**Climate-Resilient Asset Management Worksheet**

This exercise is a simplified version of the climate risk assessment process detailed in Chapter 6 of *Managing Infrastructure Assets for Sustainable Development.* In order to complete the 11 steps, instructions will direct you towards figures from the chapter that provide additional information you will find useful. The intention of this worksheet is to aid you in understanding the connection between climate change projections and service/asset risks and applying response strategies that fit within your broader asset management objectives.

**Step 1**

1.

2.

3.

4.

Go to https://climateknowledgeportal.worldbank.org/

Select “Country”, then find your nation on the world map. Click on the “Climate Data” header, choose “Projections”

Choose a climate projection facing your nation. You can use the Data Snapshot, or

choose a climate indicator under “Variable”

5. Note it here

Alternative: Use climate projections released by your federal government for your region

|  |  |  |
| --- | --- | --- |
| **Climate Hazard** | **Service Areas** | **Assets** |
|  |  |
|  |  |  |
|  |
|  |  |
|  |
|  |
|  |  |
|  |
|  |

# Step 2

Identify the climate hazard from the projection. List 3 service areas from your local government that could be impacted, and key assets those service areas rely on. See Figure 3, page 210 for climate change hazards

**Step 3**

Draft a climate impact statement connecting the climate hazard to an asset/service area that could be impacted, and a resulting consequence. See page 218 for Climate Impact Statements, and Appendix A, page 249 for climate hazard impacts.

 causing resulting in

*(Climate Hazard) (Asset/Service Impact)*

 \_

*(Consequence)*

# Step 4

Assess the adaptive capacity and exposure to determine the vulnerability of the identified asset/service area to the climate hazard. Place an X in most applicable boxes. See Figure 9, page 223

**Exposure: If the climate impact were to occur, will it affect service delivery?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1**  No impact | **2**  Sporadic or small decline | **3**  Noticeable decline | **4**  Large decline | **5**  Severely compromised |

**Adaptive Capacity: Can the service area respond to the climate impact with minimal cost, additional resources and disruption?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1**   | **2**   | **3**   | **4**   | **5**   |
| $$$$$, new skills and interventions | $$$$, new skills and interventions | $$$, staff interventions, possible new skills | $$, existing staff skillset | $, little staff intervention |

**Step 5**

Assess the likelihood and consequence of the climate impact statement to determine its risk to the community. Check the most applicable boxes and place the resulting score on the Risk Matrix. See figures 11-12, pages 226-228

**Consequence: How severe will the effects of the climate impact statement be if they occur?**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Public Safety** | **Environmental****Harm** | **Service****Interruption** | **Financial****Impact** | **Asset Damage** |
| Very Low (1) |  |  |  |  |  |
| Low (2) |  |  |  |  |  |
| Moderate (3) |  |  |  |  |  |
| High (4) |  |  |  |  |  |
| Very High (5) |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1**  Very Low | **2**  Low | **3**  Moderate | **4**  High | **5**  Very High |

**Likelihood: How likely is it that the climate impact will occur?**

**Step 9**

Cost and effectiveness are typically the most important influencing dynamics of whether a response strategy is accepted. Evaluate your response strategy by placing an X where you believe your response would land on the cost- benefit matrix.

**Cost**

**Benefit**

# Step 8

**Step 6**

Multiple the average consequence score from across the five categories by the likelihood:

 x =

**Step 7**

Time for a Strategic Evaluation. Does this Climate Impact Statement’s place on the Risk Matrix make sense, given your knowledge of past hazard occurrences in your community? See Strategic Evaluation, page 231.

Yes No

Why?

Answer:

Devise a response strategy. What policies, operations and maintenance changes, retrofits or new infrastructure could be used to reduce the risk posed by the climate impact statement? See Responding to Climate Risks, page 234

Answer:

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

# Step 10

Check through the other influencing dynamics that can determine the appropriateness of a response strategy. Which do your response strategy align with? Check each that applies. See pages 240-241.

|  |  |
| --- | --- |
| **Balanced with other community objectives?** | **Objective?** |
|  Yes No |  Maintain current risk |
|  |  Reduce risk level |
|  |  Limit risk increase |
| **Timeline?**  Near-term Long-term | **Feasible?** |  Yes No |
| **Multiple protections?** |  Yes No | **Low regret?** |  Yes No |
| **New Assets?** |  Yes No | **Acceptable?** Yes No |
| **Sufficient information?**  Yes No | **Flexible?** |  Yes No |
| **Co-Benefits:** |

**Step 11**

Action your response strategy by summarizing this worksheet for integration within your Asset Management Action Plan. See Exercise 10, page 245

|  |  |
| --- | --- |
| **Action** |  |
| **Rationale** |  |
| **Timeframe** |  |
| **Ownership** |  |
| **Resources** |  |
| **Funding** |  |

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*(Your Name)*