Presentation Outline

• VDOT STARS Program Overview
• Study Overview
• Existing Traffic and Safety Conditions
• Study Progress
• Alternatives Summary
• Next Steps
VDOT STARS Overview

STARS Program Goals

- Strategically Targeted and Affordable Roadway Solutions
- Develop alternatives to relieve congestion and solve critical safety challenges for SYIP funding requests
- Data driven approach
- Involve planners, traffic engineers, safety engineers, roadway designers, and local stakeholders
Study Purpose

• Evaluate operational and safety conditions along Prince William Parkway and Old Bridge Road within the study area
• Consider and evaluate potential improvements to enhance safety and operations in the study area
• Develop cost estimates for the preferred alternatives
• Facilitate future funding applications for projects and improvements
• Localities may include improvements into comprehensive plans
Study Area

Prince William Parkway
Between Laurel Hills Drive/Ridgewood Center Drive and Kenwood Drive/Jenkins Elementary School

Old Bridge Road
Between Prince William Parkway and Touchstone Circle/Titania Way

Intersections
• Five signalized intersections
• Two unsignalized intersections (right-in/right-out only)
• Five unsignalized driveways on Prince William Parkway/Old Bridge Road (right-in/right-out only)
Prince William Parkway and Old Bridge Road Study Area

- Study area encompasses approximately 1 mile of roadway
- 2019 Roadway Data
  - 50,000 vehicles/day on western portion of Prince William Parkway
  - 49,000 vehicles/day on southern portion of Prince William Parkway
  - 35,000 vehicles/day on Old Bridge Road
- 4-6 lane cross section with median and turn lanes
- 45 mph speed limit on Prince William Parkway
- Signal at Kenwood Drive/Jenkins Elementary School was recently rebuilt as part of school construction

![Prince William Parkway and Old Bridge Road Study Area](image-url)
Existing Multi-Modal Accommodations

- Pedestrian facilities are present on both sides of Prince William Parkway and Old Bridge Road with sidewalk and multi-use path
- 15 marked crosswalks at intersections within study area
- Multiple bus stops various intersection approaches
Safety Conditions

- A total of 321 total crashes were reported within study area over five-year period from January 2015 to December 2019.
  - 106 crashes, or approximately 1/3, involved injury
  - Most crashes occurred during daylight or in lit conditions
- 62 total reported crashes at the intersection of Prince William Parkway and Old Bridge Road/Touchstone Circle.
  - 0 fatalities, 22 crashes involving injury, and 40 involving property damage only.
  - Majority rear end crashes.
Intersection Crashes (2015-2019)

Number of Crashes

- PWP at Black Forest Lane/Reids Prospect Drive
- PWP at Laurel Hills Drive/Ridgewood Center Drive
- PWP at Ridgewood Center East Driveway
- PWP at free-right-turn onto PWP/Seeton Square
- PWP at Old Bridge Road/Touchstone Circle
- PWP at Chinn Park Drive
- PWP at Kenwood Drive
- Old Bridge Road at Chick-Fil-A Driveway
- Old Bridge Road at Troupe Street
- Old Bridge Road at Touchstone Circle/Titania
- Old Bridge Road at Jayhawk Road/Old Bridge Lane
- Touchstone Circle at Seeton Square

Legend:
- Red: Severe Injury
- Blue: Visible Injury
- Yellow: Non-Visible Injury
- Orange: Property Damage Only
Crash Map – Prince William Parkway & Old Bridge Road

Crashes at Prince William Parkway and Old Bridge Road/Touchstone Circle

CRASH TYPES

- Sideswipe: 28%
- Rear End: 48%
- Angle: 19%
- Fixed Object - Off Road: 5%

Crashes at Prince William Parkway and Old Bridge Road/Touchstone Circle
Prince William Parkway and Old Bridge Road/Touchstone Circle Existing Operations

- High levels of delay on all left turn movements and northbound/southbound through movements.
- Main movements on Prince William Parkway (northbound left/eastbound right) experience heavy queues.
- The eastbound right turn lane is approximately 17% over capacity in the AM peak hour.

### Peak Hour Delay, LOS, and Queue Summary

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Lane Group</th>
<th>Roadway</th>
<th>AM Existing Conditions</th>
<th>PM Existing Conditions</th>
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<td>Median Queue (Feet)</td>
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<td>Overall</td>
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<td>97.1</td>
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### Peak Hour Operations

- High levels of delay on all left turn movements and northbound/southbound through movements.
- Main movements on Prince William Parkway (northbound left/eastbound right) experience heavy queues.
- The eastbound right turn lane is approximately 17% over capacity in the AM peak hour.
Study Progress

- Analyzed existing conditions
- Developed improvement alternatives
- Analyzed future no-build and alternative conditions
- Prepared cost estimates for alternatives
- Currently soliciting public feedback on alternatives
Summary of Recommended Corridor-wide Improvements

- Install Flashing Yellow Arrows for Left Turn Movements
- Remove Side Street Split Phasing to improve efficiency
- Implement Consistent Left Turn Phases at all Study Area intersections
- Implement Lead/Lag Phasing for smoother coordination
- High Visibility Backplates
- Right Turn Overlaps phases
- Pedestrian Equipment Improvements
Summary of Alternatives at Prince William Parkway and Old Bridge Road/Touchstone Circle

- No Build/Minor System Improvements
  - Make only minor signal re-timing and approach improvements
- Traditional T Intersection
  - Realignment of Prince William Parkway and Old Bridge Road to a T geometric configuration
  - Prince William Parkway realigned to main through movement
- “Thru-Cut” Intersection
  - Removal of through movements across the intersection to/from Touchstone Circle and Prince William Parkway
  - Northbound/southbound movements operate at the same time
- Grade Separation
  - Provide a flyover or interchange of a to be determined configuration to make Prince William Parkway a free flow movement
Standard/Traditional “T” Intersection Concept Design
“Through-Cut” Intersection Concept Design
Grade Separation Alternative Examples

Examples
# Evaluation of Alternatives

## 2019 Peak Hour Delay, LOS, and Queue Summary

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Approach</th>
<th>AM No-Build</th>
<th>AM Alternative 1</th>
<th>AM Alternative 2</th>
<th>PM No-Build</th>
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<td>Prince William Parkway and Old Bridge Road</td>
<td>Prince William Parkway (EB/SB)</td>
<td>F (119.4)</td>
<td>C (27.3)</td>
<td>D (44.9)</td>
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## 2040 Peak Hour Delay, LOS, and Queue Summary

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## Projected Cost Estimates

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Next Steps

• Provide responses to public input survey at the following link:
  • www.virginiadot.org/princewilliamparkwayatoldbridgeroadstudy
• Metroquest Survey opens June 29th, 2020 and closes July 17th, 2020
• VDOT and Prince William County to identify preferred alternative and refine based on public feedback
• SMART SCALE funding application expected to be submitted in August, 2020
• Study recommendations and final report are expected to be finalized and posted online in September, 2020
THANK YOU!

Your input is essential as we evaluate potential improvement alternatives.

Please take our survey located on our project website!

SURVEY LINK

Comments may also be sent to: meetingcomments@vdot.virginia.gov