High Load Warning Systems

Introduction

Grade separation structures and through truss bridge structures are susceptible to collision damage from over-height loads. Despite vertical clearance postings in advance and on the structure, many bridge structures have sustained collision damage from over-height loads. The installation of a high load warning system is intended to be a proactive measure to help prevent future over-height collision damage to bridge structures.

Background

The Department has completed a trial project with a "High Load Collision Monitoring System" to help identify those responsible for over-height collision damage. While the system assisted with the identification of responsible parties, the system did not prevent future collision damage to the bridge structure. Proactive measures are required to help prevent future collision damage as opposed to reactive measures after the damage has been incurred.

The Department has adopted this best practice guideline for the installation of high load warning systems to help prevent future over-height collision damage to bridge structures on provincial highways and local roads. General criteria have been established to identify bridge sites where installation of a system may be appropriate.

Criteria for Installation of High Load Warning Systems

The general criteria for the installation of a high load warning systems for bridge structures would include a combination of the following items:

- Structures that have a vertical clearance less than 5.3 m
- Structures that have a high volume of traffic and a history of multiple over-height collisions
- Structure sites where high load impact repairs may cause significant traffic delays and congestion
- Structures where the cost and frequency of over-height impact repairs are significant
- Structures where over-height collision damage may cause serious structural damage
- Economic benefit of installation of high load warning system (i.e. cost of the system versus cost of future over-height collision damage repairs)

An assessment or related engineering study may be required to review the historical information on the number and severity of over-height collision damages at the bridge site. The assessment will address the economic benefit of installing and operating the high load warning system.

Contact

Questions or further information on this guideline may be directed to the Senior Bridge Maintenance Technologist in the Bridge Engineering and Water Management Section of the Technical Standards Branch, Alberta Transportation.

Adopted:

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