

## 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

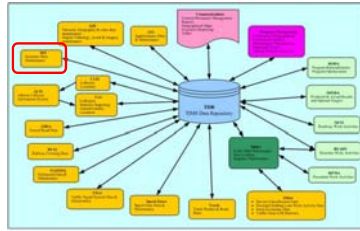
- Ensures appropriate levels of **safety** and service.
- **Maximizes life** and utility of bridge structures.
- Assists service life **prediction** of bridge elements or structure types.
- Identifies need for continued **monitoring**.
- Provides a electronic system for managing **inspection** information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

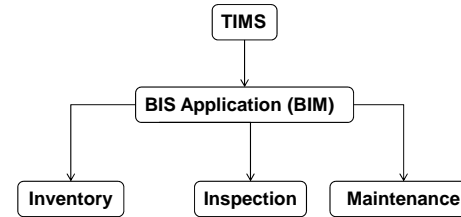
### BIM System Management

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



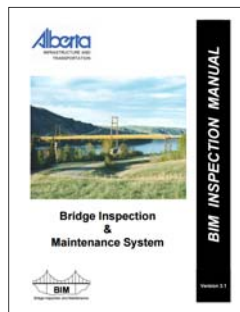
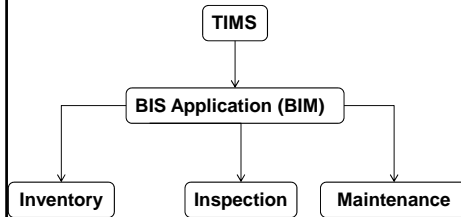
TIMS Applications

### BIM System Management



**TIMS - BIS Application**  
 Standard Bridge: BF 02397  
 Culvert: BF 77444

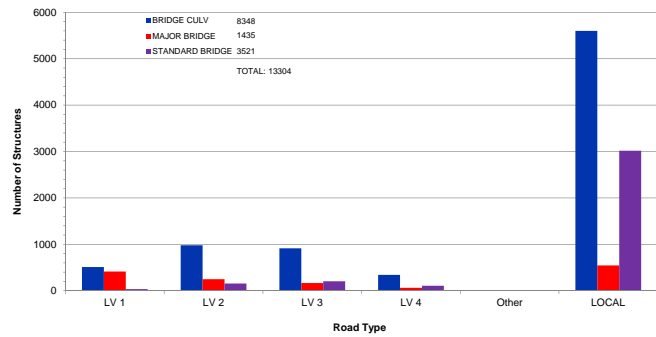
### Bridge Information System (BIS)



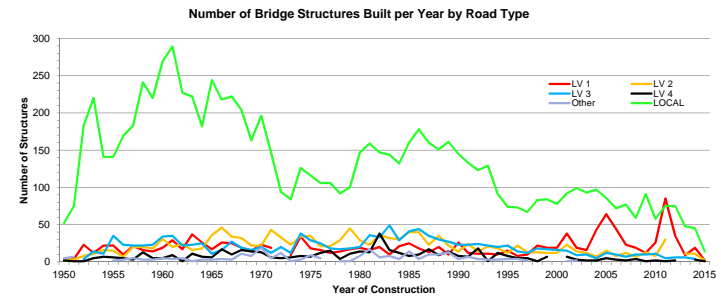
### Bridge Structure Categories

- 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.