Public Informational Meeting

September 13, 2007
Meeting Agenda

- Introduction (Chris)
- CSS Process and the Working Group (Chris)
- Signal and Roundabout Information (Bill)
- Review Reasonable Alternatives (Bill)
- Questions and Feedback
A collaborative interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility.”
“Consensus does not mean that everyone agrees, but that the principal groups and individuals can live with a proposal.”
CSS Steps

We are here ➔ Preferred Alternative

Screen Alternatives

Completed 7/19/07

Reviewed Alternatives 5/17/07

Consensus Reached 5/17/07

Brainstorm Alternatives

Consensus Reached 2/15/07

Screening Criteria

Consensus Reached 12/21/06

Vision Statement

Consensus Reached 2/15/07

Problem Statement

October 16, 2006

Placemaking Workshop
Project Development Process for Pelham

- **Preliminary Design (2006-2008)**
  - Placemaking
  - Problem/Vision/Goals
  - Alternatives
  - Public Hearing

- **Final Design (2008-2009)**
  - Detailed Design
  - Purchase Right of Way
  - Secure Permits

- **Begin Construction (2010)**
Public Participation

- Public Involvement Plan
  - Introduction
  - Project Background
  - Project Team
  - Project Process
  - Working Group
  - Communication

- Project Website
  - www.nh.gov/dot/projects/pelham14491/index.htm
Working Group Participation

- Working Group Members (25 People)
  - Elected Officials
  - Town Staff
  - Business Owners
  - Community Leaders
  - Residents
  - State and Regional Planning Staff
Working Group Role

- Help Provide Early and Continual Input into the Project
- Be Liaison between Town and DOT
- Craft the Problem and Vision Statements
- Disseminate information and inform others of the Project
The Pelham Town Center is divided by multiple intersections containing high volumes and speeds of local and regional commuter traffic, creating congestion that negatively affects safety resulting in unacceptable delays. This detracts from the historic character and setting of the Town Center. No “sense of place” exists that promotes community pride or encourages activities that attract pedestrians and groups of people to gather. This area lacks alternative routes, gateway, and traffic calming features that introduce and highlight the historic character of the town center. The area is marked by inadequate pedestrian/ bicycle connectivity and amenities, and a complete lack of on-street parking, descriptive signage, and lighting.
Vision Statement

The Pelham town center will be enhanced by changes to multiple intersections, which will make the town center safer and more welcoming to drivers, pedestrians, and bicyclists. These changes will enhance and preserve the small town character, historic setting and community aesthetics. Traffic movement for all approaches through the Pelham Town center will flow at a slow, steady, safe, and efficient manner for pedestrians, bicycles and vehicles.

Gateway treatments will provide an announcement to drivers that they are entering the Pelham Town center. The Town center will become a focal point that has connectivity and amenities, which contribute to a sense of “place”, history, and pride.
Alternatives Investigated

- Interim Alternatives
  - 4-Way Stop
  - Signalize existing configuration
  - Signalize with traffic pattern change

- Roundabout Alternatives
  - Dual Roundabout Alternative A
  - Dual Roundabout Alternative B
  - Single 5-Leg Roundabout Alternative

- Signal Alternatives
  - Dual Signal Alternative A
  - Dual Signal Alternative B
## Alternative Screening Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
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<tr>
<td>Access</td>
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<tr>
<td>Aesthetics</td>
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<td>Community Resources</td>
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<td>Economic Vitality</td>
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<td>Historic and Archeological Resources</td>
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<td>Implementation</td>
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<td>Mobility</td>
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<td>Natural Environment</td>
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<td>Public Health</td>
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<td>Quality of Life</td>
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<td>Residential Neighborhoods</td>
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<td>Safety</td>
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<td>Support</td>
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<td>Transportation Choice</td>
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The concept satisfies all element of the Project Vision Statement

<table>
<thead>
<tr>
<th></th>
<th>Unreasonable</th>
<th>Reasonable</th>
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</thead>
</table>

The purpose of the screening is to evaluate whether a concept is effective in addressing the problems and vision defined for the project. The following scoring criteria should be used to determine if a concept is reasonable and should be included in the range of reasonable alternatives. The criteria should be applied to each of the individual items listed within the fourteen categories.

<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>(VP) – Very Poor</th>
<th>(P) - Poor</th>
<th>(N) - Neutral</th>
<th>(G) - Good</th>
<th>(VG) – Very Good</th>
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<tbody>
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<td>Fatal Flaw Impact</td>
<td>Negative Impact</td>
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<td>Benefit</td>
<td>Substantial Benefit</td>
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<td>Serious Degradation</td>
<td>Degradation</td>
<td>Not Applicable</td>
<td>Improvement</td>
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<tr>
<td>Unreasonable</td>
<td>Opposition</td>
<td>No Impact</td>
<td>Enhancement</td>
<td>Substantial Improvement</td>
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<td>Strong Opposition</td>
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<td></td>
<td>Support</td>
<td>Reasonable</td>
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<td></td>
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<td>Strong Support</td>
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Signal and Roundabout Information
Overview of Traffic Signals

- Role of Traffic Signals
- Components of Traffic Signals
- Signal Timing Plan Glossary
- MUTCD Warrants
Role of Traffic Signals

Signals indicate when traffic (be it vehicles, bicyclists, pedestrians) should stop, yield, or proceed.
Role of Traffic Signals

When properly timed signals can:

• Provide for an orderly movement of traffic
• Increase the capacity of an intersection
• Reduce frequency and severity of collisions
• Interrupt heavy traffic flows to allow other traffic from side roads to cross or enter
Components of New Traffic Signals

- A. Signal Head
- B. Pedestrian Signal
- C. Signal Cabinet
- D. Mast Arm
- E. Detector Loops
**Signal Timing Plan Glossary**

- **Green Time** – Amount of time signal is green per phase
- **Protected/Permitted Phase** – Arrow or Ball
- **Clearance Time** – Yellow and All Red time
- **Leading Left Turn** – Left turn phase precedes the through movement
- **Actuation** – Detectors adjust length of green time
- **Vehicle Extension** – length of green time is extended if vehicle detected
- **Preemption** – emergency vehicle override of signal
- **Coordination** – coordination of adjacent signalized intersections
When is a signal Warranted?

1. Warrant 1, Eight-Hour Vehicular Volume: vehicle volume thresholds for 8 hours on an average day
2. Warrant 2, Four-Hour Vehicular Volume: vehicle volume thresholds for 4 hours on an average day
3. Warrant 3, Peak Hour: vehicle volume threshold for one hour on an average day (unusual cases only, e.g. manufacturing plants)
4. Warrant 4, Pedestrian Volume: pedestrian volume threshold
5. Warrant 5, School Crossing: school children crossing the major street
6. Warrant 6, Coordinated Signal System: when an additional signal is needed
7. Warrant 7, Crash Experience: severity and frequency of crashes warrants a signal
8. Warrant 8, Roadway Network:
Signalized Intersections
Roundabouts

- What is a Roundabout
- How to Drive a Roundabout
- Advantages of Roundabouts
- Examples
What is a Roundabout?

- Circular One-Way Intersection

It Is NOT a Traffic Circle or Rotary !!!
They are NOT Traffic Circles
How to Drive a Roundabout

- Yield to Vehicles in the Roundabout
- Choose a Gap
- Enter the Roundabout
- Yield to Pedestrians When Entering and Exiting
A Roundabout Operates
Components of a Roundabout

- Central island
- Truck apron
- Crosswalks
- Splitter islands
Advantages of Roundabouts

- Slow Speeds
- Saves Lives
- Improved Capacity of Intersection
- Reduced Pollution and Fuel Use
- Saves Money
- Aesthetic Treatments
- U-Turns Allowed and Convenient
Crash Reduction

4-Way Intersection

Roundabout

- 32 Vehicle to vehicle conflicts
- 24 Vehicle to pedestrian conflicts

- 8 Vehicle to vehicle
- 8 Vehicle to pedestrian
How do typical types of crashes compare between conventional intersections and roundabouts?
Roundabouts in NH

- Nashua – NH 130 Broad Street 16,000 ADT
- Nashua – Main Street 12,000 ADT
- Keene – Court Street 10,000 ADT
- Hanover (2)– NH 10  8,000 ADT
- Plymouth – US 3/NH 175A 12,000 ADT
- Meredith – US 3/ NH 106  14,000 ADT
- Keene – NH 101  50,000 ADT
- Rye – Foyes Corner (Const.) 20,000 ADT
- Pelham – Town Center 21,000 ADT (2030)
Nashua - Main Street
Nashua – Broad Street
Keene, NH
Before - Overland Park, Kansas
After - Overland Park, Kansas
Before - College St. Asheville NC
After - College St. Asheville, NC
Yes they do work in snow country!!
Reasonable Alternatives

- Roundabout Alternatives
  - Dual Roundabout Alternative A
  - Dual Roundabout Alternative B
  - Single 5-Leg Roundabout Alternative

- Signal Alternatives
  - Dual Signal Alternative A
  - Dual Signal Alternative B
Existing Condition

- simulation
Signals without Widening

- pdf
Signals without Widening

- Simulation
Dual Signals

- simulation
Dual Roundabout Alternative A
Dual Roundabout Alternative B
Dual Roundabout

- simulation
Single 5-Leg Roundabout
Single 5-Leg Roundabout

- simulation
Environmental Resources

- Natural Resources
  - Federal and State Permitting

- Cultural Resources
  - Historic
  - Section 106
Thank You

Questions ????

Recommendations ???

Preferred Alternative ???