



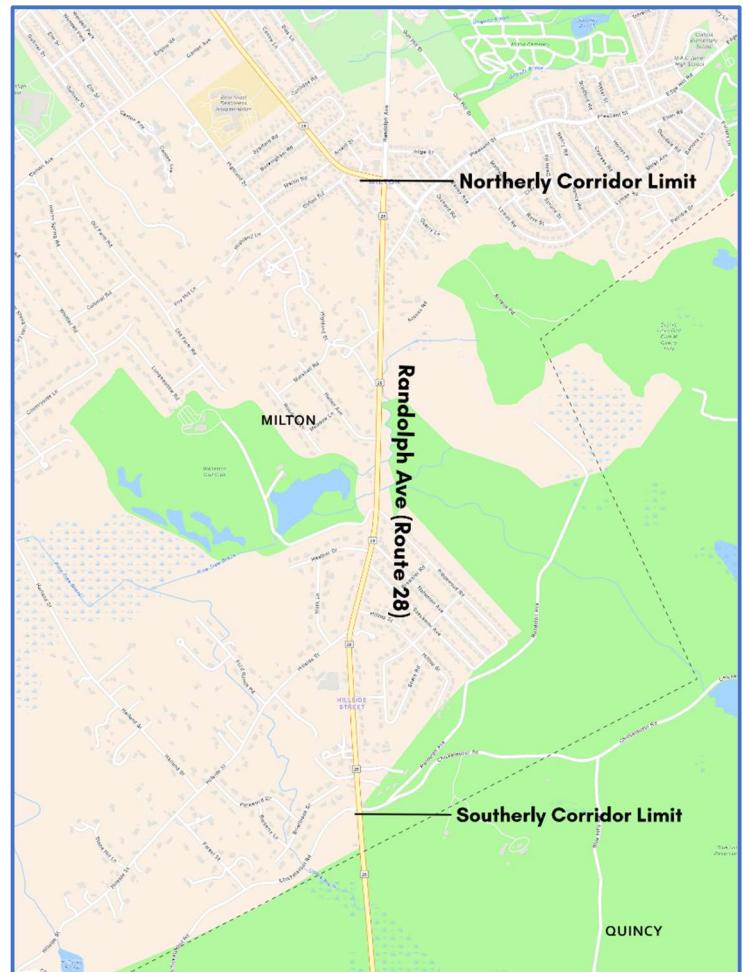
Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary and CEO
Jonathan L. Gulliver, Highway Administrator



Randolph Avenue (Route 28) – Pilot Road Diet Alternatives

The Massachusetts Department of Transportation Highway Division is evaluating alternative “Road Diet” concepts for a pilot to be implemented along the Randolph Avenue (Route 28) Corridor in the Town of Milton.

The approximate 1.7 mile section of roadway is functionally classified as a Principal Arterial with travel in the North-South direction. The northerly limit is at the intersection of Route 28 and Reedsdale Road and the southerly limit is at the intersection of Chickatawbut Road. (locus map →)



Randolph Ave (Route 28) Intersections

- Reedsdale Road
- Pleasant Street
- Reed St/Access Road
- Highland Street
- Hallen Avenue
- Ridgewood Road
- Nahanton Avenue
- Heather Drive
- Sassamon Avenue
- Hilltop Street

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- Hillside Street
- Eager Road
- Susi Lane (Private)
- Brook Lane
- Chickatawbut Road

Current Cross-Section of Randolph Ave (Route 28)

Within the project limits Randolph Avenue is four travel lanes, two eleven-foot lanes in each direction with one-foot shoulders. The approximate curb to curb width along the corridor is 46-feet. The current geometric design maintains four travel lanes through all intersections; no turning lanes exist along the corridor apart from Route 28 NB at Reedsdale Road where the inside travel lane turns into a left-turn only lane. Sidewalks are provided along each side of Route 28.

Road Diet Concepts

The Federal Highway Administration defines a Road Diet as a safety improvement strategy that involves reconfiguring a road, typically by reducing the number of travel lanes (e.g, converting an existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL)). Road Diets may also involve the addition of median separation at the center line of the existing facility to provide access management and reduce turn conflicts. Treatments used to provide the median separation vary from ground-in rumble strips with off-set pavement markings, raised curbing with delineator posts, or a more substantive hardened physical separation with guardrail or barrier.

Alternative 1 – Introduction of a Center Two-Way Left-Turn Lane (TWLTL)

Alternative 1 proposes to reconfigure the 4-lane cross-section to provide one travel lane in each direction that would be separated by a wider center turn lane to provide equal access for left-turn movements in each direction. This design concept provides a refuge area for vehicles to stage while waiting for a gap in traffic to make a left-turn movement. Turning vehicles would now only be turning against a single travel lane in each direction.

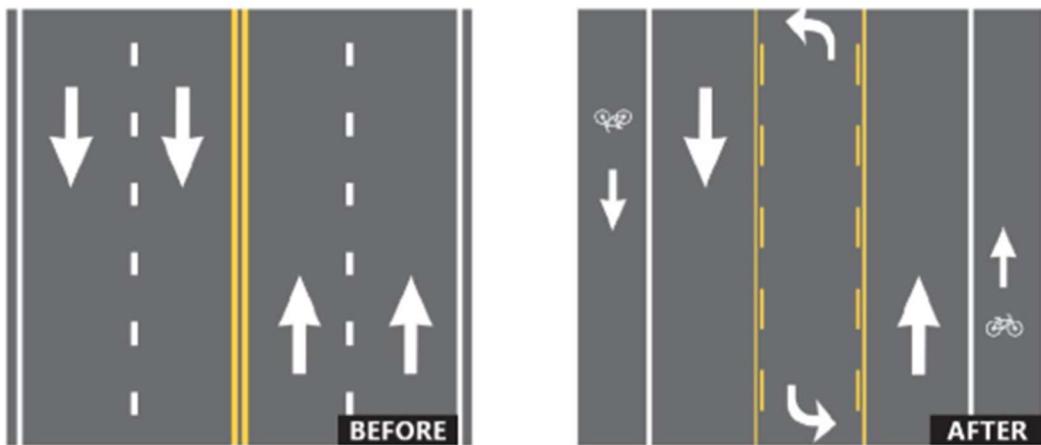
Specific to the Route 28 corridor, the introduction of a 14-foot TWLTL in the center provides separation from the north and southbound 11-foot travel lanes. This would provide for 5 or 5 1/2-foot shoulders on either side of the roadway for a

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disabled vehicle, law enforcement activity, and to provide a buffer from the pedestrian sidewalk. The shoulder areas could allow for bicycles accommodation through the addition of appropriate bicycle lane markings.

At intersections, the TWLTL would transition to left-turn lanes where appropriate. MassDOT may also evaluate targeted areas for pilot medians that introduce flex posts or painted hatching to discourage driving in the TWLTL in areas where access is not required.

The schematic below shows a sample conversion from a 4-lane cross-section to a 2-lane cross-section with a center TWLTL:



Before and after example of a Road Diet. Source: FHWA

The following provide some images of actual TWLTLs that have been implemented on roadways of similar geometric characteristics and contexts to Randolph Avenue in Milton:

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4-Lane Road Diet Conversion to TWLTL and 2-Lanes (w/Bike Accommodation)



4-Lane Conversion to TWLTL with Left-Turn Pocket developed for Traffic Signal

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MassDOT Project: Conversion of 4-lane to 2-lanes with center TWLTL (Reading – Route 28)

Alternative 2 – Median with Dedicated Left-Turn Pockets

Alternative 2 would reconfigure the 4-lane cross-section to provide one lane in each direction with median separation down the center of the roadway.

Medians are used to help define roadway use and to provide separation and guidance for motorists. They can be raised via use of curbing, guardrail or barrier; or can be flat or near flat, using color, texture or rumble strips. The intent of introducing median separation between two directions of travel is to increase safety with the offset of traffic flow and reduce the likelihood for roadway departures, as well as minimize conflicts with left-turning vehicles. Additional delineation may be provided through adding flexible posts or stanchions with retroreflective striping to provide a vertical cue of the median area.

The differing median treatments will have varying impacts to local access, and MassDOT will evaluate U-Turn opportunities and necessary breaks in the median to allow for left turns at some locations. Similar to Alternative 1, the median could transition to left-turn storage lanes at intersections where appropriate and would provide widened shoulders which can be utilized for a disabled vehicle, law enforcement activity, or bicycle facilities.

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The following provides examples of Median Treatments that could be used to provide dedicated separation between the north and southbound travel lanes on Route 28:



Flush Median with double run of Rumble Strips with Painted Diagonal Crosshatch Markings



Flush Median with Wide Separation and Rumble Stripes – Include Flexible Delineators

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Flush Median with Crosshatching, Rumble Stripes & Flexible Delineators (Route 140, Gardner)



Raised Median with Lane Separator System (curbing with vertical panel delineators)

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Raised Median with Portable Steel Barrier – Positive Separation

Pilot Road Diet Evaluation Criteria

MassDOT is working with our design consultant to develop an evaluation matrix that will be used to provide qualitative as well as quantitative measures for each of the two options for the Pilot Road Diet recommended for Randolph Avenue (Route 28) in Milton.

The following will be considered for each alternative:

- Safety
 - Impact on crash severity
 - Impact on crash frequency
- Vehicle Operating Speeds
 - Free-flow
 - Peak hours
- Neighborhood Access
 - Direct versus indirect access to driveways
 - Ability to make left turns
- Enforcement Opportunities
- Operations
- Timeline to Deploy