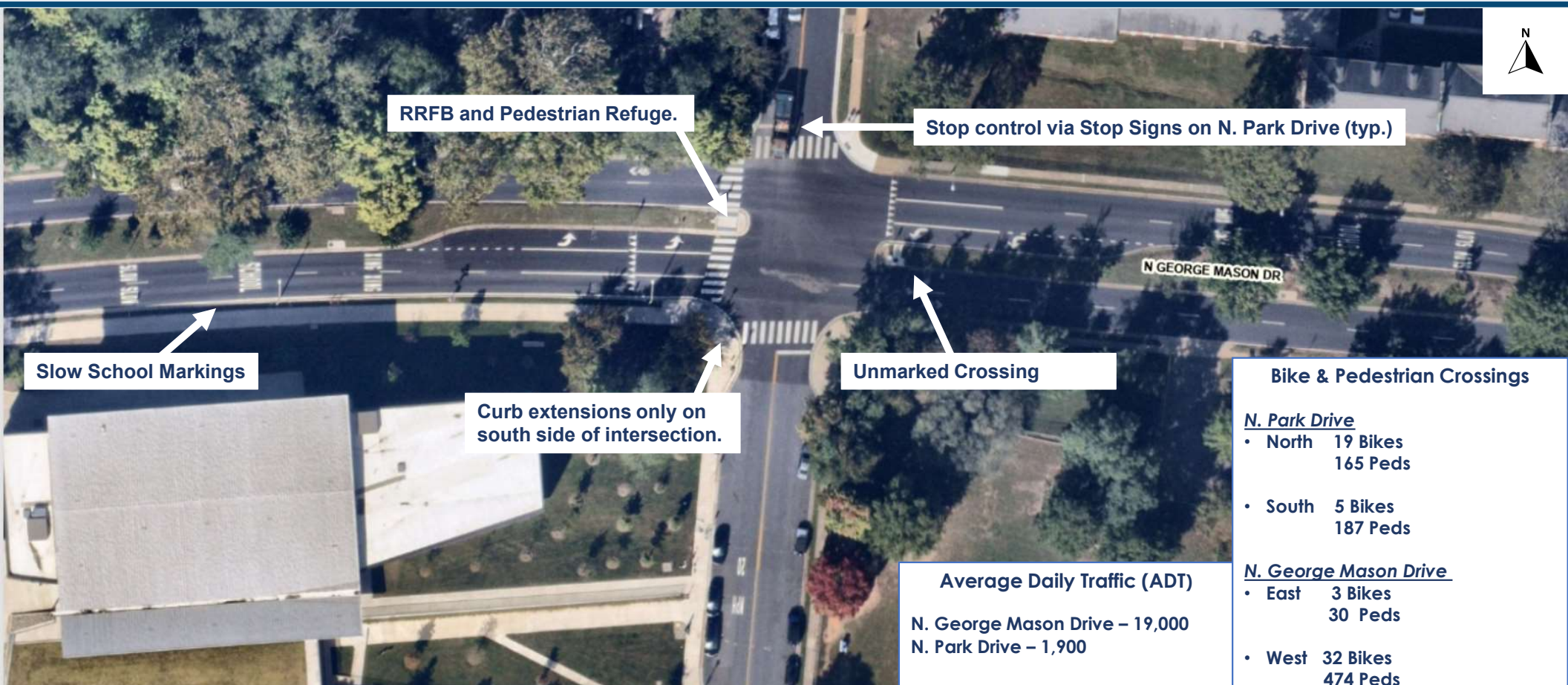
# Existing Conditions & Project Background

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# N. Park Drive & N. George Mason Drive Intersection

## Existing Conditions



### Average Daily Traffic (ADT)

N. George Mason Drive – 19,000  
N. Park Drive – 1,900

### Bike & Pedestrian Crossings

#### N. Park Drive

- North 19 Bikes  
165 Peds
- South 5 Bikes  
187 Peds

#### N. George Mason Drive

- East 3 Bikes  
30 Peds
- West 32 Bikes  
474 Peds



# N. Park Drive & N. George Mason Drive Intersection

## Existing Conditions



Existing Condition: N. Park Dr (NB)



Existing Condition: N. Park Dr (SB)

\* Streetview does not reflect latest west side curb extension and RRFB



# N. Park Drive & N. George Mason Drive Intersection

## Existing Conditions



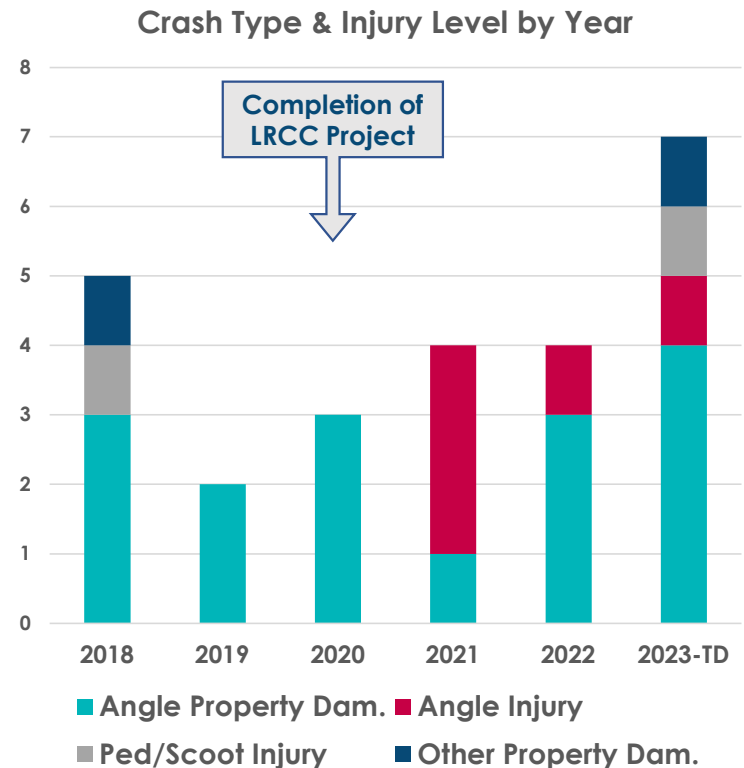
Existing Condition: N. George Mason Dr (WB)



Existing Condition: N. George Mason Dr (EB)

# Crash Data (Jan 2018-Current, ACPD)

- 25 crashes at the intersection
  - 21 angle crashes related to left turns/gap gauge
    - 6 of which resulted in an injury
  - 2 involved a pedestrian or scooter
    - Both injury; 1 before RRFB / 1 did not use RRFB
  - 2 involved rear end or backed into; No injuries
- 4 visible injury crashes between 2021-22 prompted a capital project (traffic signal)
- Increase in 2023 crashes prompted interim action (in progress)



# Project Background



## Lubber Run Community Center Traffic Study

- Intersection studied as part of Lubber Run Community Center Site Plan (2017).
- Study anticipated traffic pattern changes at the intersection of N. Park Drive and N. George Mason Drive
  - Recommended additional safety measures up to full signalization of intersection.
- Final site plan implemented RRFB and Pedestrian Refuge; as well as commitment to conduct further signal analysis once new traffic patterns were established



## Post Lubber Run Community Center Site Plan

- COVID 19 Pandemic altered how people travel
- County adopted Vision Zero Resolution in 2019 and 5- year Vision Zero Action Plan in 2021
  - More crash and speed data to assess intersection; revisit 2017 study.
- In 2022 DES Transportation recommended signalization of the intersection because it met the following Federal warrants for signalization as described in the Manual for Uniform Traffic Control Devices (MUTCD):
  - Proximity to school crossing
  - Pedestrian Volumes
  - Crash History
  - Vehicle Speed and Volumes
- Trends in Crash Data prompts County to accelerate Capital Project.

# Signalization Design & Project Timeline

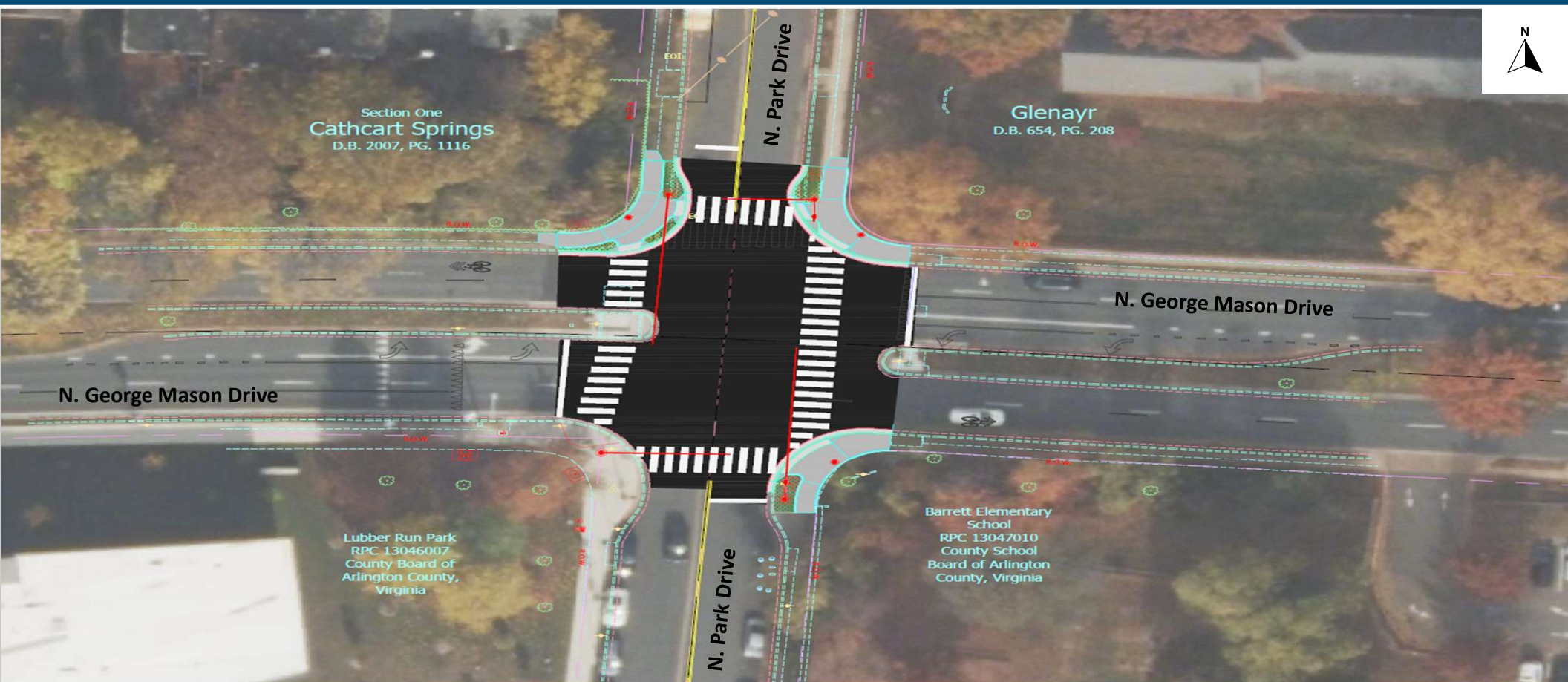
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# N. Park Drive & N. George Mason Drive Intersection

## Preliminary Design – November 2023



# Design Features

November 2023

## Proposed Features



### **Full Signalization of Intersection**

- New signal infrastructure for all four legs on the N. Park Drive & N. George Mason Drive Intersection.



### **Improved Street Lighting**

- Improved street lighting within and near intersection.



### **Pedestrian Safety Improvements**

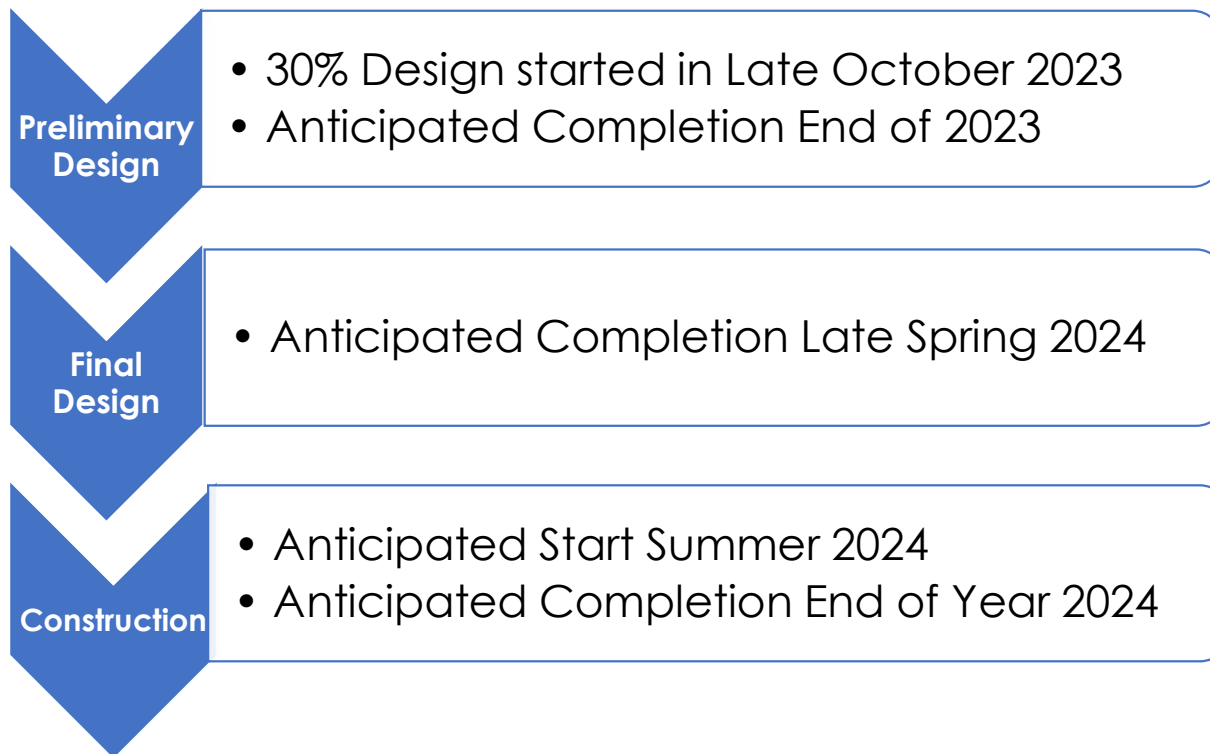
- Upgraded ADA Pedestrian Ramps at all corners of the intersection.
- New marked crosswalks at all legs of the intersection.




### **Bicycle Safety Improvements**

- Additional pavement markings within project limits for cyclists.

# Signalization Project Timeline



## Timeline Constraints

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- Signal Equipment Lead Time
    - 25 -30 Weeks
  - Easements from adjacent property owners
  - Construction Procurement

# Interim Solutions

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# Interim Solutions Evaluated

## Temporary Signal

Installation of a temporary traffic signal at the intersection

- Utility conflicts would require increased coordination; cause delays
- Several months to procure and install
- Diverts resources and funding from existing signalization effort

## Stop Signs

Installation of stop signs along N. George Mason Drive; creating a 4-way stop condition.

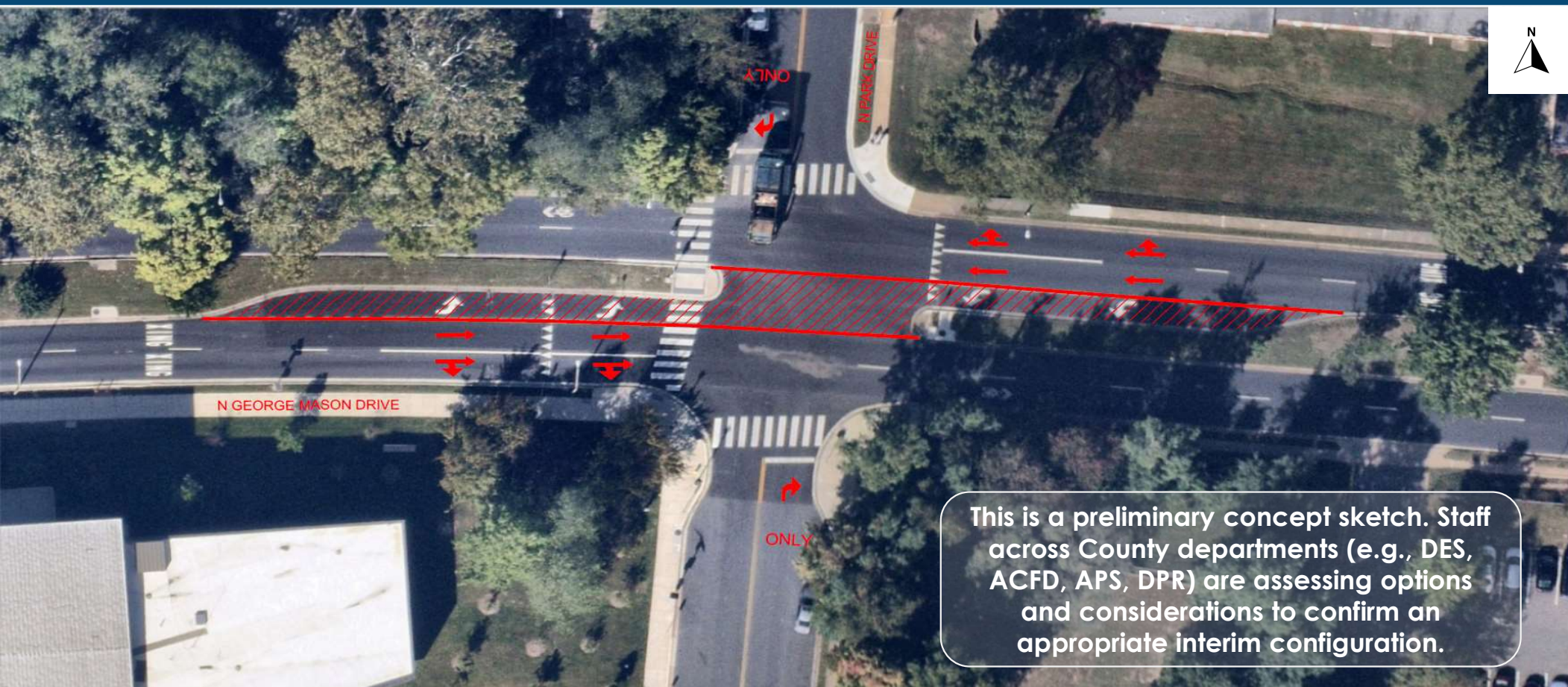
- Three lane approach on N. George Mason creates safety challenges as it would not be feasible to assign right of way priority on a street with high number of lanes.

## Closure of Intersection

Place temporary barriers to restrict turning movements at intersection.

- Restricts turning/through movements at the intersection to reduce conflicts in existing conditions.
- Quick implementation
- Similar treatments have resulted in reduction in crashes

## Potential Interim Condition



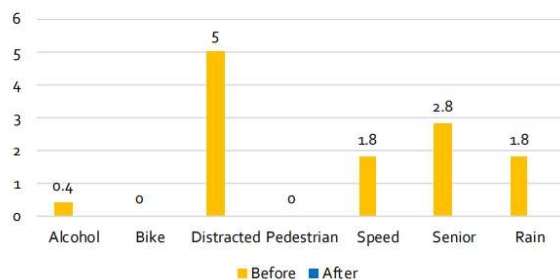
# Old Dominion Drive and Little Falls Road

## Example

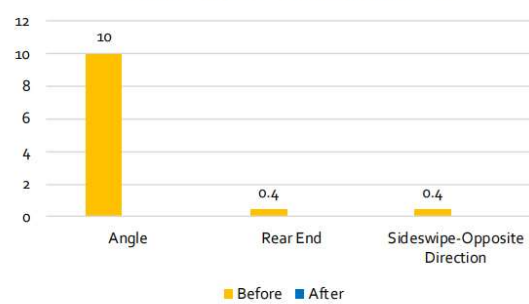
In November 2021, the County completed the addition of turn restrictions, to reduce vehicle angle crashes by restricting left turns and adding a physical barrier to prevent the left turn movements. **The average number of collisions per year at the intersection decreased from 11.4 in 2016-2021 (before the project) to zero in 2021-2023 (after the project).**

**Key Findings:**  
Left turn restrictions have eliminated the left turn conflict  
**Next Step:**  
Monitor for crashes or issues

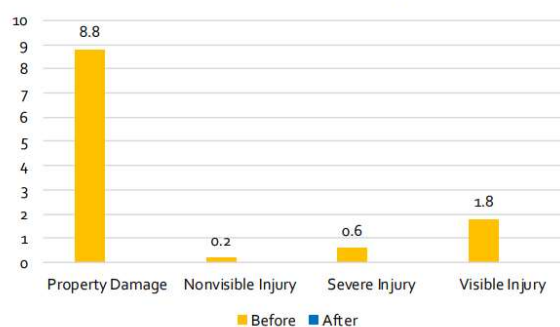
Collision Characteristics – Average per Year



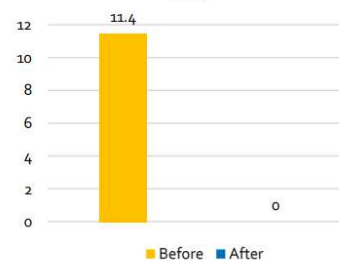
Collision Types – Average per Year



Collision Severity – Average per Year



Total Average Crashes per Year



### Tools Implemented

#### Travel Lane Signs & Markings



Inform road users of regulations and warnings to facilitate safe flow of all road users.



## Next Steps

- County to complete interdisciplinary assessment of turn restriction interim measure options and communicate next steps with community
- County to implement interim measure option before end of 2023
- County to provide signal installation project updates as available
- Signal to be installed by end of 2024, interim conditions will be removed in conjunction with the signal opening