

STRATEGIC ASSET MANAGEMENT; INFRASTRUCTURE PORTFOLIO OPTIONS

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Capital Formation Challenge

- It's been low tide for port industry revenues
- Public capital resources dried up
- Private capital available but cautious
- Financially, port authorities are on their own as perhaps never before

And Aging Infrastructure— Looming Perfect Storm?

- Some ports, like some baby boomers, starting to show where physical maintenance has been lacking
- With recession fading, pressures increase for new, upgraded or rehabilitated facilities
- Combination of facility demands and capital shortfalls are beginning to propel AM to port management front burner

Ports and Asset Management

- Ports have and continue to “do” AM
- Difference is approach—systematic, cross-functional, integrated, mission oriented
- What is status of port industry approach to systematic, what are constraints, drivers, and some of the ports that are moving forward

Port Management Equation #?

As an asset intensive public enterprise, established to fulfill its public mandate through self sustaining, business-like operations, it is in the interest of North American port authorities to manage their assets in a manner that fulfills the Authority's role as custodian of public resources, generates positive economic impact and maximizes ROI at the lowest possible cost over the life of the asset and within an acceptable risk regime.

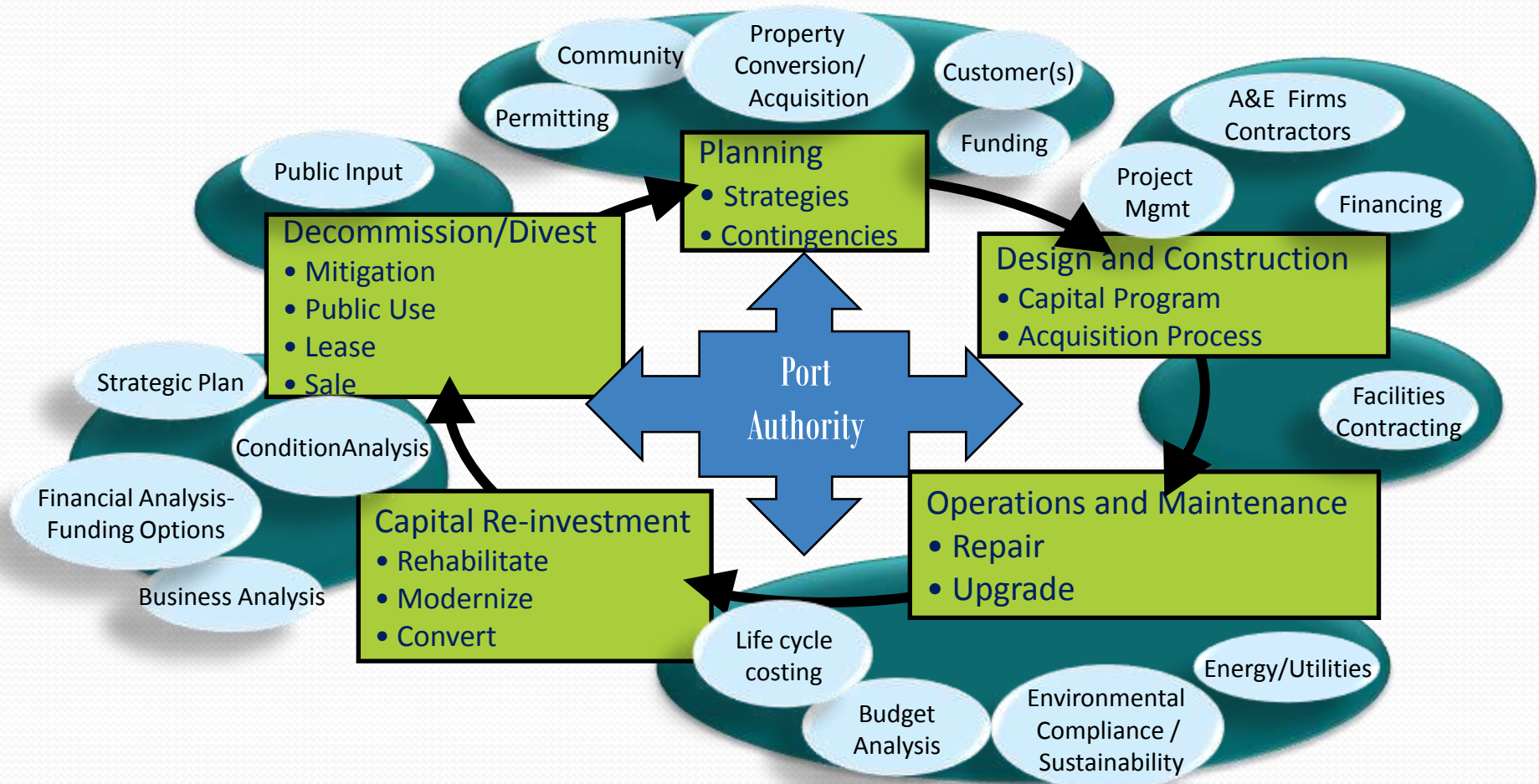
AM Constraints

- Corporate culture—“we’ve got it covered”
- Inertia—where to start?
- Up front commitment of time and money
- Insufficient and/or “silo’d” knowledge base
- Lack of clear, feasible goals
- Other priorities—“AM is on the front burner, and it sits there with 20 other front burner issues”

Incentives to start thinking programmatically about AM

- Deferred or inattentive maintenance regimes leading to unpleasant and expensive surprises.
- Retirements
- Productivity declines
- Newly acquired assets
- Changes in facility utilization or function
- Disaster planning, business resilience and claims management
- Privatization due diligence
- Commission questions about deferred maintenance

Asset management--more than a plan to maintain plant and equipment



Asset Management Goals at the Seattle Seaport

An aerial photograph of the Seattle Seaport. In the foreground, a large cruise ship is docked at a pier with several red gantry cranes. The water is dark blue. In the background, the Seattle city skyline is visible, including the Smith Tower and the Space Needle. The sky is clear and blue.

- Port of Seattle is focused “**Sustainable Asset Management**”
 - *Proactive long-term way of thinking about facility development and ownership*
 - *Focus on total cost of facility ownership to better link capital investments and ongoing operating costs*
 - *Improved decision-making based on clear data and well-defined objectives*
 - *Industry best practices that maximize efficient use of available funds and conserve natural resources*
 - *Integration of environmental and financial performance*

The Port's Physical Asset Base

- Built
 - Docks and wharves
 - Buildings
 - Plant and Equipment
 - Utilities
 - On terminal road, rail,
 - Backland storage
- Natural (e.g., property suitable for future development or mitigation)
- External assets
 - Road network
 - Rail network
 - Channel navigation system

OK, but what is an asset?

- MetroVan is comprised of three recently consolidated provincial port authorities: North Fraser, Fraser River and Vancouver Port Authorities
- A basic issue soon emerged: “Our fixed ledger system does not differentiate between an asset and a liability .”

And what is the asset's value?

- Book
- Replacement
- “Business”-- discounted net earnings potential
- “Sustainable”-- discounted net earnings potential based on “Business” value plus net discounted social and environmental benefits and costs
- “Strategic”-- risk based assessment of relationship of asset performance to achievement of mission

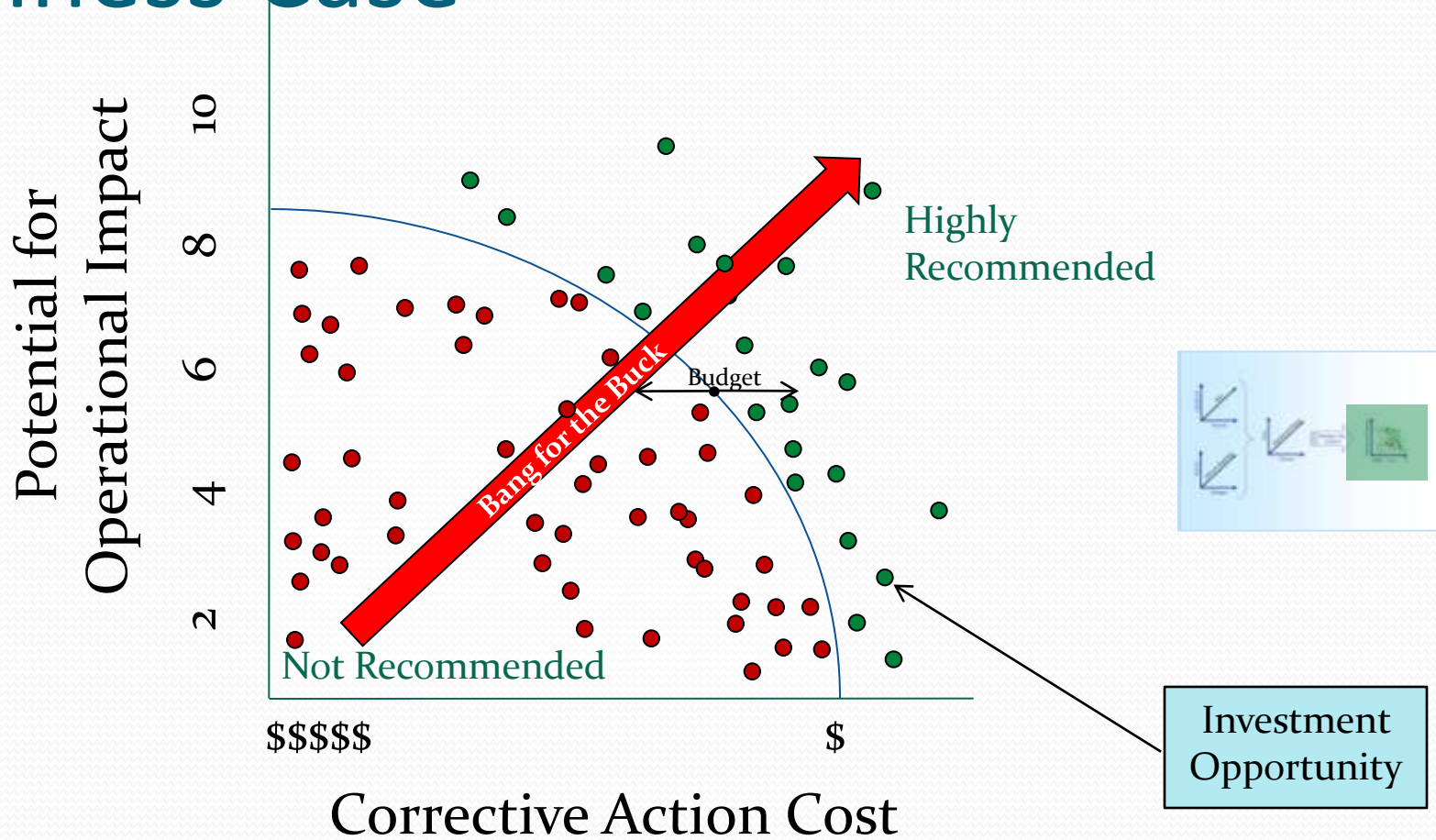
AM and Enterprise Risk Assessment together comprise a necessary and sufficient approach

- Asset management fulfills an important but *limited* role in strategic port management if it is *not* accompanied by a comprehensive, fully integrated *risk assessment* approach that links asset integrity to the organization's goals.
- Business process is required to relate corporate mission risk and opportunity to strategic capital investment in facilities across the organization's portfolio.
- Process goals: transparency, auditable, defensible and repeatable.

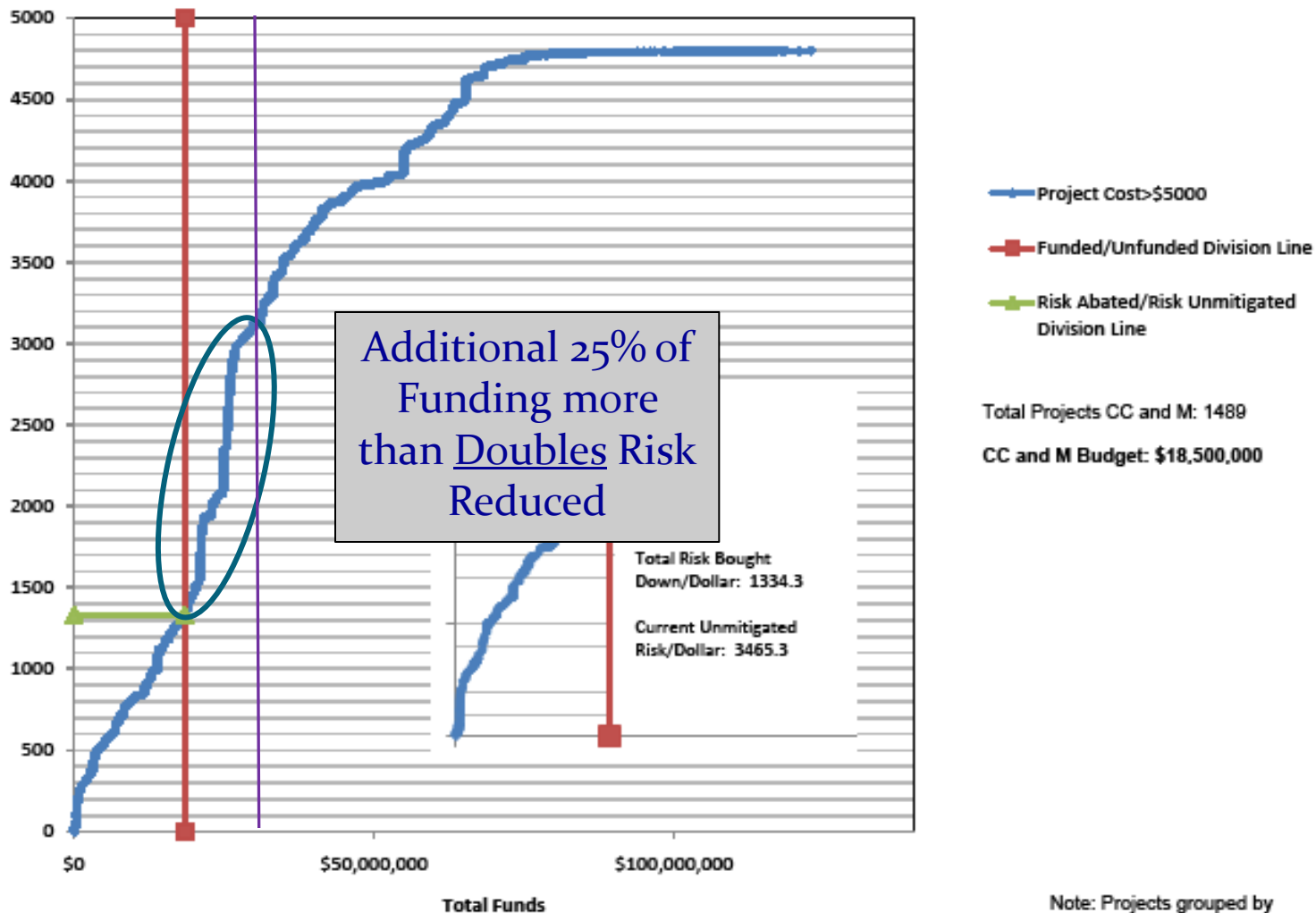
Enterprise Risk Management; Sorting out front burner issues

- An emerging strategic management tool that “...supports the achievement of an organization’s objectives by addressing the full spectrum of its risks and managing the combined impact of those risks as an interrelated risk portfolio.” (Risk and Insurance Management Society)
- The basic concept is nothing new to port directors, but the process is.
 - ERM facilitates quantification processes to augment qualitative judgments.
 - ERM is a comprehensive process, involving transparent information assessment across all organizational functions
 - ERM seeks to promote a culture of risk management at the operations as well as strategic levels.
 - ERM also adds value with its focus on opportunity exploitation as well as risk mitigation.

Evaluation of Risk to Mission — Business Case



Residual Risk Evaluation: Additional Budget Argument



Strategic AM can facilitate capital planning and support

- PRPA was motivated to establish a strategic approach to AM based on the commitment of the State for an \$85 million capital grant provided suitable justification was provided.
- Result was consultant supported assessment based on facility condition, market forecast, cargo fungibility, cost and risk to mission, of which facilities to maintain and renew.

Data base integration

- Port of Oakland viewed AM as a decision support tool driven by data needs with IT in the lead
- “Enterprise resource program from Oracle includes a capital project module and an asset management module that will track inventory as small as widgets and as big as container cranes, and allow us to assign, track, and plan our facilities personnel. “
- “ERP implementations require a multidimensional and complex business change effort that converges people, process, and technology.

AM ENABLERS

- Technology—ability to construct and solve complex algorithms quantifying trade offs
- Business Process—sophisticated management awareness and techniques
- Corporate Culture and Employee Development — running the port authority like a business

A Robust Strategic AM System encompasses the following components:

- A computerized asset management system that incorporates a comprehensive register of all infrastructure assets.
- Appropriate interfaces between the asset management system and all relevant port departments
- Condition rating methodology applied to all relevant assets.
- A structured and timely asset inspection and maintenance regime
- A costing and valuation history for assets and an appropriate unit cost structure.
- Risk to mission assessment
- Appropriate redundancies and backup systems for mission-critical assets

Strategic Asset Management facilitates:

- Asset renewal planning
- Life cycle planning processes and understanding of total cost of ownership.
- Understanding and communication of asset risk exposure and its influence on capital allocations
- Institutionalization of knowledge to mitigate effects of workforce retirements;
- More reliable investment strategy and timing;
- Embedding asset management as a core business discipline across all business functions
- Recovery and resilience strategies in case of natural or man-made disaster;
- Assurance that infrastructure assets are maintained in a fit-for-purpose state.
- Budgeting accuracy and scheduling coordination with operational needs
- Compliance with appropriate regulations, standards and guidelines.
- Standard operational policies and procedures
- Optimization of insurance coverage and claims management

CONCLUSIONS

- Asset Management is gradually being adopted by the port industry as an integrated strategy instead of an afterthought or ad hoc process.
- Port management typology, unique corporate mission, and specific conditions will directly influence each Port Authority's AM goals, structure and implementation program.
- Integrating AM system with EMS, SMS, & HR can provide synergies, save resources, and lead Port Authorities into sustainable development paradigm.