

Shrewsbury Street Roadway Improvements

Presented by
TOWN OF HOLDEN DEPARTMENT OF PUBLIC WORKS

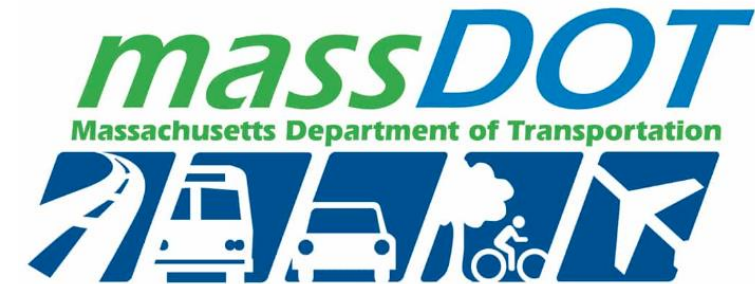
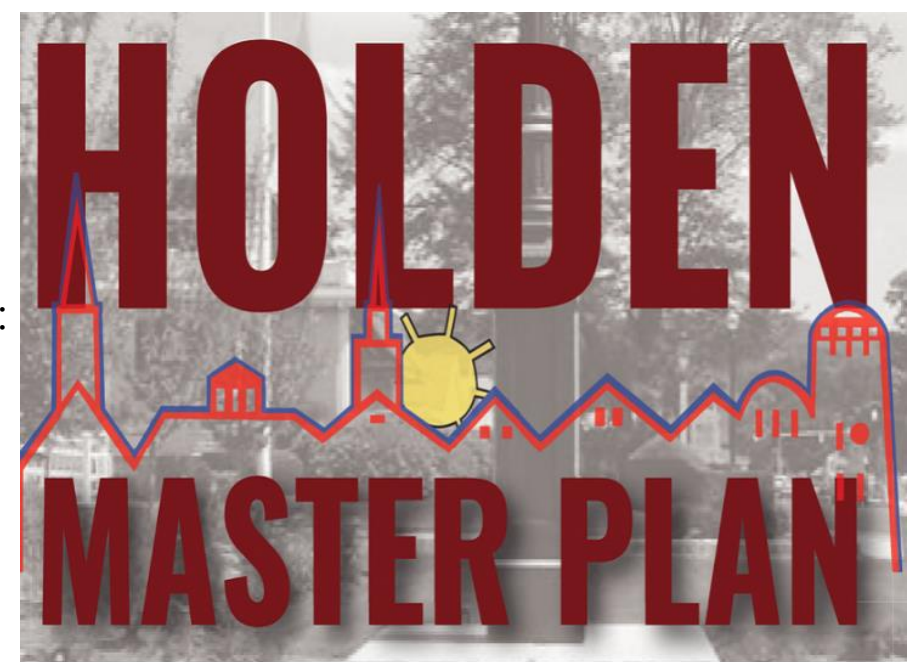
October 5, 2022



Conceptual rendering of the Shrewsbury St. and Doyle Rd/Mt. View Dr. intersection

How did we get here?

- Master Plan 2019 - This section of Shrewsbury St. was included in the Master Plan 2019 which identified concerns specifically for Shrewsbury St and Doyle Rd:
 - Heavy traffic congestion
 - Intersection safety needs
 - Intersections were difficult to navigate
- MaDOT Transportation Improvement Project selected Holden
 - Very competitive project selection process
 - One of the largest funding sources for major traffic projects
 - Project designs are leading industry standards and seen across the state
 - Holden was selected because of all the potential for improvements to traffic safety and pedestrians and proximity to Mountview Middle School
- Outreach efforts to direct abutters, other town residents and stakeholders. Received support from:
 - Police/Fire
 - Mountview School
 - Planning Board
 - Finance Committee
- Collecting comments and questions from the Town since 2019 and using them to advance towards a 100% design submittal



Project Area



Shrewsbury St and Doyle Rd

- 1.3 miles of road
- 8 intersections (2 light controlled)
- Major route to middle school and commercial center

Project Needs

Crash Prone Intersections



(Doyle Rd and Brattle Rd)

Traffic Congestion/Difficult to Navigate



(Shrewsbury St. and Doyle Rd.)

Outdated Signal Equipment



(Doyle Rd, Holden St and Chapel St.)

Inaccessible and/or non-compliant crosswalks and wheel chair ramps



(Brattle St. and Doyle Rd.)

Disconnected Sidewalks



(Shrewsbury St. at Bank of America, looking West)

Crash Data

Shrewsbury St. / Doyle Rd. Intersection

- 12 crashes (3 injury/9 property damage) over the past 5 years (9/17 thru 9/22), including 4 (1 injury) so far this year
- At least 9 crashes were of the rear end variety, which is typical of a traffic signal
- 1 crash involved a cyclist being struck by a right-turning vehicle.

Brattle St. / Doyle Rd. Intersection

- 17 crashes (3 injury/13 property damage) over the past 5 years (9/17 thru 9/22), including 2 crashes that caused property damage this year
- At least 10 crashes were angle crashes, which is typical of stop-sign controlled intersections and can be more dangerous



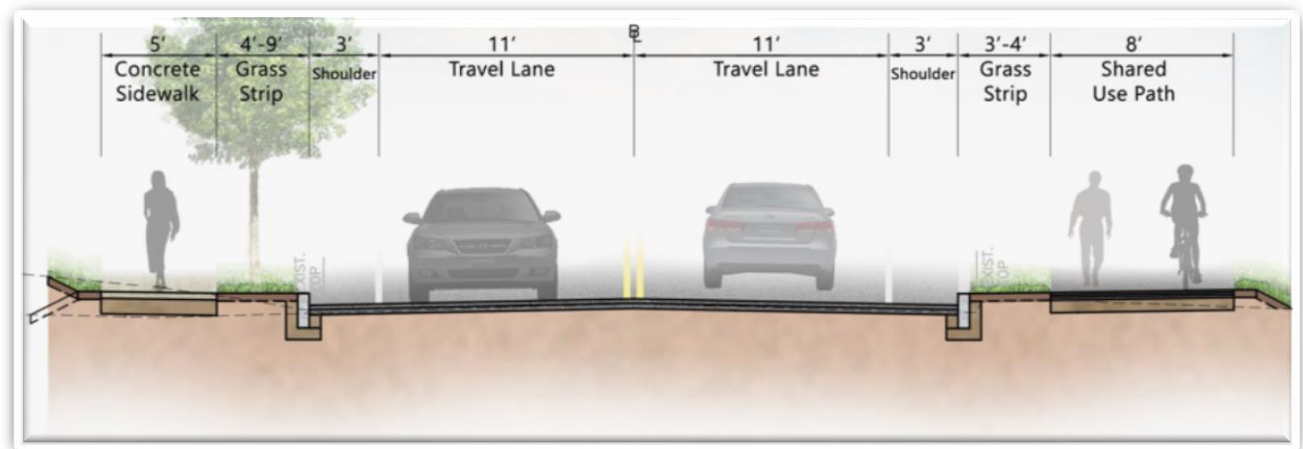
Shrewsbury St. / Doyle Rd. Intersection



Brattle St. / Doyle Rd. Intersection

Project Benefits

- New sidewalk networks on both sides of Shrewsbury St. entire length of project
- New Biking routes and enhanced bike accommodations to Mountview Middle School
- New Shared Use Path for pedestrians and bicyclists leading to Mountview Middle School
- New traffic signal and dedicated turning lanes at intersections
- Safer intersections at Wachusett St., Holden/Chapel St., & Doyle Rd./Brattle St.
- Full roadway re-construction – 30 years of life
- Upgraded drainage
- Construction completely funded by the State



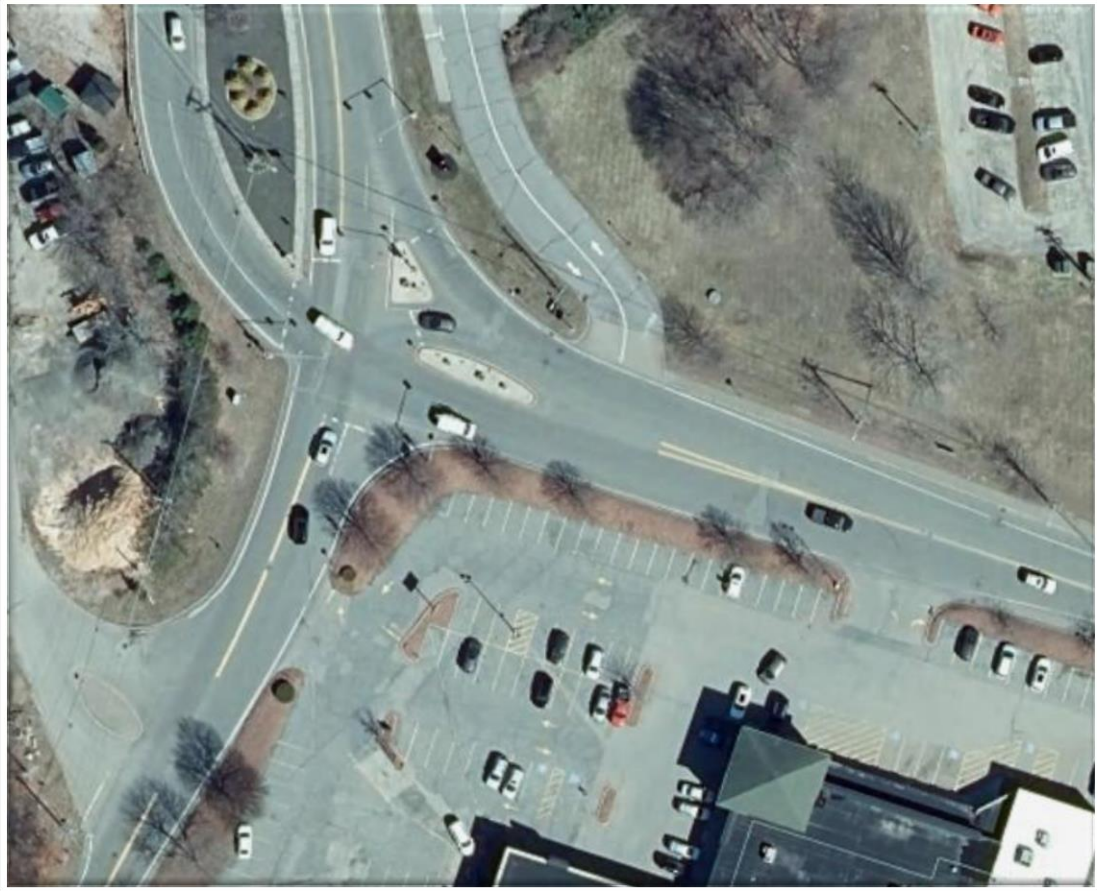
Typical cross section of sidewalk, road and shared use path along Shrewsbury St.



Conceptual rendering of the Lincoln Ave and Shrewsbury St. intersection

Main St. / Shrewsbury St. Intersection Improvements

Before



After



- New sidewalks on both sides of Shrewsbury St. fully connecting Main St. to Mountview Middle School
- New crosswalks at Main St.

Shrewsbury St./Lincoln Ave./Wachusett St. Improvements

Before



After



- Eliminating redundant intersection at Lincoln Ave.
- Wider intersection at Wachusett St.
- New sidewalk and plantings from Wachusett St. to Shrewsbury St.

Shrewsbury St./Chapel St./Holden St. Intersection Improvements

Before



After



- New traffic signals and loop detection
- Dedicated turning lanes
- Larger pedestrian islands and ADA ramps for pedestrians in crosswalks

- Wider sidewalk for pedestrians and bicyclists placed further from the street
- New Bike Lane symbols

Doyle Rd./Brattle St. Intersection Improvements

Before



After



- Eliminating cut through traffic on Brattle St.
- Separating the opposing intersections on Brattle St.
- Shorter and safer crosswalks
- New ADA ramps and sidewalks

Shrewsbury St./Doyle Rd. Intersection Improvements

Before



- Eliminates “slug” effect from traffic light & creates more gaps in traffic
- Smaller traffic queues
- Traffic calming effect

After



- Additional crosswalk locations
- 8-10' wide Shared Use Path at Middle School
- New sidewalk on Doyle Rd

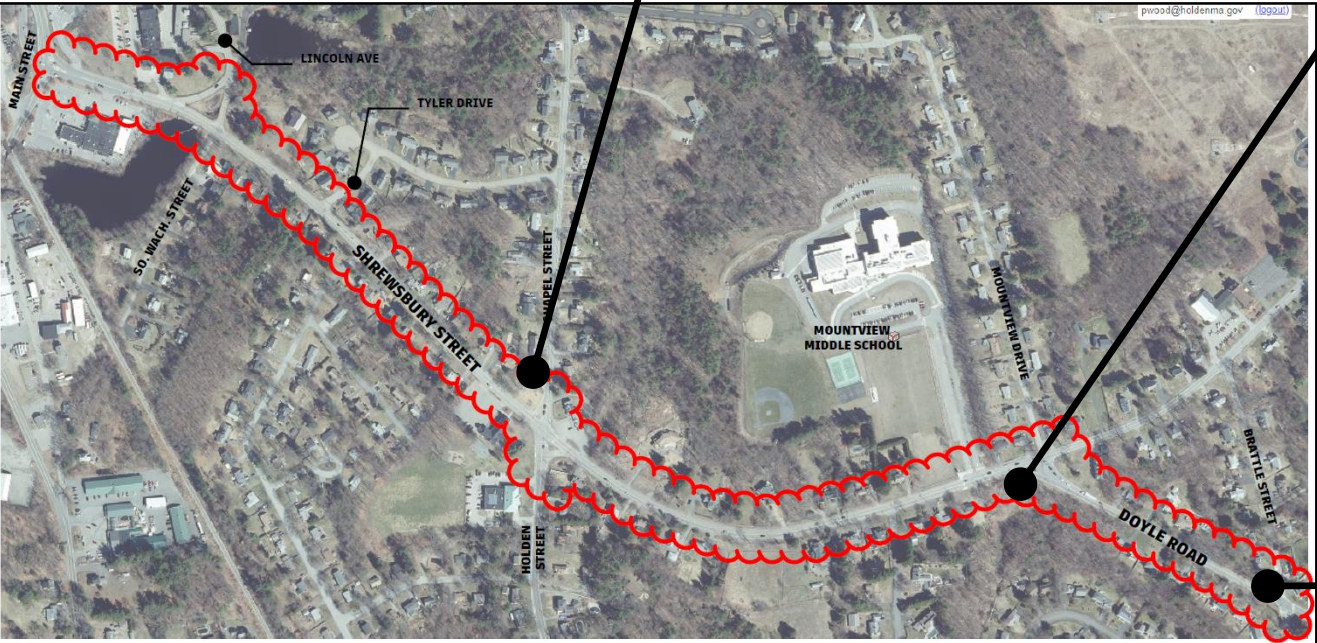
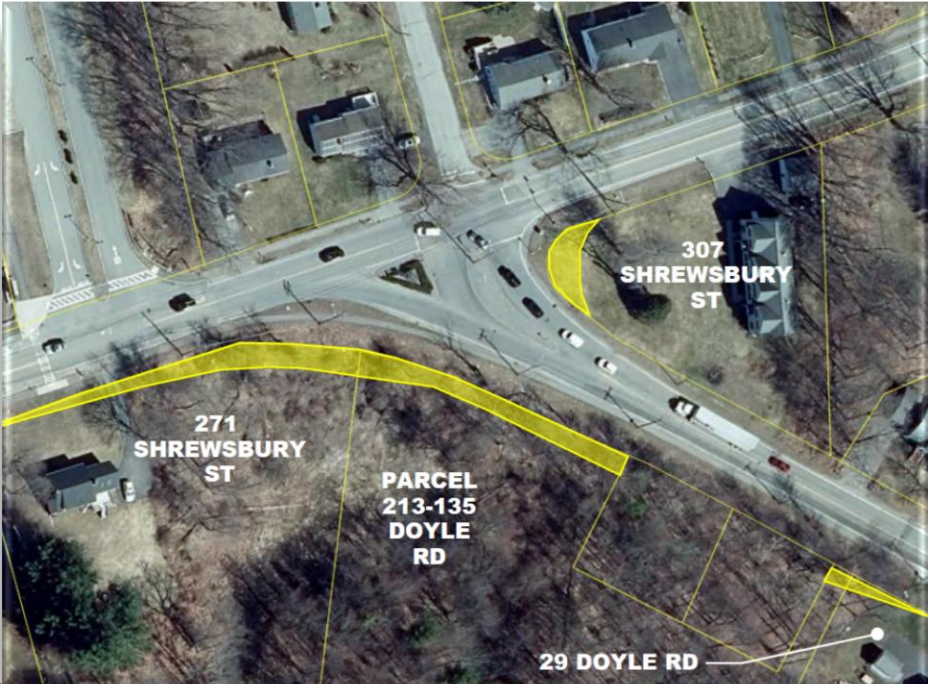
WHY A ROUNDABOUT?



- Several configurations were studied-a roundabout was found to be safest and most efficient
- Removes slugs of vehicles and queuing of traffic
- Designed to attenuate traffic flow and create more gaps in traffic
- Lower traffic speeds, especially important in front of schools
- Allows tractor trailers to maneuver safely through roundabout
- Will not reduce Main St. traffic volumes
- Will not create more vehicles on the road or create more traffic congestion
- Will not make it more difficult to enter/exit Mountview School Driveway and should make it easier

Easements

- Temporary Easements
 - Grading
- Permanent Easements
 - Easements for existing utilities
 - 5-6 impacts to private properties due to changes to the road and sidewalk locations (see images)



Estimated Construction Cost and Schedule

- \$11M – 12M paid for entirely by state and federal highway funds
 - Construction would be done over 2 construction seasons
- \$3M of work needed if no state funding provided
 - Re-paving, replacing traffic lights, new curb cuts/handicap ramps
 - No additional sidewalks, shared use path, congestion improvements
 - Multi-year phased project due to annual budget constraints
 - Funding would be from Chapter 90, Local Roads capital fund, and other General Fund tax payer money

Town's Current Investment into the Project

- Money Currently Spent - \$710K (Chapter 90 Funding)
- Planned Money to be Spent - \$330k (Chapter 90 Funding)
- Estimated ROW Acquisitions – \$250k (Chapter 90 Funding)
- Total – \$1.25M
 - No General Fund tax payer money needed
- Essentially a 10% Match to the TIP "Grant"

Next Steps

- Approval of ROW acquisition and funding at Special Town Meeting on October 17.
- Submit 100% design plans and meet with MassDOT
- Begin the ROW acquisition process
- Develop bid specification
- Construction to begin in Fall of 2023

QUESTIONS?