Project Background

- Existing Pratt Truss Bridge was originally constructed in 1915.
- Trestle extension on south side was constructed in 1937.
- Steel deck was added in 1950.
- Bridge has become functionally obsolete due to the geometry and load capacity.
- Eligible for Historic Registry.
- Bridge is on NHDOT’s Red List.
Project History

- Project was initiated in 1994 with NHDOT
- NHDOT Preliminary Engineering began in 1999
  - Bridge Replacement / Alternative Alignment evaluation.
  - Evolved to consider Rehabilitation through public process.
- Preferred Alternative: Rehabilitation of the existing bridge as well as the addition of a one lane steel girder/concrete deck.
City Project Development

- 2010 - Project was turned over to the City of Concord
  - Municipally Managed Bridge Aid Program.

- 1st Steps
  - Detailed inspection
  - Load rating analysis
Detailed Inspection and Load Rating Results

- Extent of rehabilitation greater than initially assumed

<table>
<thead>
<tr>
<th>Description</th>
<th>Number Repaired</th>
<th>Total Number In Bridge</th>
<th>Percent Replaced or Strengthened</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Replace diagonals bent from vehicular impact</td>
<td>7</td>
<td>40</td>
<td>17.5%</td>
</tr>
<tr>
<td>1. Strengthen tension diagonals</td>
<td>25</td>
<td>40</td>
<td>62.3%</td>
</tr>
<tr>
<td>1. Strengthen lower chord members</td>
<td>17</td>
<td>36</td>
<td>47.2%</td>
</tr>
<tr>
<td>1. Strengthen verticals</td>
<td>7</td>
<td>32</td>
<td>21.9%</td>
</tr>
<tr>
<td>1. Strengthen gussets</td>
<td>40</td>
<td>72</td>
<td>55.6%</td>
</tr>
<tr>
<td>1. Replace Floorbeams</td>
<td>20</td>
<td>20</td>
<td>100%</td>
</tr>
<tr>
<td>1. Replace Stringers</td>
<td>144</td>
<td>144</td>
<td>100%</td>
</tr>
<tr>
<td>1. Replace bottom lateral Bracing</td>
<td>36</td>
<td>36</td>
<td>100%</td>
</tr>
</tbody>
</table>
City Project Development

- Retained Historic Documentation Company, Inc.
  - Assess rehabilitation impacts to historic significance of bridge.
  - Concluded adverse effects would not impact significance of bridge.

- City concerns
  - Safety
    - Non-redundant
    - Facture Critical Members
  - Long term needs
    - Future development
    - Potential new interchange

- Re-evaluate previously investigated alternatives
Design Criteria & Approach

All three (3) alternatives are based on a common design criteria and design approach. The proposed roadway geometry includes:

- 2 – 12' (3.6 m) travel lanes
- 5' (1.5 m) shoulders
- 5' (1.5 m) sidewalk(s)

The roadway alignments are based on a 35 MPH (60 KPH) design speed.
Off-Line New Bridge
## Alternatives Summary Matrix

<table>
<thead>
<tr>
<th>Environmental Impacts</th>
<th>Right-of-Way Impacts</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parcel 1</td>
<td>Parcel 2</td>
</tr>
<tr>
<td>Clearing (Parcels 4 &amp; 5)</td>
<td>Newspapers of New Hampshire, Inc.</td>
<td>(SF)</td>
</tr>
<tr>
<td>Off-Line Upstream</td>
<td>61,588</td>
<td>18,670</td>
</tr>
<tr>
<td>Alternative B On-Line</td>
<td>36,958</td>
<td>12,825</td>
</tr>
<tr>
<td>Alternative H</td>
<td>53,430</td>
<td>13,541</td>
</tr>
</tbody>
</table>

- **On-line Replacement**
  - Removal of existing bridge
  - Minimizing environmental and ROW impacts
  - Lowest initial and long term costs
  - Meets immediate long-term City needs
Next Steps

- Conclude NEPA process
  - Respond to public comment
    - Jan. 28, 2013 meeting
    - Feb. 11, 2013 meeting
  - Finalize mitigation package
    - Submission to DNR late Feb. 2013
- Finalize NEPA documentation and begin Final Design
Next Steps

- Where do we go from here?

- Public Comments
  - Federal Highway Administration
    JamieSikora@fhwa.dot.gov
  - City of Concord
    bridgeprojectcomments@concordnh.gov
Next Steps

Project Schedule

- Begin Final Design Spring 2013
- Advertise for Construction Spring / Summer 2014
- Construction Completed 2016