Pedestrian & Bicycle Safety Assessment

Route 82 (West Main Street/Salem Turnpike), Norwich, CT

May 6, 2015

Figure 1 Photo courtesy of CTDOT

Figure 2 Image courtesy of Google Maps
Introduction

An aggressive program of activities and resources were announced by the United States Department of Transportation (USDOT) Secretary Anthony Foxx at the Pro Walk, Pro Bike Conference in Pittsburgh in the Fall of 2014. Included in the program were calls for pedestrian and bicycle safety assessments to be held in each state in the union. These assessments were to be facilitated by the modal administrations within the USDOT: Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), Federal Transit Administration (FTA), and National Highway Transportation Safety Administration (NHTSA).

After initial meetings in late 2014 and early 2015 between CTDOT, FHWA, and interested USDOT modal administrators, a location was selected for the Connecticut assessment – the Route 82 (West Main Street/Salem Turnpike) corridor in Norwich, roughly a 2.5 mile stretch between Surrey Drive on the west and the Intermodal Transportation Center on the east at the gateway to downtown. The facility is a four-lane undivided roadway with high volumes at times, and stretches of higher speeds. The land uses are predominately retail strip with small plazas and residential uses sprinkled throughout. This area has experienced safety issues reflected in crash history, and some conceptual designs for improvement had been developed. The CTDOT conferred with City of Norwich officials about the plans for the assessment, and such engagement produced an expanded list of stakeholders (municipal, regional, State, Federal, USPS, Mohegan Tribe, local stakeholders and the Transit District) that could enhance and strengthen the assessment.

Figure 3 Photo courtesy of CTDOT
Assessment Process

The assessment took place on May 6, 2015, and the following agenda helped guide the approximately 30 participants through the day:

AGENDA
MAY 6, 2015
8:00am
NORWICH CITY HALL, 100 BROADWAY, ROOM 335

I. 8:00am> Introductions – All Participants
   a. Participants sign in (name, organization, e-mail contact)

II. 8:15am> Introduction to the Pedestrian Safety Assessment - FHWA

III. 8:30am> Corridor Review – City, CTDOT and SEAT
   a. Background – demographics, traffic, transit, corridor deficiencies and need
   b. Distribute and review maps
   c. Questions and answers

IV. 9:00am> Assessment Procedure – FHWA and CTDOT
   a. Distribute Prompt Lists and maps
   b. Describe Map Quadrants and Process
   c. Explain Prompt Lists
   d. Divide into Groups
      i. Elect spokesperson to summarize group observations

V. 9:30am> CORRIDOR FIELD WALK

VI. Lunch

VII. Reconvene and drop off materials – (All) at NORWICH CITY HALL, 100 BROADWAY, ROOM 335

VIII. 12:30pm> Debrief Session - All
   a. Discuss field observations – Each Group
   b. Discuss process impressions – All
   c. Next Steps – FHWA
      i. Discuss draft report process and timeline
      ii. Collect field notes with name and Group Number
      iii. Questions

IX. 2:00pm> Adjourn

The pre-assessment meeting at City Hall focused on introducing the subject of the assessment through problem identification, background, analysis of possible corridor-wide solutions and review of the assessment process through previous division of participants into four groups representing a variety of disciplines and knowledge of the area. Each group was assigned a section of the corridor to review and assess for accommodation of pedestrian and bicyclist use, safety and other site-specific concerns and observations. Prompt lists, derived from FHWA published guidance, were utilized to assist in observations. Participants were encouraged to work together and to suggest possible solutions to the problems observed in the field. All groups reconvened at City Hall after the fieldwork to present their findings and discuss possible solutions. The identification of short-term and long-term improvements was emphasized. The outcome of the meetings and fieldwork were to be documented and provided to the principals involved.
Findings and Recommendations

Group One

This group analyzed the corridor segment from the Surrey Lane/Staples traffic signal eastward including the West Main Street (Route 82) and New London Turnpike intersection to Universal Plaza.

Participants:

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Kate Rattan</td>
<td>CTDOT</td>
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<td>Patrick McLaughlin</td>
<td>City of Norwich</td>
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<td>Officer Andre Rosedale</td>
<td>City of Norwich Police Department</td>
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<tr>
<td>Ned Connell</td>
<td>Southeastern Connecticut Regional Council of Governments</td>
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<tr>
<td>Chris Henry</td>
<td>USDOT – Federal Motor Carriers Safety Administration</td>
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<tr>
<td>Bob Turner</td>
<td>USDOT – Federal Highways Administration Connecticut Division</td>
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<tr>
<td>Mike Donovan</td>
<td>United States Postal Service</td>
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<tr>
<td>Eric Papetti</td>
<td>USDOT - Federal Transit Administration Region I</td>
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Findings

Group One noted pedestrian/bicycle needs and deficiencies at the Surrey Lane/West Main Street (Route 82) intersection and the pedestrian network in its vicinity.

- Desire paths indicate a need for a sidewalk on the north side or the roadway in this section of the corridor.
- Location of crosswalk at Surrey Lane.
- Obstructed and inaccessible pedestrian phase actuation button east of Staple driveway.
- Pedestrian crossing system at Surrey Lane has no ped heads, audible signals or vibrotactile indication.
- Sidewalk gap exists on the steep embankment on the north side of Route 82 approaching New London Turnpike adjacent to the service station.
• Sidewalk gap from pedestrian pedestal to the Staples driveway in addition to conflicting utility pedestal.
• Sidewalk gap exists adjacent to Five Guys.
• Overly wide driveway at the Staples parking lot entrance.
• Surrey Lane is being utilized as a cut-through for northbound traffic on New London Turnpike seeking to proceed westbound on Route 82.
• Significant use of the corridor by pedestrians is evident from the “cattle paths” in the shoulder area where gaps exist.

Short-Term Recommendations

• Incorporate interim closing of, or one-way traffic in, at Surrey Lane at the West Main Street intersection to evaluate the effects of a permanent closing-off of Surrey Lane at Route 82.
• Move crosswalk from the east to west side of Staples driveway.
• Extend the traffic dividing island in the Staples driveway southerly incorporating a pedestrian refuge.
• Repaint pavement markings.
• Complete the sidewalk network at Staples, Five Guys and approach to New London Turnpike (could be mid-term recommendation).

Long-Term Recommendations

• Create enhanced and modernized crossing signals and signage at Surrey Lane to current standards.
• Consider permanent closing-off of Surrey Lane at Route 82.
• Create pedestrian path to Jones Court with enhanced streetscape, wayfinding signs and possible gateway treatment.
• Incorporate regular bus transit stops, instead of the flag-down system.
• Consider the concept of a 10-foot wide sidewalk on one side of Route 82 that might function as a shared bicycle path, in conjunction with a sidewalk on the opposite side of the road.

Figure 6: Photo courtesy of CTDOT
FINDINGS:

Route 82 @ Surrey Lane, 3 leg intersection, signal controlled. Ped phase button, but no ped heads, sidewalk narrow clearance, desire path to Staples plaza, ADA non-compliance, hydrant blocks pedestrian egress, faded crosswalk markings, no advance signing.

Traffic cuts through residential neighborhood to avoid queuing at signal at the Route 82 and New London Turnpike intersection.

Sidewalk gap in front of Five Guys.

SHORT-TERM SOLUTIONS

Relocate utility pole and move guardrail back to complete sidewalk network and access to pedestrian phase actuation button.

Complete the intersection crosswalks.

Provide pedestrian crosswalk warning signs.

Extend driveway island to provide pedestrian refuge.

Figure 7 Group One findings and recommendations (Images courtesy of SCCOG, Google Maps, and FHWA)
**Group Two**

This group analyzed the corridor section preceding easterly from Universal Plaza to Osgood Street.

![Figure 8: Image courtesy of Google Maps.](image)

Participants:

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Paul Metsack</td>
<td>CTDOT</td>
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<td>Tony Lorenzetti</td>
<td>UCONN LTAP Center</td>
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<td>William Eyberse</td>
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<td>June Martin</td>
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<tr>
<td>Eloise Powell</td>
<td>USDOT – Federal Highways Administration Connecticut Division</td>
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**Findings**

- Uneven walking surface resulting from sidewalk heaving.
- Inadequate driveways turning radii, as evidenced by rutting and wear outside driveway aprons.
- Some evidence that puddling might be occurring where grass strip (snow shelf) is higher than the sidewalk.
- Most side streets did not possess crosswalks – no delineation between vehicles and pedestrians (noted especially at driveway to Rite Aid).
- Pedestrian signals were in need of modernized upgrade (e.g., audible signals).
- Based on accepted standards, timing for pedestrian phase of signal control system was inadequate.
- Based on current acceptable ADA standards, ramps to crosswalks were too

![Figure 9 Photo courtesy of FHWA](image)
steep, misaligned, inconsistently treated and lacked proper tactile surface.

- Lack of adequate warning signage for motorists and non-motorized users.
- Lighting inconsistent for crossings.
- Some stormwater basin grates were not bike-friendly.
- Inconsistent shoulder width, from approximately four feet down to two feet or less.
- Flag-down system for bus transit stops can block driveway sight lines.
- Bus shelter advertising is positioned in driveway sight lines.

**Short-Term Recommendations**

- Shave irregular sidewalk surfaces to minimize tripping hazard.
- Provide pavement markings to delineate stop bars and crosswalks on side streets and major traffic generator driveways.
- A separate assessment of pedestrian phase timings and signage standards and placement with the MUTCD would be helpful.
- Retrofit current pedestrian signal hardware to incorporate audible signal (possible mid-term improvement).
- Incorporate designated bus stops along the route.
- Retrofit stormwater grates to bike-friendly types.
- Incorporate designated bus stops along the route.
- Relocate bus shelter locations or location of advertising on shelters.
- A stop-ahead sign is needed on Pine Street on the approach to the Route 82 intersection.

**Long-Term Recommendations**

- Carry through short-term recommendations into construction phase slated corridor-wide.
- Address inconsistent shoulder widths.
- Address radii issues and cross-slope of sidewalks and driveways.
- Relocate bus shelter locations or location of advertising on shelters.
GROUP 2 – SOME SHORT-TERM SOLUTIONS

Addition of stop-ahead sign on Pine Street on the approach to West Main St.

Figure 10: Images courtesy of Google Maps

Figure 11: Photo courtesy of UConn LTAP Center
Group Three

This group investigated section of the corridor from Asylum Street westward to Osgood Street. Two cyclists and nine pedestrians were observed in this section.

![Figure 12: Image courtesy of Google Maps.](image-url)

Participants:

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Peter Talarico</td>
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<td>Mike Carroll</td>
<td>South East Area Transit (SEAT)</td>
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<td>Ed Sabourin</td>
<td>CTDOT</td>
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Findings

- Cyclists used both the sidewalk and the roadway.
- Plazas/businesses with multiple access points on Route 82.
- SEAT bus shelter obstructing pedestrian desire lines.
- Sidewalk cross-slope issues with driveways.
- Steep ramps to crosswalks.
- Steep driveways and tight turning radii.
• Incomplete pedestrian crossing equipment – no signal heads for north/south crossing at Osgood Street and no audible signals.

• Vegetation and road sand overspreading sidewalks.

• Sloping parking lots create drainage problems on sidewalks and ice in winter.

• Inconsistent sidewalk surface – heaving issues and irregular patching.

• Inconsistent sidewalk buffer width – some grass strips in some locations, none in other locations.

• Tactile warning strips missing or inconsistently placed.

• Angled crosswalks on the corner radii that directed pedestrian into traffic, rather two separate ramps.

• Unclear driveway designs and signage for ingress for “right in only” access that were experiencing left turns in as well.

Short-Term Recommendations

• Maintain and improve drainage from parking lots to control ponding and icing on sidewalk network.

• Control and maintain roadside vegetation and clean up road sand.

Long-Term Recommendations

• Initiate separate review of the logic and placement of signage in conjunction with overall corridor safety project in concept design.

• Incorporate ADA compliant treatment of sidewalk ramps and modernization of signalized pedestrian crossing equipment.

• Address driveway slope and radii issues within standards for the corridor-wide safety improvement project.

• Minimize access points to parcels from Route 82.

• Consider development of an Access Management Plan for the corridor, perhaps by the SCCOG.
Figure 14: Image courtesy of Google Maps

Group 3 - SOME SHORT-TERM IMPROVEMENTS

Figure 15: Photo courtesy of FHWA

Figure 16: Photo courtesy of FHWA

Figure 3 Photo courtesy of FHWA
**Group Four**

This group analyzed the section from the eastern-most point of the corridor from the Intermodal Transportation Center to Asylum Street intersection. Nine local trucks were noted, and twelve pedestrians and 3 cyclists were observed in this section.

![Figure 18: Image courtesy of Google Maps.](image_url)

**Participants:**

<table>
<thead>
<tr>
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<th>Affiliation</th>
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<tbody>
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<td>Kevin Tedesco</td>
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<td>Frank Gavigan</td>
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<td>Sergeant Darren Powers</td>
<td>City of Norwich Police Department</td>
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<td>Emin Basic</td>
<td>CTDOT</td>
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<tr>
<td>Carla Iezzi*</td>
<td>CTDOT</td>
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*roving photographer

**Findings**

- At Oak Tree Plaza, opposite Ann Street, a mid-block crossing is warranted based on pedestrians accessing the shopping plaza from residential areas north of Route 82.
- Many cross streets lack crosswalks.
- Lighting is inadequate in this section.
- Speeds higher in this section due to fewer driveways, allowing drivers to feel safer speeding.
- Pedestrian heads obscured by stacked signs by the Fire Station.
• Intention of the flashing beacon by the Intermodal Transportation Center is not clear.

Short-Term Recommendations
• Provide advance warning of flashing beacon and crosswalks.
• Maintain vegetation encroaching on sidewalks near Fire Station.
• Provide crosswalks on side streets.

Long-Term Recommendations
• Evaluate feasibility of mid-block crossing at Oak Tree Plaza.
• Close off Elizabeth Street before the Route 82 intersection (at the parking lot for medical supplies store) to eliminate the five-leg intersection.

Figure 19: Photo courtesy of CTDOT

Figure 20: Images courtesy of Google Maps

Figure 21: Photo courtesy of City of Norwich.
Conclusion

Each group reported some site-specific deficiencies; however, most of the findings revealed a systemic array of safety concerns that were corridor-wide. Through iterated reviews of the findings and recommendations by subject matter experts and by the variety of disciplines present at the assessment, a more accurate picture of what can be accomplished in the short-term and the long-term can be provided.

Follow-Up Activities

Subsequent to assessment, the Norwich Police Department followed up the daytime fieldwork with evening photos, some of which appear below, to illustrate lighting effectiveness.
Subsequent to the assessment, CTDOT District 2 Maintenance reported on May 2, 2015:

**SHORT TERM**

- Painted crosswalks - all of the cross walks that are the responsibility of District II Maintenance had been completed by our Signs & Markings crew prior to the RSA. Any crosswalks on side streets that have not been recently painted remain the responsibility of the City of Norwich.

- Long Lines – D2 S&M crews are re-painting the long lines along Route 82 from I-395 to Route 2 (Washington St) with a water base paint **TODAY**. This should address the “crossing traffic” wear of the existing paint between Route 32 & Route 2 by the Transportation Center e/b and on the Sweeney Bridge w/b.

- Missing Pedestrian signal at Osgood Street - Just before I left yesterday, I spoke with Pete about this. On my return to the District yesterday afternoon I stopped at Osgood street. The walk signal is congruent with the side street green. So there is no dedicated pedestrian phase. The existing green ball signals, push buttons and signage appear proper.

- DMV/SALEM Trailblazer sign – The DMV/Salem trailblazers blocking the sight of the pedestrian signal coming off the sidewalk on the Sweeney bridge at SR 646 North Thames Street, will be moved within the next 30 days. CBUD’s have to be executed prior to re-planting of the signs.
  (*On May 22, 2015, District 2 Signs & Markings noted that the trailblazer signs had been relocated.)*

**MID /LONG TERM**

- Adding an audible signal to the existing pedestrian heads – I have spoken to our Electrical Supervisor and Traffic Engineer and this could be a more mid-term/long term agenda item. Changes to the controller/cabinet, overhead wiring, new horn/buzzer acquisition, possibly new pedestrian signals will require a “Service Memo” being generated by Traffic Engineering in Newington and associated funding made available. Intersections with a pedestrian crossing congruent with the side street green will require additional modifications.