City of Newton
FY 2013 – 2017 Capital Improvement Plan Implementation Process

August 4, 2011

Definition of Capital Projects

ñA Capital Project is a physical public betterment or improvement involving facilities, land, or equipment, with a substantial useful life and a cost of $10,000 or more.ò

Goal

Establish a Process to Allocate Scarce Capital Funds in the FY 2013 -2017 CIP Using a Methodology that is:

- Objective
- Logical
- Data Driven
- Transparent

Items Classified as Capital Projects

- New public buildings (including equipment & furnishings)
- Significant alterations, additions, or improvements to existing buildings
- Land improvements, acquisition, and development
- Equipment replacement and/or refurbishing
- Street construction and major resurfacing
- Pedestrian walkway construction & major rehabilitation
- Water main construction and rehabilitation
- Sanitary sewer and storm drain construction and rehabilitation
- Long-range planning studies

Traditional Approach

- Evaluate condition of assets
- Develop recommendations and costs to address deficiencies
- Look at each asset/program separately
- Process not data-driven
- Difficult to prioritize projects between departments

New Approach: Risk-Based Prioritization

1. Evaluate Probability of Failure (Condition) for Each Asset
2. Evaluate Consequence of Failure (What If?) for Each Asset
3. Develop a Risk Score for Each Asset
4. Prioritize Projects Based on Risk Scores
5. Develop CIP

Risk-Based Prioritization

1. Evaluate **Probability of Failure** by Assessing Condition of Each Asset

   Factors to Consider:

   - Percent Life Remaining
   - Condition Assessment
   - Predicted Service/Maintenance
   - Code Compliance
   - Performance

Risk-Based Prioritization

2. Evaluate **Consequence of Failure** if Asset Fails or if Project not Implemented

Examples:

- Disruption of City Operations
- Impact to Programs or Public Service
- Economic - High Future Maintenance Costs
- Health/Safety Impact
- Property Damage Impact
- Environmental Impact
- Impact to Residentsû Quality of Life
- Impact on Departmentsû Mission

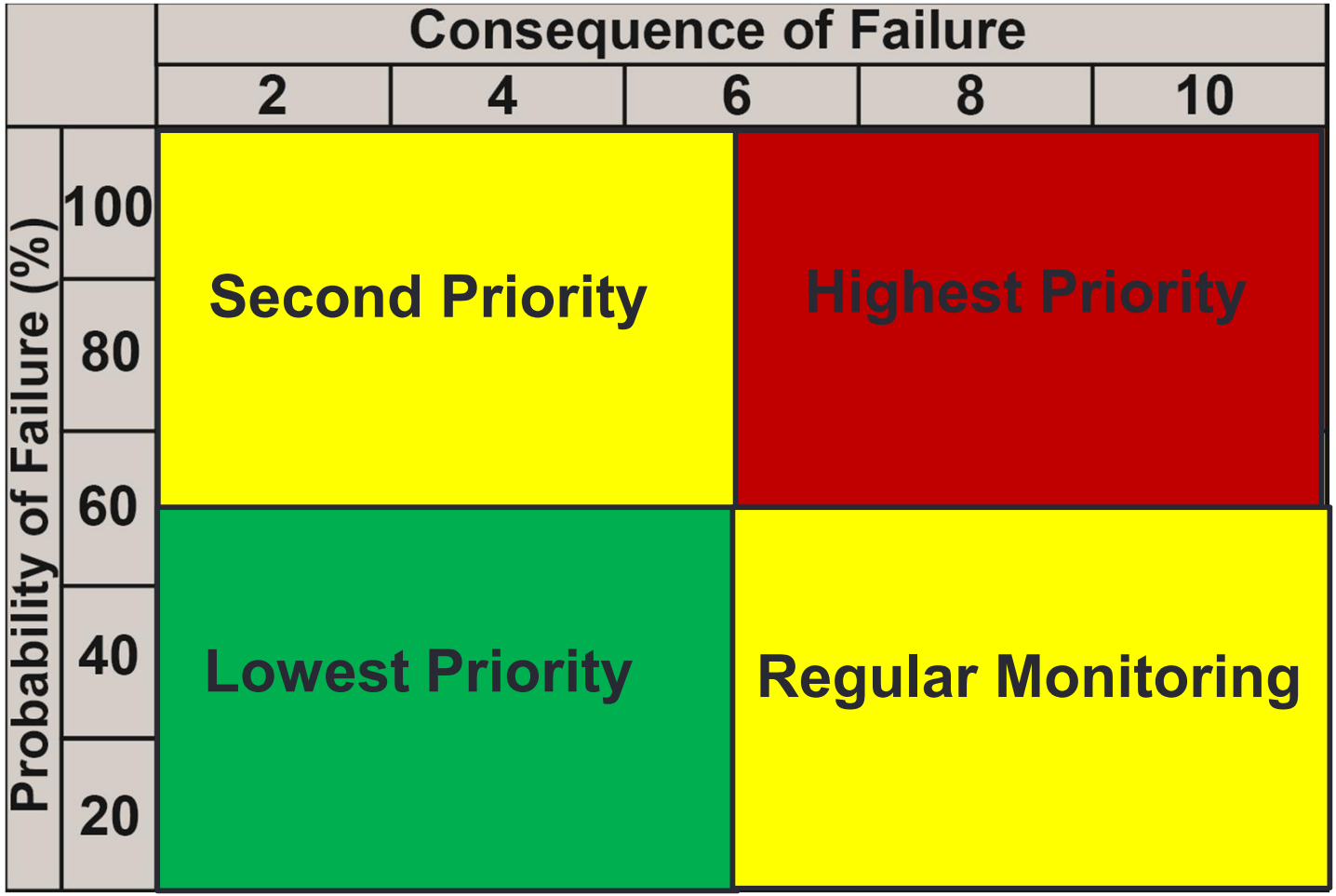
Risk-Based Prioritization

3. Calculate a **Risk Score** for each Asset Based on Combinations of Probabilities of Failure and Consequences of Failure

Risk Score =

Probability of Failure x Weighted Consequence of Failure

Risk-Based Prioritization

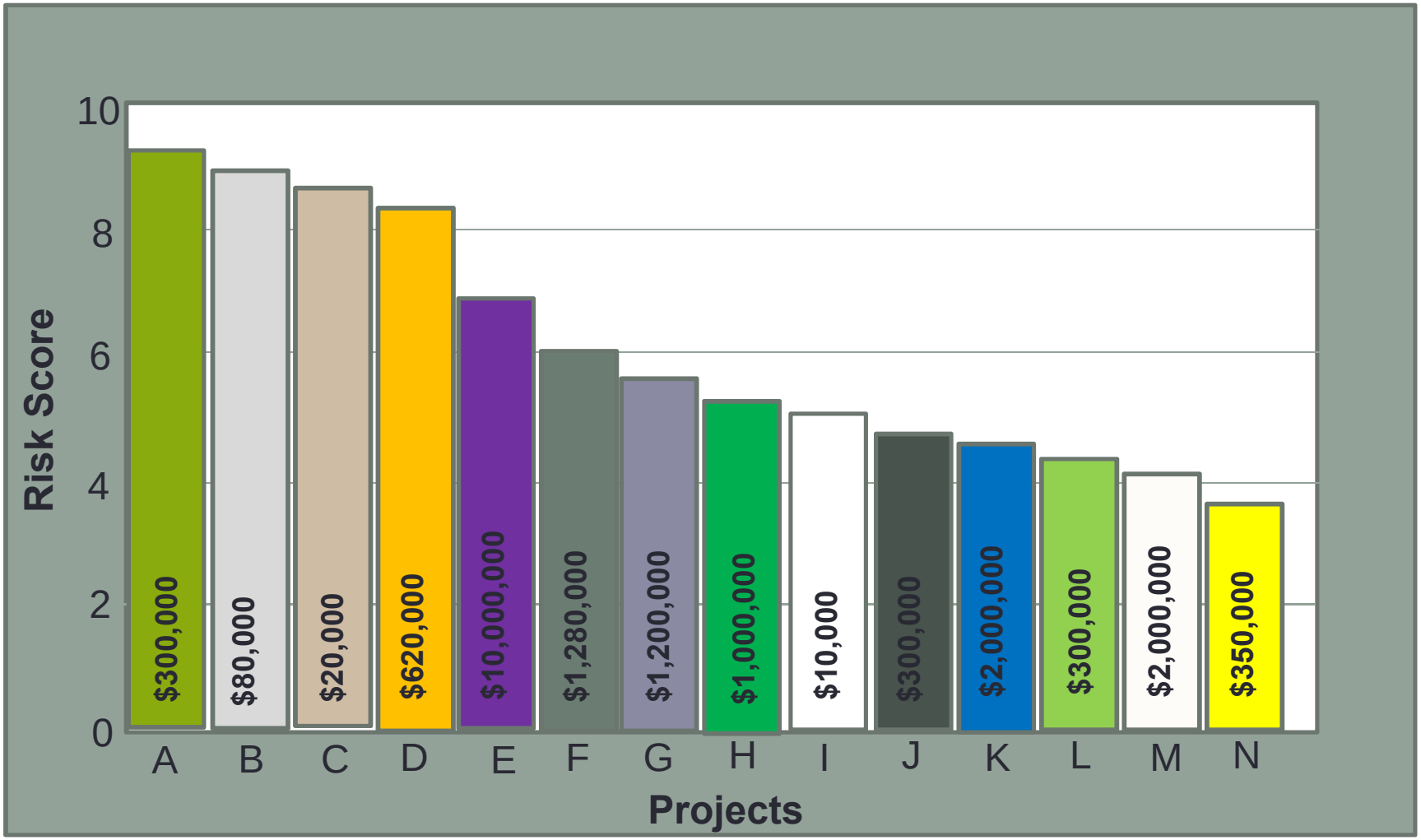


Risk-Based Prioritization

4. Prioritize Projects Based on Risk

- Initially Rank Recommendations by Risk Score
- Categorize by:
  - Emergency Repairs (Short-Term)
  - Further Study/Condition Assessment
  - Inclusion in Maintenance Plan (Operating Budget)
  - Long-term Capital Improvements (CIP)

Projects Prioritized by Risk

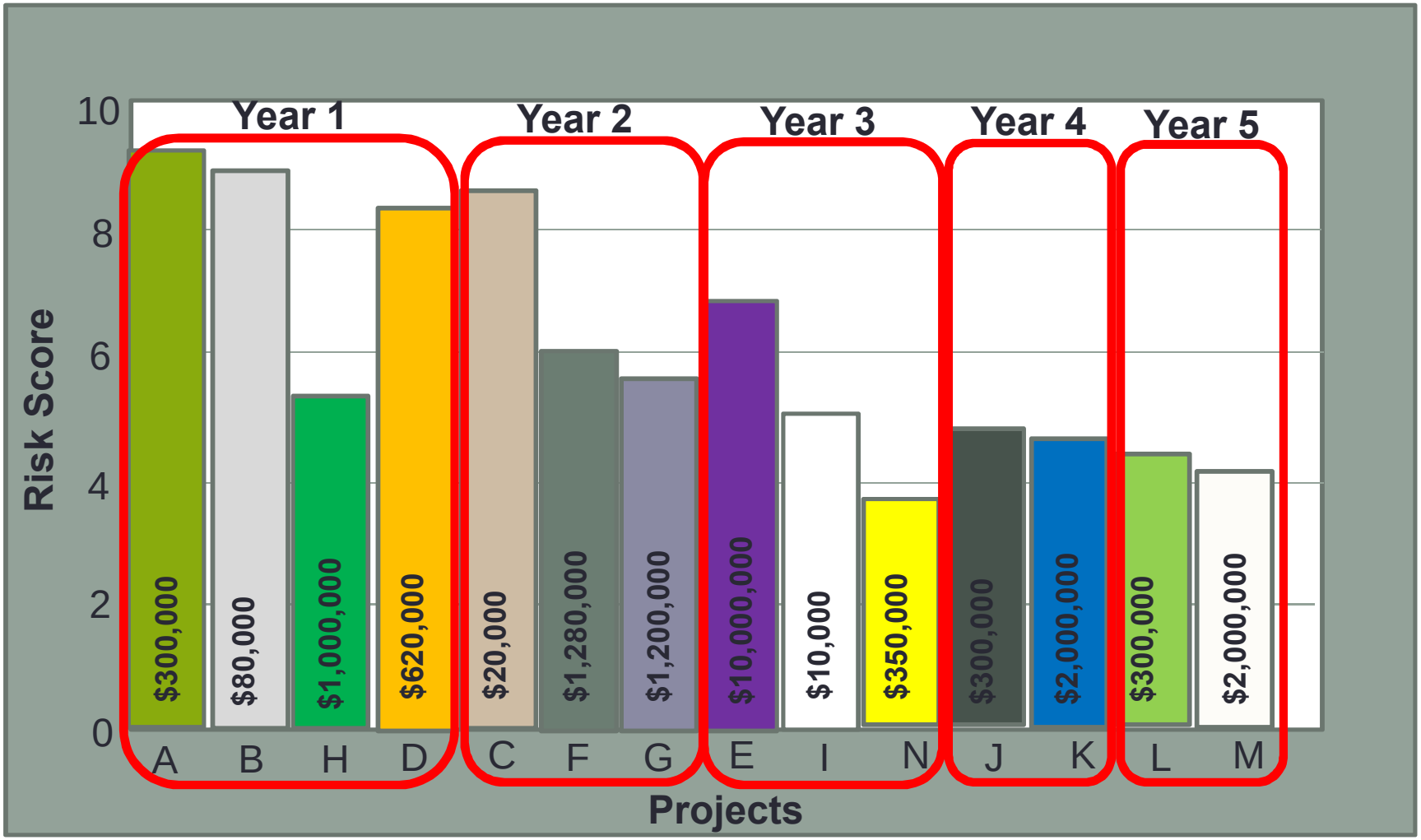


Risk-Based Prioritization

5. Develop Capital Improvement Plan

- Screen Recommendations with Steering Committee ï ñReality Testò
- Bundle Projects Where it Makes Sense
- Review Funding Sources
- Establish Annual Target Budgets
- Develop Final Recommendations

Projects Grouped into CIP



Implementation

Buildings

- Currently Performing a Condition Assessment Project to Evaluate 43 Buildings

All Other Projects

- Department Heads will Submit Capital Project Requests with Proposed Project Information and Probability of Failure and Consequence of Failure Ratings

Department Project Request Form

Basic Project Information:

- Project Title
- Project Description
- Project Justification
- Project Cost

No.	PROJECT TITLE	PROJECT DESCRIPTION	PROJECT CATEGORY	JUSTIFICATION/ IMPACT IF NOT FUNDED	PROJECT COST
1					
2					
3					
4					

Shaded Areas Are Pull-Down Menus

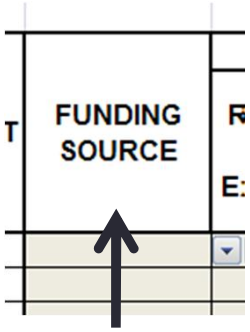
Department Project Request Form

Project Category:

- Life Safety
- Code Compliance
- New / Replacement Equipment
- Preservation of Facilities/Infrastructure Improvement
- Energy and Environment
- Information Technology
- Efficiency/Program Improvement
- Other

Department Project Request Form

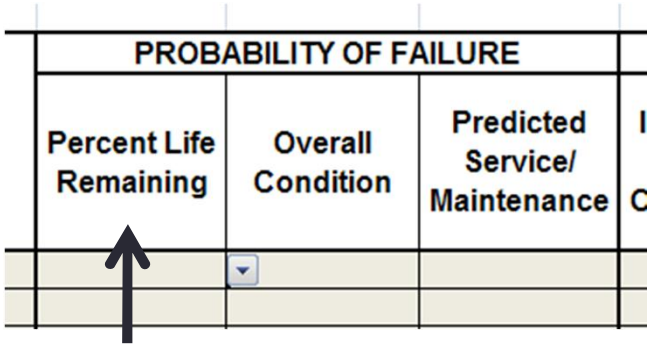
Funding Source:



- Free Cash
- Bonding
- Grants
- CPA
- Chapter 90
- MSBA
- CDBG
- Enterprise Funds
- Other

Department Project Request Form

Probability of Failure:

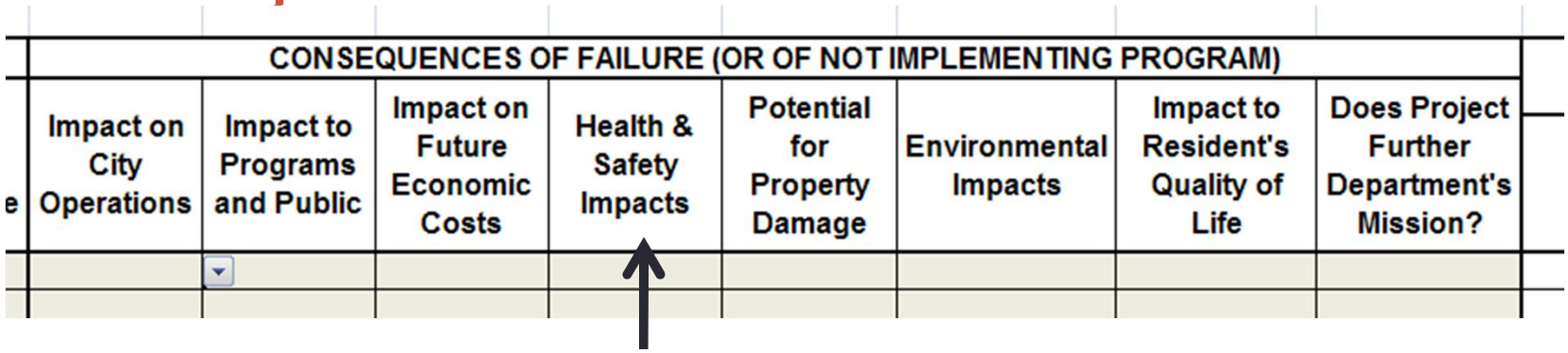


Percent Life Remaining:

- Å1 (75 ï 100%)
- Å2 (50 ï 74%)
- Å3 (25 ï 49%)
- Å4 (0 ï 24%)
- Å5 (Past Useful Life)
- ÅUnknown

Department Project Request Form

Consequence of Failure:



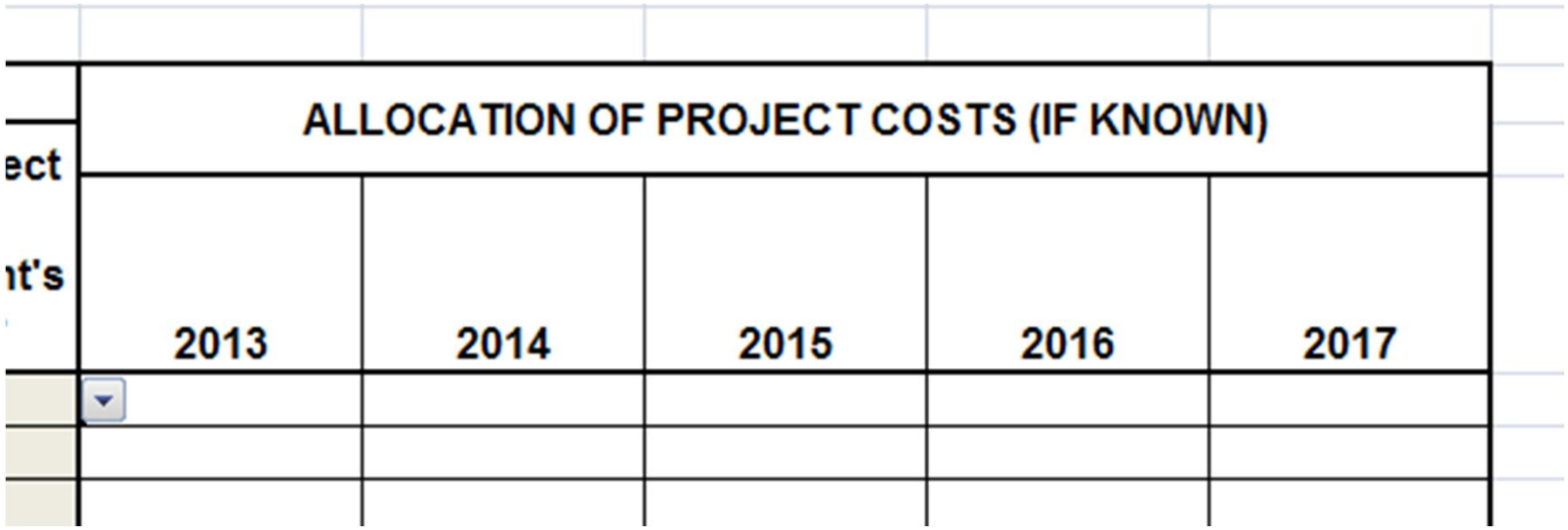
CONSEQUENCES OF FAILURE (OR OF NOT IMPLEMENTING PROGRAM)							
Impact on City Operations	Impact to Programs and Public	Impact on Future Economic Costs	Health & Safety Impacts	Potential for Property Damage	Environmental Impacts	Impact to Resident's Quality of Life	Does Project Further Department's Mission?

Health and Safety Impacts:

- Å1 (No Impact)
- Å2 (Very Little Negative)
- Å3 (Moderately Negative)
- Å4 (Negative)
- Å5 (Very Negative)

Department Project Request Form

Allocation of Project Costs:



ect / nt's	ALLOCATION OF PROJECT COSTS (IF KNOWN)				
	2013	2014	2015	2016	2017

FY 13-17 CIP Timeline

- July 1 – CIP Letter and Spreadsheet to Dept. Heads
- July 8 – CIP Requests Due
- July 13 – DH Meeting to Review Risk Approach
- July 15 – DH Submit CIP Lists with Risk Assessment Data
- July 18-Aug 15 – DH Meetings with CIP Committee
- Aug 15-26 – CIP Committee Priority/Funding Meetings
- Aug 29-Sept 9 – Integration w/Building Assessment Data
- Sept 12-16 – DH Meetings with CIP Committee
- Sept 6-30 – Integration with School Department Data
- Sept 19-30 – Draft CIP & BOA Presentations
- Oct 7 – Final Draft of CIP
- **Oct 17 – CIP Delivered to Board of Aldermen**