



***Enterprise GIS***  
***Defining A Path Forward***



# Background

- DOTD acquired topographic mapping responsibility for the state in 2010 by legislative authority
- Executive management sponsors GIS as enterprise endeavor
- PMG contracted to conduct study and define a path forward

# Findings - Overview

- The Good
  - Positive momentum exists
  - GIS foundation in relatively good shape
  - **Management support is strong**
- Areas for Improvement
  - LRS needs work
  - Lack of data sharing and integration among business systems
  - **Typical users underserved**

# Findings – GIS Foundation

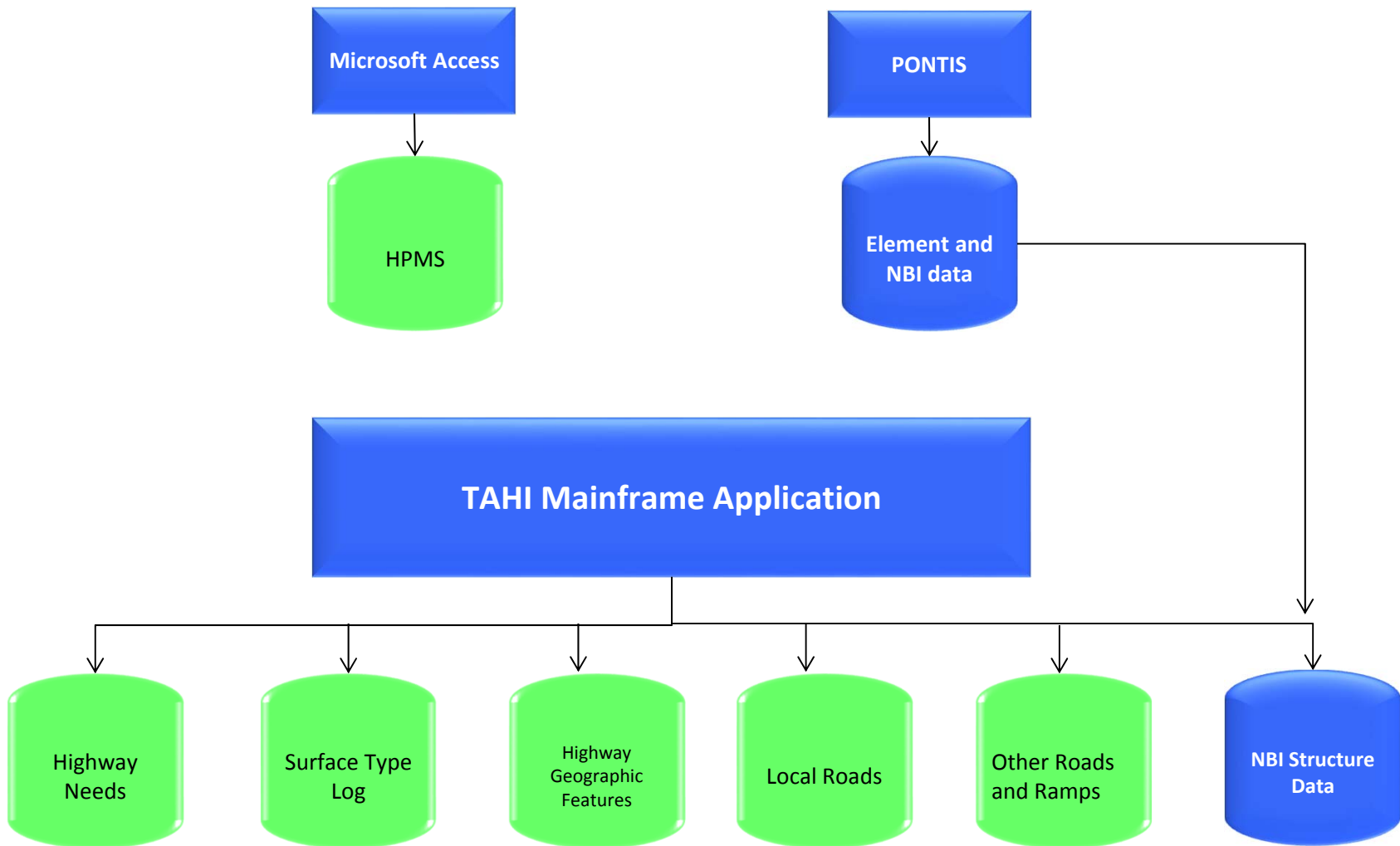
- GIS standard (Esri)
- Good GIS base layer
- LRS on track but not at enterprise level
- Single LRS (control section/milepoint) except for local roads
- Strong foundation to build upon
- Section 21 doing a super job

# Findings – Business Systems

- Functional silos exist
- Not part of enterprise LRS
- Much duplication
- Some are state of the art
- Some maintained in flat file structure

# Findings – Road Inventory

- Keeper of accurate mileage
- No Road Inventory System
- Data entered by hand and duplicated
- Housed and maintained in several flat file databases and mainframe applications
- Flat file databases exported to DB2 for access
- Consider merging databases and maintaining in relational environment



# Findings – Other Business Systems

- Traffic
- Pavement
- Maintenance
- Safety
- SAP
- PONTIS
- More.....



# Findings – Business System Integration

- Silo culture exists both culturally and technically
- Technical environment not well integrated
- Data ownership not well known
- Each managing within their own environment
- **All enterprise participants must be identified and must work with GIS/LRS**

# Findings – Information Distribution

- Two current methods
  - Telephone
  - Point solutions
- Inefficient
- Nearly always reactive
- Limited in scope
- **Enterprise GIS is not just map making**
- **Effective decision support tool**

# Major Issues

## **Major Issue # 1 – Lack of Data Sharing and Integration Across Department Organizations**

A silo culture is prevalent at LADOTD constraining communication and information sharing.

## **Major Issue # 2 – Lack of Enterprise Tools to Deliver Information Easily to Users**

Current methods to deliver information via GIS to the large user base of average users is inadequate by anyone's definition.

## **Major Issue # 3 – LRS Not Ready for Enterprise**

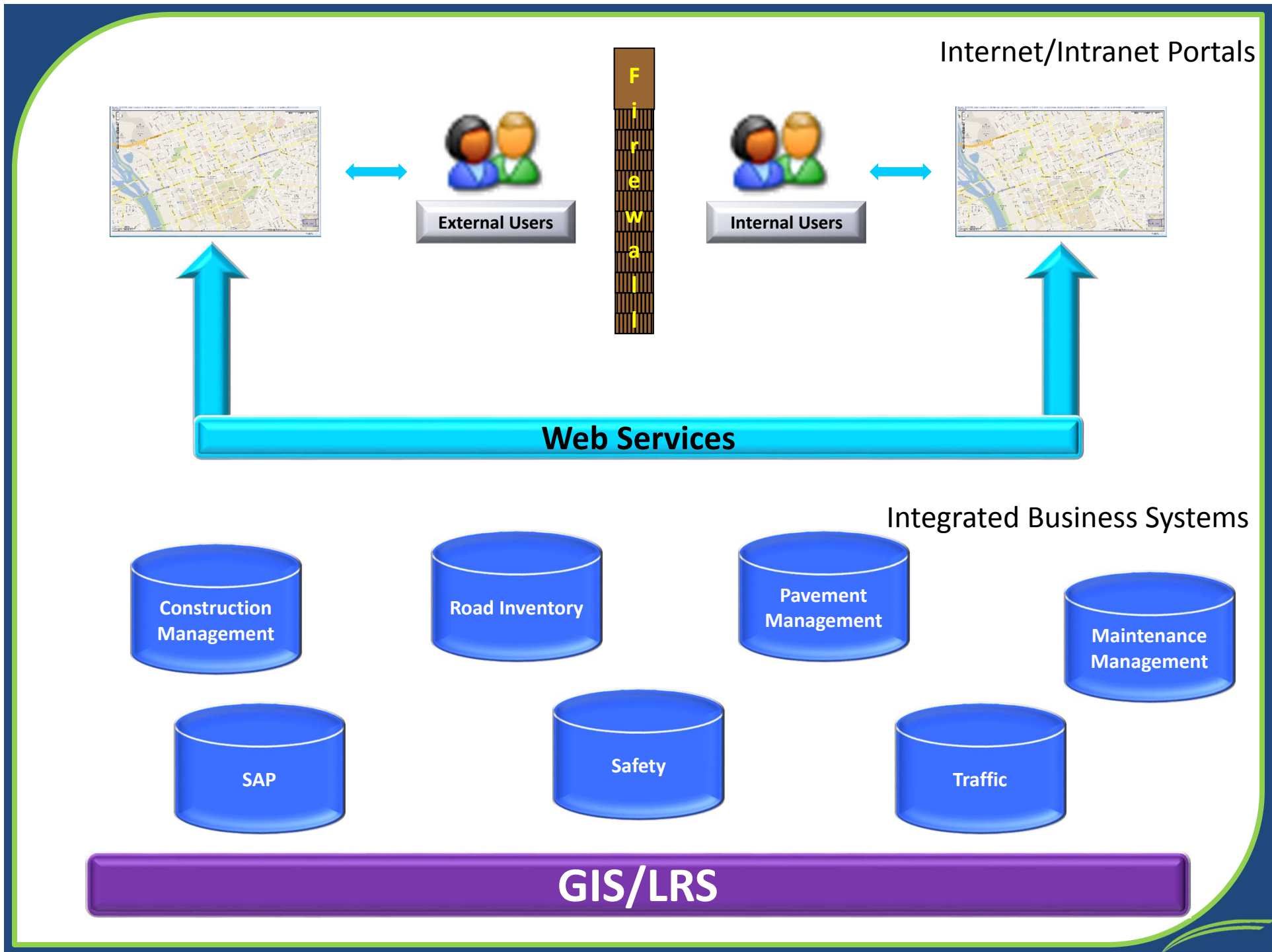
The LRS must become more robust to truly serve the enterprise.

# Positive Momentum

- Executive Management Support
- GIS and LRS Foundation
- GIS Standard
- GIS Literacy

## Path Forward - Benefits

- Empowers the typical user with GIS
  - Create dynamic, ad-hoc queries and searches
- Makes available Department data 24/7
  - Participating business systems are integrated
- Serves all levels of users
- Strong foundation is built to ensure consistent, locational accuracy of data



# Path Forward - Recommendations

## **First Priority Recommendation # 1 - Fully Implement Enterprise LRS**

Automated LRS maintenance and propagation of network changes to participating business systems is a very high priority for enterprise GIS.

## **First Priority Recommendation # 2 - Define and Integrate Participating Business Systems**

The business systems that contribute information to enterprise GIS need to be identified and brought into the enterprise LRS if not already participating.

# Path Forward - Recommendations

## **First Priority Recommendation # 3 - Define and Create Enterprise Applications**

Once the LRS and business systems are in place, enterprise web applications can be defined and created to “deliver the goods” to all levels of users. Applications targeting average users should have a priority since this is the area most lacking attention from GIS.

## **First Priority Recommendation # 5 - Create Enterprise GIS Steering Committee**

An essential component of GIS success within DOTD is committed involvement from executive management.



# Path Forward - Recommendations

- Consider GIS When Making Department
- Conduct Comprehensive Local Road Inventory
- Identify Data Owners

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