US 11 FROM ROLLING THUNDER LANE TO FRONTIER DRIVE
Issues and Proposed Improvements

Existing Issues

- Total of 17 crashes
- 13 (65%) angle crashes
- 4 crashes involving illegal left turn from northbound through lane
- Deficient access spacing
- Total of 23 crashes at the US 11 at Route 262 interchange at various locations
- 4 injury crashes

- Rear-End
- Angle
- Sideswipe- same direction
- Deer
- Fixed Object- off road

The new planned development at the study site is expected to increase left-turn traffic which may potentially cause angle/left-turn crashes.

The new planned development at the study site is expected to increase left-turn traffic which may potentially cause angle/left-turn crashes.

Conceptual Design

- Extend median to restrict left turns out of Rolling Thunder Lane
- Install overhead sign in advance of Route 262 northbound on-ramp
- Extend median and install straight through green arrow on the northbound approach to discourage left turns from through lanes
- Existing signals to be removed and replaced. Proposed signal head layout to include one 3-section (through arrows) and one 3-section (ball)
- Install signal head for northbound right turns

Motorists Do Not Obey “No Left Turn” Sign at US 11 at Rte 262 NB On-Ramp Intersection

Vehicle Rerouting

The new planned development at the study site is expected to increase left-turn traffic which may potentially cause angle/left-turn crashes.
US 11 AT PAYNE LANE - CONCEPT 1 (Restrict Side Street Left Turns)

Issues and Proposed Improvements

Existing Issues

- Rear-End
- Angle
- Fixed Object- off road
- Sideswipe- same direction

- Total of 20 crashes
- 15 (75%) angle crashes
- 5 injury crashes
- 1 fatal crash

Exxon

Mall Entrance 1

Payne Lane

Greenville Avenue

Orchard Hill Circle

US 11 at Payne Lane- Concept 1

- Directional median opening
- Restrict left-turns from Payne Lane and the Mall Entrance 1
- Allow left turns from US 11 only

LEGEND
- PROPOSED CONCRETE ITEMS
- PROPOSED MEDIAN CURB
- EXISTING PROPERTY LINES
- PASSENGER VEHICLE RE-ROUTING
- SIGNALIZED INTERSECTION
- DIRECTIONAL ARROW
- PAVEMENT MARKING

Vehicle Rerouting

GREENVILLE AVENUE (US 11) CORRIDOR IMPROVEMENT STUDY
US 11 AT PAYNE LANE - CONCEPT 2 (Restrict Side Street and SB Left Turns)

Issues and Proposed Improvements

Existing Issues

**CRASH TYPE (2013-2017)**
- Rear-End
- Angle
- Fixed Object - off road
- Sideswipe - same direction

**Payne Lane**

**Orchard Hill Circle**

**Greenville Avenue**

**Greenville Avenue**

- Total of 20 crashes
- 15 (75%) angle crashes
- 5 injury crashes
- 1 fatal crash

**Exxon**

**McDonald's**

**Vehicle Rerouting**

- Directional median opening
- Restrict left-turns from southbound US 11 and from Payne Lane and the Mall Entrance 1
- Allow northbound left turns from US 11 onto Payne Lane
- Re-route left turns to the adjacent intersections
US 11 FROM ORCHARD HILL ROAD TO BARTERBROOK ROAD
Issues and Proposed Improvements

Existing Issues
- Second highest ranked PSI (Potential for Safety Improvement) within the study corridor
  - Total of 20 crashes with 45% angle and 40% rear-end crashes
  - Angle crashes involved mainline left-turning and through vehicles
  - 17 (85%) crashes involved injuries
- 5 angle crashes
  - Involves vehicles exiting the mall onto US 11
- Deficient access spacing
- Closely spaced driveways and signalized intersections
- Involves vehicles exiting the mall onto US 11
- Close North driveway to Hertz on the West side of Greenville Avenue
- Directional median opening
- Install median at Orchard Hill Road to restrict left turns from auto dealership driveway
- Install median along US 11 from Orchard Hill Road to Barterbrook Road
- Restrict right turns from the CVS Pharmacy to Greenville Avenue
- Dedicated right turn lane and extend it to the intersection approach

Conceptual Design
- Close North driveway to Hertz on the West side of Greenville Avenue
- Install median at Orchard Hill Road to restrict left turns from auto dealership driveway
- Install median along US 11 from Orchard Hill Road to Barterbrook Road
- Restrict right turns from the CVS Pharmacy to Greenville Avenue
- Dedicated right turn lane and extend it to the intersection approach

Vehicle Rerouting

SCALE
0 65' 130'

- Rear-End
- Angle
- Sideswipe- same direction
- Head On

LEGEND
- SIGNALIZED INTERSECTION
- PROPOSED PAVEMENT
- PROPOSED GRASS MIDDLE
- PROPOSED CURB AND GUTTER
- PROPOSED MEDIAN CURB
- EXISTING PROPERTY LINES
- VEHICLE RE-ROUTING
- MOVEMENT MARKINGS
- DIRECTIONAL APPR
Notes

Vehicles sized WB-40 or smaller qualify for the ability to use the Passenger Vehicle Rerouting path.

Vehicles sized WB-40 or smaller qualify for making U-turns at adjacent intersections.

Vehicles sizes greater than WB-40 must use the Heavy Vehicle Rerouting path. No U-Turns at intersections.
US 11 FROM BETSY BELL ROAD TO AMHERST ROAD
Issues and Proposed Improvements

Existing Issues

- Total of 13 crashes
- 1 pedestrian crash involving an injury
- 6 angle crashes due to closely spaced driveways
- Rear-end crashes at the Betsy Bell Road intersection

- Total of 10 crashes
- 6 injury crashes
- 60% rear-end crashes at US 11 northbound approach at the Amherst Road intersection

Proposed Improvement

- Install a 95ft median along US 11 between Betsy Bell Road and Driscoll Street
- Install a marked crosswalk along US 11 with a pedestrian refuge in the median
- Install rectangular rapid flashing beacon
- Remove stop bar at the northbound approach
- Install Do Not Block the box pavement marking
- Provide separate storage for southbound left turns
- Add a sidewalk on the east side of US 11 between Amherst Road and Statler Boulevard

*Pavement marking changes have recently been implemented by the city.
US 11 FROM STATLER BOULEVARD TO HAMPTON STREET
Issues and Short-Term Improvements

Existing Issues
- Total of 22 crashes with 80% crashes involving injuries
- 60% rear-end crashes
- Heavy northbound right-turning traffic
- Non-ADA compliant curb ramps
- When crossing US 11, it is difficult for a pedestrian to find an adequate gap in traffic
- Total of 20 crashes with 50% involving injuries
- 55% rear-end crashes
- 30% angle crashes, a majority of crashes involve mainline left-turning and through vehicles
- Heavy westbound through and right-turning traffic

Conceptual Design
- Install curbs to convert LCC Computers entrances from US 11/Old Greenville Ave to right-in/right-out only
- Install crosswalk with pedestrian phasing and curb ramps
- Install sidewalk on the East side of US 11 between Amherst Road and Statler Boulevard
- Install puppy tracks to define a maneuvering path for eastbound through traffic
- Convert outside southbound lane to right-turn only lane
- Install crosswalk on the west side of the intersection
- Install Flashing Yellow Arrow traffic signal
- Install ADA-compliant ramps on all four approaches
- Refurbish pedestrian crosswalk markings

LEGEND
- Proposed pavement
- Proposed signing
- Proposed median/shoulder
- Proposed crosswalk
- Proposed curb and gutter
- Proposed property lines
- Pedestrian markings

SCALE
0 40' 80'

SCALE
0 45' 90'

SCALE
0 60' 120'

SCALE
0 65' 130'

SCALE
0 45' 90'

- Rear-End
- Angle
- Sideswipe - same direction
- Fixed Object - off road
- Head On
- Backed Into
- Fixed Object - in road
- Deer

Existing Issues
- Non-ADA Compliant Curb Ramp
- Crosswalk Missing
- Non-ADA Compliant Curb Ramp

GREENVILLE AVENUE (US 11) CORRIDOR IMPROVEMENT STUDY
US 11 - STATLER BOULEVARD TO RICHMOND AVENUE: LONG-TERM IMPROVEMENTS CONCEPT 1
(SHEET 1) Improvements from Statler Boulevard to Bessie Weller Drive

Existing Issues
- Total of 18 crashes with 80% crashes involving injuries
- 80% angle crashes
- Total of 22 crashes with 80% crashes involving injuries
- 60% rear-end crashes
- Heavy northbound right-turning traffic
- Closely spaced driveways with signalized intersection
- Intermittent median closures
- Provide bike lanes on both sides of US 11

Conceptual Design
- Install median to restrict left turns out of Ritchie Boulevard onto US 11
- Install a raised median and extend to Ritchie Boulevard
- Intermittent median closures
- Provide bike lanes on both sides of US 11
- Extend existing island and signalize westbound right turn
  - Replace span wire with mast arms
  - Install crosswalk with pedestrian phasing and curb ramps
  - Install a sidewalk on the east side of US 11 between Amherst Road and Statler Boulevard
  - Install a raised median and extend to Ritchie Boulevard

Typical Sections
Section A-A
- Install median to restrict left turns out of Ritchie Boulevard onto US 11
- Intermittent median closures
- Provide bike lanes on both sides of US 11

Section B-B
- Install a raised median and extend to Ritchie Boulevard
- Install a sidewalk on the east side of US 11 between Amherst Road and Statler Boulevard
- Install a raised median and extend to Ritchie Boulevard

Vehicle Rerouting
- Intermittent median closures
- Provide bike lanes on both sides of US 11

- Rear-End
- Angle
- Sideswipe- same direction
- Fixed Object- off road
- Head On
- Backed Into
- Fixed Object- in road
- Deer
US 11 FROM STATLER BOULEVARD TO RICHMOND AVENUE: LONG-TERM CONCEPT 1 (SHEET 2)
Improvements from E. Gay Street to Richmond Avenue

Existing Issues
- Non-ADA compliant curb ramps
- When crossing US 11, it is difficult for a pedestrian to find an adequate gap in traffic
- Total of 20 crashes with 50% involving injuries
- 55% rear-end crashes
- 30% angle crashes, a majority of crashes involve mainline left-turning and through vehicles
- Heavy westbound through and right-turning traffic
- Total of 28 crashes with 57% involving injuries
- 36% angle crashes involve mainline left turns and U-turns
- 30% rear-end crashes

Conceptual Design
- Install pedestrian refuge in the median
- Intermittent median closures
- Provide bike lanes on both sides of US 11
- Install right turn lane
- Install Flashing Yellow Arrow traffic signal
- Install Pedestrian Crossing signal head

Typical Sections
- Install right turn lane
- Install Flashing Yellow Arrow traffic signal
- Install Pedestrian Crossing signal head
- SMART SCALE (By others)
**US 11 FROM STATLER BOULEVARD TO RICHMOND AVENUE: LONG-TERM CONCEPT 2 (SHEET 1)**

**Improvements from Statler Boulevard to Bessie Weller Drive (Road Diet)**

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**Existing Issues**

- Total of 18 crashes with 80% crashes involving injuries
- 80% angle crashes
- Closely spaced driveways with signalized intersection

- Total of 22 crashes with 80% crashes involving injuries
- 60% rear-end crashes
- Heavy northbound right-turning traffic

**CRASH TYPE (2013-2017)**

- Rear-End
- Angle
- Sideswipe- same direction
- Fixed Object- off road
- Head On
- Pedestrian
- Backed Into
- Fixed Object- in road
- Deer

**Road Diet Conceptual Design**

- Extend existing island and signalize westbound right turn
- Replace span wire with mast arms
- Install crosswalks with pedestrian phasing
- Install a sidewalk on the east side of US 11 between Amherst Road and Statler Boulevard
- Install median to restrict left turns out of Ritchie Boulevard on US 11
- The road diet is proposed to remain within the existing roadway footprint
- Intermittent median closures
- Install road diet throughout the corridor between Ritchie Boulevard and Richmond Avenue which includes the following:
  - Reduce five-lane section to three-lane section
  - Install bike lanes and shoulders on both sides of US 11
Existing Issues

- Non-ADA compliant curb ramps
- When crossing US 11, it is difficult for a pedestrian to find an adequate gap in traffic
- Total of 20 crashes with 50% involving injuries
- 55% rear-end crashes
- 30% angle crashes, a majority of crashes involve mainline left-turning and through vehicles
- Heavy westbound through and right-turning traffic
- Total of 28 crashes with 57% involving injuries
- 36% angle crashes involve mainline left turns and U-turns
- 30% rear-end crashes


- Rear-End
- Angle
- Sideswipe - same direction
- Fixed Object - off road
- Backed Into
- Fixed Object - in road
- Deer

3rd highest ranked PSI (Potential for Safety Improvement) in study corridor

Conceptual Design

- Install pedestrian refuge in the median
- Install road diet throughout the corridor between Ritchie Boulevard and Richmond Avenue which includes the following:
  - Reduce five-lane section to three-lane section
  - Install bike lanes and shoulders on both sides of US 11
  - The road diet is proposed to remain within the existing roadway footprint
  - Intermittent median closures
- Install right turn lane
- Install Flashing Yellow Arrow traffic signal
- Install Pedestrian Crossing signal head
- Install pedestrian refuge in the median

Typical Sections

- Install pedestrian refuge in the median
- Install road diet throughout the corridor between Ritchie Boulevard and Richmond Avenue which includes the following:
  - Reduce five-lane section to three-lane section
  - Install bike lanes and shoulders on both sides of US 11
  - The road diet is proposed to remain within the existing roadway footprint
  - Intermittent median closures
- Install right turn lane
- Install Flashing Yellow Arrow traffic signal
- Install Pedestrian Crossing signal head
- Install pedestrian refuge in the median
**US 11 at Commerce Road**

**Preliminary Improvements**

**Existing Issues**
- **CRASH TYPE (2013-2017)**
  - Rear-End
  - Angle
  - Sideswipe - same direction
  - Fixed Object - in road
  - Fixed Object - off road

- PSI ranked #1 (Potential for Safety Improvement) within the study corridor
- Total of 44 crashes with 70% crashes involving injuries
- 50% rear-end crashes due to heavy right-turning traffic from Johnson Street
- 30% angle crashes, majority of which involve westbound left and eastbound through vehicles

**Conceptual Design (Long-Term)**
- Mini-roundabout with transversible islands

**Conceptual Design (Short-Term)**
- Install grass median to prevent left turns and through movements
- Mini-roundabout with transversible islands

**Vehicle Rerouting (Short-Term)**
- Install grass median to prevent left turns and through movements
- Install signal

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**Greenville Avenue (US 11) Corridor Improvement Study**