

# *GIS Business Case Update*

## *Client Case Study*

Presented by:



*Energy. Knowledge. Results.*

# Summary

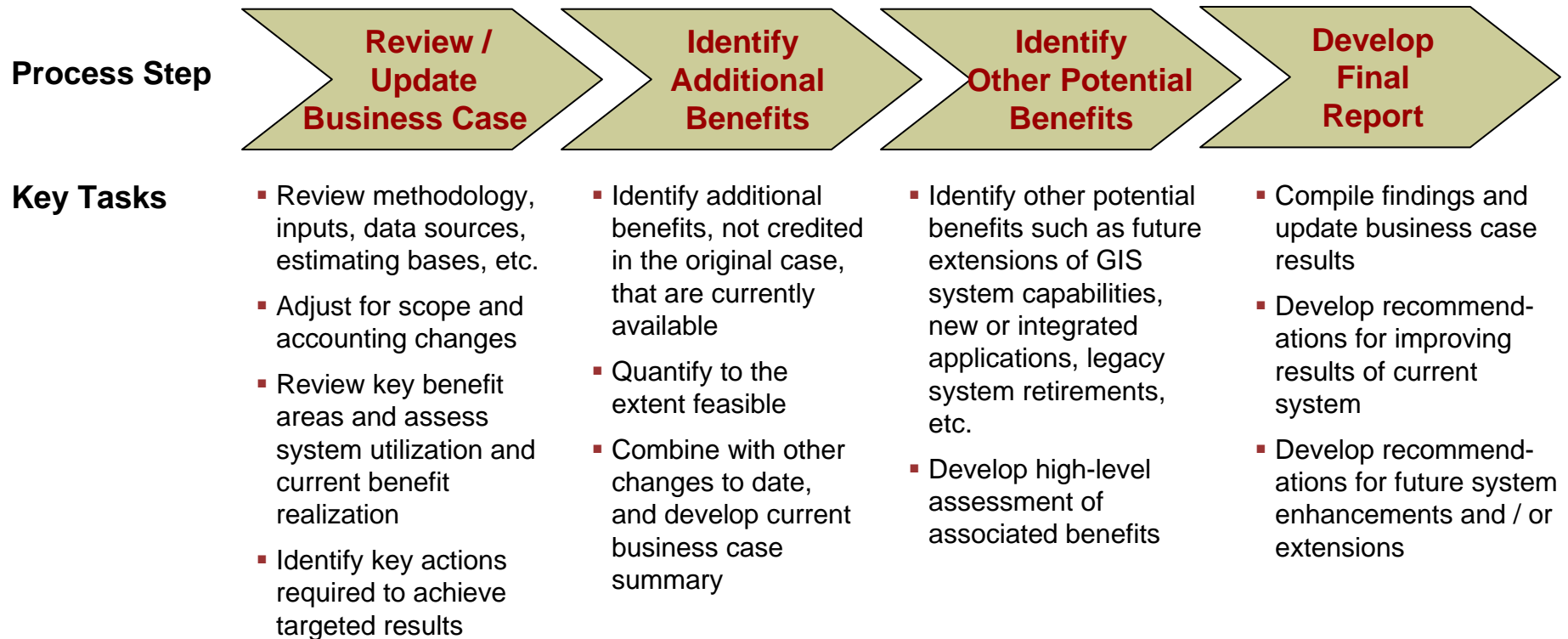
---

- Rich Consulting was engaged by a large mid-Atlantic utility to update a comprehensive business case for a GIS system implementation which spanned both gas and electric operations.
- The update included a review of
  - final project scope
  - associated implementation and support costs
  - process improvement and financial benefits resulting from the project.
- Detailed recommendations were developed to extend project benefits through additional system functionality enhancements and process improvements.

# Scope of Work

---

The Business Case Review and Update was accomplished utilizing the following approach.



# Findings - Cost / Benefit Analysis

Significant financial impacts were determined to exist in the following areas.

<b>O&amp;M Costs</b>	<b>Project Staff Reductions</b>	Using average costs per FTE, costs will be reduced by \$500k in 2004, increasing to \$700k in 2008.
	<b>Depreciation Expenses</b>	Depreciation accounting policies have been updated, positively impacting project NPV
<b>Capital Costs</b>	<b>Project Capital Costs</b>	Capital cost variance within budget
<b>O&amp;M Benefits</b>	<b>Gas Operations</b>	Improvement of emergency crew assignments and response times, reduced customer interruptions, improved safety, and reduced re-lighting costs
	<b>Electric Operations</b>	Significant benefits are associated with the locating, inspecting and maintaining of pad-mounted equipment and the retirement of antiquated records systems.
	<b>Combined Gas and Electric Operations</b>	O&M benefits for the Mapping group are behind the previous projections, due to the data corrections required to support design activities, and the continued production of Feeder Books.

## Findings - Cost / Benefit Analysis (cont'd)

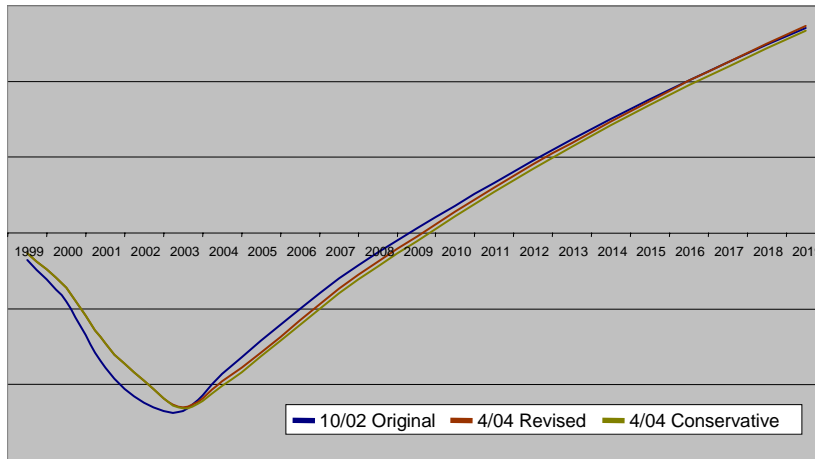
<b>Capital Benefits</b>	<b>Gas Only</b>	The use of the software enabled by GIS has generated significant benefits by optimizing the allocation of capital among various gas main replacement projects.
	<b>Combined Gas and Electric Operations</b>	Training is still underway, which has reduced the benefits expected in 2004 and 2005. It is currently projected that full realization of benefits will be achieved in 2006
<b>Revenue Benefits</b>	<b>Gas Conversions</b>	Achieving the targeted Gas Conversion benefits will require that the annual number of customer conversions doubles between 2004 and 2008. This result will not be achieved without a significantly increased focus on the gas conversion market.
<b>Other Non-Project Expenses</b>	<b>Mapping Operations</b>	There is an ongoing O&M expense associated with the correction of errors discovered on old maps and records. This expense is not being charged to the GIS project, since it would be incurred in any case.

\* Note: The Customer Profitability Model, developed by Rich Consulting, enables an accurate determination of conversion pricing, as well as the resulting revenues and net income.

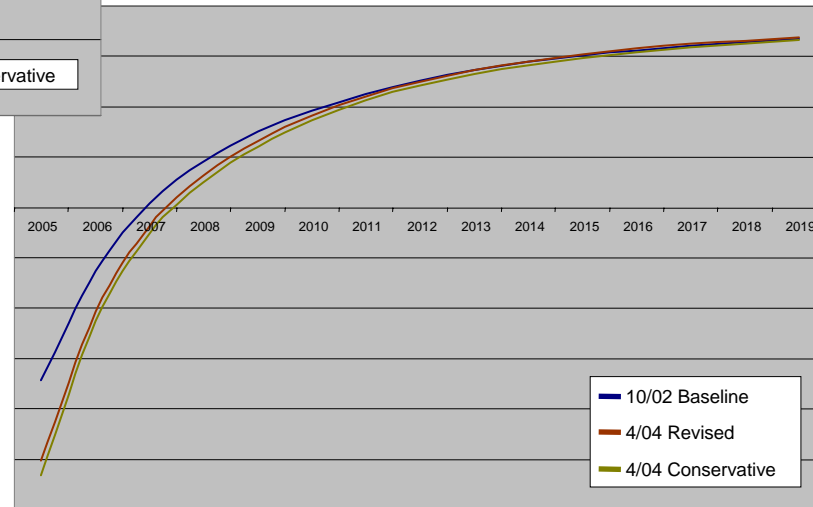
# Current NPV and IRR Projections

Project financials including NPV and IRR were updated and displayed relative to the baseline projection and conservative estimates.

Current NPV



Current IRR



# Additional & Future Benefit Opportunities

---

**In the future additional benefits are available through the further exploitation of GIS capabilities in the following business areas.**

- Customer Reliability Management
- Cable Replacement Program Planning
- Tree Trimming
- Meter Reading
- Gas Construction
- Distribution Operations
- Distribution Construction
- Agency Portal
- Transmission

# Recommendations

Drive Design Proficiency and Usage	Manage the Overall Design Cycle	Establish Accountability for Benefit Production	Fully Leverage Existing Investment	Prioritize System Enhancements
<ul style="list-style-type: none"> <li>▪ Optimization of CU's would streamline design &amp; construction processes, leading to reductions in project cycle time</li> <li>▪ Construction drawings should be optimized, with only the level of detail required for construction, network analysis, and facility location</li> <li>▪ Enhancements, such as inclusion of ROW information, should be implemented</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second largest savings area is M&amp;R. Project design cycle should be considered a closed loop               <ul style="list-style-type: none"> <li>– Land base and facility information originates in M&amp;R</li> <li>– Project design and close-out provided by design group</li> <li>– Final as-builts returned to M&amp;R for system updating and archiving</li> </ul> </li> <li>▪ Process cycle should be managed as a whole; establish and monitor overall work flow metrics</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Steering Committee should have specific accountability for driving the GIS system utilization and the effective implementation of its capabilities across the organization.</li> <li>▪ The SC should be accountable for conducting annual business case updates and developing actions and enhancement plans to ensure that full implementation benefits achieved</li> </ul>	<ul style="list-style-type: none"> <li>▪ Capitalize on low-cost opportunities to leverage current capabilities:               <ul style="list-style-type: none"> <li>– Geographic plotting of customer interruptions for management of tree-trimming</li> <li>– Geographical location of isolating devices</li> <li>– Cable replacement program analysis and planning</li> <li>– Meter routing optimization</li> <li>– Coordination of gas projects with planned paving projects</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Potential system enhancements should be evaluated and those with the best NPV should be budgeted</li> <li>▪ Incorporate transmission facilities, Rights-of-Way, etc.</li> <li>▪ Subsequent enhancements in the transmission arena may include building an interface with system analysis programs to facilitate system planning and FERC reporting</li> </ul>



10 Forbes Road  
Braintree, MA 02184  
tel: 781.535.6460  
fax: 781.535.6464  
info@richconsulting.com  
www.richconsulting.com