

Building and Delivering an Infrastructure Management Solution

.... The journey continues

Urban and Regional Information Systems Association

David James
Project Manager
Infrastructure Management

April 18, 2007



Agenda

- The City Profile
- Project History
- Infrastructure Management Strategy
- The RFP Procurement Process
- The Solution
- Building the Plan
- Working the Plan (Construction Begins)

City Public Works Assets

\$7.7 Billion of Public Works Assets

- ❑ Sewers – 2000 KM
- ❑ Waterworks – 1500 KM
- ❑ Streets – 1400 KM
- ❑ Sidewalks – 2000 KM
- ❑ Street Lights – 53,000
- ❑ Traffic Signals – 700
- ❑ Equipment – 3400 Pieces
- ❑ DFPS (Dedicated Fire Protection System)

Engineering Services

- ~ \$70M Annual Operating Budget
- ~ \$55M Annual Capital Budget
- ~ 1800 employees
 - 80 Professional Engineers
 - 70 Operations & Construction Supts
 - 700 Technical and Clerical staff
 - 950 Outside field staff - Ops, Mtc & Const

Engineering Organization

5 Divisions: Dept Services, Solid Waste, Streets, Transportation, Water & Sewers

27 branches based on Infrastructure & Service:

- Waterworks
- Sewers and Drainage
- Streets
- Traffic Management
- Parking, including Enforcement
- Solid Waste Management and Landfill
- Street Lighting
- External Utilities

Engineering Information Systems

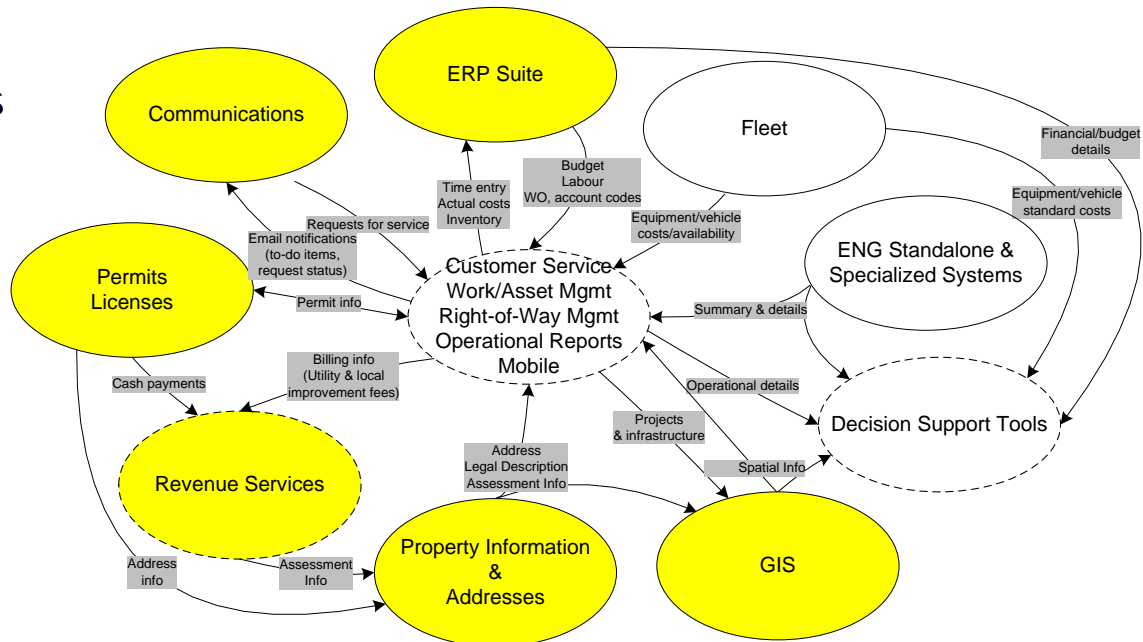
Very strong CAD / GIS capabilities (VAN Map, etc.)

Lack of integration between multiple disparate systems and processes across branches & departments

100-plus in-house or packaged Engineering applications

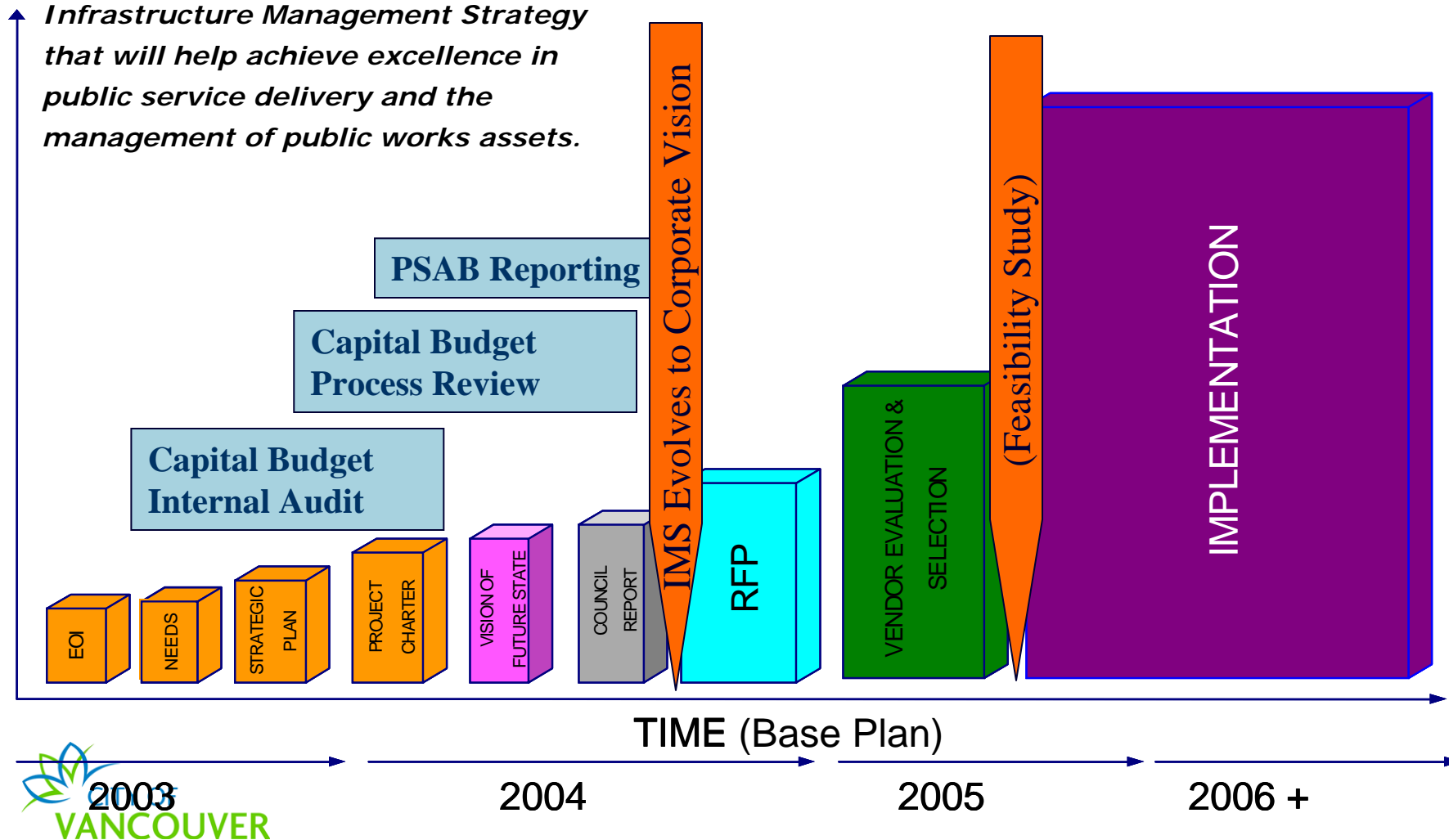
GIS not tied to work order systems

Information Gaps



Project History

We are committed to implementing an Infrastructure Management Strategy that will help achieve excellence in public service delivery and the management of public works assets.





Strategic Vision

“Infrastructure Asset Management is a methodology combining engineering principles with sound business practices to efficiently and effectively allocate resources among valid and competing goals and objectives to build, operating and maintain infrastructure assets, and provide municipal services. It provides tools to facilitate logical, systematic decision-making for life cycle planning.”



Strategic Vision

Engineering Principles

+

Sound Business Practices

= Optimum Resource Use for Total Asset Life Cycle Management

Multiple Goals & Objectives



Strategic Initiatives

- ❑ Customer Service and Work Management
- ❑ Information Repository
- ❑ Right-of-Way (ROW) Management
- ❑ Performance Measurement



Customer Service

Vision

- Single point of contact with Engineering Services
- Web self-serve capability
- Single work order system
- Standardized customer service scripts
- Enhanced coordinated service dispatching of crews
- Accurate and timely communications internally, and with citizens requesting service
- Customer-centric culture

Reality

- 112 Separate listings in Vancouver Blue Pages
- Multiple systems by major department
- Lack of customer service operating procedures / scripts
- Lack of standards (i.e. response time)

Work Management

Vision

- Enhanced planning and scheduling of work across organization & outside agencies
- Enhanced management of capital projects and maintenance programs over total life-cycle
- Enhanced coordination of work (projects) for reduced project duration

Reality

- Multiple small scale point solutions
- Sub-optimized work processes
- Org. KPI's (Performance) inadequate
- Limited performance/progress/accomplishments to costs

Asset Management

Vision... the ability to answer the following

- What do we own?
- How do we maintain it?
- Where is it?
- When do we replace it?
- What is its condition?
- What do we do first?
- What is its value?

Reality

No central source of data (cost, location, condition, expected life) for objective data based decision making (condition assessments and degradation models) resulting in subjective decision making

Right-of-Way Management

Vision

- Schedule and coordinate disparate activities on public ROW to minimize impacts on citizens and businesses
- Integrated coordination of construction, mtc and special events in public right-of-way.

Reality

- Improving co-ord. of internal major construction projects
- Opportunities exist for smaller projects and outside agencies
- Neighbourhoods, businesses and special events still negatively impacted



Performance Measurement

Vision

- Performance indicators and asset condition for long-term planning and service improvement
- Historical information on asset condition, key performance indicators
- Ability to benchmark performance against ourselves, other municipalities, and private sector

Reality

- Costs are tracked but not tied to accomplishments
- No enterprise level KPI's against costs
- Ad hoc reporting at branch level

RFP Procurement Process

- 13 St. Committee Members
- 17 Evaluators + 20 SME's + senior mgt = 50 ppl
- Multi-stage RFP Process (2,000+ hrs of effort)
 - Prepared RFP
 - Evaluate RFP responses (9 Proponents)
 - Short- listed 3 proponents
 - 4 day vendor demonstrations (scripts)
 - Recommendation
- St. Committee requested feasibility study
 - +6 months to negotiate 4 contracts + 25 staff for 3 weeks
- Council Report
- Vendor contract negotiations

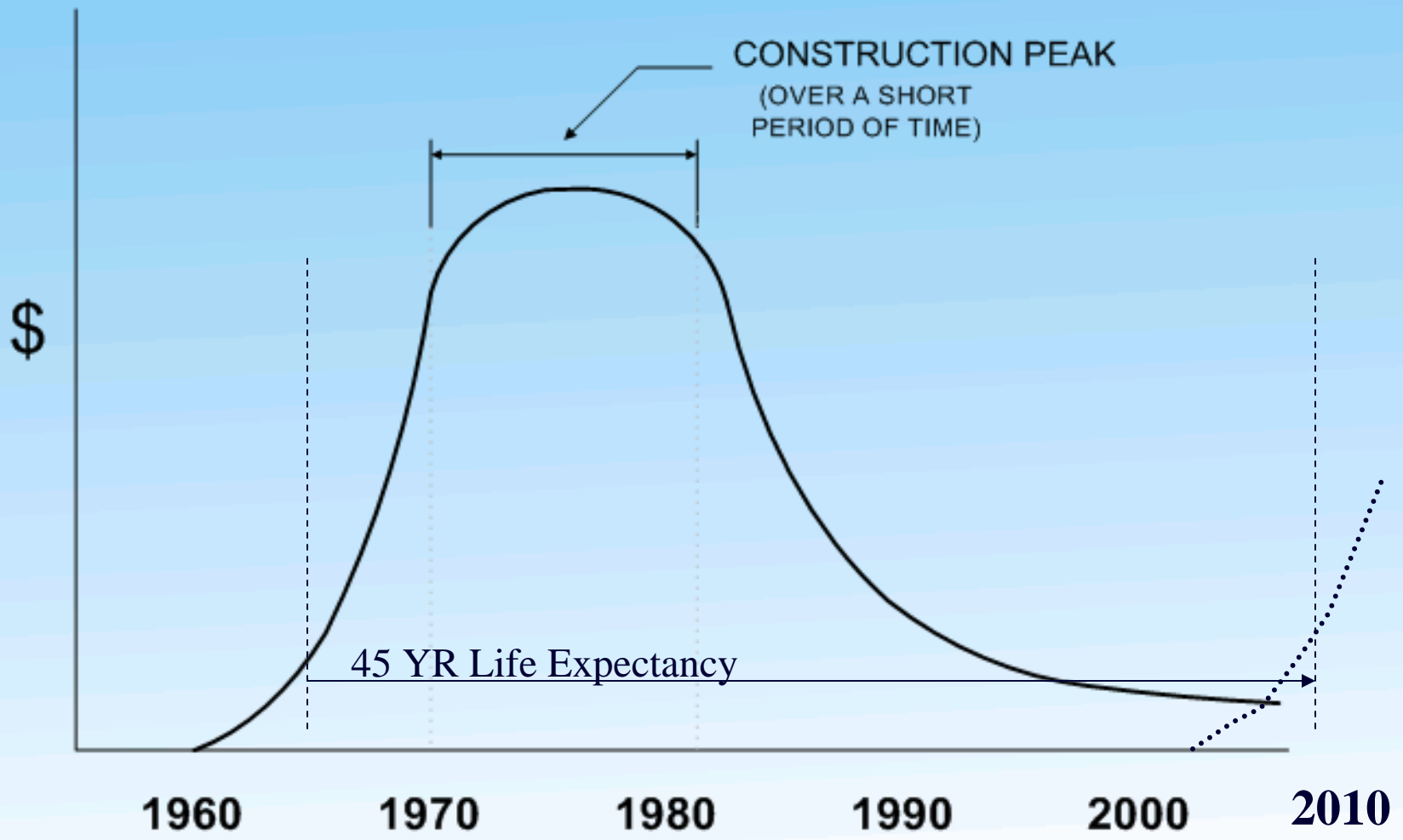
Engineering Benefits

- Financial realized through:
 - Optimized life-cycle asset management
 - Capital project financial control
 - Cost avoidance of future staffing resources to fulfill legislative reporting requirements

- Non-financial realized through:
 - Customer Service
 - Work and Asset Management
 - Right-of-Way Management
 - Performance Measurement

Engineering Benefits

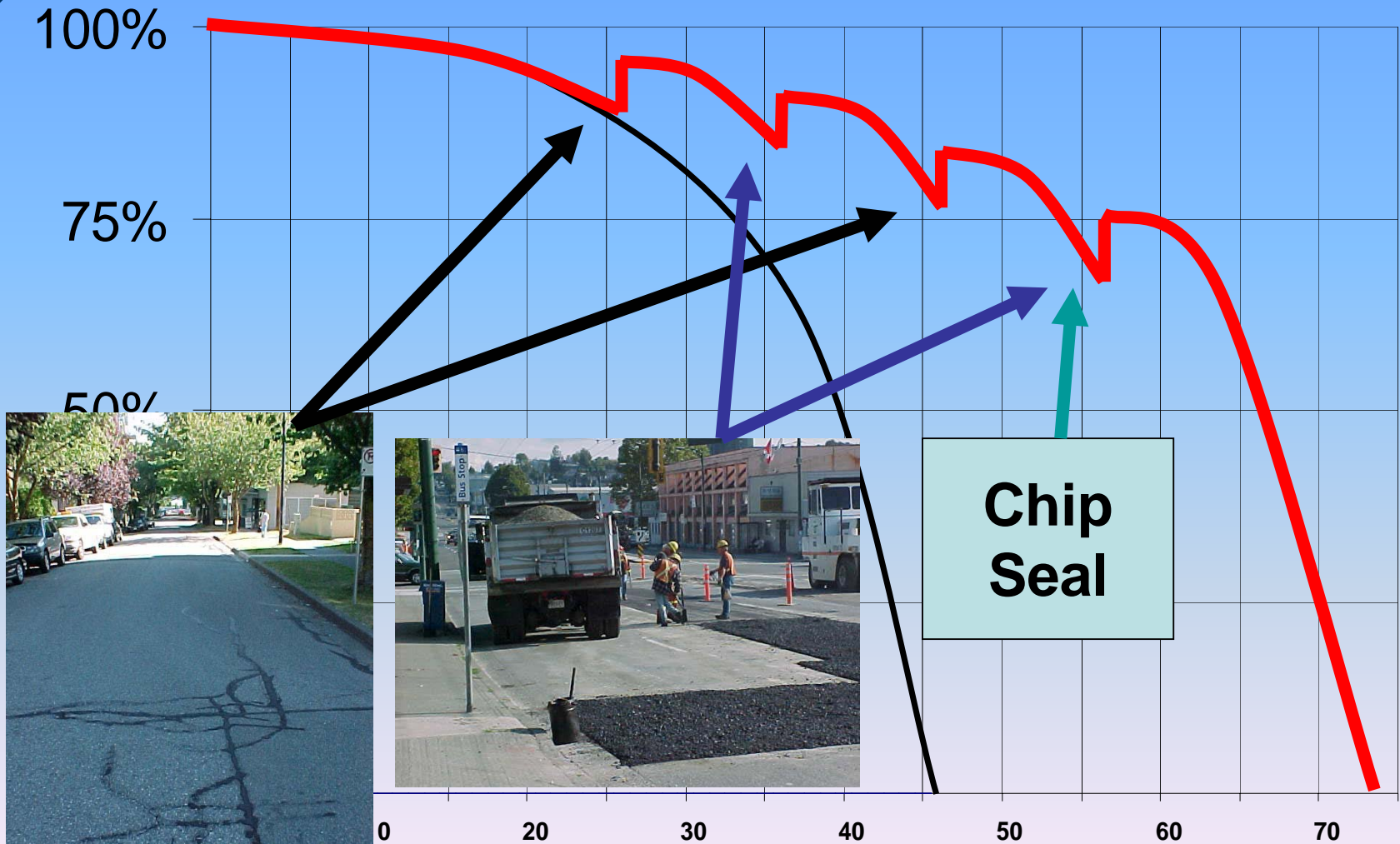
RESIDENTIAL STREET & LANES CAPITAL CONSTRUCTION PROGRAM



Residential Street Degradation

Engineering Benefits

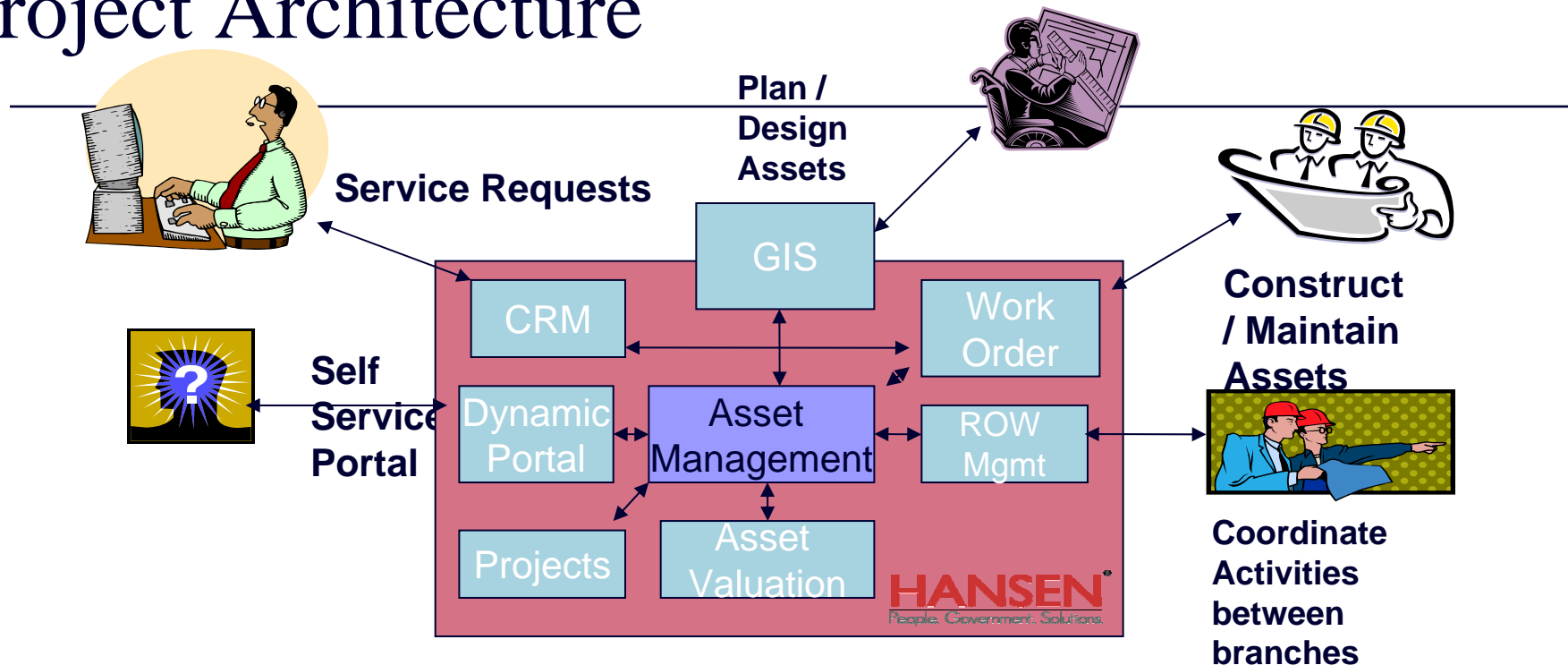
Pavement Quality



Chip Seal

Age

Project Architecture



BizTalk Middleware

	<ul style="list-style-type: none"> -People, Position (HR) data -Materials master -Activity types -WBS elements 	<ul style="list-style-type: none"> -Network Creation -Work Order Changes -Depreciation Posting
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IMS Solution

Autodesk

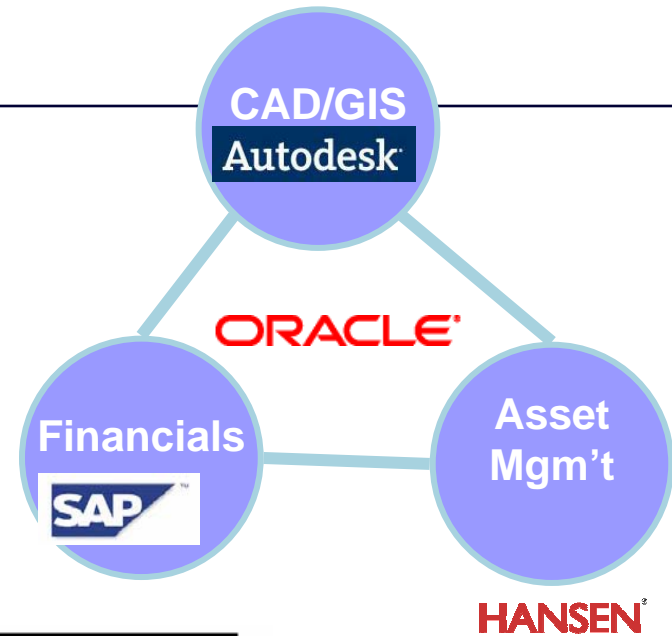
- Design, GIS, and Engineering

SAP

- Enterprise Financial Mgt. Controls, and Reporting

Hansen

- Asset Mgm't.



Capital Projects Cost Control	SAP
Asset Accounting	
Capital/Project Budgeting	
Performance Measurement	
Customer Service	Autodesk
Work Management	
Asset Management	
Right of Way Management	
Operational Performance Measurement	

Vendor Responsibilities

Autodesk

- Prime Contractor
- Project Management
- Technical System Administration
- Hansen – Autodesk (GIS) Integration
- Hansen – Other (legacy)
- Product Maintenance Support

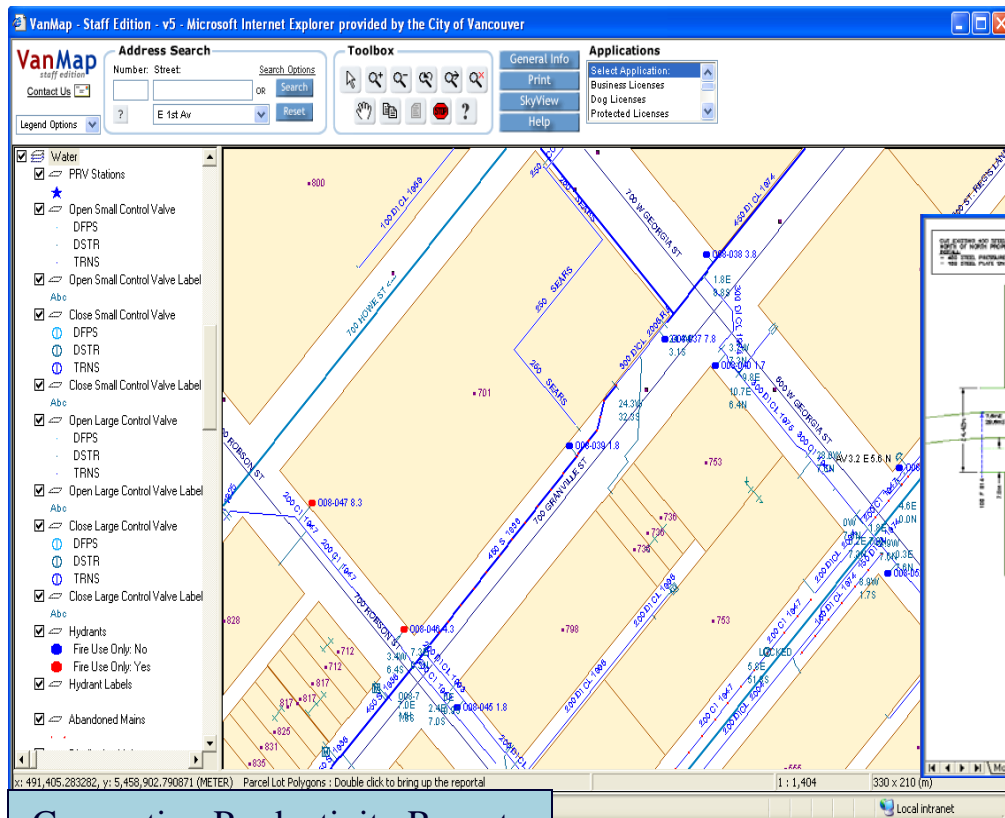
Hansen

- Provide Software
- Configure & Deliver H8
- Support for:
 - Data Conversion / Migration
 - Report Development

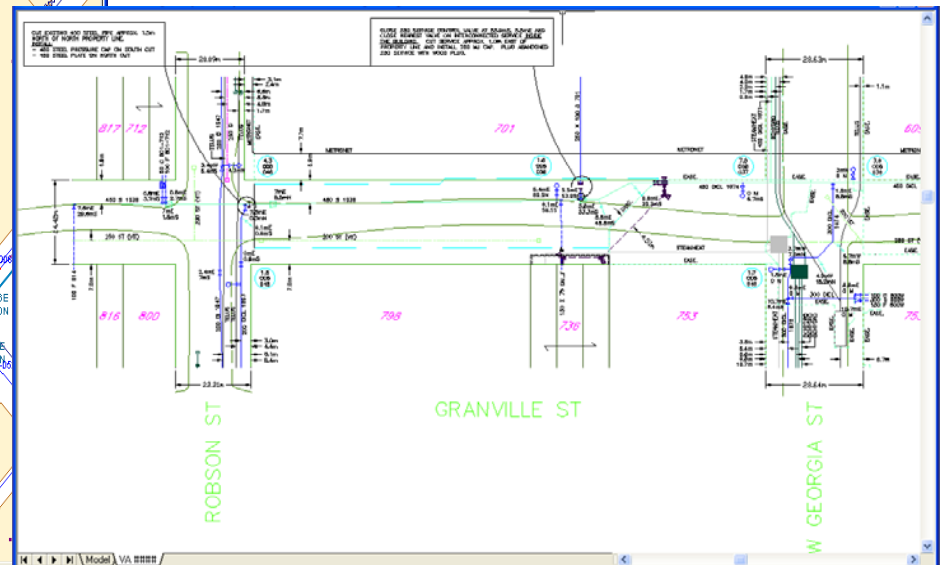
Ideaca

- Middleware Design
- SAP – Hansen Integration
- Scoping to other applications

IMS Future Vision



Customer Service and Work Management
 Information Repository
 Right-of-Way (ROW) Management
 Performance Measurement



Connection Productivity Report

Subforeman	Date Started	Date Complete	CrewH ours	Water Length	Storm Length	San Length	Sewer Depth Main	Sewer Depth PL	Street Cut Length	Street Cut Width	Street Cut Depth	total expenses	total revenue	street cuts
BORTHWICK	1/2/2003	1/3/2003	16	13.7	10	10	2.8	1.52	11	1.2	0.1	\$8,157.53	(\$7,867.00)	\$1,003.50
FRANCISCO	1/3/2003	1/6/2003	18	5.8	10.1	10.1	3	2.1	5	1.7	0.05	\$5,938.96	(\$8,888.00)	\$0.00
MAZZA	1/4/2003	1/7/2003	16	8.7	5.33	5.33	2.7	1.52	3.1	1.8	0.07	\$6,394.94	(\$7,867.00)	\$874.80
CAESTANO	1/6/2003	1/7/2003	14	14	6	6	2.4	1.52	7	1	0.1	\$6,705.35	(\$7,867.00)	\$0.00
SILVESTRONE	1/2/2003	1/7/2003	32	15	15.7	15.7	2.7	1.52	7.1	1.7	0.15	\$14,722.88	(\$7,867.00)	\$2,658.24

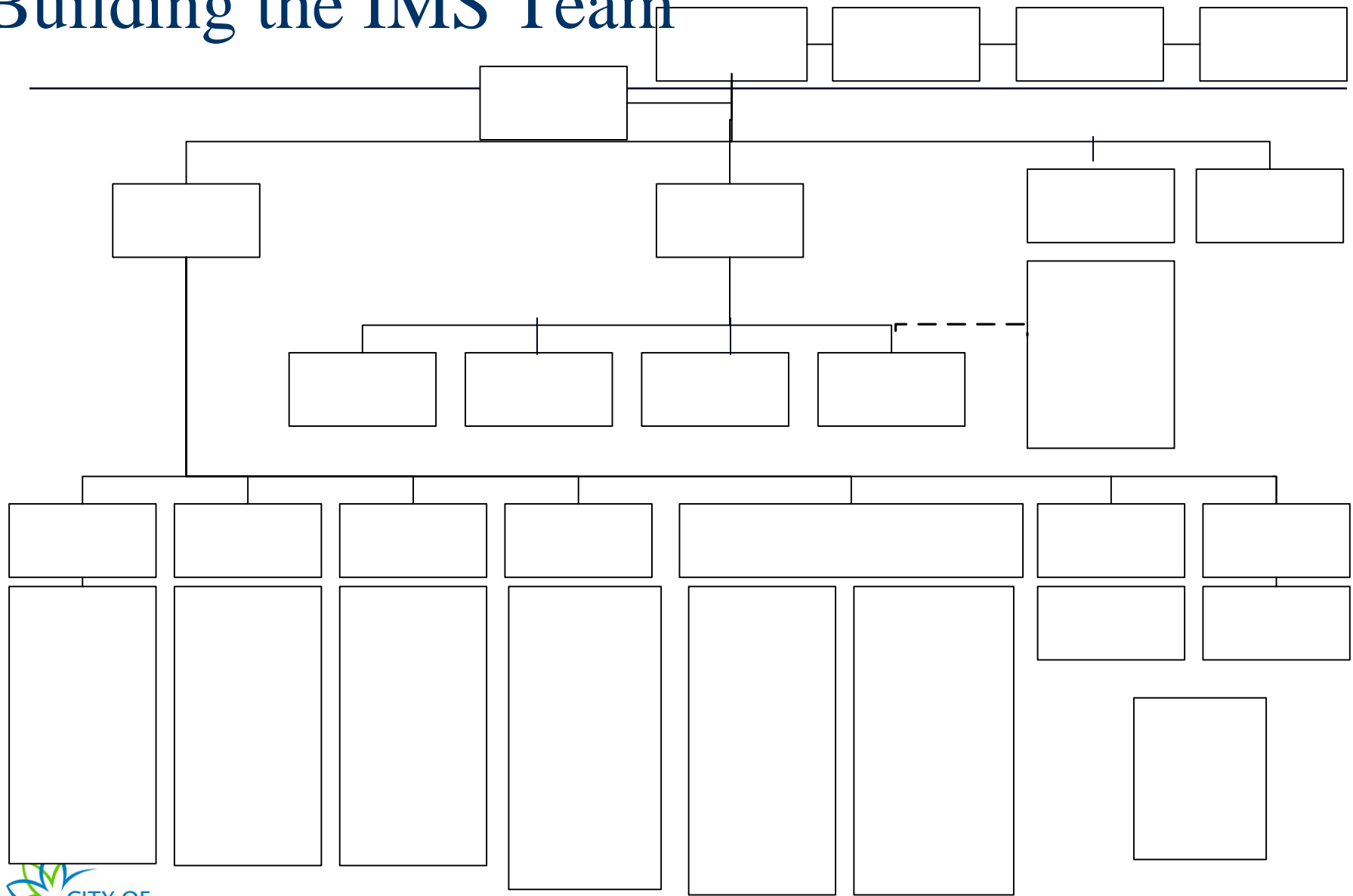




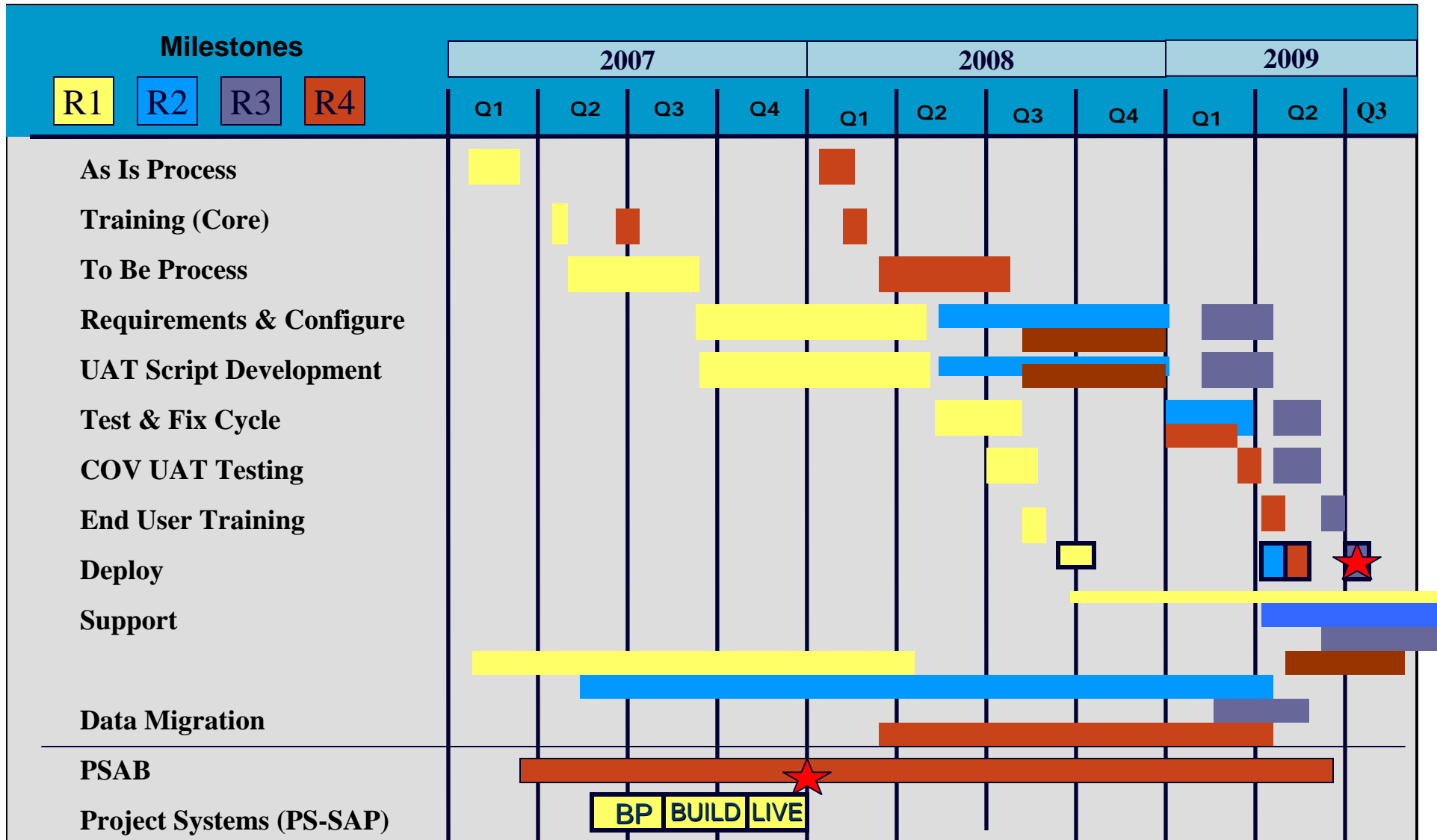
Building the Plan

- ❑ Established IMS Team (people & facilities)
- ❑ Mobilized consultants
- ❑ Built a detailed plan supporting the SOW
- ❑ Begun mapping “as is” business processes

Building the IMS Team



Hansen 8 - Software Implementation Schedule



VANCOUVER



Questions?

David.James@Vancouver.ca

(604) 871-6739