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(Please reference Prospective State Project No. 103-TMP1)

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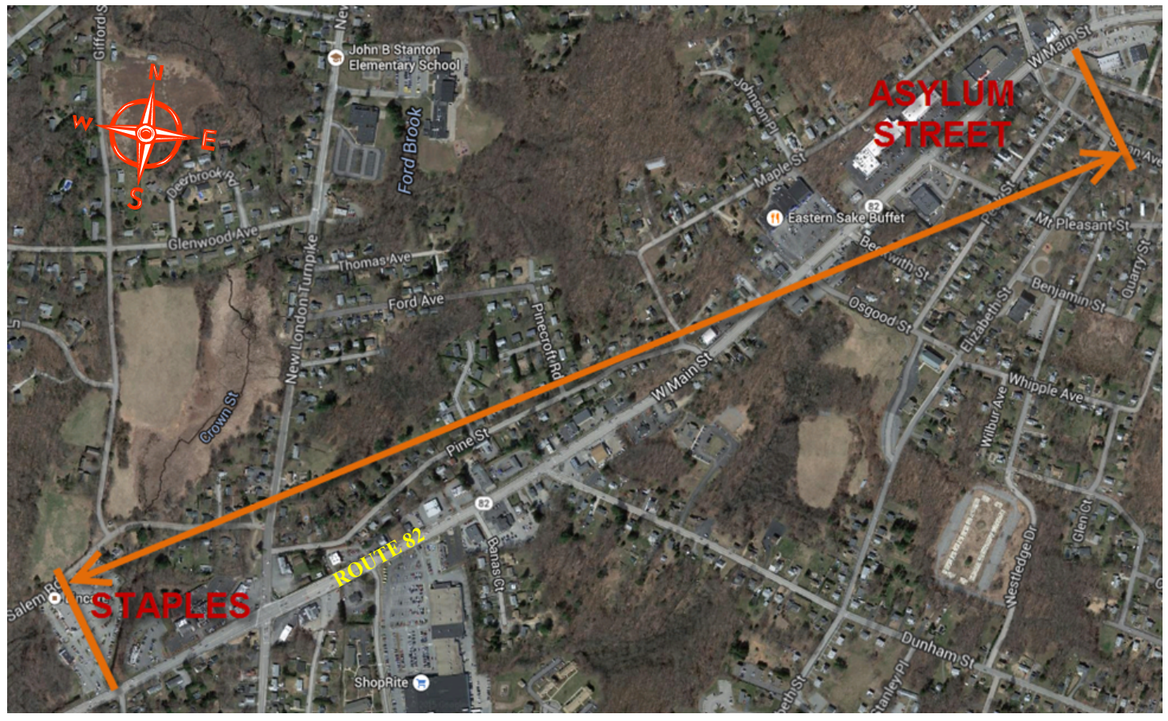
ADDITIONAL ROUNDABOUT INFORMATION:
Connecticut Department of Transportation— http://www.ct.gov/dot/roundabouts
Federal Highway Administration—http://safety.fhwa.dot.gov/intersection/roundabouts/fhwasa08006/

CONNECTICUT DEPARTMENT OF TRANSPORTATION AND THE CITY OF NORWICH

CONCEPT PROJECT 103-TMP1

MAJOR SAFETY AND OPERATIONAL IMPROVEMENTS

ON ROUTE 82



LOCATION PLAN

September 16, 2015
@7PM
Norwich City Hall

BACKGROUND

This portion of Route 82, from New London Turnpike to Asylum/Mechanic Streets, has a long history of high crash rates. A 2004 ConnDOT study requested by the Southeastern Connecticut Council of Governments (SCCOG) found that the lack of left turn lanes was a primary factor. (Route 82 was widened in the early 1980s from two to four lanes, primarily for capacity.) Subsequently, in the mid-2000s, the Department began initial plans for Route 82 corridor improvements consisting of widening to provide a Two-Way Left-Turn Lane (TWLTL) as a potential solution. Without a funding plan for a project of that magnitude, project scoping was halted.

Then in the spring of 2013, SCCOG prioritized the Route 82 corridor as one of the top transportation needs in the region. The City of Norwich, through SCCOG, applied for federal STP-Urban funding to begin conceptual improvements, starting at the west end, at New London Turnpike. Recognizing the need for a cohesive corridor improvement concept plan, ConnDOT renewed its study of the area as a whole.

By analyzing crash data, prominent crash patterns were identified at numerous high volume commercial driveways at mid-block locations, in addition to the typical crash patterns expected at signalized intersections. Left turns between intersections — both into and out of driveways — have contributed to numerous crashes. One of the most effective means of addressing mid-block crash patterns at driveways is the use of right-in, right-out operations, thus eliminating the problematic left turns. However, as is evident at numerous existing commercial driveways on Route 82 today, left turn prohibitions on four lane roads are difficult to enforce. The use of a raised median island is far more effective, and this became the primary alternative to the TWLTL proposed previously. The addition of modern roundabouts at intersections was considered a safe, efficient way to accommodate the new demand for U-turns a median would create.

A subsequent safety analysis using AASHTO Highway Safety Manual techniques confirmed what the crash diagram and observed driveway density had suggested: the TWLTL would be ineffective at addressing the mid-block crash patterns at this location. In contrast, the safety analysis predicts that a raised median island combined with modern roundabouts at major intersections will produce a drastic reduction in crash frequencies.

Throughout the latest study of the corridor, ConnDOT has coordinated with Norwich and SCCOG officials, proceeding incrementally. There have been technical meetings at SCCOG with region planners and city engineers (March 13 and September 9, 2013), higher-level concept review meetings with city officials and the Mayor (February 6 and September 24, 2014), and a meeting with business owner representatives of the Norwich Chamber of Commerce on January 9, 2015.

Comments received at this public informational meeting, based on the ConnDOT conceptual proposal of a raised median with roundabouts, will be considered carefully with Norwich officials and SCCOG staff before deciding whether to proceed

WHY IS ROUTE 82 A PROBLEM?

A three year crash history (2010-2012) was reviewed to identify crash patterns and their locations.

- 462 total crashes (average of 3 per week)
- 169 injuries
- Typical crash patterns at signalized intersections

A high number of mid-block and un-signalized intersection turning movement crash patterns were identified:

- 172 crashes (37%) at non-signalized driveways and side streets–primarily left turns

Nine (9) locations on state list of high crash rate locations (7 are between signals)

Congestion - Causes travelers and shoppers to seek alternate routes around or places to shop.

Pedestrian and Bicycle Unfriendly - Narrow shoulders, Speed of traffic, stop and go traffic decreases air quality.

Delay - Due to the time required to slow, stop, start at a signal the delay along the corridor can be significant especially during peak travel times.

WHY USE ROUNDABOUTS?

Safety: Roundabouts have been shown to reduce fatal and injury accidents as much as 76% in the USA, 75% in Australia and 86% in Great Britain. The reduction in accidents is attributed to slower speeds and reduced number of conflict points.

Pedestrian Safety: All research suggests that modern roundabouts are safer than signalized intersections for pedestrians. This safety advantage has bee attributed to the slower traffic speed at roundabouts and the division of the pedestrian crossing into two stages, from the near-side wheelchair ramp out to the splitter island, and then from the splitter island to the far-side wheelchair ramp. In each stage the pedestrian has to look in only one direction to cross a one-way traffic stream. Pedestrian refuges are provided in the areas within the splitter islands.

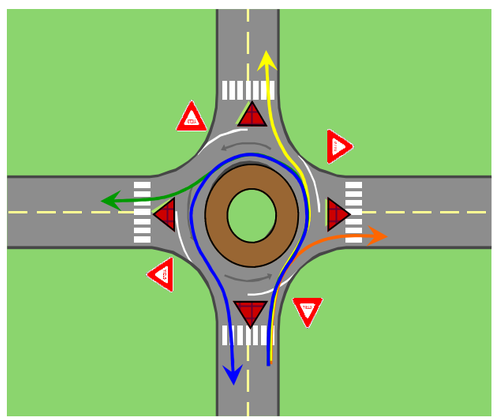
Low Maintenance: Eliminates maintenance costs associated with traffic signals which amount to approximately $3,500 per year per intersection. In addition, electricity costs are reduced with a savings of approximately $1,500 per year per intersection.

Reduced Delay: By yielding at the entry rather than stopping and waiting for a green light, delay is significantly reduced.

Capacity: Intersections with a high volume of left turns are better handled by a roundabout than a multi-phased traffic signal.

Aesthetics: A reduction in delay corresponds to a decrease in fuel consumption and air pollution. In addition, the central island provides an opportunity to provide landscaping.

DRIVING A ROUNDABOUT



⇒ Reduce speed and prepare to yield as you approach the roundabout

⇒ Vehicles in the roundabout have the right of way.

⇒ Look to your left, when there is a safe gap in traffic proceed into the roundabout

⇒ All vehicles turn right, when entering the roundabout

⇒ Display your right-turn signal just prior to your desired exit and turn right to exit the roundabout

COMMENT FORM

PROSPECTIVE STATE PROJECT NO. 103-TMP1
ROUTE 82 SAFETY AND OPERATIONAL IMPROVEMENTS
NORWICH
Please provide any written comments below or email to
Timothy.Wilson@ct.gov

Comments must be received by **October 16, 2015**

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Name:_____
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Email: _____
Check in the appropriate box if you would like a response by

telephone: ☐ or email: ☐

CUT

Median and Two Way left Turn Lane Methods of Traffic Control

DESIGN FEATURE	
Median	• The concept includes a raised median island separating east and west bound traffic. • Eliminates left-hand turns (source of most severe accidents / injuries). • Reduces conflict points between intersections, drivers have fewer decisions to make. • Pedestrians need only to look in one direction at a time before crossing the road. • Drivers have fewer decisions to make. • Does require widening of the roadway.
Two Way Left Turn Lane (TWLTL)	• Provides left turning vehicles a safe haven out of the way of through traffic. • Provides for left turns not just at the intersections. • Requires only one additional lane to provide for both directions of traffic. • Not recommended in areas with a high density of driveways on both sides of the road. Creates interlocking (conflicting) turning movements. • Does not help with midblock left turning accident problems from driveways. • Left turns out of driveways must cross an additional lane.

Roundabout or Traffic Signal for Intersection control

DESIGN FEATURE	
Traffic Signals	• Can provide exclusive phases for pedestrian crossing. • Can provide a phase for each traffic maneuver. • Creates many potential conflict points. • Speeds approaching it are higher due to the roadway geometry. • Increase delay time along a route. • Crashes are typically more severe due to speed and angle type that occur.
Roundabouts	• Substantially reduce the number and severity of crashes that occur. • They reduce the amount of delay for motorists and improve traffic flow through the corridor • They convert left hand turns into a counter-clockwise circular movement with right turns into and out of the circle (reduces traffic accidents, injuries and fatalities) • Have lower lifetime operational costs • Reduce travel speeds • Facilitate U-turns, and are thus an efficient complement to median divided roadways • Reduce intersection conflict points • Improve pedestrian safety • Property Impacts at an intersection can be significant.

CUT

FOLD

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Connecticut Department of Transportation
P.O. BOX 317546
Newington, Connecticut 06131-7546

PROSPECTIVE STATE PROJECT NO. 103-TMP1

FOLD

PHASE 1
ROUTE 82 SALEM PLAZA TO PINE STREET
SAFETY AND OPERATIONAL IMPROVEMENTS
NORWICH

STAPLES

NEW LONDON TURNPIKE

ROUTE 82

NORMAN ROAD

DUNHAM ST.

PHASE 2
ROUTE 82 PINE STREET TO FAIRMONT STREET
SAFETY AND OPERATIONAL IMPROVEMENTS
NORWICH

ROUTE 82

CVS

OSGOOD ST

MECHANICS STREET