

Existing Conditions Summary

Southbound congestion at
Turner Ashby Drive during
school dismissal



Aging infrastructure
not meeting current
standards and guidelines



Northbound congestion at
Oakwood Drive during
Marshalls Shift Change at
3:30 PM



Trucks turning to and
from Main Street



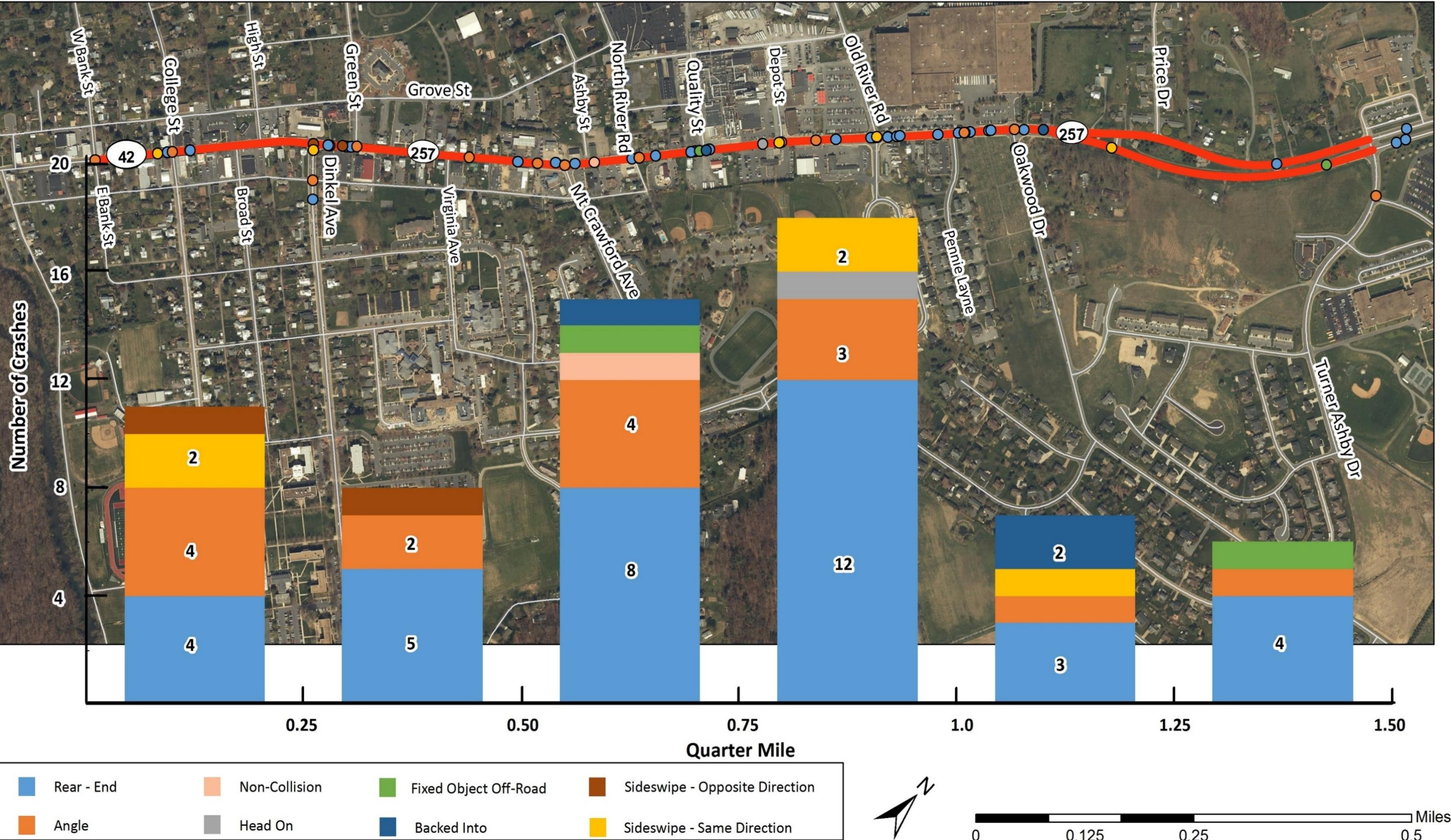
Study Objectives

- Evaluate existing corridor operations and safety
- Evaluate multimodal accessibility
- Identify improvement strategies to reduce congestion

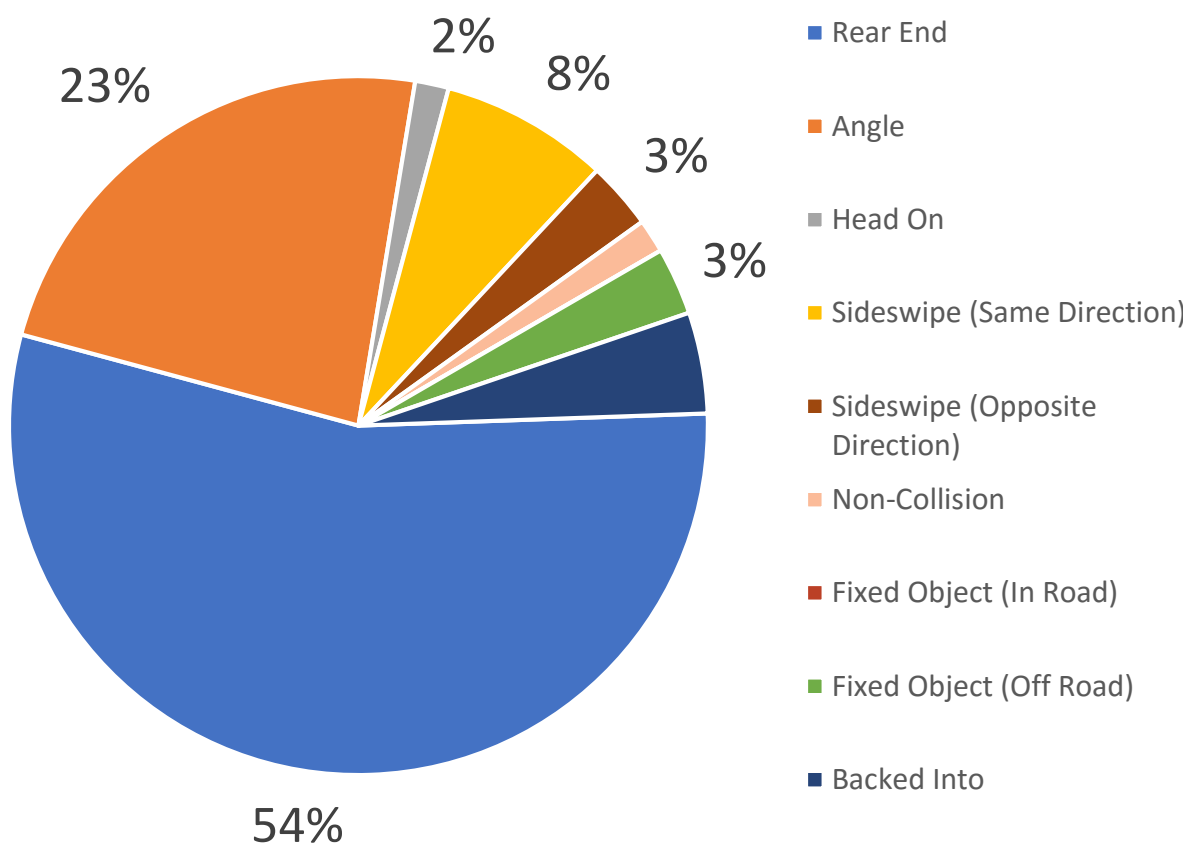
PM Travel Time Summary



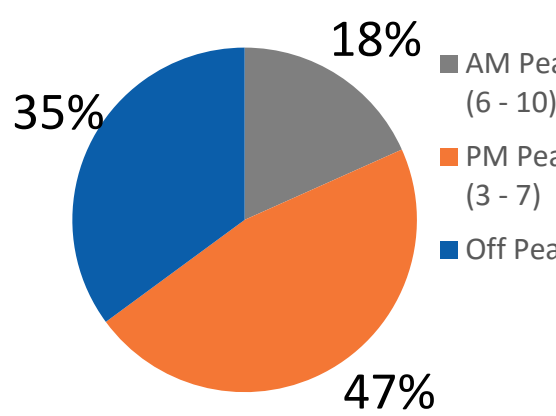
Corridor Crash Analysis



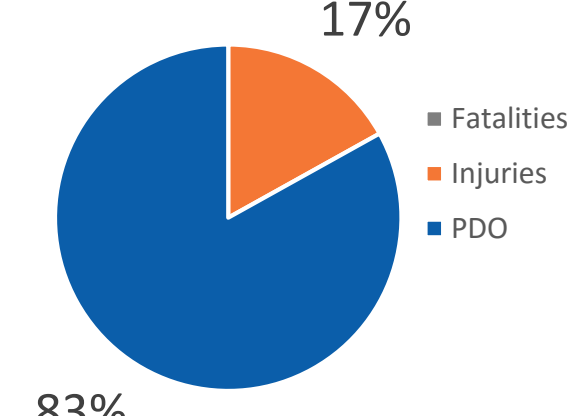
Type of Collision



Time Period of Crash



Crash Severity



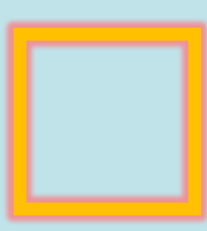
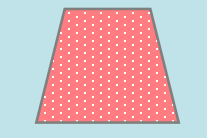



Crash data reported based on records documented between January 1, 2014 and December 31, 2016

Transportation Infrastructure Improvements

Existing Conditions



Infrastructure Legend

-  • Non-compliant sidewalk ramps
- Missing/faded crosswalk markings
- Missing/faded stop bar
-  - Non-compliant sidewalk ramps
-  - Missing/non-compliant pedestrian signals
-  - Incandescent vehicle signal displays
-  - No sidewalk buffer space

LED Traffic Signals



Light Emitting Diode (LED) signals are brighter and have a longer service life (i.e. less maintenance)

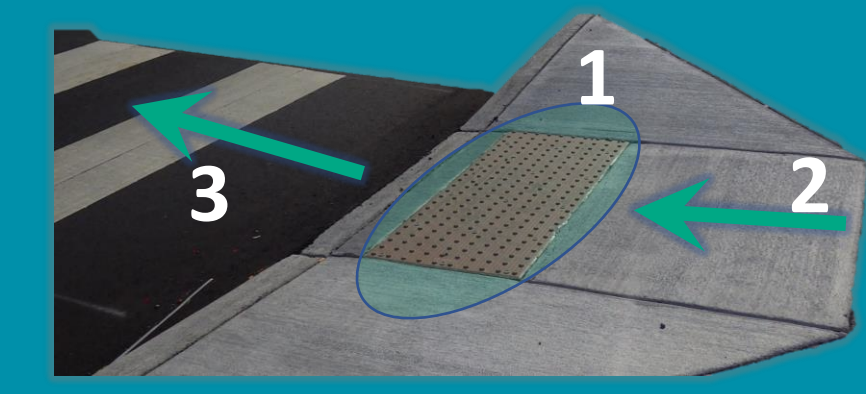
Pedestrian Signals



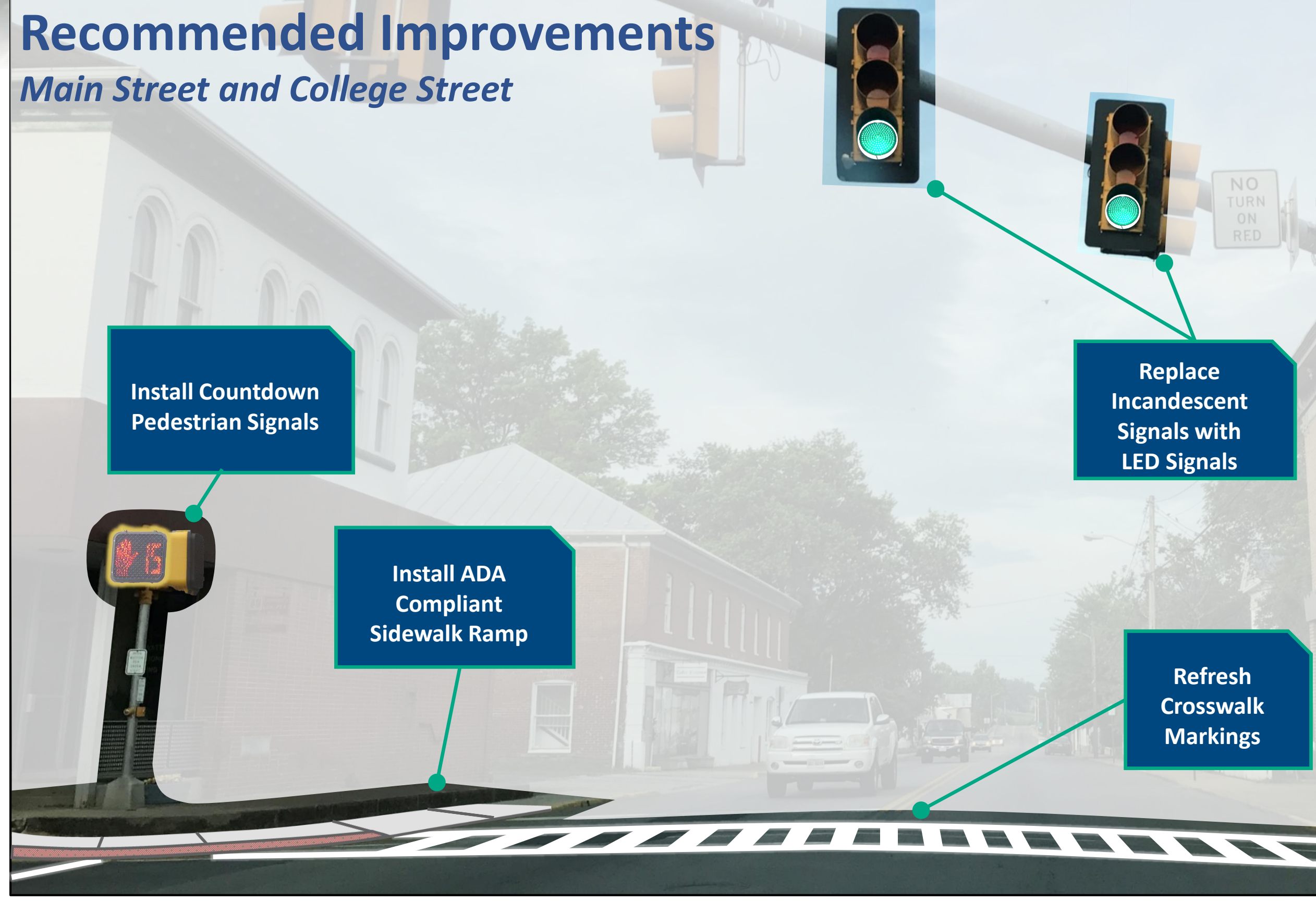
Distinguished walk and don't walk indications with countdown display

ADA Compliant Sidewalk Ramps

1. Tactile detectable warning surface
2. Appropriate ramp grade
3. Aligned with crosswalk



Recommended Improvements Main Street and College Street

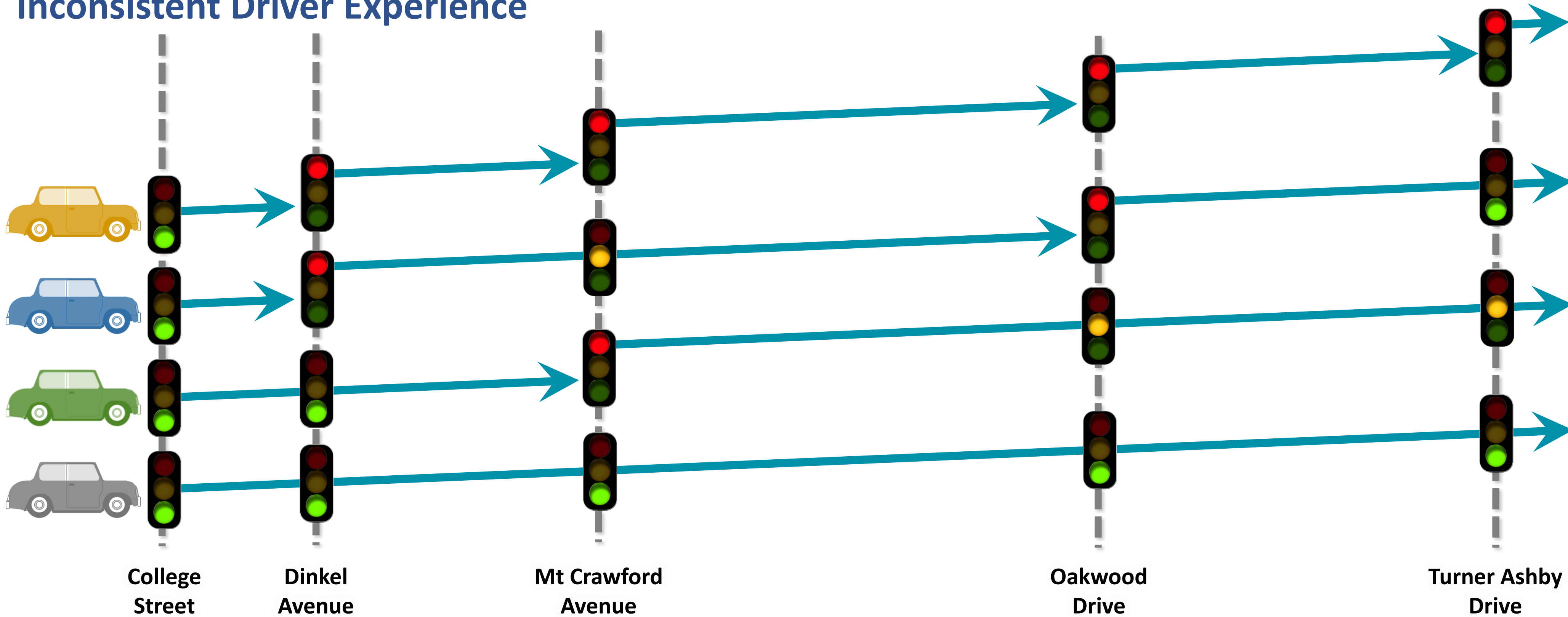


Coordinated Signal Operations

Existing Operations



Inconsistent Driver Experience



Uncoordinated signal operations

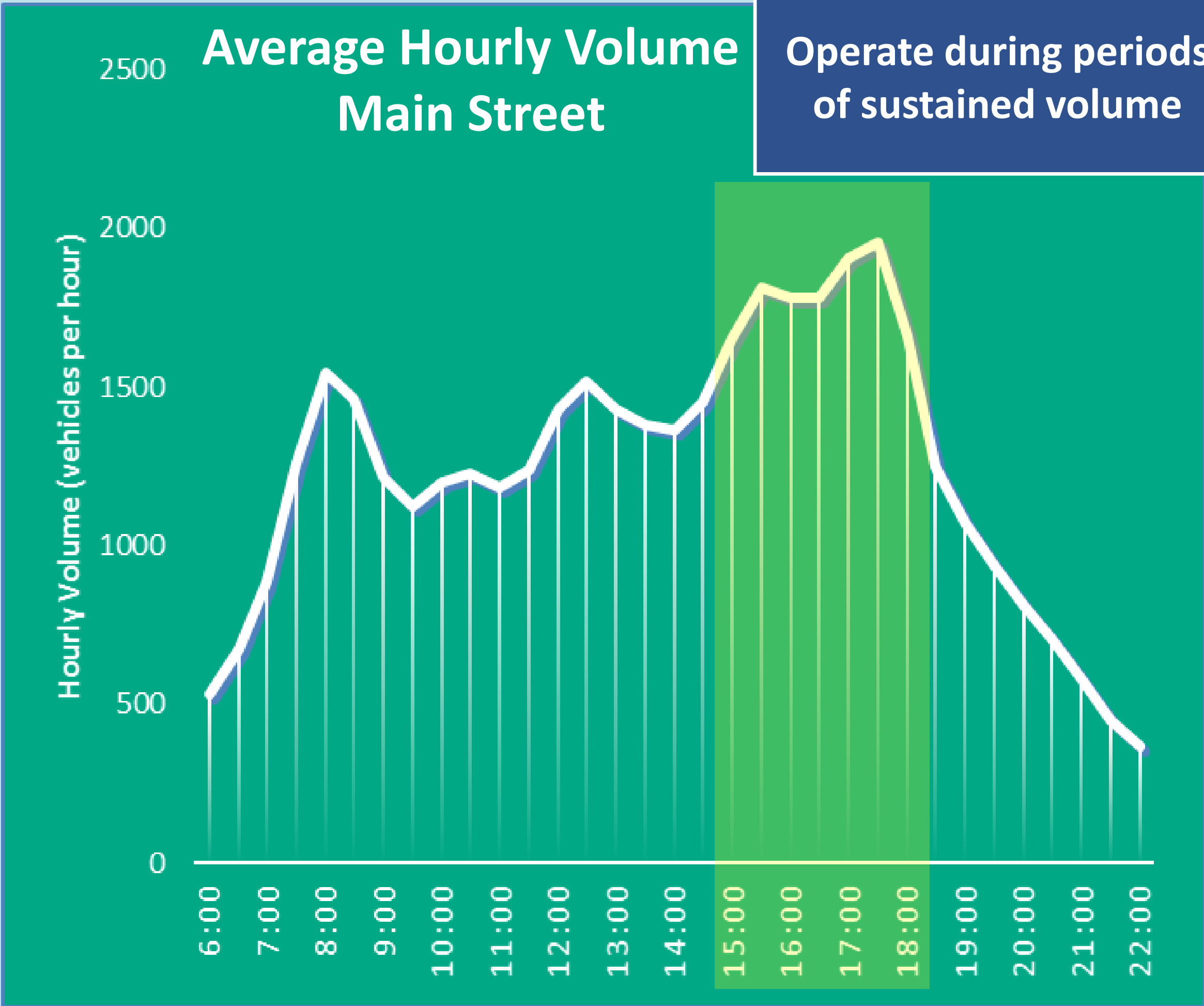
- Can be more responsive to side street traffic
- Result in variable travel times along a corridor
- Present a greater potential for stop-and-go travel
- Typically result in longer delays compared to coordinated signal operations

Recommended Operations

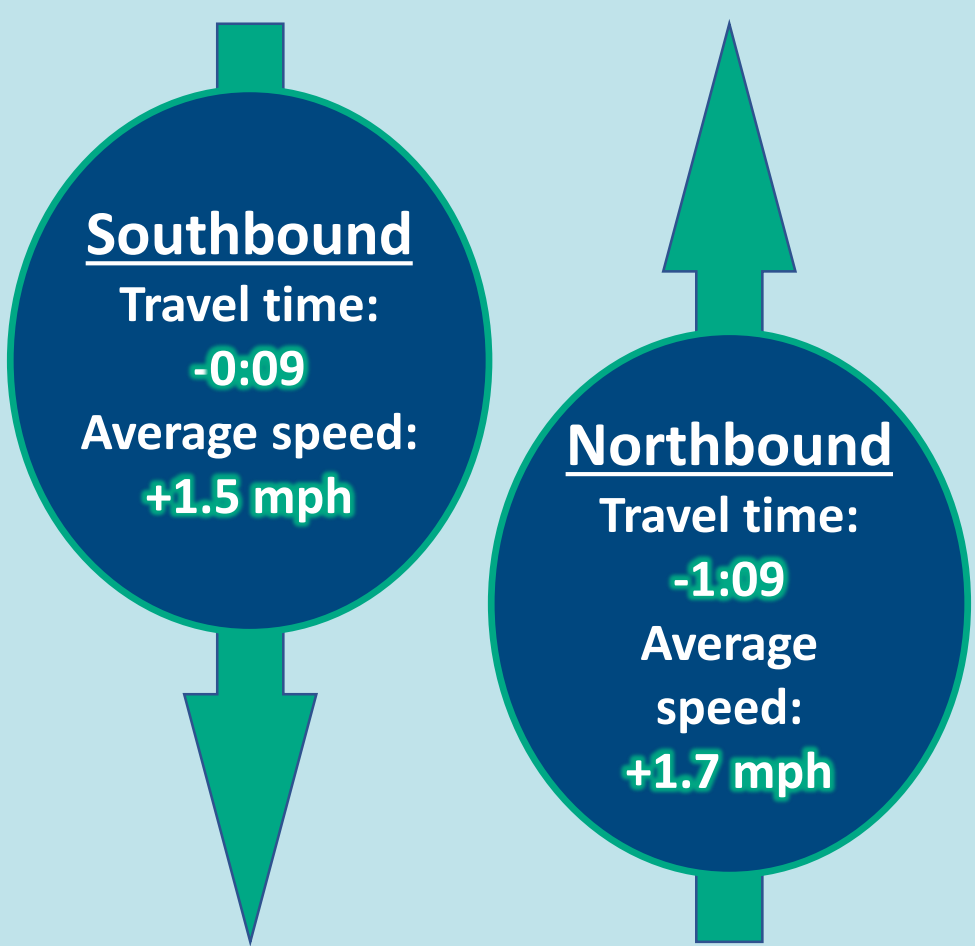


100 second cycle length

Allows for minimal Main Street stops while minimizing side street wait time



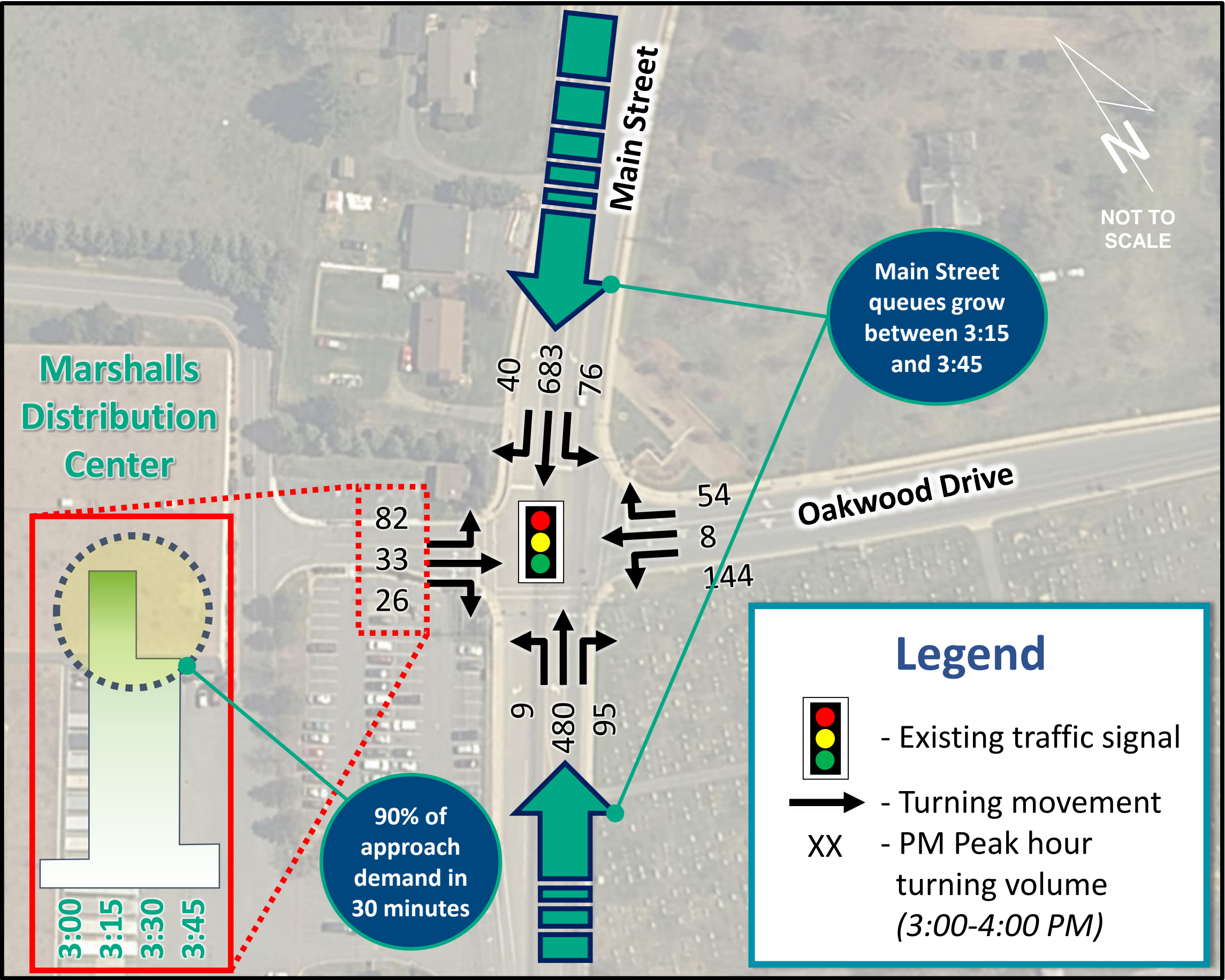
Benefits of Recommended Signal Operations



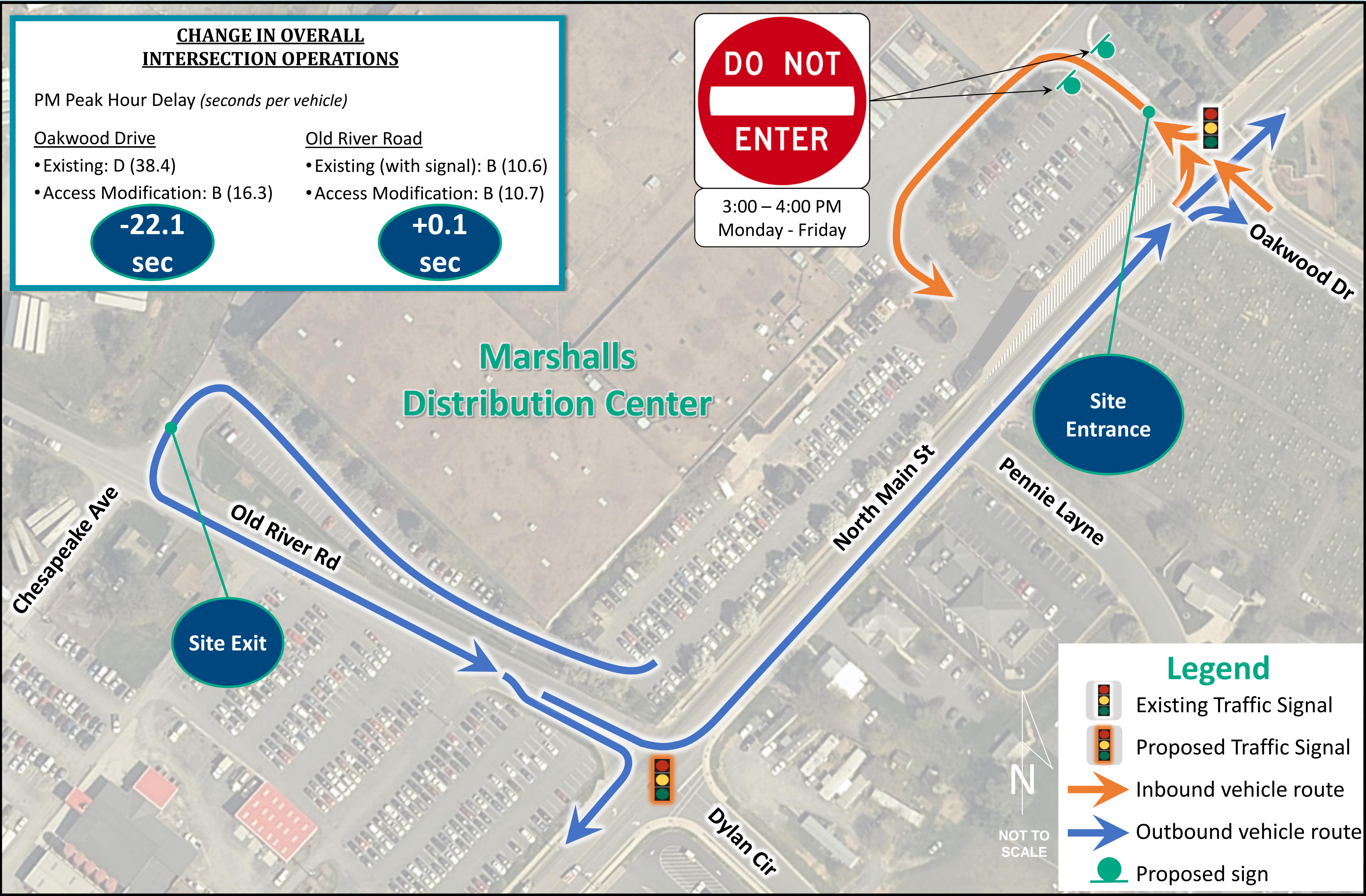
- Reduced travel time
- Increased travel speeds (still below posted speed)
- Reduction in fuel emissions
- Consistent travel patterns along Main Street

Oakwood Drive Congestion Mitigation

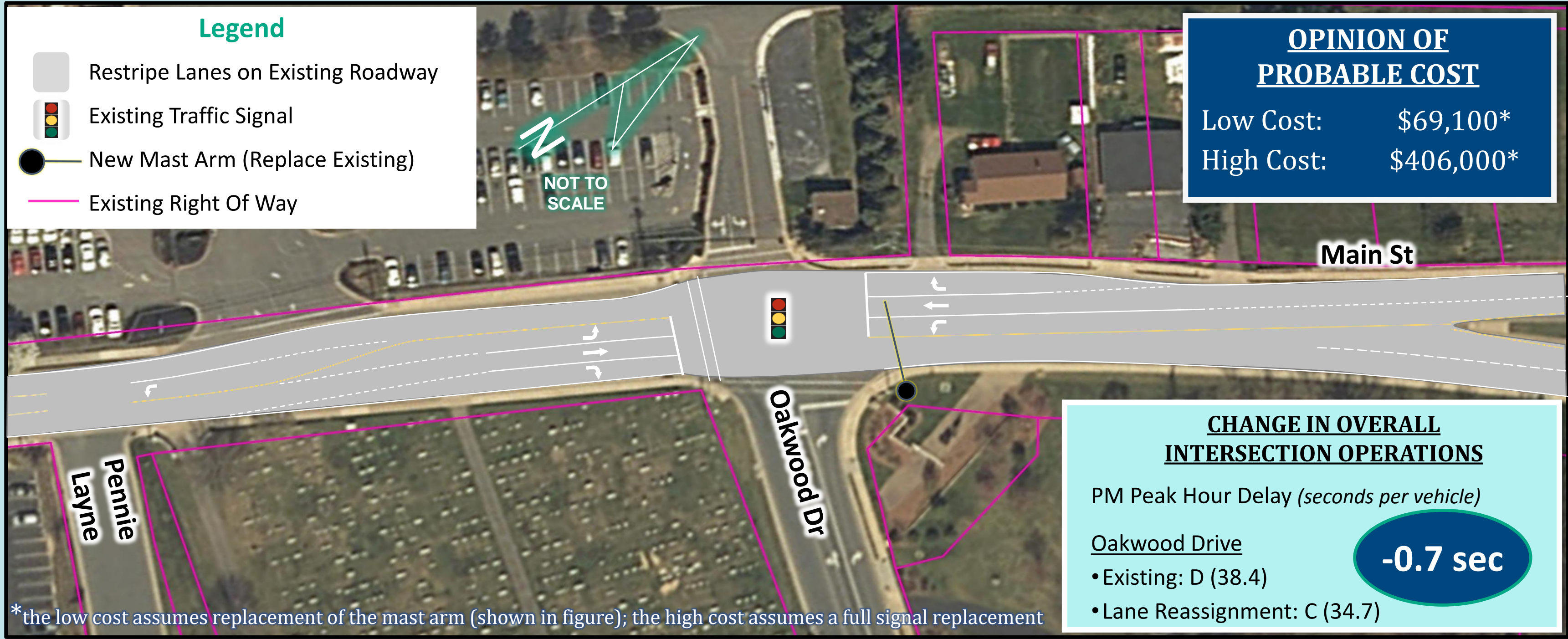
Existing Conditions



Option 1 – Marshalls Site Access Modifications



Option 2 – Lane Reassignments

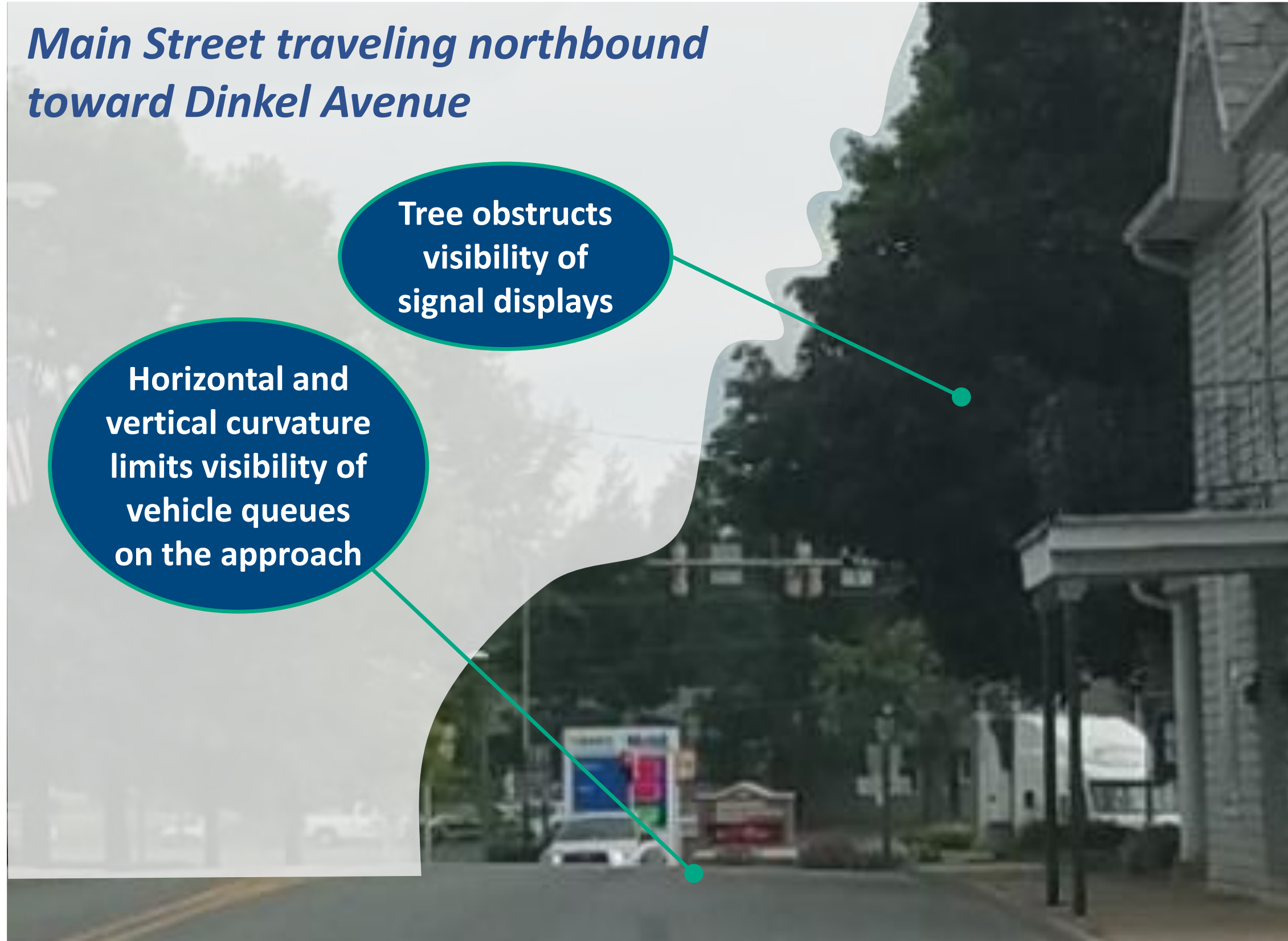


Comparison

	Option 1	Option 2
Operations	- Significant reduction in delay	- Negligible change in delay
Cost	- No construction cost - only time for coordination and implementation with Marshalls	- Nearly \$400k if a complete traffic signal replacement occurs at Oakwood Drive
Benefit	- Reduced congestion on Main Street, potential for improved site circulation	- Exclusive lane assignments for all Main Street turning movements
Conclusion	- Recommended for implementation	- Reconsider during a future traffic signal improvement project

Dinkel Avenue Intersection Modifications

Existing Conditions



Recommended Improvements

Operational and Safety Benefits

- Change in signal display arrangement reduces delay for all movements
- Supplemental signal display improves visibility for vehicles traveling northbound
- Stop bar adjustments reduce the potential for vehicle conflicts

<u>CHANGE IN OVERALL INTERSECTION OPERATIONS</u>
PM Peak Hour Delay (<i>seconds per vehicle</i>)
• Existing: C (27.9)
• Proposed: B (20.0)
-7.9 sec

<u>OPINION OF PROBABLE COST</u>
Low Cost: \$12,500
High Cost: \$15,100

Vehicle Paths for Turning Trucks at Dinkel Avenue (shown in green)

