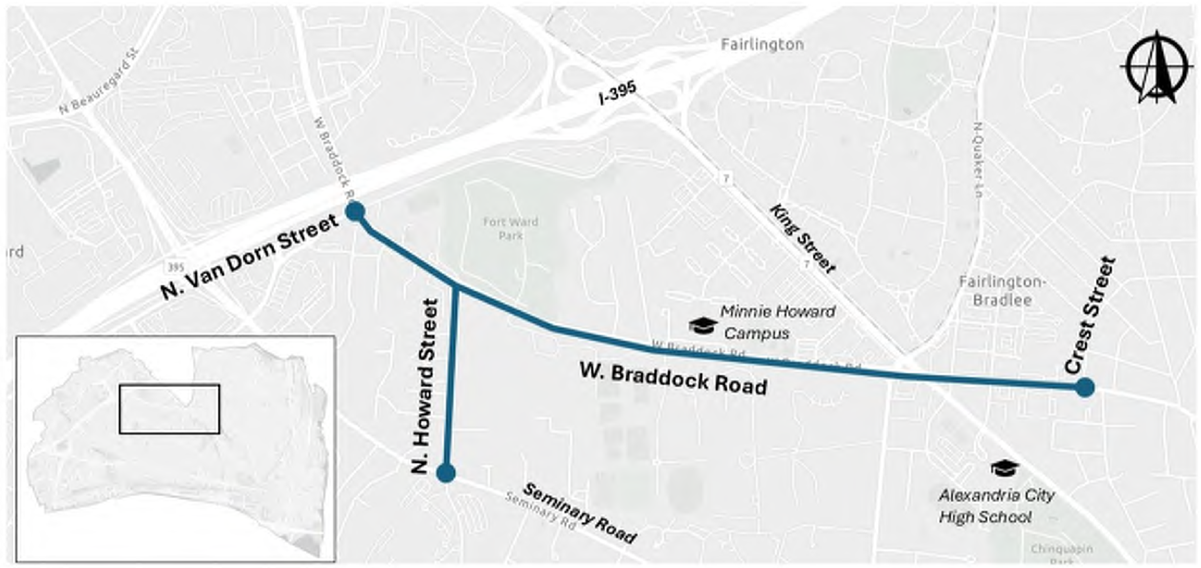
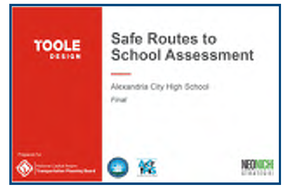
W. BRADDOCK ROAD CORRIDOR & N. HOWARD STREET ACCESS & SAFETY IMPROVEMENTS STUDY

PROJECT LOCATION



PROJECT GOALS

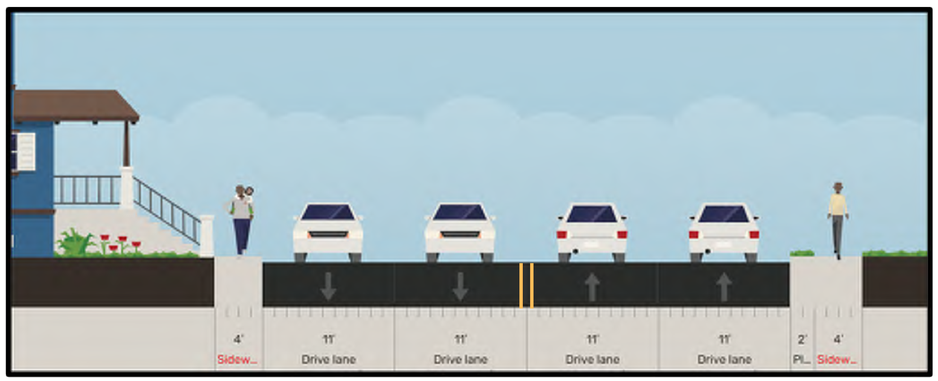
Alexandria Mobility Plan



VISION ZERO
SAFER STREETS FOR ALEXANDRIA

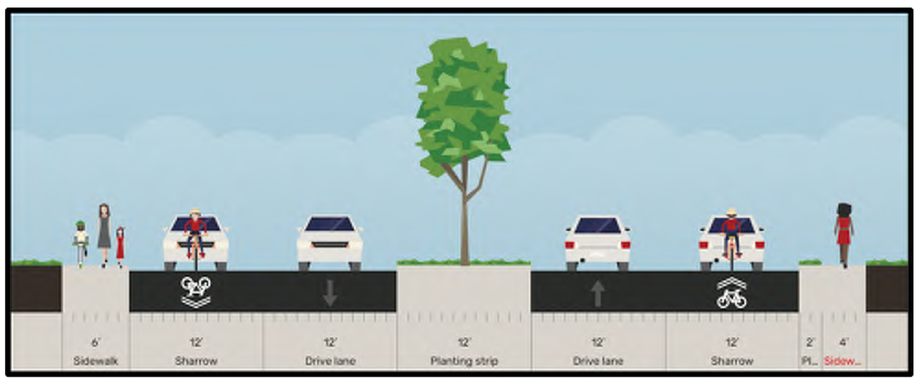
- Improve mobility, safety, and access for all roadway users of all ages, abilities, and modes of travel.
- Increase student safety walking and biking to school and between campuses.
- Right-size the roadways and reduce vehicle speeds.
- Eliminate bicycle and pedestrian fatalities and severe injuries.

NORTH HOWARD STREET: EXISTING ROADWAY



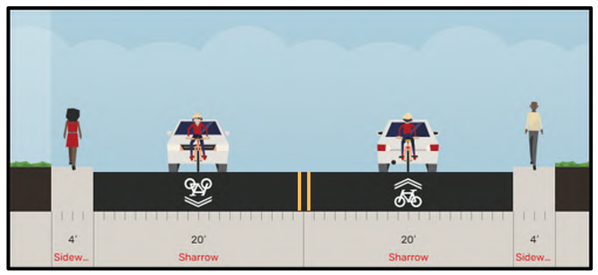
WEST BRADDOCK ROAD: EXISTING ROADWAY

N. VAN DORN STREET TO QUAKER LANE



WEST BRADDOCK ROAD: EXISTING ROADWAY

QUAKER LANE TO CREST STREET



CITY OF ALEXANDRIA VIRGINIA

For more information, visit the project website at
ALEXANDRIAVA.GOV/GO/7748

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W. BRADDOCK ROAD CORRIDOR & N. HOWARD STREET ACCESS & SAFETY IMPROVEMENTS STUDY

CORRIDOR ACTIVITY & CHARACTER

WEST BRADDOCK ROAD

NORTH HOWARD STREET

What we see today:

- Narrow sidewalks with obstructions
- Pedestrian/vehicle conflicts at slip-ramps
- Physical constraints to widening sidewalks
- Multiple vehicle travel lanes
- Lack of safe pedestrian crossing options
- Speeding vehicles

Defining Characteristics:

- West Braddock Road - key east-west connector in the City with connections to retail, education, and I-395
- North Howard Street - collector road with a high number of cut-through vehicles between W Braddock Road and Seminary Road.

Primarily low-density residential area with a high concentration of educational uses, locally serving retail, and some recreational uses

STUDENT ACTIVITY


Image Credit: Casey Donahue for Theogony


Image Credit: James Libresco for Theogony

High school students may travel between the King Street and Minnie Howard campuses during three daily class transition periods, where up to 350–450 students chose to walk rather than use buses over the course of the day.

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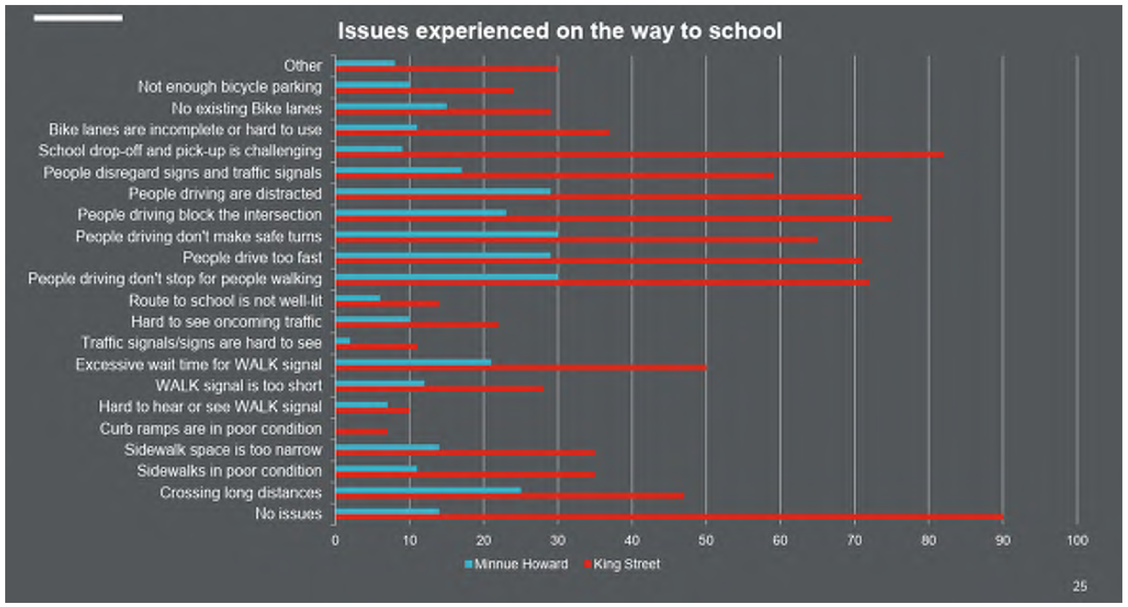
SAFE ROUTES TO SCHOOL (SRTS)

SRTS is a program that promotes walking and bicycling to school through infrastructure improvements, enforcement, safety education, and encouraging walking and bicycling to school. The City, in partnerships with ACPS, conducts Walk Audits to identify recommendations and opportunities to increase safety for students around schools. In 2023, the City completed an audit for the Alexandria City High School King Street and Minnie Howard Campuses. The process included community outreach, data analysis, and recommendations.

2023 COMMUNITY FEEDBACK



(369 participants)

RECOMMENDATIONS

Along West Braddock Road:

- Explore options to reconfigure roadway to reduce vehicle speeds all along West Braddock Roadway
- Install Leading Pedestrian Intervals (LPIs) for pedestrians crossing West Braddock Road
- Install No Turn on Red (NTOR) sign for drivers at Marlee Way and Kenwood Avenue to West Braddock Road
- Create more waiting space for pedestrians on corners at the King/Quaker/Braddock Intersection
- Extend bike lane through intersection at West Braddock Road and Kenwood Avenue

SITE OBSERVATIONS

- School Resource officer observed assisting with traffic
- Sidewalk widths and waiting areas at the King/Quaker/Braddock intersection are not large enough for the volume of students walking between campuses.
- Long wait times at the King/Quaker/Braddock intersection may encourage risky student pedestrian behaviors.
- Slip lane from West Braddock Road onto North Quaker Lane creates conflicts between vehicles and students.
- Students choose to cross West Braddock Road outside of established crosswalks.

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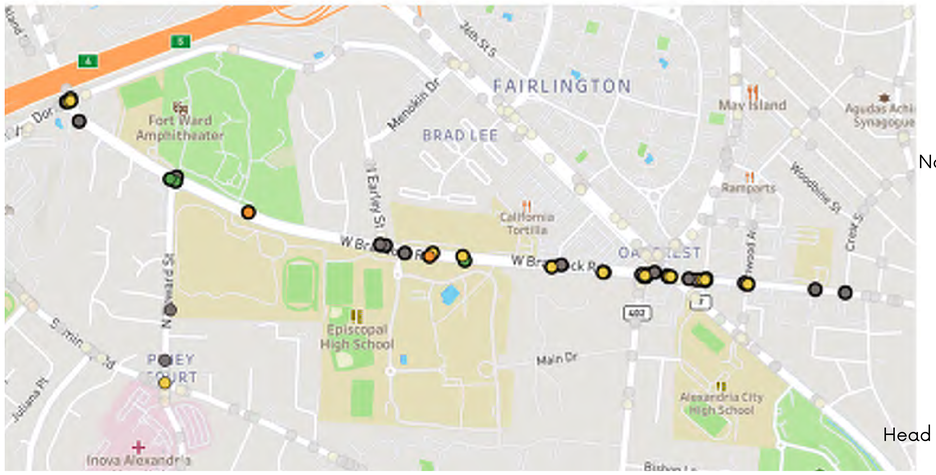
CRASH HISTORY

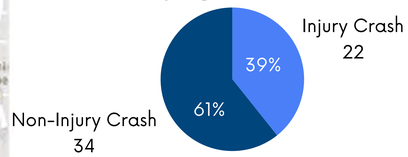
2021 - 2025



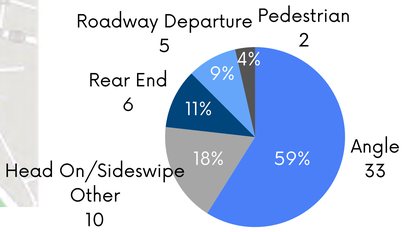
Serious Injury · Minor Injury · Possible Injury · Property Damage Only

56 Total Crashes

Injury Crashes

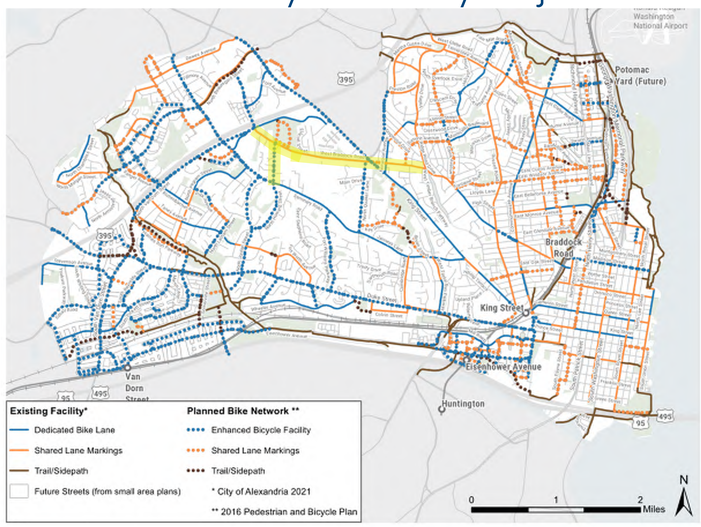


Crashes by Type

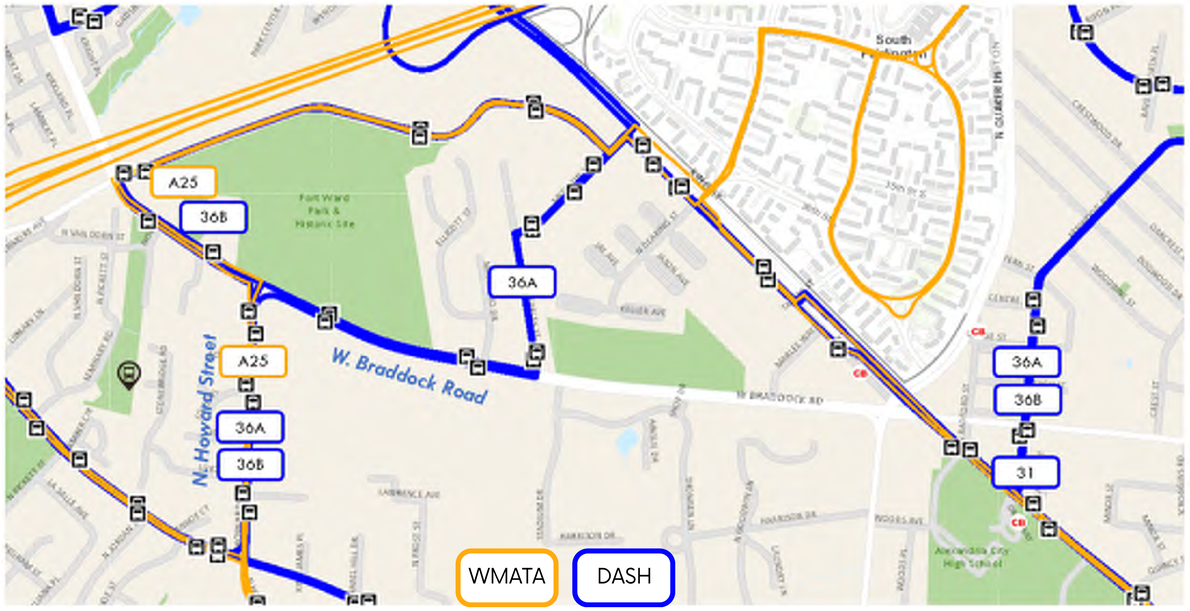


ALEXANDRIA MOBILITY PLAN

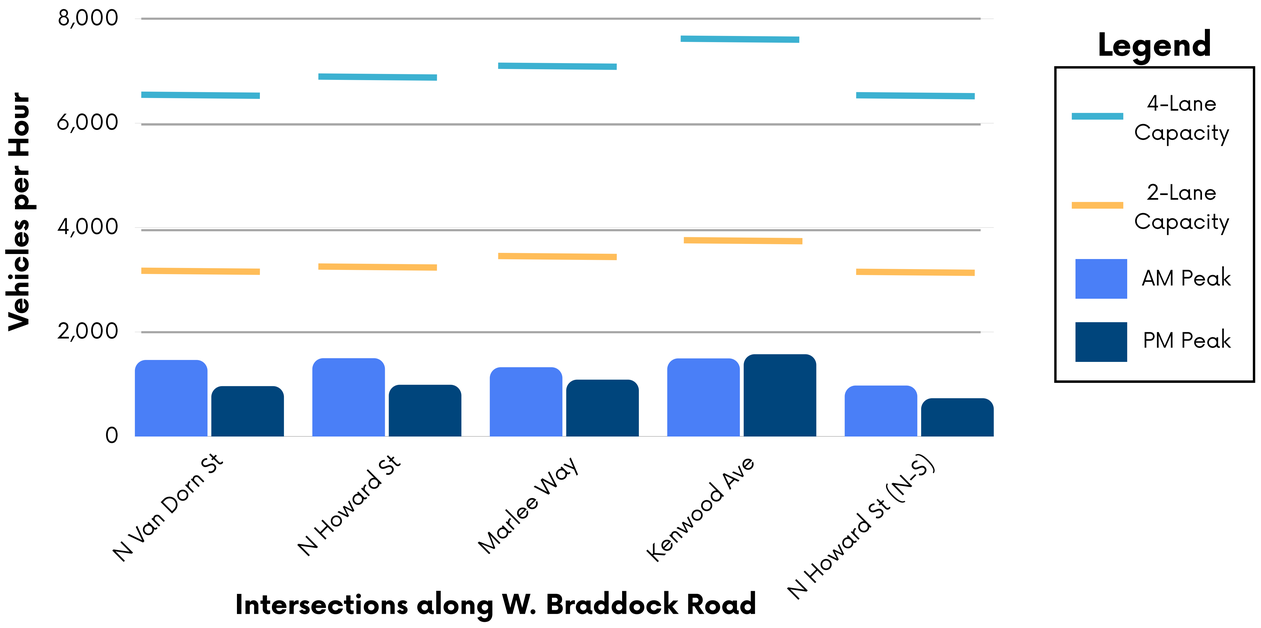
Bicycle Priority Projects



EXISTING BUS ROUTES



ROADWAY CAPACITY ANALYSIS



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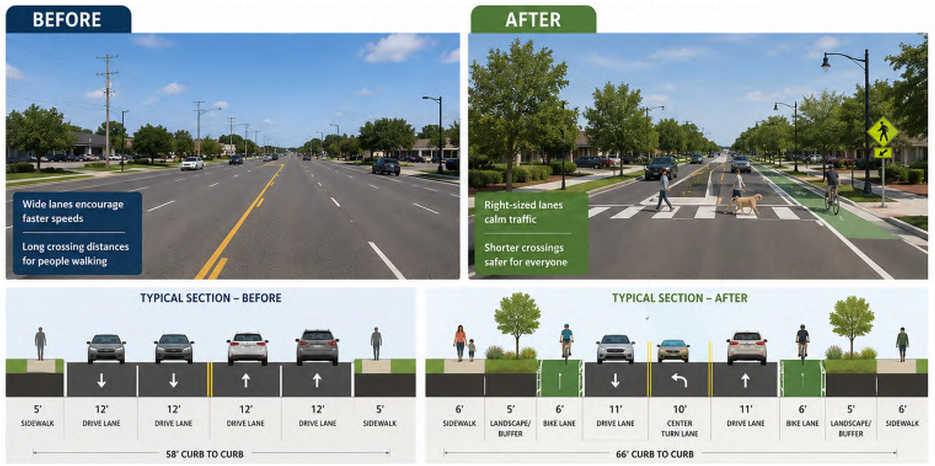
WHAT IS ROADWAY CAPACITY?

Roadway capacity is the amount of traffic a street can carry safely and efficiently within a certain time period.

- Capacity isn't just the number of lanes.
- Capacity depends on:
  - Intersections;
  - Turning movements;
  - Signal timing;
  - Transit;
  - Walking;
  - Biking; and
  - Safety Conditions.

"RIGHT-SIZING" ROADWAYS

- "Right-sizing" can adjust road design to meet current capacity and traffic volumes.
- "Right-sizing" reallocates undertilized space while accommondating expected traffic demand.



Illustrative diagram demonstrating right-sizing.

WHY AVOID EXCESS CAPACITY?

- Drivers tend to travel at higher speeds because wide, open roads feel safer to drive fast on
- Higher speeds increase both the likelihood and severity of crashes
- Wide roads can be barriers between neighborhoods, schools, parks, and businesses
- Excess lane space can encourage weaving, aggressive driving, and unpredictable lane changes
- Streets may feel uncomfortable/unsafe for walking, biking, or waiting for transit
- Large roadways often dedicate more public space to vehicle storage and movement than is necessary
- Overbuilt roads can increase maintenance costs without providing meaningful transportation benefits

BENEFITS OF "RIGHT-SIZING"

- Reduces vehicle speeding by creating lane widths and roadway space that better match actual traffic volumes
- Encourages more consistent vehicle speeds, which improves overall roadway operations and safety
- Lowers the likelihood and severity of crashes by reducing high-speed driving behavior
- Creates space for protected bike lanes, sidewalks, buffers, on-street parking or transit improvements without widening the roadway
- Maintains access for drivers, businesses and emergency vehicles
- Dedicated space for bikes may encourage safer biking or scooting for students between campuses

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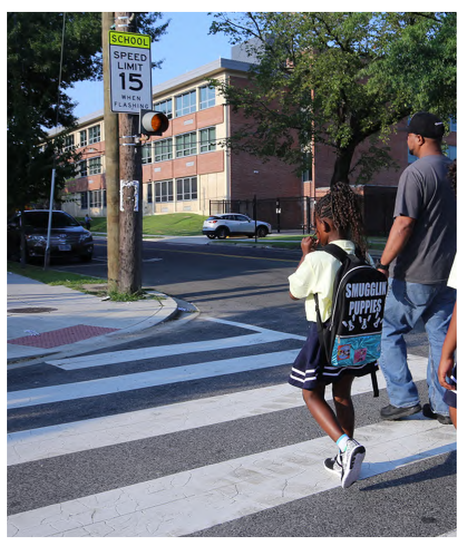
PROPOSED CORRIDOR TREATMENTS



HIGH VISIBILITY CROSSWALK

A high-visibility crosswalk uses bold, reflective markings to clearly show where pedestrians are crossing the street.

Benefits:

- May increase driver awareness of pedestrians, reducing the potential for crashes at busy or higher-speed roads.
- Reflective materials make pedestrians more visible after dark or in poor weather.
- Drivers are more likely to yield at crosswalks that are easier to see.

CONSOLIDATED BUS STOPS

Combining bus stops can improve the efficiency and reliability of the transit service while maintaining accessibility.

Benefits:

- Faster travel times with less stopping and starting
- Improved reliability and easier to stay on schedule
- Shorter trip times for riders
- Easier to maintain and fewer bus stops

LEADING PEDESTRIAN INTERVALS (LPI)

A Leading Pedestrian Interval gives pedestrians a 3-7 second head start to begin crossing the street before vehicles get a green light. Pedestrians can begin crossing the street, which increases their visibility to drivers.

Benefits:

- LPIs make pedestrians more visible to turning drivers, especially at busy intersections.
- They reduce the risk of crashes between pedestrians and turning vehicles.
- They are a low-cost signal timing change with no new infrastructure required.

TRAFFIC SIGNAL ADJUSTMENTS

Traffic signal adjustments involve changing the timing, coordination, or operation of traffic lights to improve how vehicles, pedestrians, and bikes move through an intersection. This can include changing light durations, adding protected turns, and synchronizing signals across blocks.

Benefits:

- Reduces delay by more efficiently moving vehicles and people through an intersection
- Improves safety by reducing conflict points and potential red-light running

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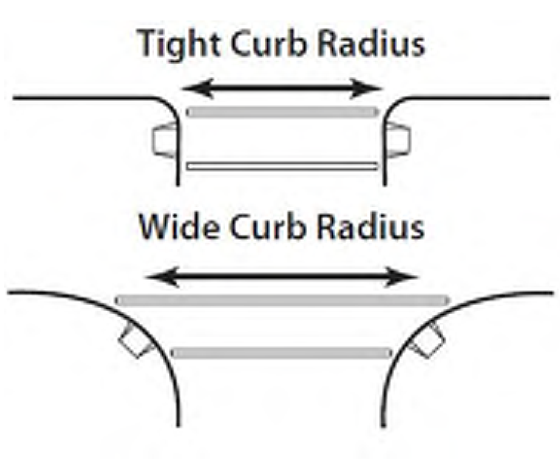

NO TURN ON RED RESTRICTIONS

A No Turn on Red sign prohibits drivers from turning right at a red light. This restriction is intended to reduce conflicts between all roadway users.

Benefits:

- Reduces conflicts between turning vehicles and pedestrians in crosswalks.
- Gives drivers more time to focus on the signal and surroundings instead of only looking for gaps in traffic.
- Reduces the risk of crashes caused by rolling stops or rushed turns

BIKE BOX

Bike box is a designated space at the front of an intersection between the vehicle stop line and the crosswalk where cyclists can wait ahead of vehicles during a red light. Bike boxes can improve visibility and organize movements at an intersection.

Benefits:

- Increases visibility and safety of people biking by positioning them ahead of vehicles
- Improves comfort and confidence for people biking, especially less experienced riders

CURB RADII TIGHTENING

Curb radius tightening reduces the size of the rounded corner at intersections, requiring vehicles to make slower and more controlled turns. Smaller curb radii shorten crossing distances and improve visibility for all roadway users.

Benefits:

- Slows vehicle turning speeds at intersections
- Helps drivers make more deliberate turning movements
- Creates more space for curb ramps, pedestrian refuge areas and landscaping

SLIP LANE REMOVAL

Slip lane removal eliminates free-flow turning lanes that allow vehicles to turn without stopping or fully yielding at an intersection. Removing slip lanes simplifies intersections, slows vehicle movements, and improves safety for pedestrians and bicyclists.

Benefits:

- Reduces vehicle turning speeds at intersections
- Eliminates free-flow turning movements that can create conflicts with pedestrians and bicyclists

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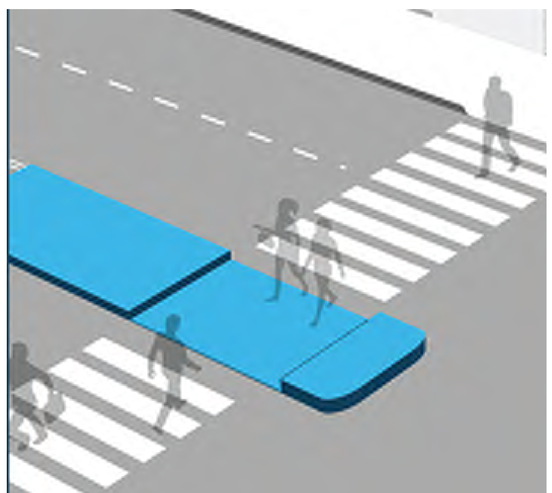
SHOULD WE CONSIDER ADDITIONAL FEATURES?

ON STREET PARKING

On-street parking provides designated parking spaces along the curb of a roadway. Parked vehicles can help create a buffer between moving traffic and people walking or biking.

Benefits:

- Helps narrow the perceived width of the roadway, which can encourage slower driving speeds
- Reduces the likelihood of high-speed passing and aggressive driving behavior
- Improves comfort for pedestrians by separating them from moving traffic



PEDESTRIAN REFUGE ISLAND

A pedestrian refuge island is a protected area located in the center of a roadway that allows people crossing the street to pause safely between directions of traffic.

Benefits:

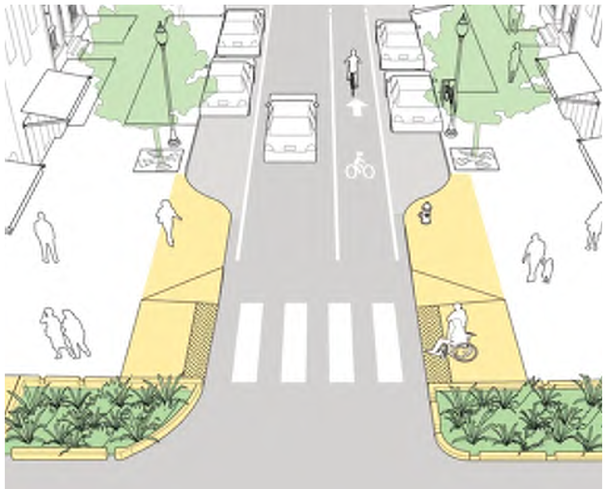
- Shortens the distance pedestrians must cross at one time
- Allows people to focus on one direction of traffic at a time
- Reduces pedestrian exposure to moving vehicles

BIKE SIGNALS

Bike signals are traffic signals specifically designed for people biking. They use dedicated signal heads and timing to separate bicycle movements from vehicle traffic and reduce conflicts at intersections.

Benefits:

- Provides dedicated crossing time for people biking
- Improves comfort and confidence for people biking, especially less experienced riders
- Can reduce confusion where bike lanes or trails cross complex intersections



CURB EXTENSIONS

Curb extensions, also known as bulb-outs, extend the sidewalk or curb line into the parking lane at intersections or crossings. They reduce crossing distances, improve visibility, and help slow turning vehicles.

Benefits:

- Makes pedestrians more visible before entering the roadway
- Supports safer crossings near schools, parks, transit stops, and commercial areas
- Helps calm traffic by visually narrowing the roadway
- Helps prevent vehicles from parking too close to crosswalks

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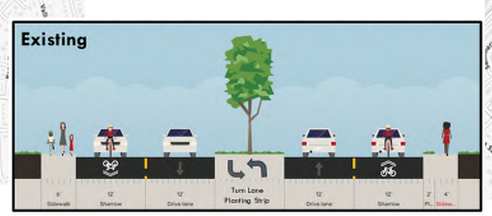
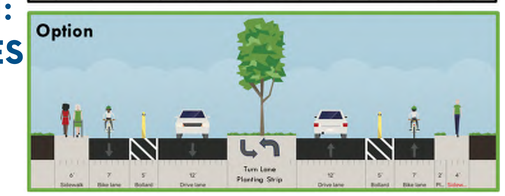
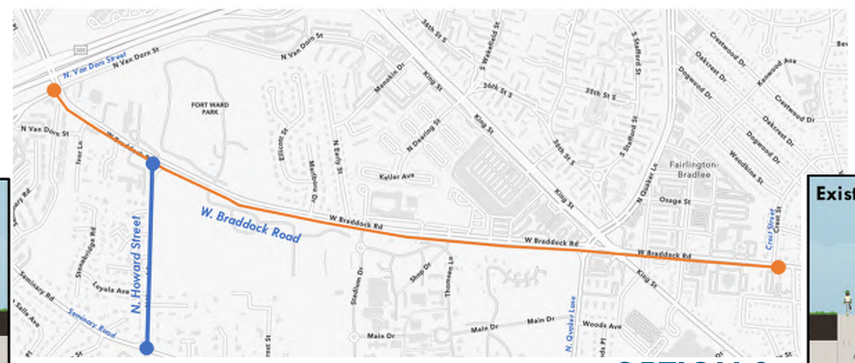
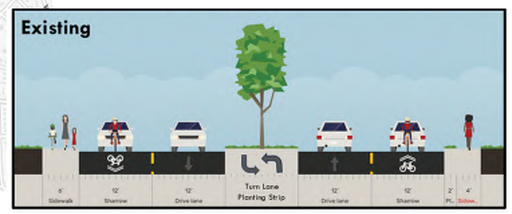
WEST BRADDOCK ROAD OPTIONS



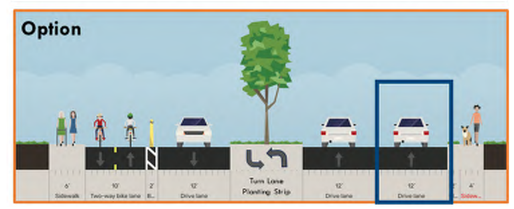
OPTION 1:
PROTECTED BIKE LANES

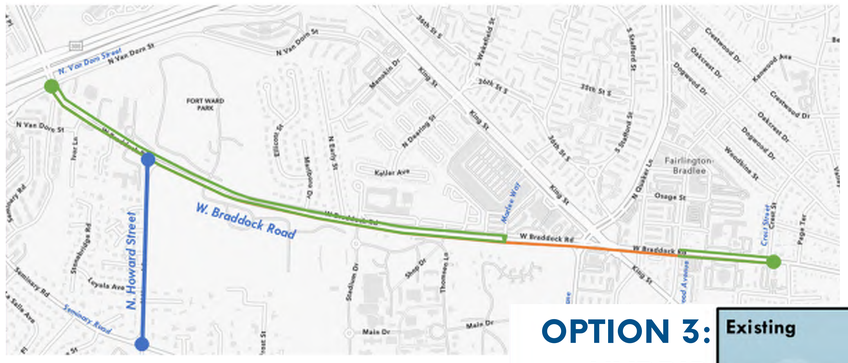




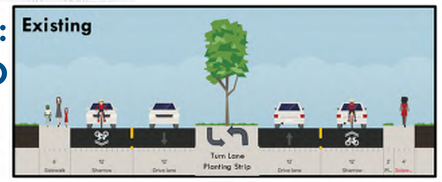


OPTION 2:
PROTECTED TWO-WAY CYCLE TRACK

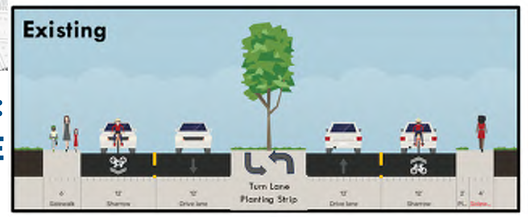


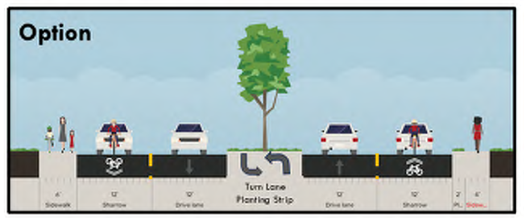


OPTION 3:
HYBRID



OPTION 4:
NO CHANGE





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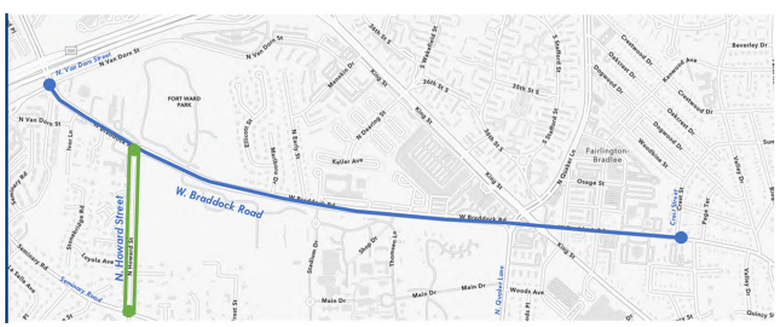
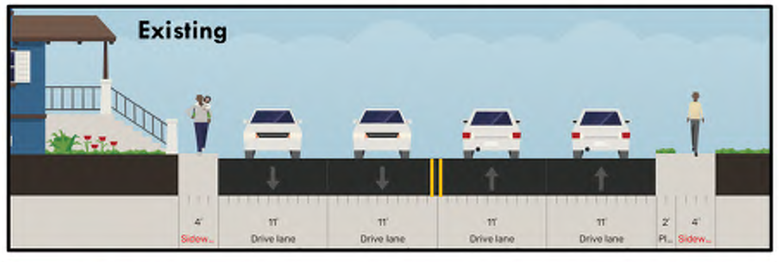
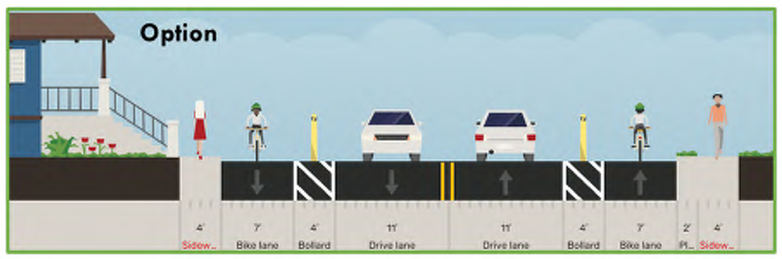
NORTH HOWARD STREET OPTIONS

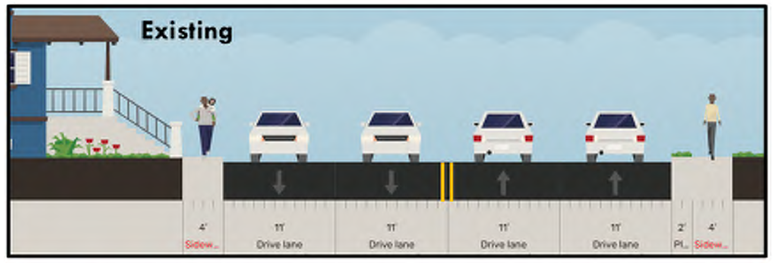
OPTION 1: PROTECTED BIKE LANES

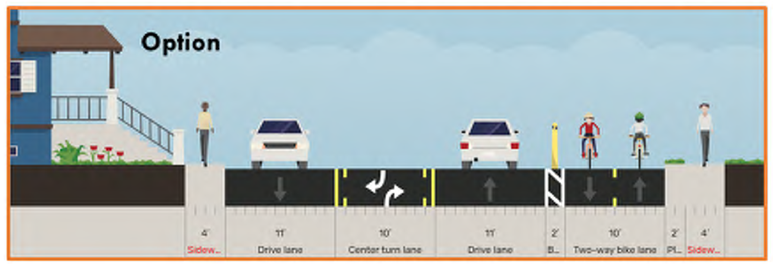




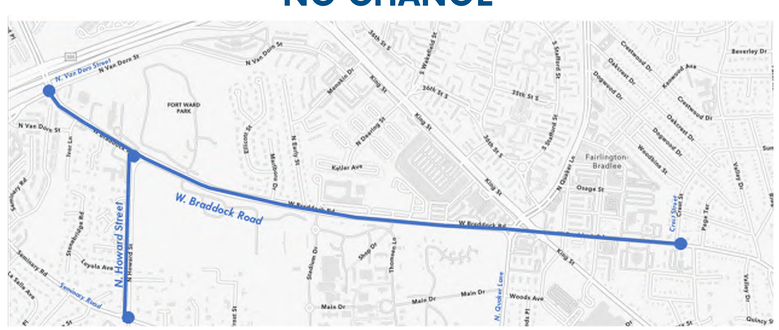


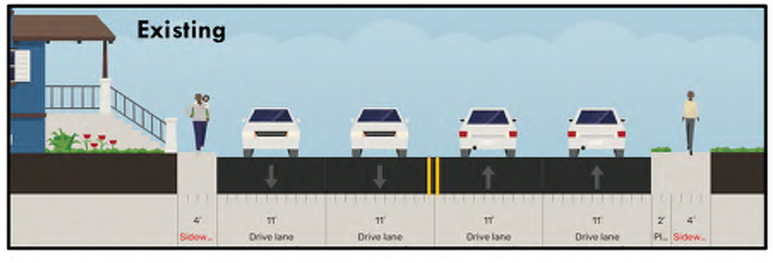
OPTION 2: PROTECTED TWO-WAY CYCLE TRACK

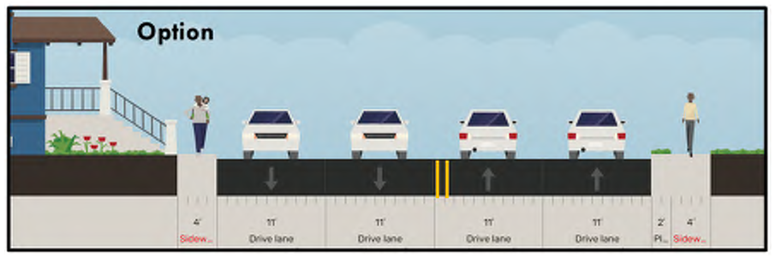




OPTION 3: NO CHANGE







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SHARE YOUR THOUGHTS ON WAYS TO MEET THE PROJECT GOALS

Improve mobility, safety, and access for all roadway users.	Increase student safety walking and biking.	Right-size the roadways and reduce vehicle speeds.	Eliminate bicycle and pedestrian fatalities and severe injuries.

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