



DEPARTMENT OF TRANSPORTATION Permitting Overweight Vehicles/Loads

The Service

Overweight (OW) permits allow motor carriers to move non-divisible loads, having a total weight exceeding New Hampshire's statutory legal load limits, on state roads and bridges. Protection of the infrastructure and safety of the traveling public is achieved through NHDOT bridge capacity reviews, which utilize in-house engineering staff to determine the suitability of bridges along the proposed route for the overweight loads.

The Problem

Increased scrutiny of the overweight loads and vehicle configurations was needed to ensure that the evolving fleet of OW vehicles and loads were not overstressing New Hampshire's aging bridges. This required more stringent screening criteria for OW loads, which increased the number of required bridge engineering reviews by a factor of 30.

The application review process for an OW permit required the NHDOT Permit Office to convey information pertaining to each specific overweight vehicle and load, to the NHDOT Bridge Design Bureau. The proposed routes would then be researched by Bridge Design staff to identify all bridges along the proposed route, and to perform an analysis of all bridges crossed. This is necessary to ensure that damage to the State's bridges does not result from the proposed overweight vehicle and load, and to ensure the safety of the traveling public. A bridge review for an OW permit application would typically be completed within 5 to 7 business days, depending on the length of the proposed route, details of the overweight vehicle and load, and the number of bridges over which the vehicle would pass.

To meet a dramatic increase in workload due to the new screening criteria, the Bridge Design Bureau was faced with the necessity of hiring consultant bridge engineers to handle the increased workload.

The Goal

The goals of this initiative were to improve efficiency, response time, and customer service, and ensure that excessive or unsafe loads would not travel over state bridges. With the increased scrutiny of OW vehicles/loads, Bridge Design staff would be unable to keep up with the significant increase in OW permit applications that would result from this change.

Using LEAN methodologies, NHDOT achieved these goals and modernized the process for obtaining an OW permit statewide. This enabled an OW permit application approval to occur in a timely manner, provided greater transparency for the Department and the applicants, and greatly improved customer service, while also minimizing costs for the Department and the applicants.

The New Process

Nicholas Goulas and Aaron Janssen applied their expertise to accomplish significant improvement to the overweight permit/bridge review process. The process was evaluated and tasks were identified that would benefit from a more automated process. The Bridge Overweight Permit Review (BOPR) software package was developed in-house and is now used thousands of times per year by permit applicants to perform a "self review" of the bridges along their proposed route. The BOPR program uses calculated bridge capacities and mapping software to provide tailored results that assist the applicant in determining the suitability of all state bridges for their specific OW vehicle configuration. At their convenience (24/7), applicants can quickly evaluate the capacity of bridges on their proposed route for the OW load.

Specific permit and vehicle/load data is now used as input for the bridge review/analysis, and the results are immediately available to the applicant in text and graphic/map formats. This allows the applicant to perform a "self review" and determine: 1) if the proposed route is acceptable for the overweight load, 2) if an alternate route should be explored, or, 3) if a full analysis performed by Bridge Design staff is required. The result is an automated process for bridge reviews of overweight permits that provides immediate feedback to the applicants. It also ensures that overweight vehicles/loads do not cross bridges that cannot safely support these loads, thereby enhancing public safety.

The Results

- **Improved Efficiency:** 85% of permits are approved within minutes compared to previous waits of 5-7 business days. The remaining 15% of permits are typically approved within 24 hours.
- **Improved Customer Service:** Applicants receive immediate information on the suitability of their proposed vehicle/load and route, without having to pay a bridge review fee. At their convenience (24/7), applicants can quickly evaluate the capacity of bridges on their proposed route for the OW load. (More than 5,000 self-reviews per year.)
- **Cost Effective Solution:** Considerable savings were realized by utilizing Bridge Design staff to develop this automated process, rather than having the expense of procuring consultant services for either program development or for engineering support to perform bridge reviews.



Summary

The automated Bridge Overweight Permit Review (BOPR) program for obtaining overweight (OW) permits improved efficiency in NHDOT's bridge review process by reducing response time, improving customer service, and enhancing bridge safety, while minimizing costs for the Department and permit applicants.

Accomplishments

- Developed an automated system to enable applicants to perform bridge reviews for overweight permits.
- Enabled customer's ability to view results of a bridge review for overweight vehicles and loads.
- Reduced staff time to perform bridge reviews for overweight permits.
- Faster customer service.
- Implemented improvement without high capital expenditure.

Lean Team

- Nicholas Goulas
- Aaron Janssen
- Bill Oldenburg
- Bridge/Permit Staff

