

Improvement Status

The Department of Transportation is committed to reducing the number of Red List bridges on its highway system and to effectively maintaining and preserving the non-Red List bridges so they remain in good condition. As part of this effort, the Department developed a “Bridge Priority List” to better focus work and funding needs for the state’s worst bridges. Of the 140 bridges currently on the 2012 Red List :

- 14 are under construction (replacement or rehabilitation)
- 62 are scheduled for replacement or rehabilitation in the Ten Year Plan (TYP)
- 24 are to be addressed by the Bureau of Bridge Maintenance
- 22 need to be added to the Ten Year Plan
- 18 are being monitored and kept in service, or are owned by other agencies

In 2012, good progress was made towards reducing the number of bridges on the Red List. This was accomplished through completion of bridge projects for the I-93 expansion, completion of Spaulding Turnpike projects, other capital bridge projects, and bridges removed from the Red List through work performed by the Bureau of Bridge Maintenance. Current projections, however, show that more bridges will be added to the Red List each year than will be removed. Since 55% of New Hampshire bridges have reached their design life, this gap is currently projected to widen going forward.

The Department’s replacement, rehabilitation, and maintenance/preservation budget for all state bridges is currently funded at \$42M. This includes funding from FHWA (\$20M), Highway (\$7M), Betterment (\$3M), and Turnpikes (\$12M). Projected funding needs required to maintain all current state bridges are \$59M annually, which does not address the \$256M backlog of needed bridge maintenance work. This results in a bridge funding shortfall of \$17M per year and resulting deferred maintenance of bridges. The graph below shows the state bridge funding needs for maintenance and preservation activities, excluding bridges on the

Improve Asset Conditions

Red Listed State Bridges

Purpose:

The Federal Highway Administration (FHWA) requires all states to report the condition of federal definition bridges (a structure with a total span greater than 20') within their state on an annual basis. The State of New Hampshire expands the definition to a structure with a span of 10' or greater. In accordance with the National Bridge Inspection Standards (NBIS), the condition of the major structural elements of a bridge are rated on a scale of “0” to “9”, with “9” representing “excellent” condition, “4” representing “poor” condition, and 0 representing “failed” or “closed”. In general, a bridge is considered to be **structurally deficient** when any major structural element (deck, superstructure, substructure, or culvert) is rated as **“4” (poor condition)** or lower.

The Department maintains a bridge “Red List” that includes all federal and NH definition bridges with one or more major structural elements in poor condition or worse. The Red List also includes bridges that require weight limit postings. Currently there are 2,143 state owned bridges and 140 (6.5%) are on the Red List (The number of bridges on the Red List is an indication of the effort needed to address the bridges that are in the poorest condition.)

Data:

The table below is a snapshot of the number and overall condition of all highway bridges in New Hampshire, including municipally owned bridges. The bridges that are on the Near Red List (also known as the “Pink List”) have one or more

major structural elements rated as **“5” (fair condition)**. In other words, there are 261 bridges or nearly twice as many bridges as are currently on the Red List, that are just one step away from being placed on the Red List. These Near Red List bridges could greatly affect the number of bridges on the Red List, in the future.

NHDOT Bridges, 10' and greater

	State	Municipal and other	Total
Total	2143	1685	3827
Red List	140	353	493
Near Red List	261	275	536
Green List	1703	1003	2706
Closed	40	52	92

Numbers updated on March 30, 2012

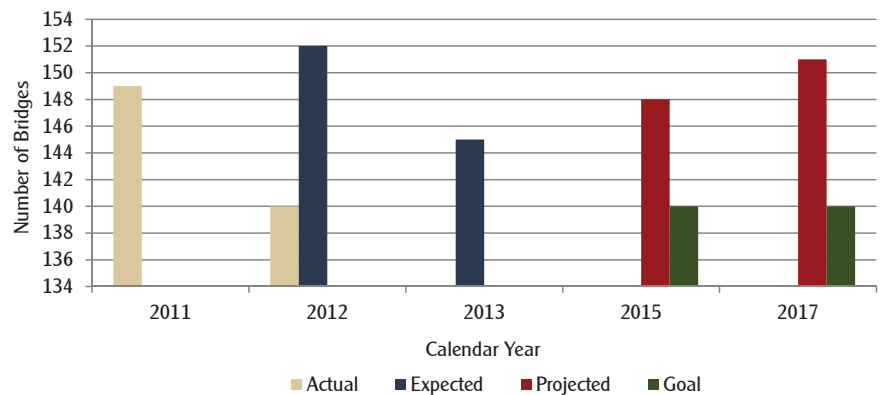
The Department's Bridge Design Bureau inspects all public highway bridges at least once every two years. State owned Red List bridges are inspected twice per year, and municipally owned Red List bridges are inspected once a year. FHWA requires NHDOT to submit our National Bridge Inventory (NBI) data to them annually, by April 1st each year. Based on the allotted 90-day reporting window for reviewing and processing inspection data, the annual NBI data collected through December 31, 2011 was reported to the FHWA on April 1, 2012. In an effort to maintain consistency with our FHWA NBI submission, the Department also summarizes its Red List data at that same time. Thus, the 2012 Red List is based on inspection data collected through calendar year 2011, and represents the condition of the bridges at the beginning of 2012.

Turnpike system and any expansion projects. Within the Turnpike system the projected bridge funding needs are \$12M annually and expenditures are averaging that amount. This demonstrates that the Turnpike system is being adequately funded.

The Bureau of Bridge Maintenance also contributes in several ways to the Department's goal of reducing the number of Red List bridges. The Bureau expends 42% of its budget on bridge preservation activities. This effort works to keep “good bridges good” and prevent them from being added to the Red List. The Bureau utilizes about \$2M of Federal Bridge Rehabilitation, Painting, Preservation, and Improvement (BRPPI) funds annually for preservation activities. Additionally, the Bureau contributes significantly towards removing bridges from the Red List. Of the 19 bridges removed from the list in 2011 and the 25 bridges removed in 2012, Bridge Maintenance crews removed 15 and 11 of them respectively, or 59%.

The average age of a state owned bridge is 54 years. Many of these were designed with a service life of 50 years and with lighter vehicle design standards. This statistic, combined with the current funding shortfall and backlog of needed bridge maintenance work, will make it challenging to reduce the number of bridges on the Red List in the long term. Further, many state bridges are in “Fair” condition, and as these continue to age and deteriorate, it will likely result in an increase to the Red List over the next several years.

New Hampshire Red List Bridges



Funding Needs for State-owned Bridges (Non-Turnpike)

