Engagement toward implementation

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NJWEA
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HEALTH AND SAFETY
WHO IS IN THE ROOM?

HOW LONG WILL PEOPLE EXPERIENCE WHAT YOU DESIGN?

HOW CENTRAL IS ENGAGEMENT TO YOUR DESIGN PROCESS?

WHAT IS HUMAN-CENTRIC DESIGN?
Paradigm ➔ Process ➔ Outcomes

If the process is sound, the solution will be sound
**PARADIGMS IN ACTION**

- I am the expert
  - The science has all the answers I need. If the science and people's anecdotes disagree, go with the science.
  - My designs only need to address the problems that have been put forward to me.
  - People need to adapt to the design.
  - Issues of equity in this community are not relevant to my work.

- The people who live, work, and play here know their needs best.
  - Scientific data are evolving and don't always have all the answers.
  - I need to understand the possible unintended consequences of my decisions.
  - My designs will affect people's lives for generations and fit within a much larger context of history and interdependencies.
  - Equity is required to accomplish the technical integrity of any solution.
The root of all wise decisions is complete, accurate, timely appropriate data.

What is data?

- Data (Raw)
- Information (Meaning)
- Knowledge (Context)
- Wisdom (Applied)
TO ACCOMPLISH

Human-centered infrastructure

Equitable processes and outcomes

WE NEED TO INCREASE

Awareness of decision makers

Opportunities for engagement

Engagement touch points throughout the project

OR

Our projects will not be responsive

Our reputation will suffer
KEY QUESTIONS

How might an engagement process be truly meaningful and yield input that integrates seamlessly into technical and design-focused analyses?

How might design outcomes be changed if we truly allow the decision-making process to shape the solution?

How does engagement effect implementation?
SCALES AND STAKEHOLDERS
WHO COULD AFFECT OR BE AFFECTED BY THE DECISIONS YOU PLAN TO MAKE?
ISSUE EXPERIENCE
WHO HAS BEEN DIRECTLY IMPACTED BY FLOODING?

DIRECT ENGAGEMENT
WHO WORKS WITH THE TARGET POPULATION?

DEMOGRAΦIC RELEVANCE
WHO HAS BEEN UNDERSERVED, HURT, OR NOT REPRESENTED BY SIMILAR EFFORTS IN THE PAST?

GEOGRAPHIC RELEVANCE
WHO LIVES IN THE AREAS MOST AFFECTED?
Effective engagement…

Includes those who could affect or be affected by both the outcomes and the process

Catalyzes change in the project, the process, and all parties

Builds capacity

Advances implementation
The longer people are engaged, the more invested they become.

Invested people become champions.

Champions drive change.
PROJECT PLANNING IN WAVES

Honor natural project development cycles
Engagement is integral to project development

Kick-off Meeting
Vision Framework Engagement strategy
Regulatory Focus Group
Open House
Toolbox evaluation criteria
Geographic Focus Group
Preliminary options and costs
Implementation Focus Group
Revised options preliminary benefit cost analysis
Design Thinking Workshop
Final options Preliminary Implementation roadmap
Recommended approach Revised roadmap
Conceptual design package
INTERDEPENDENCIES

Understand and Strengthen the Chain
by Understanding and Strengthening the Links

Boston’s IAG
Engage stakeholders in problem solving around trade-offs

EXAMPLE QUESTIONS

- If you were king / queen for a day, what would affect your decision making around intervention height?
- How often might you be willing to have water on and around your property?
- Are there places you believe it is critical to maintain or enhance public access to the water?
- Are there places where aesthetics are less important?
PROJECT PLANNING ZONES

FORT POINT CHANNEL

SOUTH BOSTON WATERFRONT

SEAPORT BOULEVARD

MARINE INDUSTRIAL PARK / RESERVED CHANNEL

SOUTH BOSTON NEIGHBORHOOD
Seek Out Voices That Are Not 'In The Room'
Understand that prerequisite needs may affect the process
Identify the hurdles you’ll have to overcome to move from understanding to action.
Expand Your 'Team'
Identify your catalysts: The context is always changing. Think and act on your feet.
SIMPLE REALITIES

Clamor for Resources

Resource Availability
Understand and Communicate Your Story

Problem Alleviating / Objective
What are we changing? (Existing conditions)
How much and what kind of change? (Project scope)
Who will benefit and how?
How will we know we’ve succeeded? (metrics – may or may not be quantified)
Why should ________ care?
Benefits = Avoided Loss + Added Value
Benefits

Costs

 avoided loss + added value

construction + maintenance

discount rate × time

benefit cost ratio
Capital Costs

Maintenance and Operations

Added Risks, Costs and External Impacts

Duplicated Benefits
Historical Loss Documentation

- Provides an historical reference for understanding risk
- Reveals key vulnerabilities
- Provides insight into potential consequences of inaction
- Helps justify public expenditure for resiliency measures later on (e.g., Benefit Cost Analysis)
Example losses and losses avoided that can be calculated

Direct Losses
- Loss of Public Service
  - Transportation: Roads, bus, rail, etc.
  - Essential services: Hospital, fire, police
  - Public Utilities: power, water, wastewater, etc.
  - Other public services: libraries, museums, schools, etc
- Human Impacts
  - Casualties
  - Stress Factor
  - Shelter Needs
  - Mental Stress and anxiety
  - Population impacted / displaced
  - Lost Productivity
- Direct Physical Damage
  - Buildings
  - Structure
  - Contents
  - Inventory
- Displacement / Relocation Costs
- Direct Business Interruption Costs
  - Lost revenue / output
  - Employment impacts (labor income and jobs)

Indirect Losses
- Loss of Public Service
- Indirect Business Interruption
  - Transportation: Roads, bus, rail, etc.
  - Essential services: Hospital, fire, police
  - Public Utilities: power, water, wastewater, etc.
  - Other public services: libraries, museums, schools, etc
- Indirect Business Interruption
  - Lost revenue / output
  - Employment impact (labor income and jobs)
Example value added that can be calculated

- **New Public Service**
  - Transportation: Roads, bus, rail, etc.
  - Essential services: Hospital, fire, police
  - Public Utilities: power, water, wastewater, etc.
  - Other public services: libraries, museums, schools, etc.

- **Ecosystem services**
  - Climate regulation
  - Water-related
    - Retention
    - Water supply
    - Rainfall interception
  - Pollutant regulation
    - Air quality
    - Pollution control
    - Waste filtration
    - Nutrient cycling
  - Erosion control
  - Productivity
    - Pollination
    - Food
    - Raw Materials

- **Direct Value Added**
  - Social Benefits
    - Reduced reliance on public safety net
    - Reduced crime
    - Health benefits
    - Aesthetic benefits / property value increase
    - Recreational benefit
  - Direct Economic Value Added
    - Added output / revenue
    - Employment (labor income and jobs)

- **Indirect Value Added**
  - Indirect Economic Value Added
    - Added output / revenue
    - Employment (labor income and jobs)
BENEFITS AND COSTS CAN BE EXPRESSED AS...

As one time benefits

At recurrence intervals based on probability

Annually

As net present value over the life of the project

The Benefit Cost Ratio is based on the NET PRESENT VALUE of life cycle benefits over life cycle costs
Time Value of Money

The amount of goods that can be purchased with a given amount of money decreases over time.

Value of $100,000 over 100 years; Discount rate: 7%
The Value of CRITICAL INFRASTRUCTURE lies in the SERVICE it provides to THE PUBLIC.
Example:

What is wastewater treatment worth?

FEMA values wastewater treatment at $58 per person, per day

That’s service population X $58 X days
PROJECTS HAVE MULTIPLE PERSONALITIES
IS THIS AN INFRASTRUCTURE PROTECTION PROJECT?
OR COMMUNITY ENRICHMENT?
Alignment across all links in the chain and all time horizons

“Whose responsibility is this?”

“Yours and yours and yours and yours…”
Federal Funding post-disaster

- Damaged
  - FEMA Public Assistance
  - Restored
- Impacted
  - FEMA 406 or Alternate Procedures
  - Mitigated
- At risk
  - FEMA Hazard Mitigation Grant Program
  - HUD, DOT, DEP, Ag
Federal funding in a post-disaster context

LEARN THE PROGRAMS

UNDERSTAND YOUR ELIGIBILITY

SELF-ADVOCATE
Funding in a Pre-Disaster Context

- Fund Source and Policy Tracking
- Strategic submittals and application backbones to maximize ROI
- Know the programs
- Stakeholder Engagement
- Active Communication with Gatekeepers
The Local Hazard Mitigation Plan Working Group

- Take a look at your existing state and local plan
- Contact local emergency management agency
- Participate in the hazard mitigation working group
- Submit projects and help prioritize these projects
1. If the decision making process is sound, the action will be sound
2. Resilience is everyone’s responsibility. Make sure they know it.
3. Start with the end in mind – there must be a unified and integrated vision. Identify interdependencies and foster collective action
4. Understanding is the prerequisite to all meaningful action
5. Risk management actions can be a catalyst for even greater short and long term desired change

Key Takeaways

Understand
Strategize
Justify
Implement
Evaluate
THANK YOU

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Dress appropriately in Antarctica

Check the weather before a business trip

Plan WITH the people you plan FOR
Arcadis color use

Primary Colors

Heritage

Confidence

Wisdom

These are our primary and secondary brand colors, including three tints.

PowerPoint auto-generates additional tints and shades. These are not Arcadis-approved colors and should not be used.

Arcadis tints have been added in the Custom Colors palette. These can be used for charts and graphics; however, we should always lead with our primary color palette. Refer to Arcadis Color guidelines on the BrandHub for more information.

Please do not use the Standard Colors, these are not Arcadis-approved colors.