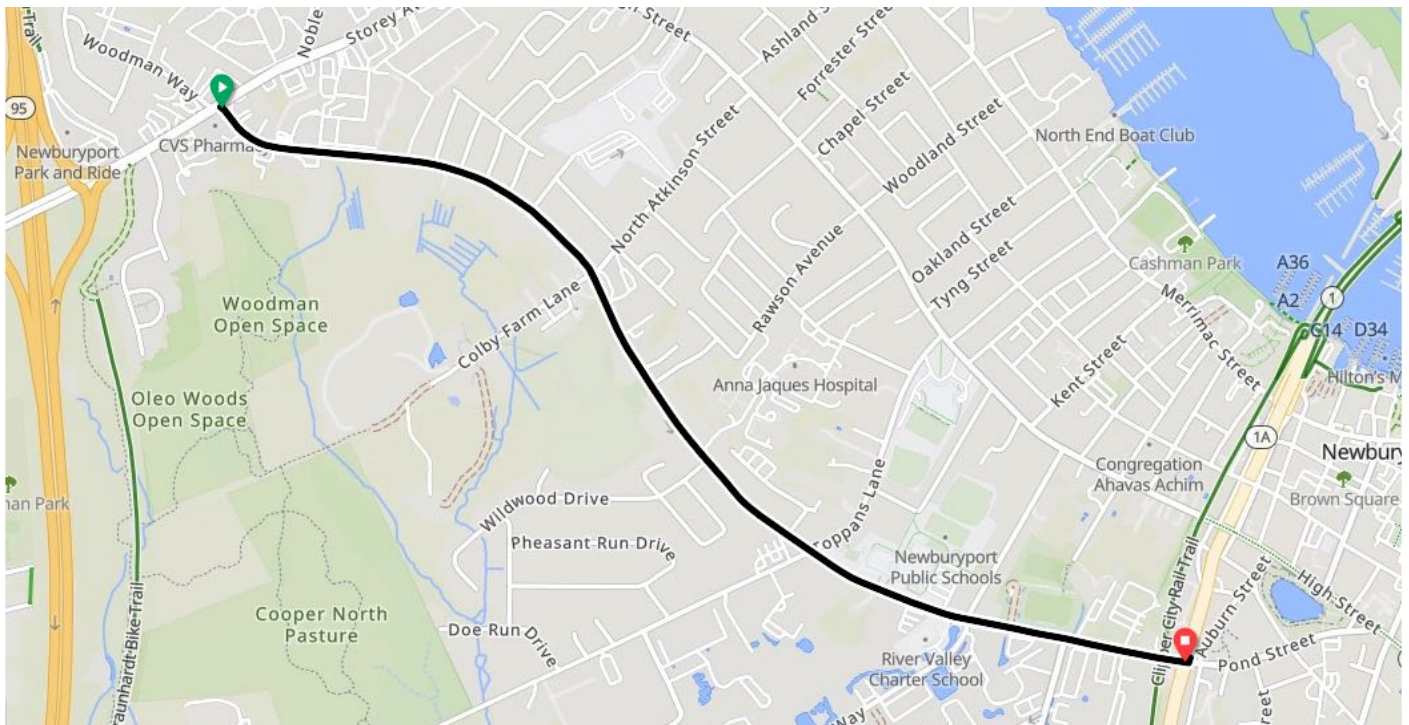


# Low Street Bike Audit

Report and Recommendations

December 2025



Prepared By



**NEWBURYPORT LIVABLE STREETS**

<https://newburyportlivablestreets.org>



This project was supported by a 2025 AARP  
Community Challenge Capacity-Building Microgrant.

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## Introduction

A bike audit is a way to look at a street or intersection from the perspective of safety for cyclists. In a riding bike audit, a number of bicyclists travel along a street as a group to observe and document conditions and identify infrastructure needs to improve safety for cyclists.

Newburyport Livable Streets has led a number of walk audits, but Low Street is the first bike audit in the City. NLS chose Low Street for our first bike audit for several reasons: high traffic volumes and speeds; recent crashes resulting in pedestrian injuries (including one death); access to schools and recreation facilities; and access to employment centers and community services.

Low Street provides direct access to several schools and recreation facilities:

Molin Upper Elementary School  
Nock Middle School  
River Valley Charter School

Recreation & Youth Center  
Bradley Fuller Field  
Henry Graf Memorial Skating Rink

In addition, Low Street provides access to the Bresnahan Elementary School via North Atkinson Street and Murphy Avenue, and to Newburyport High School via Toppans Lane.

Because of these multiple destinations for young people, combined with high traffic volumes and speeds, bike safety on Low Street is of great importance.

Low Street is also one of the primary access routes from the regional highway system to the City's business park (via Graf Road and Hale Street) and Anna Jaques Hospital (via Wallace Bashaw Jr. Way and Hunter Drive). Making Low Street safer for cycling will benefit everyone who commutes to these employment destinations.

*NLS's bike audit project is supported by financial and technical assistance from AARP and the League of American Bicyclists.*

## Description of the Road

Low Street extends approximately 1.9 miles between Storey Avenue (Massachusetts Route 113) to the west and Newburyport Turnpike (US Route 1) to the east. The road has wide vehicle travel lanes with shoulders that vary from about 4 feet wide to nonexistent.

The road has no dedicated facilities for bicycles, although for much of its length the shoulders are of acceptable width to allow for bicycle travel. However, any shoulders tend to disappear altogether at critical intersections, particularly where dedicated turning lanes are provided for vehicles; and there is no usable shoulder at all between Graf Road and US Route 1.

The first 0.4 mile of Low Street starting at Storey Avenue is characterized by frequent driveways to shopping centers and other commercial establishments. From there, the road is largely residential for about a mile, to the intersection with Toppans Lane and Hale Street. Between Toppans/Hale and Route 1, Low Street serves a mix of educational, recreational, business and industrial uses.

## Traffic Volumes

Low Street is one of the busiest streets in the City of Newburyport, with average annual daily traffic volumes of more than 12,000 vehicles (comparable to US Route 1) in count locations between Storey Avenue and Anna Jaques Hospital, and more than 9,000 between Graf Road and Route 1. The following table lists the highest traffic volume locations in the City (excluding Interstate 95 and its access ramps):

Street	At	2024 AADT
Storey Avenue	East of Interstate 95	26,848
Storey Avenue	150 ft E of Low Street	19,764
Storey Avenue	East of Low Street	18,651
Spofford St (Main St Amesbury)	At Chain Bridge	18,644
High Street	50 ft E of Rawson Ave	16,437
Route 1	South of Parker Street	14,754
<b>Low Street</b>	<b>East of Coltin St</b>	<b>12,387</b>
<b>Low Street</b>	<b>350 ft S of Storey Ave</b>	<b>12,336</b>
Route 1	North of Low Street	12,137
<b>Low Street</b>	<b>West of Bashaw Way</b>	<b>12,049</b>
Merrimac Street	West of Kent Street	11,555
Route 1	Newbury Town Line	11,275
Route 1	South of Low Street	10,799
Washington Street	South of Summer Street	10,465
<b>Low Street</b>	<b>200 ft W of Route 1</b>	<b>9,278</b>

Street	At	2024 AADT
Water Street	West of Center Street	9,158
High Street	100 ft SE of Federal Street	9,032
Merrimac Street	East of Moseley Avenue	8,366
Graf Road	100 ft S of Low Street	7,758
State Street	South of Liberty Street	7,683
State Street	75 ft NE of Parker Street	6,206
Parker Street	East of Graf Road	5,469
Parker Street	East of Boston Way	5,203

Source: Massachusetts Department of Transportation, Transportation Data Management System, Traffic Count (TCDS), <https://mhd.public.ms2soft.com/tcds/>

According to speed studies conducted by the Newburyport Police Department, peak times for traffic on Low Street are as follows:

Location on Low Street	Peak Traffic Times
Stickney Ave	7-9 am, 1-3 pm
Murphy Ave	11am-1pm, 3-5 pm
Hunter Drive	7-9 am, 12-2 pm
Wallace Bashaw Jr Way	1-5 pm
Nock Middle School	12-2 pm, 4-6 pm

## Traffic Speeds

The speed limit on Low Street is 35 mph from US Route 1 for a distance of 1.62 miles, and 30 mph from that point to Storey Avenue. The speed limit changes approximately at the easterly (service) driveway to the Port Plaza shopping center.

Low Street is the only street under municipal jurisdiction with a speed limit greater than 25 mph. The only other such facilities in the City are US Route 1 (40-45 mph) and Storey Avenue/Route 113 (35 mph), both of which are controlled by the State.

The following table summarizes data from six speed studies on Low Street conducted by the Newburyport Police Department. The average and median speeds are typically a few miles per hour lower than the posted speed limits, while the 85<sup>th</sup> percentile speeds are a few miles per hour higher than the posted limits (meaning that 15 percent of drivers exceed the speed limit). However, maximum speeds, both daytime and nighttime, are significantly higher than the speed limits, and in several instances the recorded speeds approach or exceed the legal speed limit on I-95.

Location	Stickney Ave	Murphy Ave		Hunter Drive	Wallace Bashaw Jr Way	Nock Middle School
Direction of Traffic	EB	WB	EB	WB	EB	WB
Study Dates	10/14/24 - 10/20/24	9/11/24 - 9/17/24	4/25/25 - 5/1/25	5/6/25 - 5/12/25	9/18/24 - 9/24/24	6/6/24 - 6/12/24
Speed Limit	35	30	35	35	35	35
Actual Speeds						
• Average	34	30	30	32	32	28
• 50th Percentile	34	31	32	33	33	29
• 85th Percentile	39	36	36	37	37	35
• Maximum – Daytime*	61	49	61	64	68	50
• Maximum – 24 Hours	65	61	63	65	68	66

\* Daytime = 7am-7pm

Source: Newburyport Police Department, <https://newburyportpolice.com/speed-studies/>

## Previous Studies

### Complete Streets Prioritization Plan (2019)

In 2019 the City of Newburyport, with consultant assistance, prepared a *Project Prioritization Plan* in order to be eligible for funding under the State's Complete Streets Funding Program.

The *Project Prioritization Plan* includes five priority projects along Low Street:

#### 1. Low Street Bicycle and Pedestrian Accommodations - Hale Street to Route 1

##### Option A

- Reconstruct the existing poor condition sidewalks along the north side of Low Street from Hale Street to Newburyport Turnpike (Route 1) and reset or replace existing curbing.
- Construct ADA-compliant wheelchair ramps at the existing crosswalks across the school driveways, Johnson Street, ... and Overland Drive.
- Stripe 5' wide bike lanes along both sides of Low Street.
- Install bicycle-safe drainage grates as necessary.

##### Option B

- Construct a 10-foot wide shared-use path with vertical granite curb along the north side of Low Street from Hale Street to Newburyport Turnpike (Route 1).
- Stripe crosswalks with ADA-compliant wheelchair ramps across the school driveways, Johnson Street, ... and Overland Drive.
- Maintain multi-modal access to the Clipper City Rail Trail along Low Street

#### 2. Low Street / Hale Street Intersection Improvements

- Install new pedestrian signal equipment at the intersection to include audible pedestrian detectors and countdown indicators.
- Construct ADA-compliant wheelchair ramps at the existing crosswalks.
- Provide additional lane designation signage at the intersection.

#### 3. Low Street / North Atkinson Street / Colby Farm Lane Intersection Reconstruction

- Tighten the radii of all four corners of the intersection while ensuring to maintain necessary truck-turning radii.
- Construct median islands along North Atkinson Street and Colby Farm Lane approaches to reduce the pedestrian crossing distance and improve sightlines.
- Restripe the existing faded pavement markings and stripe a new crosswalk across Colby Farm Lane.
- Construct ADA-compliant wheelchair ramps at the crosswalks.

4. Low Street Pedestrian Accommodations - North Atkinson Street to Hale Street

- Reconstruct the existing poor condition sidewalk along the north side of Low Street from North Atkinson Street to Hale Street and reset or replace existing curbing.
- Construct ADA-compliant wheelchair ramps at the existing crosswalks within the project limits.
- Stripe 5' wide bike lanes along both sides of Low Street.
- Install bicycle-safe drainage grates as necessary.

5. Low Street Pedestrian and Bicycle Accommodations - Storey Avenue to North Atkinson Street

- Reconstruct the existing poor condition sidewalk along the north side of Low Street from Storey Avenue (Route 113) to North Atkinson Street.
- Extend the existing sidewalk along the south side of Low Street from Hodgie's / Port Plaza Driveway to North Atkinson Street.
- Stripe new crosswalk and construct ADA-compliant wheelchair ramps across Hodgie's / Port Plaza Driveway.
- Stripe 5' wide bike lanes along both sides of Low Street.
- Install bicycle-safe drainage grates as necessary.

The first four projects in this list were identified as Tier 1 projects, while the fifth was designated as a Tier 2 project.

## Bicycle & Pedestrian Network Plan (2023)

In April 2023 Newburyport Livable Streets completed a *Bicycle & Pedestrian Network Plan*,<sup>1</sup> described in the Plan as follows:

This *Bicycle & Pedestrian Network Plan* supports the City's Complete Streets Policy by identifying the major links, nodes and gaps in Newburyport's bicycle and pedestrian network and proposing measures to eliminate the gaps, improve safety and comfort, and complete the network. By looking beyond individual streets and projects to the entire community we can create a complete network that will allow residents to travel through the City using the modes, routes and facilities that best meet their needs.

The Bike-Ped Network Plan recommended the following improvements for Low Street between Storey Avenue and Route 1:

- Add continuous bike lanes (buffered or separated where possible)
- Add a crosswalk at the Hodgie's/Port Plaza driveway
- Reduce the crossing distance at the North Atkinson Street/Colby Farm Lane intersection and improve/add pedestrian signals

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<sup>1</sup> <https://newburyportlivablestreets.org/bicycle-pedestrian-network-plan/>



- Add a pedestrian signal at Coltin Drive
- Reduce the crossing distance at the Toppans Lane/Hale Street intersection and improve/add pedestrian signals
- Widen sidewalks, re-surface, and re-grade to be ADA compliant
- Extend the existing sidewalk on south side of Low Street

## Walk Audits (2023 & 2024)

NLS conducted two walk audits along segments of Low Street: between Toppans Lane and the Clipper City Rail Trail in April 2023, and between Storey Avenue and Port Plaza in June 2024.<sup>2</sup> While these audits were primarily focused on pedestrian safety, they did include some references to bike facilities.

- Both audit reports noted inconsistent shoulder widths and the absence of dedicated bicycle facilities on a road signed for 30-35 mph traffic.
- The April 2023 report noted that the drop-off area in front of the Molin/Nock Schools occupied the shoulder with cars extending into the travel lane, and with no alternative route available for bicyclists.
- The June 2024 report recommended adding protected bike lanes along Low Street.

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<sup>2</sup> <https://newburyportlivablestreets.org/walk-audits/>

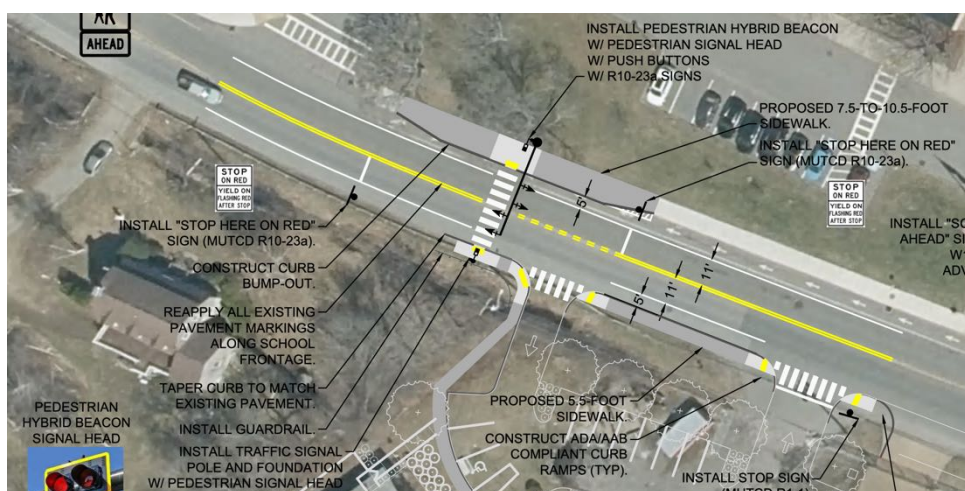
# Current Bicycle/Pedestrian Improvement Plans and Projects

## Recreation and Youth Center Bicycle and Pedestrian Improvements

The City is developing a new Recreation and Youth Center facility on Low Street, opposite the Molin/Nock Schools. The approved project includes several pedestrian and bicycle safety improvements:

- Reduction in vehicle lane widths to 11 feet
- Construction of a new crosswalk including curb extensions
- Construction of new sidewalk segments
- Installation of a pedestrian hybrid beacon (HAWK signal)
- Marking bicycle lanes in both directions along the Molin/Nock and Recreation & Youth Center frontages.

These improvements had not yet been initiated at the time of the bike audits.



Conceptual plan for pedestrian improvements at Recreation & Youth Center – approved by Newburyport Planning Board, November 2024

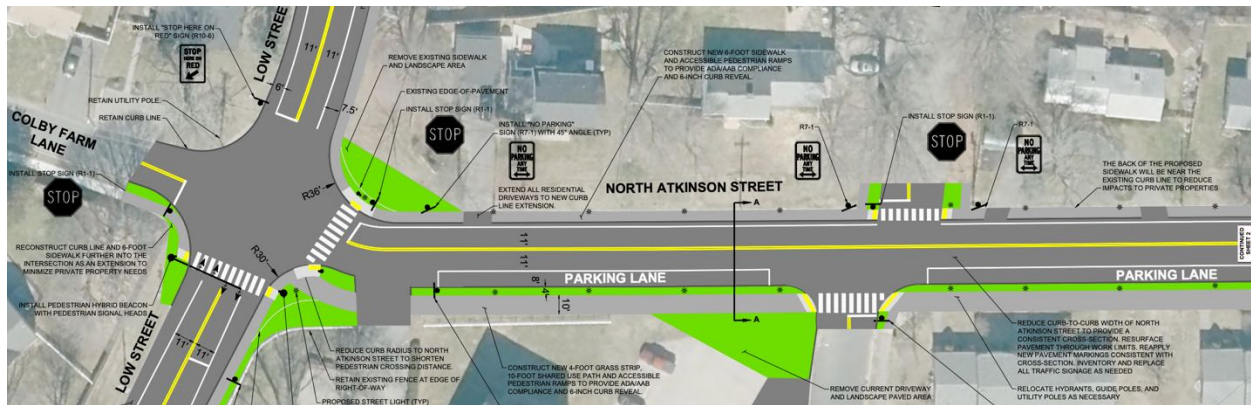
## Safe Routes to School Project

In 2024 the City applied to the Massachusetts Department of Transportation for a Safe Routes to School Infrastructure Grant for improvements at the intersection of Low Street, North Atkinson Street and Colby Farm Lane, and extending along North Atkinson Street from Low Street to the Bresnahan Elementary School driveway.

The proposed intersection improvements include:

- Constructing curb extensions at both corners of North Atkinson Street to shorten pedestrian crossing distances.
- Marking bike lanes on both sides of Low Street and in both directions.

- Installing a pedestrian signal on Low Street.
- Constructing a shared-use path on the easterly side of North Atkinson Street from Low Street to the Bresnahan Elementary School driveway.



The application was accepted by MassDOT and a designer has been assigned to the project. According to current reports, the project may not be constructed until 2028.

## Plaza Landings Multifamily Housing Development

The former Kmart site in the Port Plaza shopping center is proposed to be redeveloped as a 212-unit mixed-income residential building through the Chapter 40B Comprehensive Permit process. Much of the review of the “Plaza Landings” proposal relates to mitigating traffic impacts and improving safety for pedestrians and cyclists, including on Low Street adjacent to the Plaza.

The current proposal by the developer includes installation of a crosswalk with a pedestrian hybrid beacon (HAWK signal) to the east of the central Port Plaza driveway, which will preserve the 5-foot shoulders on both sides of Low Street.

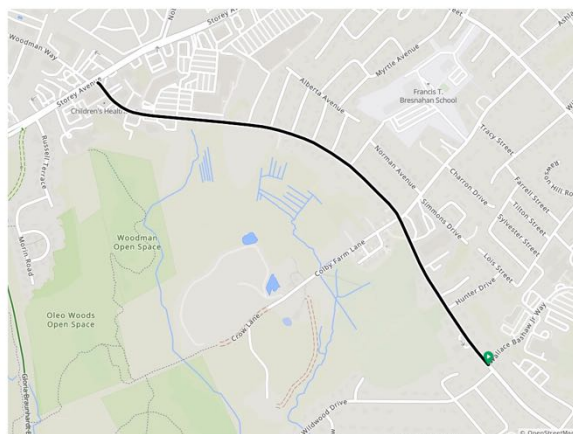
Some community members are advocating for additional modifications including (a) adding a left-turn lane from Low Street into the Plaza and (b) adding a pedestrian refuge island in the middle of the proposed crosswalk. However, these measures would require expanding the Low Street right of way to accommodate a paved width of 42 feet, rather than the 34-foot paved width that currently exists.

Without a left-turn pocket for vehicles turning into the Port Plaza driveway, drivers heading east on Low Street will continue to move into the shoulder to pass vehicles that are waiting to turn left. This will be a danger to bicyclists riding in the shoulder as well as pedestrians in the future crosswalk.

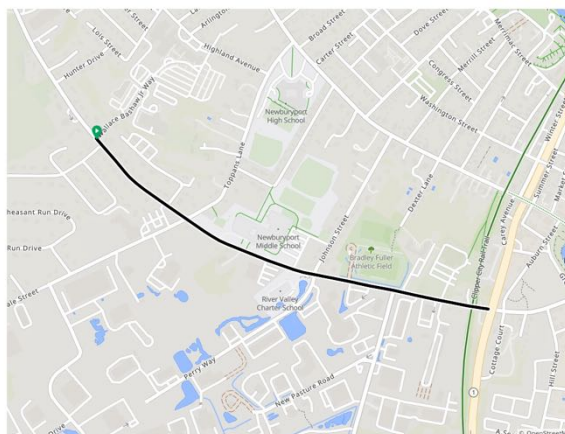
## Bike Audit Approach

The audit was conducted in two segments. The westerly half of the corridor, between Storey Avenue and Wallace Bashaw Jr Way (entrance to Anna Jaques Hospital) was audited on Tuesday, September 9, 2025. The easterly segment, between Wallace Bashaw Jr Way and US Route 1, was audited on Wednesday, September 10, 2025. Both days were sunny and warm.

## West Segment



### East Segment



Participants in the audits bicycled the length of each segment in both directions, starting at Wallace Bashaw Jr Way. The participants stopped at predetermined locations along the route (intersections and parking lots) to regroup, review the conditions experienced along the way, and observe conditions at key intersections.

West Segment Stops	East Segment Stops
Wallace Bashaw Jr Way (start)	Wallace Bashaw Jr Way (start)
North Atkinson Street	(cross to EB side of street)
Williamson Avenue	Hale Street
Port Plaza – West Shops	Perry Way
(cross to EB side of street)	Graf Road
Hodgie’s	(cross to WB side before Route 1)
Colby Farm Lane	Graf Rink driveway
Coltin Drive	Toppans Lane (end)
(cross to WB side of street)	
Wallace Bashaw Jr. Way (end)	

Each audit started at approximately 3:00 pm and took about 1 hour to complete. The time of day was chosen to capture conditions with high traffic volumes, including the shift change at Anna Jaques Hospital and dismissal times at the Molin/Nock Middle School and River Valley Charter School.



The following individuals participated in the audits:

	September 9	September 10
Chris Cunningham*	√	
Mary Delai	√	√
Mike Dissette	√	
Dave Pasiuk	√	√
Eddie Rubin*	√	√
Rick Taintor*	√	√
Sheila Taintor*		√
Beth Trach	√	√
Judy Tymon*	√	√
Ken Veader		√

\*Member of Newburyport Livable Streets

NLS provided clipboards, sets of maps of the segments to be audited, and bike audit worksheets prepared by AARP and the League of American Bicyclists. Participants marked up the maps and worksheets during the ride, and took photos of conditions along the route.



*Top left: Participants at intersection of Low Street and Hale Street*



*Top right: Participants stopped off the roadway to record observations*

*Right: Marking up a segment map*



# Observations

## General Observations

### Roadway Characteristics

Compared to other streets in Newburyport, Low Street carries a higher volume of vehicle traffic and at higher speeds.

- The 0.4 mile section of Low Street between Storey Avenue and Williamson Drive is a dense commercial district with frequent parking lots, several of which lack adequate delineation from the street (Giuseppe's at 257A Low, condos at 232-236 Low, strip center at 253 Low). Traffic volumes are high and turning movements frequent.
- Between Williamson Drive and Toppans Lane/Hale Street, approximately 0.9 mile, Low Street is primarily residential in character. Driveway spacing average about 100 feet apart and side streets provide access to neighborhoods.
- The easterly 0.6 mile stretch between Toppans Lane/Hale Street and US Route 1 is a mix of commercial uses, schools and recreation facilities. This section of road is mostly straight with wide lanes and few driveways, resulting in faster vehicle speeds. Shoulders for cycling are largely narrow to nonexistent.

### Lack of Bicycle Infrastructure

While sections of Low Street have shoulders that are wide enough to be comfortable for experienced bicyclists, the street does not have a continuous, safe provision for bicyclists. There are long stretches of roadway with essentially no shoulder at all – merely a narrow paved strip of 1-2 feet between the fog line and the edge of the road, whether that edge is defined by a curb or guardrail, or simply trails off into grass or other vegetation.

This lack of a defined area for bicyclists, on a road with cars and trucks going faster than the posted speed limits of 30-35 mph, becomes even more troublesome at several key intersections: North Atkinson Street/Colby Farm Lane; Toppans Lane/Hale Street; Johnson Street/Perry Way; and Graf Road.

One positive observation that stood out: on the stretch of Low Street between Hodgie's Too and Colby Farm Lane, the south (eastbound) side of the road has nice afternoon shade thanks to large trees on abutting private properties. On a warm day this shade makes it more pleasant for cycling than on the opposite side of the street.

### Right Turn on Red

There are two signalized intersections along Low Street (excluding the intersections at each end): the four-leg intersection with Toppans Lane and Hale Street, and the three-leg intersection with Graf Road. All right turns at these intersections are allowed on a red signal.

Right turn on red is generally not safe for bicyclists and pedestrians. This is particularly the case at the Hale Street and Toppans Lane approaches because of their proximity to the Molin/Nock school, and because any shoulder providing space for cyclists disappears when vehicle lanes are added at the intersection approaches.

### Crosswalk Spacing

Excluding the intersections at Storey Avenue and Route 1, there are only 8 crosswalks across Low Street along the 1.9-mile corridor, including two in the commercial area at the westerly end of the street.

- The average spacing between crosswalks is about 1,120 feet between the westerly Port Plaza driveway and Wallace Bashaw Jr. Way/Coltin Street, and 1,500 feet between Wallace Bashaw Jr Way and Route 1. (The addition of a mid-block crosswalk at the Nock/Molin Schools and new Recreation Youth Center will reduce this average to about 1,230 feet.)
- Pedestrians and kids on bicycles were observed crossing Low Street at Stickney Avenue. This location is about 1,750 feet from the nearest crosswalk to the west (Port Plaza) and about 450 feet from the next crosswalk to the east (Murphy Avenue).
- There is no crosswalk between the Johnson Street/Perry Way intersection and US Route 1. This is a stretch of about 1,920 feet (0.36 mile) that includes several important recreation and education destinations – Bradley Fuller Park, Henry Graf Jr. Memorial Skating Rink, Bright Horizons day care center, Tinkerhaus Community Makerspace, and the entrance to the Clipper City Rail Trail. In addition to the lack of a safe way to cross Low Street, there is no sidewalk on the south side of the street, and for about two-thirds of the distance no shoulders on either side for cyclists to use.

Where crosswalks do exist on Low Street, they are sometimes deficient:

- Next to the west entrance to Port Plaza, one end of the crosswalk terminates at a curb with no accessible landing, and the other end terminates at the edge of a business complex parking lot with no delineation from the street.
- Both at Murphy Avenue and at 144/151 Low Street (KinderCare), the end of the crosswalk on the westbound side of the street terminates at a curb with no accessible landing, and the end on the eastbound side terminates in a grass lawn. (The need for a sidewalk on the eastbound side has been raised in multiple community meetings.)
- At Coltin Drive, the north end of the crosswalk (close to the hospital entrance at Wallace Bashaw Jr Way) does not have a tactile pad.

## Shoulder Conditions/Maintenance

Even where shoulders are wide enough for bicyclists, there are frequently edge conditions that reduce their effective width. These include vegetation growing at the curb, pavement cracking and patches, pavement deteriorating off the shoulder into vegetated areas, and drainage structures set below the level of the pavement.

## Existing Bike Use

During the bike audits most cyclists that were observed were school-age children riding on the sidewalk on the north (westbound) side of the street. In several cases, these cyclists were riding east (opposite the direction of traffic) on the north sidewalk due to lack of sidewalk and shoulder on the eastbound side of the street. Examples included cyclists at Avon Ave and Brissette Ave, near North Atkinson Street, and at Wallace Bashaw Jr Way.

A few people were also observed riding in the street, in the direction of traffic. Participants counted three adult cyclists in the west segment and one in the east segment.

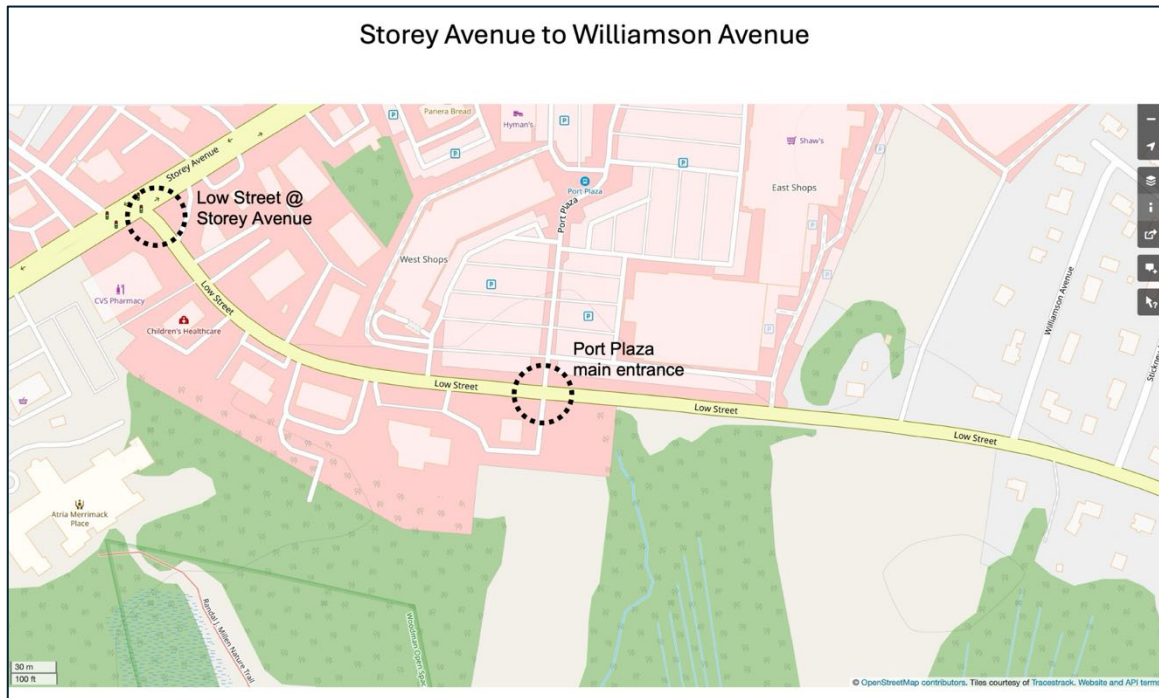
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The following pages present specific observations for six segments and two intersections along Low Street, starting from the Storey Avenue end and moving east to Route 1:

- Storey Ave to Williamson Ave
- Williamson Ave to North Atkinson St / Colby Farm Lane
- North Atkinson Street / Colby Farm Lane Intersection
- North Atkinson St / Colby Farm Lane to Wallace Bashaw Jr. Way
- Wallace Bashaw Jr. Way / Coltin Dr to Hale St / Toppans Lane
- Hale St / Toppans Lane Intersection
- Hale St / Toppans Lane to Johnson St / Perry Way
- Johnson St / Perry Way to Route One



## Storey Ave to Williamson Ave



### Low Street from Storey Avenue to Port Plaza



Westbound (north side of street):

- Vehicle traffic was backed up from Storey Ave to the Williamson/Stickney area, a distance of nearly one-half mile.
- The shoulder width is sufficient for bikes until the main entrance to Port Plaza. However, the MeVa bus stops in the shoulder just before the Plaza entrance, blocking cyclists.

- After the main Port Plaza entrance the shoulder becomes very narrow along the Plaza frontage and then around a curve to the right and along business and apartment parking lots with no sidewalk or curb.
- The shoulder disappears entirely when the single westbound travel lane transitions to three lanes approaching Storey Avenue.



*Looking west on Low Street in front of Port Plaza, between main entrance and east driveway. Shoulder is about 5-6 feet wide. Cyclists are blocked by bus taking on passengers.*



*Storm drain grate in shoulder on Low Street at Port Plaza, reduces effective bike lane width to about 4 feet.*



*Looking west on Low Street between Port Plaza main entrance and west driveway.*

#### Eastbound (south side of street):

- There is no shoulder for the first 300 feet from Storey Avenue to Giuseppe's restaurant, only a 1.5-foot edge between the curb and the fog line. Vehicles turn from Storey Avenue onto Low Street at high speed and accelerate quickly.



- Although there is a sidewalk along the CVS frontage, the view of cars exiting the driveway from CVS and the adjacent gas station/convenience store is obstructed by a monument sign, a utility pole with a speed limit sign, and a stone wall.
- Across the Giuseppe's frontage there is a 2-foot (+/-) shoulder which is undifferentiated from the parking lot and driveways. As there is no sidewalk, bicyclists and pedestrians must share this narrow shoulder for a distance of about 200 feet.
- From Giuseppe's to Hodgie's Too, a distance of about 300 feet, the shoulder widens to about 4 feet but there is still no sidewalk, and for part of the distance there is no curb to separate the shoulder from the adjacent parking lot.

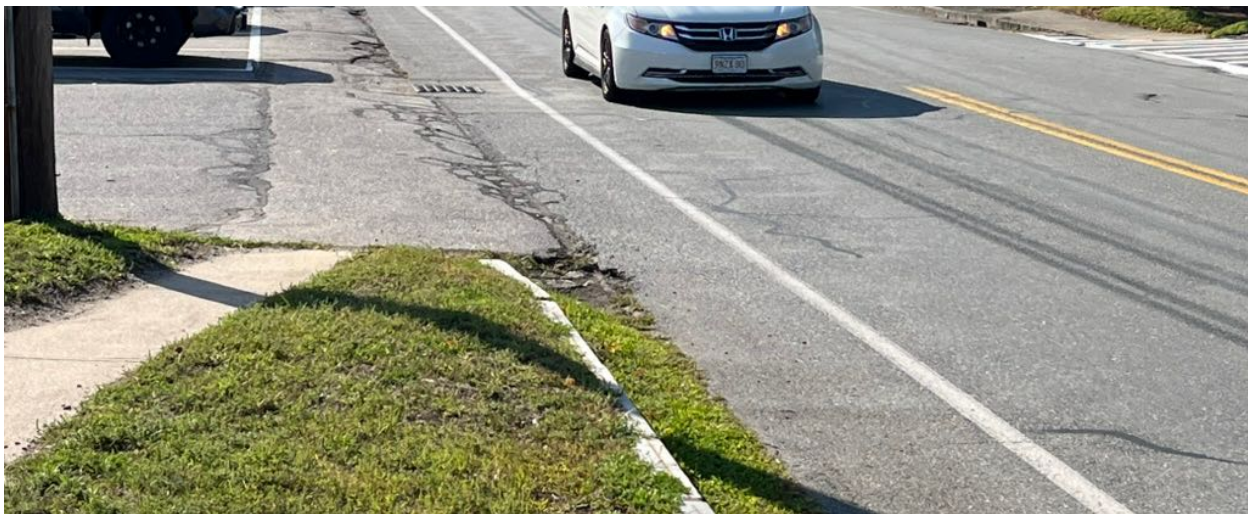


*Looking west on Low Street in front of Hodgie's Too*

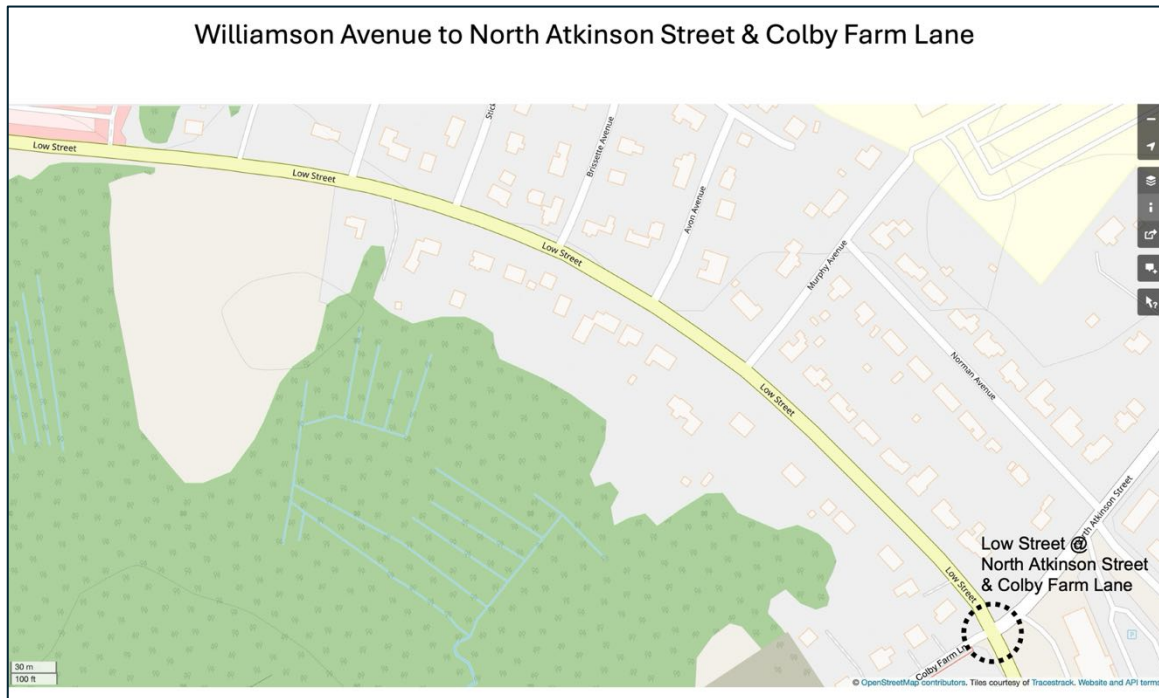


*Detail of discontinuous pedestrian route, lack of delineation between road and parking area*

*Although the shoulder is about 4 feet wide at Hodgie's Too, the actual paved width is only about 2.5 feet, and a storm drain blocks most of the shoulder in front of the adjacent property.*



## Williamson Ave to North Atkinson St / Colby Farm Lane



### Westbound (north side):

- Traffic volume was heavy, with backups from Storey Avenue extending back to Williamson and Stickney.
- The shoulder is fairly wide in this segment, and there is good visibility.
- The shoulder is not maintained well. Utility line patches make the shoulder bumpy for cycling; there are lots of small rocks; and weeds are growing out of the curb in many places.
- Storm drain grates could have a flatter shape – avoid dips that could affect cyclists.
- Several children were observed riding on the sidewalk in the opposite direction from traffic. This is understandable given the lack of walking/cycling infrastructure on the south side of the street, but can be hazardous where the sidewalk meets a cross street.

### Eastbound (south side):

- Traffic volume in this direction was much lower than on the westbound side.
- There is almost no shoulder – typically around 2 feet.
- The pavement is often broken up where the shoulder abuts residential driveways.



## North Atkinson Street / Colby Farm Lane Intersection



- Excessively wide intersection with high traffic speeds.
- Drivers entering the intersection from Colby Farm Lane have poor visibility to the west because of the angle of the intersection and the curve on Low Street.



*Looking west on Low Street to intersection with North Atkinson Street (right) and Colby Farm Lane (left)*



*Looking east on Low Street to intersection with North Atkinson Street (left) and Colby Farm Lane (right)*



*View from Colby Farm Lane, showing Low Street (left to right) and North Atkinson Street (ahead)*



- Due to width and configuration of the intersection, drivers heading east on Low Street often pass left-turning vehicles on the right, crossing into the shoulder and creating a hazard for walkers and cyclists.
- Flex posts have been installed to discourage eastbound drivers from passing stopped vehicles on the right. This provides a level of visual separation between vehicles and bicyclists. However,
  - The posts have been hit and damaged by vehicles indicating continued unsafe driver behavior.
  - A sunken drain structure and uneven pavement make the shoulder less safe for cyclists.
  - The posts curve to the right approaching Colby Farm Lane, which prevents cyclists from continuing straight across the intersection.

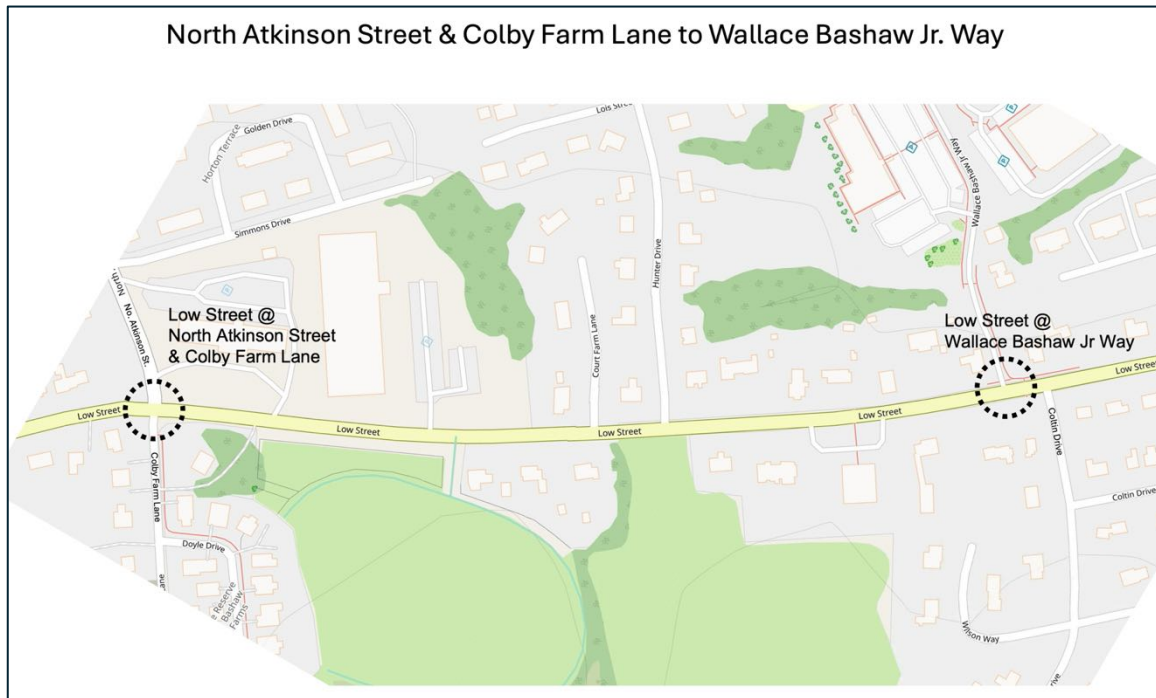


*Looking east on Low Street to intersection with North Atkinson Street (left) and Colby Farm Lane (right)*



*Looking east on Low Street to intersection with Colby Farm Lane (right)*

## North Atkinson St / Colby Farm Lane to Wallace Bashaw Jr. Way



### Westbound:

- Fairly wide shoulder but with significant rocks and debris requiring extra care cycling.
- Lots of patching for utility work between Wallace Bashaw Jr Way and Court Farm Lane, resulting in bumpy areas.
- Kids observed riding bikes and scooters on sidewalk in opposite direction of traffic (no sidewalk on opposite side of street).

### Eastbound:

- Varying width shoulder – about 2 feet wide for the first half of the segment, widening for some distance after Hunter Drive.
- Pavement deterioration adjacent to open space.





*Eastbound opposite Tennis Club: deteriorating pavement reduces effective shoulder width to about 2 feet*



*Eastbound at KinderCare: shoulder is less than 4 feet wide and driveway paving overlaps making shoulder uneven*



*Hospital entrance at Wallace Bashaw Jr. Way*



*MeVa bus turning into hospital entrance*



## Wallace Bashaw Jr. Way / Coltin Dr to Hale St / Toppans Lane



### Westbound:

- Kids observed cycling on the sidewalk

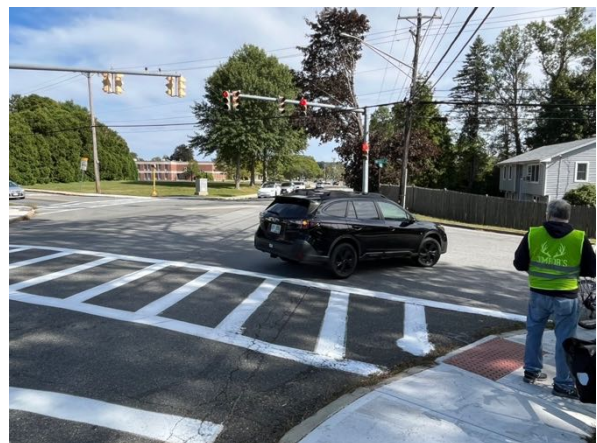
### Eastbound:

- Shoulder disappears approximately 280 feet before Hale Street to provide space for left-turn lane.

## Hale St / Toppans Lane Intersection



*Low Street, looking west from corner of Hale Street. Shoulder disappears to provide left turn lane onto Toppans Lane.*



*Low Street at Hale Street, looking east. Middle School on far corner. No shoulder for bikes on either side of the intersection*



The intersection of Low Street with Toppans Lane and Hale Street is dangerous to bicyclists for several reasons:

- There are no bicycle shoulders on any of the four legs of the intersection.
- Left-turn lanes in both directions on Low Street push through traffic close to bicyclists.
- Right-turn-on-red is allowed on all legs and is hazardous for cyclists.



*Low Street looking east from Hale Street. Middle School on left. No shoulder for bikes.*

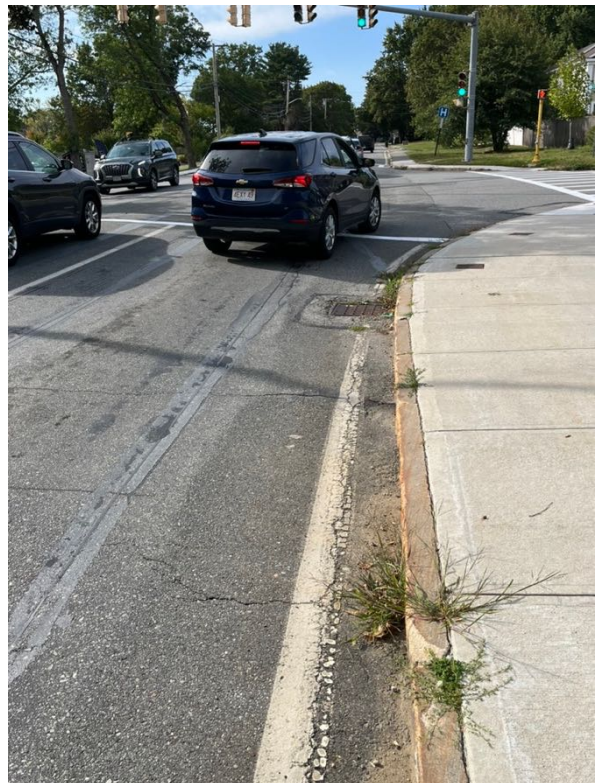


*Low Street east of Hale Street. Middle School on left. Narrow shoulder begins.*



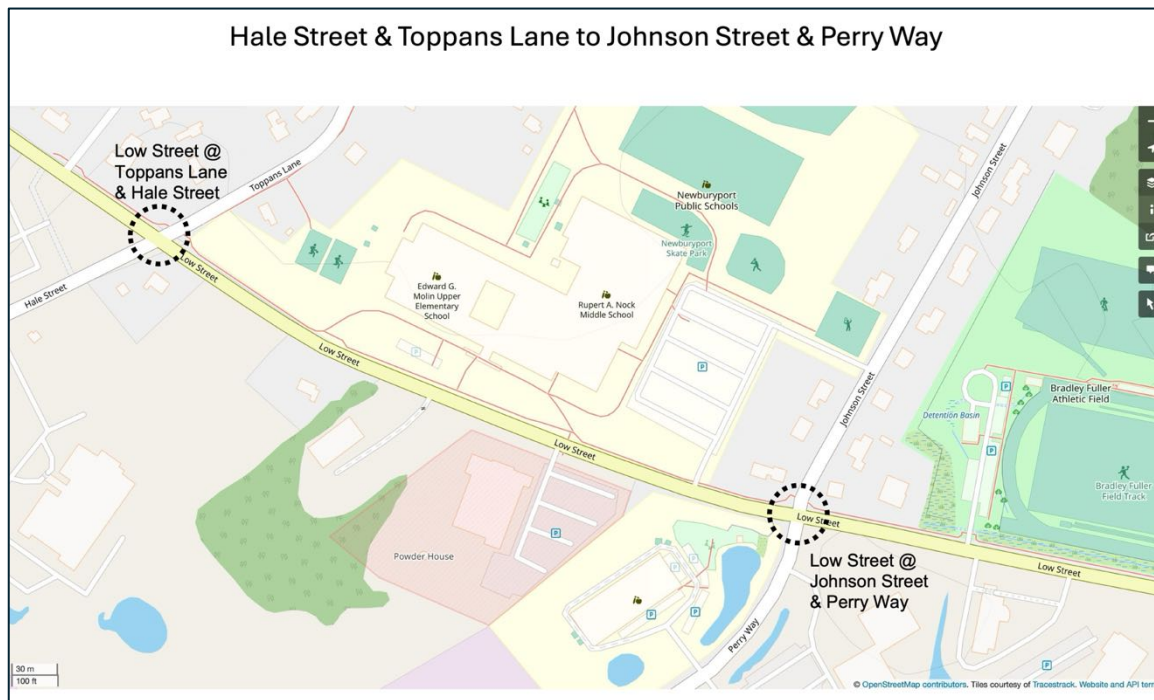
*Low Street at Toppans Lane, looking east. No shoulder for bikes on either side of intersection.*

*Vegetation in narrow area between curb and fog line.*





## Hale St / Toppans Lane to Johnson St / Perry Way



### Westbound:

- There is a short segment of shoulder from Johnson Street to the Molin/Nock parking lot entrance (26pprox.. 140 feet). This is followed by a nearly 800-foot designated parking lane for parents to pick up their children at the end of the school day. When not occupied by parked cars, this lane can be used by cyclists.
- There are two sunken utility structures in front of the school, and another close to the Toppans Lane intersection.
- After the last driveway to the school, there is only a narrow paved edge so bicyclists must share the road with vehicles. At certain times (including around school dismissals) there are long backups from the Toppans Lane/Hale Street traffic signal, so cyclists are squeezed between the line of stopped cars and the curb.

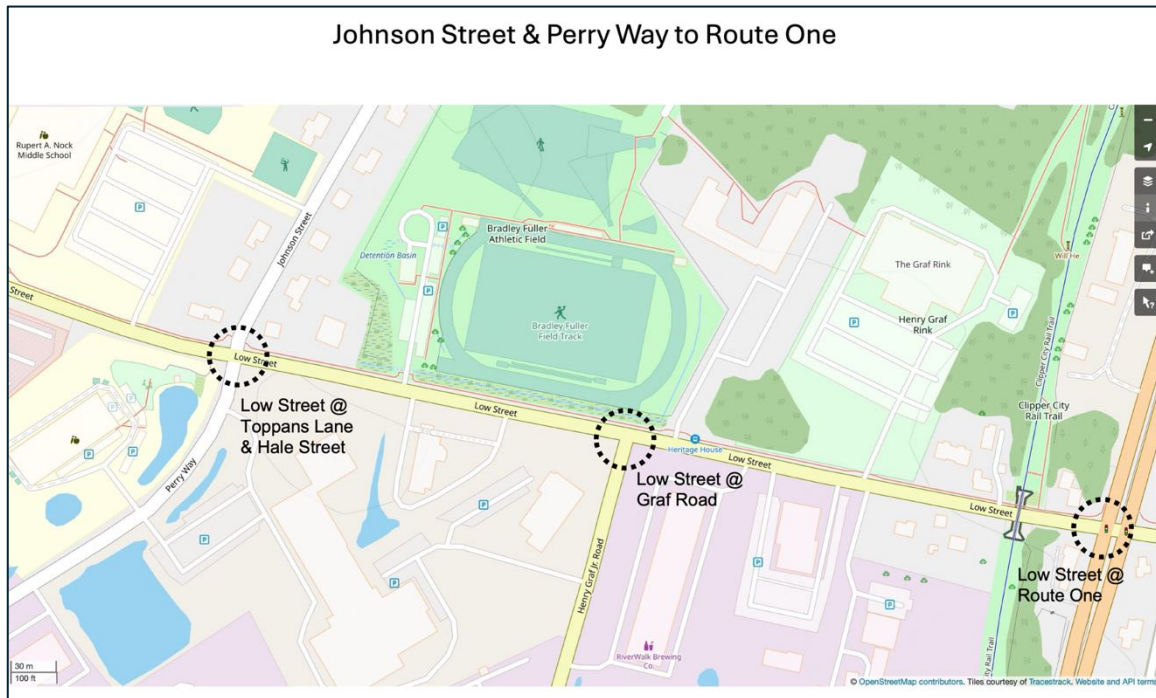


*Westbound cars backed up in front of Middle School from signal at Toppans Lane/Hale Street. (Note vegetation in pavement on right side of photo – reducing what little space is available for bicyclists.)*

Eastbound:

- The shoulder is initially narrow (less than 3 feet wide) leaving the Hale Street intersection but gradually widens to 5-6 feet.
- Because the shoulder abuts dirt and sand, there are lots of pebbles making for a sometimes rough ride.
- Drivers encroach into the shoulder for right turn into Perry Way, particularly for the morning drop-offs and afternoon pickups at River Valley Charter School. Cyclists have to negotiate between turning/stopped vehicles and through traffic.

## Johnson St / Perry Way to Route One



### Westbound (Route 1 to Johnson Street):

- There are no bike accommodations for most of this segment. The shoulder width varies from less than 1 foot to about 2.5 feet, but is functionally less due to weeds at curb line.
- The Low Street entrance to the Clipper City Rail Trail is about 100 feet west of Route 1. This is an important bicycle connection but there is no direct way for a cyclist to access the trail entrance: instead, the cyclist must turn into a private driveway and ride along the sidewalk for about 45 feet to get to the entrance.
- About one car length before the Graf Road signal, the shoulder is about 1 foot wide but is completely crossed by a storm drain structure. Cyclists must share the road with through traffic going 35 mph.
- West of Graf Road the travel lane shifts and narrows to accommodate bus parking spaces in front of Fuller Field. Cyclists can potentially ride through the parking spaces when there are no buses parked, but otherwise must share the travel lane with fast-moving vehicles.
- From the Fuller Field entrance to Johnson Street, there is about 300 feet of shoulder. However, shortly past Johnson Street this becomes a parking lane for picking up students. (The approved plans for the Recreation & Youth Center include delineating bike lanes in both directions, but it is not clear how far these will extend.)





*Low Street looking west from Rail Trail bridge.*



*Low Street looking west from driveway to Graf Skating rink, with Graf Road intersection in distance. No shoulder for bikes.*



*Low Street looking west from Heritage House entrance. Transition to parking lane begins in middle distance.*



*Low Street looking east from Graf Skating Rink driveway (westbound lane on left). No shoulder for bikes.*





Eastbound (Perry Way to Route 1):

- Beginning at Perry Way, the shoulder is about 5 feet wide. However, the shoulder begins to narrow after about 400 feet and effectively disappears when the right-turn lane is added. The shoulder approaching the Graf Road intersection is nominally about 2 feet wide, but is bordered by a metal guardrail, deteriorating at the edge, and overgrown with weeds.



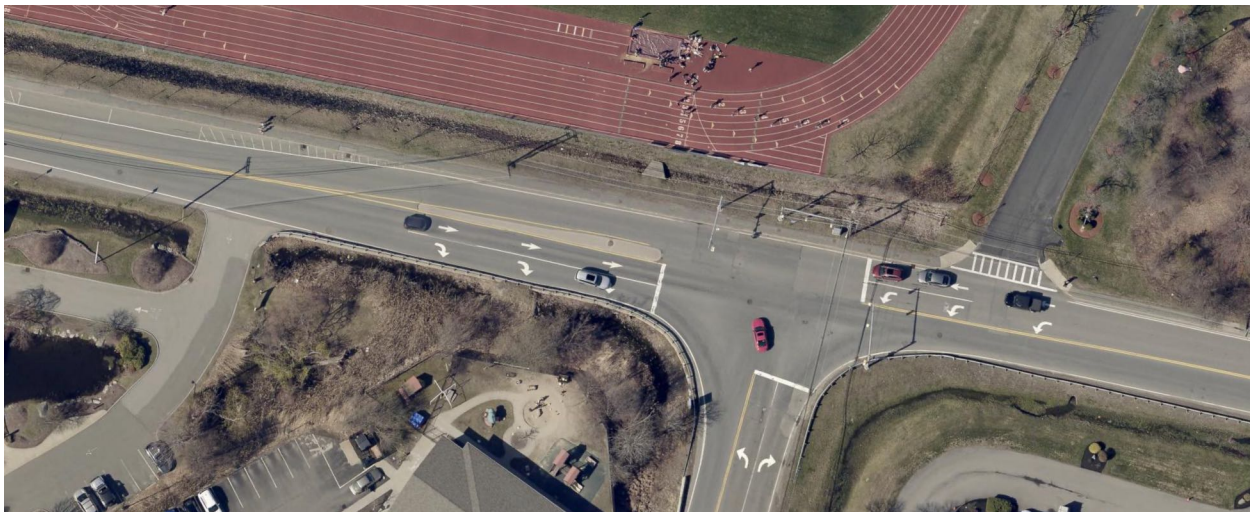
*Low Street looking east toward Graf Road at driveway to medical office building. (Fuller Field recreation area on left). Wide vehicle lane transitioning to dedicated right-turn lane. Shoulder disappears.*



*Right turn lane from Low Street to Graf Road. Heavy vehicle traffic including large commercial vehicles, with no accommodation for bicycles. Cyclists heading straight on Low Street must use the right-turn lane or wait in line in the through lane.*

- At the Graf Road intersection, eastbound cyclists must compete for space with vehicles in the right-turn lane. Westbound cyclists must share through travel lane.

*Intersection of Low Street and Graf Road.*





- From Graf Road to Route 1, the paved shoulder is typically less than 1 foot wide. Initially, the travel lane is about 15 feet wide providing space for cyclists to share the road. However, the single lane splits into two lanes (through/left and right-turn) for the last 370 feet, requiring cyclists to ride in the right-turn lane.
- There is a large hole in the shoulder in front of the Elks Club; and the pavement in the travel lane is deteriorated and depressed in the right-turn lane in front of the house at 21 Low Street (where there is no shoulder). These conditions are hazardous for cyclists.



*Looking east from Rail Trail bridge to intersection of Low Street and US Route 1 (Pond Street on far side of Route 1). No accommodation for bikes on either side of Low Street.*



*Entrance to Clipper City Rail Trail. No good access for eastbound cyclists on Low Street or for cyclists coming across Route 1 from Pond Street.*

## Recommendations

As noted earlier in this report, both the City's 2019 Complete Streets Prioritization Plan and NLS's 2023 Bicycle and Pedestrian Network Plan contained detailed improvement recommendations for Low Street. Almost none of those recommendations have been implemented since those reports were issued, and all of them continue to apply. The following specific recommendations are intended to supplement the previous plans.

### Reduce the Speed Limit to 25 MPH

As noted earlier in this report, Low Street is the only Newburyport street under local control that is not subject to the city-wide 25 mph speed limit. The 30 mph and 35 mph speed zones are no longer appropriate given the City's more recent emphasis on safety for walkers and cyclists. Lower speed limits are desirable in all portions of Low Street: in the business district near Storey Avenue, where there are frequent turning movements (and where existing multifamily residences will be joined by the Plaza Landings 40B project); in the middle section that is characterized by residences on small lots; and in the easterly stretch with its concentration of educational and recreational uses.

Making the change to a 25 mph speed limit will involve two steps. First, the City will send a written request to MassDOT to rescind the special speed regulation. After the request is approved, the City Council will amend the Code of Ordinances by deleting sections 13-187 and 13-188 which establish the 30 mph and 35 mph limits on Low Street.

### Reallocate Lane Widths to Create Space for Bicycles

Narrowing travel lanes is a way to encourage drivers to go more slowly. There are areas along Low Street where travel lanes exceed 11 feet in width, which is more than necessary to safely accommodate the permitted and desired speeds on the street. Travel lane widths should be reduced to a *maximum* of 11 feet, and narrower where possible, with the recaptured space used for continuous bike lanes.

For example, at the Toppans Lane/Hale Street intersection the eastbound approach is allocated approximately as follows:

Curb to fog line	1 ft
Eastbound through lane	11.5 ft
Left-turn lane	11 ft
Westbound travel lane	13.5 ft
Fog line to curb	1 ft
Total	38 ft

Reducing the through lanes to 10 feet and the left-turn lane to 9 feet would capture 7 feet of road width. This saved space could be added to the existing 1-foot edge areas to provide 4.5-foot shoulders in each direction.

## Protect Bicyclists at Intersections

The City should prohibit right turns on red at the intersection of Low Street, Toppans Lane, and Hale Street. RTOR is generally not a good practice where bicycles are concerned, and this particular location should be better controlled because of its location next to the Middle School.

In locations where cars are likely to pass stopped vehicles on the right, the shoulder should be protected by a solid barrier. The existing flex posts at the corner of Colby Farm Lane were a good first step, but the damage to them shows that drivers are still squeezing around rather than waiting for room to move. These flex posts should be replaced by a more effective barrier. Other locations where protection of the shoulder should be considered include (1) in front of Hodgie's Too where cars wait to turn left into Port Plaza, (2) opposite Wallace Bashaw Jr Way, and (3) all legs of the intersection of Low Street with Toppans Lane and Hale Street.

## Maintain Shoulders to Ensure Safe Riding Widths and Surfaces

As noted in this report, there are many areas along Low Street where shoulders are compromised by weeds growing from the curb; rocks and other debris; and deteriorating pavement within the shoulder or at the interface with adjacent driveways and vegetated areas. The City should conduct routine inspections to clear these areas of obstructions and repair pavement so that the full shoulder width is available to cyclists.

## Add Crosswalks

Additional crosswalks are needed in at least three locations.

- The primary Port Plaza driveway, opposite Hodgie's Too. Both sides of the road have pedestrian destinations, and a crosswalk at this location will become more essential when the former Kmart site is redeveloped for multifamily residences.
  - Because of the volume and speed of vehicle traffic in this area, combined with the multiple turning movements into and out of the commercial establishments, a new crosswalk here should be protected by a signal – preferably a fully-signalized intersection but at least a pedestrian hybrid (HAWK) beacon.
  - Pedestrian crossing improvements must maintain five-foot shoulders for bicyclists.
- Between Port Plaza and Murphy Ave. If a crosswalk is added at the Port Plaza main driveway, the distance to the next crosswalk to the east (Murphy Ave) will be about 1,900 feet, which is still too long. While there is not an existing sidewalk on the south side of Low Street, adding one has been identified by residents as a need, particularly with the recent rezoning of the south side of the street to a higher density residential district.

- At Bradley Fuller Field and/or Graf Road. The closest existing crosswalks to the Fuller Field driveway are 400 feet to the west (Johnson St/Perry Way) and 1,490 feet to the east (Route 1). The Graf Road traffic signals could be modified to include a pedestrian crossing phase for crosswalks at this location.

## Create a Bike-Friendly Entrance to the Rail Trail

The Clipper City Rail Trail crosses Low Street on a bridge just west of US Route 1, and there is an entrance to the Rail Trail on Low Street about 120 feet from the intersection. However, there is at present no good way for bicyclists to access this entrance because of the curb in front of it. Instead, westbound cyclists who have crossed Route 1 from Pond Street must ride into a private driveway, turn left and ride for about 45-50 feet on the sidewalk, and then make a sharp right into the trail entrance.

Eastbound cyclists face an even worse situation: they must ride to the intersection, cross Low Street at the crosswalk, and then turn around and follow the above route to get to the entrance. It's not surprising that many cyclists avoid this entrance and instead cross to the opposite side of the street (sometimes riding on the sidewalk), ride through the Graf Skating Rink parking lot, and cross on an informal dirt path to the trail.

The City should modify the curb and sidewalk in the vicinity of the trail entrance to provide a safe route for bicyclists in each direction. One option could be to widen the sidewalk to a two-way shared-use path between Graf Road and Route 1, anchored on the west by a crosswalk in the vicinity of Graf Road as recommended above.