

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

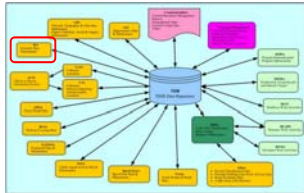
- Ensures appropriate levels of **safety** and service.
- **Maximizes life** and utility of bridge structures.
- Assists service life **prediction** of bridge elements or structure types.
- Identifies need for continued **monitoring**.
- Provides a electronic system for managing **inspection** information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

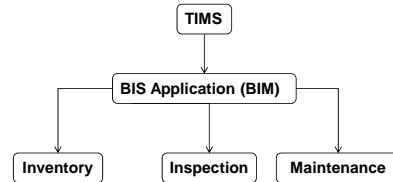
BIM System Management

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



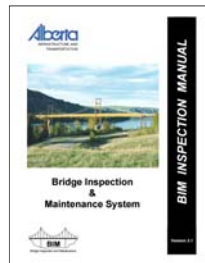
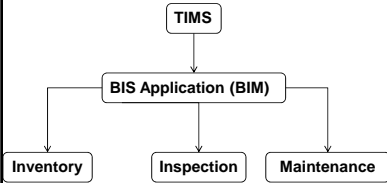
TIMS Applications

BIM System Management



TIMS - BIS Application
Standard Bridge: BF 2397
Culvert: BF 7744

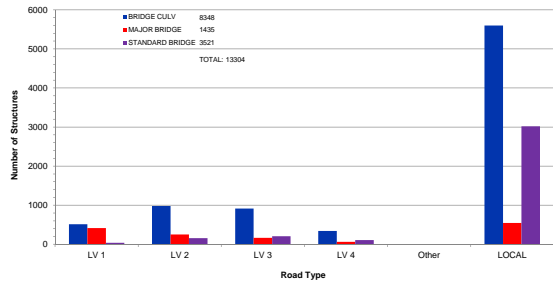
Bridge Information System (BIS)



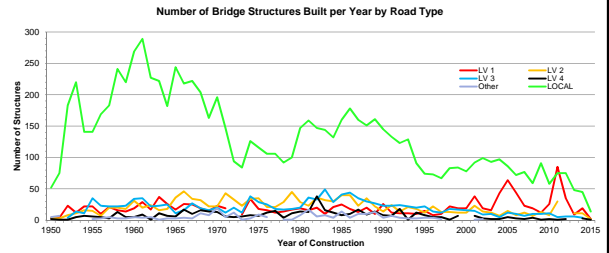
Bridge Structure Categories

- Standard Bridges
 - A bridge constructed from standard components according to standard plans.
- Culverts
 - A bridge sized culvert is one with an equivalent diameter of 1500 mm or larger.
- Major Bridges
 - All bridges which are not standard
- 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.