Business Assessment for Wyoming's Statewide Wireless Communication Solution

Executive Business Case Overview

Agenda
Objectives

- **Describe Findings**
  - Background
  - Situation Analysis (“As Is”)
  - Opportunity Areas
- **Present Solutions**
  - Solution Development Methodology
  - Solution Alternatives
  - Impact Analysis
  - Alternatives to Act Upon

Background

- **“As Is” -** Within the State of Wyoming there are a multitude of Public Safety and Service Radio Communications Systems that are operating in autonomous manner
- **Multiple Service Providers**
  - Little or no manufactured parts support
  - Out-dated system management and service processes
  - Multiple Standalone Systems
    - Limited or no interoperability
    - Coverage deficiencies
    - Aged Systems (25 Plus Years)
- **Due to insufficient public safety coverage, interoperability, and lack of emergency and secure coordination between agencies, the current situation causes a High-Level of Risk & Liability for:**
    - Citizens
    - Public Safety and Service Personnel
    - Tourists
    - Business

Background

- **There have been several attempts by various state agencies to move their concept (Statewide, Public Safety and Service Radio Communications Systems), through the planning and budgeting phase**
- **Lack of timely information on available technology choices**
  - Inability to produce a business case argument for such a system

- **The State of Wyoming & Local Governments have engaged us to:**
  - Assist in developing their Statewide Multi-Agency Digital Wireless Communications Network
  - Present alternatives based on Business and Technology Assessments
  - Present a best-in-class alternative based on the study and from public safety market experience

Background
Assessment Method Overview

Defining the Assessment

What is it?

- **Evaluation of the State's Requirements**
  - Business
  - Functional
  - Technical
- **Baseline the Current Operational Environment**
  - System Management
  - Maintenance Processes
- **Conceptual and Technical Evaluation**
  - User Interviews
  - Estimated Site Analysis

Background

After Data Collection

Categorization of Business Functional & Technical Requirements of the State

§ Efficient Government

§ Recruit technology into state

§ New Economy

§ Private & Public Alliances

§ Shared Services

§ Standardization

§ Resource Reallocation

§ Develop Technology & Improve Coverage

§ Agency Interoperability

§ E-Government

§ Voice Secure

§ Access to skilled technology labor & capital

§ Improved Public Safety

§ Build core State Businesses

§ Reduce efforts & costs

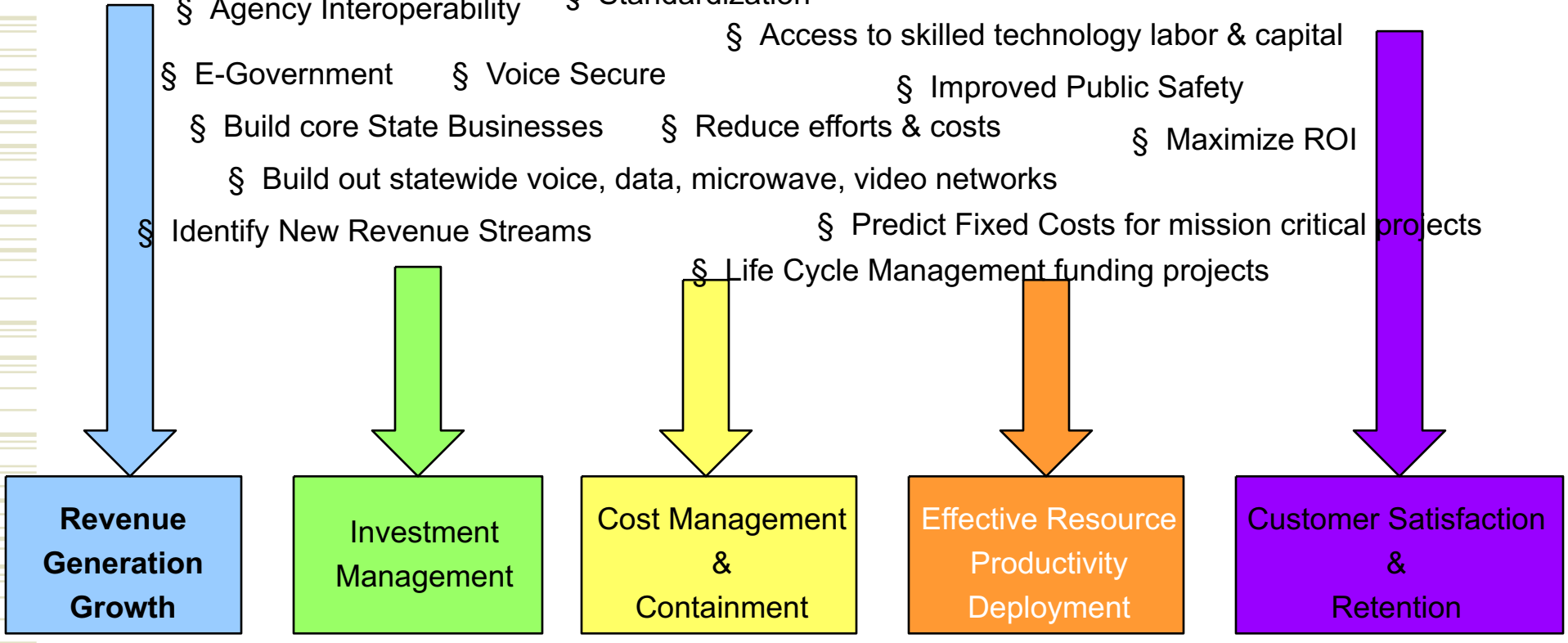
§ Maximize ROI

§ Build out statewide voice, data, microwave, video networks

§ Identify New Revenue Streams

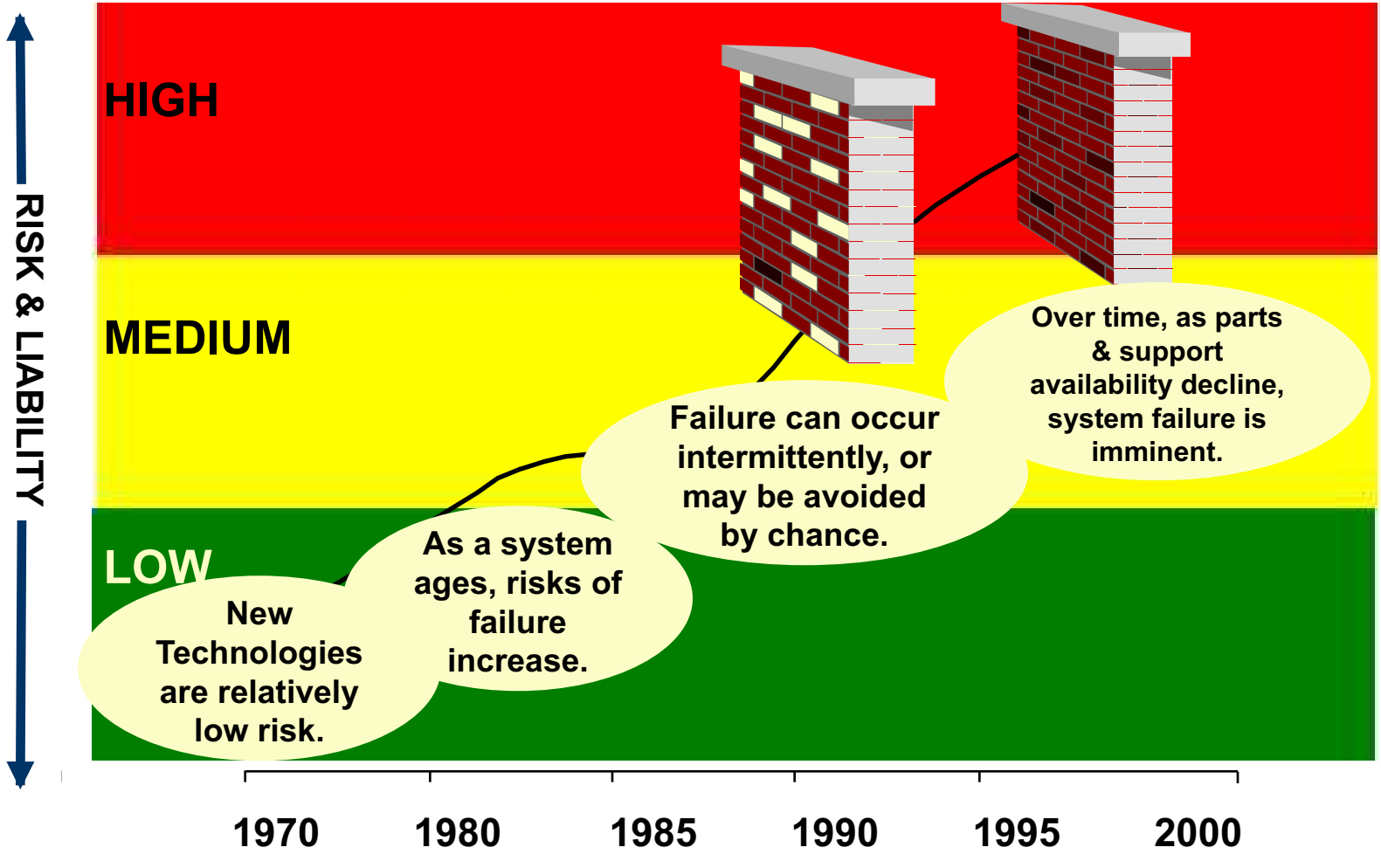
§ Predict Fixed Costs for mission critical projects

§ Life Cycle Management funding projects



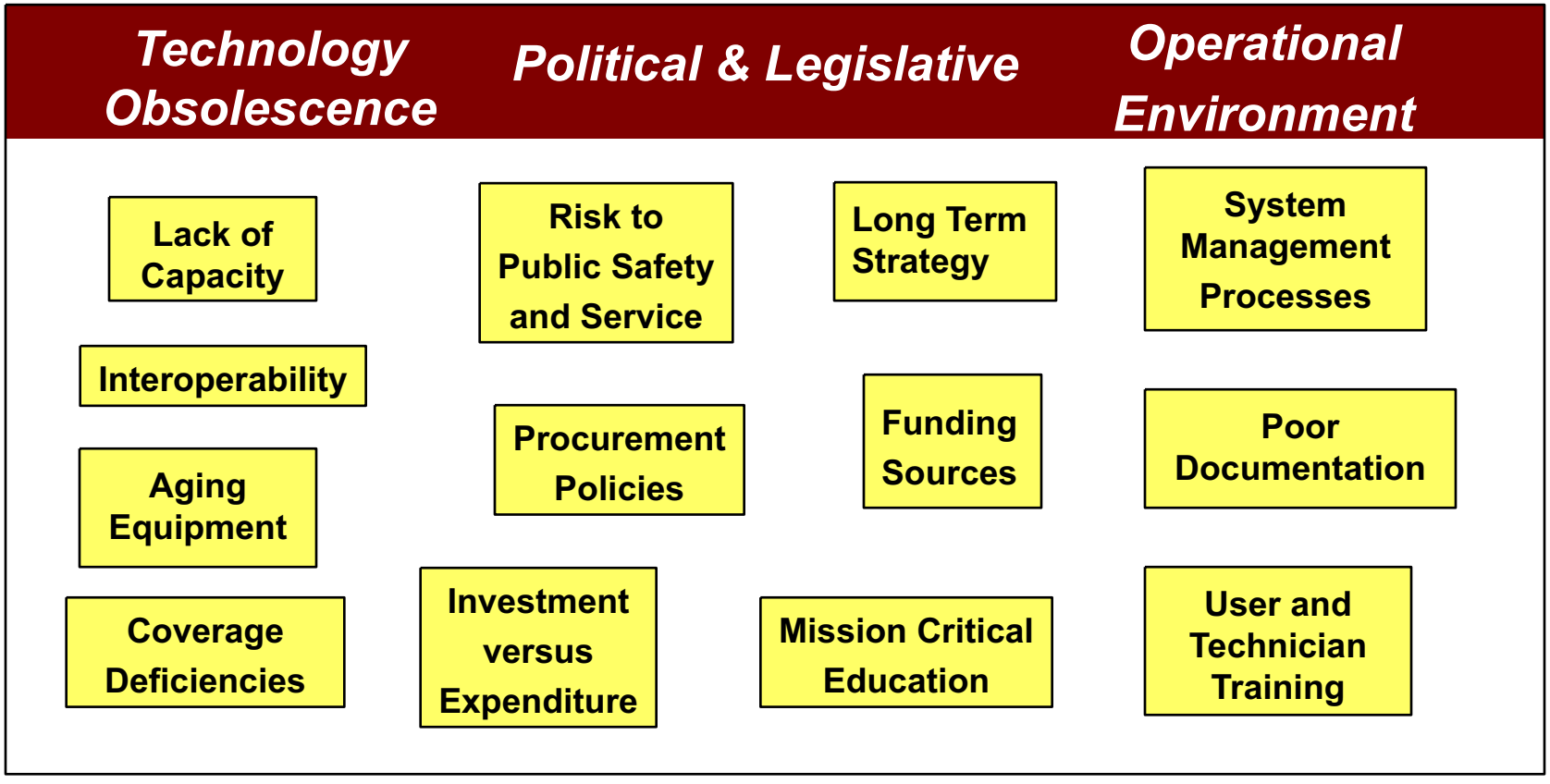
Situation Analysis ("As Is")

After the "As is" review, the risks associated with ownership & management of wireless solutions increases with age.



Opportunity Areas

Identifying Root Cause Through Opportunity Areas



Opportunity Areas

Root Cause - Choosing the right Digital Communications Network include the critical components of System Management and Service Support Processes

System Management

Best Practices

- System Administrator Must Be Accountable for the Following
  - Asset Management
  - User Administration
  - Network Administration
  - Site & Network Administration
  - Subscriber Unit Maintenance
  - Planning
- The existing hardware base of systems prevents updated processes

Aging Equipment

- Site Improvement Issues
  - Tower & Grounding
  - Digital Microwave
  - Surge Suppression
  - Space Issues
- Infrastructure Equipment
  - Lack of Capacity
  - 25+ Years Old
  - No Longer Being Manufactured
  - Parts No Longer Available

Statewide Solution Vision

- Standardization
- Consolidation of Resources
  - People
  - Assets
- Best in Class Practices
  - System Mgmt
  - Service Support Processes
  - Technology Life Cycle Mgmt.

Opportunity Areas

Operational Environment

Digital Wireless Systems Operational & Service Support Processes- Best practices "System Management"

Asset Management	Is concerned with the tracking, reporting, and management of the different elements of the customer's wireless investment by physical location.
User Administration	The process of organizing, supporting and educating users. Incorporates training and help desk but just as important, the feedback mechanism through which radio groups learn how to evolve and grow their systems.
Network Administration	The activities and systems surrounding the mgmt. of a private wireless network such as performance tracking, network monitoring, contract administration, vendor mgmt., and FCC license mgmt.
Site & Network Maintenance	Activities associated with wireless infrastructure maintenance operations including; preventative maintenance, equipment repair, board replacement and repair, and regular site inspections, etc.
Subscriber Unit Maintenance	Maintenance programs specifically targeted at the subscriber unit. Examples of maintenance include: unit repair, and preventative maintenance of subscriber units.
Planning	The set of activities that ensure wireless technology matches business objectives. Includes strategic planning, standards, venture initiatives, and technology life cycle management

Solution Development Methodology

Building Solutions

The State Asks:

- How do we develop our concept?
- What can we do to drive it?

Step 1

- Capture, categorize and analyze the data
- Identify risk points
  - Limited Documentation
  - Aging Equipment (no parts available)
  - Limited System Management and Operational Activities
  - Capacity
  - Limited Knowledge of Available Technology and Benefits
  - Limited Strategy or Vision
  - User Training
  - Political & Legislative

Step 2

- Isolate the root causes
- Validate Assumptions
  - Opportunity Areas
  - Benchmark Industry Standards and Best Practices

Step 3

- Identify Solution Criteria
  - Cost
  - Coverage
  - Capacity
  - Control
  - Capability
  - Political
  - Business
  - Operational
  - Value
  - Focus
  - Safety
  - Financial

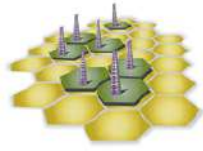
Solution Development Methodology

Building Solutions – Solution Criteria

Since not all communication alternatives are the same, it's important to evaluate each option based on your needs. The 5C's model allows you to evaluate the many choices available and helps you choose the one that's right.

Cost — Cost can be put into two categories: up-front and ongoing. Whether a private or public communications system, there is an initial investment in infrastructure and system management over the lifecycle.

Coverage — It's necessary to consider both the geographic area you must communicate across, as well as the challenge that geography may present.



Capabilities — Your need for certain types of functionality and features will affect what type of system you choose.

Control — Having total control over communications is a must for public agencies and many other organizations. The ability to control system configuration and performance can help ensure your organization has access to mission-critical information you need, when you need it.

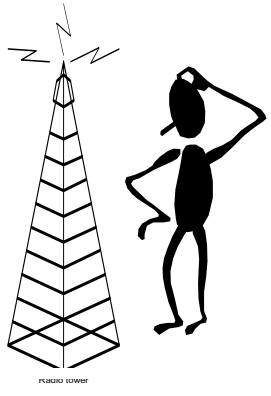
Capacity — Another criteria to consider when evaluating wireless solutions is your expected usage pattern. Supporting your capacity today and for tomorrow.

Solution Development Methodology

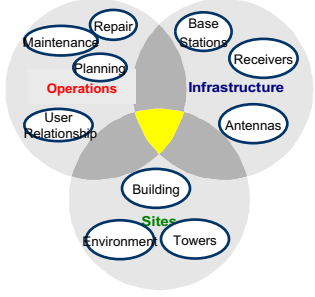
Customer Value Criteria

Solution Crafting

Current Environment



Identify Opportunities



Solution Criteria

- **Safety**
  - Users
  - Citizens
- **System Reliability**
  - Productivity
  - User Response Time
  - Ensured Communications
- **System Performance**
  - Ensured System Uptime
- **System Manager Accountability**
- **Strategic Planning**
  - Migration Path
  - No “Dead-End” Technology
  - Ensures a Future

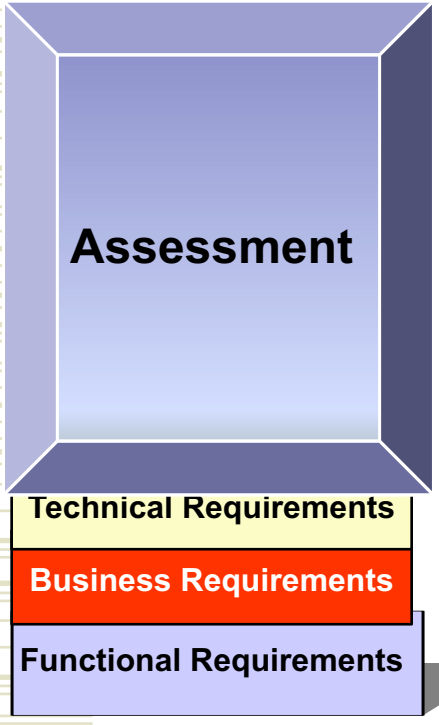
Solution Development Methodology

Building Solutions – Solution Criteria

- **Political**
  - Public Relations
  - Internal Consensus for Solution Acceptance
  - Public Acceptance
  - Impact to Legislation
  - Impact to Public Safety and Service, Users
  - Meet State Funding and Procurement Policy
  - Strategic Alliances
- **Financial**
  - Return on Investment
  - Funding Impact
  - Predictable Cost
  - Cost Management throughout the Life Cycle of Technology
- **Operational**
  - Risk Mitigation
  - On-going Management
  - User Services
  - Focus on Core Competencies
  - Productivity
  - Morale
- **Implementation**
  - Ease of Solution Implementation
  - Start-up Time

Solution Development Method Process

1



- Past studies
- Diagnostic conversations
- Site Surveys
- User Interviews
- System management & Network resource assessments

CAPTURE

- Collect Data

2

CATEGORIZE

- Organize into Operational & Cost Buckets

ANALYZE

- Identify Opportunity Areas

SYNTHESIZE

- Validate Conceptual Solution & Create Deliverable

Assessment Output →

Business Case for Action
Current Operation Deficiencies
Opportunity Areas
Ownership Benefits
Ownership Strategy

3

Solution Alternatives

1

- **Do Nothing**
  - Customer's Responsibility to operate current "As is" system
  - Attempt to maintain and contract for obsolete equipment

2

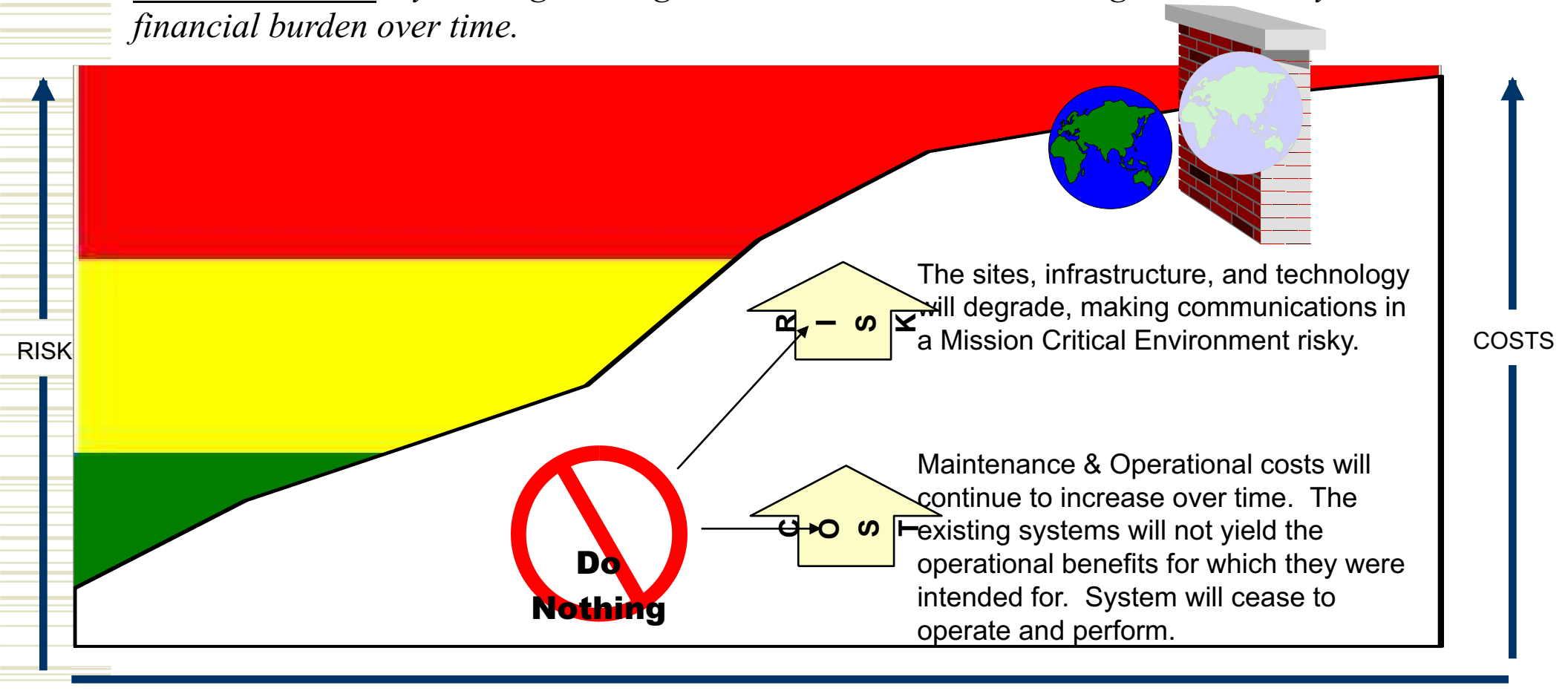
- **State to Own, Manage, and Maintain the New Communications Network**
  - Plan a phased, procured and implemented system
  - Fixed Infrastructure Lease Payments by Phases (*pricing not included—available upon request)*
  - User Direct Purchase of Field Units & Dispatch Consoles
  - Augmented Services Support Packages Provided Through Private Sector
  - Replace/ upgrade equipment

3

- **Public / Private Alliance to Build, Own, and Operate the New Communications Network**
  - Plan a phased, procured and implemented system owned by the Private and/or Public Sector
  - Private Sector Manages the Network in Collaboration with the State and Local Governments
  - Fixed Infrastructure
  - Lease Payments by Phases (*pricing not included—available upon request)*
  - User Direct Purchase of Field Units & Dispatch Consoles
  - Augmented Service Support Packages Provided Through Alliance
  - Contractual Agreements to Mitigate Risk, Technology Obsolescence, Planning, and all System Management Processes to Private Sector Alliance Partner

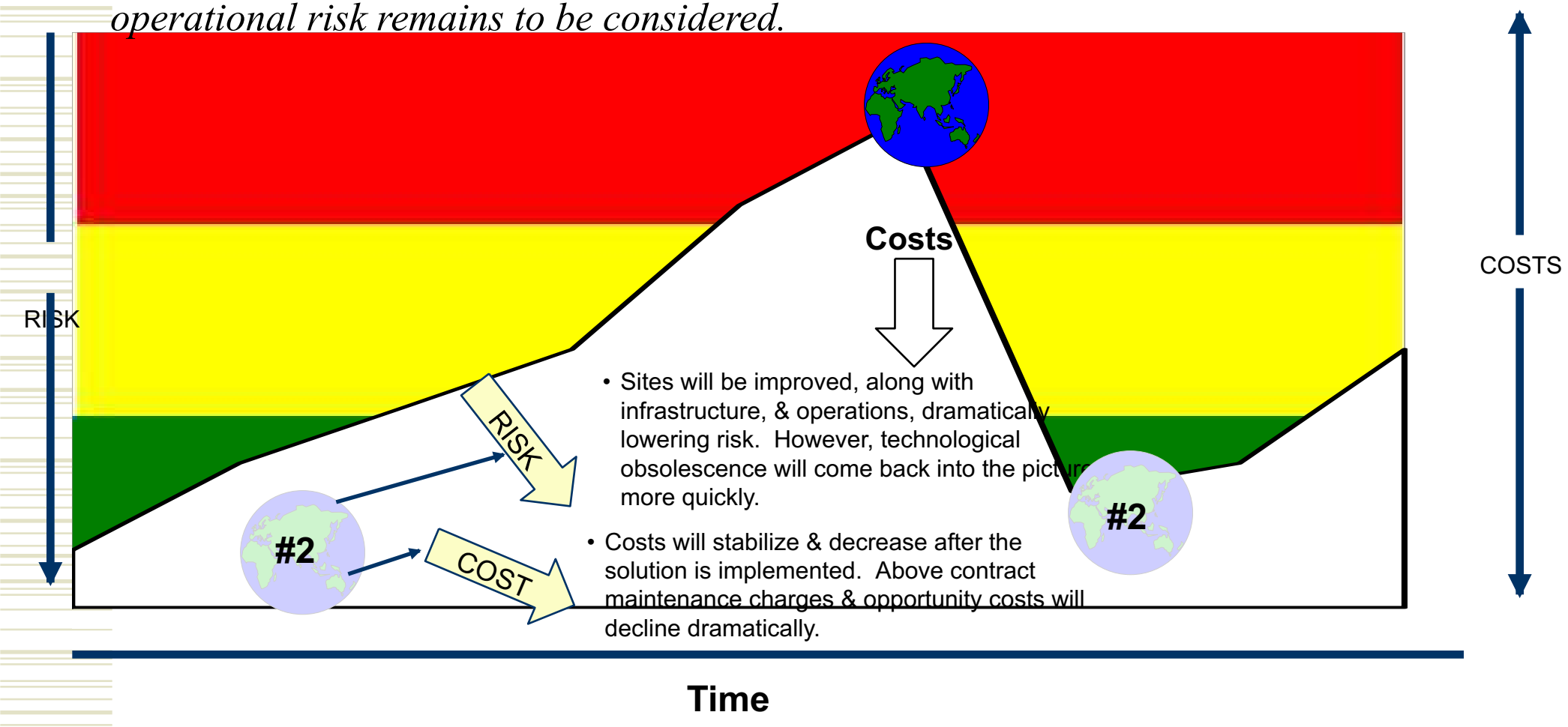
Impact Analysis
What Happens if the State "Does Nothing" (Alternative 1)

CONCLUSION: *By "Doing Nothing," the State will bear increasing risks, liability & financial burden over time.*



Impact Analysis
Alternative 2 (OWNERSHIP)
State to Own, Manage, and Maintain the New Communications Network

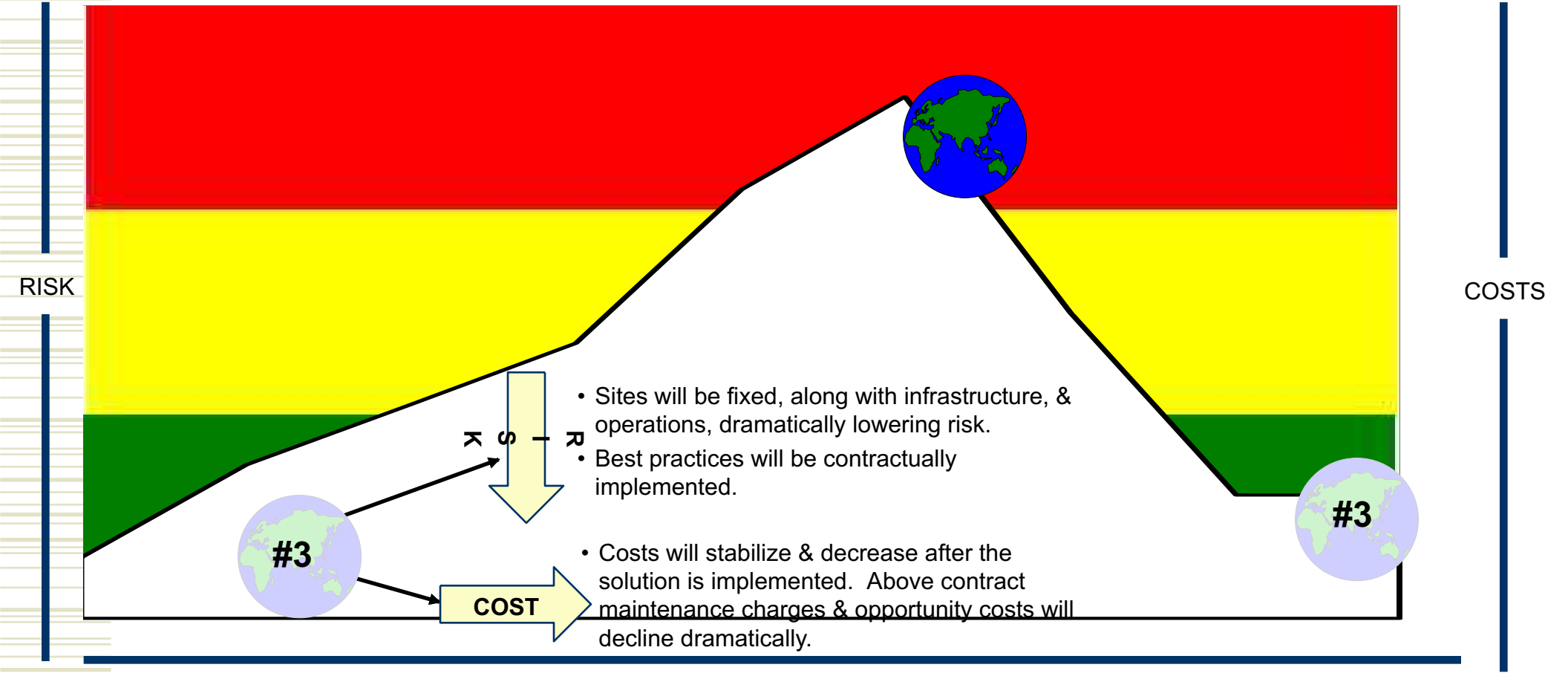
CONCLUSION: *New technology will reduce communication risk, but operational risk remains to be considered.*



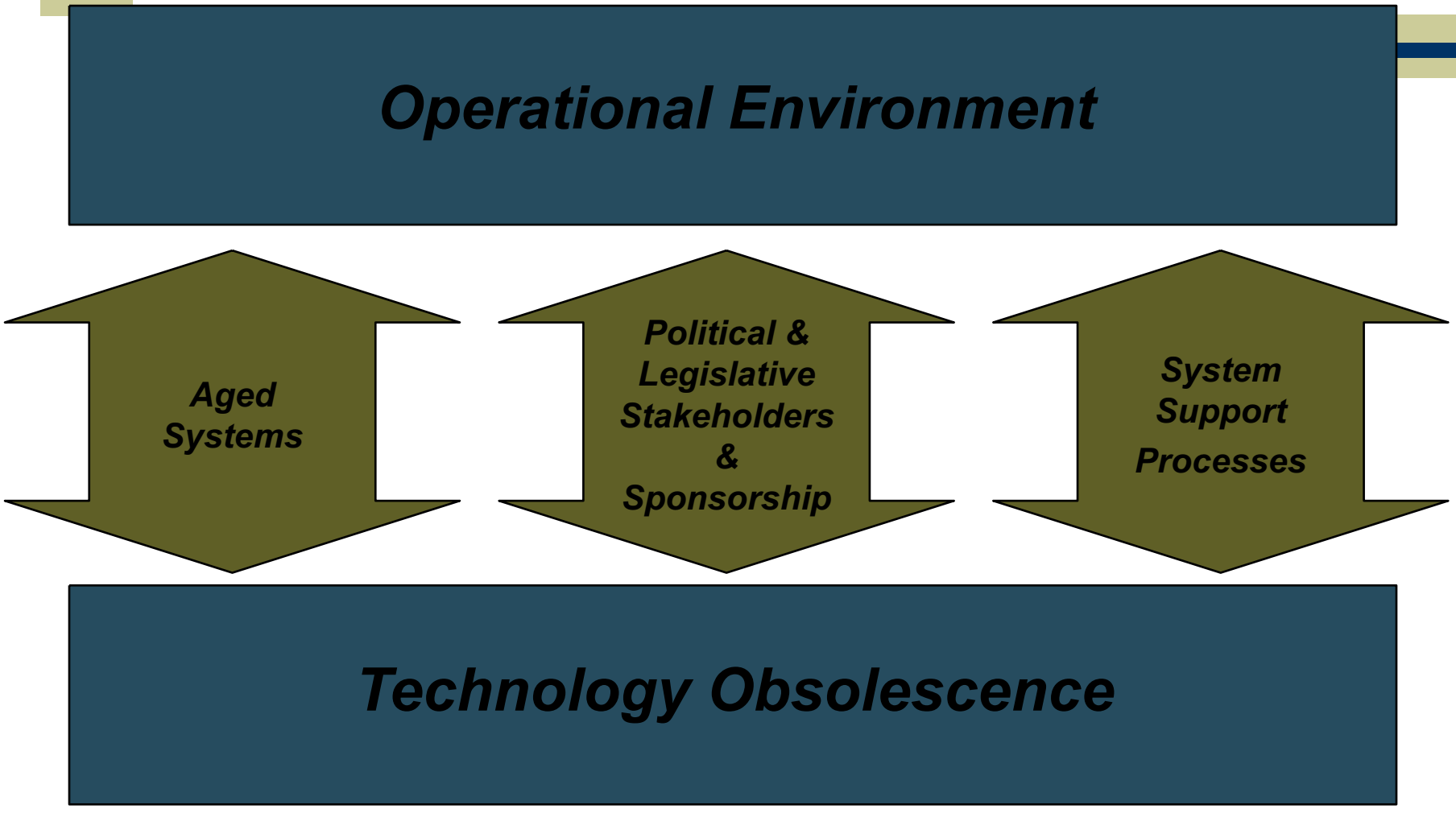
Impact Analysis
Alternative 3 (Partially Owned or Outsourced)

Public / Private Alliance to Build, Own, and Operate the New Communications Network

CONCLUSION: *Reduces Communication risk, Operational risk, and Technological Obsolescence risk through structured processes and planning.*

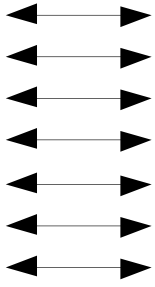


Recommendation Drivers



Recommendation

Evaluating Solutions



Value Criteria

- Cost
- Coverage
- Capabilities
- Control
- Capacity

- q Financial
- q Political
- q Safety
- q Operational
- q Value
- q Focus
- q Business

=

Recommended Solution

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Recommendation

When making a decision, use these elements to rank the solution alternatives

Solution

- ***Financial***
- ***Political***
- ***Safety***
- ***Operational***
- ***Value***
- ***Focus***
- ***Business***

Revenue Generation Growth

Investment Management

Cost Management & Containment

Effective Resource Productivity Deployment

Customer Satisfaction & Retention

Additional Appendix

Background

- **The State selected Motorola because:**
  - **They are active members of APCO (Association of Public Safety Communications Officers)**
  - **Participant of SALECS (State Agency Law Enforcement Communication System)**
  - **Major supplier of integrated wide area digital communications systems:**
    - Hardware
    - Software
    - Implementation Processes
    - Services
- **A Major Presence in Wyoming**
  - Service Centers
  - Distribution Network
  - Focused Solutions Account Team Professionals:
    - Sales
    - Engineering
    - Program Management
    - Service
    - Business Development

Solution Alternatives

Why Digital Wireless Wide Area?

Solution Alternatives

Technology Comparison

	Cost	Coverage	Capability	Control	Capacity
Digital Private Wide Area	○	●	●	●	●
Public Network	○	◔	○	○	○
Satellite	○	○	○	○	◔

In evaluating a wide area digital communication network the 5 Cs need to be considered

CONTROL is the over riding factor in deciding on a system that includes a MISSION CRITICAL Communication Need. Without complete control of the entire network, system integrity is breached creating a high level of risk.

Scale:

○ Negative ◔ Neutral ● Positive

Solution Alternatives

- **Pricing / Financial Engineering**

For Alternatives 2 & 3 the pricing vehicle can be through an operating lease (*pricing not included—available upon request*)**. This approach can help the State and Local Governments with:**

  - Predictable fixed payments - 7 years for each Phase
  - Allows for a well planned, phased implementation
  - Aids in the budgeting process
  - Provides flexibility for technology migration and “refresh” strategies

- **These Alternatives can help the State meet their technology goals**
- **Alternatives 2 & 3 are based on a Rough Order of Magnitude (ROM)**

Solution Alternatives

What is Rough Order of Magnitude (ROM)

ROM

- **Not a Budgetary Price**
- **Not a Price to Be Bound to**
- **Vendor Neutral - Non-brand Specific**
- **A Range of Value**
- **An Estimate That We Must Build Assumptions Around**
- **A Value That Will Allow the State and Local Governments to Weigh/Consider Alternatives**
- **A Value That Will Begin Shaping Expectations for the State and Local Governments**

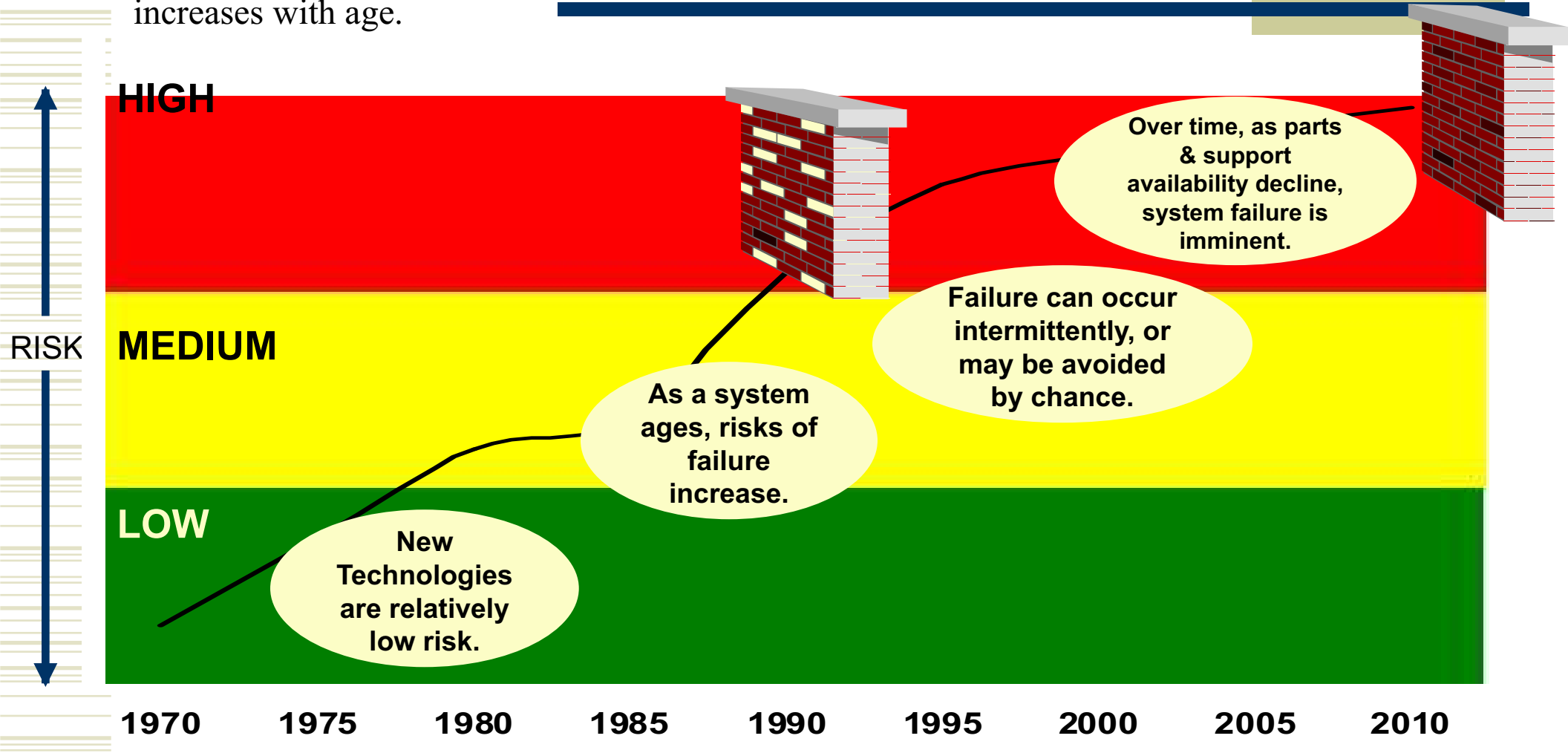
Impact Analysis

Evaluation Process

- **The impact Analysis is an attempt to quantify/qualify the "pain" of the current operating state, as well as to quantify/qualify the relief of "pain" over time for the solution(s)**
- **Within the current state we have identified three areas of opportunity**
  - Aged Systems
  - Operational Environment and System Management/ Service Support Processes
  - Political/Legislative
- **How does each Alternative Rank in Evaluation Criteria and what is its degree of impact to the State?**

Impact Analysis
Starting Points

Like all systems, the risks associated with ownership & management of wireless solutions increases with age.



Impact Analysis
Selection Value Criteria

The following Table ranks the Alternatives with its Selection Value Criteria over the technology life cycle

Alternatives	Cost	Coverage	Capability	Control	Capacity	Value	Focus	Safety
#1	○	◔	○	○	○	○	○	○
#2	◔	●	◔	◔	●	◔	○	●
#3	●	●	●	●	●	●	◔	●

Scale: ○ Negative ◔ Neutral ● Positive

Recommendation
Solution Description

3

Public / Private Alliance

- **A Phased, Procured and Implemented New Digital Network Solution, Co-Managed and Supported Through Public/Private Alliance**
  - Fixed Infrastructure Lease Payments by Phases (*pricing not included—available upon request)*
  - User Direct Purchase of Field Units & Dispatch Consoles
  - Augmented Service Support Packages Provided Through Alliance
  - Contractual Agreements to Mitigate Risk, Technology Obsolescence, Planning, and all System Management Processes to Private Sector Alliance Partner
  - **The solution will provide an accountable Private Sector System Manager on site, responsible for the ongoing operation and management of the network throughout the technology life cycle**