

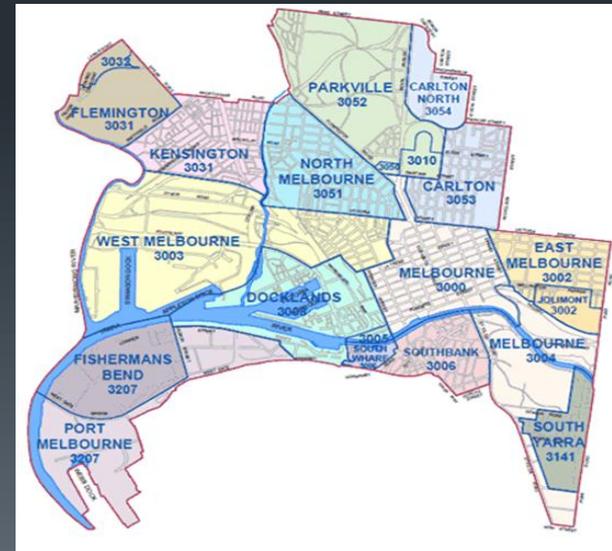


# Climate Change Adaptation - Risk Assessment

Melbourne, Australia

# The City of Melbourne

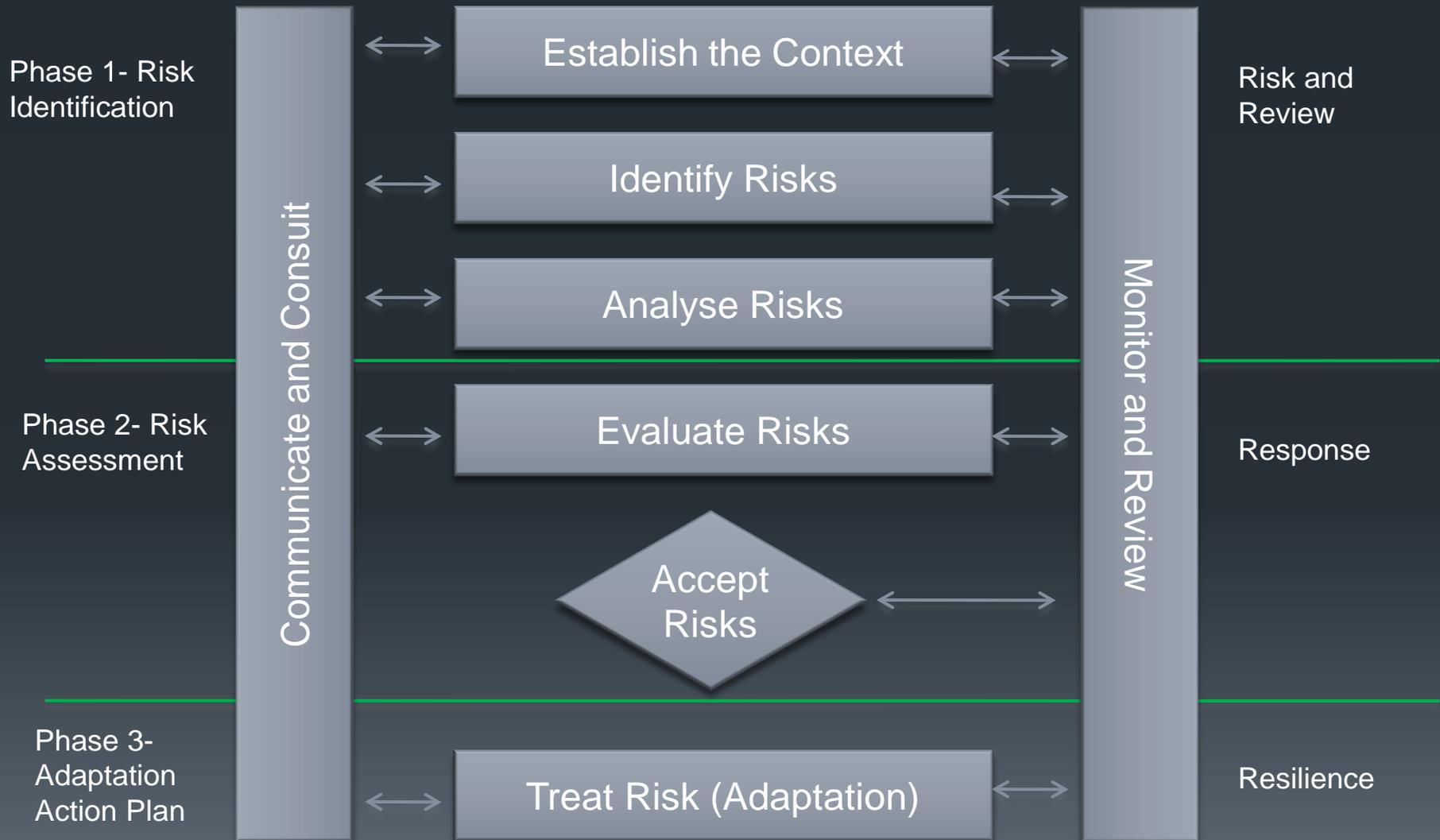
- Capital City of Victoria
- Second largest city in Australia
- Covers 37.6 square kilometres
- 100,611 residential population
- The entire Melbourne metropolitan area covers 7694 sq km and has a population of around 4.1 million
- On an average day, around 805,000 people visit Melbourne
- Over a million international visitors each year



# Risk Management Drivers



# Risk Management Approach



# Establish the Context and Identify Risks



Climate variable	Now	2030 (A1B)	2070 (A1F!)
Temperature	Max 18.7 degree Celsius Min 8.3 degrees Celsius	+ 0.8 degrees Celsius	+2.6 degrees Celsius
Average number of days (over 35 degrees Celsius)	9	11	20
Rainfall (annual average)	864mm	-4%	-11%
Extreme rainfall (intensity)	N/A	+0.9%	+5.9%
Wind speed (daily)	N/A	No change	No change
Sea level rise	N/A	+5-15cm	+26-59cm
Evaporation (annual average)	N/A	+3%	+9%
Relative humidity (annual average)	59%	-0.6%	-2%

# Analyse the Risks

## Example- Intense rainfall and storm event

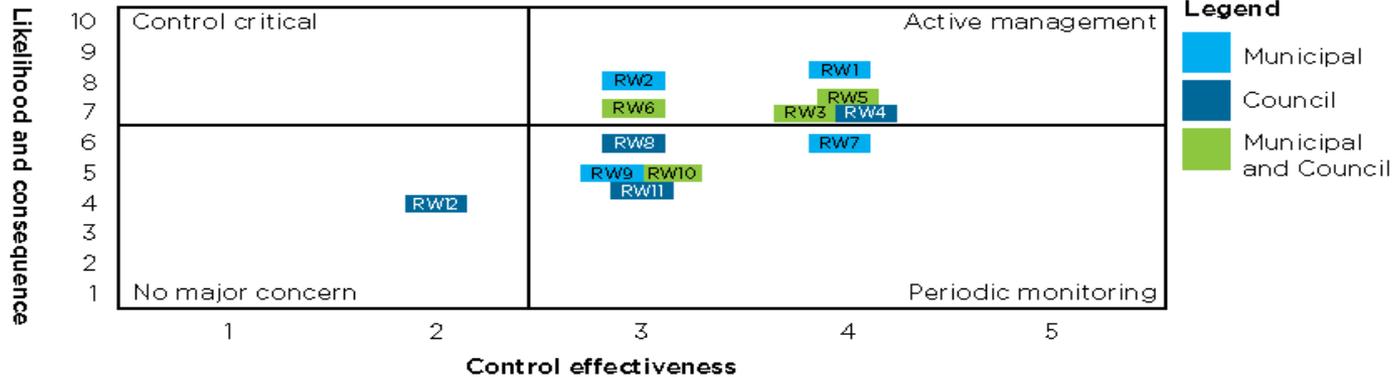
Risk title and rating	Now	2030	2070
Mass stranding of people due to transport stoppages, as a result of flooding or storm damage.	8	9	9
Adverse health outcomes due to emergency services being hindered by storm and flood impacts, such as flooded roads, traffic delays and other blockages	8	8	8
Increase potential for injuries or death occurring as a result of flash flooding.	7	9	10
Increase reparation costs following intense rainfall and wind events, including damaged buildings, damaged or collapsed roads, damage to river banks and associated infrastructure, general clean up.	7	8	9
Business closure and job loss due to business interruption from storm damage and flooding.	7	8	8
Increase potential for injury, death, damage or delays resulting from damage to or falling trees	7	6	6
Lost tourism following storms or intense rainfall events.	6	7	7
Clean up costs and disruptions from cars damaged/ stranded by flash flooding	5	6	6
Increase frequency and severity of public health risk from waterways. This is due to increased toxin concentrations entering waterways following intense rainfall events and reduced access for amenity purposes.	5	5	4
Public discontent due to reduced access to rivers and river banks for amenity and bike/pedestrian commuting purposes following intense rainfall events.	4	4	4



# Evaluate the Risks

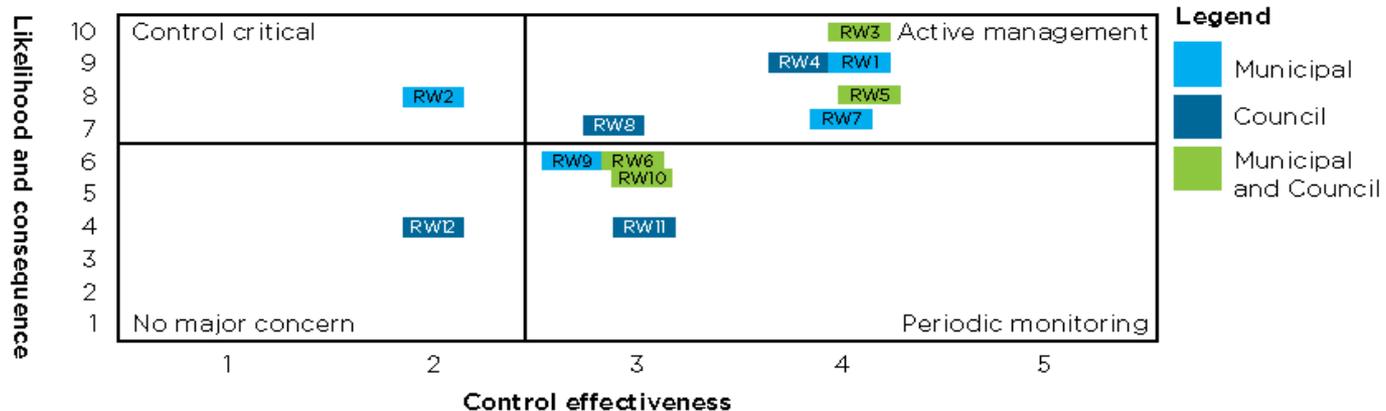
## Likelihood, Consequence and Controls - Now

Intense rainfall and wind event



## Likelihood, Consequence and Controls - 2070

Intense rainfall and wind event



# Treat the Risks- Action Prioritisation Framework

## CLIMATE CHANGE ADAPTATION PROJECT PRIORITISATION TOOL

### ABOUT

This tool provides the City of Melbourne (CoM) with a structured decision making framework to document, assess and prioritise climate change adaptation projects and actions.

It has been designed to support a broader prioritisation framework (see User Guide and accompanying documentation) that carefully considers i) the projects suitability and alignment to CoM's objectives and ii) the practical application of the tool's prioritisation output. Accordingly, it is expected that users are familiar with the content of the tool User Guide (linked below) and framing documentation.

[USER GUIDE](#)

[TOOL SETTINGS](#)

### PROJECT

PROJECT

PROJECT SCREENING

PROJECT CATEGORISATION

PROJECT INTERACTION

PROJECT ASSESSMENT

### PRIORITISE

PRIORITISATION

PRIORITISED PROJECTS

NON-PRIORITISED

PROJECT PROFILE

Version: 0.0

# Treat the Risks- Adaptation Action Plan

## Internal (Sole focus of 2010-13 action plan)

Drainage, planning, urban forest, community engagement, council governance, sports grounds



## Research (new to 2013 action plan)

Sea level rise, storms, heat, drought.  
Economic, future impacts, social, review of risk ratings



## External (new to 2013 action plan)

Community education and engagement (resilient community)  
Key stakeholders- Inner Melbourne Climate Adaptation Network

# Internal Risk Management Approach- Governance

