

INTERNATIONAL ROAD CONGRESS

Innovation in Road Infrastructure

INTERNATIONAL ROAD FEDERATION
FÉDÉRATION ROUTIÈRE INTERNATIONALE

Implementing an Assetwise approach to Road Asset Management

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MOSCOW, RUSSIA

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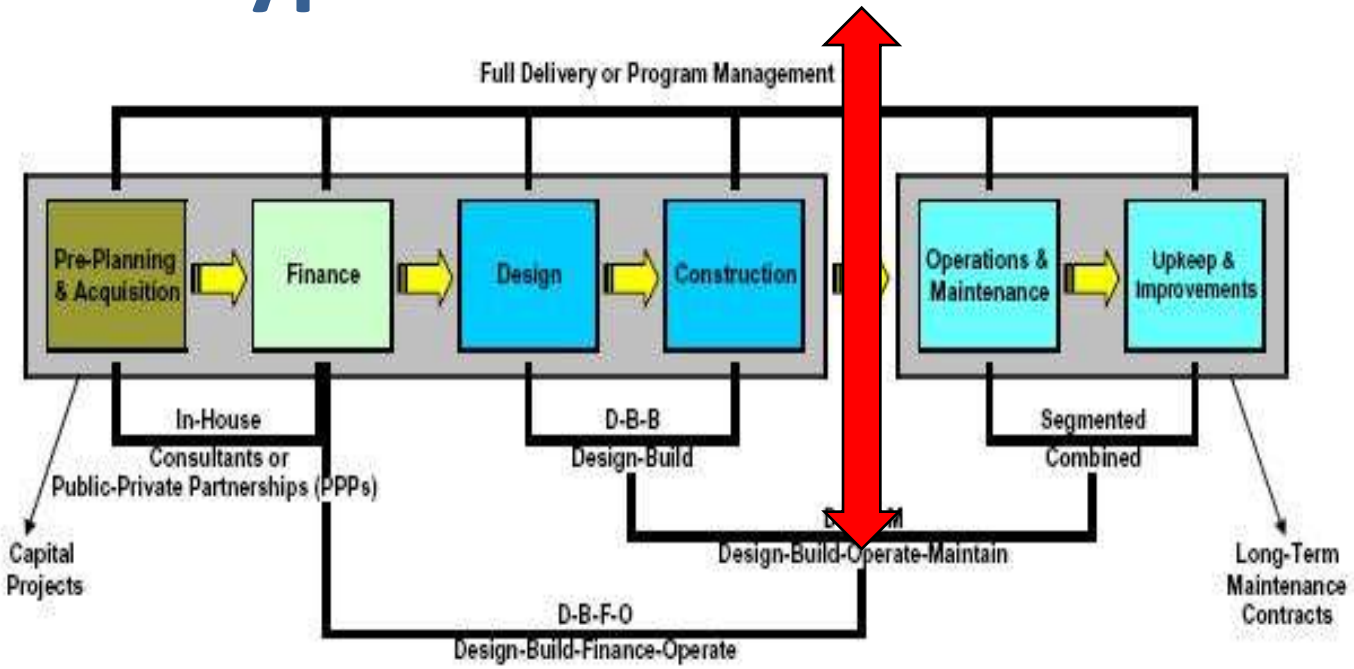
Agenda

- Current Approaches
- Moving to an Assetwise approach
- The Future





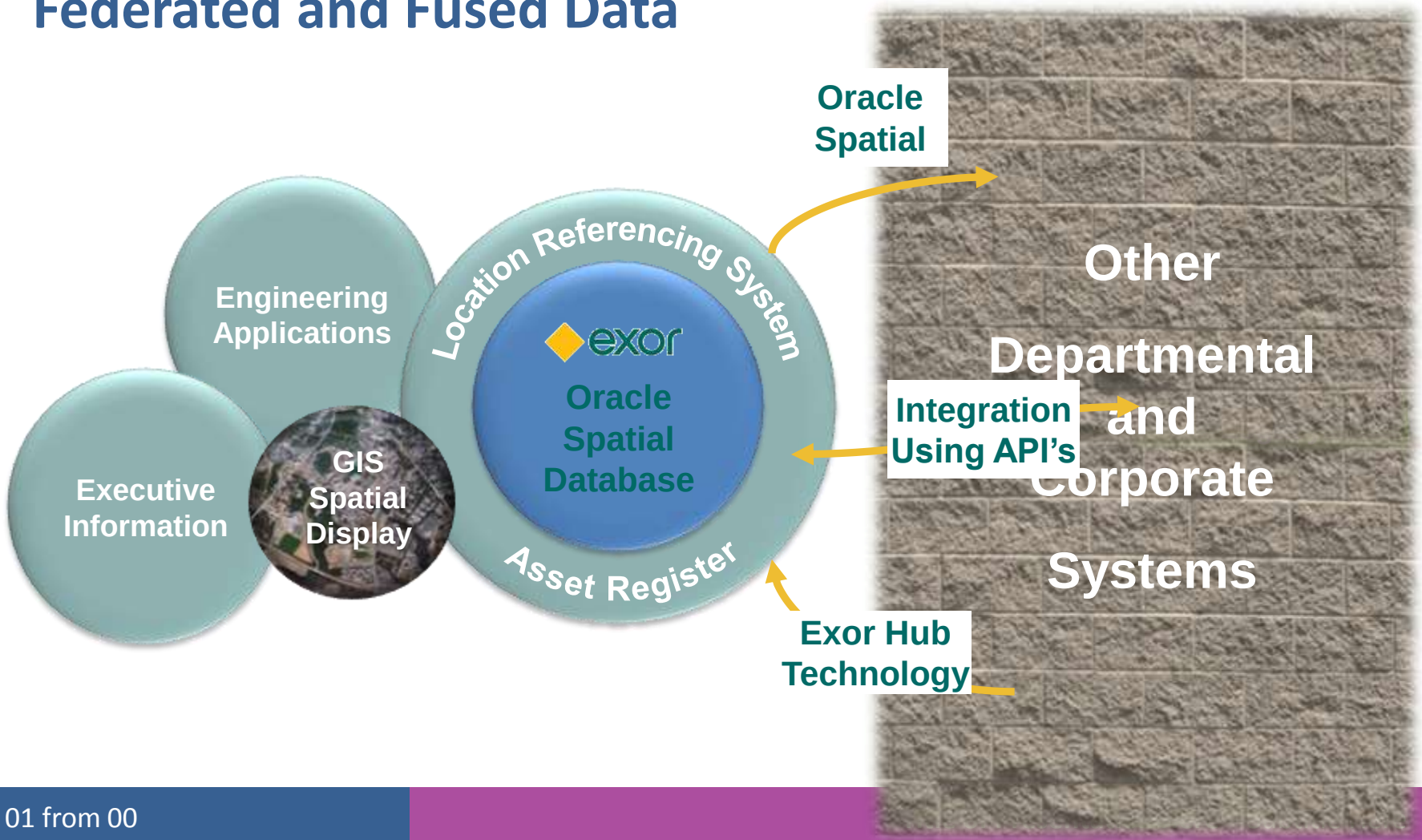
Typical Process Flow…



Source: Pekka Pakkala. *Innovative Project Delivery Methods for Infrastructure - An International Perspective*. Finnish Road Enterprise, Helsinki, 2002, p. 32.

Roads Asset Management Integration

* Federated and Fused Data




BRIDGE
CATEGORY: Overpass
STREET: Fairbrook Rd.
INSPECTED: 30 April 2007
INSPECTOR: R. Flannery
HEIGHT: 22.5 feet
ROUTE: CA-I15-N
SEGMENT: MP-127
OFFSET START: 2018 feet
OFFSET FINISH: 2078 feet
STREET LIGHT:
CATEGORY: FWY illumination
REPAIR DATE: 10 Oct 2009
REPAIR TYPE: Bulb
HEIGHT: 21 feet
MOUNTING BRACKET: Pole arm
LAMP TYPE:1 Low Pressure Sodium
SEGMENT:MP-127
OFFSET:1592 Feet
STREET SIGN
CATEGORY: merge
ILLUMINATED: no
MOUNTING HT: 11.5 feet
MOUNTING: pole
ROUTE: CA-I15-N
SEGMENT: MP-127
OFFSET: 1480 feet
TRAFFIC LIGHT
CATEGORY: FWY entrance
ILLUMINATED: yes
REPAIR DATE: 15 Mar 2008
REPAIR TYPE: Bulb
MOUNTING HT: 10.5 feet
MOUNTING: pole
ROUTE: CA-I15-N
SEGMENT: MP-127
OFFSET: 1516 feet
ROAD WORK AHEAD
BARRIER
CATEGORY: Cement wall
LENGTH: 128 feet
ROUTE: CA-I15-N-M27
SEGMENT: MP-127
OFFSET: 1352 feet
POT HOLE
CATEGORY: Hwy defect
DAMAGE REPORTED: 12 Jul 2009
REPAIR PRIORITY: High
DATE REPAIRED: 15 Jul 2009
ROUTE: CA-I15
SEGMENT: MP-127
OFFSET START: 1270 feet
OFFSET FINISH: 1274 feet

Road Works



Accidents



Parks and Places



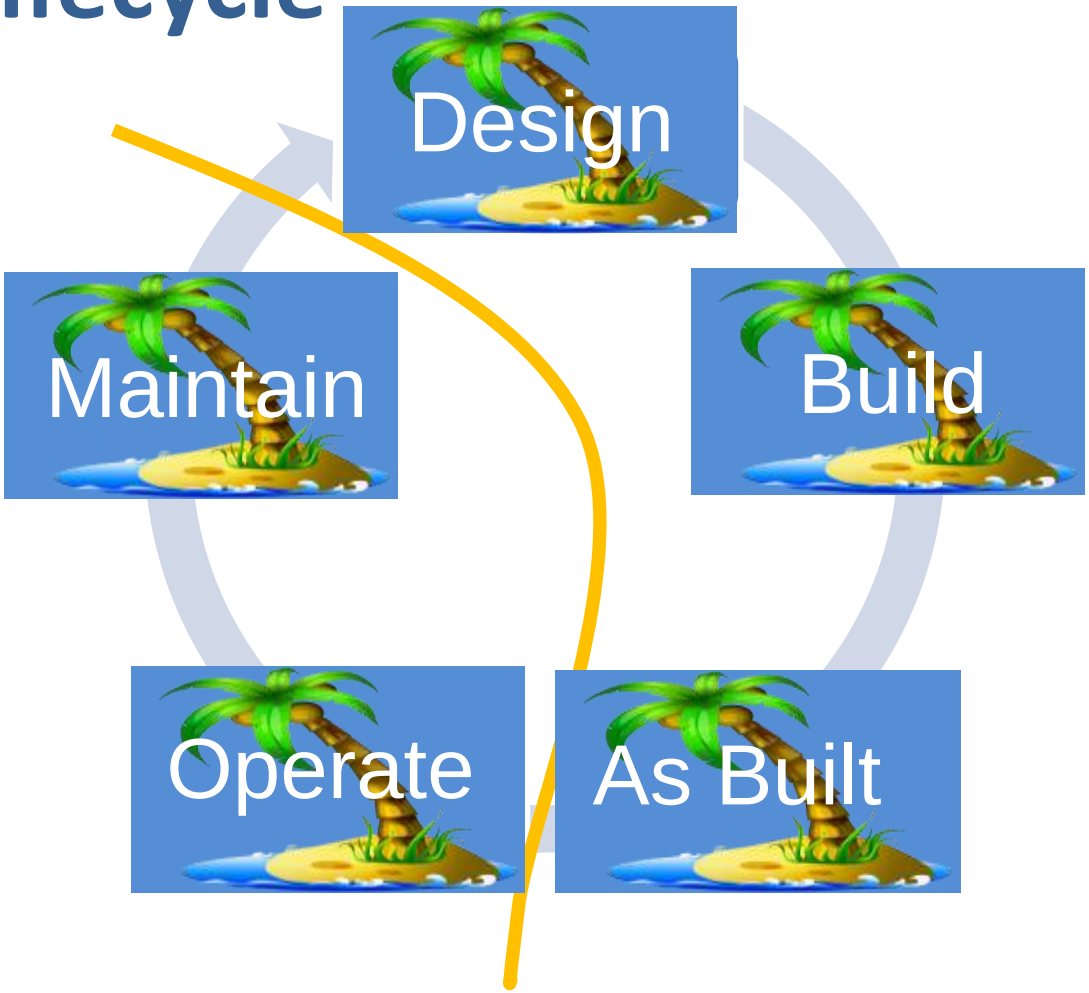
Traffic Data



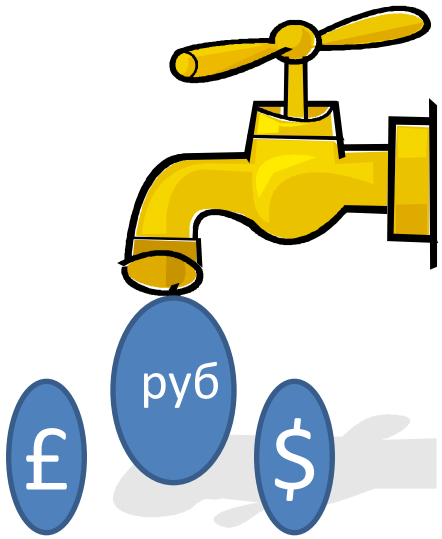
Enquiry Management



Asset Lifecycle



Leading to…



- Increased Industry Costs
  - Data Duplication
  - Data Redundancy
  - Staff costs
  - Operating Inefficiencies
- Quantifiable ?
  - ARC Advisory Group
    - NIST Estimate for Capital Facilities industry US$15.8bn
    - CAPEX and OPEX costs - loss of 4.2% of installed costs. ..on going penalty of 2.8% in Return On Assets

Agenda

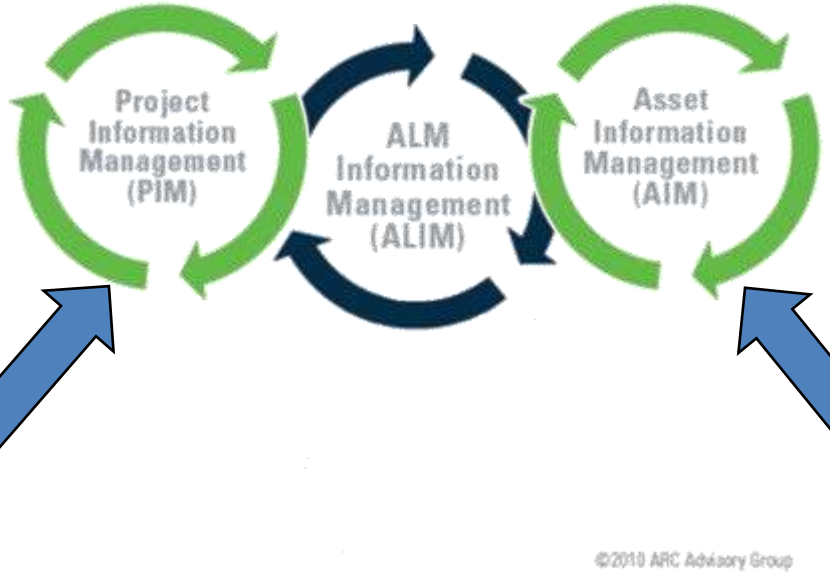
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AssetWise – Spans the Complete Lifecycle

Design and Project Information



Infrastructure Asset Management

Asset Information & Decision Support

Each deliver value in their own right

Together = Complete Asset Lifecycle management

Delivering at the operational level…

MXRoad



MicroStation



ProjectWise



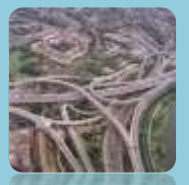
More….



Asset Information Management

AssetWise

Exor LRS Applications





SuperLoad

OPTRAM





Insight

Agenda

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The City of Helsinki is in the process of developing a 3D digital model of the entire city

City of Helsinski



The City of Montreal has been using Bentley technology for several years and has taken a leadership role in developing process-

The City of M
3D model to

data in Oracle
access to the

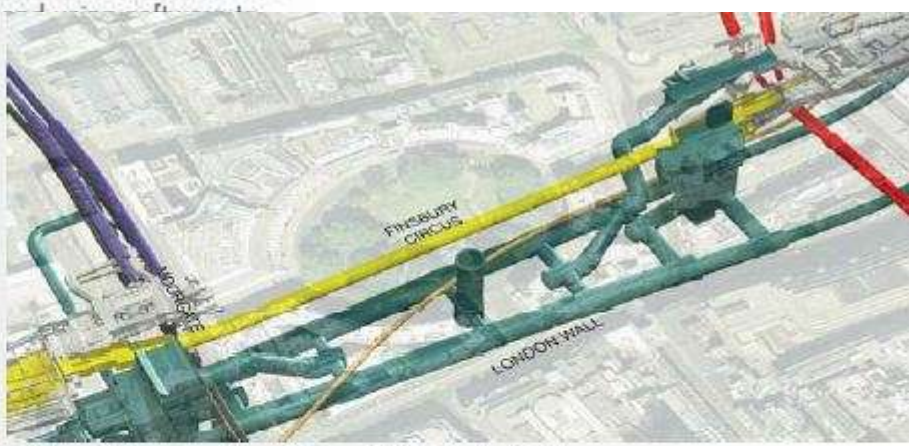
Crossrail

LONDON, ENGLAND

Project Objectives

Connect the east and the west of London with new rail infrastructure;

Establish effective coordination between the various agencies involved in the project.



Existing rail tunnels and planned Crossrail infrastructure in 3D

Products Used

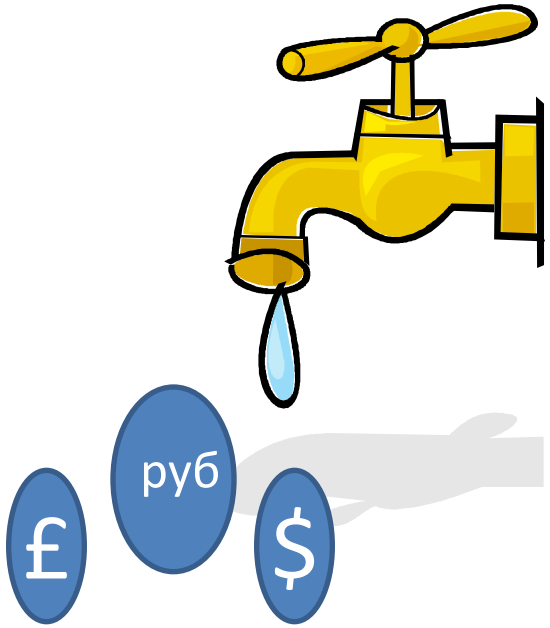
Bentley Geo Web Publisher, Bentley Map, MicroStation, ProjectWise,

The ambitious Crossrail network will substantially reduce travel time between London's major business districts and benefit more than 1,5 million people. Crossrail's project documentation as well as its designs were 3D from the outset. The project planners started with a complete survey of above and below-ground infrastructure using several techniques such as aerial images, laser scanning and ground radar. The designs are based on a 3D model of the existing infrastructure, which is the best way to deal with a project of such complexity.

Summary

An Assetwise Approach to Road Asset Management leads to

- Integrating the Islands of Integration
  - Reduced Data Duplication
  - Reduced Data Redundancy
  - Effective Staff utilisation
  - Improvement in Operating efficiencies
  - Better Return on Asset investment



Thank You

