INTRODUCTION TO THE BRIDGE INSPECTION AND MAINTENANCE SYSTEM (BIM)

BIM System Definition

A comprehensive management system with the ability to process inspection and component information to support:

- Inspection management
- Maintenance programming
- Strategic planning
  - » Rehabilitation programs
  - » Replacement programs
  - » Budget development

BIM System Functions

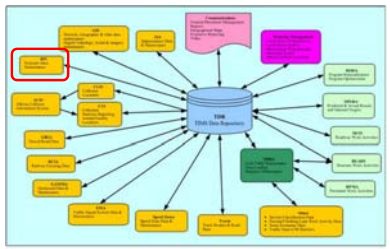
- Ensures appropriate levels of safety and service.
- Maximizes life and utility of bridge structures.
- Assists service life prediction of bridge elements or structure types.
- Identifies need for continued monitoring.
- Provides a electronic system for managing inspection information and collecting and verifying inventory data.
- Provides data for setting priorities.

BIM System Functions (cont'd)

- Assists the allocation of resources.
- Provides information to develop maintenance costs (.i.e. materials, quantities).
- Facilitates information exchange with others.
- Provides a framework for training and evaluation of inspectors.
- Provides information for evaluating design, construction and maintenance standards.

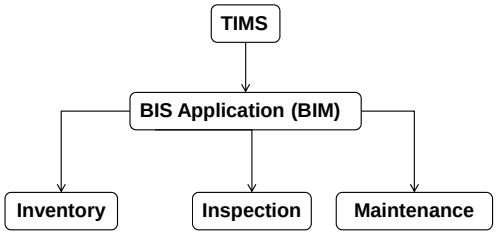
BIM System Management

Alberta Transportation uses a single Web Based knowledge system designed manage infrastructure assets known as the **Transportation Infrastructure Management System (TIMS)**.



TIMS Applications

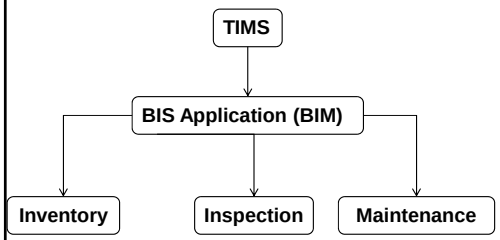
BIM System Management

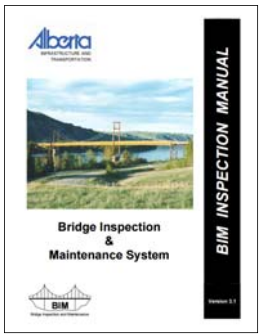


TIMS - BIS Application

Standard Bridge: BF 02397
Culvert: BF 77444

Bridge Information System (BIS)

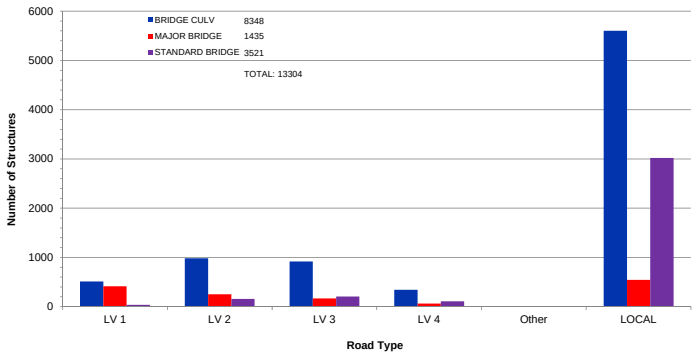




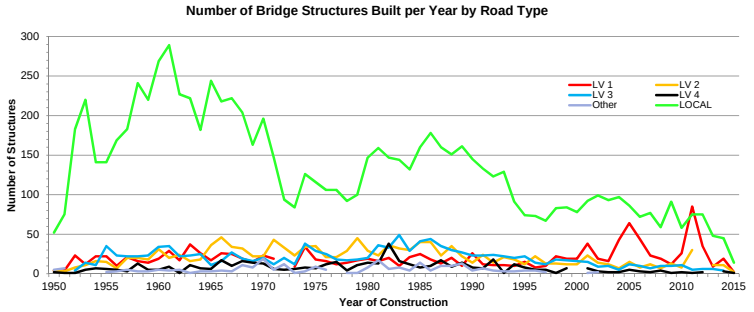
Bridge Structure Categories

- Standard Bridges
  - A bridge constructed using “standard” components and “standard” drawings. (except standard girder bridges with composite overlays, such as SMC, SCC, SLC)
- Culverts
  - A bridge sized culvert is one with an equivalent diameter of 1500 mm or larger (or multiple smaller diameter culverts with equivalent hydraulic capacity – e.g. - 2-1200mm)
- Major Bridges
  - All bridges which are not standard
  - Also includes SLC bridges
- Sign Structures
  - Overhead sign structures

BIM - Bridge Structure Statistics



Bridge Structures Statistics



BIM System – Critical Considerations

- The accuracy of the information contained within the BIM system directly impacts the effectiveness of the system.
  - Consistency of inspection standards
  - Inspection accuracy
  - Inventory accuracy
  - Maintenance accuracy

The bridge inspector must adhere to the highest standard at all times.