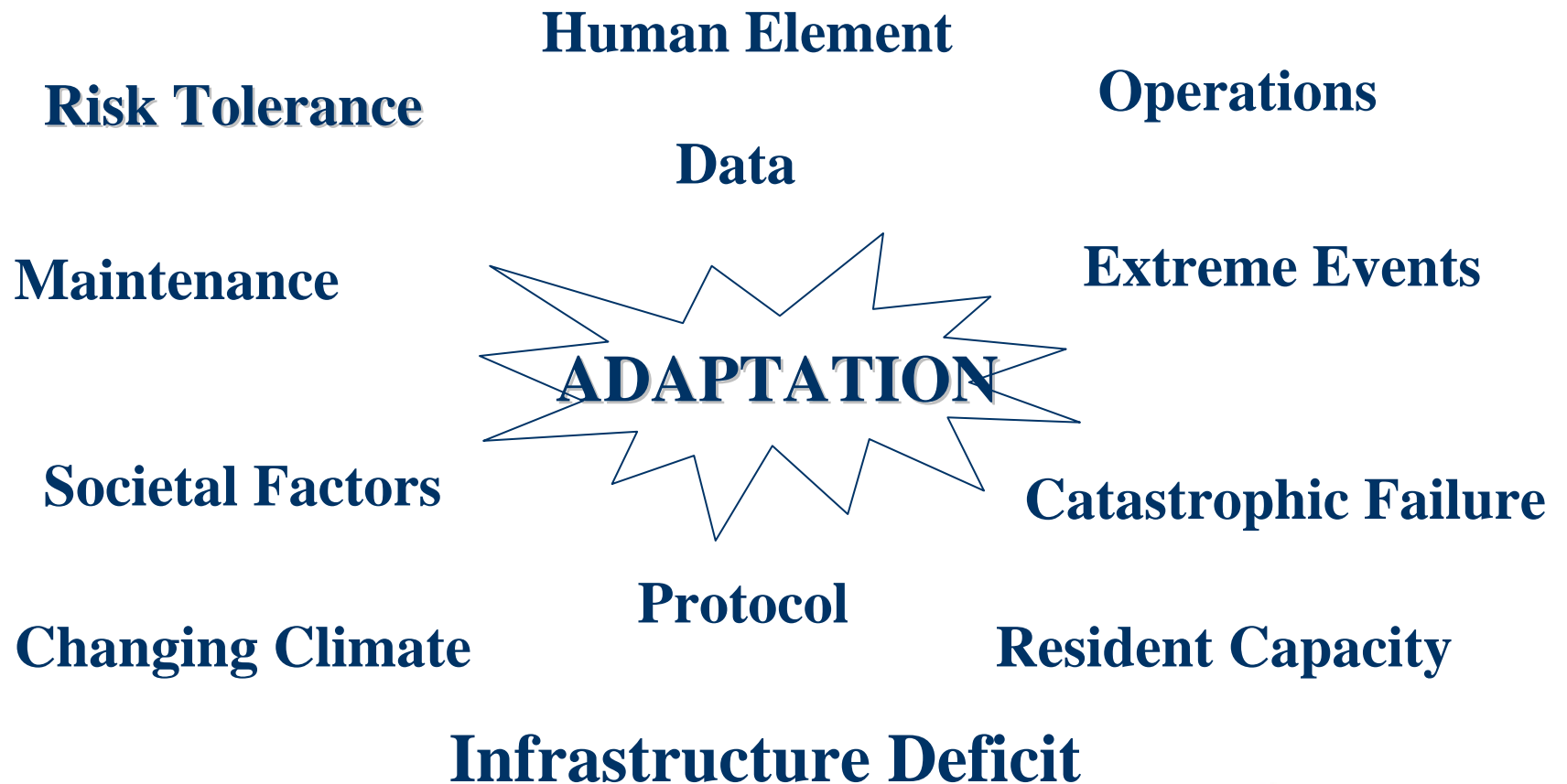


Adaptation of Infrastructure to Address Impacts of a Changing Climate

Adaptation of Infrastructure



Infrastructure in Context

- \$60+ billion infrastructure deficit
- \$??? trillion replacement cost
- An urban society is:
 - Social network and security
 - Living spaces
 - Consumptive cycle
 - Environmental footprint
 - Infrastructure
 - Mobility
 - Workplace
 - Governance

Infrastructure Considerations

Current Practice

- Designed for extremes
- Has resilience
- Often neglected – deficit
- History of extreme events
- Everyday plans and procedures in place
- Professional team in place

Uncertainties

- Are design extremes relevant?
- Have climatic factors changed?
- Risk priority – life / economy / security?
- Risk tolerance?
- Do you have the data?
- Definition of a catastrophic failure?

Public Infrastructure Engineering Vulnerability Committee

Adaptation of infrastructure

- Vulnerability Committee protocol – tool to assess
- Multi-faceted team required
- Not only bricks and mortar
- Problem is not complex but magnitude is huge
- One step at the time

Public Infrastructure Engineering Vulnerability Committee

- Systematic approach to assessment
- Protocol is interchangeable
- Developed by expert working groups
- Team approach
 - engineers, administrators, legislators, regulators
 - designers, managers, operators
 - risk managers, climate professionals

Framework for Adapting Infrastructure to a Changing Climate

People

- Engineers, planners and other professionals, policy-makers, politicians and the public

Tools

- Vulnerability assessments
- Codes and standards
- Climate change models and projections
- Economic and social impact analysis
- Risk management

Processes

- No or low regrets, political, social, outreach, education





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