

Town of Belmont School Street & Goden Street Neighborhood Traffic Calming

Neighborhood Meeting

June 13, 2019



TOWN OF BELMONT



BSC GROUP

Introduction

- Study Background
- Existing Conditions
- Safety and Mobility
- Recommendations



Children deserve safe places to walk and bike
– starting with the trip to school.



Study Background

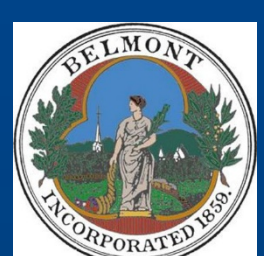


- Concentration of schools in study area
- High Volume of Cut-through vehicular traffic
- Potential increase in traffic from new High School & proposed Alexander Avenue pedestrian underpass



Study Goals

- Improve safety and mobility for pedestrians and bicyclists
- Identify measures to mitigate cut-through traffic volumes,
- Develop traffic calming concept plans



Safe Routes to School Mission



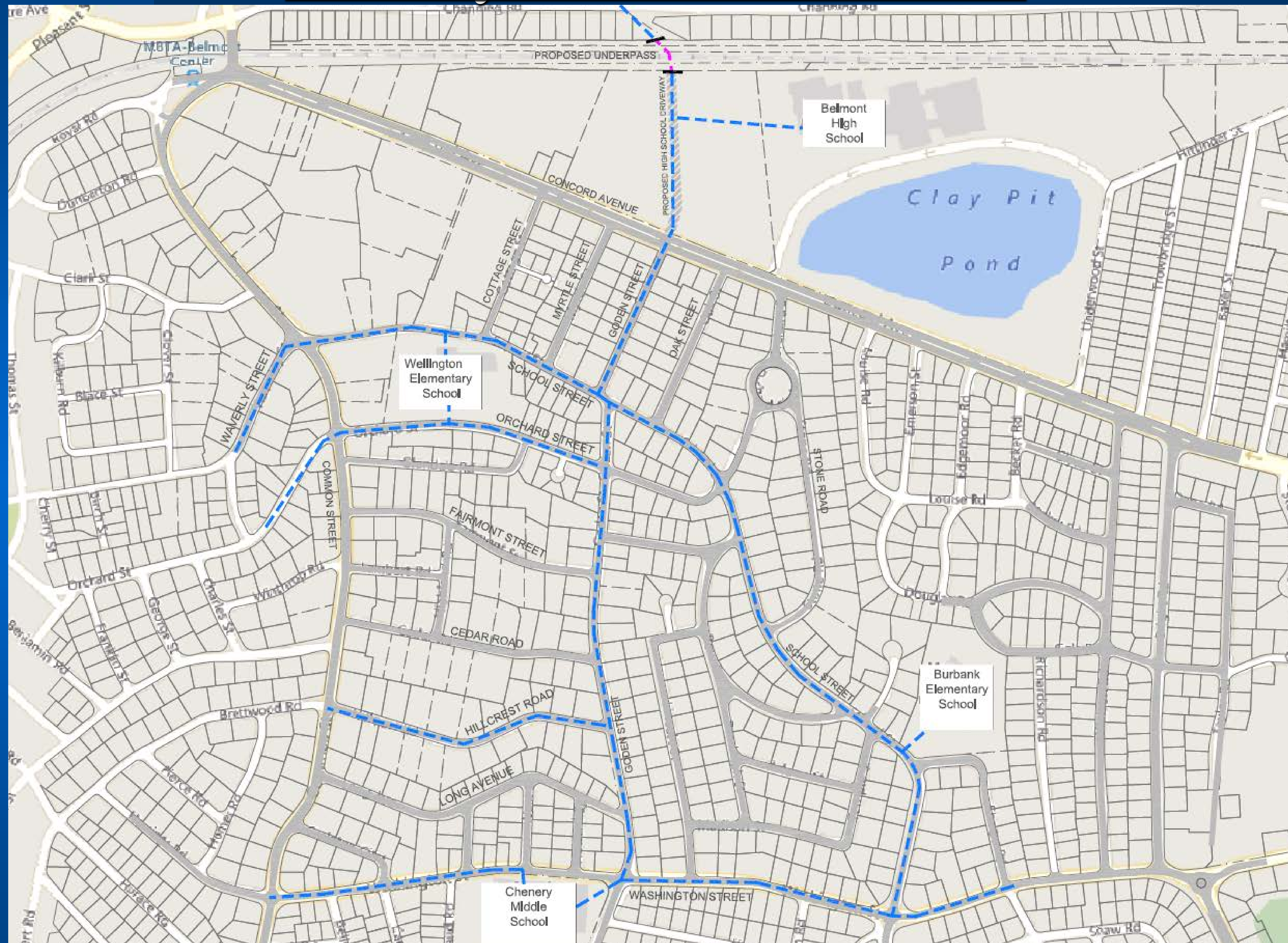
- Enable and encourage children, including those with disabilities, to walk and bike to school;
- Make biking and walking to school safer and more appealing, thereby encouraging a healthy and active lifestyle;



- Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools
 - Source: Safe Routes to School
SafeRoutesPartnership.org



Primary Pedestrian Routes




Study Area



Legend

 Existing One-way

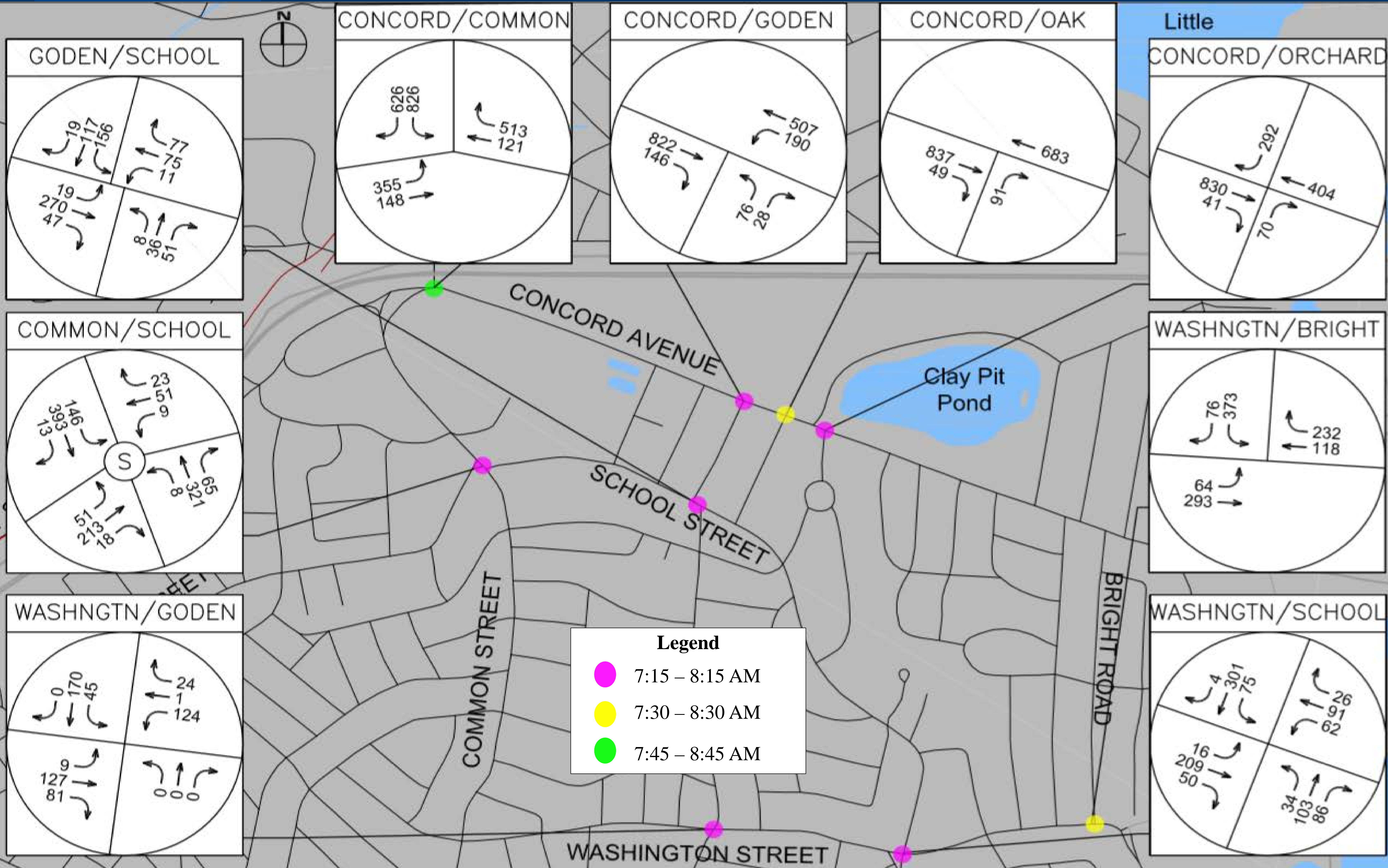
 Existing Two-way

Study Methodology

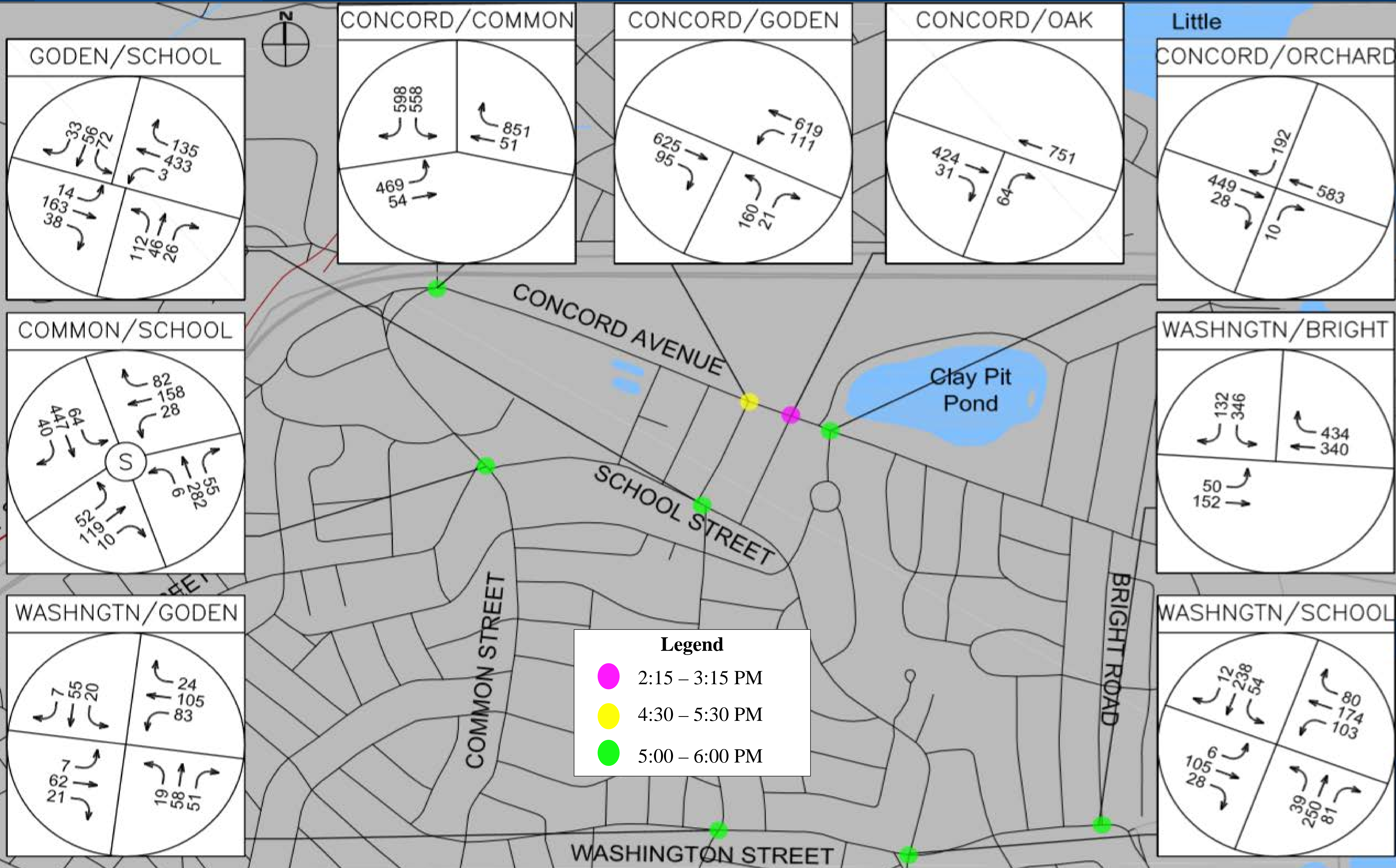
- Supplemental Traffic Data Collection
 - School Street at Goden Street
 - Concord Avenue at Oak Street
- Review of 2017 Sidewalk Inventory
- Field Visits
 - Roadway widths, sidewalk condition
 - Travel Time runs
- Identification of traffic calming elements
- Development of Concept Plans
- Preliminary Cost Estimates



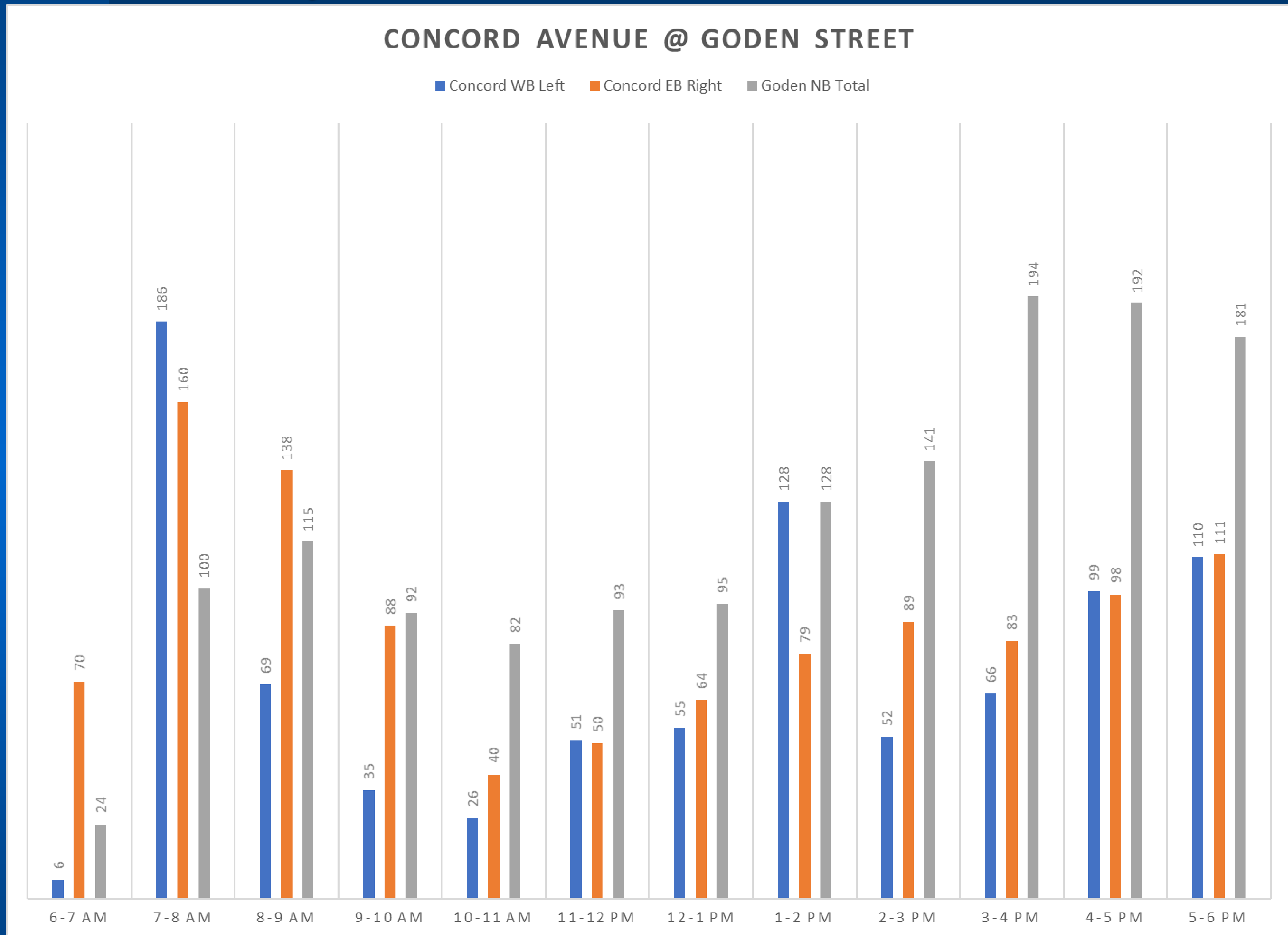
AM Peak Hour Turning Volumes



PM Peak Hour Turning Volumes



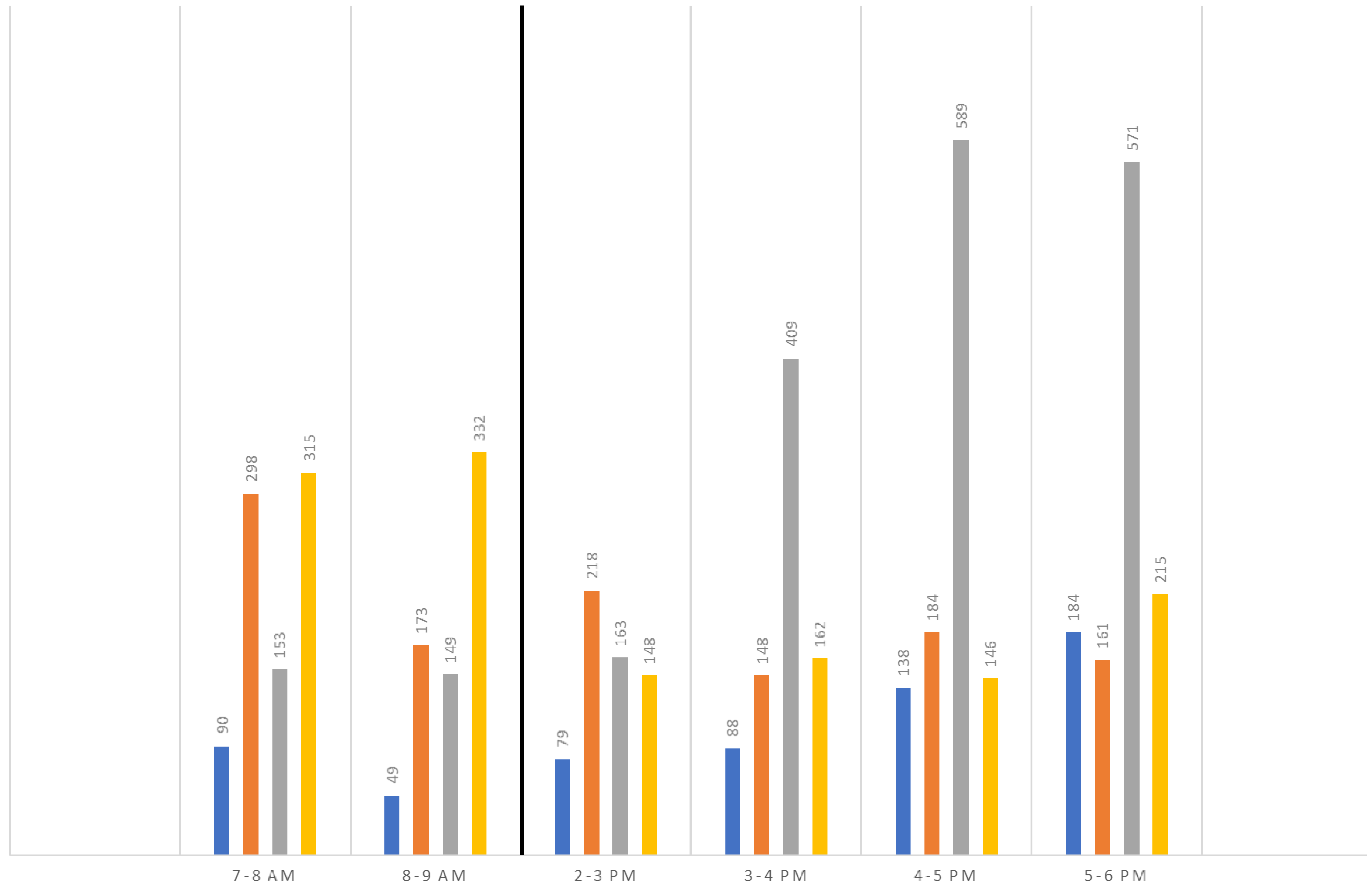
Hourly Traffic Volume Variation



Hourly Traffic Volume Variation

SCHOOL STREET @ GODEN STREET

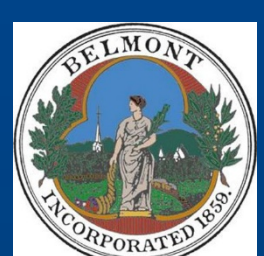
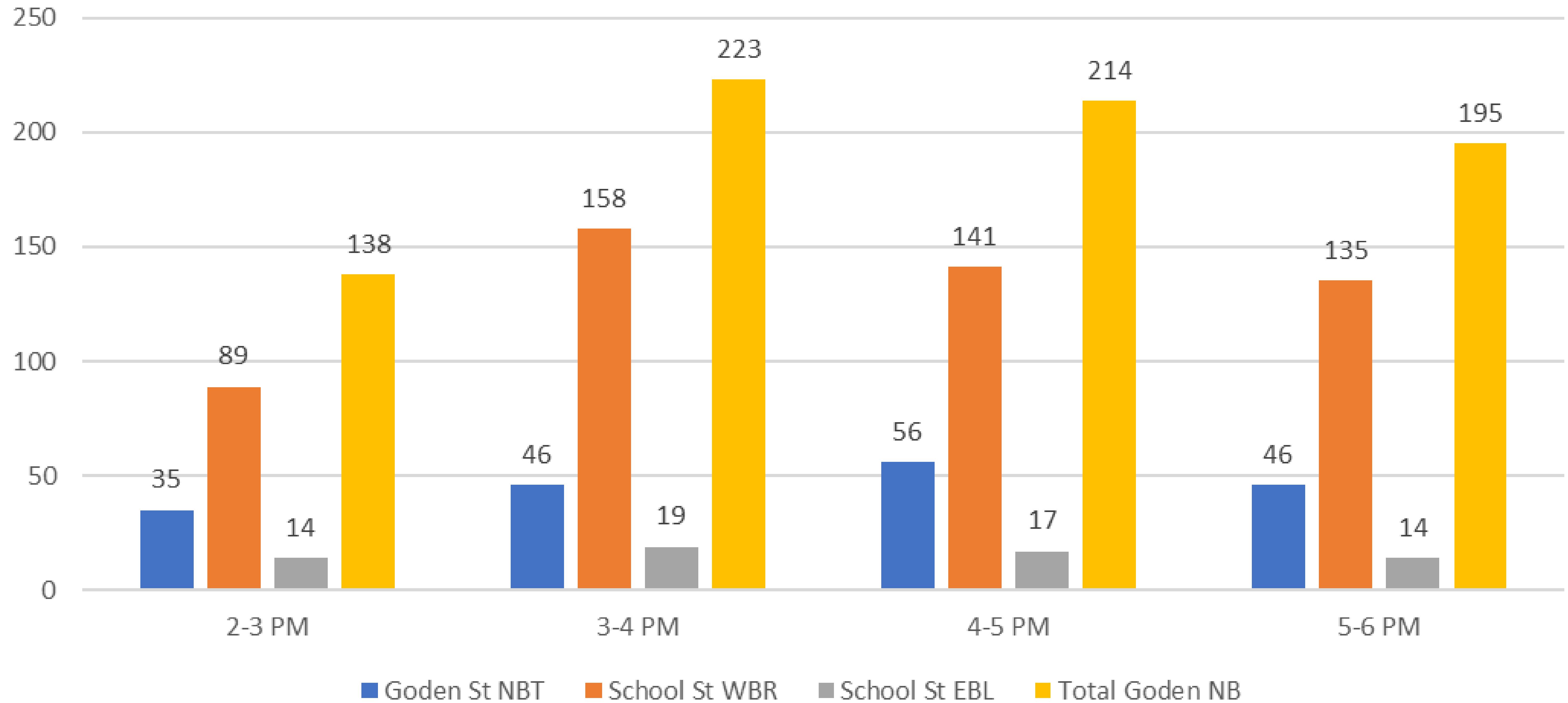
■ Goden Street N ■ Goden Street S ■ School Street W ■ School Street E



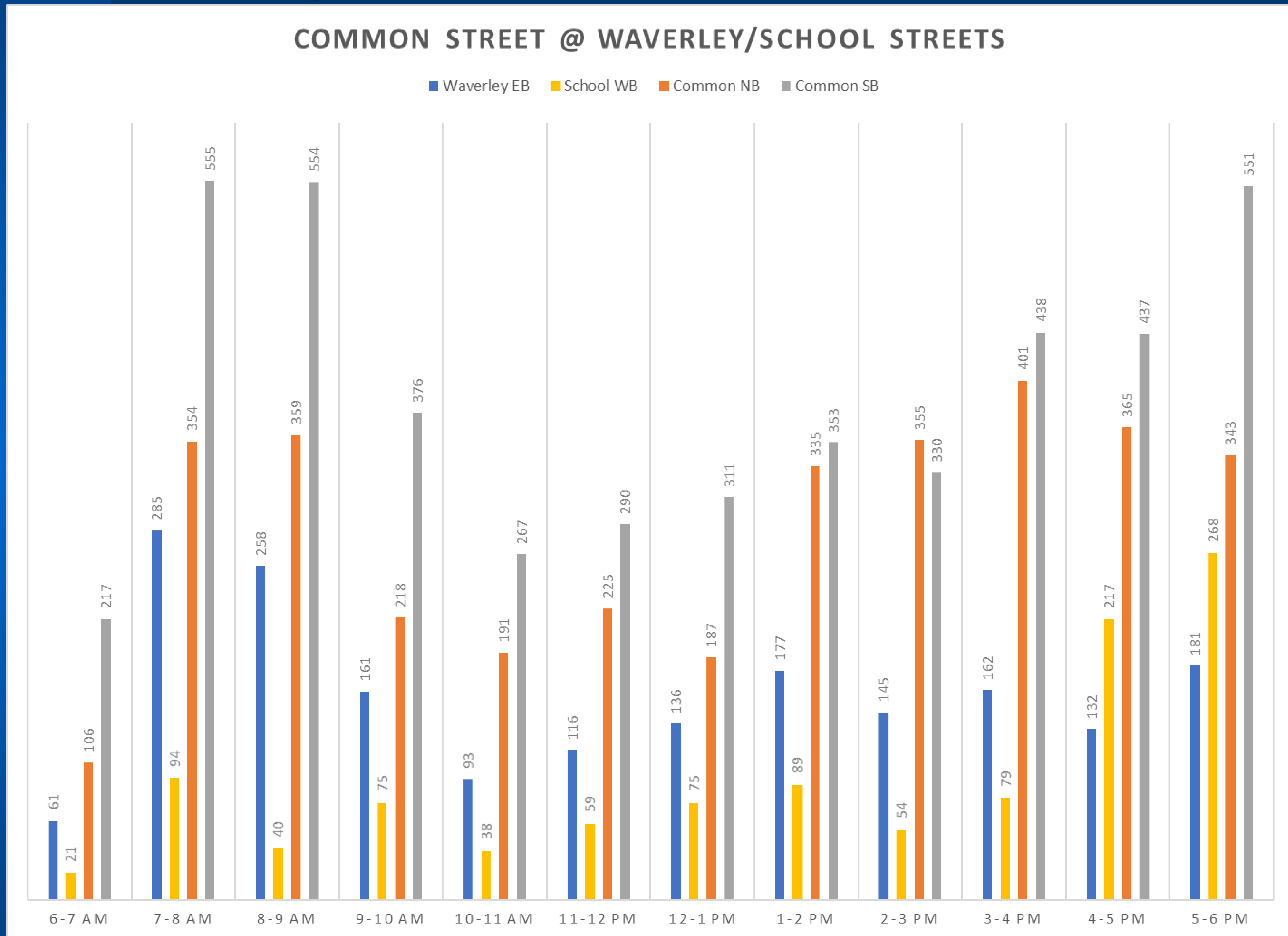
Hourly Traffic Volume Variation

School Street @ Goden Street
PM Goden Street Northbound Traffic

(May 2019)

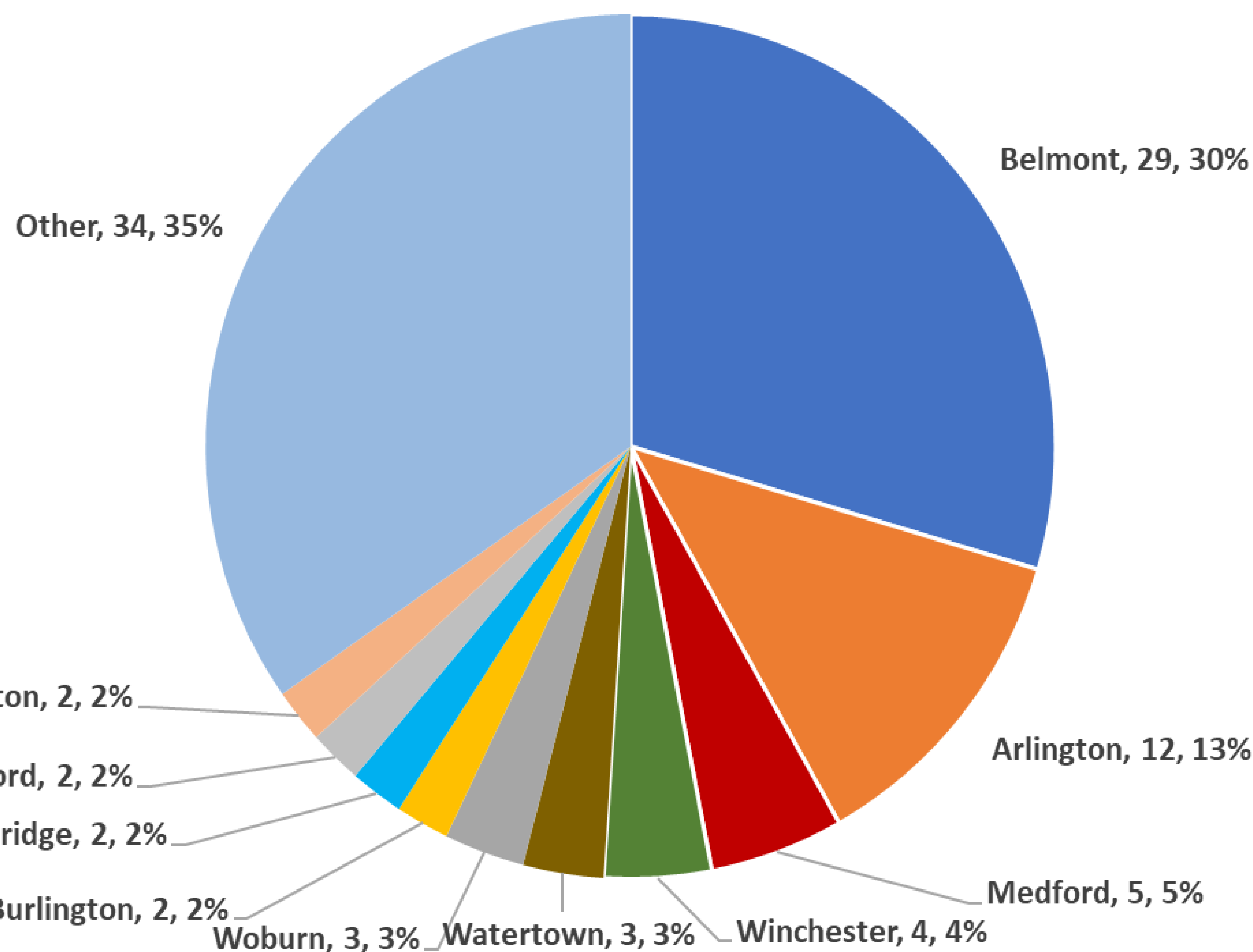


Hourly Traffic Volume Variation

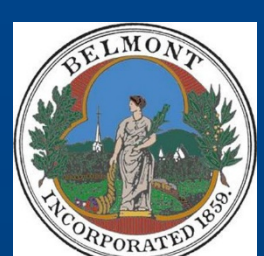
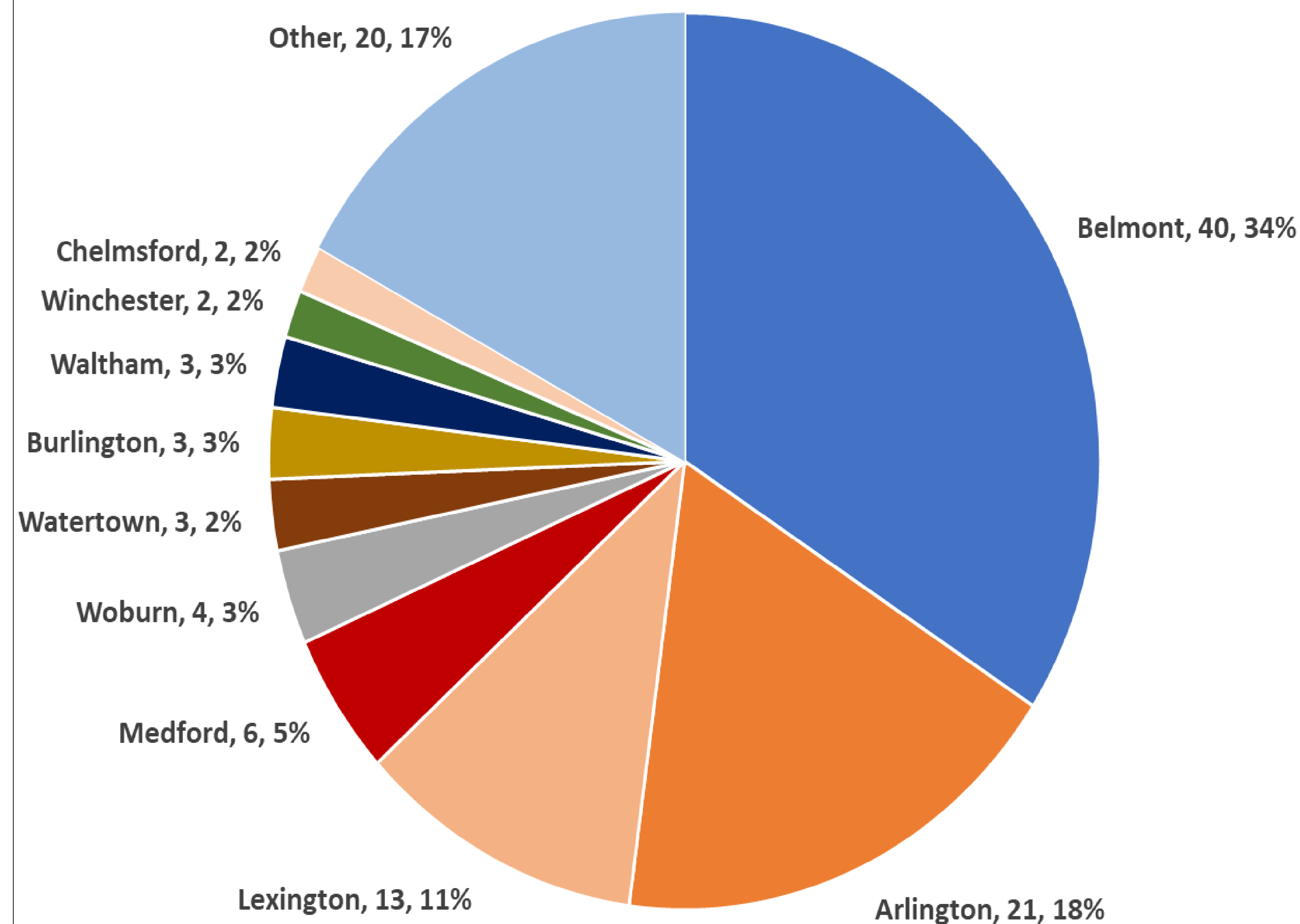


Lower Goden Street Cut-through Traffic

Goden Street (lower) AM; 8 - 8:30 SB Concord to School

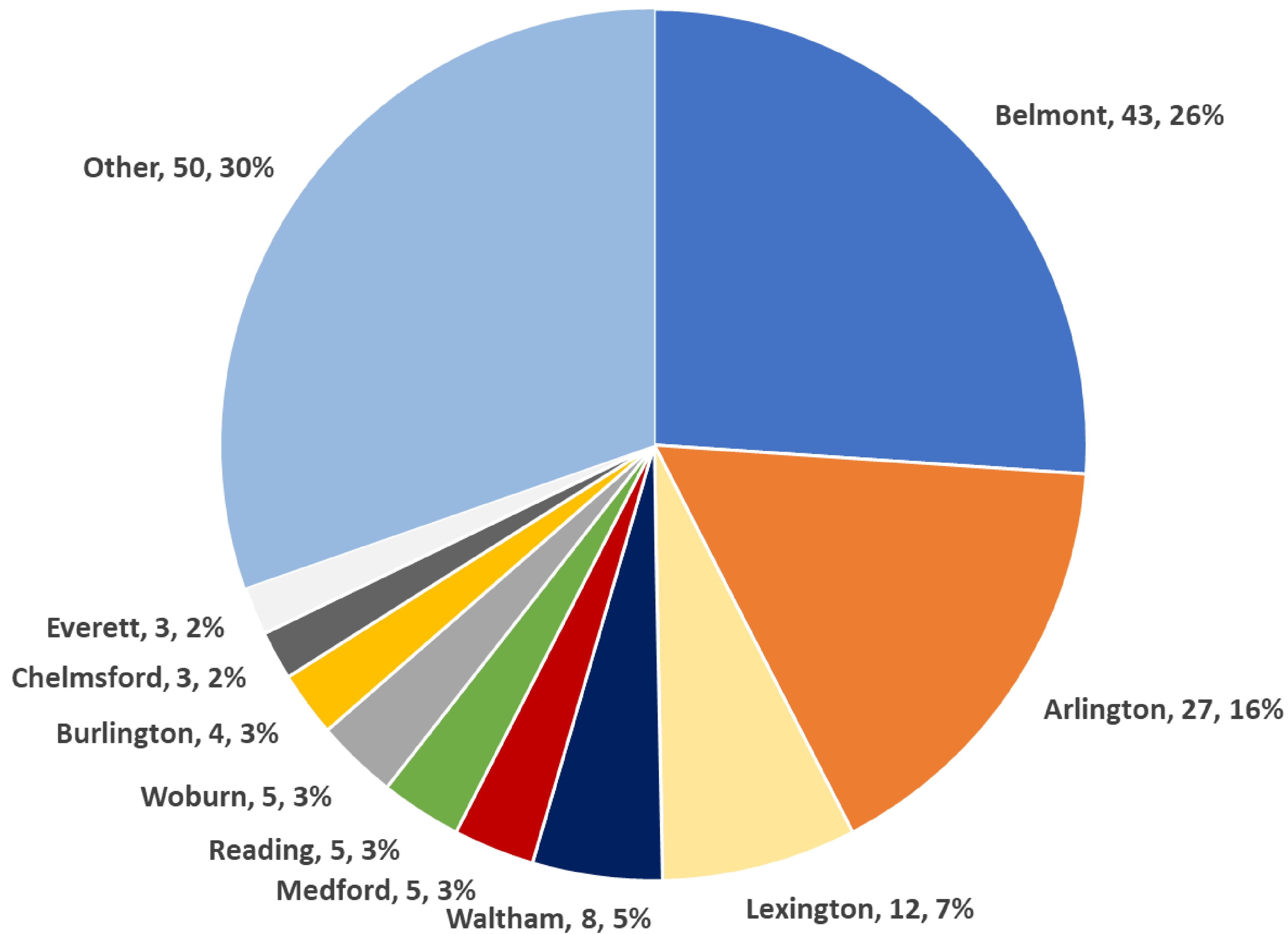


Goden Street (lower) PM; 5 - 5:30 NB School to Concord

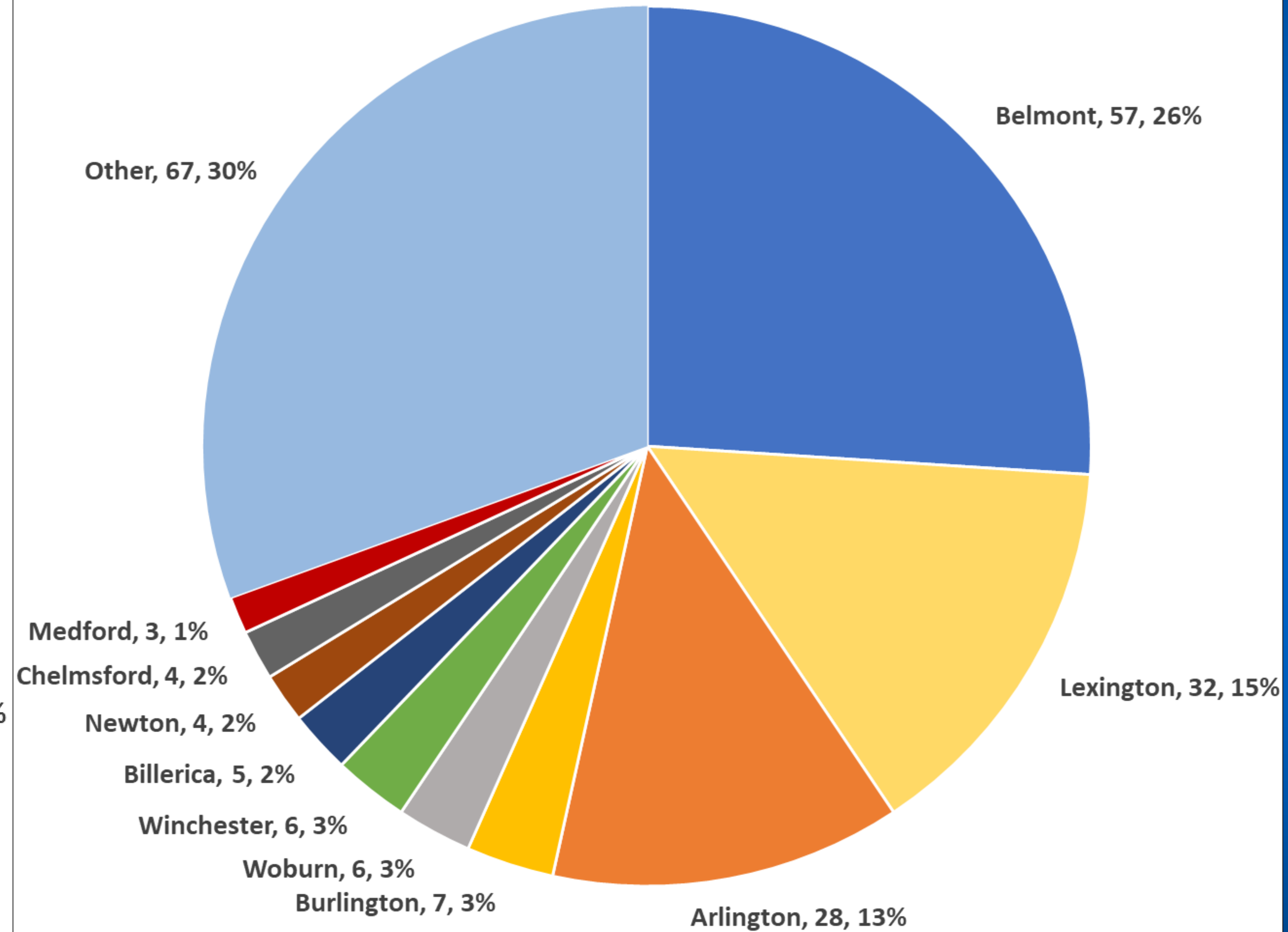


School Street Cut-through Traffic

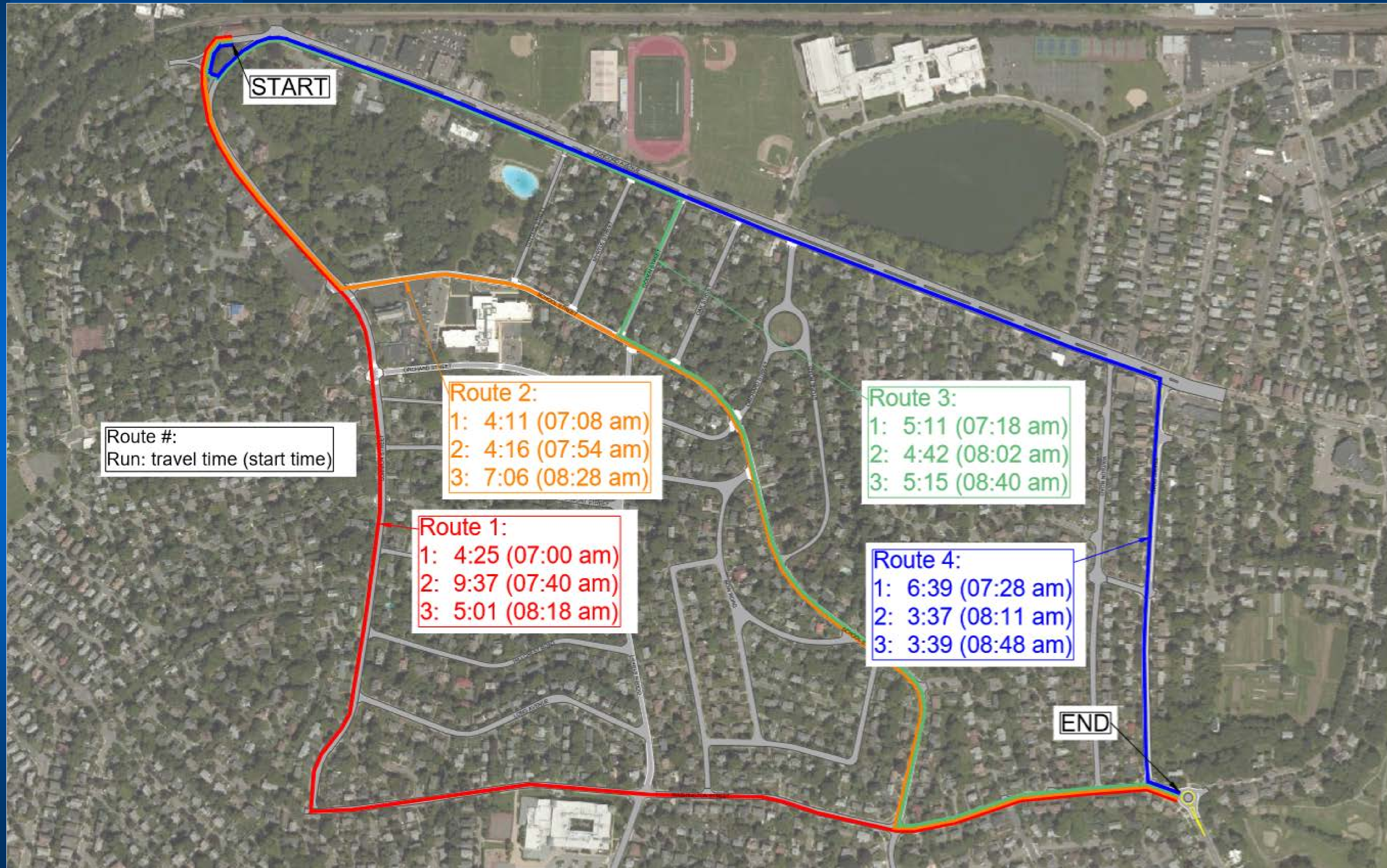
School Street AM; 8 - 8:30 SB Stone to Bow



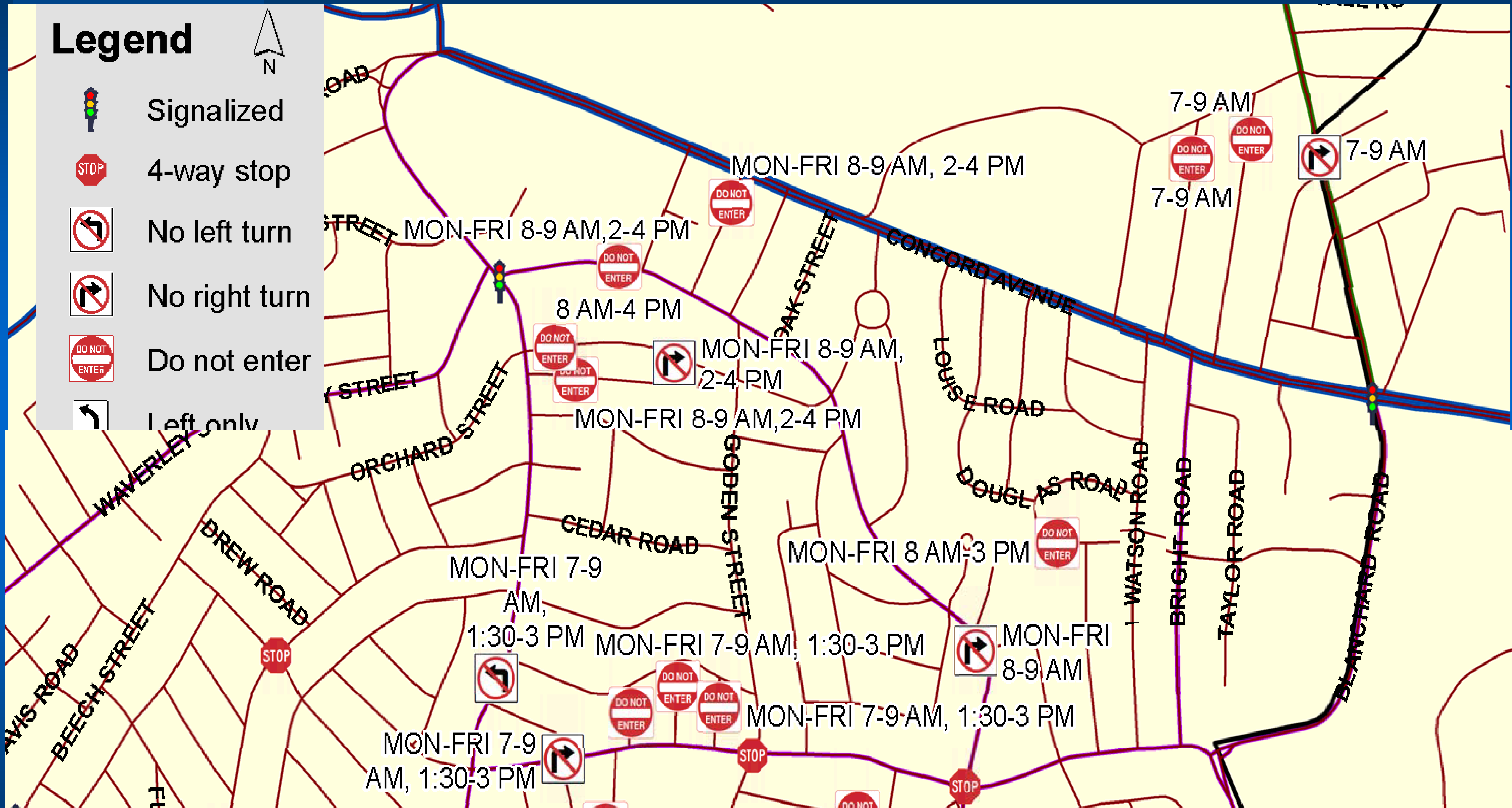
School Street PM; 5 - 5:30 NB Bow to Stone



Travel Time Runs



Existing Traffic Restrictions



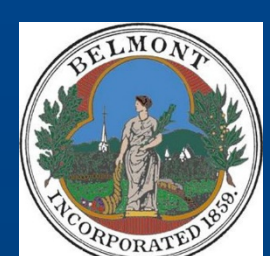
Additional Traffic Restriction Considerations

- Concord Ave Eastbound AM right-turn restrictions
- School Street Westbound PM right-turn restrictions
- Conversion of Goden Street between School Street and Orchard Street into one-way southbound

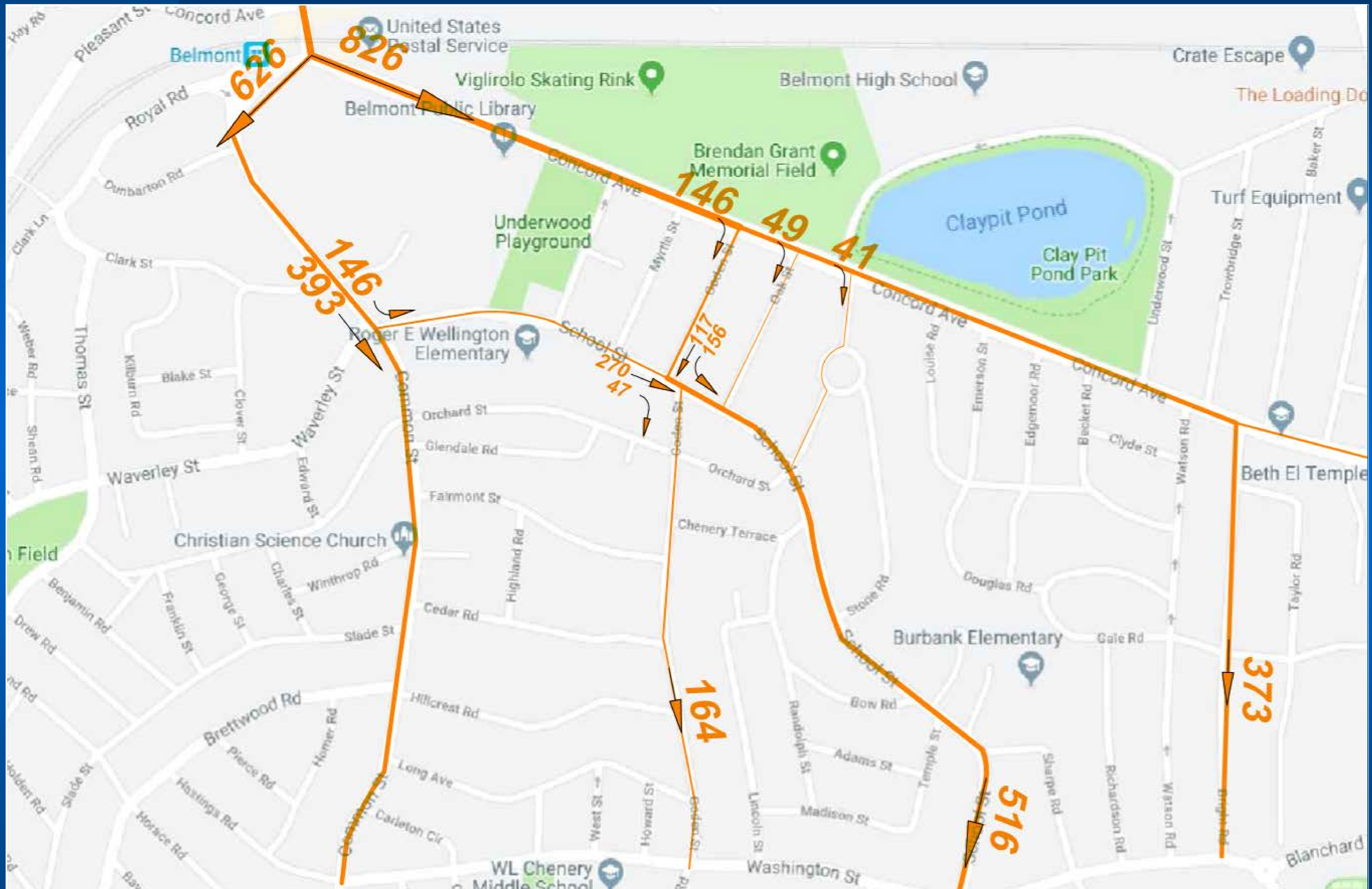


Concord Ave Turn Restriction Considerations

- Concord Ave Eastbound right-turn restrictions
 - Myrtle Street (existing 8-9 AM, 2-4 PM)
 - Goden Street (7-9 AM)
 - Oak Street (7-9 AM)
 - Orchard Street (7-9 AM)
- Pros
 - Reduce commuter cut-through traffic
 - Direct more vehicles towards Bright Road
 - Reduce traffic at Goden Street & School Street intersection
- Cons
 - Possible traffic increases at Common Street & School Street
 - Would impact school-bound traffic from Concord Avenue

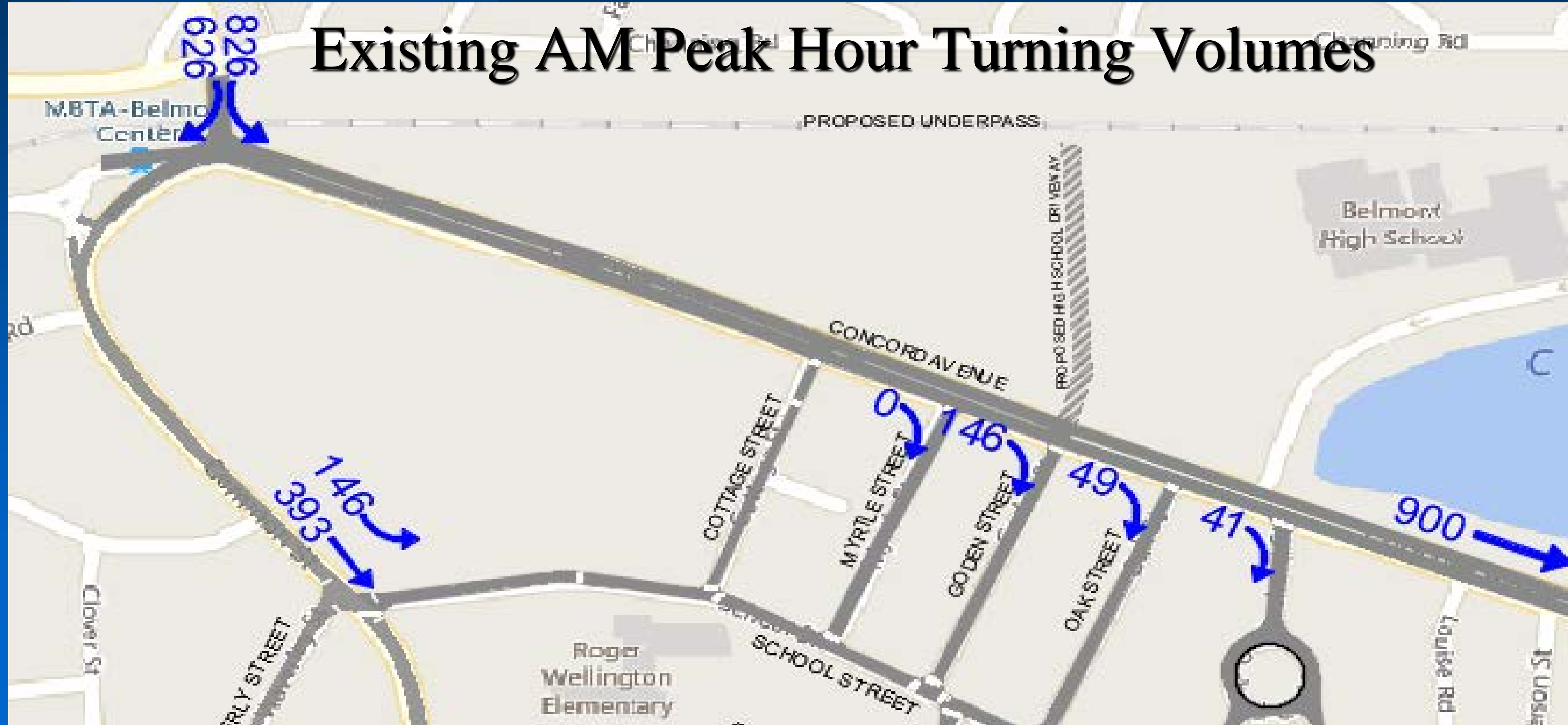


AM Peak Hour Traffic Flow



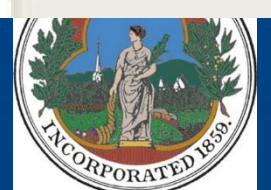
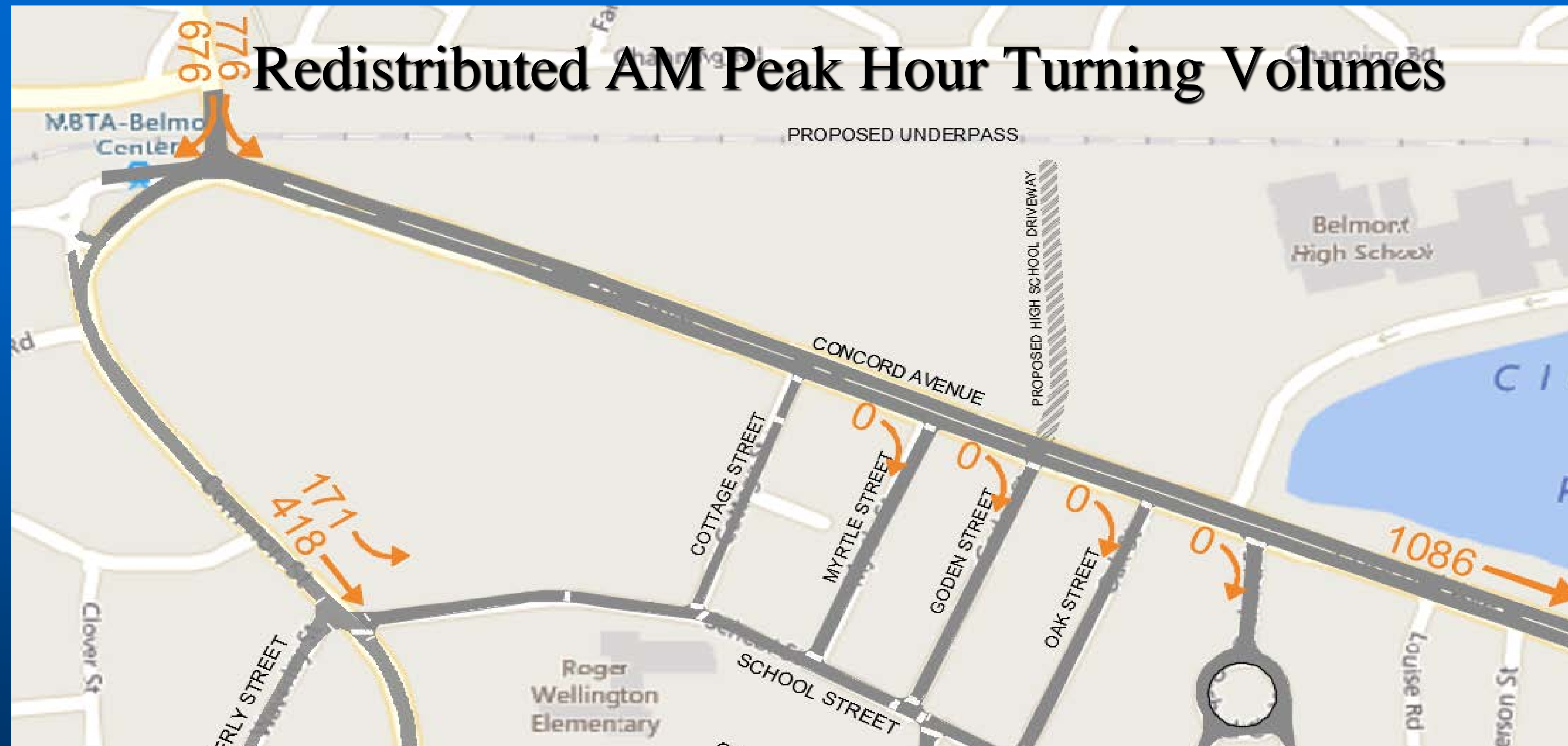
Concord Ave Turn Restrictions Considerations

Existing AM Peak Hour Turning Volumes



- 236 total trips turning right onto Goden, Oak, Orchard during AM peak hour
- 20% redirected from Concord Ave to Common Ave (50 vehicles)
- 80% continue east on Concord Avenue towards Bright Street (186 vehicles)

Redistributed AM Peak Hour Turning Volumes

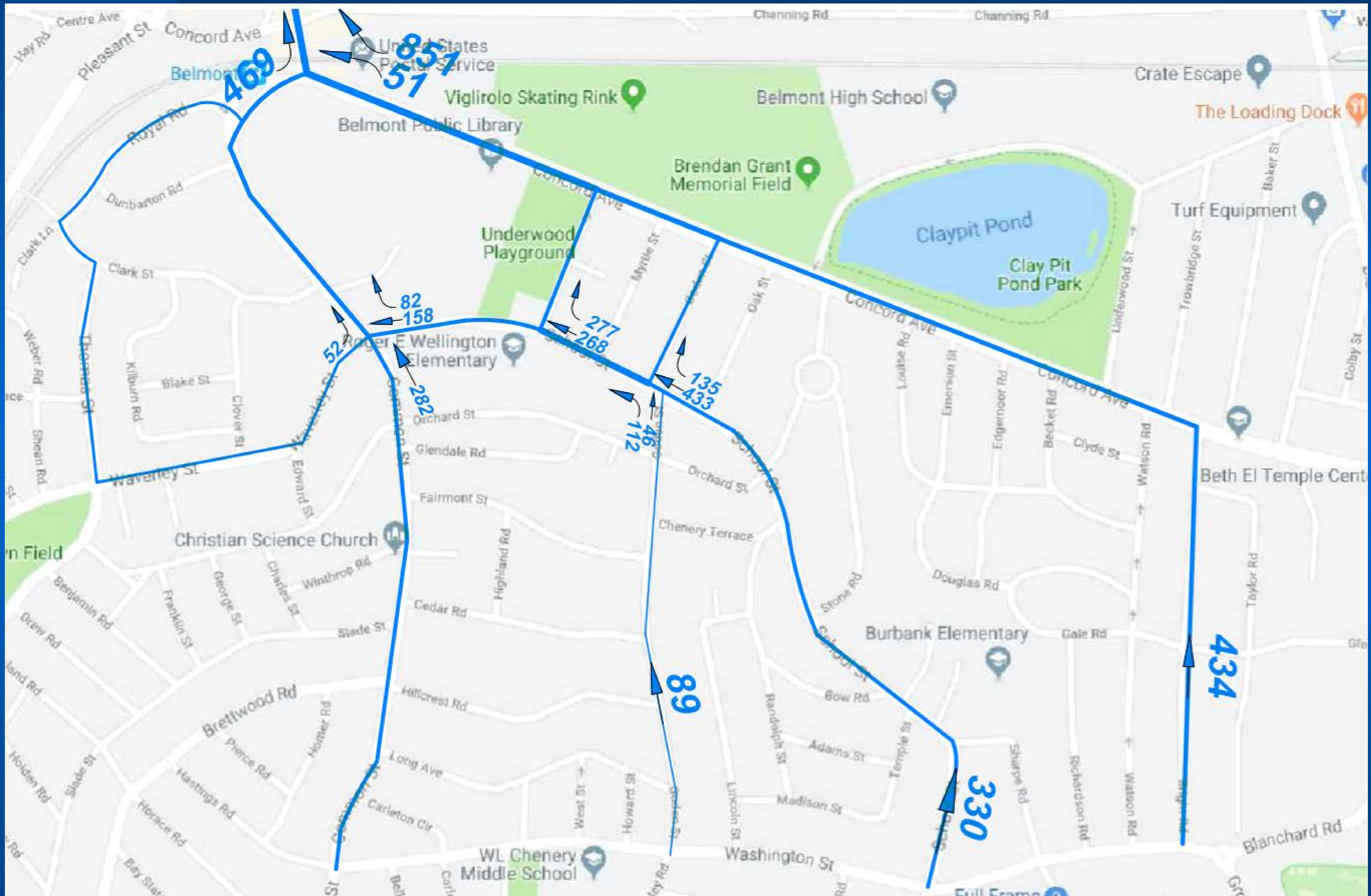


School Street PM Turn Restriction Considerations

- School St westbound right-turn restrictions
 - Goden Street (4-6 PM)
 - Cottage Street (4-6 PM)
- Pros
 - Reduce commuter cut-through traffic
- Cons
 - Possible traffic increases at Common Street & School Street
 - Redirect more traffic towards Waverley St/Thomas St/ Clark St/Royal Rd
 - Would impact high school-bound traffic from study area
 - Increase in U-turns on Concord Ave

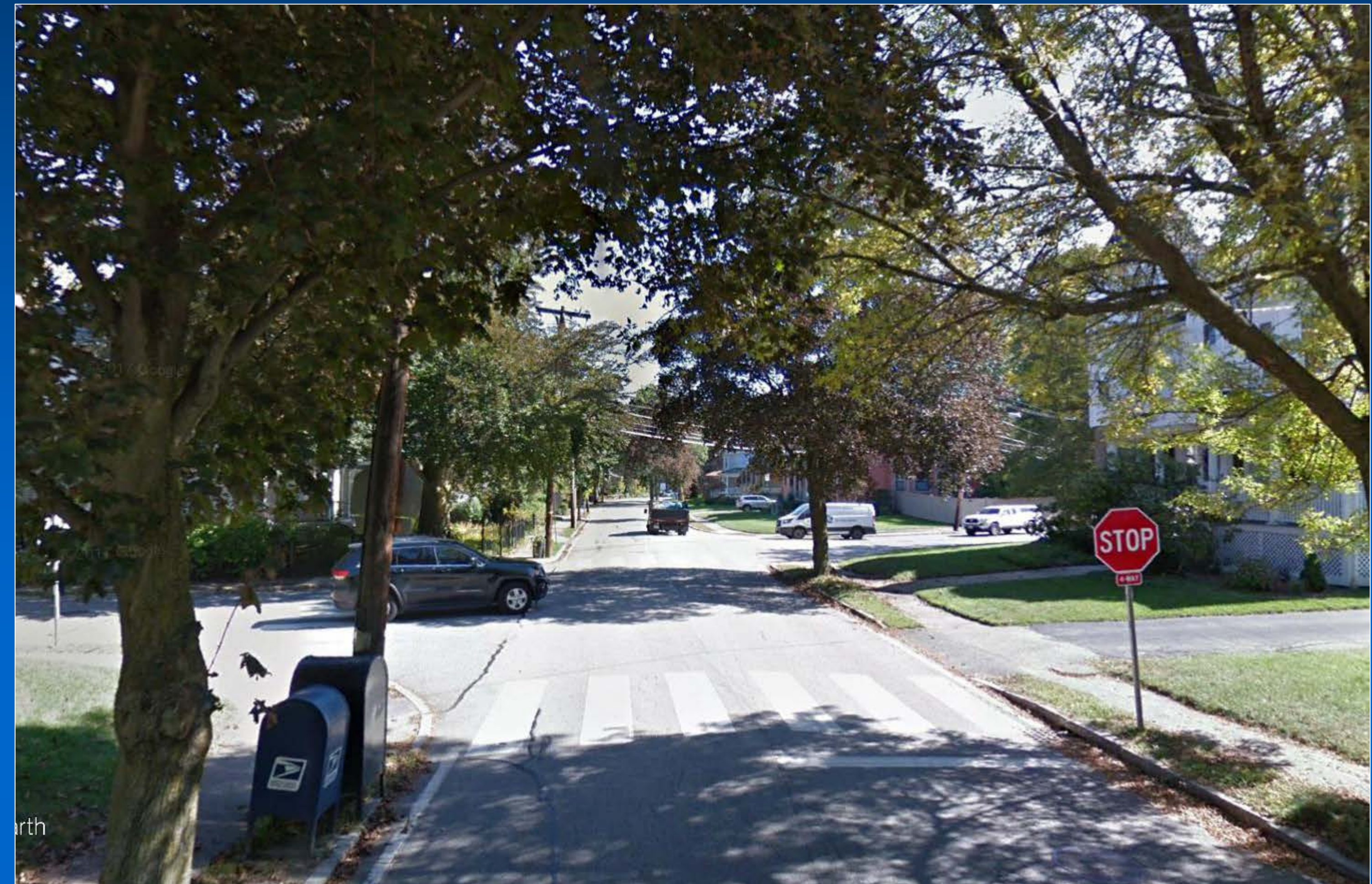
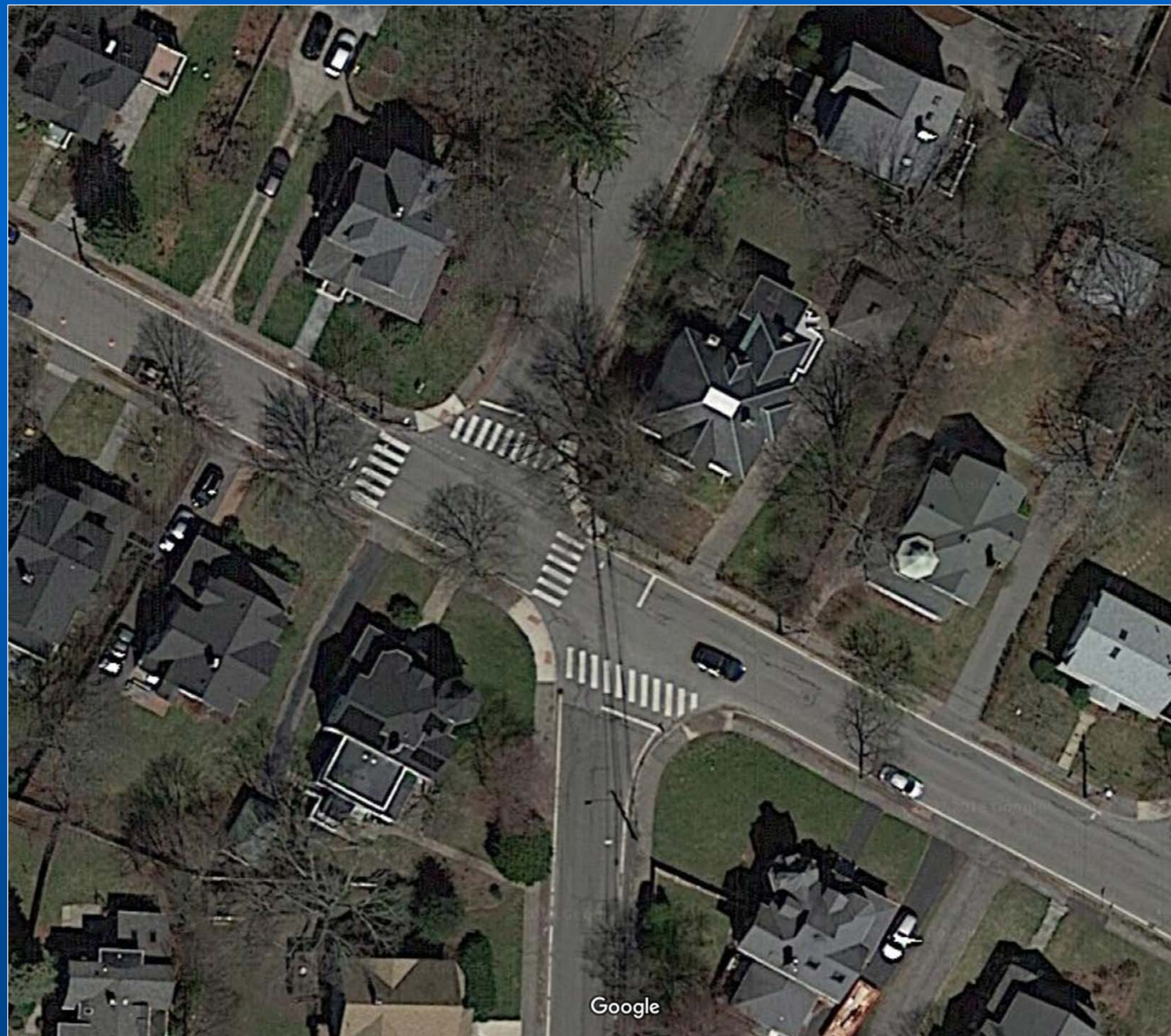


PM Peak Hour Traffic Flow



School St & Goden St Intersection

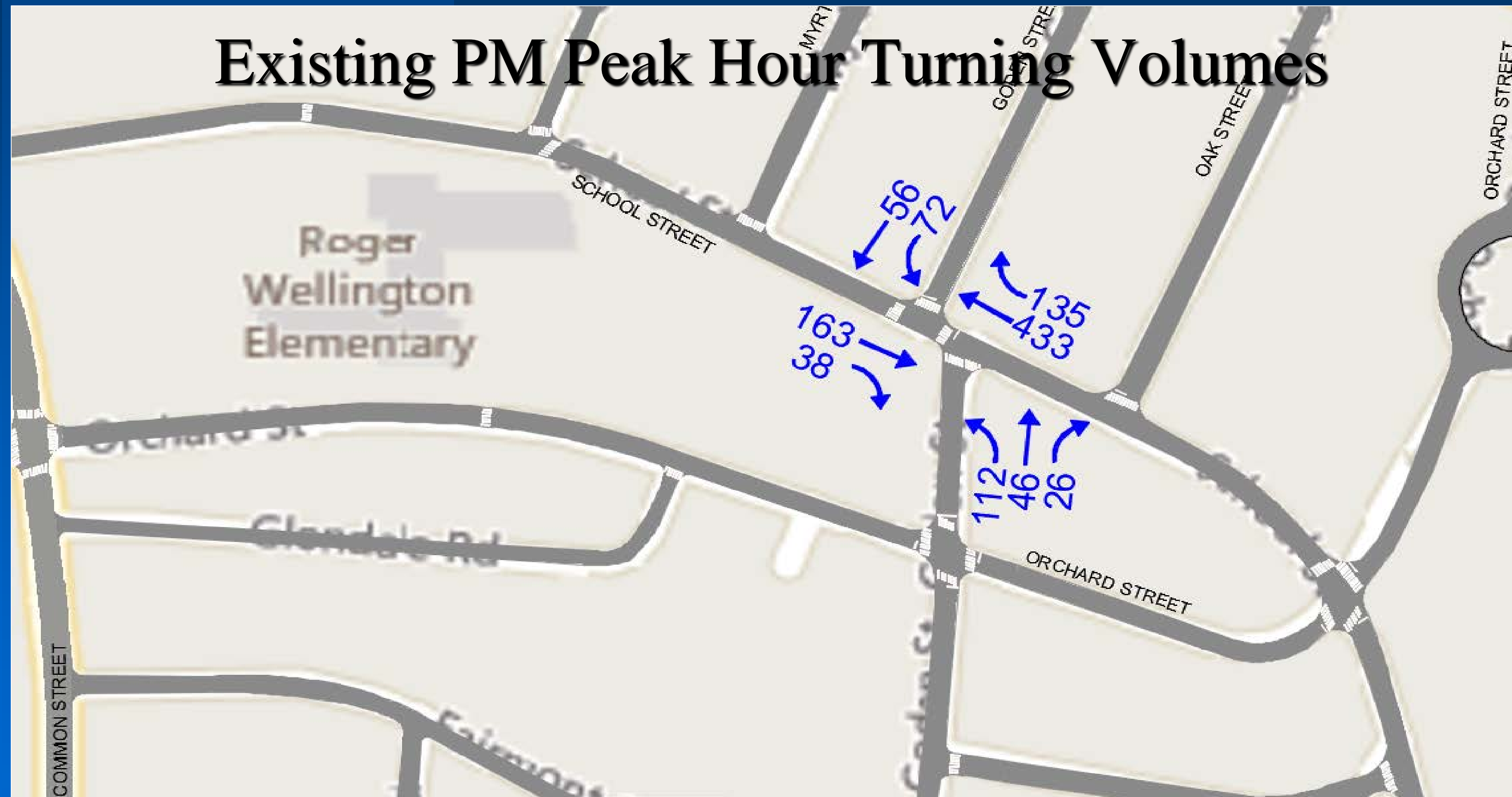
- Offset 4-way stop-controlled intersection
- Poor sightlines with limited visibility of opposing vehicles



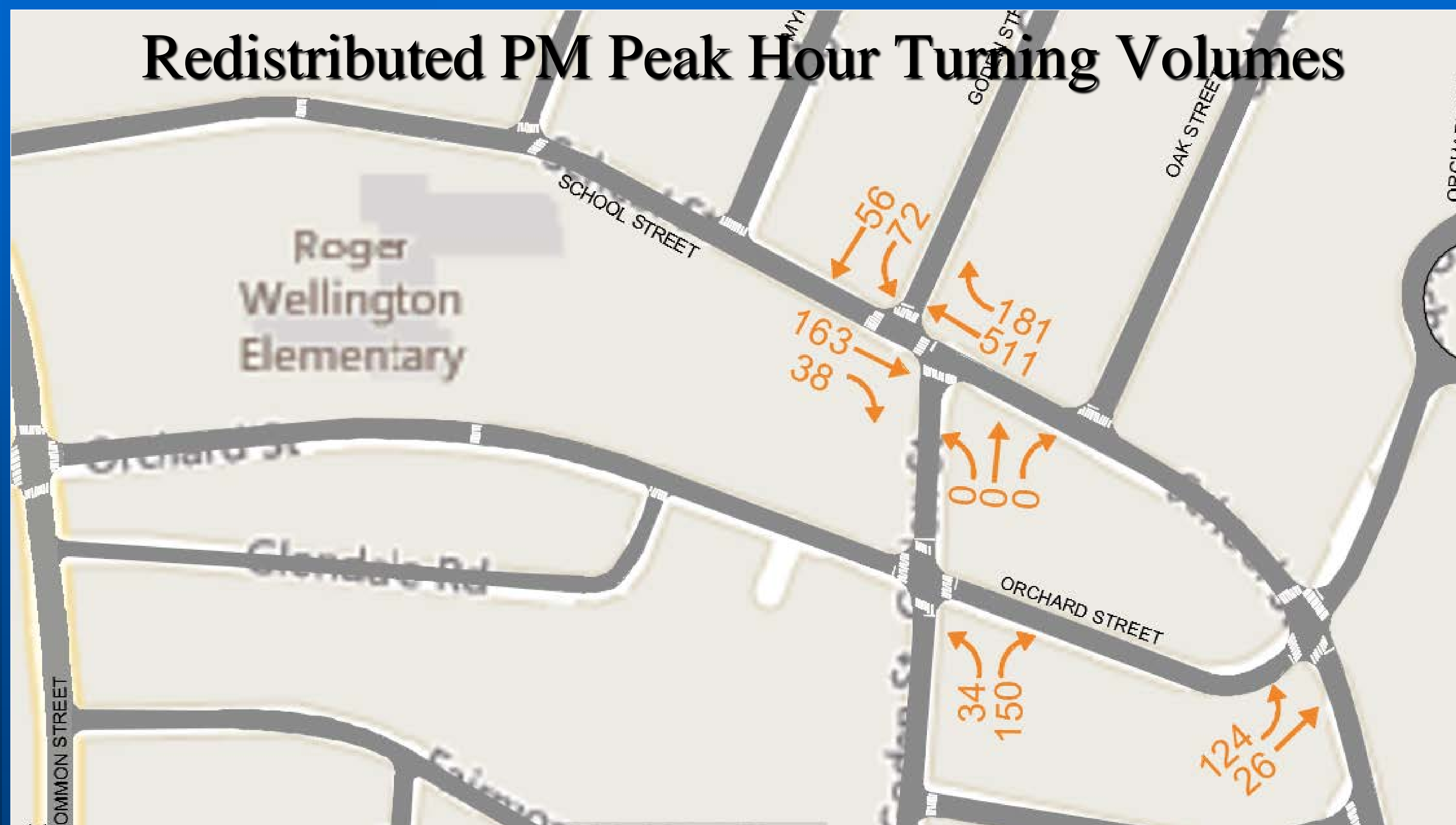
- Heavy pedestrian route, especially by school children
- Difficult crossing with several conflicting vehicle movements



Goden Street One-Way Southbound



- Vehicles would be prohibited from travelling north on Goden between School and Orchard
- Orchard Street traffic expected to increase as NB Goden Street traffic will turn left or right at Goden & Orchard intersection



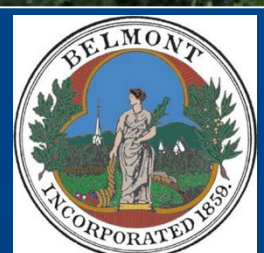
- Estimated 70% of Goden Street NBL vehicles will turn right onto Orchard Street
- 30% will turn left onto Orchard Street

Field Observations - Existing Sidewalk Condition

- Pedestrian access impacted by damaged/narrow sidewalks
- Tree roots major cause of sidewalk damage
- Lack of vertical granite curbing at some locations
- Long pedestrian crossing distances at intersections
- Drainage issues at handicap access ramps



Lower Goden Street Sidewalk



TOWN OF BELMONT



BSC GROUP

School Street at Goden Street



Upper Goden Street Sidewalk



TOWN OF BELMONT



BSC GROUP

School Street near Burbank Elementary



Oak Street Sidewalk



Myrtle Street Sidewalk



TOWN OF BELMONT



BSC GROUP

School & Goden Intersection



TOWN OF BELMONT



BSC GROUP

Orchard & Goden Intersection



TOWN OF BELMONT



BSC GROUP

School & Bow (North)



School & Bow (South)



Study Recommendations

- Reconstruct sidewalks & curb bump-outs
- Install vertical curbs and grass buffer strip
- Implement Concord Ave AM right turn restrictions
- Convert Goden St to one-way between School St and Orchard St
- Install speed humps, raised intersections, and speed feedback signs on School St & Goden St
- Paint double yellow center lines and bicycle sharrows



Proposed Study Area Improvements

- Construct raised intersections at:
 - School Street at Goden Street
 - School Street at Orchard Street
 - Goden Street at Orchard Street
- Convert Goden Street to one-way southbound between School Street & Orchard Street
- All-way stop controls at each intersection
 - Install Stop Ahead signs prior to intersection approaches

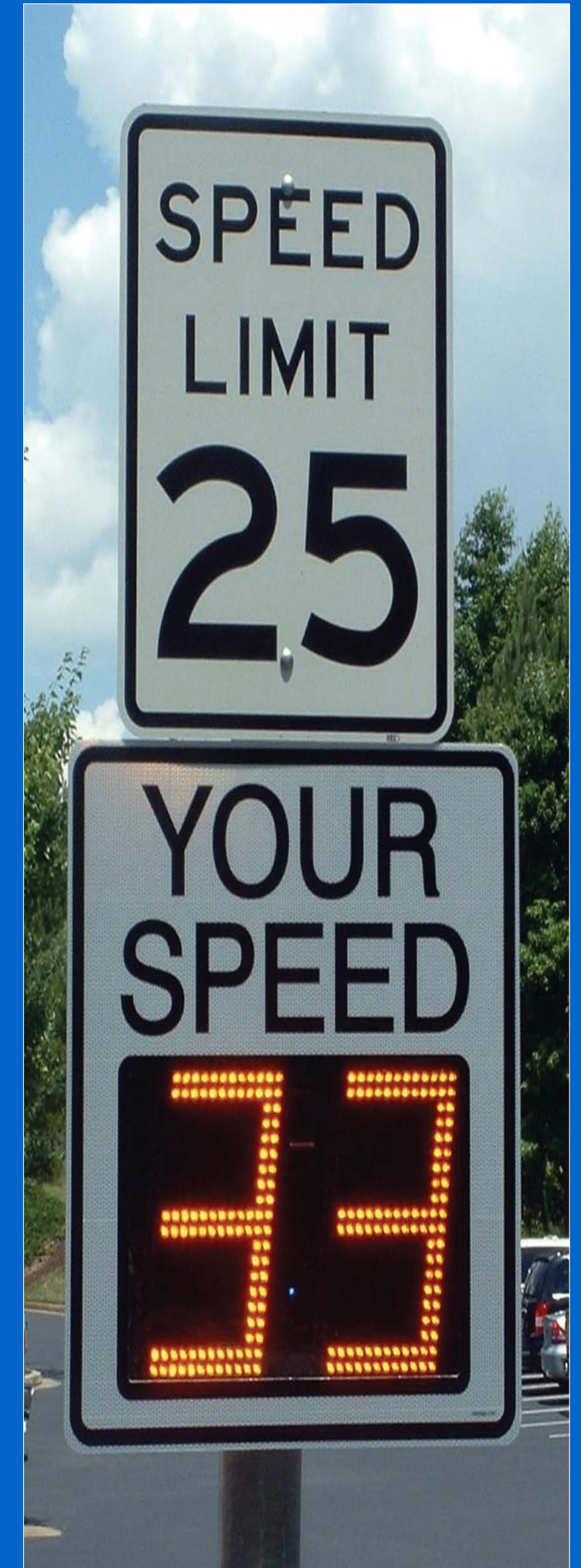


Goden & School & Orchard Intersection Concepts



Proposed Study Area Improvements

- Install curb bump-outs at intersections to reduce crossing distance
- Install speed tables and speed feedback signs along Goden Street and School Street



Intersection and Sidewalk Improvements



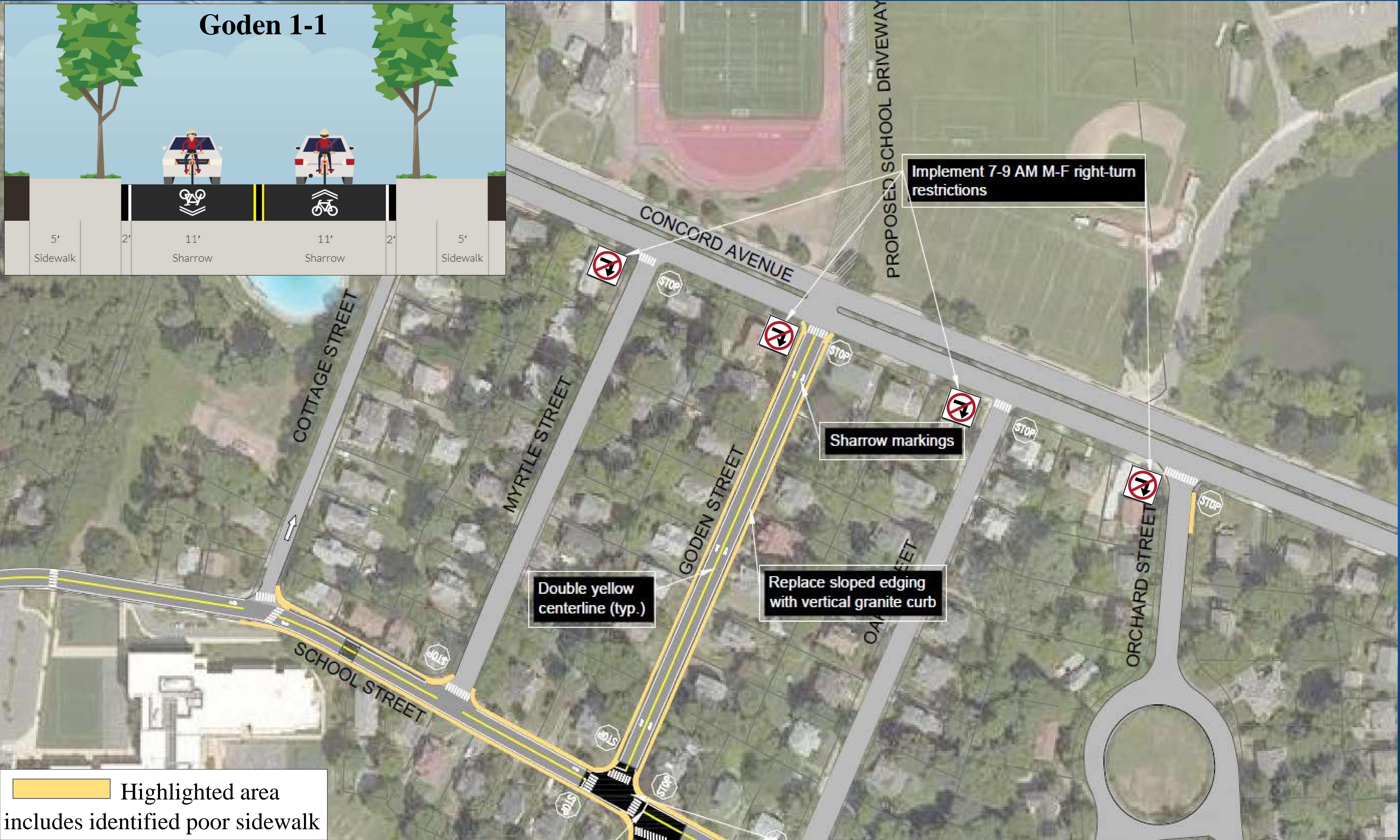
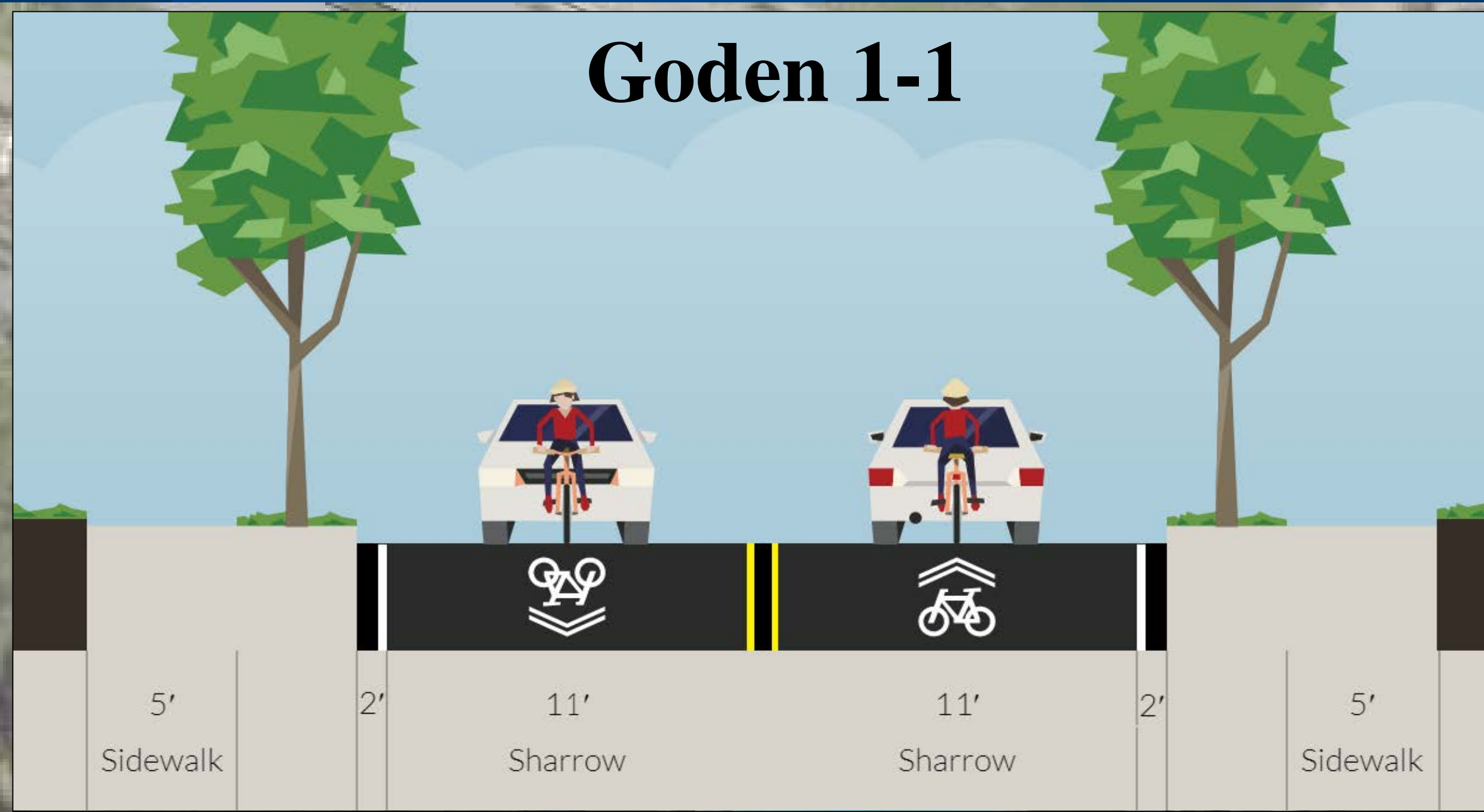
- Reconstruct poor sidewalk and install vertical curbing where needed
- Install Rectangular Rapid Flashing Beacons (RRFB's) at mid-block crosswalks
- Install double yellow centerlines on roadways in accordance with MUTCD standards



Bow Street Bump-out Concept



Lower Goden Street Concept

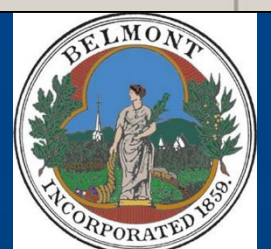
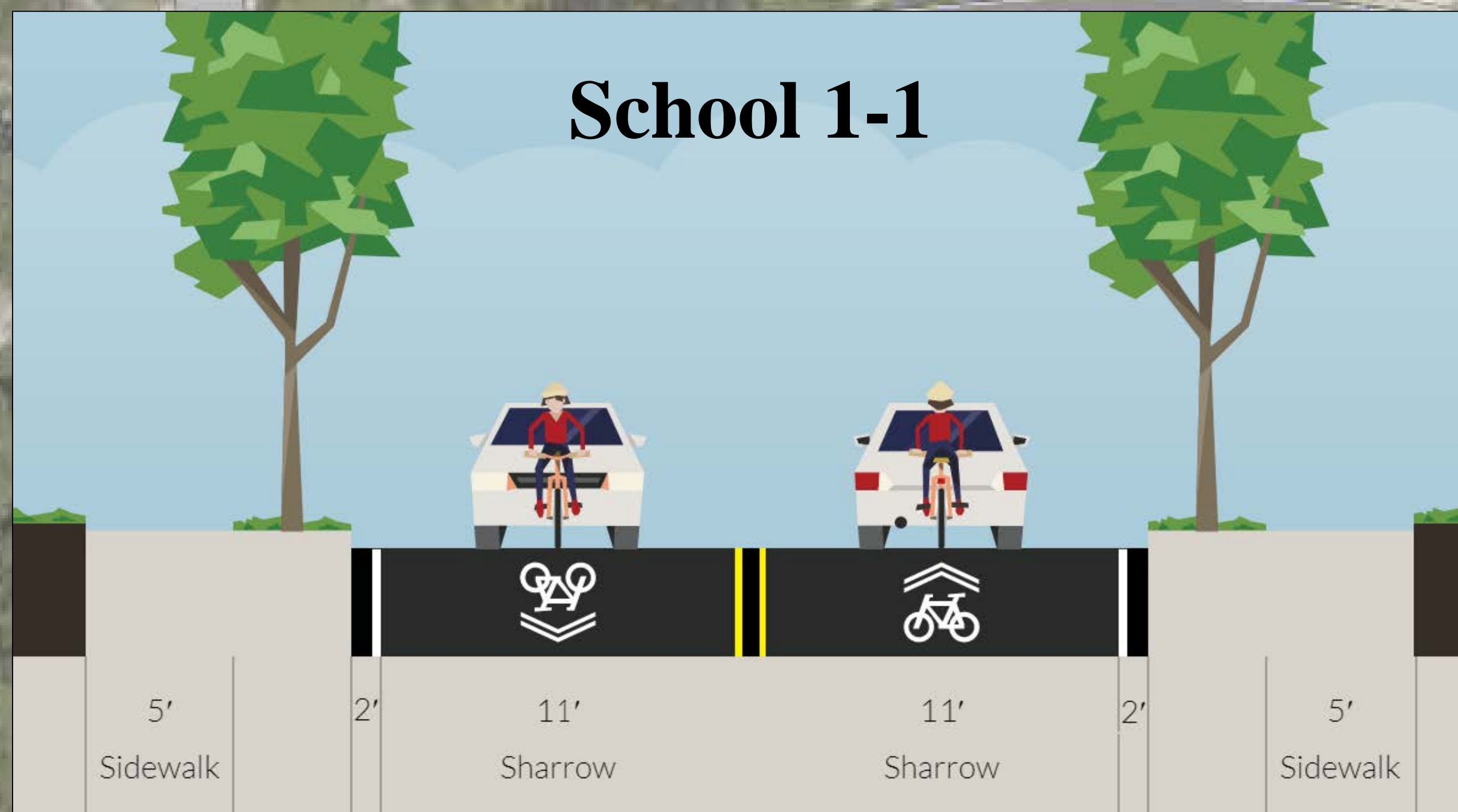
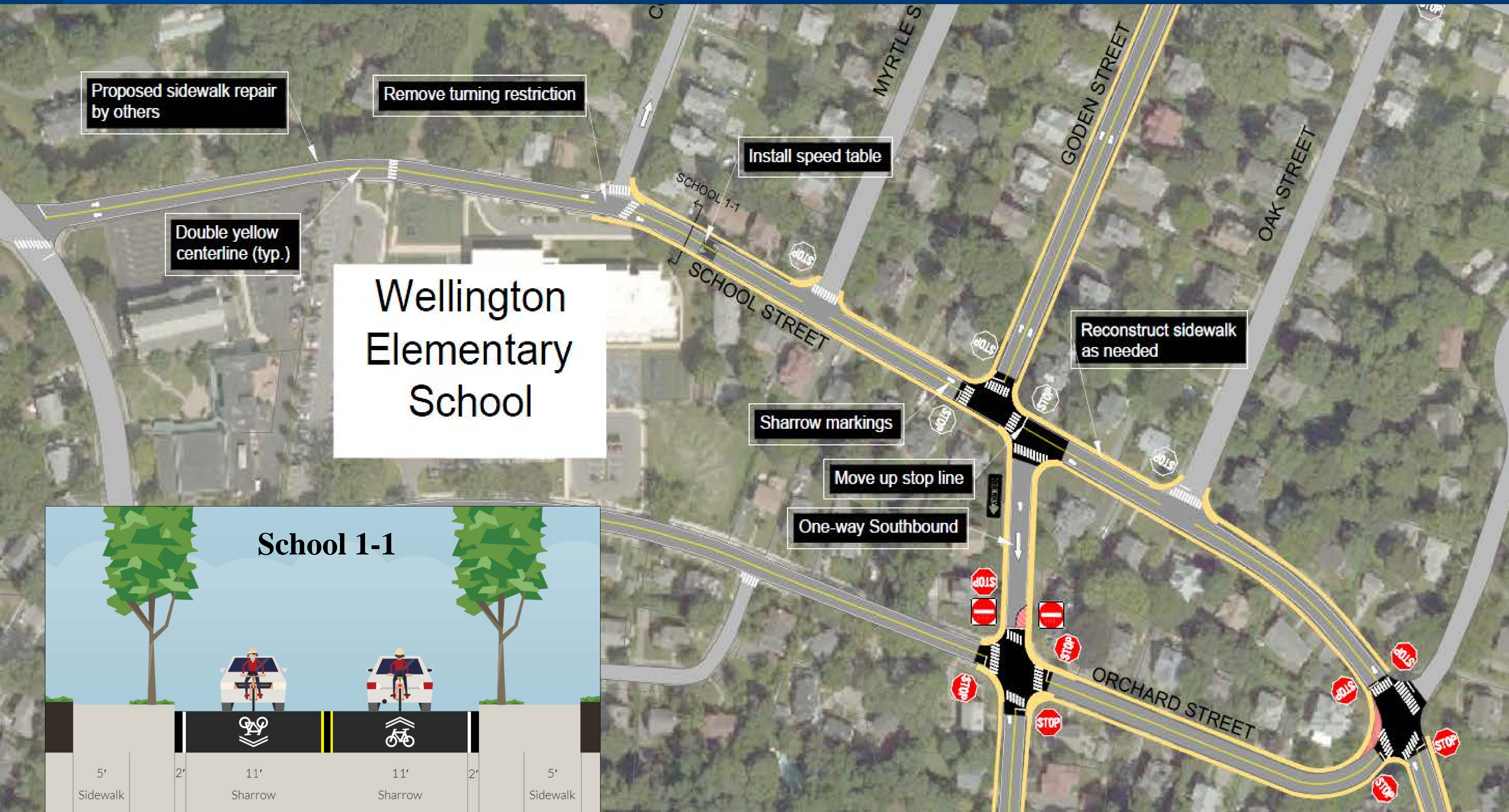


 Highlighted area includes identified poor sidewalk

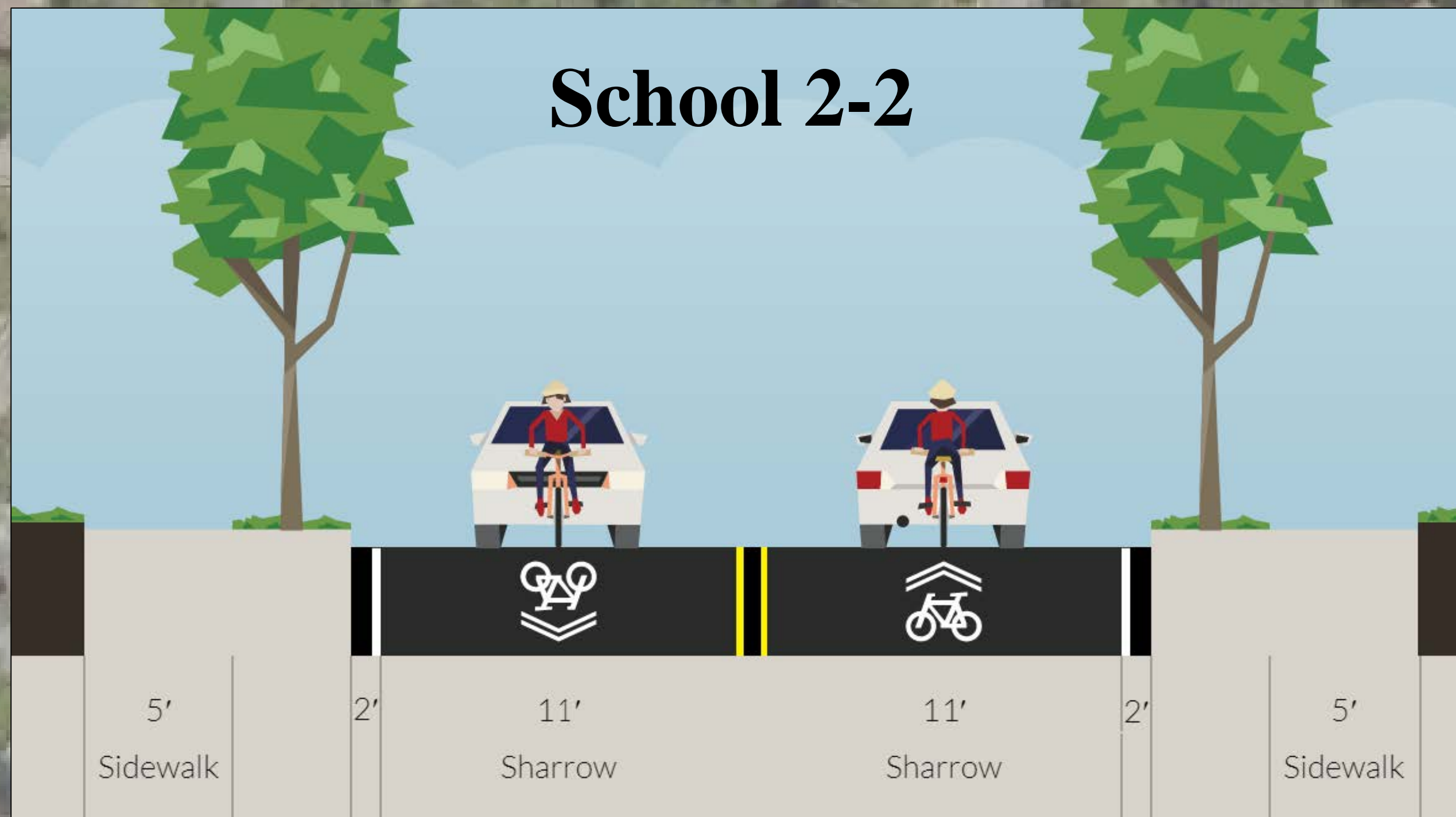
Upper Goden Street Concept



School Street Concepts



School Street Concepts



Suggested Project Phasing

- Implement trial circulation changes during summer months
 - Goden St one-way conversion
 - Concord Ave right turn restrictions
 - All-way stop signs
- Reconstruct sidewalks and curbs along major school walking routes



Questions & Comments



TOWN OF BELMONT



Thomas Street Parked Vehicles



Google earth

© 2018 Google

© 2019 Google



TOWN OF BELMONT



BSC GROUP

