

# ***Making Federal Facility Investment Decisions Simple and Compelling***

## ***A Multi-Billion Dollar Army National Guard Example***



**June 18<sup>th</sup>, 2015 presentation to the  
Federal Facility Council's  
Committee on Sustainable Design & Construction and the  
Committee on Sustainable Operations & Maintenance**



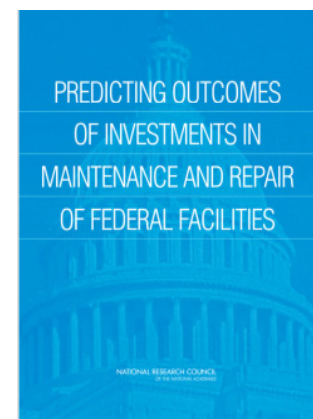
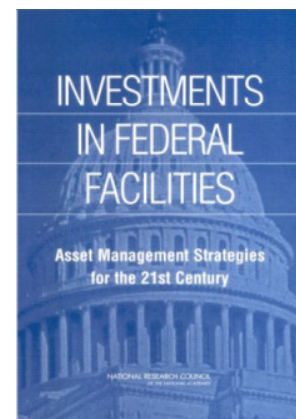
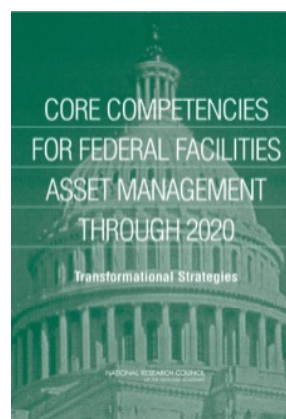
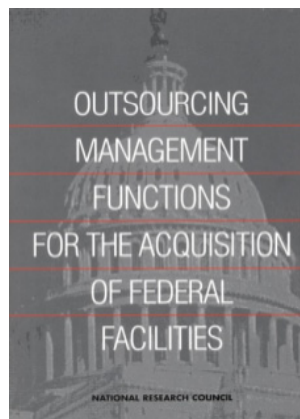
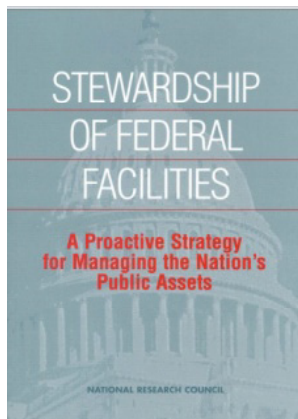
**JACOBS**



# Agenda



- Problem Statement
- Simple & Compelling Business Cases
- Army National Guard Readiness Center Transformation Master Plan (RCTMP) Example
- Key Analysis Advancements
- Relevance to Federal Facilities



## Problem Statement

# Need for Simple, Compelling Business Case



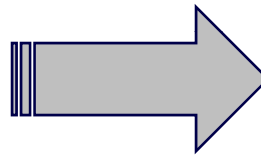
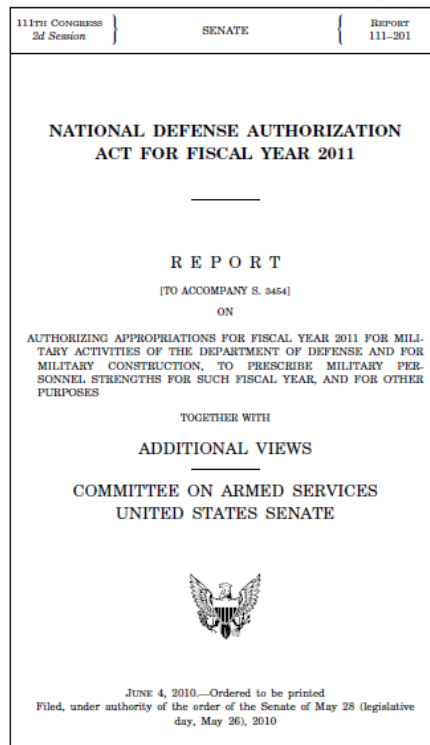
- Failing Infrastructure
  - ASCE Scorecard – D+...
- Limited Resources
  - US Gov't Book Value **-\$11.8T**
- Competing Priorities
  - US Debt > US GDP
  - Labor participation rate declining last 15 years

*This requires a better business case analysis methodology!*





# Readiness Center Transformation Master Plan A Call for Action & A Plan



Defense  
Authorization  
Act – 2011



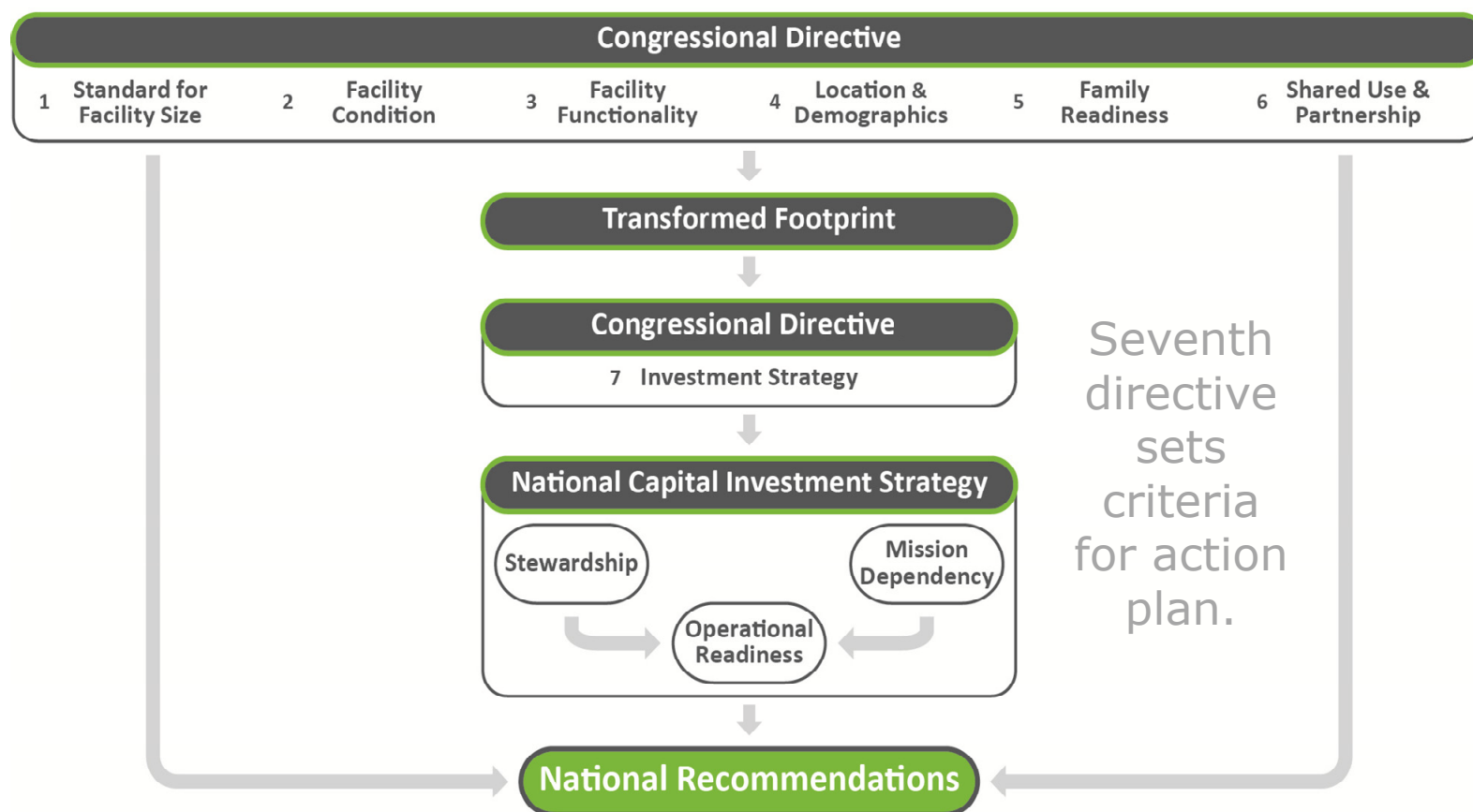
Readiness Center Transformation  
Master Plan – 2014

# Readiness Center Transformation Master Plan

## Senate Armed Services Committee Directives



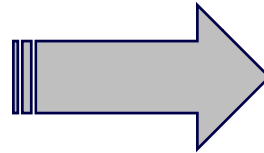
First six directives set analysis criteria.



- 
- ```
graph TD; A["Congressional Directive  
7 Investment Strategy"] --> B["National Capital Investment Strategy"]; subgraph B ["National Capital Investment Strategy"]; C1(Stewardship) --> C3(Operational Readiness); C2(Mission Dependency) --> C3; C3 --- C4(BCA); end; B --> D["National Recommendations"];
```
- The flowchart illustrates the process of the National Capital Investment Strategy. It begins with a **Congressional Directive** (7 Investment Strategy), which leads to the **National Capital Investment Strategy**. This strategy is centered around **BCA** (Business Case Analysis), which is supported by **Stewardship** and **Mission Dependency**. Both Stewardship and Mission Dependency lead to **Operational Readiness**, which then leads to **National Recommendations**.

# Readiness Center Transformation Master Plan

## Simple & Compelling Business Case

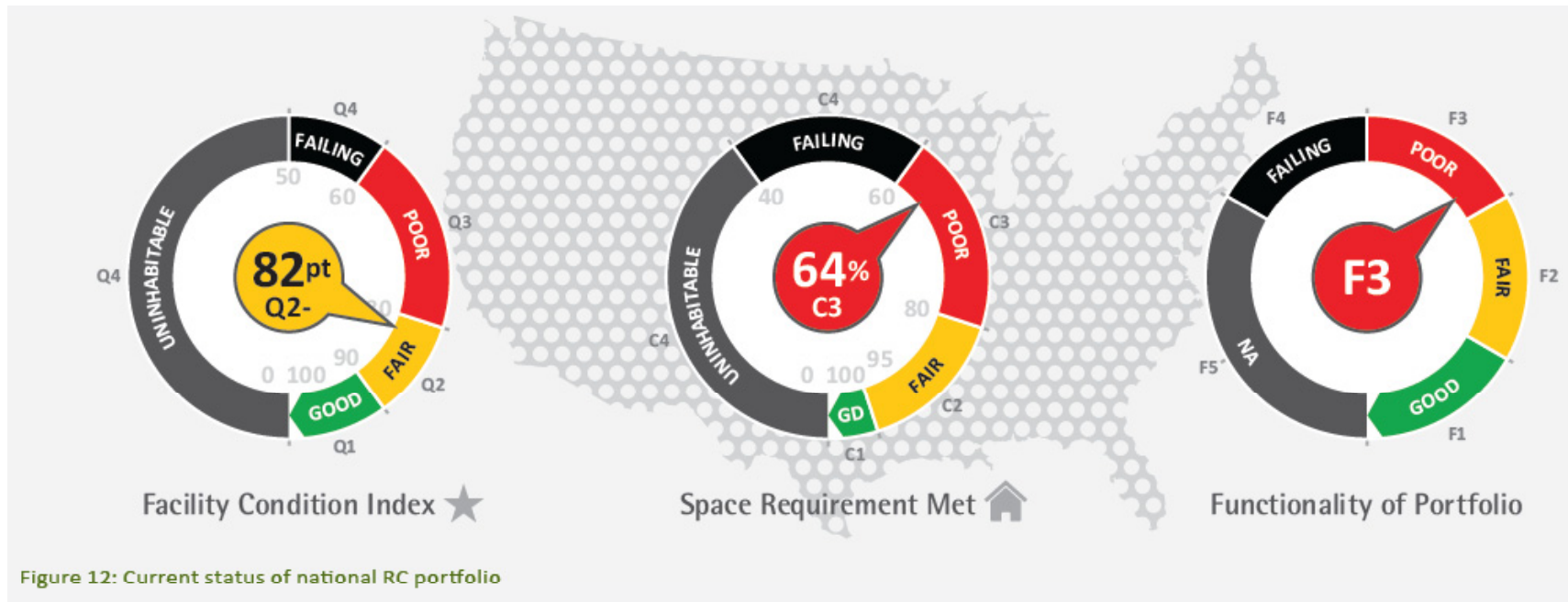


What provides a more simple and compelling reason to invest in Army National Guard readiness?



# Readiness Center Transformation Master Plan

## Current State

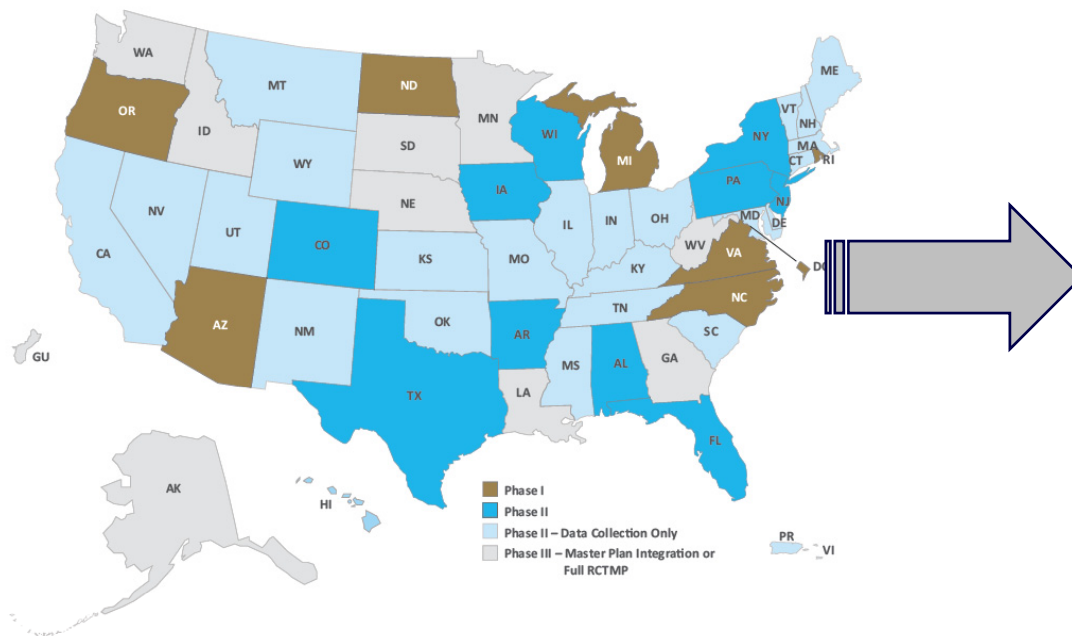


The burning platform:  
Current funding does provide a sustainable solution.



# Readiness Center Transformation Master Plan

## One Army – One Fight

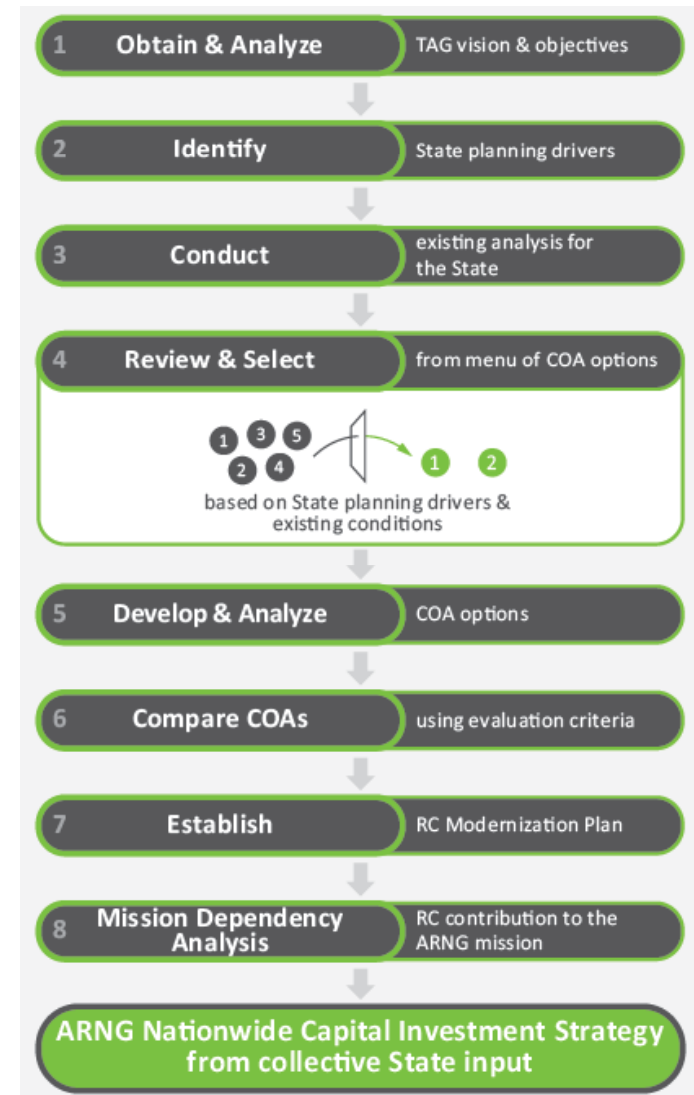


Business Case Analysis needed to focus 54 RCTMPs and thousands of facility investment actions into a single investment strategy.

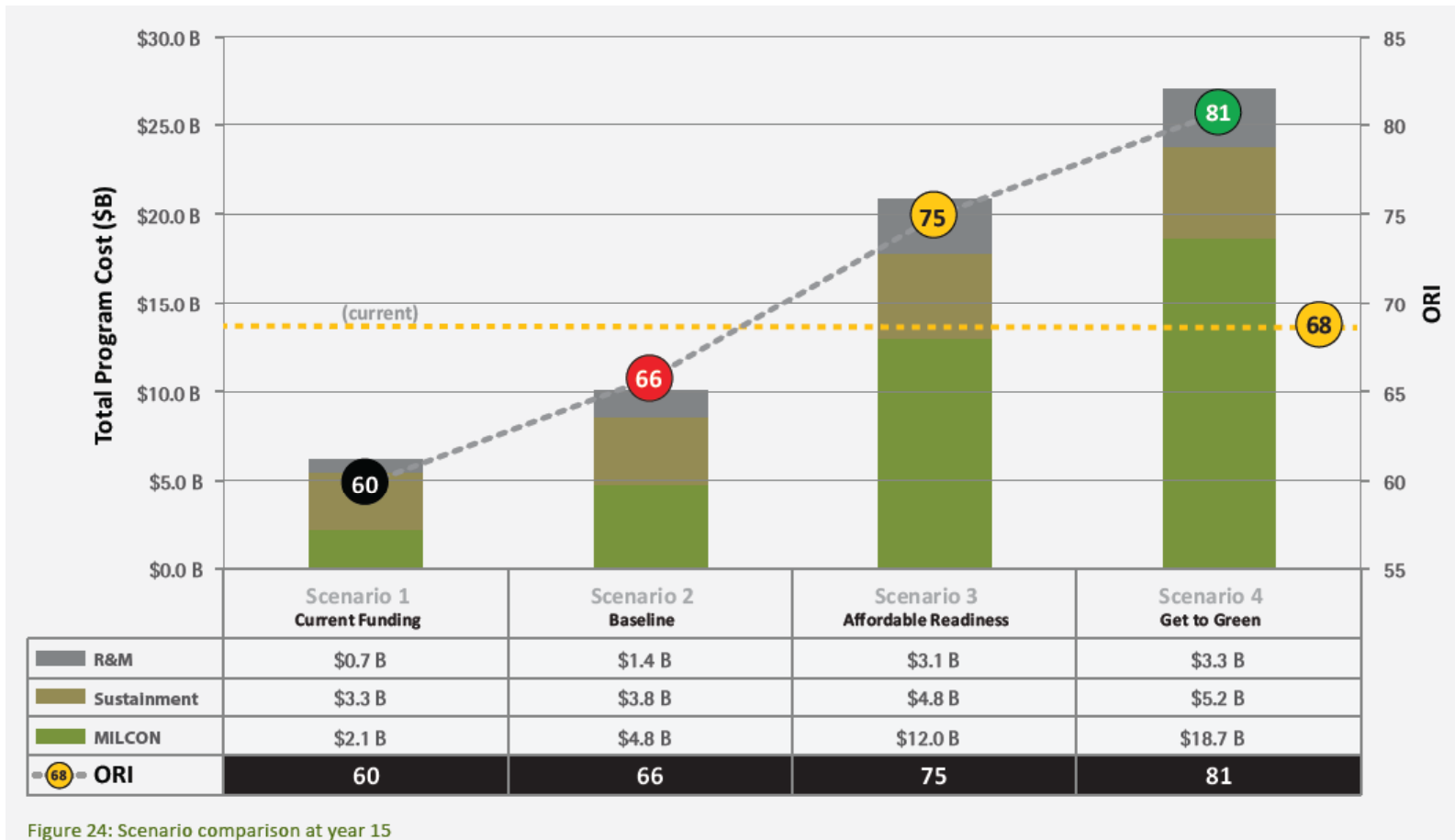
# Readiness Center Transformation Master Plan Business Case Analysis Methodology



- **Four Scenarios**
  - Current Funding
  - Baseline Funding
  - Affordable Readiness
  - Getting to Green
- **Four Future States (after 15 years)**
  - Different Inputs
    - ♦ MILCON, SRM Priorities & Funding
  - Different Outputs
    - ♦ Portfolio Q, C, F & MDI scores
  - Different Outcomes
    - ♦ Portfolio Operational Readiness Index



# Readiness Center Transformation Master Plan Business Case Analysis Comparison

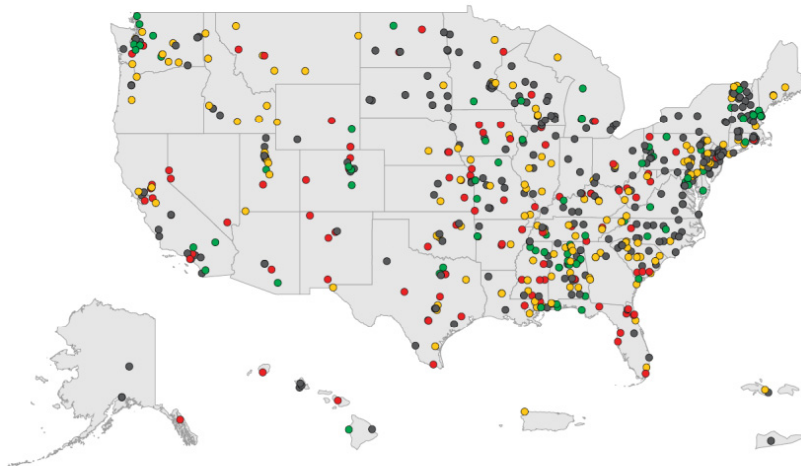


Analysis considered over 1,600 capital projects and full SRM funding requirements in the simulation

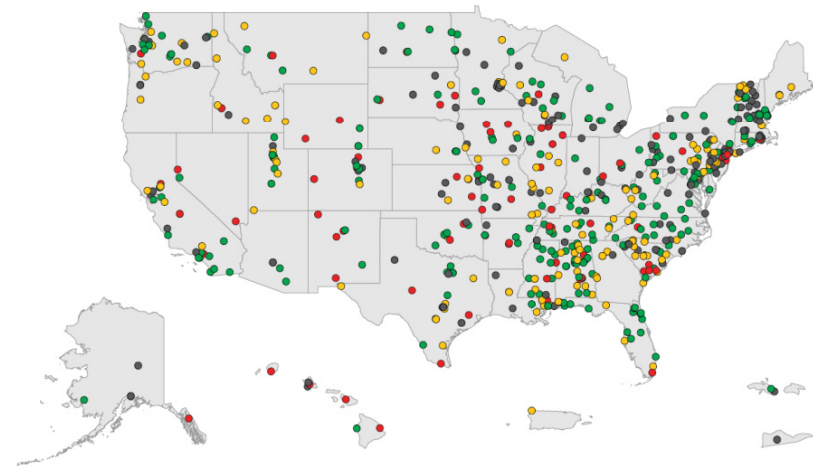
# Readiness Center Transformation Master Plan Business Case Analysis Comparison (Tier 1 RCs)



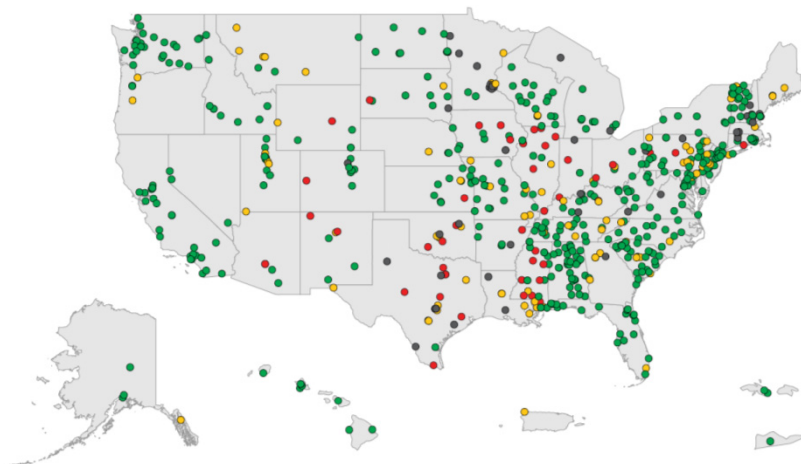
Current State ORI = 68, below scores are for the end of the 15 year investment period.



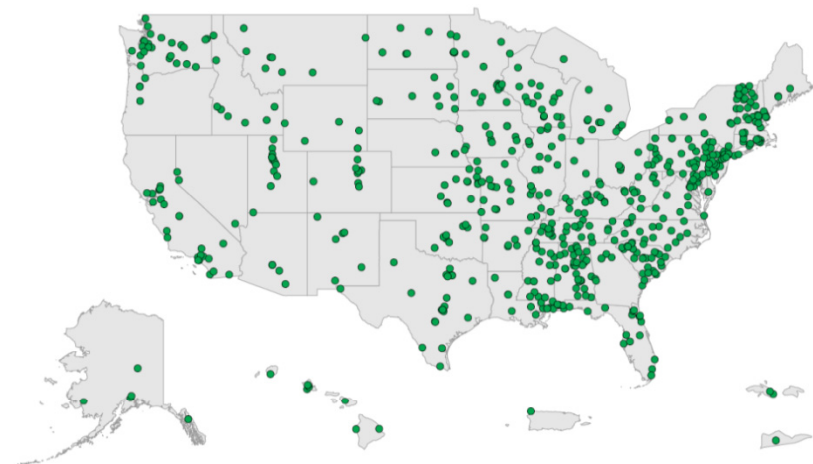
Scenario 1: Current Funding > ORI = 60



Scenario 2: Base Funding > ORI = 66



Scenario 3: Affordable Readiness > ORI = 75



Scenario 4: Getting to Green > ORI = 81



# Key Analysis Advancements



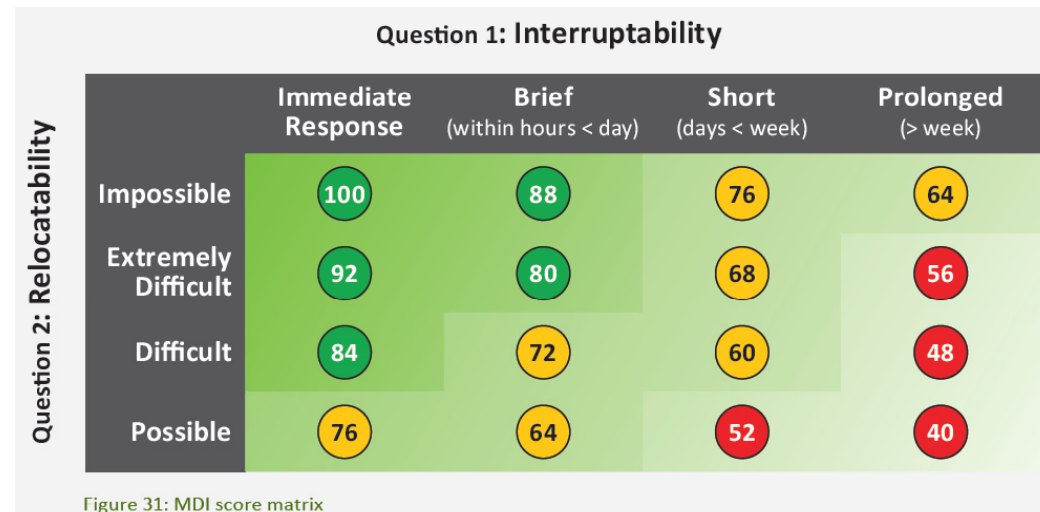
- Portfolio Mission Dependency Index
  - Current & future state comparisons
  - Makes analysis compelling
- MILCON-SRM Sensitivity Analysis
  - Makes analysis real & credible
- Operational Readiness Analysis
  - Focuses on investment outcomes
  - Simplifies the analysis
- Operational Readiness Frontier
- Mission Readiness Modeling
- Business Case Analysis – Simulation Engine

# Key Analysis Advancements

## Operational Readiness Analysis



- Used Mission Dependency Index
  - For current and future state
- Evaluates Risk & Operational Readiness
- Aligns with Federal Real Property Council Guidance

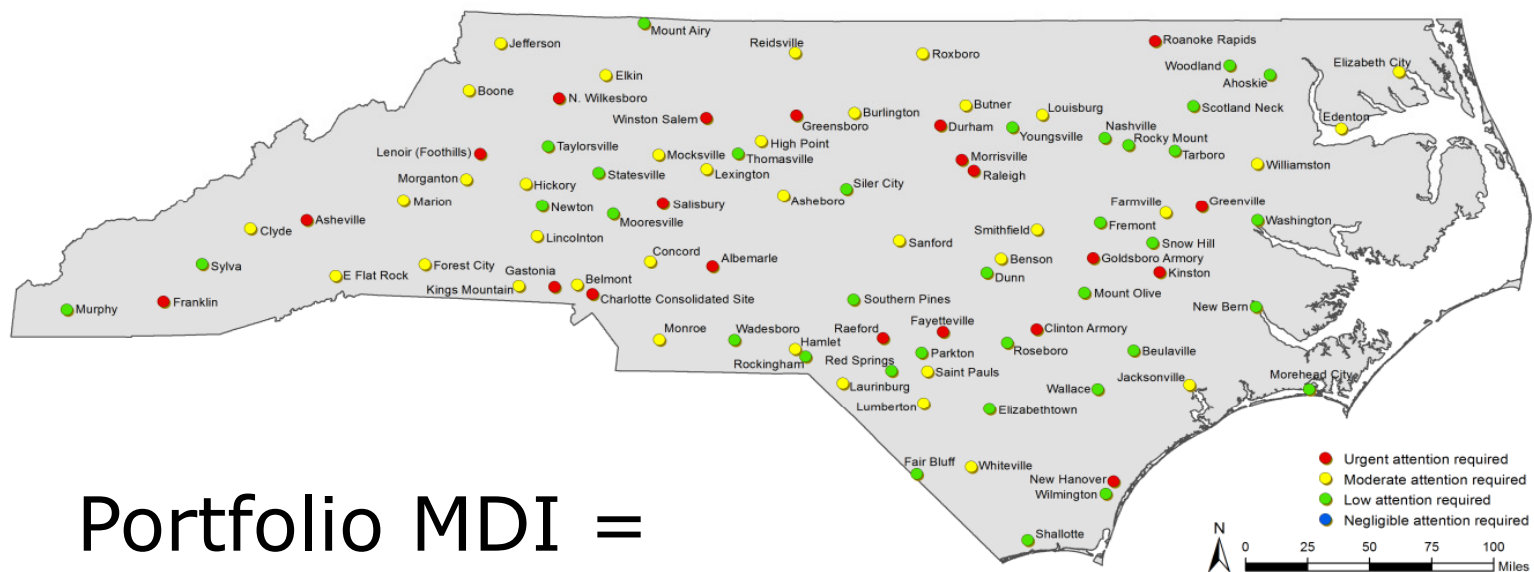


# Key Analysis Advancements

## Operational Readiness Analysis



### MDI results for North Carolina's current state inventory:



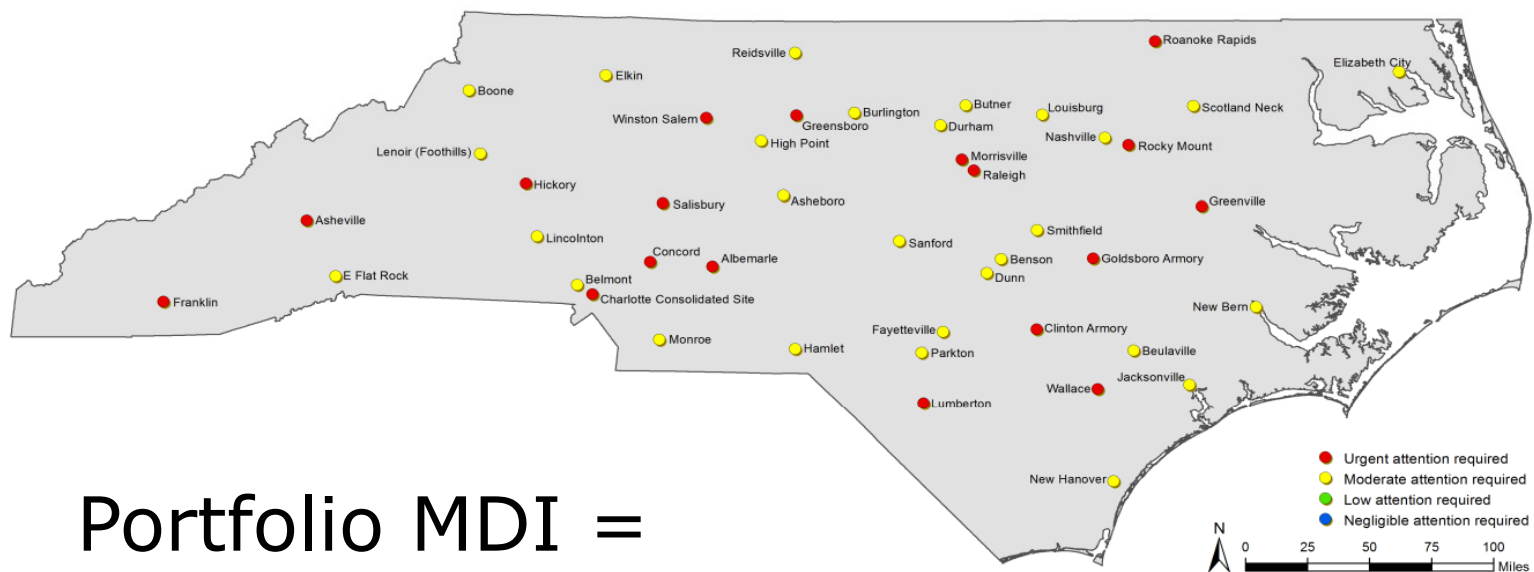
Portfolio MDI =  
63

# Key Analysis Advancements

## Operational Readiness Analysis



### MDI results for North Carolina's future state inventory:



Portfolio MDI =  
78

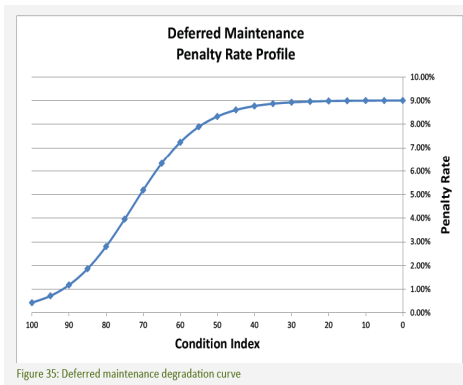


## Key Analysis Advancements

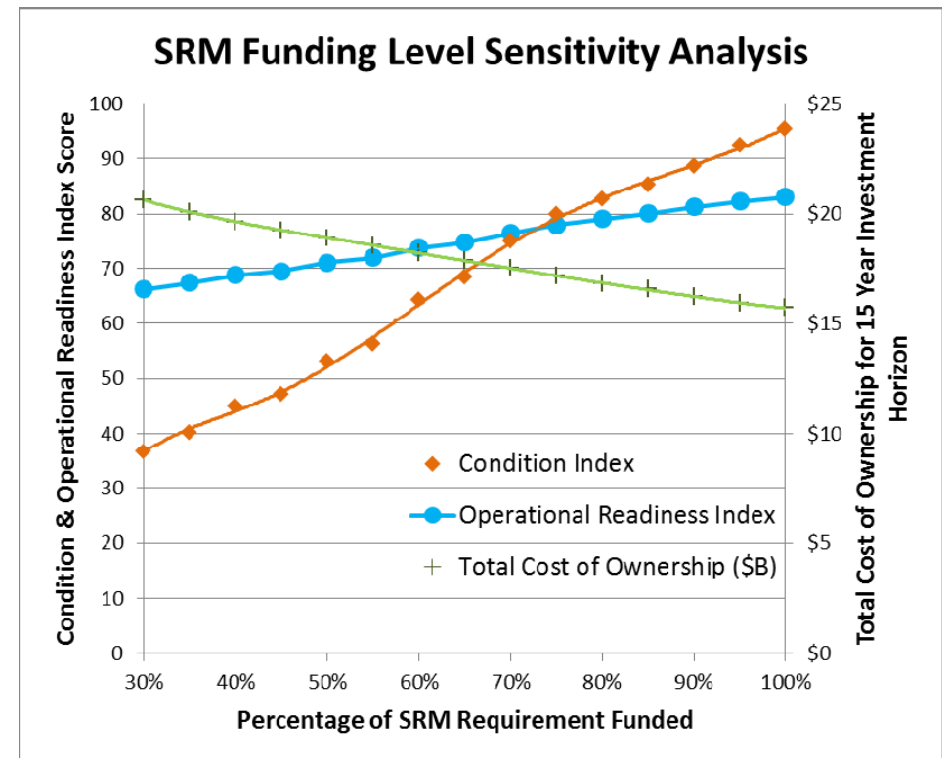
# MILCON-SRM Sensitivity Analysis



- Uses a condition-based degradation analysis to calculate cumulative deferred maintenance penalties

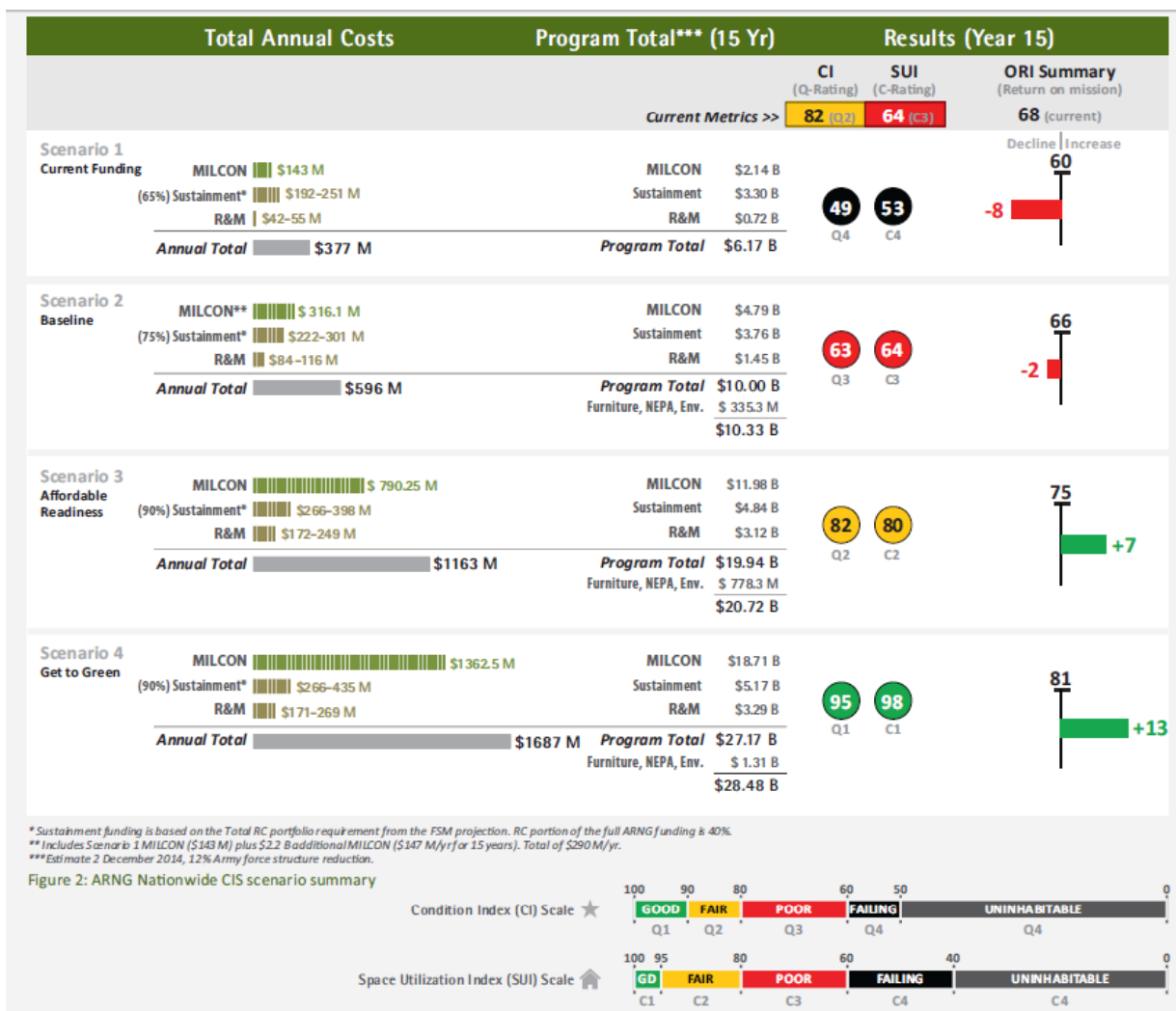


- As percentage of SRM increases, CI and ORI increase while total cost of ownership including MILCON requirements decreases due to avoiding deferred maintenance penalties



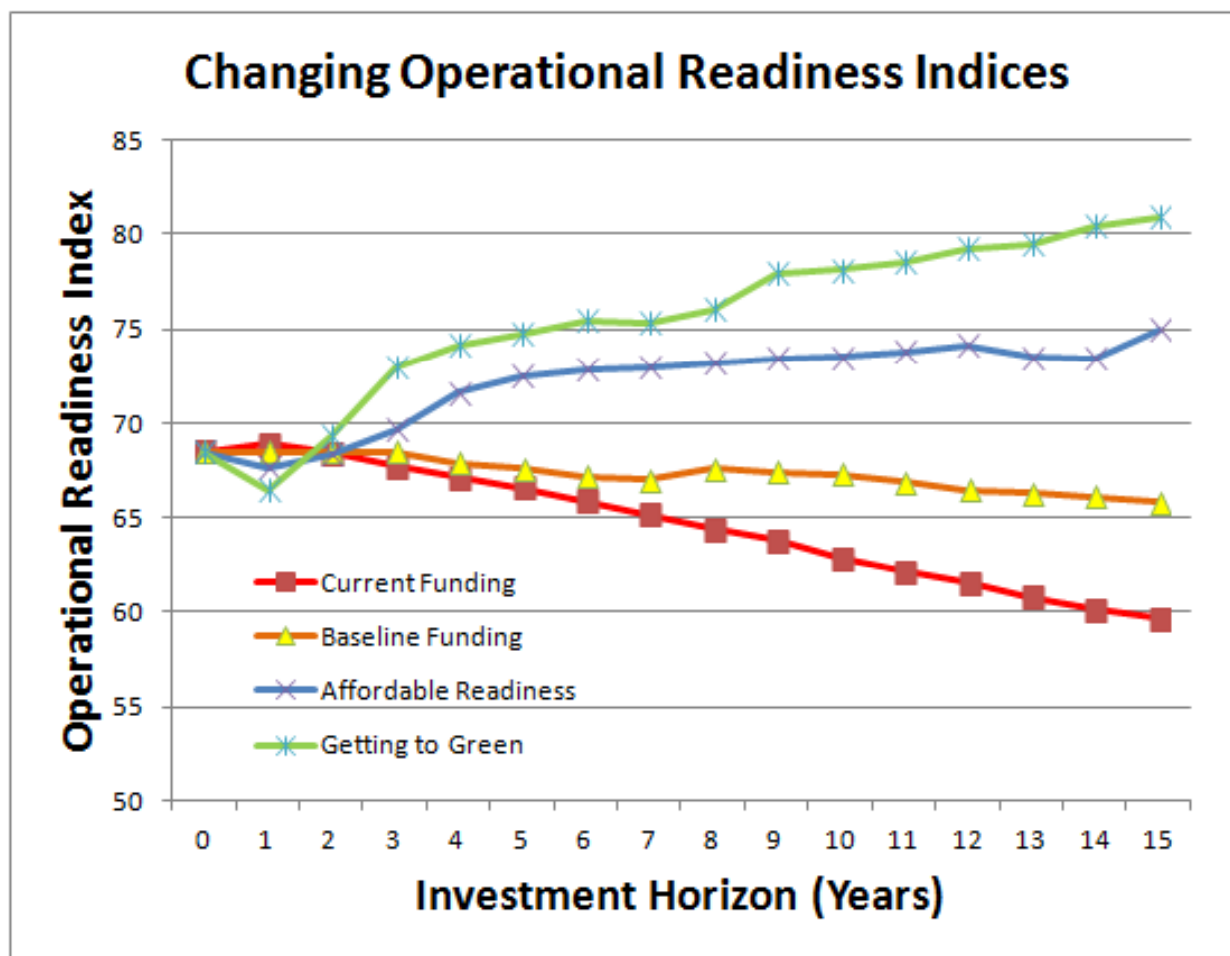
# Key Analysis Advancements

## The Range of Investment Strategies



# Key Analysis Advancements

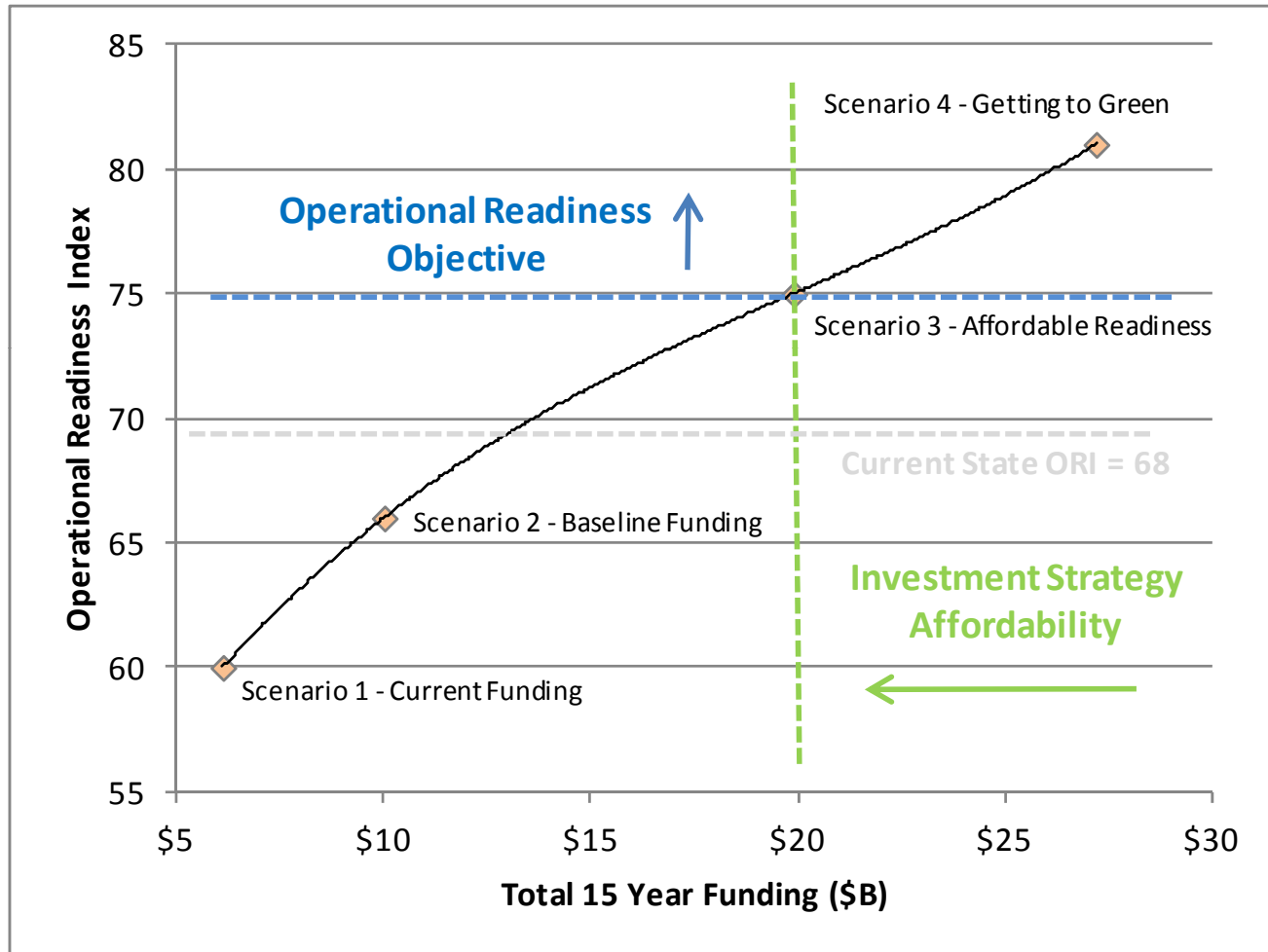
## Operational Readiness Analysis



Shows the change in ORI over time for different investment strategies

# Key Analysis Advancements

## Operational Readiness Frontier

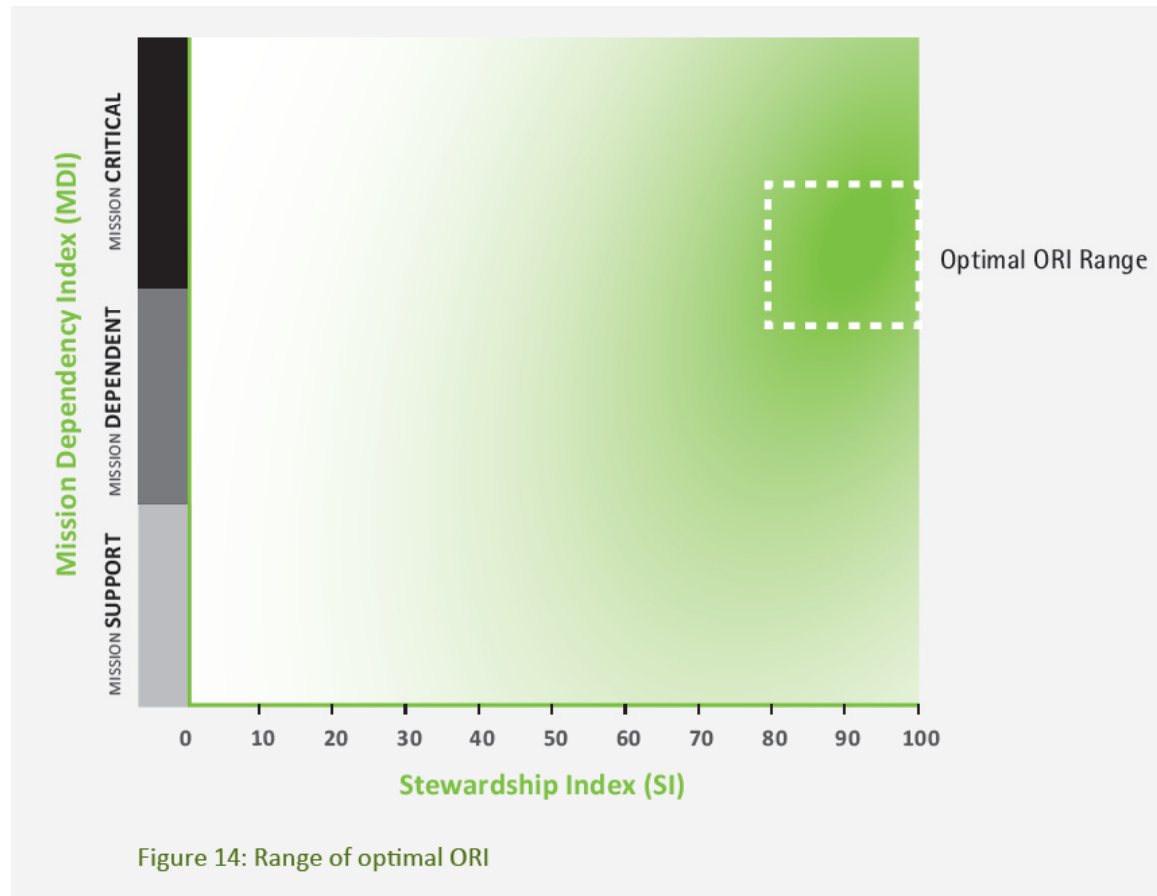


Different investment strategies fit along a continuum to evaluate benefit-to-costs



# Key Analysis Advancements

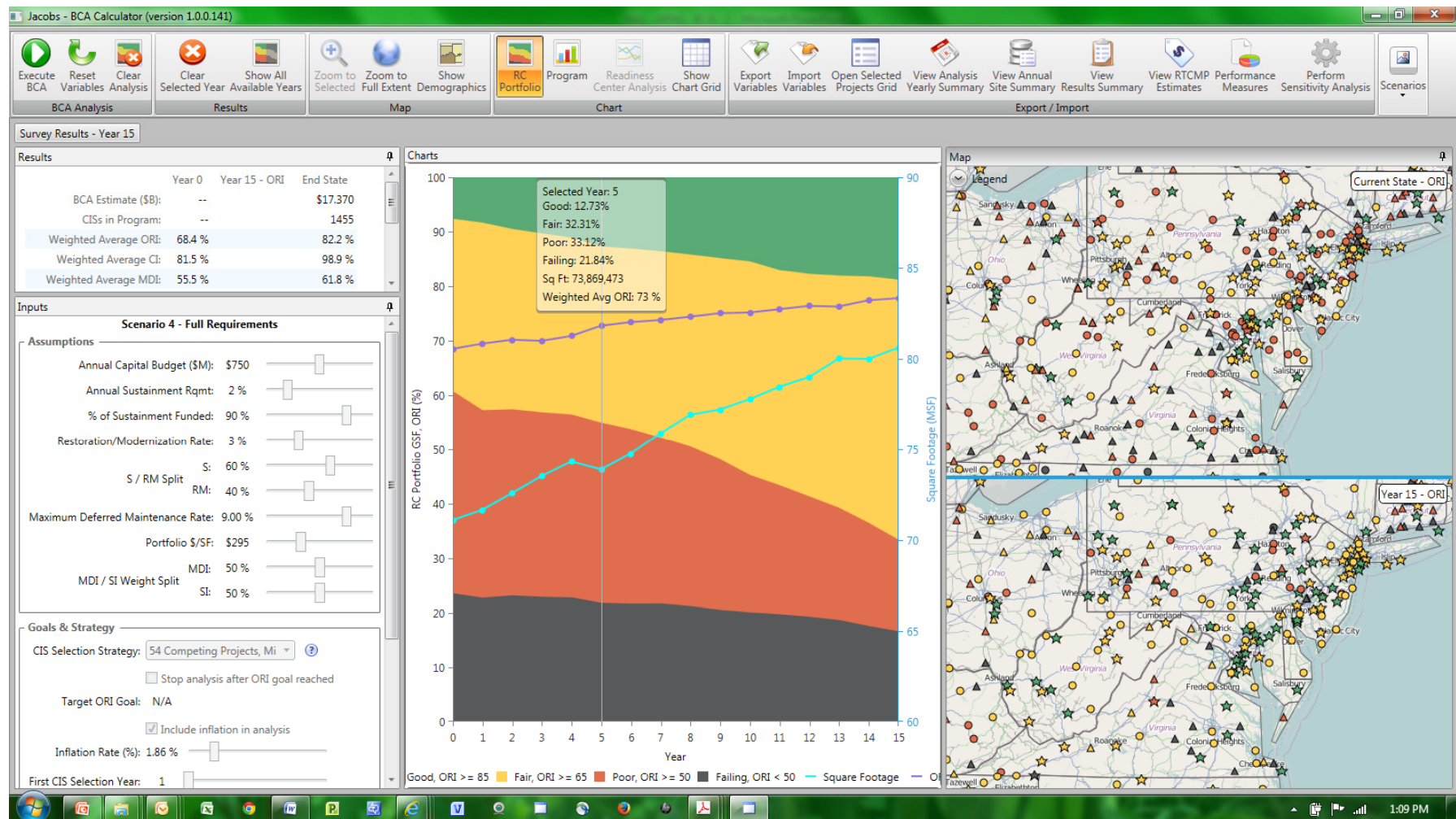
## Mission Readiness Modeling



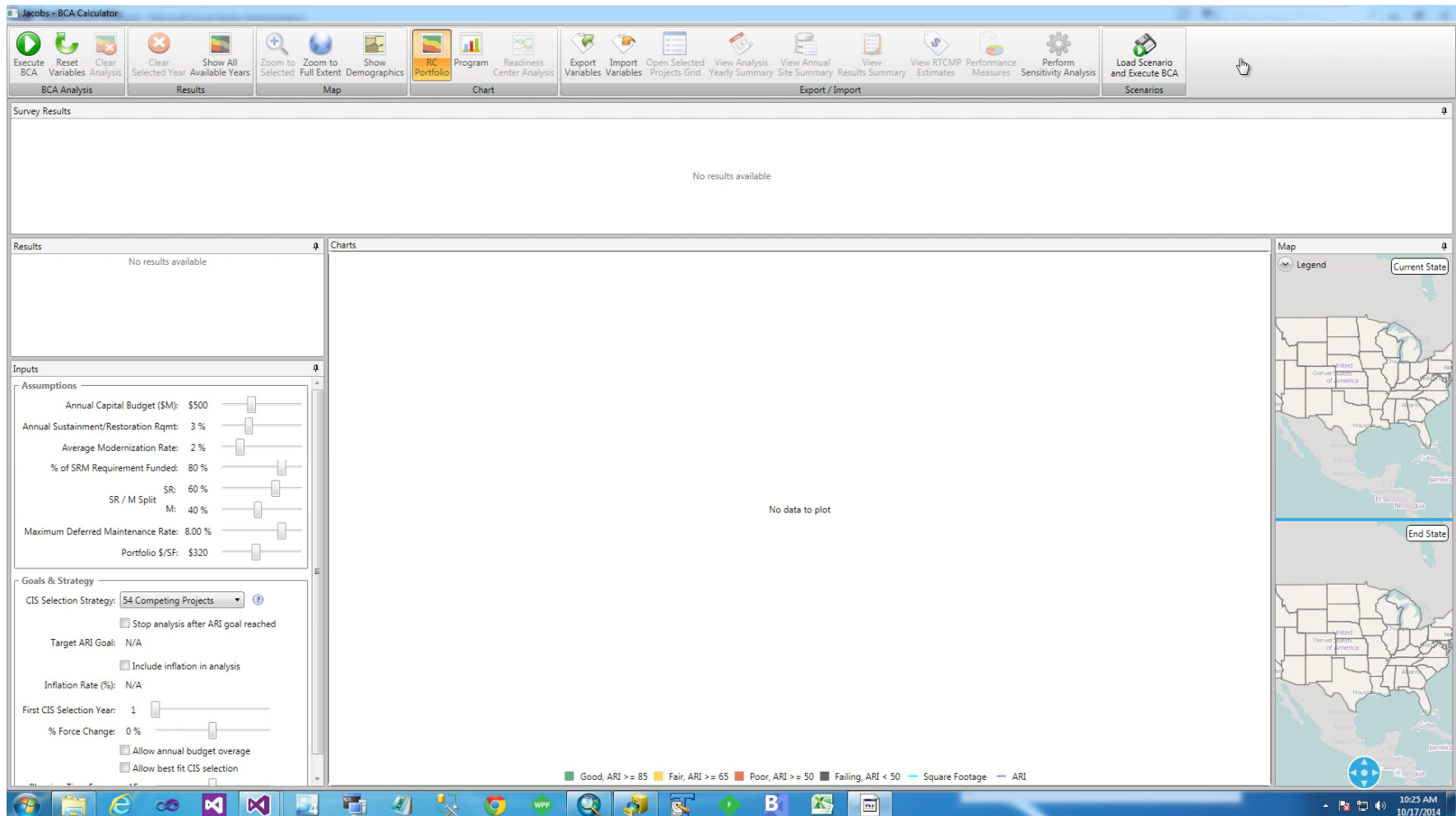
ORI heat map used to develop optimization strategies  
balancing mission readiness and affordability

# Key Analysis Advancements

## Business Case Analysis Simulation Engine



# Key Analysis Advancements Business Case Analysis Simulation Engine (Video)



# Relevance to Federal Facilities



- Supports multiple decision making objectives
  - Defense BRAC
  - Civilian Property Realignments
  - Freeze the Footprint
  - Climate Action / Resiliency Investment Strategies
  - Etc.
- Compelling business case
  - Directly links mission performance to facility investments via Portfolio Mission Dependency Index
- Simplifies the business case
  - Operational Readiness Index links mission performance, risk, resource investments with asset performance
  - Simplifies cause and effect relationships for complex problems
- Systematic, Scalable, Repeatable & Auditable
  - Supports President's 'National Strategy for the Efficient Use of Real Property'
  - Supports Federal Real Property Council objectives
  - Conforms to ISO 55000 – Asset Management & 31000 Risk Management Standards



# Points of Contact



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