Overview of Improvements
On Route 44
over Avon Mountain
&
Future Considerations
To eliminate the at-grade intersection of
Route 44/Route 10/Nod Road
Presentation Team

- James Norman - Engineering Administrator
- Daniel Foley – District Engineer, District IV
- Timothy Wilson – Principal Engineer
- Phil Cohen – Traffic Engineering
- Susan Libatique – Engineering - State Design
- Susan Fiedler – Landscape Architect
- Thomas Borden – Engineering – Project Dev.
Route 44 over Avon Mountain
History

- The section of U.S. Route 44 from New Hartford to Hartford was known as Old Talcott Mountain Turnpike and was incorporated in 1798.

- Designated as U.S. Route 44 in 1935 and made part of the national highway system.

- This section of Route 44 over Avon Mountain has become a critical link in the regional secondary roadway network.

- Intersection is located in an area of historic significance and rural character.
Chronological Events

- Route 44 Corridor Study (CRCOG) – identified concerns & provides recommendations & guidelines for the integration of future highway improvements (included the towns of Canton, Simsbury, Avon and Hartford) – *completed in 2001.*

- The section of Rte 44 from Avon town line to Route 10/Nod Road was identified as CRCOG’s highest priority - 2001
Pine Tree Lane Curve and Intersections
67 total accidents with 30 injuries 1 fatality
most common type: Fixed Object
Deercliff Road Curve and intersection
88 total accidents with 62 injuries & fatalities
most common type: Fixed Object
Chronological Events cont.

- July 29, 2005 – horrific accident involving a truck (brake failure) and 19 other vehicles at the westerly base of Avon Mountain results in 4 fatalities, 19 injuries.

- Gov. Rell orders DMV and State Police to increase truck safety inspections.

- Gov. Rell orders DOT to establish a Task Force comprised of FHWA, CRCOG and Department officials to develop a comprehensive plan for improving safety on Route 44 over Avon Mountain – August 2005.
Avon Mountain Task Force (AMTF) recommended the following - 11/2005:

- **Immediate improvements –**
  - Warning signs enlarged and additional signing added on Route 44 over Avon Mountain – *completed 9/2005*.
  - Police ticketing areas installed – *completed 12/2005*

- **Preliminary short-term improvements –**
  - The curved areas in the vicinity of Deercliff Road and near Pine Tree Lane were resurfaced with high friction pavement
  - Relocated the existing side-mounted electronic “Stop Ahead” signs on the eastbound approach to Mountain Road and the westbound approach to Route 10 to overhead
  - Provide temporary variable message warning signs (2 EB & 2 WB).
  - Provide one remote weather station (without cameras) near the top of the mountain.
Chronological Events cont.

AMTF recommended the following long-term improvements – 11/2005
- Soften horizontal curves for a 45 mph design speed
- Provide 4 to 8-foot shoulders
- Provide left-turn lanes at all intersections
- Provide a median treatment
- Restrict left-turns in & out from Mountain Brook Road in West Hartford (easterly intersection).
- Support camera speed enforcement legislation (pilot program)
AMTF identified two concepts addressing brake failures & runaway trucks for future considerations– 11/2005

- Provide a vehicle arresting barrier to address a percentage of crashes due to brake failure
- Eliminate the at-grade intersection of Route 44 and Route 10/Nod Road and replace with a grade separated crossing to provide a more comprehensive approach to brake failures and other crash patterns.
Chronological Events cont.

- Department officials met with Avon’s Town Council to present its findings and solicit input on the various recommendations – 12/12/2005
  
  - Supported Project #4-123 and concerned with any delay of its schedule!
  
  - Supported proposed short-term improvements.
  
  - Requested rendering of vehicle arresting barrier and grade separated crossing of Routes 44 & 10 prior to receiving town support.
Chronological Events cont.

Project #4-123

- Neighborhood meetings
  - considered comments and concerns in regards to the proposed modifications of Route 44 – 1/31/2006 & 2/2/2006

- AMTF & Project designers refine the design Project 04-123
  - Address cross-over type accidents
  - Median treatments
Governor Rell has the State of Connecticut’s website modified to allow for public suggestions to address safety concerns on Avon Mountain – 2/2006

  - 80% of input “address travel speed”
  - Install truck recovery system

DOT analyzed suggestions and responded to each.
Chronological Events cont.

Traffic calming features in Project 4-123

- Uniform curvature (45 MPH)
- Curves softened not straightened
- Landscaping median and roadside
- Additional westbound police ticketing area in the vicinity of MacDonald Park
Chronological Events cont.

- Public Hearing held on 5/31/2006 – improvements supported by town officials and public.
Chronological Events cont.

- Town adopted latest Plan of Conservation and Development, highlighting the importance of integrating open space, recreational trails, and the area’s historic character into any future safety improvement (5/2006)

- Department initiates Project #04-127 to study safety improvements alternatives at the Route 44 and Route 10/Nod Road intersection - started 7/06
Westbound truck experiences brake failure and crashes into furniture store – 9/7/2007
Chronological Events cont.

- Special meeting of the State Traffic Commission held to address and take action on traffic safety issues on Route 44 in the Towns of Avon and West Hartford, **Truck Ban (over 13 tons) put in effect** - 9/12/2007
- Commissioner issues an emergency declaration to install a Truck Escape Ramp on Route 44 – 10/1/2007
- Construction of Truck Escape Ramp started – 11/16/2007
- Truck Escape Ramp operational & truck ban over Avon Mountain rescinded – 2/21/2008
Route 44 at Route 10 and Nod Road

Considerations to eliminate the major intersection at the base of Avon Mountain
Historical Perspective
Rte. 44 Facing East, 1963
Aerial view
Rte. 44 & Rte. 10 - 1969
Avon Old Farms Inn
Aerial view, Rte 44 & Rte 10, 2007

Connecticut Department of Transportation
Route 44 at Route 10 and Nod Road

Existing Conditions

- Safety Concerns
- Accident history
- Truck Recovery Ramp
- Rural and historic area
Safety Concerns

- **Steep vertical grade**
  - Location of a major signalized intersection
  - Lack of adequate landing area
  - Length of traffic queues
  - Brake failures
  - Wet pavement conditions
  - High running speeds on Route 44 thru intersection

- **Size of intersection**
  - Intersection of two principal arterial roadways
  - Duration of signal cycle
  - High volume of traffic
  - Longer exposure to turning vehicles due to larger turning radii
Collision Data 2001-2005

111 Collisions
- Types
  - 63% Rear End type
  - 7% turning-opposite direction
- Contributing Factors
  - 56% Following too closely
  - 12% Failure to grant ROW
  - 7% Defective equipment (brake failures)
- Injuries
  - 4 Fatalities
  - 46 Injuries
ACCIDENT EXPERIENCE
INTERSECTION OF ROUTE 44 & ROUTE 10/NOOD ROAD
FROM JANUARY 1, 2001 TO DECEMBER 31, 2005

NUMBER OF ACCIDENTS - 111
ACCIDENT TYPES - REAR-END 63%
BRAKE FAILURES - 8
INJURIES - 46, FATALITIES 4
Brake Failures

- 11 Collisions due to brake failure between 1996 and 2007
  - 4 fatalities/29 injuries
  - 4 dump trucks
  - 3 cars
  - 2 tractor trailers
  - 1 school bus
  - 1 passenger van

- Brake failures, not causing accidents, were not reported
Pedestrian safety concerns

- 2 accidents resulting in 3 fatalities
  Pedestrian (8/24/1996 & 1/16/1998)
  - Crossing between Avon Old Farms Hotel and Avon Old Farms Restaurant
Truck Recovery Ramp

- Significantly addresses collisions due to brake failures
  - Vehicles must be experiencing brake failures prior to the entrance to the Truck Recovery System (approximately 1,300 feet from the intersection).
Eliminate intersection of Route 44/Route 10 & Nod Road

- Comprehensive approach to address safety concerns and traffic operational difficulties
  - Addresses most accident patterns
  - Eliminates a major intersection at the bottom of a long steep vertical grade.
  - Eliminates stopping on a steep grade
  - Eliminates traffic queues on a steep grade
  - Addresses brake failures – coupled with the Truck Recovery Ramp
  - Eliminates left-turn movements
Grade Separation of Route 44 and Route 10/Nod Road

- Review of conceptual improvements
  - Various alternatives considered
  - Digital rendering
    - Digital design of roadway horizontal & vertical alignments
    - Roadside features (variable)
  - Operational changes
  - Impacts (property, environmental)
  - Community considerations
  - Estimated costs
  - Concept development
Original grade separated concept
Alternative concept

Connecticut
Department of Transportation
Alternative concept
Alternative concept
Preferred Alternative
Connecticut Department of Transportation
New Connector
Road over Route 44

New Truck Escape Ramp
New Connector
Road over
Route 44

New Truck
Escape Ramp

Route 10
Realigned

Intersection
Reconstruction
Conceptual
Route 44 & 10
Avon
New Connector Road over Route 44

New Truck Escape Ramp

Cul-De-Sac road for business access

Route 10 Realigned

Intersection Reconstruction
Conceptual
Route 44 & 10
Avon
Elimination of at-grade intersection

Review of Vehicle Movements
Route 44 Westbound Through
Route 44 Westbound Through
Route 44 Eastbound Through
Route 44 Eastbound Through
Route 44 WB to Nod Road NB
Route 44 WB to Nod Road NB
Nod Road SB to Route 44 WB
Route 44 WB to Rte 10 SB
Route 44 WB to Rte 10 SB
Route 44 EB to Nod Road NB
Route 44 EB to Nod Road NB
Route 44 EB to Route 10 SB
Route 44 EB to Route 10 SB
Route 10 NB to Route 44 WB
Route 10 NB to Nod Road NB
Route 10 NB to Nod Road NB
Route 10 NB to Route 44 EB
Route 10 NB to Route 44 EB
Nod Road SB to Route 44 EB
Nod Road SB to Route 10 SB
Nod Road SB to Route 10 SB
Vehicle Movements

- 68% of all traffic movements stay the same or similar
Anticipated Impacts

- **Right of Way**
  - 11 partial property acquisitions including a section of Alsop Meadow (preserved open space)

- **Environmental (Required Permits & Documents)**
  - Federal Environmental Assessment
  - State Environmental Impact Evaluation
  - Flood Plain Management, Inland Wetland, Army Corp and Storm Water Discharge
  - 6F (for acquisition of preserved open space)
  - May require Section 4(f) (for impacts to historical or archaeological resources.)

- **Estimated Construction Costs**
  - 30 to 40 million dollars
Approximate Limits of Alsop Meadows
Approximate Floodway Limits
Community Considerations

- **Speed control – traffic calming**
  - Boulevard-style median/roadside landscaping
  - Additional locations for police ticketing areas
  - Shape/size of bridge opening

- **Aesthetic treatments**
  - Bridge type, style & surface treatment
  - Pavement treatments
  - Landscaping (volume, variety and locations)
  - Gateway treatments
Community Considerations cont.

- **Residential Issues** (River Mead Condominiums & others)
  - Raised landscaped buffers

- **Business concerns**
  - Some access revisions
  - Signing
Community Considerations cont.

- Pedestrian/bicycle linkages

- Fully integrate the intersection and overpass with local preservation & recreational goals by:
  - Incorporating trails/access to the Farmington River
  - Work with the community to develop a design consistent with the scale and character of the area.
**Concept Development**

- Continue stakeholder meetings
- Engage town/local resources in advancing concept
- Possible charrette
- Public informational meeting
- Town Council support
End of Presentation

Questions & discussion